CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
ORDER NO. R9-2007-0001
NPDES NO. CAS0108758
WASTE DISCHARGE REQUIREMENTS
FOR DISCHARGES OF URBAN RUNOFF FROM
THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s)
DRAINING THE WATERSHEDS OF THE COUNTY OF SAN DIEGO,
THE INCORPORATED CITIES OF SAN DIEGO COUNTY,
THE SAN DIEGO UNIFIED PORT DISTRICT,
AND THE SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

A. BASIS FOR THE ORDER

1. This Order is based on the federal Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act (Division 7 of the Water Code, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Resources Control Board (SWRCB), the Water Quality Control Plan for the San Diego Basin adopted by the Regional Board, the California Toxics Rule, and the California Toxics Rule Implementation Plan.

2. This Order renews National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108758, which was first issued on July 16, 1990 (Order No. 90-42), and then renewed on February 21, 2001 (Order No. 2001-01). On August 25, 2005, in accordance with Order No. 2001-01, the County of San Diego, as the Principal Permittee, submitted a Report of Waste Discharge (ROWD) for renewal of their MS4 Permit.

B. REGULATED PARTIES

1. Each of the persons in Table 1 below, hereinafter called Copermittees or dischargers, owns or operates a municipal separate storm sewer system (MS4), through which it discharges urban runoff into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Table 1. Municipal Copermittees

1.	City of Carlsbad	12.	City of Oceanside
2.	City of Chula Vista	13.	City of Poway
3.	City of Coronado	14.	City of San Diego
4.	City of Del Mar	15.	City of San Marcos
5.	City of El Cajon	16.	City of Santee
6.	City of Encinitas	17.	City of Solana Beach
7.	City of Escondido	18.	City of Vista
8.	City of Imperial Beach	19.	County of San Diego
9.	City of La Mesa	20.	San Diego Unified Port District
10.	City of Lemon Grove	21.	San Diego County Regional Airport Authority
11.	City of National City		

C. DISCHARGE CHARACTERISTICS

1. Urban runoff contains waste, as defined in the California Water Code (CWC), and pollutants that adversely affect the quality of the waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the U.S. as defined in the CWA.

2. The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa);

heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.

3. The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

4. Pollutants in urban runoff can threaten human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

5. Urban runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

6. The Copermittees discharge urban runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within ten of the eleven hydrologic units (watersheds) comprising the San Diego Region as shown in Table 2 below. Some of the receiving water bodies have been designated as impaired by the Regional Board and the United States Environmental Protection Agency (USEPA) in 2002 pursuant to CWA section 303(d). Also shown below are the watershed management areas (WMAs) as defined in the Regional Board report, Watershed Management Approach, January 2002.

Table 2. Common Watersheds and CWA Section 303(d) Impaired Waters

REGIONAL BOARD WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT[1]	COPERMITTEES
Santa Margarita River	Santa Margarita (902.00)	Santa Margarita River and Estuary, Pacific Ocean	1. Eutrophic 2. Nitrogen 3. Phosphorus 4. Total Dissolved Solids	1. County of San Diego
San Luis Rey River	San Luis Rey (903.00)	San Luis Rey River and Estuary, Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. Chloride 4. Total Dissolved Solids	1. City of Escondido 2. City of Oceanside 3. City of Vista 4. County of San Diego
Carlsbad	Carlsbad (904.00)	Batiquitos Lagoon San Elijo Lagoon Agua Hedionda Lagoon Buena Vista Lagoon And Tributary Streams Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. Sedimentation/Siltation 4. Nutrients 5. Total Dissolved Solids	1. City of Carlsbad 2. City of Encinitas 3. City of Escondido 4. City of Oceanside 5. City of San Marcos 6. City of Solana Beach 7. City of Vista 8. County of San Diego

[1] The listed 303(d) pollutant(s) of concern do not necessarily reflect impairment of the entire corresponding WMA or all corresponding major surface water bodies. The specific impaired portions of each WMA are listed in the State Water Resources Control Board's 2002 Section 303(d) List of Water Quality Limited Segments.

REGIONAL BOARD WATERSHED MANAGEMENT AREA (WMA)	HYDROLOGIC UNIT(S)	MAJOR SURFACE WATER BODIES	303(d) POLLUTANT(S) OF CONCERN OR WATER QUALITY EFFECT[1]	COPERMITTEES
San Dieguito River	San Dieguito (905.00)	San Dieguito River and Estuary, Pacific Ocean	1. Bacterial Indicators 2. Sulfate 3. Color 4. Nitrogen 5. Phosphorus 6. Total Dissolved Solids	1. City of Del Mar 2. City of Escondido 3. City of Poway 4. City of San Diego 5. City of Solana Beach 6. County of San Diego
Mission Bay	Peñasquitos (906.00)	Los Peñasquitos Lagoon Mission Bay, Pacific Ocean	1. Bacterial Indicators 2. Metals 3. Eutrophic 4. Sedimentation/Siltation 5. Toxicity	1. City of Del Mar 2. City of Poway 3. City of San Diego 4. County of San Diego
San Diego River	San Diego (907.00)	San Diego River, Pacific Ocean	1. Bacterial Indicators 2. Eutrophic 3. pH 4. Total Dissolved Solids 5. Oxygen (Dissolved)	1. City of El Cajon 2. City of La Mesa 3. City of Poway 4. City of San Diego 5. City of Santee 6. County of San Diego
San Diego Bay	Pueblo San Diego (908.00) Sweetwater (909.00) Otay (910.00)	San Diego Bay Sweetwater River Otay River Pacific Ocean	1. Bacterial Indicators 2. Metals 3. Sediment Toxicity 4. Benthic Community Degradation 5. Diazinon 6. Chlordane 7. Lindane 8. PAHs 9. PCBs	1. City of Chula Vista 2. City of Coronado 3. City of Imperial Beach 4. City of La Mesa 5. City of Lemon Grove 6. City of National City 7. City of San Diego 8. County of San Diego 9. San Diego Unified Port District 10.San Diego County Regional Airport Authority
Tijuana River	Tijuana (911.00)	Tijuana River and Estuary Pacific Ocean	1. Bacterial Indicators 2. Low Dissolved Oxygen 3. Metals 4. Eutrophic 5. Pesticides 6. Synthetic Organics 7. Trace Elements 8. Trash 9. Solids	1. City of Imperial Beach 2. City of San Diego 3. County of San Diego

7. The Copermittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants (diazinon, fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. At some monitoring stations, such as Agua Hedionda, statistically significant upward trends in pollutant concentrations have been observed. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of watersheds have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that urban runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in San Diego County.

8. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving a developed urban area is significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur

with as little as a 10% conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

9. Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

10. Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d) impaired water bodies. 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 become significant in a particular sensitive environment. Therefore, additional control to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

11. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; and (4) ensuring that each drainage feature is adequately maintained in perpetuity.

D. URBAN RUNOFF MANAGEMENT PROGRAMS

1. General

a. This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees' urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices (BMPs), etc. in order to achieve the evolving MEP standard. Absent evidence to the contrary, this continual assessment, revision, and improvement of urban runoff management program implementation is expected to ultimately achieve compliance with water quality standards.

b. Although the Copermittees have generally been implementing the jurisdictional urban runoff management programs required pursuant to Order No. 2001-01 since February 21, 2002, urban runoff discharges continue to cause or contribute to violations of water quality standards. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality

standards. Some of the new or modified requirements, such as the expanded Watershed Urban Runoff Management Program section, are designed to specifically address these high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.

c. Updated Jurisdictional Urban Runoff Management Plans (JURMPs) and Watershed Urban Runoff Management Plans (WURMPs), and a new Regional Urban Runoff Management Plan (RURMP), which describe the Copermittees' urban runoff management programs in their entirety, are needed to guide the Copermittees' urban runoff management efforts and aid the Copermittees in tracking urban runoff management program implementation. It is practicable for the Copermittees to update the JURMPs and WURMPs, and create the RURMP, within one year, since significant efforts to develop these programs have already occurred.

d. Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants from urban runoff.

e. Urban runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of pollutants to the MEP and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in urban runoff to receiving waters.

f. Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.

2. Development Planning

a. The Standard Urban Storm Water Mitigation Plan (SUSMP) requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the SWRCB on October 5, 2000. In the precedential order, the SWRCB found that the design standards, which essentially require that urban runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SUSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.1 of this Order. The SWRCB also gave Regional Water Quality Control Boards the discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in future SUSMPs.

b. Controlling urban runoff pollution by using a combination of onsite source control and Low Impact Development (LID) BMPs augmented with treatment control BMPs before the runoff enters the MS4 is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

c. Use of LID BMPs at new development projects can be an effective means for minimizing the impact of urban runoff discharges from the development projects on receiving waters. LID BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of urban runoff.

d. Retail Gasoline Outlets (RGOs) are significant sources of pollutants in urban runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, LID, source control, and treatment control BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more, or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

e. Sites of heavy industry are significant sources of pollutants in urban runoff. Pollutant concentrations and loads in runoff from industrial sites are similar or exceed pollutant concentrations and loads in runoff from other land uses, such as commercial or residential land uses. As with other land uses, LID, source control, and treatment control BMPs are needed at sites of heavy industry in order to meet the MEP standard. These BMPs are necessary where the site of heavy industry is larger than one acre. The one acre threshold is appropriate, since it is consistent with requirements in the Phase II NPDES storm water regulations.

f. If not properly designed or maintained, certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). However, proper BMP design and maintenance can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities and local vector control agencies and the State Department of Health Services during the development and implementation of urban runoff management programs.

3. Construction and Existing Development

a. In accordance with federal NPDES regulations and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from

industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, SWRCB Order 99-08 DWQ, NPDES No. CAS000002 (General Construction Permit) and the General Industrial Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Industrial Permit), and each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits.

b. Identification of sources of pollutants in urban runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants into and from its MS4 are reduced to the MEP. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.

c. Historic and current development makes use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and a receiving water.

d. As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

e. Waste and pollutants which are deposited and accumulate in MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed or treated. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges into MS4s must be reduced to the MEP unless treatment within the MS4 occurs.

f. Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every urban runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.

g. Education is an important aspect of every effective urban runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water

quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized.

h. Public participation during the development of urban runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

4. Watershed and Regional Urban Runoff Management

a. Since urban runoff does not recognize political boundaries, watershed-based urban runoff management can greatly enhance the protection of receiving waters within a watershed. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Effective watershed-based urban runoff management actively reduces pollutant discharges and abates pollutant sources causing or contributing to watershed water quality problems; watershed-based urban runoff management that does not actively reduce pollutant discharges and abate pollutant sources causing or contributing to watershed water quality problems can necessitate implementation of the iterative process outlined in section A.3 of the Order. Watershed management of urban runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

b. Some urban runoff issues, such as residential education, can be effectively addressed on a regional basis. Regional approaches to urban runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

c. Both regionally and on a watershed basis, it is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially Caltrans, the Department of Defense, and Native American Tribes, is also important. Establishment of a management structure, within which the Copermittees subject to this Order will fund and coordinate those aspects of their joint obligations, will help promote implementation of urban runoff management programs on a watershed and regional basis in a most cost effective manner.

E. STATUTE AND REGULATORY CONSIDERATIONS

1. The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by the USEPA and established in SWRCB Water Quality Order 99-05, adopted by the SWRCB on June 17, 1999. The RWL in this Order require compliance with water quality standards, which is to be achieved through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the

creation of conditions of pollution.

2. The Water Quality Control Plan for the San Diego Basin (Basin Plan), identifies the following beneficial uses for surface waters in San Diego County: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of San Diego County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

3. This Order is in conformance with SWRCB Resolution No. 68-16 and the federal Antidegradation Policy described in 40 CFR 131.12.

4. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Permittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.

5. Section 303(d)(1)(A) of the CWA requires that "Each state shall identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish Total Maximum Daily Loads (TMDLs) for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The current Section 303(d) List was approved by the SWRCB on February 4, 2003 and on July 25, 2003 by USEPA.

6. This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on August 14, 2002 for diazinon in Chollas Creek by establishing Water Quality Based Effluent Limits (WQBELs) for the Cities of San Diego, Lemon Grove, and La Mesa, the County of San Diego, and the San Diego Unified Port District; and by requiring: 1) legal authority, 2) implementation of a diazinon toxicity control plan and a diazinon public outreach/ education program, 3) achievement of the Compliance Schedule, and 4) a monitoring program. The establishment of WQBELs expressed as iterative BMPs to achieve the Waste Load Allocation (WLA) compliance schedule is appropriate and is expected to be sufficient to achieve the WLAs specified in the TMDL.

7. This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on February 9, 2005 for dissolved copper in Shelter Island Yacht Basin (SIYB) by establishing WQBELs expressed as BMPs to achieve the WLA of 30 kg copper / year for the City of San Diego and the San Diego Unified Port District. The establishment of WQBELs expressed as BMPs is appropriate and is expected to be sufficient to achieve the WLA

specified in the TMDL.

8. This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

9. Requirements in this Order that are more explicit than the federal storm water regulations in 40 CFR 122.26 are prescribed in accordance with the CWA section 402(p)(3)(B)(iii) and are necessary to meet the MEP standard.

10. Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S. Authorizing the construction of an urban runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This is consistent with USEPA guidance to avoid locating structural controls in natural wetlands.

11. The issuance of waste discharge requirements and an NPDES permit for the discharge of urban runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

F. PUBLIC PROCESS

1. The Regional Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.

2. The Regional Board has, at public meetings on (date), held public hearings and heard and considered all comments pertaining to the terms and conditions of this Order.

IT IS HEREBY ORDERED that the Copermittees, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the Clean Water Act (CWA) and regulations adopted thereunder, shall each comply with the following:

A. PROHIBITIONS AND RECEIVING WATER LIMITATIONS

1. Discharges into and from municipal separate storm sewer systems (MS4s) in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC section 13050), in waters of the state are prohibited.

2. Discharges from MS4s containing pollutants which have not been reduced to the maximum extent practicable (MEP) are prohibited.[2]

[2] This prohibition does not apply to MS4 discharges which receive subsequent treatment to reduce pollutants to the MEP prior to entering receiving waters (e.g., low flow diversions to the sanitary sewer).

3. Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited.

   a. Each Copermittee shall comply with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order through timely implementation of control measures and other actions to reduce pollutants in urban runoff discharges in accordance with the Jurisdictional Urban Runoff Management Program and other requirements of this Order including any modifications. The Jurisdictional Urban Runoff Management Program shall be designed to achieve compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order. If exceedance(s) of water quality standards persist notwithstanding implementation of the Jurisdictional Urban Runoff Management Program and other requirements of this Order, the Copermittee shall assure compliance with section A.3 and section A.4 as it applies to Prohibition 5 in Attachment A of this Order by complying with the following procedure:

      (1) Upon a determination by either the Copermittee or the Regional Board that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Copermittee shall promptly notify and thereafter submit a report to the Regional Board that describes best management practices (BMPs) that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report may be incorporated in the annual update to the Jurisdictional Urban Runoff Management Program unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the report;

      (2) Submit any modifications to the report required by the Regional Board within 30 days of notification;

      (3) Within 30 days following approval of the report described above by the Regional Board, the Copermittee shall revise its Jurisdictional Urban Runoff Management Program and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;

      (4) Implement the revised Jurisdictional Urban Runoff Management Program and monitoring program in accordance with the approved schedule.

   b. So long as the Copermittee has complied with the procedures set forth above and is implementing the revised Jurisdictional Urban Runoff Management Program, the Copermittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to do so.

   c. Nothing in section A.3 shall prevent the Regional Board from enforcing any provision of this Order while the Copermittee prepares and implements the above report.

4. In addition to the above prohibitions, discharges from MS4s are subject to all Basin Plan prohibitions cited in Attachment A to this Order.

B. NON-STORM WATER DISCHARGES

1. Each Copermittee shall effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit; or not prohibited in accordance with sections B.2 and B.3 below.

2. The following categories of non-storm water discharges are not prohibited unless a Copermittee or the Regional Board identifies the discharge category as a significant source of pollutants to waters of the U.S. For such a discharge category, the Copermittee shall either prohibit the discharge category or develop and implement appropriate control measures to reduce the discharge of pollutants to the MEP and report to the Regional Board pursuant to section J.

   a. Diverted stream flows;
   b. Rising ground waters;
   c. Uncontaminated ground water infiltration [as defined at 40 CFR 35.2005(20)] to MS4s;
   d. Uncontaminated pumped ground water;
   e. Foundation drains;
   f. Springs;
   g. Water from crawl space pumps;
   h. Footing drains;
   i. Air conditioning condensation;
   j. Flows from riparian habitats and wetlands;
   k. Water line flushing;
   l. Landscape irrigation;
   m. Discharges from potable water sources not subject to NPDES Permit No. CAG679001, other than water main breaks;
   n. Irrigation water;
   o. Lawn watering;
   p. Individual residential car washing; and
   q. Dechlorinated swimming pool discharges.

3. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require BMPs and need not be prohibited. As part of the Jurisdictional Urban Runoff Management Plan (JURMP), each Copermittee shall develop and implement a program to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes and maintenance activities) identified by the Copermittee to be significant sources of pollutants to waters of the United States.

4. Each Copermittee shall examine all dry weather field screening and analytical monitoring results collected in accordance with section D.4 of this Order and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001 to identify water quality problems which may be the result of any non-prohibited discharge category(ies) identified above in section B.2. Follow-up investigations shall be conducted as necessary to identify and control any non-prohibited discharge category(ies) listed above.

C. LEGAL AUTHORITY

1. Each Copermittee shall establish, maintain, and enforce adequate legal authority to control pollutant discharges into and from its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the Copermittee to:

   a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its MS4 and control the quality of runoff from industrial and construction sites. This requirement applies both to industrial and construction sites which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites which do not. Grading ordinances shall be upgraded and enforced as necessary to comply with this Order.

   b. Prohibit all identified illicit discharges not otherwise allowed pursuant to section B.2 including but not limited to:

      (1) Sewage;
      (2) Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
      (3) Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
      (4) Discharges of wash water from mobile operations such as mobile automobile washing, steam cleaning, power washing, and carpet cleaning, etc.;
      (5) Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
      (6) Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
      (7) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
      (8) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
      (9) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

   c. Prohibit and eliminate illicit connections to the MS4;

   d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;

   e. Require compliance with conditions in Copermittee ordinances, permits, contracts or orders (i.e., hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

   f. Utilize enforcement mechanisms to require compliance with Copermittee storm water ordinances, permits, contracts, or orders;

   g. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Copermittees. Control of

the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements with other owners of the MS4 such as Caltrans, the Department of Defense, or Native American Tribes is encouraged;

h. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits and with this Order, including the prohibition on illicit discharges to the MS4. This means the Copermittee must have authority to enter, monitor, inspect, take measurements, review and copy records, and require regular reports from industrial facilities discharging into its MS4, including construction sites;

i. Require the use of BMPs to prevent or reduce the discharge of pollutants into MS4s to the MEP; and

j. Require documentation on the effectiveness of BMPs implemented to reduce the discharge of pollutants to the MS4 to the MEP.

2. Each Permittee shall include as part of its JURMP a statement certified by its chief legal counsel that the Copermittee has taken the necessary steps to obtain and maintain full legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order. This statement shall include:

a. Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under this Order. Include an up to date organizational chart specifying these departments and key personnel.

b. Citation of urban runoff related ordinances and the reasons they are enforceable;

c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of this Order;

d. A description of how urban runoff related ordinances are implemented and appealed; and

e. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

D. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM

Each Copermittee shall implement all requirements of section D of this Order no later than 365 days after adoption of the Order, unless otherwise specified in this Order. Prior to 365 days after adoption of the Order, each Copermittee shall at a minimum implement its Jurisdictional URMP document, as the document was developed and amended to comply with the requirements of Order No. 2001-01.

Each Copermittee shall develop and implement an updated Jurisdictional Urban Runoff Management Program for its jurisdiction. Each updated Jurisdictional Urban Runoff Management Program shall meet the requirements of section D of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.

1. Development Planning Component

Each Copermittee shall implement a program which meets the requirements of this section and (1) reduces Development Project discharges of pollutants from the MS4 to the MEP, (2) prevents Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards, and (3) manages increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

a. GENERAL PLAN

Each Copermittee shall revise as needed its General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) for the purpose of providing effective water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for Development Projects.

b. ENVIRONMENTAL REVIEW PROCESS

Each Copermittee shall revise as needed their current environmental review processes to accurately evaluate water quality impacts and cumulative impacts and identify appropriate measures to avoid, minimize and mitigate those impacts for all Development Projects.

c. APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR ALL DEVELOPMENT PROJECTS

For all proposed Development Projects, each Copermittee during the planning process and prior to project approval and issuance of local permits shall prescribe the necessary requirements so that Development Project discharges of pollutants from the MS4 will be reduced to the MEP, will not cause or contribute to a violation of water quality standards, and will comply with Copermittee's ordinances, permits, plans, and requirements, and with this Order. The requirements shall include, but not be limited to, implementation by the project proponent of the following:

(1) Source control BMPs that reduce storm water pollutants of concern in urban runoff, including storm drain system stenciling and signage, properly designed outdoor material storage areas, properly designed trash storage areas, and implementation of efficient irrigation systems;
(2) LID BMPs where feasible which maximize infiltration, provide retention, slow runoff, minimize impervious footprint, direct runoff from impervious areas into landscaping, and construct impervious surfaces to minimum widths necessary;
(3) Buffer zones for natural water bodies, where feasible. Where buffer zones are infeasible, require project proponent to implement other buffers such as trees, access restrictions, etc., where feasible;
(4) Measures necessary so that grading or other construction activities meet the provisions specified in section D.2 of this Order; and
(5) Submittal of proof of a mechanism under which ongoing long-term maintenance of all structural post-construction BMPs will be conducted.

d. STANDARD URBAN STORM WATER MITIGATION PLANS (SUSMPS) – APPROVAL PROCESS CRITERIA AND REQUIREMENTS FOR PRIORITY DEVELOPMENT PROJECTS

Each Copermittee shall implement an updated local SUSMP which meets the requirements of section D.1.d of this Order and (1) reduces Priority Development Project discharges of pollutants from the MS4 to the MEP, (2) prevents Priority Development Project runoff discharges from the MS4 from causing or contributing to a violation of water quality standards, and (3) manages increases in runoff discharge rates and durations from Priority Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.[3]

(1) Definition of Priority Development Project

(a) Priority Development Projects are: a) all new Development Projects that fall under the project categories or locations listed in section D.1.d.(2), and b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under the project categories or locations listed in section D.1.d.(2). Where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in section D.1.d.(6)(c) applies only to the addition, and not to the entire development. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development. Where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SUSMP requirements.

(b) In addition to the Priority Development Project Categories identified in section D.1.d.(2), within three years of adoption of this Order Priority Development Projects shall also include all other pollutant generating Development Projects that result in the disturbance of one acre or more of land.[4] As an alternative to this one acre threshold, the Copermittees may collectively identify a different threshold, provided the Copermittees' threshold is at least as inclusive of Development Projects as the one acre threshold.

[3] Updated SUSMP and hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SUSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SUSMP or hydromodification requirement to the project is infeasible, the updated SUSMP or hydromodification requirement need not apply to the project. 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 plans.

[4] Pollutant generating Development Projects are those projects that generate pollutants at levels greater than background levels.

(2) Priority Development Project Categories

(a) Housing subdivisions of 10 or more dwelling units. This category includes single-family homes, multi-family homes, condominiums, and apartments.
(b) Commercial developments greater than one acre. This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than one acre. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
(c) Developments of heavy industry greater than one acre. This category includes, but is not limited to, manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
(d) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.
(e) Restaurants. This category is defined as 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), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirement D.1.d.(6)(c) and hydromodification requirement D.1.g.
(f) All hillside development greater than 5,000 square feet. This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
(g) Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
(h) Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
(i) Street, roads, highways, and freeways. This category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
(j) Retail Gasoline Outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average

Daily Traffic (ADT) of 100 or more vehicles per day.

(3) Pollutants of Concern

As part of its local SUSMP, each Copermittee shall develop and implement a procedure for pollutants of concern to be identified for each Priority Development Project. The procedure shall address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d)); (2) Land use type of the Development Project and pollutants associated with that land use type; and (3) Pollutants expected to be present on site.

(4) Low Impact Development (LID) BMP Requirements

Each Copermittee shall require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects:

(a) The following LID site design BMPs shall be implemented at all Priority Development Projects as required below:

i. For Priority Development Projects with landscaped or other pervious areas, drain a portion of impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain to pervious areas shall correspond with the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.
ii. For Priority Development Projects with landscaped or other pervious areas, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, taking into consideration the pervious areas' soil conditions, slope, and other pertinent factors.
iii. For Priority Development Projects with low traffic areas and appropriate soil conditions, construct a portion of walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.

(b) The following LID BMPs listed below shall be implemented at all Priority Development Projects where applicable and feasible.

i. Conserve natural areas, including existing trees, other vegetation, and soils.
ii. Construct streets, sidewalks, or parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.
iii. Minimize the impervious footprint of the project.
iv. Minimize soil compaction.
v. Minimize disturbances to natural drainages (e.g., natural swales, topographic depressions, etc.)

(5) Source Control BMP Requirements

Each Copermittee shall require each Priority Development Project to implement source control BMPs. The source control BMPs to be required shall:

(a) Minimize storm water pollutants of concern in urban runoff.
(b) Include storm drain system stenciling or signage.
(c) Include properly designed outdoor material storage areas.
(d) Include properly designed trash storage areas.
(e) Include efficient irrigation systems.
(f) Include water quality requirements applicable to individual priority project categories.

(6) Treatment Control BMP Requirements[5]

Each Copermittee shall require each Priority Development Project to implement treatment control BMPs which meet the following treatment control BMP requirements:

(a) Treatment control BMPs for all Priority Development Projects shall mitigate (infiltrate, filter, or treat) the required volume or flow of runoff (identified in section D.1.d.(6)(c)) from all developed portions of the project, including landscaped areas.

(b) All treatment control BMPs shall be located so as to infiltrate, filter, or treat the required runoff volume or flow prior to its discharge to any waters of the U.S. Multiple Priority Development Projects may use shared treatment control BMPs as long as construction of any shared treatment control BMP is completed prior to the use or occupation of any Priority Development Project from which the treatment control BMP will receive runoff.

(c) All treatment control BMPs for a single Priority Development Project shall collectively be sized to comply with the following numeric sizing criteria:

i. Volume-based treatment control BMPs shall be designed to mitigate (infiltrate, filter, or treat) the volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the County of San Diego's 85th Percentile Precipitation Isopluvial Map; or

ii. Flow-based treatment control BMPs shall be designed to mitigate (infiltrate, filter, or treat) either: a) the maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or b) the maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two.

[5] LID BMPs that are correctly designed to effectively infiltrate, filter, or treat runoff can be considered treatment control BMPs.

(d) All treatment control BMPs for Priority Development Projects shall, at a minimum:

i. Be ranked with a high or medium pollutant removal efficiency for the project's most significant pollutants of concern, as the pollutant removal efficiencies are identified in the Copermittees' Model SUSMP and the most current updates thereto. Treatment control BMPs with a low removal efficiency ranking shall only be approved by a Copermittee when a feasibility analysis has been conducted which exhibits that implementation of treatment control BMPs with high or medium removal efficiency rankings are infeasible for a Priority Development Project or portion of a Priority Development Project.
ii. Be correctly sized and designed so as to remove pollutants to the MEP.
iii. Target removal of pollutants of concern from urban runoff.
iv. Be implemented close to pollutant sources (where shared BMPs are not proposed), and prior to discharging into waters of the U.S.
v. Not be constructed within a receiving water.
vi. Include proof of a mechanism, to be provided by the project proponent or Copermittee, under which ongoing long-term maintenance will be conducted.

(7) Update of SUSMP BMP Requirements

The Copermittees shall collectively review and update the BMP requirements that are listed in their local SUSMPs. At a minimum, the update shall include removal of obsolete or ineffective BMPs, addition of LID and source control BMP requirements that meet or exceed the requirements of sections D.1.d.(4) and D.1.d.(5), and addition of LID BMPs that can be used for treatment, such as bioretention cells, bioretention swales, etc. The update shall also add appropriate LID BMPs to any tables or discussions in the local SUSMPs addressing pollutant removal efficiencies of treatment control BMPs. In addition, the update shall include review, and revision where necessary, of treatment control BMP pollutant removal efficiencies.

(8) Update of SUSMPs to Incorporate LID and Other BMP Requirements

(a) In addition to the implementation of the BMP requirements of sections D.1.d.(4-7) within one year of adoption of this Order, the Copermittees shall also develop and submit an updated Model SUSMP that defines minimum LID and other BMP requirements to be incorporated into the Copermittees' local SUSMPs for application to Priority Development Projects. The purpose of the updated Model SUSMP shall be to establish minimum standards to maximize the use of LID practices and principles in local Copermittee programs as a means of reducing stormwater runoff. It shall meet the following minimum requirements:

i. Establishment of LID BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(4) above.
ii. Establishment of source control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(5) above.
iii. Establishment of treatment control BMP requirements that meet or exceed the minimum requirements listed in section D.1.d.(6) above.

iv. Establishment of siting, design, and maintenance criteria for each LID and treatment control BMP listed in the Model SUSMP, so that implemented LID and treatment control BMPs are constructed correctly and are effective at pollutant removal and/or runoff control. LID techniques, such as soil amendments, shall be incorporated into the criteria for appropriate treatment control BMPs.

v. Establishment of criteria to aid in determining Priority Development Project conditions where implementation of each LID BMP listed in section D.1.d.(4)(b) is applicable and feasible.

vi. Establishment of a requirement for Priority Development Projects with low traffic areas and appropriate or amendable soil conditions to construct a portion of walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such a pervious concrete, porous asphalt, unit pavers, and granular materials.

vii. Establishment of restrictions on infiltration of runoff from Priority Development Project categories or Priority Development Project areas that generate high levels of pollutants, if necessary.

(b) The updated Model SUSMP shall be submitted within 18 months of adoption of this Order. If, within 60 days of submittal of the updated Model SUSMP, the Copermittees have not received in writing from the Regional Board either (1) a finding of adequacy of the updated Model SUSMP or (2) a modified schedule for its review and revision, the updated Model SUSMP shall be deemed adequate, and the Copermittees shall implement its provisions in accordance with section D.1.d.(8)(c) below.

(c) Within 365 days of Regional Board acceptance of the updated Model SUSMP, each Copermittee shall update its local SUSMP to implement the requirements established pursuant to section D.1.d.(8)(a). In addition to the requirements of section D.1.d.(8)(a), each Copermittee's updated local SUSMP shall include the following:

i. A requirement that each Priority Development Project use the criteria established pursuant to section D.1.d.(8)(a)v to demonstrate applicability and feasibility, or lack thereof, of implementation of the LID BMPs listed in section D.1.d.(4)(b).

ii. A review process which verifies that all BMPs to be implemented will meet the designated siting, design, and maintenance criteria, and that each Priority Development Project is in compliance with all applicable SUSMP requirements.

(9) Implementation Process

As part of its local SUSMP, each Copermittee shall implement a process to verify compliance with SUSMP requirements. The process shall identify at what point in the planning process Priority Development Projects will be required to meet SUSMP requirements. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the SUSMP requirements, as well as any other measures necessary for the implementation of SUSMP requirements.

(10) Downstream Erosion

As part of its local SUSMP, each Copermittee shall develop and apply criteria to Priority Development Projects so that runoff discharge rates, durations, and velocities from Priority Development Projects are controlled to maintain or reduce downstream erosion conditions and protect stream habitat. Upon adoption of the Hydromodification Management Plan (HMP) by the Regional Board (section D.1.g), individual Copermittee criteria for control of downstream erosion shall be superseded by criteria identified in the HMP.

(11) Waiver Provision

(a) A Copermittee may provide for a project to be waived from the requirement of meeting numeric sizing criteria (sections D.1.d.(6)(c) or D.1.d.(8)(a)iii) if infeasibility can be established. A waiver of infeasibility shall only be granted by a Copermittee when all available BMPs have been considered and rejected as infeasible. Copermittees shall notify the Regional Board within 5 days of each waiver issued and shall include the following information in the notification:

i. Name of the person granting each waiver;
ii. Name of developer receiving the waiver;
iii. Site location;
iv. Reason for waiver; and
v. Description of BMPs required.

(b) The Copermittees may collectively or individually develop a program to require project proponents who have received waivers to transfer the savings in cost, as determined by the Copermittee(s), to a storm water mitigation fund. This program may be implemented by all Copermittees that issue waivers. Funds may be used on projects to improve urban runoff quality within the watershed of the waived project. The waiver mitigation program should, at a minimum, identify:

i. The entity or entities that will manage the storm water mitigation fund (i.e., assume full responsibility for);
ii. The range and types of acceptable projects for which mitigation funds may be expended;
iii. The entity or entities that will assume full responsibility for each mitigation project including its successful completion; and
iv. How the dollar amount of fund contributions will be determined.

(12) Infiltration and Groundwater Protection

To protect groundwater quality, each Copermittee shall apply restrictions to the use of treatment control BMPs that are designed to primarily function as centralized infiltration devices (such as large infiltration trenches and infiltration basins). Such restrictions shall be designed so that the use of such infiltration treatment control BMPs shall not cause or contribute to an exceedance of groundwater quality objectives. At a minimum, each treatment control BMP designed to primarily function as a centralized infiltration device shall meet the restrictions below, unless it is demonstrated that a restriction is not necessary to

protect groundwater quality. The Copermittees may collectively or individually develop alternative restrictions on the use of treatment control BMPs which are designed to primarily function as centralized infiltration devices. Alternative restrictions developed by the Copermittees can partially or wholly replace the restrictions listed below. The restrictions are not intended to be applied to small infiltration systems dispersed throughout a development project.

(a) Urban runoff shall undergo pretreatment such as sedimentation or filtration prior to infiltration;
(b) All dry weather flows containing significant pollutant loads shall be diverted from infiltration devices;
(c) Pollution prevention and source control BMPs shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration treatment control BMPs are to be used;
(d) Infiltration treatment control BMPs shall be adequately maintained so that they remove pollutants to the MEP;
(e) The vertical distance from the base of any infiltration treatment control BMP to the seasonal high groundwater mark shall be at least 10 feet. Where groundwater basins do not support beneficial uses, this vertical distance criteria may be reduced, provided groundwater quality is maintained;
(f) The soil through which infiltration is to occur shall have physical and chemical characteristics (such as appropriate cation exchange capacity, organic content, clay content, and infiltration rate) which are adequate for proper infiltration durations and treatment of urban runoff for the protection of groundwater beneficial uses;
(g) Infiltration treatment control BMPs shall not be used for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries[6]; and other high threat to water quality land uses and activities as designated by each Permittee; and
(h) Infiltration treatment control BMPs shall be located a minimum of 100 feet horizontally from any water supply wells.

e. TREATMENT CONTROL BMP MAINTENANCE TRACKING

(1) Each Copermittee shall develop and utilize a watershed-based database to track and inventory approved treatment control BMPs and treatment control BMP maintenance within its jurisdiction. At a minimum, the database shall include information on treatment control BMP type, location, watershed, date of construction, party responsible for maintenance, maintenance certifications or verifications, inspections, inspection findings, and corrective actions.

(2) Each Copermittee shall develop and implement a program to verify that approved treatment control BMPs are operating effectively and have been adequately maintained. At a minimum, the program shall include the following:

(a) An annual inventory of all approved treatment control BMPs within the Copermittee's jurisdiction. The inventory shall also include all treatment control BMPs approved during the previous permit cycle.

[6] Except with regard to treated nursery runoff or clean storm water runoff.

(b) The prioritization of all projects with approved treatment control BMPs into high, medium, and low priority categories. At a minimum, projects with drainage insert treatment control BMPs shall be designated as at least a medium priority. Prioritization of other projects with treatment control BMPs shall include consideration of treatment control BMP size, recommended maintenance frequency, likelihood of operational and maintenance issues, location, receiving water quality, and other pertinent factors.

(c) 100% of projects with treatment control BMPs that are high priority shall be inspected by the Copermittee annually. 50% of projects with drainage insert treatment control BMPs shall be inspected by the Copermittee annually. Treatment control BMPs that are low priority shall be inspected as needed. All inspections shall verify effective operation and maintenance of the treatment control BMPs, as well as compliance with all ordinances, permits, and this Order. A minimum of 20% of the total number of projects with approved treatment control BMPs, and a maximum of 200% of the average number of projects with treatment control BMPs approved per year, shall be inspected annually.

(d) Requirement of annual verification of effective operation and maintenance of each approved treatment control BMP by the party responsible for the treatment control BMP maintenance.

(3) Operation and maintenance verifications shall be required prior to each rainy season.

(4) Inspections of high priority treatment control BMPs shall be conducted prior to each rainy season.

f. BMP VERIFICATION

Prior to occupancy of each Priority Development Project subject to SUSMP requirements, each Copermittee shall inspect the constructed LID, source control, and treatment control BMPs to verify that they have been constructed in compliance with all specifications, plans, permits, ordinances, and this Order. This initial BMP verification inspection does not constitute an operation and maintenance inspection, as required above in section D.1.e.(2)(c).

g. HYDROMODIFICATION - LIMITATIONS ON INCREASES OF RUNOFF DISCHARGE RATES AND DURATIONS[7]

Each Copermittee shall collaborate with the other Copermittees to develop and implement a Hydromodification Management Plan (HMP) to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel

[7] Updated SUSMP and hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any updated SUSMP or hydromodification requirement commences. If a Copermittee determines that lawful prior approval of a project exists, whereby application of an updated SUSMP or hydromodification requirement to the project is infeasible, the updated SUSMP or hydromodification requirement need not apply to the project. 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 plans.

beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force. The HMP, once approved by the Regional Board, shall be incorporated into the local SUSMP and implemented by each Copermittee so that post-project runoff discharge rates and durations shall not exceed estimated pre-project discharge rates and durations where the increased discharge rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the discharge rates and durations.

(1) The HMP shall:

(a) Identify a standard for channel segments which receive urban runoff discharges from Priority Development Projects. The channel standard shall maintain the pre-project erosion and deposition characteristics of channel segments receiving urban runoff discharges from Priority Development Projects as necessary to maintain or improve the channel segments' stability conditions.

(b) Utilize continuous simulation of the entire rainfall record to identify a range of runoff flows[8] for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations, where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations. The lower boundary of the range of runoff flows identified shall correspond with the critical channel flow that produces the critical shear stress that initiates channel bed movement or that erodes the toe of channel banks. The identified range of runoff flows may be different for specific watersheds, channels, or channel reaches.

(c) Require Priority Development Projects to implement hydrologic control measures so that Priority Development Projects' post-project runoff flow rates and durations (1) do not exceed pre-project runoff flow rates and durations for the range of runoff flows identified under section D.1.g.(1)(b), where the increased flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the flow rates and durations, and (2) do not result in channel conditions which do not meet the channel standard developed under section D.1.g.(1)(a) for channel segments downstream of Priority Development Project discharge points.

(d) Include other performance criteria (numeric or otherwise) for Priority Development Projects as necessary to prevent urban runoff from the projects from increasing erosion of channel beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

(e) Include a review of pertinent literature.

(f) Include a protocol to evaluate potential hydrograph change impacts to downstream watercourses from Priority Development Projects.

(g) Include a description of how the Copermittees will incorporate the HMP requirements into their local approval processes.

[8] The identified range of runoff flows to be controlled should be expressed in terms of peak flow rates of rainfall events, such as "10% of the pre-project 2-year peak flow up to the pre-project 10-year peak flow."

(h) Include criteria on selection and design of management practices and measures (such as detention, retention, and infiltration) to control flow rates and durations and address potential hydromodification impacts.
(i) Include technical information supporting any standards and criteria proposed.
(j) Include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.
(k) Include a description of pre- and post-project monitoring and other program evaluations to be conducted to assess the effectiveness of implementation of the HMP.
(l) Include mechanisms for addressing cumulative impacts within a watershed on channel morphology.
(m) Include information on evaluation of channel form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate.

(2) The HMP may include implementation of planning measures (e.g., buffers and restoration activities, including revegetation, use of less-impacting facilities at the point(s) of discharge, etc.) to allow expected changes in stream channel cross sections, vegetation, and discharge rates, velocities, and/or durations without adverse impacts to channel beneficial uses. Such measures shall not include utilization of non-naturally occurring hardscape materials such as concrete, riprap, gabions, etc.

(3) Section D.1.g.(1)(c) does not apply to Development Projects where the project discharges stormwater runoff into channels or storm drains where the pre-existing channel or storm drain conditions result in minimal potential for erosion or other impacts to beneficial uses. Such situations may include discharges into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete, etc.) downstream to their outfall in bays or the ocean; underground storm drains discharging to bays or the ocean; and construction of projects where the sub-watersheds below the projects' discharge points are highly impervious (e.g., >70%) and the potential for single-project and/or cumulative impacts is minimal. Specific criteria for identification of such situations shall be included as a part of the HMP. However, plans to restore a channel reach may re-introduce the applicability of HMP controls, and would need to be addressed in the HMP.

(4) <u>HMP Reporting</u>

The Copermittees shall collaborate to report on HMP development as required in section J.2.a of this Order.

(5) <u>HMP Implementation</u>

180 days after approval of the HMP by the Regional Board, each Copermittee shall incorporate into its local SUSMP and implement the HMP for all applicable Priority Development Projects. Prior to approval of the HMP by the Regional Board, the early implementation of measures likely to be included in the HMP shall be encouraged by the Copermittees.

(6) Interim Hydromodification Criteria for Projects Disturbing 50 Acres or More

Within 365 days of adoption of this Order, the Copermittees shall collectively identify an interim range of runoff flow rates for which Priority Development Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations (Interim Hydromodification Criteria), where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations. Development of the Interim Hydromodification Criteria shall include identification of methods to be used by Priority Development Projects to exhibit compliance with the criteria, including continuous simulation of the entire rainfall record. Starting 365 days after adoption of this Order and until the final Hydromodification Management Plan standard and criteria are implemented, each Copermittee shall require Priority Development Projects disturbing 50 acres or more to implement hydrologic controls to manage post-project runoff flow rates and durations as required by the Interim Hydromodification Criteria. Development Projects disturbing 50 acres or more are exempt from this requirement when:

(a) The project would discharge into channels that are concrete-lined or significantly hardened (e.g., with rip-rap, sackcrete, etc.) downstream to their outfall in bays or the ocean;
(b) The project would discharge into underground storm drains discharging directly to bays or the ocean; or
(c) The project would discharge to a channel where the watershed areas below the project's discharge points are highly impervious (e.g. >70%).

h. ENFORCEMENT OF DEVELOPMENT SITES

Each Copermittee shall enforce its storm water ordinance for all Development Projects and at all development sites as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include appropriate sanctions to achieve compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit or occupancy denials for non-compliance.

2. Construction Component

Each Copermittee shall implement a construction program which meets the requirements of this section, 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. ORDINANCE UPDATE AND APPROVAL PROCESS

(1) Within 365 days of adoption of this Order, each Copermittee shall review and update its grading ordinances and other ordinances as necessary to achieve full compliance with this Order, including requirements for the implementation of all designated BMPs and other measures.

(2) Prior to approval and issuance of local construction and grading permits, each Copermittee shall:

(a) Require all individual proposed construction sites to implement designated BMPs and other measures so that pollutants discharged from the site will be reduced to the maximum extent practicable and will not cause or contribute to a violation of water quality standards.
(b) Prior to permit issuance, require and review the project proponent's storm water management plan to verify compliance with their grading ordinance, other ordinances, and this Order.
(c) Verify that project proponents subject to California's statewide General NPDES Permit for Storm Water Discharges Associated With Construction Activities, (hereinafter General Construction Permit), have existing coverage under the General Construction Permit.

b. SOURCE IDENTIFICATION

Each Copermittee shall maintain and update monthly a watershed based inventory of all construction sites within its jurisdiction. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended.

c. BMP IMPLEMENTATION

(1) Each Copermittee shall designate a minimum set of BMPs and other measures to be implemented at construction sites. The designated minimum set of BMPs shall include, at a minimum:

(a) General Site Management

i. Pollution prevention, where appropriate.
ii. Development and implementation of a storm water management plan.
iii. Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction;
iv. Minimization of exposure time of disturbed soil areas;
v. Minimization of grading during the wet season and correlation of grading with seasonal dry weather periods to the extent feasible.
vi. Limitation of grading to a maximum disturbed area as determined by each Copermittee before either temporary or permanent erosion controls are implemented to prevent storm water pollution. The Copermittee has the option of temporarily increasing the size of disturbed soil areas by a set amount beyond the maximum, if the individual site is in compliance with applicable storm water regulations and the site has adequate control practices implemented to prevent storm water pollution.
vii. Temporary stabilization and reseeding of disturbed soil areas as rapidly as feasible;
viii. Preservation of natural hydrologic features where feasible;
ix. Preservation of riparian buffers and corridors where feasible;
x. Maintenance of all BMPs, until removed; and
xi. Retention, reduction, and proper management of all pollutant discharges on site to the MEP standard.

(b) Erosion and Sediment Controls

i. Erosion prevention, to be used as the most important measure for keeping sediment on site during construction, but never as the single method;
ii. Sediment controls, to be used as a supplement to erosion prevention for keeping sediment on-site during construction;
iii. Slope stabilization on all inactive slopes during the rainy season and during rain events in the dry season;
iv. Slope stabilization on all active slopes during rain events regardless of the season; and
v. Permanent revegetation or landscaping as early as feasible.

(2) Each Copermittee shall require implementation of advanced treatment for sediment at construction sites that are determined by the Copermittee to be an exceptional threat to water quality. In evaluating the threat to water quality, the following factors shall be considered by the Copermittee:

(a) Soil erosion potential or soil type;
(b) The site's slopes;
(c) Project size and type;
(d) Sensitivity of receiving water bodies;
(e) Proximity to receiving water bodies;
(f) Non-storm water discharges;
(g) Ineffectiveness of other BMPs; and
(h) Any other relevant factors.

(3) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each construction site within its jurisdiction year round. However, BMP implementation requirements can vary based on wet and dry seasons. Dry season BMP implementation must plan for and address rain events that may occur during the dry season.

(4) Each Copermittee shall implement, or require implementation of, additional controls for construction sites tributary to CWA section 303(d) water body segments impaired for sediment as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for construction sites within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section Attachment C of this Order) as necessary to comply with this Order.

d. INSPECTION OF CONSTRUCTION SITES

Each Copermittee shall conduct construction site inspections for compliance with its local ordinances (grading, storm water, etc.), permits (construction, grading, etc.), and this Order.

(1) During the wet season, each Copermittee shall inspect at least biweekly (every two weeks), all construction sites within its jurisdiction meeting the following

criteria:

(a) All sites 50 acres or more in size and grading will occur during the wet season;
(b) All sites 1 acre or more, and tributary to a CWA section 303(d) water body segment impaired for sediment or within or directly adjacent to or discharging directly to a receiving water within an ESA; and
(c) Other sites determined by the Copermittees or the Regional Board as a significant threat to water quality. In evaluating threat to water quality, the following factors shall be considered:

i. soil erosion potential;
ii. site slope;
iii. project size and type;
iv. sensitivity of receiving water bodies;
v. proximity to receiving water bodies;
vi. non-storm water discharges;
vii. past record of non-compliance by the operators of the construction site; and
viii. any other relevant factors.

(2) During the wet season, each Copermittee shall inspect at least monthly, all construction sites with one acre or more of soil disturbance not meeting the criteria specified above in section D.2.c.(1).

(3) During the wet season, each Copermittee shall inspect as needed, construction sites less than 1 acre in size.

(4) Each Copermittee shall inspect all construction sites as needed during the dry season.

(5) Based upon site inspection findings, each Copermittee shall implement all follow-up actions (i.e., reinspection, enforcement) necessary to comply with this Order.

(6) Inspections of construction sites shall include, but not be limited to:

(a) Check for coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.) during initial inspections;
(b) Assessment of compliance with Permittee ordinances and permits related to urban runoff, including the implementation and maintenance of designated minimum BMPs;
(c) Assessment of BMP effectiveness;
(d) Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff;
(e) Education and outreach on storm water pollution prevention, as needed; and
(f) Creation of a written or electronic inspection report.

(7) The Copermittees shall track the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies required.

e. ENFORCEMENT OF CONSTRUCTION SITES

Each Copermittee shall develop and implement an escalating enforcement process that achieves prompt corrective actions at construction sites for violations of the Copermittee's water quality protection permit requirements and ordinances. This enforcement process shall include authorizing the Copermittee's construction site inspectors to take immediate enforcement actions when appropriate and necessary. The enforcement process shall include appropriate sanctions such as stop work orders, non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

f. REPORTING OF NON-COMPLIANT SITES

In addition to the notification requirements in section 5(e) of Attachment B, each Copermittee shall notify the Regional Board when the Copermittee issues a stop work order or other high level enforcement to a construction site in their jurisdiction as a result of storm water violations.

3. Existing Development Component

a. MUNICIPAL

Each Copermittee shall implement a municipal program which meets the requirements of this section, reduces municipal discharges of pollutants from the MS4 to the MEP, and prevents municipal discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification

Each Copermittee shall annually update a watershed based inventory of municipal areas and activities. The inventory shall include the name, address (if applicable), and a description of the area/activity, which pollutants are potentially generated by the area/activity, and identification of whether the area/activity is tributary to a CWA section 303(d) water body segment and generates pollutants for which the water body segment is impaired. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended when applicable, but not required.

(2) BMP Implementation

(a) Each Copermittee shall implement pollution prevention methods in its municipal program and shall require their use by appropriate municipal departments and personnel, where appropriate.

(b) Each Copermittee shall designate a minimum set of BMPs for all municipal areas and activities. The designated minimum BMPs for municipal areas and activities shall be area or activity specific as appropriate.

(c) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order for each municipal area or activity within its

jurisdiction.

(d) Each Copermittee shall evaluate existing flood control devices to determine if retrofitting the device to provide additional pollutant removal from urban runoff is feasible. When conducting flood control device retrofit projects, each Copermittee shall incorporate permanent pollutant removal measures into the projects, where feasible.

(e) Each Copermittee shall implement, or require implementation of, any additional controls for municipal areas and activities tributary to CWA section 303(d) impaired water body segments (where an area or activity generates pollutants for which the water body segment is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for municipal areas and activities within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order) as necessary to comply with this Order.

(f) Each Copermittee shall implement, or require implementation of, additional controls for special events within their jurisdiction that are expected to generate significant trash and litter. Controls to consider shall include:

i. Temporary screens on catch basins and storm drain inlets;
ii. Temporary fencing to prevent windblown trash from entering adjacent water bodies and MS4 channels;
iii. Proper management of trash and litter;
iv. Catch basin cleaning following the special event and prior to an anticipated rain event;
v. Street sweeping of roads, streets, highways and parking facilities following the special event; and
vi. Other equivalent controls.

(3) <u>Operation and Maintenance of Municipal Separate Storm Sewer System and Structural Controls</u>

(a) Each Copermittee shall implement a schedule of inspection and maintenance activities to verify proper operation of all municipal structural treatment controls designed to reduce pollutant discharges to or from its MS4s and related drainage structures.

(b) Each Copermittee shall implement a schedule of maintenance activities for the MS4 and MS4 facilities (catch basins, storm drain inlets, open channels, etc). The maintenance activities shall, at a minimum, include:

i. Inspection at least once a year between May 1 and September 30 of each year for all MS4 facilities that receive or collect high volumes of trash and debris. All other MS4 facilities shall be inspected at least annually throughout the year.
ii. Following two years of inspections, any MS4 facility that requires inspection and cleaning less than annually may be inspected as needed, but not less that every other year.

iii. Any catch basin or storm drain inlet that has accumulated trash and debris greater than 33% of design capacity shall be cleaned in a timely manner. Any MS4 facility that is designed to be self cleaning shall be cleaned of any accumulated trash and debris immediately. Open channels shall be cleaned of observed anthropogenic litter in a timely manner.
iv. Record keeping of the maintenance and cleaning activities including the overall quantity of waste removed.
v. Proper disposal of waste removed pursuant to applicable laws.
vi. Measures to eliminate waste discharges during MS4 maintenance and cleaning activities.

(4) Management of Pesticides, Herbicides, and Fertilizers

The Copermittees shall implement BMPs to reduce the contribution of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities to MS4s. Important municipal areas and activities include municipal facilities, public rights-of-way, parks, recreational facilities, golf courses, cemeteries, botanical or zoological gardens and exhibits, landscaped areas, etc.

Such BMPs shall include, at a minimum: (1) educational activities, permits, certifications and other measures for municipal applicators and distributors; (2) integrated pest management measures that rely on non-chemical solutions; (3) the use of native vegetation; (4) schedules for irrigation and chemical application; and (5) the collection and proper disposal of unused pesticides, herbicides, and fertilizers.

(5) Sweeping of Municipal Areas

Each Copermittee shall implement a program to sweep improved (possessing a curb and gutter) municipal roads, streets, highways, and parking facilities. The program shall include the following measures:

(a) Roads, streets, highways, and parking facilities identified as consistently generating the highest volumes of trash and/or debris shall be swept at least two times per month.

(b) Roads, streets, highways, and parking facilities identified as consistently generating moderate volumes of trash and/or debris shall be swept at least monthly.

(c) Roads, streets, highways, and parking facilities identified as generating low volumes of trash and/or debris shall be swept as necessary, but no less than once per year.

(6) Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance of Both

Each Copermittee shall implement controls and measures to prevent and eliminate infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. Each Copermittee that

operates both a municipal sanitary sewer system and a MS4 shall implement controls and measures to prevent and eliminate infiltration of seepage from the municipal sanitary sewers to the MS4s that shall include overall sanitary sewer and MS4 surveys and thorough, routine preventive maintenance of both.

(7) Inspection of Municipal Areas and Activities

(a) At a minimum, each Copermittee shall inspect the following high priority municipal areas and activities annually:

i. Roads, Streets, Highways, and Parking Facilities.
ii. Flood Management Projects and Flood Control Devices.
iii. Areas and activities tributary to a C WA section 303(d) impaired water body segment, where an area or activity generates pollutants for which the water body segment is impaired. Areas and activities within or adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).
iv. Municipal Facilities.
[1] Active or closed municipal landfills;
[2] Publicly owned treatment works (including water and wastewater treatment plants) and sanitary sewage collection systems;
[3] Solid waste transfer facilities;
[4] Land application sites;
[5] Corporate yards including maintenance and storage yards for materials, waste, equipment and vehicles; and
[6] Household hazardous waste collection facilities.
v. Municipal airfields.
vi. Parks and recreation facilities.
vii. Special event venues following special events (festivals, sporting events, etc.)
viii. Power washing.
ix. Other municipal areas and activities that the Copermittee determines may contribute a significant pollutant load to the MS4.

(b) Other municipal areas and activities shall be inspected as needed.

(c) Based upon site inspection findings, each Copermittee shall implement all follow-up actions necessary to comply with this Order.

(8) Enforcement of Municipal Areas and Activities

Each Copermittee shall enforce its storm water ordinance for all municipal areas and activities as necessary to maintain compliance with this Order.

b. INDUSTRIAL AND COMMERCIAL

Each Copermittee shall implement an industrial and commercial program which meets the requirements of this section, reduces industrial and commercial discharges of pollutants from the MS4 to the MEP, and prevents industrial and commercial discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Source Identification

Each Copermittee shall annually update a watershed-based inventory of all industrial and commercial sites/sources within its jurisdiction (regardless of ownership) that could contribute a significant pollutant load to the MS4. The inventory shall include the following minimum information for each industrial and commercial site/source: name; address; pollutants potentially generated by the site/source (and identification of whether the site/source is tributary to a Clean Water Act section 303(d) water body segment and generates pollutants for which the water body segment is impaired); and a narrative description including SIC codes which best reflects the principal products or services provided by each facility. The use of an automated database system, such as Geographical Information System (GIS) is highly recommended.

At a minimum, the following sites/sources shall be included in the inventory:

(a) Commercial Sites/Sources:

i. Automobile repair, maintenance, fueling, or cleaning;
ii. Airplane repair, maintenance, fueling, or cleaning;
iii. Boat repair, maintenance, fueling, or cleaning;
iv. Equipment repair, maintenance, fueling, or cleaning;
v. Automobile and other vehicle body repair or painting;
vi. Mobile automobile or other vehicle washing;
vii. Automobile (or other vehicle) parking lots and storage facilities;
viii. Retail or wholesale fueling;
ix. Pest control services;
x. Eating or drinking establishments, including food markets;
xi. Mobile carpet, drape or furniture cleaning;
xii. Cement mixing or cutting;
xiii. Masonry;
xiv. Painting and coating;
xv. Botanical or zoological gardens and exhibits;
xvi. Landscaping;
xvii. Nurseries and greenhouses;
xviii. Golf courses, parks and other recreational areas/facilities;
xix. Cemeteries;
xx. Pool and fountain cleaning;
xxi. Marinas;
xxii. Portable sanitary services;
xxiii. Building material retailers and storage;
xxiv. Animal facilities; and
xxv. Power washing services.

(b) Industrial Sites/Sources:

i. Industrial Facilities, as defined at 40 CFR § 122.26(b)(14), including those subject to the General Industrial Permit or other individual NPDES permit;
ii. Operating and closed landfills;
iii. Facilities subject to SARA Title III; and

iv. Hazardous waste treatment, disposal, storage and recovery facilities.

(c) All other commercial or industrial sites/sources tributary to a CWA Section 303(d) impaired water body segment, where the site/source generates pollutants for which the water body segment is impaired. All other commercial or industrial sites/sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order).

(d) All other commercial or industrial sites/sources that the Copermittee determines may contribute a significant pollutant load to the MS4.

(2) BMP Implementation

(a) Each Copermittee shall require the use of pollution prevention methods by industrial and commercial sites/sources, where appropriate.

(b) Each Copermittee shall designate a minimum set of BMPs for all industrial and commercial sites/sources. The designated minimum BMPs shall be specific to facility types and pollutant generating activities, as appropriate.

(c) Within the first three years of implementation of the updated Jurisdictional Urban Runoff Management Program, each Copermittee shall notify the owner/operator of each inventoried industrial and commercial site/source of the BMP requirements applicable to the site/source.

(d) Each Copermittee shall implement, or require the implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order at each industrial and commercial site/source within its jurisdiction.

(e) Each Copermittee shall implement, or require implementation of, additional controls for industrial and commercial sites/sources tributary to CWA section 303(d) impaired water body segments (where a site/source generates pollutants for which the water body segment is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for industrial and commercial sites/sources within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in Attachment C of this Order) as necessary to comply with this Order.

(3) Inspection of Industrial and Commercial Sites/Sources

(a) Each Copermittee shall conduct industrial and commercial site inspections for compliance with its ordinances, permits, and this Order. Inspections shall include but not be limited to:

i. Review of BMP implementation plans, if the site uses or is required to use such a plan;
ii. Review of facility monitoring data, if the site monitors its runoff;

iii. Check for coverage under the General Industrial Permit (Notice of Intent (NOI) and/or Waste Discharge Identification No.), if applicable;
iv. Assessment of compliance with Copermittee ordinances and permits related to urban runoff;
v. Assessment of BMP implementation, maintenance and effectiveness;
vi. Visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and
vii. Education and training on storm water pollution prevention, as conditions warrant.

(b) At a minimum, 50% of all sites (excluding mobile sources) determined to pose a high threat to water quality shall be inspected in the first year of implementation of the updated Jurisdictional Urban Runoff Management Program, regardless of whether this exceeds the number of inspections required in section D.3.b.(3)(c). This requirement shall increase to 100% of the sites in the second year, and 100% annually thereafter. In any year that the total number of required inspection per section D.3.b.(3)(c) exceeds the number of high threat to water quality sites, all high threat to water quality sites shall be inspected. In evaluating threat to water quality, each Copermittee shall address, at a minimum, the following:

i. Type of activity (SIC code);
ii. Materials used at the facility;
iii. Wastes generated;
iv. Pollutant discharge potential;
v. Non-storm water discharges;
vi. Size of facility;
vii. Proximity to receiving water bodies;
viii. Sensitivity of receiving water bodies;
ix. Whether the facility is subject to the General Industrial Permit or an individual NPDES permit;
x. Whether the facility has filed a No Exposure Certification/Notice of Non-Applicability;
xi. Facility design;
xii. Total area of the site, area of the site where industrial or commercial activities occur, and area of the site exposed to rainfall and runoff;
xiii. The facility's compliance history; and
xiv. Any other relevant factors.

(c) At a minimum, 20% of the sites inventoried as required in section D.3.b.(1) above (excluding mobile sources) shall be inspected in the first year of implementation of the updated Jurisdictional Urban Runoff Management Program. This requirement shall increase to 25% of the sites in the second year, and 25% annually thereafter.

(d) Each Copermittee may develop and implement a third party inspection program for verifying industrial and commercial site/source compliance with its ordinances, permits, and this Order. The third party inspections can satisfy up to 30% of the inspection requirements in section D.3.b(3)(c), with the Copermittee having to fulfill the remaining required inspections. To the extent that third party inspections are conducted to fulfill the requirements of

section D.3.b(3)(c), the Copermittee will be responsible for the inspection of an additional site for every three sites inspected by a third party. The additional inspections may be conducted by the Copermittee or a third party inspector. The Copermittees third party inspection program must include the following:

i. A description of facility types proposed to be inspected by third parties, including SIC codes;
ii. A third party inspector certification program;
iii. The inspection requirements described in section D.3.b.(3)(a);
iv. Inspection form templates for third party inspector use;
v. Photo documentation of potential storm water violations identified during the third party inspection;
vi. An annual Copermittee audit of random, representative sites that were inspected by a third party;
vii. An annual Copermittee audit of random, representative third party inspectors;
viii. Reporting to the Copermittee of identified significant potential violations within 24 hours of the third party inspection;
ix. Reporting to the Copermittee of all inspection findings within one week of the inspection being conducted; and
x. Copermittee follow-up and/or enforcement actions for identified potential storm water violations within 2 business days of the inspection or potential violation report receipt.

(e) Based upon site inspection findings, each Copermittee shall implement all follow-up actions and enforcement necessary to comply with this Order.

(f) To the extent that the Regional Board has conducted an inspection of an industrial site during a particular year, the requirement for the responsible Copermittee to inspect this facility during the same year will be satisfied.

(g) The Copermittees shall track the number of inspections for the inventoried industrial and commercial sites/sources throughout the reporting period to verify that the sites/sources are inspected at the minimum frequencies listed in sections D.3.b.(3)(b) and D.3.b.(3)(c).

(4) Regulation of Mobile Businesses

(a) Each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the MEP. Each Copermittee shall keep as part of their inventory (section D.3.b.(1) above), a listing of mobile businesses known to operate within its jurisdiction. The program shall include:

i. Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses.
ii. Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses.
iii. Notification of those mobile businesses known to operate within the Copermittee's jurisdiction of the minimum standards and BMP requirements and local ordinances.

iv. Development and implementation of an outreach and education strategy.
v. Inspection of mobile businesses as needed.

(b) If they choose to, the Copermittees may cooperate in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, enforcement action information, and education.

(5) Enforcement of Industrial and Commercial Sites/Sources

Each Copermittee shall enforce its storm water ordinance for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. Copermittee ordinances or other regulatory mechanisms shall include appropriate sanctions to achieve compliance. Sanctions shall include the following or their equivalent: Non-monetary penalties, fines, bonding requirements, and/or permit denials for non-compliance.

(6) Reporting of Industrial Non-Filers

As part of each Annual Report, each Copermittee shall report a list of industrial sites, including the name, address, and SIC code, that may require coverage under the General Industrial Permit for which a NOI has not been filed.

c. RESIDENTIAL

Each Copermittee shall implement a residential program which meets the requirements of this section, reduces residential discharges of pollutants from the MS4 to the MEP, and prevents residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

(1) Threat to Water Quality Prioritization

Each Copermittee shall identify high threat to water quality residential areas and activities. At a minimum, these shall include:

(a) Automobile repair, maintenance, washing, and parking;
(b) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
(c) Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);
(d) Any other residential source that the Copermittee determines may contribute a significant pollutant load to the MS4;
(e) Any residential areas tributary to a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and
(f) Any residential areas within or directly adjacent to or discharging directly to a coastal lagoon or other receiving waters within an environmentally sensitive area (as defined in Attachment C of this Order).

(2) BMP Implementation

(a) Each Copermittee shall designate minimum BMPs for high threat to water quality residential areas and activities. The designated minimum BMPs for high threat to water quality municipal areas and activities shall be area or activity specific.
(b) Each Copermittee shall encourage the use of pollution prevention methods by residents, where appropriate.
(c) Each Copermittee shall facilitate the proper management and disposal of used oil, toxic materials, and other household hazardous wastes. Such facilitation shall include educational activities, public information activities, and establishment of collection sites operated by the Copermittee or a private entity. Curbside collection of household hazardous wastes is encouraged.
(d) Each Copermittee shall implement, or require implementation of, the designated minimum BMPs and any additional measures necessary to comply with this Order for high threat to water quality residential areas and activities.
(e) Each Copermittee shall implement, or require implementation of, BMPs for residential areas and activities that have not been designated a high threat to water quality, as necessary.
(f) Each Copermittee shall implement, or require implementation of, any additional controls for residential areas and activities tributary to CWA section 303(d) impaired water body segments (where a residential area or activity generates pollutants for which the water body segment is impaired) as necessary to comply with this Order. Each Copermittee shall implement, or require implementation of, additional controls for residential areas within or directly adjacent to or discharging directly to coastal lagoons or other receiving waters within environmentally sensitive areas (as defined in section Attachment C of this Order) as necessary to comply with this Order.

(3) Enforcement of Residential Areas and Activities

Each Copermittee shall enforce its storm water ordinance for all residential areas and activities as necessary to maintain compliance with this Order.

(4) Evaluation of Oversight of Residential Areas and Activities

The Copermittees are encouraged to individually or collectively evaluate their methods used for oversight of residential areas and activities, including assessment of inspections of residential areas and activities. The evaluation should consider various oversight and inspection approaches to identify an effective and appropriate oversight and inspection approach for residential areas and activities.

(5) Regional Residential Education Program

Each Copermittee shall collaborate with the other Copermittees to develop and implement the Regional Residential Education Program required in section F.1 of this Order.

4. Illicit Discharge Detection and Elimination Component

Each Copermittee shall implement an Illicit Discharge Detection and Elimination program which meets the requirements of this section and actively seeks and eliminates illicit discharges and connections.

a. ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee shall implement a program to actively seek and eliminate illicit discharges and connections into its MS4. The program shall include utilization of appropriate municipal personnel to assist in identifying illicit discharges and connections during their daily activities. The program shall address all types of illicit discharges and connections excluding those non-storm water discharges not prohibited by the Copermittee in accordance with section B of this Order.

b. DEVELOP/MAINTAIN MS4 MAP

Each Copermittee shall develop and/or update its labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction. The use of a GIS is highly recommended. The accuracy of the MS4 map shall be confirmed during dry weather field screening and analytical monitoring and shall be updated at least annually.

c. DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING

Each Copermittee shall conduct dry weather field screening and analytical monitoring of MS4 outfalls and other portions of its MS4 within its jurisdiction to detect illicit discharges and connections in accordance with Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.

d. INVESTIGATION/INSPECTION AND FOLLOW-UP

(1) Each Copermittee shall investigate and inspect any portion of the MS4 that, based on visual observations, dry weather field screening and analytical monitoring results, or other appropriate information, indicates a reasonable potential for illicit discharges, illicit connections, or other sources of non-storm water (including non-prohibited discharge(s) identified in section B of this Order). Each Copermittee shall develop/update and utilize numeric criteria action levels (or other actions level criteria where appropriate) to determine when follow-up investigations will be performed.

(2) Within two business days of receiving dry weather field screening results that exceed action levels, the Copermittees shall either conduct an investigation to identify the source of the discharge or provide the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. Within two business days, where applicable, of receiving analytical laboratory results that exceed action levels, the Copermittees shall either conduct an investigation to identify the source of the discharge or provide the rationale for why the discharge does not pose a threat to water quality and does not need further investigation. Obvious illicit discharges (i.e. color, odor, or significant exceedances of action levels) shall be investigated immediately.

e. ELIMINATION OF ILLICIT DISCHARGES AND CONNECTIONS

Each Copermittee shall take immediate action to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection. Elimination measures may include an escalating series of enforcement actions for those illicit discharges that are not a serious threat to public health or the environment. Illicit discharges that pose a serious threat to the public's health or the environment must be eliminated immediately.

f. ENFORCE ORDINANCES

Each Copermittee shall implement and enforce its ordinances, orders, or other legal authority to prevent illicit discharges and connections to its MS4. Each Copermittee shall also implement and enforce its ordinance, orders, or other legal authority to eliminate detected illicit discharges and connections to it MS4.

g. PREVENT AND RESPOND TO SEWAGE SPILLS (INCLUDING FROM PRIVATE LATERALS AND FAILING SEPTIC SYSTEMS) AND OTHER SPILLS

Each Copermittee shall prevent, respond to, contain and clean up all sewage and other spills that may discharge into its MS4 from any source (including private laterals and failing septic systems). Spill response teams shall prevent entry of spills into the MS4 and contamination of surface water, ground water and soil to the maximum extent practicable. Each Copermittee shall coordinate spill prevention, containment and response activities throughout all appropriate departments, programs and agencies so that maximum water quality protection is available at all times.

Each Copermittee shall develop and implement a mechanism whereby it is notified of all sewage spills from private laterals and failing septic systems into its MS4. Each Copermittee shall prevent, respond to, contain and clean up sewage from any such notification.

h. FACILITATE PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS - PUBLIC HOTLINE

Each Copermittee shall promote, publicize and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s. Each Copermittee shall facilitate public reporting through development and operation of a public hotline. Public hotlines can be Copermittee-specific or shared by Copermittees. All storm water hotlines shall be capable of receiving reports in both English and Spanish 24 hours per day / seven days per week. Copermittees shall respond to and resolve each reported incident in a timely manner. All reported incidents, and how each was resolved, shall be summarized in each Copermittee's individual JURMP Annual Report.

5. Education Component

Each Copermittee shall implement an education program using all media as appropriate to (1) measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to measurably change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. At a minimum, the education

program shall meet the requirements of this section and address the following target communities:

- Municipal Departments and Personnel
- Construction Site Owners and Developers
- Industrial Owners and Operators
- Commercial Owners and Operators
- Residential Community, General Public, and School Children

a. GENERAL REQUIREMENTS

(1) Each Copermittee shall educate each target community on the following topics where appropriate:

Table 3. Education

Laws, Regulations, Permits, & Requirements	**Best Management Practices**
• Federal, state, and local water quality laws and regulations • Statewide General NPDES Permit for Storm Water Discharges Associated with Industrial Activities (Except Construction). • Statewide General NPDES Permit for Storm Water Discharges Associated with Construction Activities • Regional Board's General NPDES Permit for Ground Water Dewatering • Regional Board's 401 Water Quality Certification Program • Statewide General NPDES Utility Vault Permit • Requirements of local municipal permits and ordinances (e.g., storm water and grading ordinances and permits)	• Pollution prevention and safe alternatives • Good housekeeping (e.g., sweeping impervious surfaces instead of hosing) • Proper waste disposal (e.g., garbage, pet/animal waste, green waste, household hazardous materials, appliances, tires, furniture, vehicles, boat/recreational vehicle waste, catch basin/ MS4 cleanout waste) • Non-storm water disposal alternatives (e.g., all wash waters) • Methods to minimized the impact of land development and construction • Erosion prevention • Methods to reduce the impact of residential and charity car-washing • Preventive Maintenance • Equipment/vehicle maintenance and repair • Spill response, containment, and recovery • Recycling • BMP maintenance
General Urban Runoff Concepts	**Other Topics**
• Impacts of urban runoff on receiving waters • Distinction between MS4s and sanitary sewers • BMP types: facility or activity specific, LID, source control, and treatment control • Short- and long-term water quality impacts associated with urbanization (e.g., land-use decisions, development, construction) • Non-storm water discharge prohibitions • How to conduct a storm water inspections	• Public reporting mechanisms • Water quality awareness for Emergency/ First Responders • Illicit Discharge Detection and Elimination observations and follow-up during daily work activities • Potable water discharges to the MS4 • Dechlorination techniques • Hydrostatic testing • Integrated pest management • Benefits of native vegetation • Water conservation

	• Alternative materials and designs to maintain peak runoff values • Traffic reduction, alternative fuel use

(2) Copermittee educational programs shall emphasize underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.

b. SPECIFIC REQUIREMENTS

(1) Municipal Departments and Personnel Education

(a) Municipal Development Planning – Each Copermittee shall implement an education program so that its planning and development review staffs (and Planning Boards and Elected Officials, if applicable) have an understanding of:

i. Federal, state, and local water quality laws and regulations applicable to Development Projects;
ii. The connection between land use decisions and short and long-term water quality impacts (i.e., impacts from land development and urbanization);
iii. How to integrate LID BMP requirements into the local regulatory program(s) and requirements; and
iv. Methods of minimizing impacts to receiving water quality resulting from development, including:
[1] Storm water management plan development and review;
[2] Methods to control downstream erosion impacts;
[3] Identification of pollutants of concern;
[4] LID BMP techniques;
[5] Source control BMPs; and
[6] Selection of the most effective treatment control BMPs for the pollutants of concern.

(b) Municipal Construction Activities – Each Copermittee shall implement an education program that includes annual training prior to the rainy season so that its construction, building, code enforcement, and grading review staffs, inspectors, and other responsible construction staff have, at a minimum, an understanding of the following topics, as appropriate for the target audience:

i. Federal, state, and local water quality laws and regulations applicable to construction and grading activities.
ii. The connection between construction activities and water quality impacts (i.e., impacts from land development and urbanization and impacts from construction material such as sediment).
iii. Proper implementation of erosion and sediment control and other BMPs to minimize the impacts to receiving water quality resulting from construction activities.
iv. The Copermittee's inspection, plan review, and enforcement policies and procedures to verify consistent application.
v. Current advancements in BMP technologies.

vi. SUSMP Requirements including treatment options, LID BMPs, source control, and applicable tracking mechanisms.

(c) Municipal Industrial/Commercial Activities - Each Copermittee shall train staff responsible for conducting storm water compliance inspections and enforcement of industrial and commercial facilities at least once a year. Training shall cover inspection and enforcement procedures, BMP implementation, and reviewing monitoring data.

(d) Municipal Other Activities – Each Copermittee shall implement an education program so that municipal personnel and contractors performing activities which generate pollutants have an understanding of the activity specific BMPs for each activity to be performed.

(2) New Development and Construction Education

As early in the planning and development process as possible and all through the permitting and construction process, each Copermittee shall implement a program to educate project applicants, developers, contractors, property owners, community planning groups, and other responsible parties. The education program shall provide an understanding of the topics listed in Sections D.5.b.(1)(a) and D.5.b.(1)(b) above, as appropriate for the audience being educated. The education program shall also educate project applicants, developers, contractors, property owners, and other responsible parties on the importance of educating all construction workers in the field about stormwater issues and BMPs though formal or informal training.

(3) Residential, General Public, and School Children Education

Each Copermittee shall collaboratively conduct or participate in development and implementation of a plan to educate residential, general public, and school children target communities. The plan shall evaluate use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods.

6. Public Participation Component

Each Copermittee shall incorporate a mechanism for public participation in the updating, development, and implementation of the Jurisdictional Urban Runoff Management Program.

E. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM

1. Each Copermittee shall implement all requirements of section E of this Order no later than 365 days after adoption of this Order, unless otherwise specified in this Order. Prior to 365 days after adoption of this Order, each Copermittee shall collaborate with the other Copermittees within its Watershed Management Area(s) (WMA) to at a minimum implement its Watershed URMP document, as the document was developed and amended to comply with the requirements of Order No. 2001-01.

2. Each Copermittee shall collaborate with other Copermittees within its WMA(s) as shown in Table 4 below to develop and implement an updated Watershed Urban Runoff

Management Program for each watershed. Each updated Watershed Urban Runoff Management Program shall meet the requirements of section E of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. At a minimum, each Watershed Urban Runoff Management Program shall include the elements described below:

a. Lead Watershed Permittee Identification

Watershed Copermittees shall identify the Lead Watershed Permittee for their WMA. In the event that a Lead Watershed Permittee is not selected and identified by the Watershed Copermittees, by default the Copermittee identified in Table 4 as the Lead Watershed Permittee for that WMA shall be responsible for implementing the requirements of the Lead Watershed Permittee in that WMA. The Lead Watershed Copermittees shall serve as liaisons between the Copermittees and Regional Board, where appropriate.

b. Watershed Map

Watershed Copermittees shall develop and periodically update a map of the WMA to facilitate planning, assessment, and collaborative decision-making. As determined appropriate, the map shall include features such as receiving waters (including the Pacific Ocean); Clean Water Act section 303(d) impaired receiving waters; land uses, MS4s; major highways; jurisdictional boundaries; and inventoried commercial, industrial, and municipal sites.

c. Watershed Water Quality Assessment

Watershed Copermittees shall annually assess the water quality of receiving waters in their WMA. This assessment shall use applicable water quality data, reports, and analysis generated in accordance with the requirements of the Receiving Waters Monitoring and Reporting Program, as well as applicable information available from other public and private organizations.

The assessment and analysis shall annually identify the WMA's water quality problems that are partially or fully attributable to MS4 discharges. Identified water quality problems shall include CWA section 303(d) listings, persistent violations of water quality standards, toxicity, impacts to beneficial uses, and other pertinent conditions. From the list of water quality problems, the high priority water quality problems of the WMA shall be identified, which shall include those water quality problems which most significantly exceed or impact water quality standards (water quality objectives and beneficial uses).

The assessment shall include annual identification of the likely sources of the WMA's high priority water quality problems.

d. Watershed-based Land Use Planning

The Watershed Copermittees shall develop, implement, and modify, as necessary, a program for encouraging collaborative, watershed-based, land use planning in their jurisdictional planning departments.

e. Watershed Strategy

Watershed Copermittees shall develop and implement a collective watershed strategy to abate the sources and reduce the discharge of pollutants causing the high priority water quality problems of the WMA. The strategy shall guide Watershed Copermittee selection and implementation of Watershed Activities, so that the Watershed Activities selected and implemented are appropriate for each Watershed Copermittee's contribution to the WMA's high priority water quality problems.

f. Watershed Activities

(1) The Watershed Copermittees shall identify and implement Watershed Activities that address the high priority water quality problems in the WMA. Watershed Activities shall include both Watershed Water Quality Activities and Watershed Education Activities. These activities may be implemented individually or collectively, and may be implemented at the regional, watershed, or jurisdictional level.

(a) Watershed Water Quality Activities are activities other than education that address the high priority water quality problems in the WMA. A Watershed Water Quality Activity implemented on a jurisdictional basis must be organized and implemented to target a watershed's high priority water quality problems or must exceed the baseline jurisdictional requirements of section D of this Order.
(b) Watershed Education Activities are outreach and training activities that address high priority water quality problems in the WMA.

(2) A Watershed Activities List shall be submitted with each updated WURMP and updated annually thereafter. The Watershed Activities List shall include both Watershed Water Quality Activities and Watershed Education Activities, along with a description of how each activity was selected, and how all of the activities on the list will collectively abate sources and reduce pollutant discharges causing the identified high priority water quality problems in the WMA.

(3) Each activity on the Watershed Activities List shall include the following information:

(a) A description of the activity;
(b) A time schedule for implementation of the activity, including key milestones;
(c) An identification of the specific responsibilities of Watershed Copermittees in completing the activity;
(d) A description of how the activity will address the identified high priority water quality problem(s) of the watershed;
(e) A description of how the activity is consistent with the collective watershed strategy;
(f) A description of the expected benefits of implementing the activity; and
(g) A description of how implementation effectiveness will be measured.

(4) Each Watershed Copermittee shall implement identified Watershed Activities pursuant to established schedules. For each Permit year, no less than two Watershed Water Quality Activities and two Watershed Education Activities shall be in an active implementation phase. A Watershed Water Quality Activity

is in an active implementation phase when significant pollutant load reductions, source abatement, or other quantifiable benefits to discharge or receiving water quality can reasonably be established in relation to the watershed's high priority water quality problem(s). Watershed Water Quality Activities that are capital projects are in active implementation for the first year of implementation only. A Watershed Education Activity is in an active implementation phase when changes in attitudes, knowledge, awareness, or behavior can reasonably be established in target audiences.

g. Copermittee Collaboration

Watershed Copermittees shall collaborate to develop and implement the Watershed Urban Runoff Management Programs. Watershed Copermittee collaboration shall include frequent regularly scheduled meetings.

h. Public Participation

Watershed Copermittees shall implement a watershed-specific public participation mechanism within each watershed. The mechanism shall encourage participation from other organizations within the watershed (such as the Department of Defense, Caltrans, lagoon foundations, etc.)

i. WURMP Review and Updates

Each WURMP shall be reviewed annually to identify needed modifications and improvements. Pursuant to the requirements of Section I.2.b of this Order the Watershed Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. All updates to the WURMP shall be documented in the Watershed Urban Runoff Management Program Annual Reports. Individual Watershed Copermittees shall also review and modify their jurisdictional activities and JURMPs as necessary so that they are consistent with the requirements of the WURMP.

Table 4. Watershed Management Areas and Watershed Copermittees

RESPONSIBLE WATERSHED COPERMITTEE(S)	WATERSHED MANAGEMENT AREA	HYDROLOGIC UNIT OR AREA	MAJOR RECEIVING WATER BODIES
1. County of San Diego	Santa Margarita River	Santa Margarita HU (902.00)	Santa Margarita River and Estuary, Pacific Ocean
2. City of Oceanside 3. City of Vista 4. County of San Diego	San Luis Rey River	San Luis Rey HU (903.00)	San Luis Rey River and Estuary, Pacific Ocean
1. City of Carlsbad **2. City of Encinitas** 3. City of Escondido 4. City of Oceanside 5. City of San Marcos 6. City of Solana Beach 7. City of Vista 8. County of San Diego	Carlsbad	Carlsbad HU (904.00)	Batiquitos Lagoon San Elijo Lagoon Agua Hedionda Lagoon Buena Vista Lagoon and Tributary Streams Pacific Ocean
1. City of Del Mar 2. **City of Escondido** 3. City of Poway 4. City of San Diego 5. City of Solana Beach 6. County of San Diego	San Dieguito River	San Dieguito HU (905.00)	San Dieguito River and Estuary Pacific Ocean

RESPONSIBLE WATERSHED COPERMITTEE(S)	WATERSHED MANAGEMENT AREA	HYDROLOGIC UNIT OR AREA	MAJOR RECEIVING WATER BODIES
1. City of Del Mar **2. City of Poway** 3. City of San Diego 4. County of San Diego	Peñasquitos	Miramar Reservoir HA (906.10) Poway HA (906.20)	Los Peñasquitos Creek Los Peñasquitos Lagoon Pacific Ocean
1. City of San Diego	Mission Bay	Scripps HA (906.30) Miramar HA(906.40) Tecolote HA (906.50)	Mission Bay Pacific Ocean
1. City of El Cajon 2. City of La Mesa 3. City of San Diego 4. City of Santee 5. County of San Diego	San Diego River	San Diego HU (907.00)	San Diego River Pacific Ocean
1. City of Chula Vista 2. City of Coronado 3. City of Imperial Beach 4. City of La Mesa 5. City of Lemon Grove 6. City of National City 7. City of San Diego 8. County of San Diego **9. San Diego Unified Port District** 10. San Diego County Regional Airport Authority	San Diego Bay	Pueblo San Diego HU (908.00) Sweetwater HU (909.00) Otay HU (910.00)	San Diego Bay Sweetwater River Otay River Pacific Ocean
1. City of Imperial Beach 2. City of San Diego **3. County of San Diego**	Tijuana River	Tijuana (911.00)	Tijuana River and Estuary Pacific Ocean

- The Lead Watershed Permittee for each watershed is highlighted

F. REGIONAL URBAN RUNOFF MANAGEMENT PROGRAM

The Copermittees shall implement all requirements of section F of this Order no later than 365 days after adoption of this Order, unless otherwise specified in this Order.

Each Copermittee shall collaborate with the other Copermittees to develop, implement, and update as necessary a Regional Urban Runoff Management Program. The Regional Urban Runoff Management Program shall meet the requirements of section F of this Order, reduce the discharge of pollutants from the MS4 to the MEP, and prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards. The Regional Urban Runoff Management Program shall, at a minimum:

1. Develop and implement a Regional Residential Education Program. The program shall include:
   a. Pollutant specific education which focuses educational efforts on bacteria, nutrients, sediment, pesticides, and trash. If a different pollutant is determined to be more critical for the education program, the pollutant can be substituted for one of these pollutants.
   b. Education efforts focused on the specific residential sources of the pollutants listed in section F.1.a.
2. Develop the standardized fiscal analysis method required in section G of this Order.
3. Facilitate the assessment of the effectiveness of jurisdictional, watershed, and regional programs.

As options, the Regional Urban Runoff Management Program may:

1. Develop and implement urban runoff management activities on a regional level, as determined to be necessary by the Copermittees.

2. Develop and implement a strategy to integrate management, implementation, and reporting of jurisdictional, watershed, and regional activities, as determined to be necessary by the Copermittees. Any such integration shall assure compliance with the jurisdictional requirements of section D and the watershed requirements of section E.
3. Facilitate TMDL management and implementation, as determined to be necessary by the Copermittees.
4. Facilitate development of strategies for implementation of activities on a watershed level, as determined to be necessary by the Copermittees.

G. FISCAL ANALYSIS

1. Each Copermittee shall secure the resources necessary to meet all requirements of this Order.

2. As part of the Regional Urban Runoff Management Program, the Copermittees shall collectively develop a standardized method and format for annually conducting and reporting fiscal analyses of their urban runoff management programs in their entirety (including jurisdictional, watershed, and regional activities). This standardized method shall:

   a. Identify the various categories of expenditures attributable to the urban runoff management programs, including a description of the specific items to be accounted for in each category of expenditures.
   b. Identify expenditures that contribute to multiple programs or were in existence prior to implementation of the urban runoff management program.
   c. Identify a metric or metrics to be used to report program component and total program expenditures.

3. Each Copermittee shall conduct an annual fiscal analysis. Starting January 31, 2010, the annual fiscal analysis shall be conducted consistent with the standardized fiscal analysis method included in the January 31, 2009 Regional Urban Runoff Management Program Annual Report. The annual fiscal analysis shall be conducted and reported on as part of each Copermittee's Jurisdictional Urban Runoff Management Program Annual Reports. For convenience, the fiscal analysis included in the Jurisdictional Urban Runoff Management Program Annual Reports shall address the Copermittee's urban runoff management programs in their entirety, including jurisdictional, watershed, and regional activities. The fiscal analysis shall provide the Copermittee's urban runoff management program budget for the current reporting period. The fiscal analysis shall include a description of the source(s) of the funds that are proposed to be used to meet the necessary expenditures, including legal restrictions on the use of such funds.

H. TOTAL MAXIMUM DAILY LOADS

1. Chollas Creek Diazinon TMDL Water Quality Based Effluent Limits (WQBELs)

   a. The Copermittees in the Chollas Creek watershed shall implement BMPs capable of achieving the interim and final diazinon Waste Load Allocation (WLA) concentration in the storm water discharge in Chollas Creek listed in Table 5.

Table 5. Chollas Creek Diazinon Schedule

Calendar Year	Year	Waste Load Allocation	Interim TMDL Numeric Target	% Reduction
2004	1	0.460 µg/L	0.5 µg/L	0
2005	2	0.460 µg/L	0.5 µg/L	0
2006	3	0.460 µg/L	0.5 µg/L	0
2007	4	0.414 µg/L	0.45 µg/L	10
2008	5	0.322 µg/L	0.35 µg/L	20
2009	6	0.184 µg/L	0.20 µg/L	30
2010	7	0.045 µg/L	0.05 µg/L	30

b. The Copermittees in the Chollas Creek watershed shall not cause or contribute to the violation of the Interim TMDL Numeric Targets in Chollas Creek as listed in Table 5. If the Interim TMDL Numeric Target is violated in Chollas Creek in more than one sample in any three consecutive years, the Copermittees shall submit a report that either 1) documents compliance with the WLA through additional sampling of the urban runoff discharge or 2) demonstrates, using modeling or other technical or scientific basis, the effectiveness of additional BMPs that will be implemented to achieve the WLA. The report may be incorporated into the Watershed Urban Runoff Management Program Annual Report unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule.

c. The Copermittees in the Chollas Creek watershed shall implement the Diazinon Toxicity Control Plan and Diazinon Public Outreach/Education Program as described in the report titled, "Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County, August 14, 2002," including subsequent modifications, in order to achieve the WLA listed in Table 5.

2. Shelter Island Yacht Basin WQBELs

a. The Copermittees in the Shelter Island Yacht Basin watershed shall implement BMPs to maintain a total annual copper discharge load of less than or equal to 30 kg copper / year.

b. The Copermittees in the Shelter Island Yacht Basin watershed shall implement, at a minimum, the BMPs included in the Copermittees' Jurisdictional Urban Runoff Management Plan, including subsequent modifications, which address the discharge of copper to achieve the annual copper load in Section H.2.a above.

I. PROGRAM EFFECTIVENESS ASSESSMENT

1. Jurisdictional

a. As part of its Jurisdictional Urban Runoff Management Program, each Copermittee shall annually assess the effectiveness of its Jurisdictional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

(a) Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;
(b) Implementation of each major component of the Jurisdictional Urban Runoff Management Program (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination, and Education); and
(c) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.

(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.1.a.(1) above.

(3) Utilize outcome levels 1-6[9] to assess the effectiveness of each of the items listed in section I.1.a.(1) above, where applicable and feasible.

(4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.1.a.(1) above, where applicable and feasible.

(5) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.[10]

b. Based on the results of the effectiveness assessment, each Copermittee shall annually review its jurisdictional activities or BMPs to identify modifications and improvements needed to maximize Jurisdictional Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Jurisdictional activities/BMPs that are ineffective or less effective than other comparable jurisdictional activities/BMPs shall be replaced or improved upon by implementation of more effective jurisdictional activities/BMPs. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, jurisdictional activities or BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Jurisdictional Urban Runoff Management Program Annual Reports, each Copermittee shall report on its Jurisdictional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.1.a and I.1.b above.

2. Watershed

a. As part of its Watershed Urban Runoff Management Program, each watershed group of Copermittees (as identified in Table 4) shall annually assess the effectiveness of its Watershed Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

[9] Effectiveness assessment outcome levels are defined in Attachment C of this Order.
[10] Implementation Assessment, Water Quality Assessment, and Integrated Assessment are defined in Attachment C of this Order.

(a) Each Watershed Water Quality Activity implemented;
(b) Each Watershed Education Activity implemented; and
(c) Implementation of the Watershed Urban Runoff Management Program as a whole.

(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.2.a.(1) above.

(3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.2.a.(1)(a) and I.2.a.(1)(b) above, where applicable and feasible.

(4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, where applicable and feasible.

(5) Utilize outcome levels 5 and 6 to qualitatively assess the effectiveness of implementation of the Watershed Urban Runoff Management Program as a whole, focusing on the high priority water quality problem(s) of the watershed. These assessments shall attempt to exhibit the impact of Watershed Urban Runoff Management Program implementation on the high priority water quality problem(s) within the watershed.

(6) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.2.a.(1) above, where applicable and feasible.

(7) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.

b. Based on the results of the effectiveness assessment, the watershed Copermittees shall annually review their Watershed Water Quality Activities, Watershed Education Activities, and other aspects of the Watershed Urban Runoff Management Program to identify modifications and improvements needed to maximize Watershed Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Watershed Water Quality Activities/Watershed Education Activities that are ineffective or less effective than other comparable Watershed Water Quality Activities/Watershed Education Activities shall be replaced or improved upon by implementation of more effective Watershed Water Quality Activities/Watershed Education Activities. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, Watershed Water Quality Activities and Watershed Education Activities applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Watershed Urban Runoff Management Program Annual Reports, each watershed group of Copermittees (as identified in Table 4) shall report on its Watershed Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of section I.2.a and I.2.b above.

3. Regional

a. As part of the Regional Urban Runoff Management Program, the Copermittees shall annually assess the effectiveness of Regional Urban Runoff Management Program implementation. At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

(a) Each regional activity/BMP or type of regional activity/BMP implemented, including regional residential education activities; and
(b) The Regional Urban Runoff Management Program as a whole.

(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in section I.3.a.(1) above.

(3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in sections I.3.a.(1) above, where applicable and feasible.

(4) Utilize monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in section I.3.a.(1) above, where applicable and feasible.

(5) Utilize Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible.

(6) Include evaluation of whether the Copermittees' jurisdictional, watershed, and regional effectiveness assessments are meeting the following objectives:

(a) Assessment of watershed health and identification of water quality issues and concerns.
(b) Evaluation of the degree to which existing source management priorities are properly targeted to, and effective in addressing, water quality issues and concerns.
(c) Evaluation of the need to address additional pollutant sources not already included in Copermittee programs.
(d) Assessment of progress in implementing Copermittee programs and activities.
(e) Assessment of the effectiveness of Copermittee activities in addressing priority constituents and sources.
(f) Assessment of changes in discharge and receiving water quality.
(g) Assessment of the relationship of program implementation to changes in pollutant loading, discharge quality, and receiving water quality.
(h) Identification of changes necessary to improve Copermittee programs, activities, and effectiveness assessment methods and strategies.

b. Based on the results of the effectiveness assessment, the Copermittees shall annually review their regional activities and other aspects of the Regional Urban Runoff Management Program to identify modifications and improvements needed maximize Regional Urban Runoff Management Program effectiveness, as necessary to achieve compliance with section A of this Order. The Copermittees shall develop and implement a plan and schedule to address the identified modifications and improvements. Regional activities that are ineffective or less effective than other

comparable regional activities shall be replaced or improved upon by implementation of more effective regional activities. Where monitoring data exhibits persistent water quality problems that are caused or contributed to by MS4 discharges, regional activities applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. Based on the results of the Copermittees' evaluation of their effectiveness assessments, the Copermittees shall modify their effectiveness assessment methods to improve their ability to accurately assess the effectiveness of their urban runoff management programs.

d. As part of its Regional Urban Runoff Management Program Annual Reports, the Copermittees shall report on its Regional Urban Runoff Management Program effectiveness assessment as implemented under each of the requirements of sections I.3.a, I.3.b, and I.3.c above.

4. TMDL BMP Implementation Plan

a. For each TMDL in a watershed, the Copermittees subject to the TMDL within the watershed shall annually assess the effectiveness of its TMDL BMP Implementation Plan or equivalent plan.[11] At a minimum, the annual effectiveness assessment shall:

(1) Specifically assess the effectiveness of each of the following:

(a) Each activity/BMP or type of activity/BMP implemented; and
(b) Implementation of the TMDL BMP Implementation Plan or equivalent plan as a whole.

(2) Identify and utilize measurable targeted outcomes, assessment measures, and assessment methods for each of the items listed in sections I.4.a.(1) above.

(3) Utilize outcome levels 1-6 to assess the effectiveness of each of the items listed in section I.4.a.(1)(a) above, where applicable and feasible.

(4) Utilize outcome levels 1-4 to assess the effectiveness of implementation of the TMDL BMP Implementation Plan or equivalent plan as a whole, where applicable and feasible.

(5) Utilize outcome levels 5 and 6 to qualitatively assess the effectiveness of the TMDL BMP Implementation Plan or equivalent plan as a whole. These assessments shall attempt to exhibit the effects of the TMDL BMP Implementation Plan or equivalent plan on the impairment that is targeted.

b. Based on the results of the effectiveness assessment, the Copermittees subject to the TMDL shall modify their BMPs and other aspects of the TMDL BMP Implementation Plan or equivalent plan in order to maximize TMDL BMP Implementation Plan or equivalent plan effectiveness. BMPs that are ineffective or less effective than other comparable BMPs shall be replaced or improved upon by implementation of more effective BMPs. Where monitoring data exhibits persistent

[11] This requirement applies to those TMDLs where a TMDL BMP Implementation Plan or equivalent plan has been developed and submitted to the Regional Board.

water quality problems that are caused or contributed to by MS4 discharges, BMPs applicable to the water quality problems shall be modified and improved to correct the water quality problems.

c. As part of its Watershed Urban Runoff Management Program Annual Reports, each group of Copermittees subject to a TMDL shall report on any TMDL BMP Implementation Plan or equivalent plan effectiveness assessments as implemented under each of the requirements of sections I.4.a and I.4.b above.

5. Long-term Effectiveness Assessment

a. Each Copermittee shall collaborate with the other Copermittees to develop a Long-term Effectiveness Assessment (LTEA), which shall build on the results of the Copermittees' August 2005 Baseline LTEA. The LTEA shall be submitted by the Principal Permittee to the Regional Board no later than 210 days in advance of the expiration of this Order.

b. The LTEA shall be designed to address each of the objectives listed in section I.3.a.(6) of this Order, and to serve as a basis for the Copermittees' Report of Waste Discharge for the next permit cycle.

c. The LTEA shall address outcome levels 1-6, and shall specifically include an evaluation of program implementation to changes in water quality (outcome levels 5 and 6).

d. The LTEA shall assess the effectiveness of the Receiving Waters Monitoring Program in meeting its objectives and its ability to answer the five core management questions. This shall include assessment of the frequency of monitoring conducted through the use of power analysis and other pertinent statistical methods. The power analysis shall identify the frequency and intensity of sampling needed to identify a 10% reduction in the concentration of constituents causing the high priority water quality problems within each watershed over the next permit term with 80% confidence.

e. The LTEA shall address the jurisdictional, watershed, and regional programs, with an emphasis on watershed assessment.

J. REPORTING

1. Urban Runoff Management Plans

a. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PLANS

(1) Copermittees - The written account of the overall program to be conducted by each Copermittee to meet the jurisdictional requirements of section D of this Order is referred to as the Jurisdictional Urban Runoff Management Plan (JURMP). Each Copermittee shall revise and update its JURMP so that it describes all activities the Copermittee will undertake to implement the requirements of each component of Jurisdictional Urban Runoff Management Program section D of this Order. Each Copermittee shall submit its updated and revised JURMP to the Principal Permittee by the date specified by the Principal

Permittee.

(2) Principal Permittee –The Principal Permittee shall be responsible for collecting and assembling the individual JURMPs which cover the activities conducted by each individual Copermittee. The Principal Permittee shall submit the JURMPs to the Regional Board 365 days after adoption of this Order.

(3) At a minimum, each Copermittee's JURMP shall be updated and revised to contain the following information:

(a) Non-Storm Water Discharges

i. Identification of non-storm water discharge categories identified as a source of pollutants to waters of the U.S.

ii. A description of whether non-storm water discharge categories identified under section (a)i above will be prohibited or required to implement appropriate control measures to reduce the discharge of pollutants to the MEP.

iii. Identification of any control measures to be required and implemented for non-storm water discharge categories identified under section (a)i above.

iv. A description of a program to reduce pollutants from non-emergency fire fighting flows identified by the Copermittee to be significant sources of pollutants.

(b) Administrative and Legal Procedures

i. Certified statement by the chief legal counsel that the Copermittee has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order.

ii. Identification of all departments within the jurisdiction that conduct urban runoff related activities, and their roles and responsibilities under the Order. Include an up-to-date organizational chart specifying these departments and key personnel.

iii. Updated urban runoff related ordinances, with explanations of how they are enforceable.

iv. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and therefore with the conditions of the Order.

v. Description of how urban runoff related ordinances are implemented and appealed.

vi. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

(c) Development Planning

i. A description of the water quality and watershed protection principles that have been or will be included in the Copermittee's General Plan, and a time schedule for when modifications are planned, if applicable.

ii. A description of the Copermittee's current environmental review process and how it addresses impacts to water quality and appropriate mitigation measures. If the Copermittee plans to modify the process during the permit term, a time schedule for modifications shall be included.

iii. A description of the development project approval process and requirements.
iv. An updated SUSMP document that meets the applicable requirements specified in sections D.1.d and D.1.g(6), including a description of LID BMP requirements to be used prior to the Model SUSMP update. The updated SUSMP may be submitted under separate cover as an attachment to the JURMP.
v. A description of the database to be used to track and inventory approved treatment control BMPs and treatment control BMP maintenance.
vi. A completed watershed-based inventory of approved treatment control BMPs.
vii. A description of the program to be implemented to verify approved treatment control BMPs are operating effectively and have been adequately maintained, including information on treatment control BMP inventory, prioritization, inspection, and annual verification.
viii. A description of inspections that will be conducted to verify BMPs have been constructed according to requirements.
ix. A description of collaboration efforts to be conducted to develop the HMP.
x. A description of enforcement mechanisms and how they will be used.

(d) Construction
i. Updated grading and other applicable ordinances.
ii. A description of the construction and grading approval processes.
iii. Updated construction and grading project requirements.
iv. A completed watershed-based inventory of all construction sites.
v. A description of steps that will be taken to maintain and update monthly a watershed-based inventory of all construction sites.
vi. A list and description of the minimum BMPs that will be implemented, or required to be implemented, including pollution prevention.
vii. A description of the maximum disturbed area allowed for grading before either temporary or permanent erosion controls are implemented.
viii. A description of construction site conditions where advanced treatment will be required.
ix. A description of the steps that will be taken to require and verify the implementation of the designated BMPs at all construction sites.
x. A description of planned inspection frequencies.
xi. A description of inspection procedures.
xii. A description of steps that will be taken to track construction site inspections to verify that all construction sites are inspected at the minimum frequencies required.
xiii. A description of available enforcement mechanisms, under what conditions each will be used, and how they will escalate.
xiv. A description of notification procedures for non-compliant sites.

(e) Municipal
i. A completed inventory of all municipal facilities and activities.
ii. A description of which BMPs will be implemented, or required to be implemented, for municipal facilities and activities, including pollution prevention.
iii. A description of which BMPs will be implemented, or required to be implemented, for special events.

iv. A description of steps that will be taken to require and verify the implementation of designated BMPs at municipal facilities and activities.
v. A description of MS4 and MS4 facility inspection and maintenance activities and schedules.
vi. A description of the management strategy and BMPs to be implemented for pesticides, herbicides, and fertilizer use.
vii. A description of street and parking facility sweeping activities and schedules.
viii. A description of controls and measures to be implemented to prevent and eliminate infiltration of seepage from sanitary sewers to MS4s.
ix. A description of inspection frequencies and procedures.
x. A description of enforcement mechanisms and how they will be used.

(f) Industrial and Commercial
i. A completed and prioritized inventory of all industrial and commercial sites/sources that could contribute a significant pollutant load to the MS4.
ii. A list of minimum BMPs that will be implemented, or required to be implemented, for each facility type or pollutant-generating activity, including pollution prevention.
iii. A description of the steps that will be taken to require and verify the implementation of designated BMPs, including notification efforts.
iv. Identification of high priority sites/sources and sites/sources to be inspected during the first year of implementation.
v. A description of the steps taken to identify sites/sources to be inspected during the first year of implementation, including rationale for their selection.
vi. A description of steps that will be taken to identify sites/sources to be inspected in subsequent years.
vii. A description of inspection procedures.
viii. A description of any third party inspection program to be implemented.
ix. A description of the program to be implemented to regulate mobile businesses, including notification of BMP requirements and local ordinances.
x. A description of enforcement mechanisms and how they will be used.
xi. A description of steps that will be taken to identify non-filers and notify the Regional Board of non-filers.

(g) Residential
i. A list of residential areas and activities that have been identified as high priority.
ii. A list of minimum BMPs that will be implemented, or required to be implemented, for high priority residential activities.
iii. A description of which pollution prevention methods will be encouraged for implementation, and the steps that will be taken to encourage implementation.
iv. A description of the steps that will be taken to require and verify the implementation of prescribed BMPs for high priority residential activities.
v. A description of efforts to facilitate proper disposal of used oil and other toxic materials.

vi. A description of efforts to evaluate methods used for oversight of residential areas and activities.
vii. A description of enforcement mechanisms and how they will be used.

(h) Illicit Discharge Detection and Elimination
i. A description of the program to actively seek and eliminate illicit discharges and illicit connections.
ii. An updated MS4 map, including locations of the MS4, dry weather field screening and analytical monitoring sites, and watersheds.
iii. A description of dry weather field screening and analytical monitoring to be conducted (including procedures) which addresses all requirements included in sections B.1-4 of Receiving Waters Monitoring and Reporting Program No. R9-2006-0011.
iv. A description of investigation and inspection procedures to follow up on dry weather monitoring results or other information which indicate potential for illicit discharges and illicit connections.
v. A description of procedures to eliminate detected illicit discharges and illicit connections.
vi. A description of enforcement mechanisms and how they will be used.
vii. A description of the mechanism to receive notification of spills.
viii. A description of measures to prevent, respond to, contain, and clean up all sewage and other spills.
ix. A description of efforts to facilitate public reporting of illicit discharges and connections, including a public hotline.

(i) Education
i. A description of the content, form, and frequency of education efforts for each target community.
ii. A description of steps to be taken to educate underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges, including various ethnic and socioeconomic groups and mobile sources.
iii. A description of the content, form, and frequency of education efforts targeting municipal staff working on development planning, construction, municipal, industrial/commercial, and other aspects of the Jurisdictional Urban Runoff Management Program.
iv. A description of the content, form, and frequency of education efforts targeting new development and construction target communities.
v. A description of the content, form, and frequency of jurisdictional education efforts for the residential, general public, and school children target communities.

(j) Public Participation
i. A description of the steps that will be taken to include public participation in the development and implementation of each Copermittee's Jurisdictional Urban Runoff Management Program.

(k) Fiscal Analysis
i. A description of the fiscal analysis to be conducted annually, as required by section G of this Order.

(l) Program Effectiveness Assessment

i. A description of steps that will be taken to annually conduct program effectiveness assessments in compliance with section I.1 of the Order.

ii. Identify measurable targeted outcomes, assessment measures, and assessment methods to be used to assess the effectiveness of: (1) Each significant jurisdictional activity or BMP to be implemented; (2) Implementation of each major component of the Jurisdictional Urban Runoff Management Program; and (3) Implementation of the Jurisdictional Urban Runoff Management Program as a whole.

iii. Identify which of the outcome levels 1-6 will be utilized to assess the effectiveness of each of the items listed in sections J.1.a.(3)(l)ii(1-3). Where an outcome level is determined to not be applicable or feasible for an item listed in sections J.1.a.(3)(l)ii(1-3), the Copermittee shall provide a discussion exhibiting inapplicability or infeasibility.

iv. A description of the steps that will be taken to utilize monitoring data to assess the effectiveness of each of the items listed in sections J.1.a.(3)(l)ii(1-3).

v. A description of the steps that will be taken to improve the Copermittee's ability to assess program effectiveness using measurable targeted outcomes, assessment measures, assessment methods, and outcome levels 1-6. Include a time schedule for when improvement will occur.

vi. A description of the steps that will be taken to identify aspects of the Copermittee's Jurisdictional Urban Runoff Management Program that will be changed, based on the results of the effectiveness assessment.

(m) JURMP Modification

i. Identification of the location in the JURMP of any changes made to the JURMP in order to meet the requirements of Order No. R9-2007-0001.

b. WATERSHED URBAN RUNOFF MANAGEMENT PLANS

(1) Copermittees - The written account of the program conducted by each watershed group of Copermittees is referred to as the Watershed Urban Runoff Management Plan (WURMP). The Copermittees within each watershed shall be responsible for updating and revising each WURMP, as specified in Table 4 above. Each WURMP shall be updated and revised to describe all activities the watershed Copermittees will undertake to implement the Watershed Urban Runoff Management Program requirements of section E of this Order.

(2) Lead Watershed Permittee - Each Lead Watershed Permittee shall be responsible for producing its respective WURMP, as well as for coordination and meetings amongst all member watershed Copermittees. Each Lead Watershed Permittee is further responsible for the submittal of the WURMP to the Principal Permittee by the date specified by the Principal Permittee.

(3) Principal Permittee – The Principal Permittee shall assemble and submit the WURMPs to the Regional Board 365 days after adoption of this Order.

(4) Each WURMP shall include:

(a) Identification of the Lead Watershed Permittee for the watershed.
(b) An updated watershed map.

(c) Identification and description of all applicable water quality data, reports, analyses, and other information to be used to assess receiving water quality.
(d) Assessment and analysis of the watershed's water quality data, reports, analyses, and other information, including identification and prioritization of the watershed's water quality problems. Water quality problems and high priority water quality problems shall be identified.
(e) Identification of the likely sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the watershed.
(f) A description of the program to be implemented to encourage collaborative, watershed-based, land-use planning.
(g) A description of the strategy to be used to guide Copermittee implementation of Watershed Water Quality Activities and Watershed Education Activities, including criteria for evaluating and identifying effective activities.
(h) A list of potential Watershed Water Quality Activities, including a description of each activity and its location(s).
(i) Identification and description of the Watershed Water Quality Activities to be implemented by each Copermittee for the first year of implementation, including justification for why the activities were chosen and a description of how the activities are expected to reduce discharged pollutant loads, abate pollutant sources, or result in other quantifiable benefits to discharge or receiving water quality, in relation to the watershed's high priority water quality problem(s). Plans for activity implementation beyond the first year of implementation should also be provided.
(j) A list of potential Watershed Education Activities.
(k) Identification and description of the Watershed Education Activities to be implemented by each Copermittee for the first year of implementation, including justification for why the activities were chosen and a description of how the activities are expected to directly target the sources and discharges of pollutants causing the watershed's high priority water quality problems. Plans for activity implementation beyond the first year of implementation should also be provided.
(l) A description of the public participation mechanisms to be used and the parties anticipated to be involved.
(m) A description of Copermittee collaboration to occur, including a schedule for WURMP meetings.
(n) A description of any TMDL BMP Implementation Plan or equivalent plan to be implemented under section H of this Order.[12]
(o) A detailed description of the effectiveness assessment to be conducted for the WURMP, including a description how each of the requirements in section I.2 of this Order will be met.

c. REGIONAL URBAN RUNOFF MANAGEMENT PLAN

(1) Copermittees - The written account of the regional program to be conducted is referred to as the Regional Urban Runoff Management Plan (RURMP). Each Copermittee shall collaborate with the other Copermittees to develop the RURMP. The RURMP shall describe all activities the Copermittees will undertake to implement the requirements of each component of Regional Urban

[12] For TMDLs not yet approved by the Office of Administrative Law at the time of adoption of this Order, TMDL BMP Implementation Plans shall be submitted separately 365 days following approval of the TMDL.

Runoff Management Program section F of this Order. At a minimum, the RURMP shall contain the following information:

(a) A common activities section that describes the urban runoff management activities to be implemented on a regional level. For regional activities which are to be implemented in compliance with any jurisdictional requirements of section D or watershed requirements of section E, it shall be described how the regional activities achieve compliance with the subject jurisdictional and/or watershed requirements.
(b) A description of steps that will be taken to facilitate assessment of the effectiveness of jurisdictional, watershed, and regional programs.
(c) A description of the regional residential education program to be implemented.
(d) A description of the strategy for development of the standardized fiscal analysis method required by section G of this Order.
(e) A detailed description of the effectiveness assessment to be conducted for the Regional Urban Runoff Management Program, including a description how each of the requirements in section I.3 of this Order will be met.

(2) The Principal Permittee shall be responsible for creating and submitting the RURMP. The Principal Permittee shall submit the RURMP to the Regional Board 365 days after adoption of this Order.

2. Other Required Reports and Plans

a. HYDROMODIFICATION MANAGEMENT PLAN

(1) Copermittees - Each Copermittee shall collaborate with the other Copermittees to develop the HMP. The HMP shall be submitted for approval by the Regional Board.

(2) Principal Permittee - The Principal Permittee shall be responsible for producing and submitting each document according to the schedule below.

(a) Within 180 days of adoption of the Order: Submit a detailed workplan and schedule for completion of the literature review, development of a protocol to identify an appropriate channel standard and limiting range of flow rates, development of guidance materials, and other required information;
(b) Within 18 months of adoption of the Order: Submit progress report on completion of requirements of the HMP;
(c) Within 2 years of adoption of the Order: Submit a draft HMP, including the analysis that identifies the appropriate limiting range of flow rates;
(d) Within 180 days of receiving comments from the Regional Board: Submit the HMP for Regional Board approval.

b. SUSMP UPDATES

Each Copermittee shall collaborate with the other Copermittees to update the Model SUSMP. The Principal Permittee shall be responsible for producing and submitting the updated Model SUSMP in accordance with the requirements of section D.1.d.(8)(b). Each Copermittee shall submit its updated local SUSMP, consistent

with the updated Model SUSMP, in accordance with the requirements of section D.1.d.(8)(c).

c. LONG-TERM EFFECTIVENESS ASSESSMENT

In accordance with section I.5 of this Order, the Principal Permittee shall submit the LTEA to the Regional Board no later than 210 days in advance of the expiration of this Order.

d. REPORT OF WASTE DISCHARGE

The Principal Permittee shall submit to the Regional Board, no later than 210 days in advance of the expiration date of this Order, a Report of Waste Discharge (ROWD) as an application for issuance of new waste discharge requirements. At a minimum, the ROWD shall include the following: (1) Proposed changes to the Copermittees' urban runoff management programs; (2) Proposed changes to monitoring programs; (3) Justification for proposed changes; (4) Name and mailing addresses of the Copermittees; (5) Names and titles of primary contacts of the Copermittees; and (6) Any other information necessary for the reissuance of this Order.

3. Annual Reports

a. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORTS

Each Jurisdictional Urban Runoff Management Program Annual Report shall contain a comprehensive description of all activities conducted by the Copermittee to meet all requirements of section D. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted September 30, 2008 shall cover the reporting period July 1, 2007 to June 30, 2008.

(1) Copermittees – Each Copermittee shall generate individual Jurisdictional Urban Runoff Management Program Annual Reports which cover implementation of its jurisdictional activities during the past annual reporting period. Each Copermittee shall submit to the Principal Permittee its individual Jurisdictional Urban Runoff Management Program Annual Report by the date specified by the Principal Permittee. Each individual Jurisdictional Urban Runoff Management Program Annual Report shall be a comprehensive description of all activities conducted by the Copermittees to meet all requirements of each component of section D of this Order.

(2) Principal Permittee – The Principal Permittee shall submit Unified Jurisdictional Urban Runoff Management Program Annual Reports to the Regional Board by September 30 of each year, beginning on September 30, 2008. The Unified Jurisdictional Urban Runoff Management Program Annual Report shall contain the twenty-one individual Jurisdictional Urban Runoff Management Program Annual Reports.

The Principal Permittee shall also be responsible for collecting and assembling each Copermittees' individual Jurisdictional Urban Runoff Management Program Annual Report.

(3) At a minimum, each Jurisdictional Urban Runoff Management Program Annual Report shall contain the following information:

(a) Development Planning

i. A description of any amendments to the General Plan, the environmental review process, development project approval processes, or development project requirements.

ii. Confirmation that all development projects were required to undergo the Copermittee's urban runoff approval process and meet the applicable project requirements, including a description of how this information was tracked.

iii. A listing of the development projects to which SUSMP requirements were applied.

iv. Confirmation that all applicable SUSMP BMP requirements were applied to all priority development projects, including a description of how this information was tracked.

v. At least one example of a priority development project that was conditioned to meet SUSMP requirements and a description of the required BMPs.

vi. A listing of the priority development projects which were allowed to implement treatment control BMPs with low removal efficiency rankings, including the feasibility analyses which were conducted to exhibit that more effective BMPs were infeasible.

vii. An updated treatment control BMP inventory.

viii. The number of treatment control BMPs inspected, including a summary of inspection results and findings.

ix. A description of the annual verification of operation and maintenance of treatment control BMPs, including a summary of verification results and findings.

x. Confirmation that BMP verification was conducted for all priority development projects prior to occupancy, including a description of how this information was tracked.

xi. A listing of any projects which received a SUSMP waiver.

xii. A description of implementation of any SUSMP waiver mitigation program.

xiii. A description of Hydromodification Management Plan (HMP) development collaboration and participation.

xiv. A listing of development projects required to meet HMP requirements, including a description of hydrologic control measures implemented.

xv. A listing of priority development projects not required to meet HMP requirements, including a description of why the projects were found to be exempt from the requirements.

xvi. A listing of development projects disturbing 50 acres or more, including information on whether Interim Hydromodification Criteria were met by each of the projects, together with a description of hydrologic control measures implemented for each applicable project.

xvii. The number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.

xviii. A description of notable activities conducted to manage urban runoff from development projects.

(b) Construction

i. Confirmation that all construction sites were required to undergo the Copermittee's construction urban runoff approval process and meet the applicable construction requirements, including a description of how this information was tracked.
ii. Confirmation that a regularly updated construction site inventory was maintained, including a description of how the inventory was managed.
iii. A description of modifications made to the construction and grading ordinances and approval processes.
iv. Confirmation that the designated BMPs were implemented, or required to be implemented, for all construction sites.
v. Confirmation that a maximum disturbed area for grading was applied to all applicable construction sites.
vi. A listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites.
vii. For each construction site within each priority category (high, medium, and low), identification of the period of time (weeks) the site was active within the rainy season, the number of inspections conducted during the rainy season, and the number of inspections conducted during the dry season, and the total number of inspections conducted for all sites.
viii. A description of the general results of the inspections.
ix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.
x. The number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
xi. A description of notable activities conducted to manage urban runoff from construction sites.

(c) Municipal

i. Any updates to the municipal inventory and prioritization.
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events.
iii. A description of inspections and maintenance conducted for municipal treatment controls.
iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.
v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.
vi. Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.

vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.
viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.
ix. Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities.
x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.
xiii. Identification of the total distance of curb-miles swept.
xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.
xv. Amount of material (tons) collected from street and parking lot sweeping.
xvi. A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the MS4
xvii. Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections.
xviii. A description of the general results of the inspections.
xix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.
xx. The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
xxi. A description of notable activities conducted to manage urban runoff from municipal areas and activities.

(d) Industrial and Commercial
i. Any updates to the industrial and commercial inventory.
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for industrial and commercial sites/sources.
iii. A description of efforts taken to notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses.
iv. Identification of the total number of industrial and commercial sites/sources inventoried and the total number inspected.
v. Justification and rationale for why the industrial and commercial sites/sources inspected were chosen for inspection.

vi. Confirmation that all inspections conducted addressed all the required inspection steps to determine full compliance.
vii. Identification of the number of third party inspections conducted.
viii. Identification of efforts conducted to verify third party inspection effectiveness.
ix. A description of efforts implemented to address mobile businesses.
x. The number of violations and enforcement actions (including types) taken for industrial and commercial sites/sources, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
xi. A description of steps taken to identify non-filers and a list of non-filers (under the General Industrial Permit) identified by the Copermittees.
xii. A description of notable activities conducted to manage urban runoff from industrial and commercial sites/sources.

(e) Residential
i. Identification of the high threat to water quality residential areas and activities that were focused on.
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for residential areas and activities.
iii. A description of efforts implemented to facilitate proper management and disposal of used oil and other household hazardous materials.
iv. Types and amounts of household hazardous wastes collected, if applicable.
v. A description of any evaluation of methods used for oversight of residential areas and activities, as well as any findings of the evaluation.
vi. The number of violations and enforcement actions (including types) taken for residential areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
vii. A description of collaboration efforts taken to develop and implement the Regional Residential Education Program.
viii. A description of notable activities conducted to manage urban runoff from residential areas and activities.

(f) Illicit Discharge Detection and Elimination
i. Correction of any inaccuracies in either the MS4 map or the Dry Weather Field Screening and Analytical Stations Map.
ii. Reporting of all dry weather field screening and analytical monitoring results. The data should be presented in tabular and graphical form. The reporting shall include station locations, all dry weather field screening and analytical monitoring results, identification of sites where results exceeded action levels, follow-up and elimination activities for potential illicit discharges and connections, the rationale for why follow-up investigations were not conducted at sites where action levels were exceeded, any Copermittee or consultant program recommendations/changes resulting from the monitoring, and documentation that these recommendations/changes have been implemented. Dry weather field screening and analytical monitoring reporting shall comply with all monitoring and standard reporting

requirements in Attachment B of Order No. R9-2007-0001 and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001.

iii. Any dry weather field screening and analytical monitoring consultant reports generated, to be provided as an attachment to the annual report.
iv. A brief description of any other investigations and follow-up activities for illicit discharges and connections.
v. The number and brief description of illicit discharges and connections identified.
vi. The number of illicit discharges and connections eliminated.
vii. Identification and description of all spills to the MS4 and response to the spills.
viii. A description of activities implemented to prevent sewage and other spills from entering the MS4.
ix. A description of the mechanism whereby notification of sewage spills from private laterals and septic systems is received.
x. Number of times the hotline was called, as compared to previous reporting periods, and a summary of the calls.
xi. A description of efforts to publicize and facilitate public reporting of illicit discharges.
xii. The number of violations and enforcement actions (including types) taken for illicit discharges and connections, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.
xiii. A description of notable activities conducted to manage illicit discharges and connections.

(g) Education
i. A description of education efforts conducted for each target community.
ii. A description of how education efforts targeted underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges.
iii. A description of education efforts conducted for municipal departments and personnel.
iv. A description of education efforts conducted for the new development and construction communities.
v. A description of jurisdictional education efforts conducted for residents, the general public, and school children.

(h) Public Participation
i. A description of public participation efforts conducted.

(i) Program Effectiveness Assessment
i. An assessment of the effectiveness of the Jurisdictional Urban Runoff Management Program which meets all requirements of section I.1 of this Order.

(j) Fiscal Analysis
i. A fiscal analysis of the Copermittee's urban runoff management programs which meets all requirements of section G of this Order.

(k) Special Investigations
i. A description of any special investigations conducted.

(l) Non-Emergency Fire Fighting
i. A description of any efforts conducted to reduce pollutant discharges from non-emergency fire fighting flows.

(m) JURMP Revisions
i. A description of any proposed revisions to the JURMP.

b. WATERSHED URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORTS

(1) Lead Watershed Permittee - Each Lead Watershed Permittee shall generate watershed specific Watershed Urban Runoff Management Program Annual Reports for their respective watershed(s), as they are outlined in Table 4 of Order No. R9-2007-0001. Copermittees within each watershed shall collaborate with the Lead Watershed Permittee to generate the Watershed Urban Runoff Management Program Annual Reports.

(2) Each Watershed Urban Runoff Management Program Annual Report shall be a comprehensive documentation of all activities conducted by the watershed Copermittees during the previous annual reporting period to meet all requirements of section E of Order No. R9-2007-0001. Each Watershed Urban Runoff Management Program Annual Report shall also serve as an update to the WURMP.[13] Each Watershed Urban Runoff Management Program Annual Report shall, at a minimum, contain the following for its reporting period:

(a) A comprehensive description of all activities conducted by the watershed Copermittees to meet all requirements of section E of Order No. R9-2007-0001.

(b) Any updates to the watershed map.

(c) An updated assessment and analysis of the watershed's current and past applicable water quality data, reports, analyses, and other information, including identification of the watershed's water quality problems and high priority water quality problem(s) during the reporting period. The annual report shall clearly state if the watershed's high priority water quality problem(s) changed from the previous reporting period, and provide justification for the change(s).

(d) Identification of the likely sources, pollutant discharges, and/or other factors causing the high priority water quality problems within the watershed. The annual report shall clearly describe any changes to the identified sources, pollutant discharges, and/or other factors that have occurred since the previous reporting period, and provide justification for the changes.

[13] The first annual report to be submitted is not anticipated to be an update to the WURMP, since it will cover the reporting period which begins immediately after WURMP submittal.

(e) An updated list of potential Watershed Water Quality Activities. The annual report shall clearly describe any changes to the list of Watershed Water Quality Activities that have occurred since the previous reporting period, and provide justification for the changes.

(f) Identification and description of the Watershed Water Quality Activities implemented by each Copermittee during the reporting period, including information on the activities' location(s), as well as information exhibiting that the activities in active implementation phase reduced discharged pollutant loads, abated pollutant sources, or resulted in other quantifiable benefits to discharge or receiving water quality, in relation to the watershed's high priority water quality problem(s). The annual report shall clearly describe any changes to Watershed Water Quality Activities implementation that have occurred since the previous reporting period, and provide justification for the changes.

(g) An updated list of potential Watershed Education Activities. The annual report shall clearly describe any changes to the list of Watershed Education Activities that have occurred since the previous reporting period, and provide justification for the changes.

(h) Identification and description of the Watershed Education Activities implemented by each Copermittee for the reporting period, including information exhibiting that the activities directly targeted the sources and discharges of pollutants causing the watershed's high priority water quality problems, and that activities in active implementation phase changed target audience attitudes, knowledge, awareness, or behavior. The annual report shall clearly describe any changes to Watershed Education Activities implementation that have occurred since the previous reporting period, and provide justification for the changes.

(i) A description of the public participation mechanisms used during the reporting period and the parties that were involved.

(j) A description of Copermittee collaboration efforts.

(k) A description of efforts implemented to encourage collaborative, watershed-based, land-use planning.

(l) A description of all TMDL activities implemented (including BMP Implementation Plan or equivalent plan activities) for each approved TMDL in the watershed. The description shall include:

i. Any additional source identification information;
ii. The number, type, location, and other relevant information about BMP implementation, including any expanded or better tailored BMPs necessary to meet the WLAs;
iii. Updates in the BMP implementation prioritization and schedule;
iv. An assessment of the effectiveness of the BMP Implementation Plan, which meets the requirements of section I.4 Order No. R9-2007-0001; and

v. A discussion of the progress to date in meeting the TMDL Numeric Targets and WLAs, which incorporates the results of the effectiveness assessment, compliance monitoring, and an evaluation of additional efforts needed to date.

(m) An assessment of the effectiveness of the WURMP, which meets the requirements of section I.2 of Order No. R9-2007-0001. The effectiveness assessment shall attempt to qualitatively or quantitatively exhibit the impact that implementation of the Watershed Water Quality Activities and the Watershed Education Activities had on the high priority water quality problem(s) within the watershed. This information shall document changes in pollutant load discharges, urban runoff and discharge quality, and receiving water quality, where applicable and feasible.

(3) Principal Permittee – The Unified Watershed Urban Runoff Management Program Annual Report shall contain the nine separate Watershed Urban Runoff Management Program Annual Reports. Each Lead Watershed Copermittee shall submit to the Principal Permittee a Watershed Urban Runoff Management Program Annual Report by the date specified by the Principal Permittee. The Principal Permittee shall assemble and submit the Unified Watershed Urban Runoff Management Program Annual Report to the Regional Board by January 31, 2009 and every January 31 thereafter. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 31, 2009 shall cover the reporting period July 1, 2007 to June 30, 2008.

c. REGIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORTS

The Principal Permittee shall generate the Regional Urban Runoff Management Program Annual Reports. All Copermittees shall collaborate with the Principal Permittee to generate the Regional Urban Runoff Management Program Annual Reports. Each Regional Urban Runoff Management Program Annual Report shall be a comprehensive documentation of all regional activities conducted by the Copermittees during the previous annual reporting period to meet all requirements of section F of Order No. R9-2007-0001.

The Principal Permittee shall submit the Regional Urban Runoff Management Program Annual Report to the Regional Board by January 31, 2009 and every January 31 thereafter. The reporting period for these annual reports shall be the previous fiscal year. For example, the report submitted January 31, 2009 shall cover the reporting period July 1, 2007 to June 30, 2008.

Each Regional Urban Runoff Management Program Annual Report shall, at a minimum, contain the following:

(1) A common activities section that describes the urban runoff management activities or BMPs implemented on a regional level, including information on how the activities complied with jurisdictional or watershed requirements, if applicable.
(2) A description of steps taken to facilitate assessment of the effectiveness of jurisdictional, watershed, and regional programs.

(3) A description of the regional residential education activities implemented as part of the regional residential education program.
(4) A description of steps taken to develop and implement the standardized fiscal analysis method.
(5) An assessment of the effectiveness of the Regional Urban Runoff Management Program which meets the requirements of section I.3 of Order No. R9-2007-0001.

4. **Interim Reporting Requirements -** For the July 2006–June 2007 reporting period, Jurisdictional URMP and Watershed URMP Annual Reports shall be submitted on January 31, 2008. Each Jurisdictional URMP and Watershed URMP Annual Report submitted for this reporting period shall at a minimum be comprehensive descriptions of all activities conducted to fully implement the Copermittees' Jurisdictional URMP and Watershed URMP documents, as those documents were developed to comply with the requirements of Order No. 2001-01. The Principal Permittee shall be responsible for submitting these documents in a unified manner, consistent with the unified reporting requirements of Order No. 2001-01.

5. **Annual Report Integration**

a. The Copermittees are encouraged to submit, for Regional Board review and approval, an annual reporting format which integrates the information submitted in the JURMP, WURMP, and RURMP Annual Reports and Monitoring Reports. This document shall be called the "Integrated Annual Report Format." The Integrated Annual Report Format should:

(1) Exhibit compliance with all requirements of JURMP, WURMP, and RURMP sections D, E, and F of Order No. R9-2007-0001.
(2) Report all information required in section J.3 of Order No. R9-2007-0001.
(3) Report all information required in the Monitoring and Reporting program.
(4) Provide consistent and comparable reporting of jurisdictional and watershed information by all Copermittees and watershed groups.
(5) Specifically identify all types of information that will be reported (e.g., amount of debris collected during street sweeping), including reporting criteria for each type of information (e.g., reported in tons).
(6) Describe quality assurance/quality control methods to be used to assess accuracy of jurisdictional and watershed information conveyed.
(7) Describe each Copermittee's reporting responsibilities under the format.
(8) Improve the Copermittees' ability to assess JURMP and WURMP effectiveness in terms of water quality.
(9) Include a separate section for reporting on each Copermittee's activities.
(10) Include a separate section for reporting on each watershed's activities.

b. Upon approval of the Integrated Annual Report Format by the Regional Board, an Integrated Annual Report shall be submitted annually, which may substitute for the JURMP Annual Reports, WURMP Annual Reports, RURMP Annual Report, and/or Monitoring Reports, as approved by the Regional Board. The Principal Permittee shall be responsible for the generation and submittal of the Integrated Annual Reports. Each Copermittee shall be responsible for the information in the Integrated Annual Report pertaining to its jurisdictional, watershed, regional, and monitoring responsibilities. The Integrated Annual Report shall be submitted the first January 31 following approval of the reporting format by the Regional Board, and every January

31 thereafter. The reporting period for Integrated Annual Reports shall be the previous fiscal year. For example, a report submitted January 31, 2010 shall cover the reporting period July 1, 2008 to June 30, 2009.

c. The format and information provided in Integrated Annual Reports shall match and be consistent with the format and information described in the Integrated Annual Report Format.

6. Universal Reporting Requirements

All submittals shall include an executive summary, introduction, conclusion, recommendations, and signed certified statement. Each Copermittee shall submit a signed certified statement covering its responsibilities for each applicable submittal. The Principal Permittee shall submit a signed certified statement covering its responsibilities for each applicable submittal and the sections of the submittals for which it is responsible.

K. MODIFICATION OF PROGRAMS

Modifications of Jurisdictional Urban Runoff Management Programs, Watershed Urban Runoff Management Programs, and/or the Regional Urban Runoff Management Program may be initiated by the Executive Officer or by the Copermittees. Requests by Copermittees shall be made to the Executive Officer, and shall be submitted during the annual review process. Requests for modifications should be incorporated, as appropriate, into the Annual Reports or other deliverables required or allowed under this Order.

1. Minor Modifications – Minor modifications to Jurisdictional Urban Runoff Management Programs, Watershed Urban Runoff Management Programs, and/or the Regional Urban Runoff Management Program may be accepted by the Executive Officer where the Executive Officer finds the proposed modification complies with all discharge prohibitions, receiving water limitations, and other requirements of this Order.

2. Modifications Requiring an Amendment to this Order – Proposed modifications that are not minor shall require amendment of this Order in accordance with this Order's rules, policies, and procedures.

L. ALL COPERMITTEE COLLABORATION

1. Each Copermittee collaborate with all other Copermittees regulated under this Order to address common issues, promote consistency among Jurisdictional Urban Runoff Management Programs and Watershed Urban Runoff Management Programs, and to plan and coordinate activities required under this Order.

   a. Management Structure - All Copermittees shall jointly execute and submit to the Regional Board no later than 180 days after adoption of this Order, a Memorandum of Understanding, Joint Powers Authority, or other instrument of formal agreement which at a minimum:

      (1) Identifies and defines the responsibilities of the Principal Permittee and Lead Watershed Permittees;
      (2) Identifies Copermittees and defines their individual and joint responsibilities, including watershed responsibilities;

(3) Establishes a management structure to promote consistency and develop and implement regional activities;
(4) Establishes standards for conducting meetings, decision-making, and cost-sharing;
(5) Provides guidelines for committee and workgroup structure and responsibilities;
(6) Lays out a process for addressing Copermittee non-compliance with the formal agreement; and
(7) Includes any and all other collaborative arrangements for compliance with this Order.

M. PRINCIPAL PERMITTEE RESPONSIBILITIES

Within 180 days of adoption of this Order, the Copermittees shall designate the Principal Permittee and notify the Regional Board of the name of the Principal Permittee. The Principal Permittee shall, at a minimum:

1. Serve as liaison between the Copermittees and the Regional Board on general permit issues, and when necessary and appropriate, represent the Copermittees before the Regional Board.

2. Coordinate permit activities among the Copermittees and facilitate collaboration on the development and implementation of programs required under this Order.

3. Integrate individual Copermittee documents and reports into single unified documents and reports for submittal to the Regional Board as required under this Order.

4. Produce and submit documents and reports as required by section J of this Order and Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.

5. Submit to the Regional Board, within 180 days of adoption of this Order, a formal agreement between the Copermittees which provides a management structure for meeting the requirements of this Order (as described in section L).

6. Coordinate joint development by all of the Copermittees of standardized format(s) for all documents and reports required under this Order (e.g., JURMPs, WURMPs, annual reports, monitoring reports, etc.). The standardized reporting format(s) shall be used by all Copermittees. The Principal Permittee shall submit the standardized format(s) to the Regional Board for review no later than 180 days after adoption of this Order.

N. RECEIVING WATERS MONITORING AND REPORTING PROGRAM

Pursuant to CWC section 13267, the Copermittees shall comply with all the requirements contained in Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.

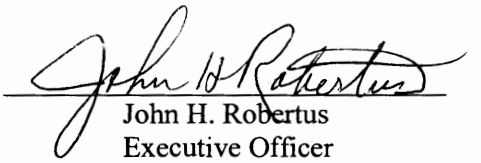
O. STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. Each Copermittee shall comply with Standard Provisions, Reporting Requirements, and Notifications contained in Attachment B of this Order. This includes 24 hour/5day reporting requirements for any instance of non-compliance with this Order as described

in section 5.e of Attachment B.

2. All plans, reports and subsequent amendments submitted in compliance with this Order shall be implemented immediately (or as otherwise specified). All submittals by Copermittees must be adequate to implement the requirements of this Order.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on January 24, 2007.



John H. Robertus
Executive Officer

ATTACHMENT A

BASIN PLAN PROHIBITIONS

California Water Code Section 13243 provides that a Regional Board, in a water quality control plan, may specify certain conditions or areas where the discharge of waste, or certain types of waste is not permitted. The following discharge prohibitions are applicable to any person, as defined by Section 13050(c) of the California Water Code, who is a citizen, domiciliary, or political agency or entity of California whose activities in California could affect the quality of waters of the state within the boundaries of the San Diego Region.

1. The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in California Water Code Section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by waste discharge requirements or the terms described in California Water Code Section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by a NPDES permit or a dredged or fill material permit (subject to the exemption described in California Water Code Section 13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this Regional Board issues a NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State Department of Health Services and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the Regional Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the Regional Board.

7. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the Regional Board.

8. Any discharge to a storm water conveyance system that is not composed entirely of "storm water" is prohibited unless authorized by the Regional Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from

fire fighting activities. [§122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the state or to a storm water conveyance system is prohibited.

10. The discharge of industrial wastes to conventional septic tank/subsurface disposal systems, except as authorized by the terms described in California Water Code Section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the state is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the Regional Board.

14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the state or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

15. The discharge of treated or untreated sewage from vessels to Mission Bay, Oceanside Harbor, Dana Point Harbor, or other small boat harbors is prohibited.

16. The discharge of untreated sewage from vessels to San Diego Bay is prohibited.

17. The discharge of treated sewage from vessels to portions of San Diego Bay that are less than 30 feet deep at mean lower low water (MLLW) is prohibited.

18. The discharge of treated sewage from vessels, which do not have a properly functioning US Coast Guard certified Type I or Type II marine sanitation device, to portions of San Diego Bay that are greater than 30 feet deep at mean lower low water (MLLW) is prohibited.

ATTACHMENT B

STANDARD PROVISIONS, REPORTING REQUIREMENTS, AND NOTIFICATIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE [40 CFR 122.41]

(a) *Duty to comply* [40 CFR 122.41(a)].

(1) The Copermittee must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(2) The Copermittee shall comply with effluent standards or prohibitions established under section 307(a) of the CWA toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the Order has not yet been modified to incorporate the requirement.

(b) *Need to halt or reduce activity not a defense* [40 CFR 122.41(c)]. It shall not be a defense for the Copermittee 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.

(c) *Duty to mitigate* [40 CFR 122.41(d)]. The Copermittee shall take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.

(d) *Proper operation and maintenance* [40 CFR 122.41(e)]. The Copermittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Copermittee to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Copermittee only when necessary to achieve compliance with the conditions of this Order.

(e) *Property rights* [40 CFR 122.41(g)].

(1) This Order does not convey any property rights of any sort or any exclusive privilege.
(2) The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

(f) *Inspection and entry* [40 CFR 122.41(i)]. The Copermittee shall allow the Regional Water Quality Control Board, San Diego Region (Regional Board), State Water Resources Control Board (SWRCB), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon presentation of credentials and other documents as may be required by law, to:

(1) Enter upon the Copermittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;
(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;
(3) Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and
(4) Sample or monitor, at reasonable times, for the purpose of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location.

(g) *Bypass* [40 CFR 122.41(m)]

(1) Definitions:

i) "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
ii) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations - The Copermittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance (g)(3), (g)(4) and (g)(5) below.

(3) Prohibition of Bypass - Bypass is prohibited, and the Regional Board may take enforcement action against a Copermittee for bypass, unless:

i) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. 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 which occurred during normal periods of equipment downtime or preventive maintenance; and
iii) The Copermittee submitted notice as required under Standard Provisions – Permit Compliance (g)(3) above.

(4) Notice

i) Anticipated bypass. If the Copermittee knows in advance of the need for a bypass, it shall submit a notice, if possible at least ten days before the date of the bypass.
ii) Unanticipated bypass. The Copermittee shall submit notice of an unanticipated bypass as required in Standard Provisions 5(e) below (24-hour notice).

(h) *Upset* [40 CFR 122.41(n)] Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the Copermittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(1) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance (h)(2) below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(2) Conditions necessary for a demonstration of upset. A Copermittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i) An upset occurred and that the Copermittee can identify the cause(s) of the upset;
ii) The permitted facility was at the time being properly operated;
iii) The Copermittee submitted notice of the upset as required in Standard Provisions – Permit Compliance (5)(e)(ii)(B) below (24-hour notice); and
iv) The Copermittee complied with any remedial measures required under Standard Provisions – Permit Compliance 1(c) above.

(3) Burden of Proof. In any enforcement proceeding, the Copermittee seeking to establish the occurrence of an upset has the burden of proof.

2. STANDARD PROVISIONS – PERMIT ACTION

(a) *General* [40 CFR 122.41(f)] This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition.

(b) *Duty to reapply* [40 CFR 122.41(b)]. If the Copermittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Copermittee must apply for and obtain new permit.

(c) *Transfers*. This Order is not transferable to any person except after notice to the Regional Board. The Regional Board may require modification or revocation and reissuance of the Order to change the name of the Copermittee and incorporate such other requirements as may be necessary under the CWA and the CWC.

3. STANDARD PROVISIONS – MONITORING

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR Section 122.41 (j) (1)]

(b) Monitoring results must be conducted according to test procedures under 40 CFR Part 136, or in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise

specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR Section 122.41(j)(4)][40 CFR Section 122.44(i)(1)(iv)].

4. STANDARD PROVISIONS – RECORDS

(a) Except for records of monitoring information required by this Order related to the Copermittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Copermittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application, This period may be extended by request of the Regional Water Board Executive Officer at any rime [40 CFR Section 122.41(j)(2)].

(b) *Records of monitoring information* [40 CFR 122.41(j) (3)] shall include:

(1) The date, exact place, and time of sampling or measurements;
(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; and
(6) The results of such analyses.

(c) *Claims of confidentiality* [40 CFR Section 122.7(b)] of the following information will be denied:

(1) The name and address of any permit applicant or Copermittee; and
(2) Permit applications and attachments, permits and effluent data.

5. STANDARD PROVISIONS – REPORTING

(a) *Duty to provide information* [40 CFR 122.41(h)]. The Copermittee shall furnish to the Regional Board, SWRCB, or USEPA within a reasonable time, any information which the Regional Board, SWRCB, or USPEA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Copermittee shall also furnish to the Regional Board, SWRCB, or USEPA, copies of records required to be kept by this Order.

(b) *Signatory and Certification Requirements* [40 CFR 122.41(k)]

(1) All applications, reports, or information submitted to the Regional Board, SWRCB, or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting 5(b)ii), 5(b)iii), 5(b)iv), and 5(b) (see 40 CFR 122.22)

(2) *Applications* [40 CFR 122.22(a)(3)] All permit applications shall be signed by either a principal executive officer or ranking elected official.

(3) *Reports* [40 CFR 122.22(b)]. All reports required by this Order, and other information requested by the Regional Board, SWRCB, or USEPA shall be signed by a person described in Standard Provisions – Reporting 5(b)(2) above, or by a duly authorized

representative of that person. A person is a duly authorized representative only if:

i) The authorization is made in writing by a person described in Standard Provisions-Reporting 5(b)(2) above;

ii) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and,

iii) The written authorization is submitted to the Regional Water Board and State Water Board.

(4) *Changes to authorization* [40 CFR Section 122.22(c)] If an authorization under Standard Provisions – Reporting 5(b)(3)of this reporting requirement is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting 5(b)(3) above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications to be signed by an authorized representative.

(5) *Certification* [40 CFR Section 122.22(d)] Any person signing a document under Standard Provisions – Reporting 5(b)(2), or 5(b)(3) above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

(c) *Monitoring reports*. [40 CFR 122.41(l)(4)]

(1) Monitoring results shall be reported at the intervals specified in the Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.

(2) Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Board or SWRCB for reporting results of mentoring of sludge use or disposal practices.

(3) If the Copermittee monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Board.

(4) Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order.

(d) *Compliance schedules*. [40 CFR Section 122.41(l)(5)] Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each schedule date.

(e) *Twenty-four hour reporting* [40 CFR Section 122.41(l)(6)]

(1) The Copermittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Copermittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Copermittee 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 following shall be included as information, which must be reported within 24 hours under this paragraph:

i) Any unanticipated bypass that exceeds any effluent limitation in the Order (See 40 CFR 122.41(g)).
ii) Any upset which exceeds any effluent limitation in this Order.

(3) The Regional Board may waive the above-required written report under this provision on a case-by-case basis if the oral report has been received within 24 hours.

(f) *Planned changes*. [40 CFR Section 122.41(l)(1)] The Copermittee shall give notice to the Regional Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when:

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants, which are not subject to effluent limitations in this Order.

(3) The alteration or addition results in a significant change in the Copermittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

(g) *Anticipated noncompliance*. [40 CFR Section 122.41(l)(7)] The Copermittee shall give advance notice to the Regional Board or SWRCB of any planned changes in the permitted facility or activity, which may result in noncompliance with Order requirements.

(h) *Other noncompliance* [40 CFR Section 122.41(l) 7)] The Copermittee shall report all instances of noncompliance not reported under Standard Provisions 5(c), 5(d), and 5(e) above, at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5(e) above.

(i) *Other information* [40 CFR Section 122.41(l)(8)] When the Copermittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Board, SWRCB, or USEPA, the Copermittee shall promptly submit such facts or information.

6. STANDARD PROVISIONS – ENFORCEMENT

(a) The Regional Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, Sections 13385, 13386, and 13387.

7. ADDITIONAL STANDARD PROVISIONS

(a) *Municipal separate storm sewer systems* [40 CFR 122.42(c)]. 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) 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 conditions. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii); and

(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 40 CFR 122.26(d)(2)(v);

(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.

(b) *Storm water discharges* [40 CFR 122.42(d)]. The initial permits for discharges composed entirely of storm water issued pursuant to 40 CFR 122.26(e)(7) shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

(c) *Other Effluent Limitations and Standards* [40 CFR 122.44(b)(1)]. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Regional Board may institute

proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

(d) *Discharge is a privilege* [CWC section 13263(g)]. No discharge of waste into the waters of the State, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the State are privileges, not rights.

(e) *Review and revision of Order* [CWC section 13263(e)]. Upon application by any affected person, or on its own motion, the Regional Board may review and revise this permit.

(f) *Termination or modification of Order* [CWC section13381]. This permit may be terminated or modified for causes, including, but not limited to, all of the following:

(1) Violation of any condition contained in this Order;
(2) Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts.
(3) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

(g) *Transfers*. When this Order is transferred to a new owner or operator, such requirements as may be necessary under the CWC may be incorporated into this Order.

(h) *Conditions not stayed*. The filing of a request by the Copermittee for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

(i) *Availability*. A copy of this Order shall be kept at a readily accessible location and shall be available to on-site personnel at all times.

(j) *Duty to minimize or correct adverse impacts*. The Copermittees shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

(k) *Interim Effluent Limitations.* The Copermittee shall comply with any interim effluent limitations as established by addendum, enforcement action, or revised waste discharge requirements which have been, or may be, adopted by this Regional Board.

(l) *Responsibilities, liabilities, legal action, penalties* [CWC sections 13385 and 13387]. The Porter-Cologne Water Quality Control Act provides for civil and criminal penalties comparable to, and in some cases greater than, those provided for under the CWA.

Nothing in this Order shall be construed to protect the Copermittee from its liabilities under federal, state, or local laws.

Except as provided for in 40CFR 122.41(m) and (n), nothing in this Order shall be construed to relieve the Copermittee from civil or criminal penalties for noncompliance.

Nothing in this Order shall be construed to preclude the institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties to which the Copermittee is or may be subject to under Section 311 of the CWA.

Nothing in this Order shall be construed to preclude institution of any legal action or relieve the Copermittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authoring preserved by Section 510 of the CWA.

(m) *Noncompliance*. Any noncompliance with this Order constitutes violation of the CWC and is grounds for denial of an application for modification of the Order (also see 40 CFR 122.41(a).

(n) *Director*. For purposes of this Order, the term "Director" used in parts of 40 CFR incorporated into this Order by reference and/or applicable to this Order shall have the same meaning as the term "Regional Board" used elsewhere in this Order, except that in 40 CFR 122.41(h) and (I), "Director" shall mean "Regional Board, SWRCB, and USEPA."

(o) The Regional Board has, in prior years, issued a limited number of individual NPDES permits for non-storm water discharges to MS4s. The Regional Board or SWRCB may in the future, upon prior notice to the Copermittee(s), issue an NPDES permit for any non-storm water discharge (or class of non-storm water discharges) to a MS4. Copermittees may prohibit any non-storm water discharge (or class of non-storm water discharges) to a MS4 that is authorized under such separate NPDES permits.

(p) *Effective date*. This Order shall become effective on the date of its adoption provided the USEPA has no objection. If the USEPA objects to its issuance, this Order shall not become effective until such objection is withdrawn. This Order supersedes Order No. 2001-01 upon the effective date of this Order.

(q) *Expiration*. This Order expires five years after adoption.

(r) *Continuation of expired order* [23 CCR 2235.4]. After this Order expires, the terms and conditions of this Order are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on the continuation of expired permits (40 CFR 122.6) are complied with.

(s) *Applications*. Any application submitted by a Copermittee for reissuance or modification of this Order shall satisfy all applicable requirements specified in federal regulations as well as any additional requirements for submittal of a Report of Waste Discharge specified in the CWC and the California Code of Regulations.

(t) *Confidentiality*. Except as provided for in 40 CFR 122.7, no information or documents submitted in accordance with or in application for this Order will be considered confidential, and all such information and documents shall be available for review by the public at the Regional Board office.

(u) *Severability*. The provisions of this Order are severable, and if any provision of this Order, or the application of any provisions 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 thereby.

(v) *Report submittal*. The Copermittee shall submit reports and provide notifications as required by this Order to the following:

SOUTHERN WATERSHED PROTECTION UNIT
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION
9174 SKY PARK COURT, SUITE 100
SAN DIEGO CA 92123-4340
Telephone: (858) 467-2952 Fax: (858) 571-6972

EUGENE BROMLEY
US ENVIRONMENTAL PROTECTION AGENCY
REGION IX
PERMITS ISSUANCE SECTION (W-5-1)
75 HAWTHORNE STREET
SAN FRANCISCO CA 94105

Unless otherwise directed, the Copermittee shall submit one hard copy for the official record and one electronic copy of each report required under this Order to the Regional Board and one electronic copy to the EPA.

ATTACHMENT C

DEFINITIONS

Advanced Treatment- Using mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge.

Anthropogenic Litter – Trash generated from human activities, not including sediment.

Basin Plan – Water Quality Control Plan, San Diego Basin, Region 9, and amendments, developed by the Regional Board.

Beneficial Uses - The uses of water necessary for the survival or well being of man, plants, and wildlife. These uses of water serve to promote tangible and intangible economic, social, and environmental goals. "Beneficial Uses" of the waters of the State that may be protected include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Existing beneficial uses are uses that were attained in the surface or ground water on or after November 28, 1975; and potential beneficial uses are uses that would probably develop in future years through the implementation of various control measures. "Beneficial Uses" are equivalent to "Designated Uses" under federal law. [California Water Code Section 13050(f)].

Best Management Practices (BMPs) - Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of municipal storm water permits, BMPs are typically used in place of numeric effluent limits.

Bioassessment - The use of biological community information to evaluate the biological integrity of a water body and its watershed. With respect to aquatic ecosystems, bioassessment is the collection and analysis of samples of the benthic macroinvertebrate community together with physical/habitat quality measurements associated with the sampling site and the watershed to evaluate the biological condition (i.e. biological integrity) of a water body.

Biocriteria - Under the CWA, numerical values or narrative expressions that define a desired biological condition for a water body that are legally enforceable. The USEPA defines biocriteria as: "numerical values or narrative expressions that describe the reference biological integrity of aquatic communities inhabiting waters of a given designated aquatic life use…(that)…describe the characteristics of water body segments least impaired by human activities."

Biological Integrity - Defined in Karr J.R. and D.R. Dudley. 1981. Ecological perspective on water quality goals. Environmental Management 5:55-68 as: "A balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of natural habitat of the region." Also referred to as ecosystem health.

Clean Water Act Section 402(p) [33 USC 1342(p)] - The federal statute requiring municipal and industrial dischargers to obtain NPDES permits for their discharges of storm water.

Clean Water Act Section 303(d) Water Body - An impaired water body in which water quality does not meet applicable water quality standards and/or is not expected to meet water quality standards, even after the application of technology based pollution controls required by the CWA. The discharge of urban runoff to these water bodies by the Copermittees is significant because these discharges can cause or contribute to violations of applicable water quality standards.

Construction Site – Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, disturbances to ground such as stockpiling, and excavation.

Contamination - As defined in the Porter-Cologne Water Quality Control Act, contamination is "an impairment of the quality of waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste whether or not waters of the State are affected."

Critical Channel Flow (Qc) – The channel flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks. When measuring Qc, it should be based on the weakest boundary material – either bed or bank.

CWA – Federal Clean Water Act

CWC – California Water Code

Development Projects - New development or redevelopment with land disturbing activities; structural development, including construction or installation of a building or structure, the creation of impervious surfaces, public agency projects, and land subdivision.

Dry Season – May 1 through September 30 of each year.

Effectiveness Assessment Outcome Level 1 - Compliance with Activity-based Permit Requirements – Level 1 outcomes are those directly related to the implementation of specific activities prescribed by this Order or established pursuant to it.

Effectiveness Assessment Outcome Level 2 - Changes in Attitudes, Knowledge, and Awareness – Level 2 outcomes are measured as increases in knowledge and awareness among target audiences such as residents, businesses, and municipal employees.

Effectiveness Assessment Outcome Level 3 - Behavioral Change and BMP Implementation – Level 3 outcomes measure the effectiveness of activities in affecting behavioral change and BMP implementation.

Effectiveness Assessment Outcome Level 4 - Load Reductions – Level 4 outcomes measure load reductions which quantify changes in the amounts of pollutants associated with specific sources before and after a BMP or other control measure is employed.

Effectiveness Assessment Outcome Level 5 - Changes in Urban Runoff and Discharge Quality – Level 5 outcomes are measured as changes in one or more specific constituents or stressors in discharges into or from MS4s.

Effectiveness Assessment Outcome Level 6 - Changes in Receiving Water Quality – Level 6 outcomes measure changes to receiving water quality resulting from discharges into and from MS4s, and may be expressed through a variety of means such as compliance with water quality objectives or other regulatory benchmarks, protection of biological integrity, or beneficial use attainment.

Effluent Limitations – Any restriction imposed on quantities, discharge rates, and concentrations of pollutants, which are discharged from point sources into waters of the State. The limitations are designed to ensure that the discharge does not cause water quality objectives to be exceeded in the receiving water and does not adversely affect beneficial uses. Effluent limits are typically numeric (e.g., 10 mg/l), but can also be narrative (e.g., no toxics in toxic amounts).

Erosion – When land is diminished or worn away due to wind, water, or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

Environmentally Sensitive Areas (ESAs) - Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees.

Feasibility Analysis – Detailed description of the selection process for the treatment control BMPs for a Priority Development Project, including justification of why one BMP is selected over another. For a Priority Development Project where a treatment control BMP with a low removal efficiency ranking (as identified by the Model SUSMP) is proposed, the analysis shall include a detailed and adequate justification exhibiting the reasons implementation of a treatment control BMP with a higher removal efficiency is infeasible for the Priority Development Project or portion of the Priority Development Project.

Flow Duration – The long-term period of time that flows occur above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams (not a single storm event duration). The simplest way to visualize this is to consider a histogram of pre- and post-project flows using long-term records of hourly data. To maintain pre-project flow duration means that the total number of hours (counts) within each range of flows in a flow-duration histogram cannot increase between the pre- and post-project condition. Flow duration within the range of geomorphologically significant flows is important for managing erosion.

GIS – Geographic Information System

Grading - The cutting and/or filling of the land surface to a desired slope or elevation.

Hazardous Material – Any substance that poses a threat to human health or the environment due to its toxicity, corrosiveness, ignitability, explosive nature or chemical reactivity. These also include materials named by the USEPA in 40 CFR 116 to be reported if a designated quantity of the material is spilled into the waters of the U.S. or emitted into the environment.

Hazardous Waste - Hazardous waste is defined as "any waste which, under Section 600 of Title 22 of this code, is required to be managed according to Chapter 30 of Division 4.5 of Title 22 of this code" [CCR Title 22, Division 4.5, Chapter 11, Article 1].

Household Hazardous Waste – Paints, cleaning products, and other wastes generated during home improvement or maintenance activities.

Hydromodification – The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection – Any connection to the MS4 that conveys an illicit discharge.

Illicit Discharge - Any discharge to the MS4 that is not composed entirely of storm water except discharges pursuant to a NPDES permit and discharges resulting from fire fighting activities [40 CFR 122.26(b)(2)].

Implementation Assessment – Assessment conducted to determine the effectiveness of Copermittee programs and activities in achieving measurable targeted outcomes, and in determining whether priority sources of water quality problems are being effectively addressed.

Inactive Slopes – Slopes on which no grading or other soil disturbing activities are conducted for 10 or more days.

Integrated Assessment – Assessment to be conducted to evaluate whether program implementation is properly targeted to and resulting in the protection and improvement of water quality.

Jurisdictional Urban Runoff Management Plan (JURMP) – A written description of the specific jurisdictional urban runoff management measures and programs that each Copermittee will implement to comply with this Order and ensure that pollutant discharges in urban runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Low Impact Development (LID) – 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 pre-development hydrologic functions.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional 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. Their total collective and individual activities conducted pursuant to the urban runoff management programs becomes their

proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Regional Board, the Regional Board defines MEP.

In a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

> "*To achieve the MEP standard, municipalities must employ 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 the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:*
>
> *a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*
> *b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?*
> *c. Public Acceptance: Does the BMP have public support?*
> *d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?*
> *e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?*
>
> *The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."*

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (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, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under section 208 of the CWA that discharges to

waters of the United States; (ii) Designated or used for collecting or conveying storm water; (iii) Which is not a combined sewer; (iv) Which is not part of the Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.26.

National Pollutant Discharge Elimination System (NPDES) - The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA.

NOI – Notice of Intent

Non-Storm Water - All discharges to and from a MS4 that do not originate from precipitation events (i.e., all discharges from a MS4 other than storm water). Non-storm water includes illicit discharges, non-prohibited discharges, and NPDES permitted discharges.

Nuisance - As defined in the Porter-Cologne Water Quality Control Act a nuisance is "anything which meets all of the following requirements: 1) Is injurious to health, or is indecent, or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. 2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. 3) Occurs during, or as a result of, the treatment or disposal of wastes."

Order – Order No. R9-2007-0001 (NPDES No. CAS0108758)

Person - A person is defined as an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof [40 CFR 122.2].

Point Source - 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 operations, landfill leachate collection systems, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant - Any agent that may cause or contribute to the degradation of water quality such that a condition of pollution or contamination is created or aggravated.

Pollution - As defined in the Porter-Cologne Water Quality Control Act: "the alteration of the quality of the waters of the State by waste, to a degree that unreasonably affects the either of the following: 1) The waters for beneficial uses; or 2) Facilities that serve these beneficial uses." Pollution may include contamination.

Pollutants of Concern – Pollutants for which water bodies are listed as impaired under CWA section 303(d), pollutants associated with the land use type of a development, and/or pollutants commonly associated with urban runoff. Pollutants commonly associated with urban runoff include total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (decaying vegetation, animal waste, and anthropogenic litter).

Pollution Prevention - Pollution prevention is defined as practices and processes that reduce or eliminate the generation of pollutants, in contrast to source control BMPs, treatment control BMPs, or disposal.

Post-Construction BMPs - A subset of BMPs including structural and non-structural controls which detain, retain, filter, or educate to prevent the release of pollutants to surface waters during the final functional life of developments.

Pre-Project or Pre-Development Runoff Conditions (Discharge Rates, Durations, Etc.) – Runoff conditions that exist onsite immediately before the planned development activities occur. This definition is not intended to be interpreted as that period before any human-induces land activities occurred. This definition pertains to redevelopment as well as initial development.

Principal Permittee – County of San Diego

Priority Development Projects - New development and redevelopment project categories listed in Section D.1.d(2) of Order No. R9-2007-0001.

Receiving Waters – Waters of the U.S.

Receiving Water Limitations (RWLs) - Waste discharge requirements issued by the Regional Board typically include both: (1) "Effluent Limitations" (or "Discharge Limitations") that specify the technology-based or water-quality-based effluent limitations; and (2) "Receiving Water Limitations" that specify the water quality objectives in the Basin Plan as well as any other limitations necessary to attain those objectives. In summary, the "Receiving Water Limitations" provision is the provision used to implement the requirement of CWA section 301(b)(1)(C) that NPDES permits must include any more stringent limitations necessary to meet water quality standards.

Redevelopment - The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces. Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Regional Urban Runoff Management Plan (RURMP) – A written description of the specific regional urban runoff management measures and programs that the Copermittees will collectively implement to comply with this Order and ensure that pollutant discharges in urban runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

Sediment - Soil, sand, and minerals washed from land into water. Sediment resulting from anthropogenic sources (i.e. human induced land disturbance activities) is considered a pollutant. This Order regulates only the discharges of sediment from anthropogenic sources and does not regulate naturally occurring sources of sediment. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud waters so that sunlight does not reach aquatic plants.

Shared Treatment Control BMP - BMPs used by multiple developments to infiltrate, filter, or treat the required volume or flow prior to discharge to a receiving water. This could include, for example, a treatment BMP at the end of an enclosed storm drain that collects runoff from several commercial developments.

Source Control BMP – Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Storm Water – Per 40 CFR 122.26(b)(13), means storm water runoff, snowmelt runoff and surface runoff and drainage.

Standard Urban Storm Water Mitigation Plan (SUSMP) – A plan developed to mitigate the impacts of urban runoff from Priority Development Projects.

Third Party Inspectors - Industrial and commercial facility inspectors who are not contracted or employed by a regulatory agency or group of regulatory agencies, such as the Regional Board or Copermittees. The third party inspector is not a regular facility employee self-inspecting their own facility. The third party inspector could be a contractor or consultant employed by a facility or group of businesses to conduct inspections.

Total Maximum Daily Load (TMDL) - The maximum amount of a pollutant that can be discharged into a water body from all sources (point and non-point) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all water bodies that do not meet water quality standards after application of technology-based controls.

Toxicity - Adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). The water quality objectives for toxicity provided in the Water Quality Control Plan, San Diego Basin, Region 9, (Basin Plan), state in part…"All waters shall be free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life….The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge".

Treatment Control BMP – 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.

Urban Runoff - All flows in a storm water conveyance system and consists of the following components: (1) storm water (wet weather flows) and (2) non-storm water illicit discharges (dry weather flows).

Waste - As defined in CWC Section 13050(d), "waste includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal."

Article 2 of CCR Title 23, Chapter 15 (Chapter 15) contains a waste classification system that applies to solid and semi-solid waste, which cannot be discharged directly or indirectly to water of the state and which therefore must be discharged to land for treatment, storage, or disposal in accordance with Chapter 15. There are four classifications of waste (listed in order of highest to lowest threat to water quality): hazardous waste, designated waste, non-hazardous solid waste, and inert waste.

Water Quality Assessment – Assessment conducted to evaluate the condition of non-storm water and storm water discharges, and the water bodies which receive these discharges.

Water Quality Objective - Numerical or narrative limits on constituents or characteristics of water designated to protect designated beneficial uses of the water. [California Water Code Section 13050 (h)]. California's water quality objectives are established by the State and Regional Water Boards in the Water Quality Control Plans.

Numeric or narrative limits for pollutants or characteristics of water designed to protect the beneficial uses of the water. In other words, a water quality objective is the maximum concentration of a pollutant that can exist in a receiving water and still generally ensure that the beneficial uses of the receiving water remain protected (i.e., not impaired). Since water quality objectives are designed specifically to protect the beneficial uses, when the objectives are violated the beneficial uses are, by definition, no longer protected and become impaired. This is a fundamental concept under the Porter Cologne Act. Equally fundamental is Porter Cologne's definition of pollution. A condition of pollution exists when the water quality needed to support designated beneficial uses has become unreasonably affected or impaired; in other words, when the water quality objectives have been violated. These underlying definitions (regarding beneficial use protection) are the reason why all waste discharge requirements implementing the federal NPDES regulations require compliance with water quality objectives. (Water quality objectives are also called water quality criteria in the CWA.)

Water Quality Standards - The beneficial uses (e.g., swimming, fishing, municipal drinking water supply, etc.,) of water and the water quality objectives necessary to protect those uses.

Waters of the State - Any water, surface or underground, including saline waters within the boundaries of the State [CWC section 13050 (e)]. The definition of the Waters of the State is broader than that for the Waters of the United States in that all water in the State is considered to be a Waters of the State regardless of circumstances or condition. Under this definition, a MS4 is always considered to be a Waters of the State.

Waters of the United States - As defined in the 40 CFR 122.2, the Waters of the U.S. are defined as: "(a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands;" (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as waters of the United States under this definition: (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other

than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. 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 Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA."

Watershed - That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

Watershed Urban Runoff Management Plan (WURMP) – A written description of the specific watershed urban runoff management measures and programs that each watershed group of Copermittees will implement to comply with this Order and ensure that pollutant discharges in urban runoff are reduced to the MEP and do not cause or contribute to a violation of water quality standards.

WDRs – Waste Discharge Requirements

Wet Season – October 1 through April 30 of each year.

ATTACHMENT D

SCHEDULED SUBMITTALS SUMMARY

Submittal	Permit Section	Completion Date	Frequency
Submit identification of discharges not to be prohibited and BMPs required for treatment of discharges not prohibited	B.2	365 days after adoption of the Order	One Time
Submit Certified Statement of Adequate Legal Authority	C.2	365 days after adoption of the Order	One Time
Long-Term Effectiveness Assessment	I.5 and J.2.b	210 days prior to Order expiration	One Time
Submit to Principal Permittee(s) individual JURMPs	J.1.a.(1)	Prior to 365 days after adoption of the Order (Principal Permittee specifies date of submittal)	One Time
Principal Permittee submits JURMPs to Regional Board	J.1.a.(2)	365 days after adoption of the Order	One Time
Lead Watershed Permittees submit WURMPs to Principal Permittee	J..1.b.(2)	Prior to 365 days after adoption of the Order (Principal Permittee specifies date of submittal)	One Time
Principal Permittee submits WURMPs to Regional Board	J.1.b.(3)	365 days after adoption of the Order	One Time
Principal Permittee submits RURMP to Regional Board	J.1.c.(2)	365 days after adoption of the Order	One Time
Principal Permittee submits Hydromodification Management Plan workplan	J.2.a.(2)(a)	180 days after adoption of the Order	One Time
Principal Permittee submits Hydromodification Management Plan progress report	J.2.a.(2)(b)	18 months after adoption of the Order	One Time
Principal Permittee submits draft Hydromodification Management Plan	J.2.a.(2)(c)	2 years after adoption of the Order	One Time
Principal Permittee submits final Hydromodification Management Plan	J.2.a.(2)(d)	180 days after receiving comments from Regional Board	One Time
Principal Permittee submits Model SUSMP update	J.2.b	18 months after adoption of the Order	One Time
Copermittees submit local SUSMP updates	J.2.b	365 days after acceptance of updated Model SUSMP	One Time
Principal Permittee submits Report of Waste Discharge and Long-Term Effectiveness Assessment	J.2.c-d	210 days prior to Order expiration	One Time
Principal Permittee submits Notification of Principal Permittee	M	180 days after adoption of the Order	One Time
Principal Permittee submits formal agreement between Copermittees which provides management structure for meeting Order requirements	M.5	180 days after adoption of Order	One Time
Submit to Principal Permittee individual Jurisdictional Urban Runoff Management Program Annual Reports	J.3.a.(1)	Prior to September 30, 2008, and annually thereafter (Principal Permittee specifies date of submittal)	Annually
Principal Permittee submits unified Jurisdictional Urban Runoff Management Program Annual Report to Regional Board	J.3.a.(2)	September 30, 2008, and annually thereafter	Annually
Lead Watershed Permittees submit to Principal Permittee Watershed Urban Runoff Management Program Annual Reports	J.3.b.(3)	Prior to January 31, 2009 and annually thereafter (Principal Permittee specifies date of submittal)	Annually
Principal Permittee submits unified Watershed Urban Runoff Management Program Annual Report to Regional Board	J.3.b.(3)	January 31, 2009 and annually thereafter	Annually
Principal Permittee submits Regional Urban Runoff	J.3.c	January 31, 2009 and	Annually

Submittal	Permit Section	Completion Date	Frequency
Management Program Annual Report to Regional Board		annually thereafter	
Principal Permittee submits description of Receiving Waters Monitoring Program	Monitoring and Reporting Program, III.A.1	September 1, 2007 and annually thereafter	Annually
Principal Permittee submits description of various monitoring program components	Monitoring and Reporting Program, III.A.3	July 1, 2007 and July 1, 2008	Twice
Principal Permittee submits Receiving Waters Monitoring Program Annual Report	Monitoring and Reporting Program, III.A.2	January 31, 2009 and annually thereafter	Annually
Principal Permittee submits interim Receiving Waters Monitoring Program Annual Report	Monitoring and Reporting Program, III.B	January 31, 2007 and January 31, 2008	Twice
Principal Permittee submits unified interim Jurisdictional URMP and Watershed URMP Annual Reports	J.4	January 31, 2007 and January 31, 2008	Twice
Principal Permittee(s) shall submit standardized formats for all reports required under this Order	M.6	180 days after adoption of Order	One Time

RECEIVING WATERS AND URBAN RUNOFF MONITORING AND REPORTING PROGRAM NO. R9-2007-0001

I. PURPOSE

A. This Receiving Waters and Urban Runoff Monitoring and Reporting Program is intended to meet the following goals:

1. Assess compliance with Order No. R9-2007-0001;
2. Measure and improve the effectiveness of the Copermittees' urban runoff management programs;
3. Assess the chemical, physical, and biological impacts to receiving waters resulting from urban runoff discharges;
4. Characterize urban runoff discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
8. Assess the overall health of receiving waters.

B. In addition, this Receiving Waters and Urban Runoff Monitoring and Reporting Program is designed to answer the following core 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 of urban runoff that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

II. MONITORING PROGRAM

A. Receiving Waters Monitoring Program

Each Copermittee shall collaborate with the other Copermittees to develop, conduct, and report on a year round watershed based Receiving Waters Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting shall be conducted on a watershed basis for each of the hydrologic units. The monitoring program shall be designed to meet the goals and answer the questions listed in section I above. The monitoring program shall include the following components:

1. MASS LOADING STATION (MLS) MONITORING

a. The following existing mass loading stations shall continue to be monitored: Santa Margarita River,[1] San Luis Rey River, Agua Hedionda Creek, Escondido Creek, San Dieguito River, Penasquitos, Tecolote Creek, San Diego River,

[1] For the Santa Margarita River mass loading station, if Camp Pendleton will not conduct the required monitoring or prevents access for the Copermittees to conduct the required monitoring, the mass loading station location shall be moved to where the County of San Diego has land-use jurisdiction.

Chollas Creek, Sweetwater River, and Tijuana River. The mass loading stations shall be monitored at the frequency identified in Table 1.

Table 1. Monitoring Rotation and Number of Stations in Watersheds

Watershed Management Area	Watershed	Permit Year 1 2007-2008				Permit Year 2 2008-2009				Permit Year 3 2009-2010				Permit Year 4 2010-2011				Permit Year 5 2011-2012			
		MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA	MLS	TWAS	ABLM	BA
Santa Margarita	Santa Margarita River	1		Implement refined program based on assessment	4	1	Bight '08					Implement refined program based on assessment		1		Implement refined program based on assessment	4			Implement refined program based on assessment	
San Luis Rey	San Luis Rey River	1	2		3	1								1	2		3				
Carlsbad	Buena Vista Creek		1		1										1		1				
	Agua Hedionda Creek	1	1		2	1								1	1		2				
	Escondido Creek	1	1		2	1								1	1		2				
San Dieguito	San Dieguito River	1	2		3	1								1	2		3				
Penasquitos	Penasquitos	1	2		3	1								1	2		3				
Mission Bay	Rose Creek										1		1						1		1
	Tecolote Creek					1				1	1		2					1	1		2
San Diego River	San Diego River					1				1	3		4					1	3		4
San Diego Bay	Chollas Creek	1			1	1				1			1	1			1	1			1
	Sweetwater River					1				1	1		2					1	1		2
	Otay River										1		1						1		1
Tijuana	Tijuana River					1				1	2		3					1	1		2

b. Each mass loading station to be monitored in a given year shall be monitored twice during wet weather events and twice during dry weather flow events. The exception is the 2008-2009 monitoring year, which shall include monitoring of all mass loading stations for one wet weather flow event only if the Copermittees participate in Bight '08.

c. Each mass loading station shall be monitored for the first wet weather event of the season which meets the USEPA's criteria as described in 40 CFR 122.21(g)(7). Monitoring of the second wet weather event shall be conducted after February 1. Dry weather mass loading monitoring events shall be sampled in September or October prior to the start of the wet weather season and in May or June after the end of the wet weather season. If flows are not evident in September or October, then sampling shall be conducted during non-rain events in the wet weather season.

d. Mass loading sampling and analysis protocols shall be consistent with 40 CFR 122.21(g)(7)(ii) and with the USEPA Storm Water Sampling Guidance Document (EPA 833-B-92-001). If practicable, the protocols for mass loading sampling and analysis should be SWAMP comparable. If the mass loading sampling and analysis are determined to be impracticable with the SWAMP standards, the Copermittees should provide explanation and discussion to this effect in the Receiving Waters and Urban Runoff Monitoring Annual Report. Wet weather samples shall be flow-weighted composites, collected for the duration of the entire runoff event, where practical. Where such monitoring is not practical, such as for large watersheds with significant groundwater recharge flows, composites shall be collected at a minimum during the first 3 hours of flow. Dry weather event samples shall be flow-weighted composites, collected for a time duration adequate to be representative of changes in pollutant concentrations and runoff flows which may occur over a typical 24 hour period. A minimum of 3 sample aliquots, separated by a minimum of 15 minutes, shall be taken for each hour of monitoring, unless the Regional Board Executive Officer approves an alternate protocol. Automatic samplers shall be used to collect samples from mass loading stations. Grab samples shall be taken for temperature, pH, specific conductance, biochemical oxygen demand, oil and grease, total coliform, fecal coliform, and enterococcus.

e. Copermittees shall measure or estimate flow rates and volumes for each mass loading station sampling event in order to determine mass loadings of pollutants. Data from nearby USGS gauging stations may be utilized, or flow rates may be estimated in accordance with the USEPA Storm Water Sampling Guidance Document (EPA-833-B-92-001), Section 3.2.1.

f. In the event that the required number of events are not sampled during one monitoring year at any given station, the Copermittees shall submit, with the subsequent Receiving Waters Monitoring Annual Report, a written explanation for a lack of sampling data, including streamflow data from the nearest USGS gauging station.

g. The following constituents shall be analyzed for each monitoring event at each station:

Table 2. Analytical Testing for Mass Loading and Temporary Watershed Assessment Stations

Conventionals, Nutrients, Hydrocarbons	**Pesticides**	**Metals (Total and Dissolved)**	**Bacteriological**
Total Dissolved Solids	Diazinon	Antimony	Total Coliform
Total Suspended Solids	Chlorpyrifos	Arsenic	Fecal Coliform
Turbidity	Malathion	Cadmium	Enterococcus
Total Hardness		Chromium	
pH		Copper	
Specific Conductance		Lead	
Temperature		Nickel	
Dissolved Phosphorus		Selenium	
Nitrite		Zinc	
Nitrate			
Total Kjeldahl Nitrogen			
Ammonia			
Biological Oxygen Demand, 5-day			
Chemical Oxygen Demand			
Total Organic Carbon			
Dissolved Organic Carbon			
Methylene Blue Active Substances			
Oil and Grease			

h. In addition to the constituents listed in Table 2 above, monitoring stations in the Chollas Creek watershed shall also analyze samples for polychlorinated biphenyls (PCBs), Chlordane, and polycyclic aromatic hydrocarbons (PAHs) for each monitoring event.

i. The following toxicity testing shall be conducted for each monitoring event at each station as follows:
   (1) 7-day chronic test with the cladoceran *Ceriodaphnia dubia* (USEPA protocol EPA-821-R-02-013).
   (2) Chronic test with the freshwater algae *Selenastrum capricornutum* (USEPA protocol EPA-821-R-02-013).
   (3) Acute survival test with amphipod *Hyalella azteca* (USEPA protocol EPA-821-R-02-012).

j. The presence of acute toxicity shall be determined in accordance with USEPA protocol (EPA-821-R-02-012). The presence of chronic toxicity shall be determined in accordance with USEPA protocol (EPA-821-R-02-013).

k. The Copermittees shall collaborate to develop and implement a program to assess the presence of trash (anthropogenic litter) in receiving waters. The program shall collect and evaluate trash data in conjunction with collection and evaluation of analytical data. This monitoring program shall be implemented within each watershed and shall begin no later than the 2007-2008 monitoring year.

2. TEMPORARY WATERSHED ASSESSMENT STATION (TWAS) MONITORING

a. The minimum number of temporary watershed assessment stations to be monitored in a given monitoring year is identified in Table 1. The number of stations located within each watershed may change from the number identified in Table 1, provided the total number of stations monitored in a given year is not reduced below the minimum number of stations identified in Table 1. The

temporary watershed assessment stations shall be monitored and located according to a systematic plan which:

(1) Ensures that the Copermittees' Receiving Waters Monitoring Program most effectively answers questions 1-5 of section I.B above.
(2) Provides statistically useful information.
(3) Identifies the extent and magnitude of receiving water problems within each watershed.
(4) Provides spatial coverage of each watershed.
(5) Monitors previously un-assessed sub-watershed areas.
(6) Focuses on specific areas of concern and high priority areas.
(7) Provides adequate information to assess the effectiveness of implemented programs and control measures in reducing discharged pollutant loads and improving urban runoff and receiving water quality.

b. For each temporary watershed assessment station identified to be monitored in a given year, the station shall be monitored twice during wet weather events and twice during dry weather flow events.

c. Temporary watershed assessment stations shall be monitored in the same manner as the mass loading stations in accordance with the monitoring protocols and requirements outlined in sections II.A.1.c-k above.

3. BIOASSESSMENT (BA) MONITORING

a. The minimum number of bioassessment stations to be monitored in each watershed in a given monitoring year is identified in Table 1. Bioassessment stations shall include an adequate number of reference stations, with locations of reference stations identified according to protocols outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.[2]

b. Bioassessment stations shall be collocated with both mass loading stations and temporary watershed assessment stations where feasible.

c. Bioassessment stations to be monitored in a given monitoring year shall be monitored in May or June (to represent the influence of wet weather on the communities) and September or October (to represent the influence of dry weather flows on the communities). The timing of monitoring of bioassessment stations shall coincide with dry weather monitoring of mass loading and temporary watershed assessment stations.

d. Monitoring of bioassessment stations shall utilize the targeted riffle composite approach, as specified in the Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Management Plan (QAMP), as amended.

[2] Ode, et al. 2005. "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams." Environmental Management. Vol. 35, No. 1, pp. 1-13.

e. Monitoring of bioassessment stations shall incorporate assessment of periphyton in addition to macroinvertebrates, using the USEPA's 1999 Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers.[3]

f. Bioassessment analysis procedures shall include calculation of the Index of Biotic Integrity (IBI) for benthic macroinvertebrates for all bioassessment stations, as outlined in "A Quantitative Tool for Assessing the Integrity of Southern Coastal California Streams," by Ode, et al. 2005.

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

4. FOLLOW-UP ANALYSIS AND ACTIONS

When results from the chemistry, toxicity, and bioassessment monitoring described above indicate urban runoff-induced degradation at a mass loading or temporary watershed assessment station, Copermittees within the watershed shall evaluate the extent and causes of urban runoff pollution in receiving waters and prioritize and implement management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) shall be conducted to determine the cause of toxicity as outlined in Table 3 below. Other follow-up activities which shall be conducted by the Copermittees are also identified in Table 3. Once the cause of toxicity has been identified by a TIE, the Copermittees shall perform source identification projects as needed and implement the measures necessary to reduce the pollutant discharges and abate the sources causing the toxicity.

Table 3. Triad Approach to Determining Follow-Up Actions

	Chemistry[4]	**Toxicity[5]**	**Bioassessment[6]**	**Action**
1.	Persistent exceedance of water quality objectives (high frequency constituent of concern identified)	Evidence of persistent toxicity	Indications of alteration	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as a high priority.
2.	No persistent exceedances of water quality objectives	No evidence of persistent toxicity	No indications of alteration	No action necessary.

[3] USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA-841-B-99-002.

[4] Persistent exceedance shall mean exceedances of established water quality objectives, benchmarks, or action levels by a pollutant known to cause toxicity for two wet weather and/or two dry weather samples in a given year.

[5] Toxicity shall mean when the Lowest Observed Effect Concentration (LOEC) (for chronic toxicity tests) or median lethal concentration (LC_{50}) (for acute toxicity tests) for any given species is less than or equal to 100% of the test sample and observed effects are significantly different from the control. Evidence of persistent toxicity shall mean toxicity to a specific test organism in more than 50% of the samples taken for a given location during a given monitoring year. When a monitoring event has the potential to indicate evidence of persistent toxicity (e.g. the third event of four monitoring events), sufficient samples shall be collected in order to conduct any TIEs that may be required. When a sample collected in order to conduct a TIE does not result in mortality or exhibit a toxic effect in at least 50% of the applicable test organisms in the 100% storm water sample, the TIE may be conducted with a sample collected during the next monitoring event.

[6] Indications of alteration shall mean an IBI score of Poor or Very Poor.

	Chemistry[4]	Toxicity[5]	Bioassessment[6]	Action
3.	Persistent exceedance of water quality objectives (high frequency constituent of concern identified)	No evidence of persistent toxicity	No indications of alteration	Address upstream sources as a low priority.
4.	No persistent exceedances of water quality objectives	Evidence of persistent toxicity	No indications of alteration	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as medium priority.
5.	No persistent exceedances of water quality objectives	No evidence of persistent toxicity	Indications of alteration	No action necessary to address toxic chemicals. Address potential role of urban runoff in causing physical habitat disturbance.
6.	Persistent exceedance of water quality objective (high frequency constituent of concern identified)	Evidence of persistent toxicity	No indications of alteration	If chemical and toxicity tests indicate persistent degradation, conduct TIE to identify contaminants of concern, based on TIE metric and address upstream source as a medium priority.
7.	No persistent exceedances of water quality objectives	Evidence of persistent toxicity	Indications of alteration	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as a high priority. Address potential role of urban runoff causing physical habitat disturbance.
8.	Persistent exceedance of water quality objectives objective (high frequency constituent of concern identified)	No evidence of persistent toxicity	Indications of alteration	Address upstream source as a high priority.

5. AMBIENT BAY AND LAGOON MONITORING (ABLM)

a. Ambient Bay and Lagoon Monitoring shall be conducted according to the schedule identified in Table 1.

b. If results of the Ambient Bay and Lagoon Monitoring assessment indicate a general relationship and/or linkage between conditions in bays/lagoons/estuaries with conditions at mass loading stations, then monitoring shall be conducted at the following locations: Santa Margarita River Estuary, Oceanside Harbor, San Luis Rey Estuary, Buena Vista Lagoon, Agua Hedionda Lagoon, Batiquitos Lagoon, San Elijo Lagoon, San Dieguito Lagoon, Los Penasquitos Lagoon, Mission Bay, Sweetwater River Estuary, and Tijuana River Estuary. This monitoring shall be designed to most effectively answer each of questions 1-5 of section I.B above as they pertain to bays/lagoons/estuaries.

c. If results of the Ambient Bay and Lagoon Monitoring assessment do not indicate a relationship and/or linkage between conditions in bays/lagoons/estuaries with conditions at mass loading stations, then monitoring shall be conducted for special investigations of the bays/lagoons/estuaries. These special investigations shall be designed to most effectively answer each of questions 1-5 of section I.B above as they pertain to bays/lagoons/estuaries, with an emphasis on answering question 4.

d. Ambient Bay and Lagoon Monitoring shall utilize the triad approach, analyzing chemistry, toxicity, and benthic infauna data.

e. Ambient Bay and Lagoon Monitoring shall include a water column monitoring component as necessary to supply information needed for the development, implementation, and assessment of Total Maximum Daily Loads (TMDLs).

6. COASTAL STORM DRAIN MONITORING

The Copermittees shall collaborate to develop and implement a coastal storm drain monitoring program. The monitoring program shall include:

a. Identification of coastal storm drains which discharge to coastal waters.

b. Monthly sampling of all flowing coastal storm drains identified in section II.A.6.a for total coliform, fecal coliform, and enterococcus.[7] Where flowing coastal storm drains are discharging to coastal waters, paired samples from the storm drain discharge and coastal water (25 yards down current of the discharge) shall be collected. If flowing coastal storm drains are not discharging to coastal waters, only the storm drain discharge needs to be sampled.

(1) Frequency of sampling of coastal storm drains may be reduced to every other month if the paired coastal storm drain data:

(a) Exhibits three consecutive storm drain samples with all bacterial indicators below the Copermittees' sampling frequency reduction criteria, as the sampling frequency reduction criteria was developed under Order No. 2001-01.
(b) Exhibits that the three consecutive samples discussed in (a) above are paired with receiving water samples that do not exceed Assembly Bill (AB) 411 or Basin Plan standards.
(c) Exhibits that less than 20% of the storm drain samples were above any of the sampling frequency reduction criteria during the previous year.

(2) The Copermittees shall notify the Regional Board of any coastal storm drains eligible for sampling frequency reduction prior to October 1 of each year. Sampling frequency reduction shall not occur prior to Regional Board

[7] Coastal storm drains where sampler safety, habitat impacts from sampling, or inaccessibility are issues need not be sampled. Such coastal storm drains shall be added to the Copermittee's dry weather field screening and analytical monitoring program where feasible.

notification.

(3) Re-sampling shall be implemented within one business day of receipt of analytical results for coastal storm drains where:

(a) Both storm drain and receiving water samples exceed AB 411 or Basin Plan standards for any bacterial indicator.
(b) The storm drain sample exceeds 95th percentile observations of the previous year's data for any bacterial indicator.

(4) If re-sampling conducted under section (3) above exhibits continued exceedances of a AB 411 or Basin Plan standards in either the storm drain or receiving water, investigations of sources of bacterial contamination shall commence within one business day of receipt of analytical results.

(5) Investigations of sources of bacterial contamination shall occur immediately if evidence of abnormally high flows, sewage releases, restaurant discharges, and/or similar evidence is observed during sampling.

(6) Exceedances of public health standards for bacterial indicators shall be reported to the County Department of Environmental Health as soon as possible.

7. PYRETHROIDS MONITORING

The Copermittees shall collaborate to develop and implement a monitoring program to measure and assess the presence of pyrethroids in receiving waters. This monitoring program shall be implemented within each watershed and shall begin no later than the 2007-2008 monitoring year.

B. Urban Runoff Monitoring

Each Copermittee shall collaborate with the other Copermittees to develop, conduct, and report on a year round watershed based Urban Runoff Monitoring Program. The monitoring program design, implementation, analysis, assessment, and reporting shall be conducted on a watershed basis for each of the hydrologic units. The monitoring program shall be designed to meet the goals and answer the questions listed in section I above. The monitoring program shall include the following components

1. MS4 OUTFALL MONITORING

The Copermittees shall collaborate to develop and implement a monitoring program to characterize pollutant discharges from MS4 outfalls in each watershed during wet and dry weather. The program shall include rationale and criteria for selection of outfalls to be monitored. The program shall at a minimum include collection of samples for those pollutants causing or contributing to violations of water quality standards within the watershed. This monitoring program shall be implemented within each watershed and shall begin within the 2007-2008 monitoring year.

2. SOURCE IDENTIFICATION MONITORING

The Copermittees shall collaborate to develop and implement a monitoring program to identify sources of discharges of pollutants causing the priority water quality problems within each watershed. The monitoring program shall include focused monitoring which moves upstream into each watershed as necessary to identify sources. The monitoring program shall use source inventories and "Threat to Water Quality" analysis to guide monitoring efforts. This monitoring program shall be implemented within each watershed and shall begin no later than the 2008-2009 monitoring year.

3. DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING

As part of its Jurisdictional Urban Runoff Management Program, each Copermittee shall update as necessary its dry weather field screening and analytical monitoring program to meet or exceed the requirements of this section. Dry weather analytical and field screening monitoring consists of (1) field observations; (2) field screening monitoring; and (3) analytical monitoring at selected stations. The Dry Weather Field Screening and Analytical Monitoring program is not required to be SWAMP comparable. Each Copermittee's program shall be designed to detect and eliminate illicit connections and illegal discharges to the MS4 using frequent, geographically widespread dry weather discharge monitoring and follow-up investigations. Each Copermittee shall conduct the following dry weather field screening and analytical monitoring tasks:

a. Select Dry Weather Field Screening and Analytical Monitoring Stations

Based upon a review of its past Dry Weather Monitoring Program, each Copermittee shall select dry weather field screening and analytical monitoring stations within its jurisdiction. No more than 500 dry weather field screening and analytical monitoring stations (excluding alternate stations) need to be selected by any individual Copermittee for any given year. Stations shall be selected according to one of the following methods:

(1) Stations shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the MS4 by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the MS4 or major outfall. This random selection has to use the following guidelines and criteria:

(a) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlayed on a map of the MS4, creating a series of cells;
(b) All cells that contain a segment of the MS4 shall be identified and one dry weather analytical monitoring station shall be selected in each cell.
(c) Each Copermittee shall determine alternate stations to be sampled in place of selected stations that do not have flow.

(2) Stations may be selected non-randomly provided adequate coverage of the entire MS4 system is ensured and that the selection of stations meets,

exceeds, or provides equivalent coverage to the requirements given above. The dry weather analytical and field screening monitoring stations shall be established using the following guidelines and criteria:

(a) Stations should be located downstream of any sources of suspected illegal or illicit activity;
(b) Stations shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system within each cell;
(c) Hydrological conditions, total drainage area of the site, traffic density, age of the structures or buildings in the area, history of the area, and land use types shall be considered in locating stations;
(d) Each Copermittee shall determine alternate stations to be sampled in place of selected stations that do not have flow.

b. Complete MS4 Map

Each Copermittee shall clearly identify each dry weather field screening and analytical monitoring station on its MS4 Map as either a separate GIS layer or a map overlay hereafter referred to as a Dry Weather Field Screening and Analytical Stations Map. Each Copermittee shall confirm that each drainage area within its jurisdiction contains at least one station.

c. Develop Dry Weather Field Screening and Analytical Monitoring Procedures

Each Copermittee shall develop and/or update written procedures for dry weather field screening and analytical monitoring (for analytical monitoring only, these procedures must be consistent with 40 CFR part 136), including field observations, monitoring, and analyses to be conducted. At a minimum, the procedures must meet the following guidelines and criteria:

(1) Determining Sampling Frequency: Dry weather field screening and analytical monitoring shall be conducted at each identified station at least once between May 1st and September 30th of each year or as often as the Copermittee determines is necessary to comply with the requirements of section D.4 of Order No. R9-2007-0001.

(2) If flow or ponded runoff is observed at a dry weather field screening or analytical monitoring station and there has been at least seventy-two (72) hours of dry weather, make observations and collect at least one (1) grab sample. Record general information such as time since last rain, quantity of last rain, site descriptions (i.e., conveyance type, dominant watershed land uses), flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate), and visual observations (i.e., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology).

(3) At a minimum, collect samples for analytical laboratory analysis of the following constituents for at least twenty five percent (25%) of the dry weather monitoring stations where water is present:

(a) Total Hardness
(b) Oil and Grease
(c) Diazinon and Chlorpyrifos
(d) Cadmium (Dissolved)
(e) Lead (Dissolved)
(f) Zinc (Dissolved)
(g) Copper (Dissolved)
(h) Enterococcus bacteria[8]
(i) Total Coliform bacteria[8]
(j) Fecal Coliform bacteria[8]

(4) At a minimum, conduct field screening analysis of the following constituents at all dry weather monitoring stations where water is present:

(a) Specific conductance (calculate estimated Total Dissolved Solids).
(b) Turbidity
(c) pH
(d) Reactive Phosphorous
(e) Nitrate Nitrogen
(f) Ammonia Nitrogen
(g) Surfactants (MBAS)

(5) If the station is dry (no flowing or ponded runoff), make and record all applicable observations and select another station from the list of alternate stations for monitoring.

(6) Develop and/or update criteria for dry weather field screening and analytical monitoring results whereby exceedance of the criteria will require follow-up investigations to be conducted to identify and eliminate the source causing the exceedance of the criteria.

(7) Assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present.

(8) Dry weather field screening and analytical monitoring stations identified to exceed dry weather monitoring criteria for any constituents shall continue to be screened in subsequent years.

(9) Develop and/or update procedures for source identification follow up investigations in the event of exceedance of dry weather field screening and analytical monitoring result criteria. These procedures shall be consistent with procedures required in section D.4.d of Order No. R9-2007-0001.

(10) Develop and/or update procedures to eliminate detected illicit discharges and connections. These procedures shall be consistent with each Copermittees

[8] Colilert and Enterolert may be used as alternative methods with Fecal Coliform determined by calculations.

Illicit Discharge and Elimination component of its Jurisdictional Urban Runoff Management Plan as discussed in section D.4 of Order No. R9-2007-0001.

d. Conduct Dry Weather Field Screening and Analytical Monitoring

The Copermittees shall commence implementation of dry weather field screening and analytical monitoring under the requirements of this Order by May 1, 2008. Each Copermittee shall conduct dry weather analytical and field screening monitoring in accordance with its storm water conveyance system map and dry weather analytical and field screening monitoring procedures as described in section II.B.3 above. If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and sections D.4.d and D.4.e of Order No. R9-2007-0001. Until the dry weather field screening and analytical monitoring program is implemented under the requirements of this Order, each Copermittee shall continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2001-01.

C. Regional Monitoring Program

1. The Copermittees shall participate and coordinate with federal, state, and local agencies and other dischargers in development and implementation of a regional watershed monitoring program as directed by the Executive Officer.

2. Bight '08

a. During the 2008-2009 monitoring year (Permit Year 2), the Copermittees may participate in the Bight '08 study. The Copermittees shall ensure that such participation results in collection and analysis of data useful in addressing the goals and management questions of the Receiving Waters Monitoring Program. Any participation shall include the contribution of all funds not otherwise spent on full implementation of mass loading station, temporary watershed assessment station, ambient bay and lagoon, and bioassessment monitoring. All other monitoring shall continue during the 2008-2009 monitoring year (Permit Year 2) as required.

b. If the Copermittees do not participate in Bight '08, mass loading station, temporary watershed assessment station, ambient bay an lagoon, and bioassessment monitoring shall be conducted as follows:

(1) Permit Year 3 (2009-2010) monitoring shall be conducted in Permit Year 2 (2008-2009) (see Table 1).
(2) Permit Year 4 (2010-2011) monitoring shall be conducted in Permit Year 3 (2009-2010) (see Table 1).
(3) Permit Year 5 (2011-2012) monitoring shall be conducted in Permit Year 4 (2010-2011).

(4) Permit Year 1 (2007-2008) monitoring shall be conducted in Permit Year 5 (2011-2012).

c. If the Copermittees partially participate in Bight '08, monitoring shall be conducted as described in section II.C.2.b above, with the exception of any monitoring offset by the contribution of funds to Bight '08.

D. Special Studies

1. TMDL MONITORING

a. All monitoring shall be conducted as required in Investigation Order No. R9-2004-0277 for Chollas Creek.

2. REGIONAL HARBOR MONITORING

a. The Copermittees which discharge to harbors shall participate in the development and implementation of the Regional Harbor Monitoring Program.

3. The Copermittees shall conduct special studies, including any monitoring required for TMDL development and implementation, as directed by the Executive Officer.

E. Monitoring Provisions

All monitoring activities shall meet the following requirements:

1. Where procedures are not otherwise specified in this Receiving Waters Monitoring and Reporting Program (e.g., Dry Weather Field Screening and Analytical Monitoring), sampling, analysis and quality assurance/quality control must be conducted in accordance with the Quality Assurance Management Plan (QAMP) for the State of California's Surface Water Ambient Monitoring Program (SWAMP), adopted by the State Water Resources Control Board (SWRCB).

2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR 122.41(j)(1)].

3. The Copermittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge. [40 CFR 122.41(j)(2), CWC section 13383(a)]

4. Records of monitoring information shall include [40 CFR 122.41(j)(3)]:

a. The date, exact place, and time of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;

d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

5. All sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this Receiving Waters Monitoring and Reporting Program or approved by the Executive Officer [40 CFR 122.41(j)(4)].

6. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both. [40 CFR 122.41(j)(5)]

7. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this Receiving Waters Monitoring and Reporting Program. [40 CFR 122.41(l)(4)(iii)]

8. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.

9. For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Copermittees shall instruct its laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Copermittee 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 Copermittee must submit documentation from the laboratory to the Regional Board for approval prior to raising the ML for any priority toxic pollutant.

10. The Regional Board Executive Officer or the Regional Board may make revisions to this Receiving Waters and Urban Runoff Monitoring and Reporting Program at any time during the term of Order No. R9-2007-0001, and may include a reduction or increase in the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.

11. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than six

months per violation, or by both. [40 CFR 122.41(k)(2)]

12. Monitoring shall be conducted according the USEPA test procedures approved under 40 CFR 136, "Guidelines Establishing Test Procedures for Analysis of Pollutants under the Clean Water Act" as amended, unless other test procedures have been specified in this Receiving Waters and Urban Runoff Monitoring and Reporting Program, in Order No. R9-2007-0001, or by the Executive Officer.

13. If the discharger monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the reports requested by the Regional Board. [40 CFR 122.41(l)(4)(ii)]

III. REPORTING PROGRAM

A. Monitoring Reporting

1. The Principal Permittee shall submit a description of the Receiving Waters and Urban Runoff Monitoring Program to be implemented for every monitoring year. The submittals shall begin on September 1, 2007, and continue every year thereafter. The submittals shall describe all monitoring to be conducted during the upcoming monitoring year. For example, the September 1, 2007 submittal shall describe the monitoring to be conducted from October 1, 2007 through September 30, 2008.

   If the Copermittees participate in Bight '08, their submittal for the 2008-2009 monitoring year shall describe the monitoring to be conducted for Bight '08 and exhibit how the monitoring will result in collection and analysis of data useful in addressing the goals and management questions of the Receiving Waters and Urban Runoff Monitoring Program.

2. The Principal Permittee shall submit the Receiving Waters and Urban Runoff Monitoring Annual Report to the Regional Board on January 31 of each year, beginning on January 31, 2009. Receiving Waters and Urban Runoff Monitoring Annual Reports shall meet the following requirements:

   a. Annual monitoring reports shall include the data/results, methods of evaluating the data, graphical summaries of the data, and an explanation/discussion of the data for each monitoring program component.

   b. Annual monitoring reports shall include a watershed-based analysis of the findings of each monitoring program component. Each watershed-based analysis shall include:

      (1) Identification and prioritization of water quality problems within each watershed.
      (2) Identification and description of the nature and magnitude of potential sources of the water quality problems within each watershed.
      (3) Exhibition of pollutant load and concentration increases or decreases at each mass loading and temporary watershed assessment station.

(4) Evaluation of pollutant loads and concentrations at mass loading and temporary watershed assessment stations with respect to land use, population, sources, and other characteristics of watersheds using tools such as multiple linear regression, factor analysis, and cluster analysis.
(5) Identification of links between source activities/conditions and observed receiving water impacts.
(6) Identification of recommended future monitoring to identify and address sources of water quality problems.
(7) Results and discussion of any TIE conducted, together with actions that will be implemented to reduce the discharge of pollutants and abate the sources causing the toxicity.

c. Annual monitoring reports shall include a detailed description of all monitoring conducted under Investigation Order No. R9-2004-0277 for Chollas Creek. Annual monitoring reports shall also include all information required by Investigation Order No. R9-2004-0277.

d. Annual monitoring reports shall include discussions for each watershed which answer each of the management questions listed in section I.B of this Receiving Waters Monitoring and Reporting Program.

e. Annual monitoring reports shall identify how each of the goals listed in section I.A of this Receiving Waters Monitoring and Reporting Program has been addressed by the Copermittees' monitoring.

f. Annual monitoring reports shall include identification and analysis of any long-term trends in storm water or receiving water quality. Trend analysis shall use nonparametric approaches, such as the Mann-Kendall test, including exogenous variables in a multiple regression model, and/or using a seasonal nonparametric trend model, where applicable.

g. Annual monitoring reports shall provide an estimation of total pollutant loads (wet weather loads plus dry weather loads) due to urban runoff for each of the watersheds specified in Table 4 of Order No. R9-2007-0001.

h. Annual monitoring reports shall for each monitoring program component listed above, include an assessment of compliance with applicable water quality standards.

i. Annual monitoring reports shall describe monitoring station locations by latitude and longitude coordinates, frequency of sampling, quality assurance/quality control procedures, and sampling and analysis protocols.

j. Annual monitoring reports shall use a standard report format and shall include the following:

(1) A stand alone comprehensive executive summary addressing all sections of the monitoring report;
(2) Comprehensive interpretations and conclusions; and

(3) Recommendations for future actions.

k. All monitoring reports submitted to the Principal Permittee or the Regional Board shall contain the certified perjury statement described in Attachment B of Order No. R9-2007-0001.

l. Annual monitoring reports shall be reviewed prior to submittal to the Regional Board by a committee (consisting of no less than three members). All review comments shall also be submitted to the Regional Board.

m. Annual monitoring reports shall be submitted in both electronic and paper formats.

3. The Principal Permittee shall submit by July 1, 2007 a detailed description of the monitoring programs to be implemented under requirements II.A.1.k, II.A.7, and II.B.3.c.(7) of Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001. The Principal Permittee shall submit by July 1, 2008, a detailed description of the monitoring programs to be implemented under requirement II.B.1 and II.B.2 of Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001. The description shall identify and provide the rationale for the constituents monitored, locations of monitoring, frequency of monitoring, and analyses to be conducted with the data generated.

4. By January 31, 2010, the City of San Diego shall submit a report which evaluates the data and assumptions used to estimate the WLA to Shelter Island Yacht Basin of 30 kg Cu/year. The report shall evaluate if any changes have occurred in the watershed which could cause or contribute to a higher copper urban runoff discharge and any actions necessary to address these changes. The report shall be an attachment to the Watershed Urban Runoff Management Program Annual Report for the San Diego Bay watershed.

5. Monitoring programs and reports shall comply with section II.E of Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001 and Attachment B of Order No. R9-2007-0001.

6. Following completion of an annual cycle of monitoring in October, the Copermittees shall make the monitoring data and results available to the Regional Board at the Regional Board's request.

B. Interim Reporting Requirements

For the October 2005-October 2006 and October 2006-October 2007 monitoring periods, the Principal Permittee shall submit the Receiving Waters Monitoring Annual Reports on January 31, 2007 and January 31, 2008, respectively. The Receiving Waters Monitoring Annual Report shall address the monitoring conducted to comply with the requirements of Order No. 2001-01.

FACT SHEET/TECHNICAL REPORT

FOR

ORDER NO. R9-2007-0001
NPDES NO. CAS0108758

WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF URBAN RUNOFF FROM THE MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4s) DRAINING THE WATERSHEDS OF THE COUNTY OF SAN DIEGO, THE INCORPORATED CITIES OF SAN DIEGO COUNTY, THE SAN DIEGO UNIFIED PORT DISTRICT, AND THE SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY

JANUARY 24, 2007

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Attachment E – Revised Tentative Order No. R9-2007-0001 dated January 24, 2007
Attachment F – Responses to Comments III dated January 24, 2007

I. LIST OF ACRONYMS AND ABBREVIATIONS

ADT - Average Daily Traffic
BAT - Best Available Technology
BIA - Building Industry Association of San Diego County
BMP - Best Management Practice
Basin Plan - Water Quality Control Plan for the San Diego Basin
CASQA - California Stormwater Quality Association
CCC - California Coastal Commission
CDFG - California Department of Fish and Game
CEQA - California Environmental Quality Act
CFR - Code of Federal Regulations
Copermittees - County of San Diego, the 18 incorporated cities within the County of San Diego, the San Diego Unified Port District, and the San Diego County Regional Airport Authority
CWA - Clean Water Act
CWC - California Water Code
CZARA - Coastal Zone Act Reauthorization Amendments of 1990
ESAs - Environmentally Sensitive Areas
FR - Federal Register
GIS - Geographic Information System
IC/ID - Illicit Connections and Illicit Discharges
JURMP - Jurisdictional Urban Runoff Management Plan
LARWQCB - Los Angeles Regional Water Quality Control Board
MEP - Maximum Extent Practicable
MRP - Receiving Waters Monitoring and Reporting Program
MS4 - Municipal Separate Storm Sewer System
NOI - Notice of Intent
NPDES - National Pollutant Discharge Elimination System
NRDC - Natural Resources Defense Council
NURP - Nationwide Urban Runoff Program
Regional Board - San Diego Regional Water Quality Control Board
RGOs - Retail Gasoline Outlets
ROWD - San Diego County Copermittees' Report of Waste Discharge
RURMP - Regional Urban Runoff Management Plan
RWLs - Receiving Water Limitations
SANDAG - San Diego Association of Governments
SIC - Standard Industrial Classification Code
SUSMP - Standard Urban Storm Water Mitigation Plan
SWMP - Storm Water Management Plan
SWRCB - State Water Resources Control Board
SWPPP - Storm Water Pollution Prevention Plan
TAC - State Water Resources Control Board Urban Runoff Technical Advisory Committee
TIE - Toxicity Identification Evaluation
TMDL - Total Maximum Daily Load
USEPA - United States Environmental Protection Agency
WDRs - Waste Discharge Requirements
WLAs - Waste Load Allocation
WQC - Water Quality Criteria

WQBELs - Water Quality Based Effluent Limits
WSPA - Western States Petroleum Association
WURMP - Watershed Urban Runoff Management Plan

II. FACT SHEET FORMAT

This Fact Sheet briefly sets forth the principle facts and the significant factual, legal, methodological, and policy questions that the California Regional Water Quality Control Board, San Diego Region (Regional Board) considered in preparing Order No. R9-2007-0001. In accordance with the Code of Federal Regulations (CFR) title 40 parts 124.8 and 124.56, this Fact Sheet includes, but is not limited to, the following information:

- Contact information
- Public process and notification procedures
- Background information
- Permitting approach discussion
- Economic issues discussion
- Legal authority discussion
- Findings discussions
- Directives discussions

The main body of the Fact Sheet (sections IX and X) reflects the findings and requirements of the Order as they were originally proposed in Tentative Order No. R9-2006-0011, dated March 10, 2006. Through the subsequent public participation process, the findings and requirements of the Tentative Order evolved and were modified in response to comments received. These modifications, as well as discussions providing the rationale for the modifications, are provided in the Attachments to the Fact Sheet.

The Regional Board's files applicable to the issuance of Order No. R9-2007-0001 are incorporated into the administrative record in support of the findings and requirements of Order No. R9-2007-0001.

III. CONTACT INFORMATION

Regional Board

Dave Gibson, Senior Environmental Scientist
Phil Hammer, Environmental Scientist C
9174 Sky Park Court, Suite 100
San Diego, CA 92123
858-627-3988
858-571-6972 (fax)
email: phammer@waterboards.ca.gov

The Order and other related documents can be downloaded from the Regional Board website at: http://www.waterboards.ca.gov/sandiego/programs/sd_stormwater.html

All documents referenced in this Fact Sheet and in Order No. R9-2007-0001 are available for public review at the Regional Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 8:00 am to 5:00 pm Monday through

Friday. To schedule an appointment to inspect public records, contact Sylvia Wellnitz at 858-637-5593, or DiAnne Broussard at 858-492-1763.

Copermittees

County of San Diego Department of Public Works Jon Van Rhyn 9325 Hazard Way San Diego, CA 92123 (858) 495-5133	City of El Cajon John Phillips 200 East Main St., Floor 4 El Cajon, CA 92020 (619) 441-5580	City of Oceanside Water Utilities Department Mo Lahsaie 300 N. Coast Highway Oceanside, CA 92057 (760) 435-5803
Unified Port of San Diego Karen Helyer P.O. Box 120488 San Diego, CA 92112-0488 (619) 725-6073	City of Encinitas Kathy Weldon 505 S. Vulcan Avenue Encinitas, CA 92024 (760) 633-2632	City of Poway Development Services Danis Bechter P.O. Box 789 Poway, CA 92074 (858) 668-4630
San Diego County Regional Airport Authority Paul Manasjan P.O. Box 82776 San Diego, CA 92138-2776 (619) 400-2783	City of Escondido Patrick Thomas 201 N. Broadway Escondido, CA 92025 (760) 839-6315	City of San Diego Stormwater Pollution Prevention Program Chris Zirkle 1970 B Street San Diego, CA 92101 (619) 525-8647
City of Carlsbad Elaine Lukey 1635 Faraday Avenue Carlsbad, CA 92008 (760) 602-7580	City of Imperial Beach Hank Levien 825 Imperial Beach Blvd. Imperial Beach, CA 91932 (619) 628-1370	City of San Marcos Public Works Jasen Boyens 201 Mata Way San Marcos, CA 92069 (760) 752-7550X3333
City of Chula Vista Khosro Aminpour 1800 Maxwell Road Chula Vista, CA 91911 (619) 397-6111	City of La Mesa Malik Tamimi 8130 Allison Avenue La Mesa, CA 91941 (619) 667-1153	City of Santee Cary Stewart 10601 Magnolia Avenue Santee, CA 92071 (619) 258-4100
City of Coronado Public Services Scott Huth 101 B Avenue Coronado, CA 92118 (619) 522-7312	City of Lemon Grove Cora Long 3232 Main Street Lemon Grove, CA 91945 (619) 825-3800X3925	City Of Solana Beach Danny King 635 South Highway 101 Solana Beach, CA 92075 (858) 720-2477
City of Del Mar Rosanna Lacarra 9275 Sky Park Court, Suite 200 San Diego, CA 92123 (858) 874-1810	City of National City Din Daneshfar 1243 National City Blvd. National City, CA 91950 (619) 336-4387	City of Vista Engineering Linda Isakson 1165 East Taylor Street Vista, Ca 92084 (760) 726-1340

IV. PUBLIC PROCESS AND NOTIFICATION PROCEDURES

The Regional Board followed the schedule listed below for the preparation of Order No. R9-2007-0001:

- In July 2004, the Regional Board issued the San Diego County Municipal Storm Water Permit Reissuance Analysis Summary, which considered various permitting options such as watershed-based permits and identified the Regional Board's preferred permitting approach for this permit cycle. The Regional Board solicited and received public comments on the document.

- From October 2004 to July 2005, the Regional Board met with the County of San Diego, the 18 incorporated cities within the County of San Diego, and the San Diego Unified Port District (hereinafter Copermittees) representatives on six occasions to discuss the Copermittees' Report of Waste Discharge (ROWD) and potential changes to the permit.
- The Regional Board received the ROWD on August 25, 2005.
- On September 14, 2005, the Regional Board held a public workshop to inform Regional Board members of the principal issues facing permit re-issuance and allow interested parties to address the Regional Board on permit issues.
- On December 14, 2005, the Regional Board held a workshop on the requirements for fiscal assurances in municipal separate storm sewer system (MS4) permits in the San Diego Region.
- On March 10, 2006, the Regional Board released the Tentative Order and supporting Fact Sheet, beginning the public comment period.
- On April 26, 2006, the Regional Board held a workshop on the requirements of the Tentative Order.
- On May 24, 2006, the Regional Board held a workshop on the requirements of the Tentative Order.
- On June 21, 2006, the Regional Board held a public hearing on the requirements of the Tentative Order.
- On August 30, 2006, the Regional Board released a revised Tentative Order and supporting Fact Sheet, as well as a Responses to Comments document.
- Until October 30, 2006, the Regional Board accepted written comments on the revised Tentative Order.
- On December 4, 2006, the Regional Board released a second revised Tentative Order and supporting Fact Sheet, as well as a Responses to Comments II document (all dated December 13, 2006). Starting December 15, 2006, the Regional Board accepted comments on revisions made in the second revised Tentative Order.
- On January 15, 2007, the Regional Board released a third revised Tentative Order and supporting Fact Sheet, as well as a Responses to Comments III document (all dated January 24, 2007).
- On January 24, 2007, the Regional Board accepted oral comments on all revisions made to the Tentative Order following the June 21, 2006 public hearing.
- On January 24, 2007, the Regional Board adopted Order No. R9-2007-0001.

V. BACKGROUND

The federal Clean Water Act (CWA) was amended in 1987 to address urban runoff. One requirement of the amendment was that many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of urban runoff from their MS4s. In response to the CWA amendment (and the pending federal NPDES regulations which would implement the amendment), the Regional Board issued a municipal storm water permit, Order No. 90-42, in July 1990 to the Copermittees for their urban runoff discharges.[1]

Five years after adoption, Order No. 90-42 was due for renewal in July 1995, but was administratively extended pursuant to federal law because of limited Regional Board resources. Two formal drafts of the renewal permit were released to the public (in 1995 and 1998

[1] The San Diego County Regional Airport Authority was not added as a Copermittee until 2003, at the time when it separated from the San Diego Unified Port District.

respectively) and substantial written public comments on the drafts were considered by the Regional Board. In addition, the Regional Board convened a working group of Copermittees and stakeholders in 1997 and 1998 to advise the Regional Board on permit renewal issues. Despite the efforts by the public, the stakeholder group, and Regional Board, and in part due to the concurrent issuance and appeal of three other municipal storm water permits, Order No. 90-42 was not reissued by the Regional Board until February 21, 2001 as Order No. 2001-01.

The regulatory approach incorporated into Order No. 2001-01 was a significant departure from the regulatory approach of Order No. 90-42. Where Order No. 90-42 included broad nonspecific requirements in order to provide the Copermittees with the maximum amount of flexibility in implementing their programs, Order No. 2001-01 utilized detailed specific requirements which outlined the minimum level of implementation required for the Copermittees' programs. The shift in permitting approaches from Order No. 90-42 to Order No. 2001-01 resulted from the Regional Board's conclusion that the lack of specificity in Order No. 90-42 resulted in frequently unenforceable permit requirements, which in turn allowed some Copermittees to only make limited progress in implementing their programs.

Partially due to this shift in regulatory approaches, as well as new categories of permit requirements, the adoption process for Order No. 2001-01 generated extensive interest. Over 1,500 public comments were received on the Order, though many were duplicative. In addition, five public workshops were held covering various aspects of the Order. Following this extensive public participation process, the Regional Board adopted Order No. 2001-01 on February 21, 2001.

Subsequently, Order No. 2001-01 was administratively appealed to the State Water Resources Control Board (SWRCB) in March 2001 by the Building Industry Association of San Diego County (BIA) and the Western States Petroleum Association (WSPA). BIA utilized an across-the-board approach to its appeal, challenging a wide range of requirements included in the Order, while WSPA challenged the Order's legality in requiring treatment of runoff from retail gasoline outlets. In Order No. 2001-15, the SWRCB upheld the vast majority of the Order's requirements challenged by BIA, making insignificant alterations for clarification purposes to three of the Order's requirements. The SWRCB ruled in favor of WSPA, however, determining that the Regional Board had not adequately supported its position regarding retail gasoline outlets in the order's findings and fact sheet.

BIA continued its challenge of the Order in the Superior Court of the State of California, San Diego County in 2002. At that time, BIA was joined by several building industry and other groups, as well as the City of Santee and the City of San Marcos. The Court ruled in favor of the Regional Board on all counts, with all requirements of the Order being upheld. In particular, the Court found that the Order's requirements had not been shown to be impracticable or unreasonable, including provisions requiring compliance with receiving water quality standards. The Court also found that the Regional Board is exempt from California Environmental Quality Act (CEQA) review when adopting municipal storm water permits.

Following the Superior Court decision, BIA, several building industry and other groups, and the City of San Marcos appealed to the State of California Court of Appeal, Fourth Appellate District. Again the Order was upheld on all counts, with the court making the primary finding that the Regional Board has the authority to require compliance with state water quality standards in storm water permits. BIA's final appeal was to the State of California Supreme Court, which declined to hear the issue in March 2005.

Since adoption of Order No. 2001-01, and despite the subsequent legal actions, the Copermittees' storm water programs have expanded dramatically. Audits of the Copermittees' programs exhibit that the Copermittees' jurisdictional programs are largely in compliance with the Order. Some of the efforts currently being conducted on a regular basis by the Copermittees, which were not conducted on a widespread basis prior to adoption of Order No. 2001-01, include: construction site storm water inspections, industrial and commercial facility storm water inspections, municipal facility storm water inspections, management of storm water quality from new development, development of best management practice requirements for existing development, and assessment of storm water program effectiveness.

However, when viewed relative to the magnitude of the urban runoff problem, enormous challenges remain, particularly regarding the management of urban runoff on a watershed level. Today, urban runoff continues to be the leading cause of water quality impairment in the San Diego Region. The Copermittees' monitoring data exhibits persistent exceedances of water quality objectives in most watersheds. Many watersheds also have urban runoff conditions that are frequently toxic to aquatic life. Bioassessment data from the watersheds further reflects these conditions, finding that macroinvertebrate communities in creeks have widespread Poor to Very Poor Index of Biotic Integrity ratings. Finally, the now too familiar "health advisory or beach closure" signs, which often result from high levels of bacteria in urban runoff, exhibit the continued threat to public health by urban runoff.

VI. PERMITTING APPROACH (PROGRAM INTEGRATION, FLEXIBILITY, AND DETAIL)

The Order contains an increased emphasis on urban runoff management on a watershed basis. This shift towards increased watershed urban runoff management is consistent with earlier planning efforts conducted by the Regional Board regarding reissuance of Order No. 2001-01.[2] It is also consistent with the Copermittees' ROWD.[3] There are several reasons for this shift in emphasis. First, it has been found that the Copermittees are generally doing an effective job at implementing their jurisdictional programs, while on the other hand, it has been found that the Copermittees' watershed programs need improvement. In addition, an emphasis on watersheds is necessary to shift the focus of the Copermittees from program implementation to water quality results. After over 15 years of Copermittee program implementation, it is critical that the Copermittees link their efforts with positive impacts on water quality. Addressing urban runoff management on a watershed scale focuses on water quality results by emphasizing the receiving waters within the watershed. The conditions of the receiving waters drive management actions, which in turn focus on the water quality problems of the receiving waters in each watershed.

Focusing on watershed implementation does not mean that the Copermittees must expend funds outside of their jurisdictions, however. Rather, the Copermittees within each watershed are expected to collaborate to develop a watershed strategy to address the high priority water quality problems within each watershed. They then have the option of implementing the strategy in the manner they find to be most effective. Each Copermittee can implement the strategy individually within its jurisdiction, or the Copermittees can group together to implement the strategy throughout the watershed as a group.

While the Order includes a new emphasis on addressing urban runoff on a watershed basis, the Order includes recognition of the importance of continued program implementation on

[2] Regional Board, 2004. San Diego County Municipal Storm Water Permit Reissuance Summary. P. 7.
[3] San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-12.

jurisdictional and regional levels. The Order also acknowledges that jurisdictional, watershed, and regional efforts are not always mutually exclusive. For this reason, an attempt has been made to allow for the Copermittees' jurisdictional, watershed, and regional programs to integrate. In the Order, the watershed requirements serve as the mechanism for this program integration. Since jurisdictional and regional activities can also serve watershed purposes, such activities can be integrated into the Copermittees' watershed programs, provided the activities meet certain criteria. In this manner, the Copermittees' activities do not always need to distinguish between jurisdictional, watershed, and regional levels of implementation. Instead, they can be integrated on multiple levels.

Such opportunities for program integration inherently provide flexibility to the Copermittees in implementing their programs. Program integration can be expanded or minimized as the Copermittees see fit. For example, there is flexibility provided in determining the activities to be integrated and implemented in the watershed programs – watershed-based efforts, regional efforts, enhanced jurisdictional efforts, or a mixture of the three. Significant flexibility is also provided throughout other portions of the Order. Copermittees can choose the best management practices (BMPs) to be implemented, or required to be implemented, for development, construction, and existing development areas. Flexibility to determine which industrial or commercial sites are to be inspected is also provided to the Copermittees. Educational approaches are also to be determined by the Copermittees under the Order. Implementation of efforts on a regional basis is largely optional for the Copermittees as well. Significant leeway is also provided to the Copermittees in utilizing methods to assess the effectiveness of their various urban runoff management programs. This flexibility is further extended to the monitoring program requirements, which allow the Copermittees to develop monitoring approaches to several aspects of the monitoring program.

The challenge in drafting the Order is to provide the flexibility described above while ensuring that the Order is still enforceable. To achieve this, the Order frequently prescribes minimum measurable outcomes, while providing the Copermittees with flexibility in the approaches they use to meet those outcomes. Enforceability has been found to be a critical aspect of the Order. For example, the watershed requirements of Order No. 2001-01 were some of the most flexible requirements found in that Order. This lack of specificity in the watershed requirements resulted in disagreement about the adequacy of the Copermittees' watershed compliance efforts. On one hand, the Regional Board considered the Copermittees' watershed efforts to be inadequate because they would not result in a significant reduction in pollutant discharges. On the other hand, the Copermittees contended their watershed programs were adequate and in compliance with Order No. 2001-01, even after being notified by the Regional Board of needed improvements on multiple occasions spanning several years. This situation reflects a common outcome of flexible permit language. Such language can be unclear and unenforceable, and lead to implementation of inadequate programs.

To avoid these types of situations, a balance between flexibility and enforceability has been crafted into the Order. Minimum measurable outcomes are utilized to ensure the Order is enforceable, while the Copermittees are provided flexibility in deciding how they will implement their programs to meet the minimum measurable outcomes.

VII. ECONOMIC ISSUES

Economic discussions of urban runoff management programs tend to focus on costs incurred by municipalities in developing and implementing the programs. Understandably so, since these costs are significant. However, when considering the cost of implementing the urban runoff

programs, it is also important to consider the alternative costs incurred by not fully implementing the programs, as well as the benefits which result from program implementation.

It is very difficult to ascertain the true cost of implementation of the Copermittees' urban runoff management programs because of inconsistencies in reporting by the Copermittees. Reported costs of compliance for the same program element can vary widely from city to city, often by a very wide margin that is not easily explained.[4] Despite these problems, efforts have been made to identify urban runoff management program costs, which can be helpful in understanding the costs of program implementation.

In 1999, United States Environmental Protection Agency (USEPA) reported on multiple studies it conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be $9.16 per household. USEPA also studied 35 Phase I municipalities, finding costs to be similar to those anticipated for Phase II municipalities, at $9.08 per household annually.[5] The USEPA cost estimate for Phase I municipalities is valuable because it considers municipalities (including Orange County and cities) that are implementing programs similar to those required in San Diego.

A study on program cost was also conducted by the Los Angeles Regional Water Quality Control Board (LARWQCB), where program costs reported in the municipalities' annual reports were assessed. The LARWQCB estimated that average per household cost to implement the MS4 program in Los Angeles County was $12.50. Since the Los Angeles County permit is very similar to Order No. 2001-01, this estimate is useful in assessing general program costs in San Diego County.

The SWRCB also recently commissioned a study by the California State University, Sacramento to assess costs of the Phase I MS4 program. This study is current and includes an assessment of costs incurred by the City of Encinitas in implementing their program. Annual cost per household in the study ranged from $18-46, with the City of Encinitas representing the upper end of the range.[6] The cost of the City of Encinitas' program is understandable, given the city's coastal location, reliance on tourism, and consent decree with environmental groups regarding its program. For these reasons, as well as the general recognition the City of Encinitas receives for implementing a superior program, the city's program cost can be considered as the high end of the spectrum for Copermittee urban runoff management program costs.

It is important to note that reported program costs are not all attributable to compliance with MS4 permits. Many program components, and their associated costs, existed before any MS4 permits were ever issued. For example, street sweeping and trash collection costs cannot be solely or even principally attributable to MS4 permit compliance, since these practices have long been implemented by municipalities. Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. The California State University, Sacramento study found that only 38% of program costs are new costs fully attributable to MS4 permits. The remainder of the program costs were either pre-existing or resulted from enhancement of pre-exiting programs.[7] The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement

[4] LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. P. 2.
[5] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791-68792.
[6] SWRCB, 2005. NPDES Stormwater Cost Survey. P. ii.
[7] Ibid. P. 58.

the Drainage Area Management Plan, which is similar to the Jurisdictional Urban Runoff Management Program in the San Diego County MS4 permit, is less than 20% of the total budget. The remaining 80% is attributable to pre-existing programs.[8]

It is also important to acknowledge that the vast majority of costs that will be incurred as a result of implementing Order No. R9-2007-0001 are not new. Urban runoff management programs have been in place in San Diego County for over 15 years. Any increase in cost to the Copermittees will be incremental in nature. Moreover, since Order No. R9-2007-0001 "fine tunes" the requirements of Order No. 2001-01, these cost increases are expected to be modest.

Urban runoff management programs cannot be considered in terms of their costs only. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by USEPA to be $158-210.[9] This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates USEPA's estimates, reporting annual household willingness to pay for statewide clean water to be $180.[10] When viewed in comparison to household costs of existing urban runoff management programs, these household willingness to pay estimates exhibit that per household costs incurred by Copermittees to implement their urban runoff management programs remain reasonable.

Another important way to consider urban runoff management program costs is to consider the implementation cost in terms of costs incurred by not improving the programs. Urban runoff in southern California has been found to cause illness in people bathing near storm drains.[11] A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8% among bathers at those beaches resulted in about $3 million annually in health-related expenses.[12] Extrapolation of such numbers to the wide range of beaches of San Diego County could result in huge expenses to the public.

Urban runoff and its impact on receiving waters also places a cost on tourism. In past years, San Diego was featured in the national press for its water quality problems.[13] Such news can have a negative impact on San Diego tourism, since polluted beaches are generally not attractive to tourists. According to a 1996 San Diego Association of Governments (SANDAG) Memorandum, the California Division of Tourism has estimated that each out-of-state visitor spends $101.00 a day. The memo goes on to state that based on projections from the California Department of Boating and Waterways, nearly $1.2 billion in direct revenue and $1.2 billion in indirect revenue is pumped into the San Diego area economy each year by out-of-state visitors.[14] The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately 8 miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

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[8] County of Orange, 2000. A NPDES Annual Progress Report. P. 60. More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.
[9] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.
[10] SWRCB, 2005. NPDES Stormwater Cost Survey. P. iv.
[11] Haile, R.W., et al, 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.
[12] Los Angeles Times, May 2, 2005. Here's What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.
[13] Regional Board, 2001. Fact Sheet/Technical Report for SDRWQCB Order No. 2001-01. P. 8.
[14] San Diego Association of Governments, 1996. Memorandum: California Department of Boating and Waterways: Unpublished Survey Information Regarding Beach Use. Written to the Shoreline Erosion Committee.

Finally, it is important to consider the benefits of urban runoff management programs in conjunction with their costs. A recent study conducted by USC/UCLA assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles Region. The study found that non-structural systems would cost $2.8 billion but provide $5.6 billion in benefit. If structural systems were determined to be needed, the study found that total costs would be $5.7 to $7.4 billion, while benefits could reach $18 billion.[15] Costs are anticipated to be borne over many years – probably ten years at least. As can be seen, the benefits of the programs are expected to considerably exceed their costs. Such findings are corroborated by USEPA, which found that the benefits of implementation of its Phase II storm water rule would also outweigh the costs.[16]

Additional discussion of economic issues can be found at section 3 of the Fact Sheet/Technical Report for SDRWQCB Order No. 2001-01, available at:

http://www.waterboards.ca.gov/sandiego/programs/sd_stormwater.html.

VIII. LEGAL AUTHORITY

The following statutes, regulations, and Water Quality Control Plans provide the basis for the requirements of Order No. R9-2007-0001: CWA, California Water Code (CWC), 40 CFR Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), Water Quality Control Plan – Ocean Waters of California (California Ocean Plan), Water Quality Control Plan for the San Diego Basin (Basin Plan), 40 CFR 131Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule), and the California Toxics Rule Implementation Plan.

The legal authority citations below generally apply to directives in Order No. R9-2007-0001, and provide the Regional Board with ample underlying authority to require each of the directives of Order No. R9-2007-0001. Legal authority citations are also provided with each permit section discussion in section X of this Fact Sheet/Technical Report.

CWA 402(p)(3)(B)(ii) – The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers."

CWA 402(p)(3)(B)(iii) – The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers "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."

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,E, and F) provide that each Copermittee's permit application "shall consist of: (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the

[15] LARWQCB, 2004. Alternative Approaches to Stormwater Control.
[16] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

applicant at a minimum to: […] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; […] (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer."

40 CFR 122.26(d)(2)(iv) – Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) provides that the Copermittee shall develop and implement a proposed management program which "shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. […] Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. […] Proposed management programs shall describe priorities for implementing controls."

40 CFR 122.26(d)(2)(iv)(A - D) – Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from new development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land uses or activities. Control of illicit discharges is also required.

CWC 13377 – CWC section 13377 provides that "Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the CWA, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance."

Order No. R9-2007-0001 is an essential mechanism for achieving the water quality objectives that have been established for protecting the beneficial uses of the water resources in the San Diego Region portion of San Diego County. Federal NPDES regulation 40 CFR 122.44(d)(1) requires MS4 permits to include any requirements necessary to "achieve water quality standards established under CWA section 303, including State narrative criteria for water quality." The term "water quality standards" in this context refers to a water body's beneficial uses and the water quality objectives necessary to protect those beneficial uses, as established in the Basin Plan.

IX. FINDINGS DISCUSSION

The findings of the Order have been modified to reduce repetition in their discussions and address new requirements. Each finding of the Order is provided and discussed below. Additional discussion relative to the findings can be found in section X of the Fact Sheet, which provides discussions of the Order's directives.

A. Basis For The Order

Finding A.1: This Order is based on the federal CWA, the Porter-Cologne Water Quality Control Act (Division 7 of the CWC, commencing with Section 13000), applicable state and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the SWRCB, the Basin Plan, the California Toxics Rule, and the California Toxics Rule Implementation Plan.

Discussion: In 1987, Congress established CWA Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act, the SWRCB and Regional Water Quality Control Boards (Regional Boards) have primary responsibility for the coordination and control of water quality, including the authority to implement the CWA. Porter-Cologne (section 13240) directs the Regional Boards to set water quality objectives via adoption of Basin Plans that conform to all state policies for water quality control. As a means for achieving those water quality objectives, Porter-Cologne (section 13243) further authorizes the Regional Boards to establish waste discharge requirements (WDRs) to prohibit waste discharges in certain conditions or areas. Since 1990, the Regional Board has issued area-wide MS4 NPDES permits. The Order will renew Order No. 2001-01 to comply with the CWA and attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by urban runoff. Further discussions of the legal authority associated with the prohibitions and directives of the Order are provided in section VIII this document.

Finding A.2: This Order renews NPDES Permit No. CAS0108758, which was first issued on July 16, 1990 (Order No. 90-42), and then renewed on February 21, 2001 (Order No. 2001-01). On August 25, 2005, in accordance with Order No. 2001-01, the County of San Diego, as the Principal Permittee, submitted a ROWD for renewal of their MS4 Permit.

Discussion: Supporting information discussing the topic of this finding can be found in section V of this document.

B. Regulated Parties

Finding No. B.1: Each of the Copermittees listed in Table 1 of the Order owns or operates a MS4, through which it discharges urban runoff into waters of the United States within the San Diego Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

Discussion: Section 402 of the CWA prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Though urban runoff comes from a diffuse source, it is discharged through MS4s, which are point sources under the CWA. Federal NPDES regulation 40 CFR 122.26(a) (iii) and (iv) provide that discharges from MS4s, which service medium or large populations greater than 100,000 or 250,000 respectively, shall be required to obtain a NPDES permit. Federal NPDES regulation 40 CFR 122.26(a)(v) also provides that a NPDES permit is required for "A [storm water] discharge which the Director, or in States with approved NPDES programs, either the Director or the USEPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." Such sources

are then designated into the program. Please see Attachment 1 of the Fact Sheet/Technical Report for Regional Board Order No. 2001-01 for an explanation on NPDES municipal storm water permit coverage for each municipality.[17] The San Diego County Regional Airport Authority, designated a Copermittee in 2003, was previously a part of the San Diego Unified Port District and has an MS4 interrelated to other Copermittee MS4s.

Other small MS4s, such as those serving universities and military installations, also exist within the watersheds of San Diego County. While these MS4s are not subject to this Order, they are subject to the Phase II NPDES storm water regulations. Over time, these MS4s will be designated for coverage under the SWRCB's statewide general storm water permit for small MS4s.

C. Discharge Characteristics

Finding No. C.1: Urban runoff contains waste, as defined in the CWC, and pollutants that adversely affect the quality of waters of the State. The discharge of urban runoff from an MS4 is a "discharge of pollutants from a point source" into waters of the United States as defined in the CWA.

Discussion: Section 13050(d) of the CWC defines "waste" as "sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal." 40 CFR 122.2 defines "point source" as "any discernable, 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, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff." 40 CFR 122.2 defines "discharge of a pollutant" as "Any addition of any pollutant or combination of pollutants to waters of the U.S. from any point source." Also, the justification for control of pollution into waters of the state can be found at CWC section 13260(a)(1). SWRCB Order WQ 2001-15 verifies that urban runoff contains waste.[18]

Finding C.2: The most common categories of pollutants in urban runoff include total suspended solids, sediment (due to anthropogenic activities); pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers), oxygen-demanding substances (decaying vegetation, animal waste), and trash.

Discussion: The National Urban Runoff Program (NURP) study showed that heavy metals, organics, coliform bacteria, nutrients, oxygen demanding substances (e.g., decaying vegetation), and total suspended solids are found at relatively high levels in urban runoff.[19] It also found that MS4 discharges draining residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. The Basin Plan goes on to identify urban

[17] Regional Board, 2001. Fact Sheet/Technical Report for SDRWQCB Order No. 2001-01. Attachment 1.
[18] SWRCB, 2001. Order WQ 2001-15. In the Matter of Petitions of Building Industry Association of San Diego County and Western States Petroleum Association: For Review of Waster Discharge Requirements Order No. 2001-01 for Urban Runoff from San Diego County [NPDES No. CAS0108758] Issued by the Regional Board.
[19] Ibid.

runoff pollutants to include lawn and garden chemicals, household and automotive care products dumped or drained on streets, and sediment that erodes from construction sites.[20] In addition, the SWRCB Urban Runoff Technical Advisory Committee (TAC) finds that urban runoff pollutants include sediments, nutrients, oxygen-demanding substances, heavy metals, petroleum hydrocarbons, pathogenic bacteria, viruses, and pesticides.[21] Runoff that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through storm drain networks directly to the receiving waters of the San Diego Region.

Finding No. C.3: The discharge of pollutants and/or increased flows from MS4s may cause or threaten to cause the concentration of pollutants to exceed applicable receiving water quality objectives and impair or threaten to impair designated beneficial uses resulting in a condition of pollution (i.e., unreasonable impairment of water quality for designated beneficial uses), contamination, or nuisance.

Discussion: The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the nation's waters from contaminated storm water and urban runoff.[22] The 1998 National Water Quality Inventory Report showed that urban runoff discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries. The report states that ocean shoreline impairment due to urban runoff increased from 55% in 1996 to 63% in 1998. The report notes that urban runoff discharges are the leading source of pollution and the main factor in the degradation of surface water quality in California's coastal waters, rivers, and streams. Furthermore, the NURP study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.[23]

In addition, the Region's CWA section 303(d) list, which identifies water bodies with impaired beneficial uses within the region, also indicates that the impacts of urban runoff on receiving waters are significant. Many of the impaired water bodies on the 303(d) list are impaired by constituents which have been found at high levels within urban runoff by the regional storm water monitoring program.[24] Examples of constituents frequently responsible for beneficial use impairment include total and fecal coliform, heavy metals, and sediment; these constituents have been found at high levels in urban runoff both regionally and nationwide.[25,26]

Finding No. C.4: Pollutants in urban runoff can threaten human health. Human illnesses have been clearly linked to recreating near storm drains flowing to coastal waters. Also, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans.

Discussion: A landmark study, conducted by the Santa Monica Bay Restoration Project, found that there was an increased occurrence of illness in people that swam in proximity to a flowing

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[20] Regional Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9. San Diego.
[21] SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.
[22] USEPA, 2000. Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress – USEPA 841-S-00-001; Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress – USEPA 841-F-00-006.
[23] USEPA, 1993. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.
[24] County of San Diego, 2005. San Diego County Municipal Copermittees 2004-2005 Urban Runoff Monitoring.
[25] Ibid.
[26] USEPA, 1983. Results of the Nationwide Urban Runoff Program, Volume 1 – Final Report.

storm drain.[27] Furthermore, urban runoff pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may eventually be consumed by humans. Pollutants such as heavy metals and pesticides, which are commonly found in urban runoff, have been found to bioaccumulate and biomagnify in long-lived organisms at the higher trophic levels.[28] Since many aquatic species are utilized for human consumption, toxic substances accumulated in species' tissues can pose a significant threat to public health. USEPA supports this finding when it states, "As runoff flows over areas altered by development, it picks up harmful sediment and chemicals such as oil and grease, pesticides, heavy metals, and nutrients (e.g., nitrogen and phosphorus). These pollutants often become suspended in runoff and are carried to receiving waters, such and lakes, ponds, and streams. Once deposited, these pollutants can enter the food chain through small aquatic life, eventually entering the tissues of fish and humans."[29]

Finding No. C.5: Urban runoff discharges from MS4s often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

Discussion: The Copermittees' monitoring data exhibits frequent toxic conditions in urban runoff during storm events. For example, persistent toxicity has been observed at the Chollas Creek mass loading station and the Tijuana River mass loading station. The Chollas Creek and Sweetwater River mass loading stations were also identified as potential Toxicity Identification Evaluation (TIE) candidate sites based on toxicity to *Hyalella* and *Selenastrum,* respectively.[30] Moreover, a study of urban runoff samples from Chollas Creek, revealed toxic concentrations of organophospate pesticides and metals.[31] Also, a water quality data assessment conducted in Aliso Creek in Orange County showed that storm events caused varying degrees of mortality to test organisms.[32]

Finding No. C.6: The Copermittees discharge urban runoff into lakes, drinking water reservoirs, rivers, streams, creeks, bays, estuaries, coastal lagoons, the Pacific Ocean, and tributaries thereto within ten of the eleven hydrologic units (watersheds) comprising the San Diego Region. Some of the receiving water bodies have been designated as impaired by the Regional Board and the USEPA in 2002 pursuant to CWA section 303(d).

Discussion: This finding identifies the Copermittees responsible for MS4 discharges in each watershed management area. The list is identical to Order No. 2001-01, with the addition of the San Diego County Regional Airport Authority added to the San Diego Bay Watershed Management Area.

The CWA Section 303(d) List of Impaired Waters, 2002 Update has been approved by the Regional Board, SWRCB, and USEPA. This 303(d) list identifies waters that do not meet water quality standards after applying certain required technology-based effluent limits ("impaired" water bodies). As part of this listing process, states are required to prioritize waters/watersheds

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[27] Haile, R.W., et al., 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.
[28] Abel, P.D, 1996. Water Pollution Biology.
[29] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. Washington D.C. EPA 833-R-00-002.
[30] Ibid., P. ES-16.
[31] Bay, Steven M., et al., 2001. Characterization of Stormwater Toxicants from an Urban Watershed to Freshwater and Marine Organisms. Southern California Coastal Water Research Project. Annual Report 1999-2000.
[32] Regional Board, 2002. Fact Sheet/Technical Report for Regional Board Order No. R9-2002-0001.

for future development of Total Maximum Daily Loads (TMDLs). The 303(d) Pollutants of Concern or Water Quality Effect in Table 2 of the Order have been summarized from the 2002 303(d) list which can be found in full on our website at:

http://www.waterboards.ca.gov/sandiego/programs/303dlist.html.

Finding No. C.7: The Copermittees' water quality monitoring data submitted to date documents persistent exceedances of Basin Plan water quality objectives for various urban runoff-related pollutants (diazinon, fecal coliform bacteria, total suspended solids, turbidity, metals, etc.) at various watershed monitoring stations. At some monitoring stations, such as Agua Hedionda, statistically significant upward trends in pollutant concentrations have been observed. Persistent toxicity has also been observed at some watershed monitoring stations. In addition, bioassessment data indicates that the majority of watersheds have Poor to Very Poor Index of Biotic Integrity ratings. In sum, the above findings indicate that urban runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in San Diego County.

Discussion: The Copermittees have submitted information indicating persistent wet weather constituents of concern in various waterbodies of fecal coliform, total suspended solids, turbidity, total dissolved solids, diazinon, copper, zinc, toxicity, ammonia, biochemical oxygen demand, chemical oxygen demand, phosphorus, chlorpyrifos, and malathion.[33] The Agua Hedionda mass loading station shows statistically significant trends of increasing chemical oxygen demand, total kjeldahl nitrogen, total phosphorus, total suspended solids, and turbidity.[34] Statistically significant increasing trends have also been observed in Tecolote Creek (arsenic) and Chollas Creek (nitrate and lead).[35] Persistent toxicity has been observed at the Chollas Creek mass loading station and the Tijuana River mass loading station. The Chollas Creek and Sweetwater River mass loading stations were identified as potential Toxicity Identification Evaluation (TIE) candidate sites based on toxicity to *Hyalella* and *Selenastrum,* respectively.[36] However, the toxicity was not consistent among events and relatively slight. Bioassessment data collected during the 2004-2005 year indicates that the majority of the watersheds have Poor to Very Poor Index of Biotic Integrity ratings.[37] The three sites that received Good and Very Good ratings were at reference sites in the Santa Margarita Watershed[38] and San Luis Rey Watershed.[39] In most of these watersheds, there are no other NPDES permits discharging to the creeks. The few NPDES permits in the watersheds are mainly for recycled water which only discharges occasionally during the rainy season. Because the water quality monitoring indicates exceedances of water quality standards and urban runoff is the main source of pollutants in the watersheds, it can be inferred that the urban runoff discharges are causing or contributing to water quality impairments, and are a leading cause of such impairments in San Diego County.

Finding No. C.8: When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and

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[33] San Diego County Copermittees, 2005. Baseline Long-Term Effectiveness Assessment, San Diego Copermittees Jurisdictional Urban Runoff Management Program, Final Report. P. 2-24, Table 2-5.
[34] Ibid.
[35] Ibid.
[36] County of San Diego, 2005. San Diego County Municipal Copermittees 2004-2005 Urban Runoff Monitoring. P. ES-16.
[37] Ibid., P. ES-4 – ES-19.
[38] Ibid., P. 4-11.
[39] Ibid., P. ES-7.

infiltration abilities of the land are lost. Therefore, runoff leaving a developed urban area is significantly greater in runoff volume, velocity, peak flow rate, and duration than pre-development runoff from the same area. The increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

Finding No. C.9: Urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area is significantly greater in pollutant load than the pre-development runoff from the same area. These increased pollutant loads must be controlled to protect downstream receiving water quality.

Discussion (C.8 and C.9): The Natural Resources Defense Council (NRDC) 1999 Report, "Stormwater Strategies, Community Responses to Runoff Pollution" identifies two main causes of the storm water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain industrial, commercial, residential and construction activities are large contributors of pollutant concentrations in urban runoff. As human population density increases, it brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc.

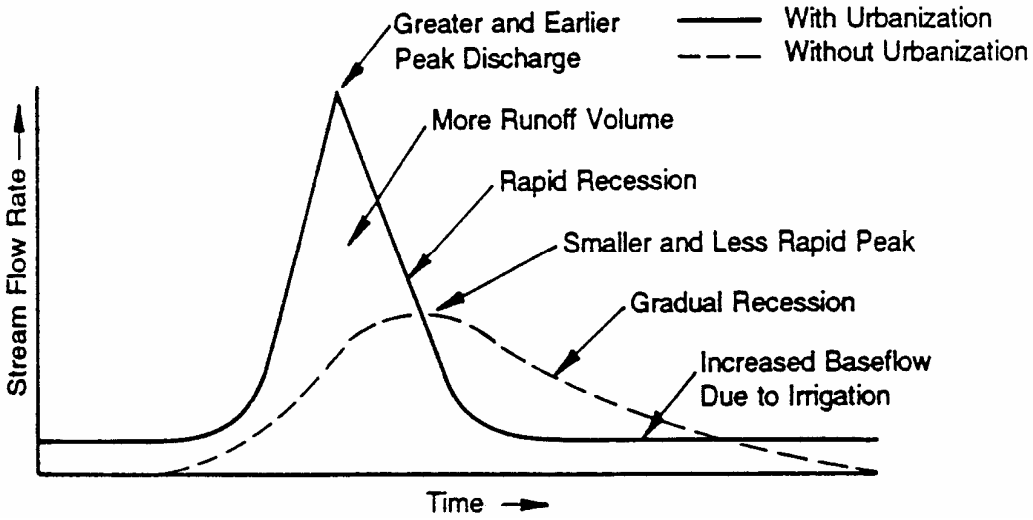
As a result of these two causes, runoff leaving developed urban areas is significantly greater in volume, velocity, and pollutant load than pre-development runoff from the same area.

Studies have shown that the level of imperviousness in an area strongly correlates with the quality of nearby receiving waters.[40] One comprehensive study, which looked at numerous areas, variables, and methods, revealed that stream degradation occurs at levels of imperviousness as low as 10 – 20%.[41] Stream degradation is a decline in the biological integrity and physical habitat conditions that are necessary to support natural biological diversity. For instance, few urban streams can support diverse benthic communities with imperviousness greater than or equal to

[40] USEPA, 1999. Part II. 40 CFR Parts 9, 122, 123, and 124. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. Federal Register.
[41] Ibid.

25%.[42] To provide some perspective, a medium density, single-family home area can be from 25% to 60% impervious (variation due to street and parking design).[43]

To demonstrate the principle of increased volume and velocity of runoff from urbanization, the following figure shows the flow rate of an urban vs. a natural stream. What the figure demonstrates is that urban stream flows have greater peaks and volumes, as well as shorter retention times than natural stream flows. The greater peak flows and volumes result in stream degradation through increased erosion of stream banks and damage to aquatic habitat. The shorter retention times result in less time for sediments and other pollutants to settle before being carried out to the ocean. This sediment, and the associated pollutants it carries, can be a significant cause of water quality degradation.



Source: Adapted from Schueler, 1997[44]

Increased volume and velocity of runoff adversely impacts receiving waters and their beneficial uses in many ways. According to the TAC report,[45] increases in population density and imperviousness result in changes to stream hydrology including:

1. Increased peak discharges compared to pre-development levels;
2. Increased volume of storm water runoff with each storm compared to pre-development levels;
3. Decreased travel time to reach receiving water; increased frequency and severity of floods;
4. Reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;
5. Increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization; and

[42] Ibid.
[43] Schueler, T.R., 1994. The Importance of Imperviousness. Watershed Protection Techniques. As cited in 64 Fed. Reg. 68725.
[44] Schueler, T.R., 1987. Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMPs. Metropolitan Washington Council of Governments.
[45] SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

6. Decreased infiltration and diminished ground water recharge.

Even though the rainfall depths in arid watersheds are lower, watershed development can greatly increase peak discharge rates during rare flood events.[46] A study conducted in arid watersheds around Riverside, CA showed that, over two decades, impervious cover increased from 9% to 22%, which resulted in an increase of more than 100% in the peak flow rate for the two-year storm event. The study also showed that the average annual storm water runoff volume had increased by 115% to 130% over the same time span.[47]

Regarding the impact of urban development on urban runoff pollutant loads, the Regional Board's Basin Plan states:

> Nonpoint source pollution is primarily the result of man's uses of land such as urbanization, roads and highways, vehicles, agriculture, construction, industry, mineral extraction, physical habitat alteration (dredging/filling), hydromodification (diversion, impoundment, channelization), silviculture (logging), and other activities which disturb land.[48] As a result, when rain falls on and drains through urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. The pollutants can be dissolved in the runoff and quickly transported by gravity flow through a vast network of concrete channels and underground pipes referred to as storm water conveyance systems. Such systems ultimately discharge the polluted runoff, without treatment, into the nation's creeks, rivers, estuaries, bays, and oceans.[49]

According to the Center for Watershed Protection, the quality of both surface and ground water in urbanizing areas of arid and semi-arid regions of the southwest is strongly shaped by urbanization. Since rain events are so rare, pollutants have more time to build up on impervious surfaces compared to humid regions. Therefore, the pollutant concentrations of storm water runoff from arid watersheds tends to be higher than that of humid watersheds.[50]

Finding No. C.10: Development and urbanization especially threaten environmentally sensitive areas (ESAs), such as water bodies designated as supporting a RARE beneficial use (supporting rare, threatened or endangered species) and CWA 303(d) impaired water bodies. 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 become significant in a particular sensitive environment. Therefore, additional control to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an ESA.

Discussion: ESAs are defined in the Order as "Areas that include but are not limited to all CWA Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the Basin Plan ; water bodies designated with the RARE beneficial use by the Basin Plan; areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the Copermittees." Areas that

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[46] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.
[47] Ibid.
[48] Regional Board, 1994. Water Quality Control Plan for the San Diego Basin. P. 4-66.
[49] Ibid. P. 4-69 - 4-70.
[50] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection. P. 695-706.

meet this definition are inherently sensitive habitats containing unique, rare, threatened, or endangered species, or are not achieving their designated beneficial uses. As discussed above, urban runoff is known to contain a wide range of pollutants and have demonstrated toxicity to plants and animals. Therefore, it is necessary to apply additional controls for developments within, adjacent to, or directly discharging to ESAs. This need for additional controls is addressed within each component of the Order. USEPA supports the requirement for additional controls, stating "For construction sites that discharge to receiving waters that do not support their designated use or other waters of special concern, additional construction site controls are probably warranted and should be strongly considered."[51] Further support for requiring additional controls to reduce pollutants in discharges to ESAs can be found in *Mitigation of Storm Water Impacts From New Developments in Environmentally Sensitive Areas*, a technical report written by the LARWQCB.[52]

Finding No. C.11: Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff (especially from residential land use areas) are not significant. The risks associated with infiltration can be managed by many techniques, including (1) designing landscape drainage features that promote infiltration of runoff, but do not "inject" runoff (injection bypasses the natural processes of filtering and transformation that occur in the soil); (2) taking reasonable steps to prevent the illegal disposal of wastes; (3) protecting footings and foundations; and (4) ensuring that each drainage feature is adequately maintained in perpetuity.

Discussion: Infiltration is an effective means for managing urban runoff. However, measures must be taken to protect groundwater quality when infiltration of urban runoff is implemented. USEPA supports urban runoff infiltration and provides guidance for protection of groundwater: "With a reasonable degree of site-specific design considerations to compensate for soil characteristics, infiltration may be very effective in controlling both urban runoff quality and quantity problems. This strategy encourages infiltration of urban runoff to replace the natural infiltration capacity lost through urbanization and to use the natural filtering and sorption capacity of soils to remove pollutants; however, the potential for some types of urban runoff to contaminate groundwater through infiltration requires some restrictions."[53] The restrictions placed on urban runoff infiltration in this Order are based on recommendations provided by the USEPA Risk Reduction Engineering Laboratory. The SWRCB found in Order WQ 2000-11 on the appeal of the LARWQCB's Standard Urban Storm Water Mitigation Plan (SUSMP) requirements that the guidance provided in the above referenced document by the USEPA Risk Reduction Engineering Laboratory is sufficient for the protection of groundwater quality from urban runoff infiltration. To further protect groundwater quality, the Order also includes guidance from the LARWQCB,[54] the State of Washington,[55] and the State of Maryland.[56]

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[51] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. Washington D.C. EPA/833-B-92-002.
[52] LARWQCB, 2001. Mitigation of Storm Water Impacts From New Developments In Environmentally Sensitive Areas.
[53] USEPA, 1994. Potential Groundwater Contamination from Intentional and Nonintentional Stormwater Infiltration. EPA 600 SR-94 051.
[54] LARWQCB, 2000. Standard Urban Storm Water Mitigation Plan for Los Angeles County and Cities in Los Angeles County.
[55] Washington State Department of Ecology, 1999. Draft Stormwater Management in Washington State. Volume V – Runoff Treatment BMPs. Pub. No. 99-15.
[56] Maryland Department of the Environment, 1999. 2000 Maryland Stormwater Design Manual. Volume I.

D. Urban Runoff Management Programs

Finding D.1.a: This Order specifies requirements necessary for the Copermittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Copermittees' urban runoff management programs must continually be assessed and modified to incorporate improved programs, control measures, best management practices, etc. Absent evidence to the contrary, this continual assessment, revision, and improvement of urban runoff management program implementation is expected to ultimately achieve compliance with water quality standards.

Discussion: Under CWA section 402(p), municipalities are required to reduce the discharge of pollutants from their MS4s to the maximum extent practicable (MEP). MEP is the critical technology-based performance standard that municipalities must attain. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. Reducing the discharge of storm water pollutants to the MEP requires Copermittees to assess each program component and revise activities, control measures, best management practices (BMPs), and measurable goals, as necessary to meet MEP.

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. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:

1. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
2. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
3. Public Acceptance: Does the BMP have public support?
4. Cost: Will the cost of implementing the BMP have a reasonable relationship to he pollution control benefits to be achieved?
5. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive BMPs, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost is prohibitive, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.[57]

[57] SWRCB, 1993. Memo Entitled Definition of Maximum Extent Practicable.

A definition of MEP is not provided in either the federal statute or in the federal regulations. The final determination regarding whether a municipality has reduced pollutants to the MEP can only be made by the Regional Board or the SWRCB, and not by the municipal discharger. While the Regional Board or the SWRCB ultimately define MEP, it is the responsibility of the Copermittees to initially propose actions that implement BMPs to reduce pollution to the MEP. In other words, the Copermittees' urban runoff management programs to be developed under the Order are the Copermittees' proposals of MEP. Their total collective and individual activities conducted pursuant to their urban runoff management programs become their proposal for MEP as it applies both to their overall effort, as well as to specific activities. The Order provides a minimum framework to guide the Copermittees in meeting the MEP standard.

It is the Regional Board's responsibility to evaluate the proposed programs and specific BMPs to determine what constitutes MEP, using the above guidance and the court's 1994 decision in NRDC v. California Department of Transportation, Federal District Court, Central District of California. The federal court stated that a Copermittee must evaluate and implement BMPs except where (1) other effective BMPs will achieve greater or substantially similar pollution control benefits; (2) the BMP is not technically feasible; or (3) the cost of BMP implementation greatly outweighs the pollution control benefits. In the absence of a proposal acceptable to the Regional Board, the Regional Board will define MEP by requiring implementation of additional measures by the Copermittees.

The Copermittees' continual evolution in meeting the MEP standard is expected to achieve compliance with water quality standards. USEPA has consistently supported this expectation. In its Interim Permitting Approach for Water Quality-Based Effluent Limitations (WQBELs) in Storm Water Permits, USEPA states "the interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for attainment of water quality standards."[58] USEPA reiterated its position in 1999, when it stated regarding the Phase II municipal storm water regulations that "successive iterations of the mix of BMPs and measurable goals will be driven by the objective of assuring maintenance of water quality standards" and "EPA anticipates that a permit for a regulated small MS4 operator implementing BMPs to satisfy the six minimum control measures will be sufficiently stringent to protect water quality, including water quality standards […]."[59]

Finding D.1.b: Although the Copermittees have generally been implementing the jurisdictional urban runoff management programs required pursuant to Order No. 2001-01 since February 21, 2002, urban runoff discharges continue to cause or contribute to violations of water quality standards. This Order contains new or modified requirements that are necessary to improve Copermittees' efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality standards. Some of the new or modified requirements, such as the expanded Watershed Urban Runoff Management Program section, are designed to specifically address these high priority water quality problems. Other new or modified requirements address program deficiencies that have been noted during audits, report reviews, and other Regional Board compliance assessment activities.

Discussion: The Copermittees are required to update and expand their urban runoff management programs on jurisdictional, watershed, and regional levels in order to improve their efforts to reduce the contribution of pollutants in urban runoff to the MEP and meet water quality

[58] Federal Register / Vol. 61, No. 166 / August 26, 1996 / P. 43761.
[59] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68753-68754.

standards. Changes to Order No. 2001-01's requirements have been made to help ensure these two standards are achieved by the Copermittees.

The jurisdictional requirements of the Order have been changed based on findings by the Regional Board during typical compliance assurance activities. The Regional Board performed full jurisdictional program audits of 20 of the 21 Copermittees during the Order No. 2001-01 permit term; it also performed detailed audits on 10 of the Copermittees' SUSMP programs. Where the audits found common implementation problems, requirements have been altered to better ensure compliance. In addition, the Regional Board conducted detailed reviews of every jurisdictional annual report submitted by the Copermittees, including provision of specific comments to the Copermittees where improvements were found to be needed. Again, where common reporting issues were found, the Order's requirements have been changed to rectify the issues. Other changes to jurisdictional requirements were based on Regional Board inspection findings or receipt of complaints.[60]

To better focus on attainment of water quality standards, the Order's watershed requirements have been improved. Addressing urban runoff management on a watershed scale focuses on water quality results by emphasizing the receiving waters within the watershed. The conditions of the receiving waters drive management actions, which in turn focus on the water quality problems of the receiving waters each watershed. Improvements to watershed requirements were also made to facilitate better understanding of the requirements between the Regional Board and Copermittees.

Finally, many of the required updates to the Copermittees' programs are based on recommendations found in the Copermittees' ROWD.[61]

Finding D.1.c: Updated Jurisdictional Urban Runoff Management Plans (JURMPs) and Watershed Urban Runoff Management Plans (WURMPs), and a new Regional Urban Runoff Management Plan (RURMP), which describe the Copermittees' urban runoff management programs in their entirety, are needed to guide the Copermittees' urban runoff management efforts and aid the Copermittees in tracking urban runoff management program implementation. It is practicable for the Copermittees to update the JURMPs and WURMPs, and create the RURMP, within one year, since significant efforts to develop these programs have already occurred.

Discussion: While development and submittal of urban runoff management plans are not necessary to ensure compliance of the Copermittees' urban runoff management programs with the Order, the plans do serve as useful correspondence between the Copermittees and the Regional Board. The plans help organize the Copermittees' programs and guide their implementation, while also providing the Regional Board with a means to track Copermittee implementation.

Urban runoff management plans are not necessary for ensuring compliance with the Order because the Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limits, and the narrative standard of MEP are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limits is the pertinent compliance standard to be used under the

[60] Audit reports, report reviews, and inspection reports are available for review at the Regional Board office.
[61] All significant changes made to the Order's requirements are described and explained in detail in Fact Sheet section X.

Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone.

Rather than being substantive components of the Order itself, the Copermittees' urban runoff management plans are simply descriptions of their urban runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and Regional Board in tracking implementation of the programs. In this manner, the plans are not functional equivalents of the Order. For these reasons, the Copermittees' urban runoff management plans need not be an enforceable part of the Order.

The Copermittees' plans and programs can be updated within one year because much of their plans and programs are already in existence. In fact, many parts of their plans and programs have been in place for 15 years.[62] Moreover, the adoption of Order No. 2001-01 required a larger scale reorganization of the Copermittees' programs than Order No. R9-2007-0001, but also allowed one year for program updates. The Copermittees were able to meet the time schedule required under Order No. 2001-01.

Finding D.1.d: Pollutants can be effectively reduced in urban runoff by the application of a combination of pollution prevention, source control, and treatment control BMPs. Pollution prevention is the reduction or elimination of pollutant generation at its source and is the best "first line of defense". Source control BMPs (both structural and non-structural) minimize the contact between pollutants and flows (e.g., rerouting run-on around pollutant sources or keeping pollutants on-site and out of receiving waters). Treatment control BMPs remove pollutants from urban runoff.

Discussion: The SWRCB finds in its Order WQ 98-01 that BMPs are effective in reducing pollutants in urban runoff, stating that "implementation of BMPs [is] generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable." A SWRCB TAC further supports this finding by recommending "that nonpoint source pollution control can be accomplished most effectively by giving priority to [BMPs] in the following order:

1. Pollution Prevention – implementation of practices that use or promote pollution free alternatives;
2. Source Control – implementation of control measures that focus on preventing or minimizing urban runoff from contacting pollution sources;
3. Treatment Control – implementation of practices that require treatment of polluted runoff either onsite or offsite."[63]

Pollution prevention, the reduction or elimination of pollutant generation at its source, is an essential aspect of BMP implementation. By limiting the generation of pollutants by urban activities, less pollutants are available to be washed from urban areas, resulting in reduced pollutant loads in storm water discharges from these areas. In addition, there is no need to control or treat pollutants that are not initially generated. Furthermore, pollution prevention BMPs are

[62] Regional Board, 2000. Comparison Between the Requirements of Tentative Order 2001-01, the Federal NPDES Storm Water Regulations, the Existing San Diego Municipal Storm Water Permit (Order 90-42), and Previous Drafts of the San Diego Municipal Storm Water Permit.

[63] SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

generally more cost effective than removal of pollutants by treatment facilities or cleanup of contaminated media.[64]

In the Pollution Prevention Act of 1990, Congress established a national policy that emphasizes pollution prevention over control and treatment. CWC section 13263.3(a) also supports pollution prevention, stating "The Legislature finds and declares that pollution prevention should be the first step in a hierarchy for reducing pollution and managing wastes, and to achieve environmental stewardship for society. The Legislature also finds and declares that pollution prevention is necessary to support the federal goal of zero discharge of pollutants into navigable waters." Finally, the Basin Plan also supports this finding by stating "To eliminate pollutants in storm water, one can either clean it up by removing pollutants or prevent it from becoming polluted in the first place. Because of the overwhelming volume of storm water and the enormous costs associated with pollutant removal, pollution prevention is the only approach that makes sense."[65]

USEPA also supports the utilization of a combination of BMPs to address pollutants in urban runoff. For example, USEPA has found there has been success in addressing illicit discharge related problems through BMP initiatives like storm drain stenciling and recycling programs, including household hazardous waste special collection days.[66] Structural BMP performance data has also been compiled and summarized by USEPA.[67] This data indicates that structural BMPs can be effective in reducing pollutants in urban runoff discharges. The summary provides the performance ranges of various types of structural BMPs for removing suspended solids, nutrients, pathogens, and metals from storm water flows. These pollutants are in general pollutants of concern in storm water in the San Diego Region. For suspended solids, the least effective structural BMP type was found to remove 30-65% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For nutrients, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For pathogens, the least effective structural BMP type was found to remove <30% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load. For metals, the least effective structural BMP type was found to remove 15-45% of the pollutant load, while the most effective was found to remove 65-100% of the pollutant load.

Finding D.1.e: Urban runoff needs to be addressed during the three major phases of development (planning, construction, and use) in order to reduce the discharge of pollutants to the MEP and protect receiving waters. Development which is not guided by water quality planning policies and principles can unnecessarily result in increased pollutant load discharges, flow rates, and flow durations which can impact receiving water beneficial uses. Construction sites without adequate BMP implementation result in sediment runoff rates which greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development generates substantial pollutant loads which are discharged in urban runoff to receiving waters.

Discussion: MS4 permits are issued to municipalities because of their land use authority. The ultimate responsibility for the pollutant discharges, increased runoff, and inevitable long-term

[64] Schueler, T.R.., 2000. Center for Watershed Protection. Assessing the Potential for Urban Watershed Restoration, Article 142.
[65] Regional Board, 1994. Water Quality Control Plan, San Diego Basin, Region 9.
[66] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges. 64 FR 68728.
[67] USEPA, 1999. Preliminary Data Summary of Urban Storm Water Best Management Practices. EPA 821-R-99-012.

water quality degradation that results from urbanization lies with local governments. This responsibility is based on the fact that it is the local governments that have authorized the urbanization (i.e., conversion of natural pervious ground cover to impervious urban surfaces) and the land uses that generate the pollutants and runoff. Furthermore, the MS4 through which the pollutants and increased flows are conveyed, and ultimately discharged into natural receiving waters, are owned and operated by the same local governments. In summary, the Copermittees under the Order are responsible for discharges into and out of their MS4s because (1) they own and operate the MS4; and (2) they have the legal authority that authorizes the very development and land uses with generate the pollutants and increased flows in the first place.

For example, since grading cannot commence prior to the issuance of a local grading permit, the Copermittees have a built-in mechanism to ensure that all grading activities are protective of receiving water quality. The Copermittee has the authority to withhold issuance of the grading permit until the project proponent has demonstrated to the satisfaction of the Copermittee that the project will not violate their ordinances or cause the Copermittee to be in violation of its MS4 permit. Since the Copermittee will ultimately be held responsible for any discharges from the grading project by the Regional Board, the Copermittee will want to use its own permitting authority to ensure that whatever measures the Copermittee deems necessary to protect discharges into its MS4 are in fact taken by the project proponent.

The Order holds the local government accountable for this direct link between its land use decisions and water quality degradation. The Order recognizes that each of the three major stages in the urbanization process (development planning, construction, and the use or operational stage) are controlled by and must be authorized by the local government. Accordingly, this permit requires the local government to implement, or require others to implement, appropriate best management practices to reduce pollutant discharges and increased flow during each of the three stages of urbanization.

Including plans for BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce urban runoff pollutant loads to surface waters.[68] The Phase II regulations for small municipalities reflect the necessity of addressing urban runoff during the early planning phase. Due to the greater water quality concerns generally experienced by larger municipalities, Phase II requirements for small municipalities are also applicable to larger municipalities such as the Copermittees. The Phase II regulations direct municipalities to 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, including projects less than one acre that are part of a larger common plan of development or sale. The program must ensure that controls are in place that would prevent or minimize water quality impacts. This includes developing and implementing strategies which include a combination of structural and/or non-structural BMPs appropriate to the locality. The program must also ensure the adequate long-term operation and maintenance of BMPs.[69] USEPA expands on the Phase II regulations for urban development when it recommends that Copermittees:

> "Adopt a planning process that identifies the municipality's program goals (e.g., minimize water quality impacts resulting from post-construction runoff from new development and redevelopment), implementation strategies (e.g., adopt a combination of structural and/or non-structural BMPs), operation and maintenance policies and procedures, and enforcement

[68] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.
[69] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System-Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. 64 FR 68845.

procedures. In developing your program, you should consider assessing existing ordinances, policies, programs and studies that address storm water runoff quality."

Management of urban runoff during the construction phase is also essential. USEPA explains in the preamble to the Phase II regulations that storm water discharges generated during construction activities can cause an array of physical, chemical, and biological water quality impacts. Specifically, the biological, chemical and physical integrity of the waters may become severely compromised due to runoff from construction sites. Fine sediment from construction sites can adversely affect aquatic ecosystems by reducing light penetration, impeding sight-feeding, smothering benthic organisms, abrading gills and other sensitive structures, reducing habitat by clogging interstitial spaces within the streambed, and reducing intergravel dissolved oxygen by reducing the permeability of the bed material. Water quality impairment also results, in part, because a number of pollutants are preferentially absorbed onto mineral or organic particles found in fine sediment. The interconnected process of erosion (detachment of the soil particles), sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients, metals, and organic compounds into aquatic systems.[70]

Finally, urban runoff from existing development must be addressed. The Copermittees' monitoring data exhibits that significant water quality problems exist in receiving waters which receive urban runoff from areas with extensive existing development, such as Chollas Creek.[71] Source identification, BMP requirements, inspections, and enforcement are all important measures which can be implemented to address urban runoff from existing development. USEPA supports inspections and enforcement by municipalities when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described."[72]

Finding D.1.f: Annual reporting requirements included in this Order are necessary to meet federal requirements and to evaluate the effectiveness and compliance of the Copermittees' programs.

Discussion: The annual reporting requirements are consistent with federal NPDES regulation 40 CFR 122.41, which states:

"The operator of a large or medium municipal separate storm sewer system of a municipal separate storm sewer system that has been designated by the Director under section 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 a 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 program that are established as permit condition, Such proposed changes shall be consistent with § 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 § 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

[70] Ibid., 64 FR 68728.
[71] County of San Diego, 2005. San Diego County Municipal Copermittees 2004-2005 Urban Runoff Monitoring. Table 11-7.
[72] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

public education programs; and (7) Identification of water quality improvements or degradation."

CWC section 13267 provides that "the regional board may require that any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

The Regional Board must assess the reports to ensure that the Copermittees' programs are adequate to assess and address water quality. The reporting requirements can also be useful tools for the Copermittees to review, update, or revise their programs. Areas or issues which have received insufficient efforts can also be identified and improved upon.

Finding D.2.a: The SUSMP requirements contained in this Order are consistent with Order WQ-2000-11 adopted by the SWRCB on October 5, 2000. In the precedential order, the SWRCB found that the design standards, which essentially require that urban runoff generated by 85 percent of storm events from specific development categories be infiltrated or treated, reflect the MEP standard. The order also found that the SUSMP requirements are appropriately applied to the majority of the Priority Development Project categories contained in Section D.1 of this Order. The SWRCB also gave Regional Water Quality Control Boards the discretion to include additional categories and locations, such as retail gasoline outlets (RGOs), in future SUSMPs.

Discussion: The post-construction requirements and design standards contained in the SUSMP section of Order No. R9-2007-0001 constitute MEP and are consistent SWRCB guidance, court decisions, and Regional Board requirements. The SWRCB and Regional Boards have made several recent decisions in regards to inclusion of SUSMP requirements in MS4 permits. In a precedential decision, SWRCB WQ Order No. 2000-11, the SWRCB found that the SUSMP provisions constitute MEP for addressing pollutant discharges resulting from Priority Development Projects. The provisions of the SUSMP section of the Order are also consistent with those previously issued by the Regional Board for Orange County (Order No. R9-2002-0001) and San Diego County (Order No. 2001-01), as well as requirements in the Los Angeles County MS4 permit (Order No. R4-2001-182). In SWRCB Order WQ 2001-15, the SWRCB reaffirmed that SUSMP requirements constitute MEP. Moreover, the SUSMP requirements of the San Diego County MS4 permit (Order No. 2001-01) were upheld when the California State Supreme Court declined to hear the matter on appeal.

Finding D.2.b: Controlling urban runoff pollution before it enters the MS4 through the use of a combination of onsite source control BMPs augmented with treatment control BMPs is important for the following reasons: (1) Many end-of-pipe BMPs (such as diversion to the sanitary sewer) are typically ineffective during significant storm events. Whereas, onsite source control BMPs can be applied during all runoff conditions; (2) End-of-pipe BMPs are often incapable of capturing and treating the wide range of pollutants which can be generated on a sub-watershed scale; (3) End-of-pipe BMPs are more effective when used as polishing BMPs, rather than the sole BMP to be implemented; (4) End-of-pipe BMPs do not protect the quality or beneficial uses of receiving waters between the source and the BMP; and (5) Offsite end-of-pipe BMPs do not aid in the effort to educate the public regarding sources of pollution and their prevention.

Discussion: Many end-of-pipe BMPs are designed for low flow conditions because their end-of-pipe location prevents them from being designed for large storm events. This results in the end-of-pipe BMPs being overwhelmed, bypassed, or ineffective during larger storm events more frequently than onsite BMPs designed for larger storms. BMPs are also frequently most effective for a particular type of pollutant (such as sediment). Such BMPs may be appropriate for small

sites with a limited suite of pollutants generated; however, end-of-pipe BMPs must typically be able to address a wide range of pollutants generated by a sub-watershed, limiting their effectiveness. Moreover, the location of some end-of-pipe BMPs allow for untreated pollutants to be discharged to and degrade receiving waters prior to their reaching the BMPs. This fails to protect receiving waters, which is the purpose of BMP implementation. Moreover, opportunities to educate the public regarding urban runoff pollution can be lost when end-of-pipe BMPs are located away from pollutant sources and out of sight. Onsite BMPs can lead to a better understanding of urban runoff issues since they demonstrate urban runoff processes.

Finding D.2.c: Use of site design BMPs at new development projects can be an effective means for minimizing the impact of urban runoff discharges from the development projects on receiving waters. Site design BMPs help preserve and restore the natural hydrologic cycle of the site, allowing for filtration and infiltration which can greatly reduce the volume, peak flow rate, velocity, and pollutant loads of urban runoff.

Discussion: The use of site design BMPs helps reduce the amount of impervious area associated with urbanization and allows storm water to infiltrate into the soil. Natural vegetation and soil filters urban runoff and reduces the volume and pollutant loads of storm water. Studies have revealed that the level of imperviousness resulting from urbanization is strongly correlated with the water quality impairment of nearby receiving waters.[73] In many cases the impacts on receiving waters due to changes in hydrology can be more significant than those attributable to the contaminants found in storm water discharges.[74] These impacts include stream bank erosion (increased sediment load and subsequent deposition), benthic habitat degradation, and decreased diversity of macroinvertebrates.

The Order include requirements for developments to include site design BMPs that mimic or replicate the natural hydrologic cycle. Open space designs which maximize pervious surfaces and retention of "natural" drainages have been found to reduce both the costs of development and pollutant export.[75] Moreover, USEPA finds including plans for a "natural" site design and BMP implementation during the design phase of new development and redevelopment offers the most cost effective strategy to reduce pollutant loads to surface waters.[76] In a review of the Copermittees' SUSMP programs, Tetra Tech found that many SUSMP projects were not including this effective BMP in their plans.[77]

Finding D.2.d: RGOs are significant sources of pollutants in urban runoff. RGOs are points of convergence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up and consequently produce significantly higher loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and treatment control BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more, or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

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[73] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.
[74] Ibid.
[75] Center for Watershed Protection, 2000. "The Benefits of Better Site Design in Residential Subdivisions." Watershed Protection Techniques. Vol. 3. No. 2.
[76] USEPA, 1999. 40 CFR Parts 9, 122, 123, and 124 National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule.
[77] Tetra Tech, 2005. San Diego Urban Storm Water Mitigation Plan Program Evaluation Report. Pages 4-5.

Discussion: RGOs are included in the Order as a Priority Development Project category because RGOs are points of confluence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up. RGOs consequently produce significantly greater loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a ADT of 100 or more vehicles per day. These are appropriate thresholds since vehicular development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

This finding has been added to satisfy SWRCB WQ Order No. 2000-11's requirements for including RGOs as a Priority Development Category. Order No. 2000-11 acknowledged that a threshold (size, average daily traffic, etc.) appropriate to trigger SUSMP requirements should be developed for RGOs and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement.[78] Additional detail to support the inclusion of RGOs can be found in Fact Sheet Section VIII.F.

Finding D.2.f: If not properly designed or maintained, certain BMPs implemented or required by municipalities for urban runoff management may create a habitat for vectors (e.g. mosquitoes and rodents). However, proper BMP design which avoids standing water can prevent the creation of vector habitat. Nuisances and public health impacts resulting from vector breeding can be prevented with close collaboration and cooperative effort between municipalities, local vector control agencies, and the State Department of Health Services during the development and implementation of urban runoff management programs.

Discussion: The implementation of certain structural BMPs or other urban runoff treatment systems can result in significant vector problems in the form of increased breeding or harborage habitat for mosquitoes, rodents or other potentially disease transmitting organisms. The implementation of BMPs that retain water may provide breeding habitat for a variety of mosquito species, some of which have the potential to transmit diseases such as Western Equine Encephalitis, St. Louis Encephalomyelitis, and malaria. Recent BMP implementation studies by Caltrans[79] in District 7 and District 11 have demonstrated mosquito breeding associated with some types of BMPs. The Caltrans BMP Retrofit Pilot study cited lack of maintenance and improper design as factors contributing to mosquito production. However, a Watershed Protection Techniques article[80] describes management techniques for selecting, designing, and maintaining structural treatment BMPs to minimize mosquito production. State and local urban runoff management programs that include structural BMPs with the potential to retain water have been implemented in Florida and the Chesapeake Bay region without resulting in significant public health threats from mosquitoes or other vectors.[81]

Finding D.3.a: In accordance with federal NPDES regulations, and to ensure the most effective oversight of industrial and construction site discharges, discharges of runoff from industrial and construction sites are subject to dual (state and local) storm water regulation. Under this dual system, the Regional Board is responsible for enforcing the General Construction Activities Storm Water Permit, SWRCB Order 97-03 DWQ, NPDES No. CAS000001 (General Construction Permit) and the General Industrial Activities Storm Water Permit, SWRCB Order

[78] SWRCB, 2000. Order WQ 2000-11.
[79] Caltrans, 2000. BMP Retrofit Pilot Studies: A Preliminary Assessment of Vector Production.
[80] Watershed Protection Techniques, 1995. Mosquitoes in Constructed Wetlands: A Management Bugaboo? 1(4):203-207.
[81] Shaver, E. and R. Baldwin , 1995. Sand Filter Design for Water Quality Treatment in Herricks, E., Ed. Stormwater Runoff and Receiving Systems: Impact, Monitoring, and Assessment, CRC Lewis Publishers, New York, NY.

99-08 DWQ, NPDES No. CAS000002 (General Industrial Permit), and each municipal Copermittee is responsible for enforcing its local permits, plans, and ordinances, which may require the implementation of additional BMPs than required under the statewide general permits.

Discussion: USEPA finds the control of pollutant discharges from industry and construction so important to receiving water quality that it has established a double system of regulation over industrial and construction sites. This double system of regulation consists of two parallel regulatory systems with the same common objective: to keep pollutants from industrial and construction sites out of the MS4. In this double system of regulation for runoff from industrial and construction sites, local governments must enforce their legal authorities (i.e., local ordinances and permits) while the Regional Board must enforce its legal authority (i.e., statewide general industrial and construction storm water permits). These two regulatory systems are designed to complement and support each other. Municipalities are not required to enforce Regional Board and SWRCB permits; however, they are required to enforce their ordinances and permits. The Federal regulations are clear that municipalities have responsibility to address runoff from industrial and construction sites which enters their MS4s.

Municipalities have this responsibility because they have the authority to issue land use and development permits. Since municipalities are the lead permitting authority for industrial land use and construction activities, they are also the lead for enforcement regarding runoff discharges from these sites. For sites where the municipality is the lead permitting authority, the Regional Board will work with the municipality and provide support where needed. The Regional Board will assist municipalities in enforcement against non-compliant sites after the municipality has exhibited a good faith effort to bring the site into compliance.

According to USEPA, the storm water regulations envision that NPDES permitting authorities and municipal operators will cooperate to develop programs to monitor and control pollutants in storm water discharges from industrial facilities.[82] USEPA discusses the "dual regulation" of construction sites in its Storm Water Phase II Compliance Assistance Guide,[83] which states "Even though all construction sites that disturb more than one acre are covered nationally by an NPDES storm water permit, the construction site runoff control minimum measure […] is needed to induce more localized site regulation and enforcement efforts, and to enable operators […] to more effectively control construction site discharges into their MS4s." While the Storm Water Phase II Compliance Assistance Guide applies to small municipalities, it is applicable to the Copermittees, because they are similar in size and have the potential to discharge similar pollutant types as Phase II municipalities.

Finding D.3.b: Identification of sources of pollutants in urban runoff (such as municipal areas and activities, industrial and commercial sites/sources, construction sites, and residential areas), development and implementation of BMPs to address those sources, and updating ordinances and approval processes are necessary for the Copermittees to ensure that discharges of pollutants into and from its MS4 are reduced to the MEP. Inspections and other compliance verification methods are needed to ensure minimum BMPs are implemented. Inspections are especially important at high risk areas for pollutant discharges.

Discussion: Source identification is necessary to characterize the nature and extent of pollutants in discharges and to develop appropriate BMPs. It is the first step in a targeted approach to urban

[82] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[83] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

runoff management. Source identification helps identify the location of potential sources of pollutants in urban runoff. Pollutants found to be present in receiving waters can then be traced to the sites which frequently generate such pollutants. In this manner an inventories of sources can help in targeting inspections, monitoring, and potential enforcement. This allows for limited inspection, monitoring, and enforcement time to be most effective. USEPA supports source identification as a concept when it recommends construction, municipal, and industrial source identification in guidance and the federal regulations.[84][85]

The development of BMPs for identified sources will help ensure that appropriate, consistent controls are implemented at all types of urban development and areas. Copermittees must reduce the discharge of pollutants in urban runoff to the maximum extent practicable. To achieve this level of pollutant reduction, BMPs must be implemented. Designation of minimum BMPs helps ensure that appropriate BMPs are implemented for various sources. These minimum BMPs also serve as guidance as to the level of water quality protection required. USEPA requires development and implementation of BMPs for construction, municipal, commercial, industrial, and residential sources at 40 CFR 122.26(d)(2)(iv)(A-D).

Updating ordinances and approval processes is necessary in order for the Copermittees to control discharges to their MS4s. USEPA supports updating ordinances and approval processes when it states "A crucial requirement of the NPDES storm water regulation is that a municipality must demonstrate that it has adequate legal authority to control the contribution of pollutants in storm water discharged to its MS4. […] In order to have an effective municipal storm water management program, a municipality must have adequate legal authority to control the contribution of pollutants to the MS4. […] 'Control,' in this context, means not only to require disclosure of information, but also to limit, discourage, or terminate a storm water discharge to the MS4."[86]

Inspections provide a necessary means for the Copermittees to evaluate compliance of pollutant sources with their municipal ordinances and minimum BMP requirements. USEPA supports inspections when it recommends inspections of construction, municipal, and industrial sources.[87] Inspection of high risk sources are especially important because of the ability of frequent inspections to help ensure compliance, thereby reducing the risk associated with such sources. USEPA suggests that inspections can improve compliance when it states "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations."[88]

Finding D.3.c: Historic and current development makes use of natural drainage patterns and features as conveyances for urban runoff. Urban streams used in this manner are part of the municipalities MS4 regardless of whether they are natural, man-made, or partially modified features. In these cases, the urban stream is both an MS4 and receiving water.

Discussion: A MS4 is defined in the federal regulations as a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs,

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[84] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[85] 40 CFR 122.26(d)(2)(ii)
[86] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[87] Ibid.
[88] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

gutters, ditches, man-made channels, or storm drains), owned or operated by a Copermittee, and designed or used for collecting or conveying urban runoff.[89] Natural drainage patterns and urban streams are frequently used by municipalities to collect and convey urban runoff away from development within their jurisdiction. Therefore, the Regional Board considers natural drainages that are used for conveyances of urban runoff, regardless of whether or not they've been altered by the municipality, as both part of the MS4s and as receiving waters. To clarify, an unaltered natural drainage, which receives runoff from a point source (channeled by a Copermittee to drain an area within their jurisdiction), which then conveys the runoff to an altered natural drainage or a man-made MS4, is both an MS4 and a receiving water.[90]

Finding D.3.d: As operators of the MS4s, the Copermittees cannot passively receive and discharge pollutants from third parties. By providing free and open access to an MS4 that conveys discharges to waters of the U.S., the operator essentially accepts responsibility for discharges into the MS4 that it does not prohibit or control. These discharges may cause or contribute to a condition of contamination or a violation of water quality standards.

Discussion: CWA section 402(p) requires operators of MS4s to prohibit non-storm water discharges into their MS4s. This is necessary because pollutants which enter the MS4 generally are conveyed through the MS4 to be eventually discharged into receiving waters. If a municipality does not prohibit non-storm water discharges, it is providing the pathway (its MS4) which enables pollutants to reach receiving waters. Since the municipality's storm water management service can result in pollutant discharges to receiving waters, the municipality must accept responsibility for the water quality consequences resulting from this service. Furthermore, third party discharges can cause a municipality to be out of compliance with its permit. Since pollutants from third parties which enter the MS4 will eventually be discharged from the MS4 to receiving waters, the third party discharges can result in a situation of municipality non-compliance if the discharges lead to an exceedance of water quality standards. For these reasons, each Copermittee must prohibit and/or control discharges from third parties to its MS4. USEPA supports this concept when it states "the operators of regulated small MS4s cannot passively receive and discharge pollutants from third parties" and "the operator of a small MS4 that does not prohibit and/or control discharges into its system essentially accepts 'title' for those discharges. At a minimum, by providing free and open access to the MS4s that convey discharges to the waters of the United States, the municipal storm sewer system enables water quality impairment by third parties."[91]

Finding D.3.e: Waste and pollutants which are deposited and accumulate in the MS4 drainage structures will be discharged from these structures to waters of the U.S. unless they are removed or treated. These discharges may cause or contribute to, or threaten to cause or contribute to, a condition of pollution in receiving waters. For this reason, pollutant discharges into the MS4s must be reduced to the MEP unless treatment within the MS4 occurs.

Discussion: When rain falls and drains urban freeways, industries, construction sites, and neighborhoods it picks up a multitude of pollutants. Gravity flow transports the pollutants to the MS4. Illicit discharges and connections also contribute a significant amount of pollutants to MS4s. MS4s are commonly designed to convey their contents as quickly as possible. Due to the

[89] USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.
[90] Regional Board, 2001. Response in Opposition to Petitions for Review of California Regional Water Quality Control Board San Diego Region Order No. 2001-01 – NPDES Permit No. CAS0108758 (San Diego Municipal Storm Water Permit).
[91] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68765-68766.

resulting typically high flow rates within the concrete conveyance systems of MS4s, pollutants which enter or are deposited in the MS4 and not removed are generally flushed unimpeded through the MS4 to waters of the United States. Since treatment generally does not occur within the MS4, in such cases reduction of pollutants to the MEP must occur prior to discharges entering the MS4.

The importance of this concept is supported by the tons of wastes/pollutants that have been removed from the Copermittees' MS4s as reported in their ROWD.[92] Moreover, these pollutants will be discharged into receiving waters unless an effective MS4 and structural treatment BMP maintenance program is implemented by the Copermittees. The requirement for Copermittees to conduct a MS4 maintenance program is specifically directed in both the Phase I and Phase II storm water regulations. Regarding MS4 cleaning, USEPA states "The removal of sediment, decaying debris, and highly polluted water from catch basins has aesthetic and water quality benefits, including reducing foul odors, reducing suspended solids, and reducing the load of oxygen-demanding substances that reach receiving waters."[93] It goes on to say, "Catch basin cleaning is an efficient and cost-effective method for preventing the transport of sediment and pollutants to receiving water bodies." USEPA also finds that "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices. […] The proposed program should provide for maintenance logs and identify specific maintenance activities for each class of control, such as removing sediment from retention ponds every five years, cleaning catch basins annually, and removing litter from channels twice a year."[94]

Finding D.3.f: Enforcement of local urban runoff related ordinances, permits, and plans is an essential component of every urban runoff management program and is specifically required in the federal storm water regulations and this Order. Each Copermittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water runoff, and for the allocation of funds for the capital, operation and maintenance, administrative, and enforcement expenditures necessary to implement and enforce such control measures/BMPs under its jurisdiction.

Discussion: The Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A – D) are clear in placing responsibility on municipalities for control of urban runoff from third party activities and land uses to their MS4.[95] In order for municipalities to assume this responsibility, they must implement ordinances, permits, and plans addressing urban runoff from third parties. Assessments for compliance with their ordinances, permits, and plans are essential for a municipality to ensure that third parties are not causing the municipality to be in violation of its municipal storm water permit. When conditions of non-compliance are determined, enforcement is necessary to ensure that violations of municipality ordinances and permits are corrected. When the Copermittees determine a violation of its storm water ordinance, it must pursue correction of the violation. Without enforcement, third parties do not have incentive to correct violations. USEPA supports enforcement by municipalities when it states "Effective inspection and

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[92] San Diego County Copermittees, 2005. Report of Waste Discharge. Pages 32-33.
[93] USEPA, 1999. Storm Water O&M Fact Sheet, Catch Basin Cleaning. EPA 832-F-99-011.
[94] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[95] USEPA, 2000. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System. Code of Federal Regulations, Vol. 40, Part 122.

enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations. Enforcement mechanisms […] also must be described."[96]

Finding D.3.g: Education is an important aspect of every effective urban runoff management program and the basis for changes in behavior at a societal level. Education of municipal planning, inspection, and maintenance department staffs is especially critical to ensure that in-house staffs understand how their activities impact water quality, how to accomplish their jobs while protecting water quality, and their specific roles and responsibilities for compliance with this Order. Public education, designed to target various urban land users and other audiences, is also essential to inform the public of how individual actions impact receiving water quality and how these impacts can be minimized.

Discussion: Education is a critical BMP and an important aspect of the urban runoff management programs. USEPA finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following: Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important [and] greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[97]

Regarding target audiences, USEPA also states "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children."

Finding D.3.h: Public participation during the development of urban runoff management programs is necessary to ensure that all stakeholder interests and a variety of creative solutions are considered.

Discussion: This finding is supported by the Phase II Storm Water Regulations, which state "early and frequent public involvement can shorten implementation schedules and broaden public support for a program." USEPA goes on to explain, "public participation is likely to ensure a more successful storm water program by providing valuable expertise and a conduit to other programs and governments."[98]

Finding D.4.a: Since urban runoff does not recognize political boundaries, watershed-based urban runoff management can greatly enhance the protection of receiving waters within a watershed. Such management provides a means to focus on the most important water quality problems in each watershed. By focusing on the most important water quality problems, watershed efforts can maximize protection of beneficial use in an efficient manner. Watershed management of urban runoff does not require Copermittees to expend resources outside of their jurisdictions. Watershed management requires the Copermittees within a watershed to develop a watershed-based management strategy, which can then be implemented on a jurisdictional basis.

Discussion: In recent years, addressing water quality issues from a watershed perspective has increasingly gained attention. Regarding watershed-based permitting, the USEPA *Watershed-Based NPDES Permitting Policy Statement* issued on Jan. 7, 2004 states the following:

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[96] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA/833-B-92-002.
[97] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.
[98] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68755.

> USEPA continues to support a holistic watershed approach to water quality management. The process for developing and issuing NPDES permits on a watershed basis is an important tool in water quality management. USEPA believes that developing and issuing NPDES permits on a watershed basis can benefit all watershed stakeholders, from the NPDES permitting authority to local community members. A watershed-based approach to point source permitting under the NPDES program may serve as one innovative tool for achieving new efficiencies and environmental results. USEPA believes that watershed-based permitting can:
>
> - lead to more environmentally effective results;
> - emphasize measuring the effectiveness of targeted actions on improvements in water quality;
> - provide greater opportunities for trading and other market based approaches;
> - reduce the cost of improving the quality of the nation's waters;
> - foster more effective implementation of watershed plans, including total maximum daily loads (TMDLs); and
> - realize other ancillary benefits beyond those that have been achieved under the CWA (e.g., facilitate program integration including integration of Clean Water Act and Safe Drinking Water Act programs).
>
> Watershed-based permitting is a process that ultimately produces NPDES permits that are issued to point sources on a geographic or watershed basis. In establishing point source controls in a watershed-based permit, the permitting authority may focus on watershed goals, and consider multiple pollutant sources and stressors, including the level of nonpoint source control that is practicable. In general, there are numerous permitting mechanisms that may be used to develop and issue permits within a watershed approach.

This USEPA guidance is in line with SWRCB and Regional Board watershed management goals. For example, the SWRCB's TAC recommends watershed-based water quality protection, stating "Municipal permits should have watershed specific components." The TAC further recommends that "All NPDES permits and Waste Discharge Requirements should be considered for reissuance on a watershed basis."

In addition, the Basin Plan states that "public agencies and private organizations concerned with water resources have come to recognize that a comprehensive evaluation of pollutant contributions on a watershed scale is the only way to realistically assess cumulative impacts and formulate workable strategies to truly protect our water resources. Both water pollution and habitat degradation problems can best be solved by following a basin-wide approach."

In light of USEPA's policy statement and the SWRCB's and Regional Board's watershed management goals, the Regional Board seeks to expand watershed management in the regulation of urban runoff. Watershed-based MS4 permits can provide for more effective receiving water quality protection by focusing on specific water quality problems. The entire watershed for the receiving water can be assessed, allowing for critical areas and practices to be targeted for corrective actions. Known sources of pollutants of concern can be investigated for potential water quality impacts. Problem areas can then be addressed, leading to eventual improvements in receiving water quality. Management of urban runoff on a watershed basis allows for specific water quality problems to be targeted so that efforts result in maximized water quality improvements.[99]

[99] Regional Board, 2004. San Diego County Municipal Storm Water Permit Reissuance Analysis Summary. P. 1.

Finding D.4.b: Some urban runoff issues, such as residential education, can be effectively addressed on a regional basis. Regional approaches to urban runoff management can improve program consistency and promote sharing of resources, which can result in implementation of more efficient programs.

Discussion: Regional activities are generally directed at developing consistency between watershed and jurisdictional programs (e.g., through standards development), and collaborating on program activities such as education and monitoring to ease implementation and make the most of economies of scale. The Copermittees report having come to an understanding that jurisdictional, watershed, and regional programs cannot be effectively developed and implemented in isolation. In addition, the Copermittees, through WURMP implementation efforts, have learned that many watershed activities can be more effectively implemented (e.g., achieve more water quality benefits) at the regional level due to economies of scale and agree watershed protection should be increasingly emphasized as a focal point of Copermittee efforts under the re-issued Permit.[100]

Finding D.4.c: Both regionally and on a watershed basis, it is important for the Copermittees to coordinate their water quality protection and land use planning activities to achieve the greatest protection of receiving water bodies. Copermittee coordination with other watershed stakeholders, especially Caltrans, the Department of Defense, and Native American Tribes, is also important. Establishment of a management structure, within which the Copermittees subject to this Order will fund and coordinate those aspects of their joint obligations, will help promote implementation of urban runoff management programs on a watershed and regional basis in a most cost effective manner.

Discussion: Conventional planning and zoning can be limited in their ability to protect the environmental quality of creeks, rivers, and other waterbodies. Watershed-based planning is often ignored, despite the fact that receiving waters unite land by collecting runoff from throughout the watershed. Since watersheds unite land, they can be used as an effective basis for planning. Watershed-based planning enables local and regional areas to realize economic, social, and other benefits associated with growth, while conserving the resources needed to sustain such growth, including water quality. This type of planning can involve four steps: (1) Identify the watersheds shared by the participating jurisdictions; (2) Identify, assess, and prioritize the natural, social, and other resources in the watersheds; (3) Prioritize areas for growth, protection, and conservation, based on prioritized resources; and (4) Develop plans and regulations to guide growth and protect resources. Local governments have started with simple, yet effective, steps toward watershed planning, such as adopting a watershed-based planning approach, articulating the basic strategy in their General Plans, and beginning to pursue the basic strategy in collaboration with neighboring local governments who share the watersheds. Examples of new mechanisms created to facilitate watershed-based planning and zoning include the San Francisquito Creek Watershed Coordinated Resource Management Process and the Santa Clara Basin Watershed Management Initiative.[101]

E. Statute and Regulatory Considerations

Finding E.1: The Receiving Water Limitations (RWL) language specified in this Order is consistent with language recommended by USEPA and established in SWRCB Water Quality Order 99-05, adopted by the SWRCB on June 17, 1999. The RWL in this Order require

[100] San Diego County Copermittees, 2005. Report Of Waste Discharge. P. C.14.
[101] BASMAA, 1999. Start at the Source. Forbes Custom Publishing.

compliance with water quality standards through an iterative approach requiring the implementation of improved and better-tailored BMPs over time. Compliance with receiving water limits based on applicable water quality standards is necessary to ensure that MS4 discharges will not cause or contribute to violations of water quality standards and the creation of conditions of pollution.

Discussion: The RWLs in the Order require compliance with water quality standards through an iterative approach for implementing improved and better-tailored BMPs over time. The iterative BMP process requires the implementation of increasingly stringent BMPs until receiving water standards are achieved. This is necessary because implementation of BMPs alone cannot ensure attainment of receiving water quality standards. For example, a BMP that is effective in one situation may not be applicable in another. An iterative process of BMP development, implementation, and assessment is needed to promote consistent compliance with receiving water quality objectives. If assessment of a given BMP confirms that the BMP is ineffective, the iterative process should be restarted, with redevelopment of a new BMP that is anticipated to result in compliance with receiving water quality objectives.

The issue of whether storm water discharges from MS4s must meet water quality standards has been intensely debated in past years. The argument arises because CWA section 402(p) fails to clearly state that municipal dischargers of storm water must meet water quality standards. On the issue of industrial discharges of storm water, the statute clearly indicates that industrial dischargers must meet both (1) the technology-based standard of "best available technology economically achievable (BAT)" and (2) applicable water quality standards. On the issue of municipal discharges however, the statute states that municipal dischargers must meet (1) the technology-based standard of MEP" and (2) "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants." The statute fails, however, to specifically state that municipal dischargers must meet water quality standards.

As a result, the municipal storm water dischargers have argued that they do not have to meet water quality standards; and that they only are required to meet MEP. Environmental interest groups maintain that not only do MS4 discharges have to meet water quality standards, but that MS4 permits must also comply with numeric effluent limitations for the purpose of meeting water quality standards. On the issue of water quality standards, USEPA, the SWRCB, and the Regional Board have consistently maintained that MS4s must indeed comply with water quality standards. On the issue of whether water quality standards must be met by numeric effluent limits, USEPA, the SWRCB (in Orders WQ 91-03 and WQ 91-04), and the Regional Board have maintained that MS4 permits can, at this time, contain narrative requirements for the implementation of BMPs in place of numeric effluent limits.

In addition to relying on USEPA's legal opinion concluding that MS4s must meet MEP and water quality standards, the SWRCB also relied on the CWA's explicit authority for States to require "such other provisions that the Administrator or the State determines appropriate for the control of such pollutants" in addition to the technology-based standard of MEP. To further support its conclusions that MS4 permit dischargers must meet water quality standards, the SWRCB relied on provisions of the CWC that specify that all waste discharge requirements must implement applicable Basin Plans and take into consideration the appropriate water quality objectives for the protection of beneficial uses.

The SWRCB first formally concluded that permits for MS4s must contain effluent limitations based on water quality standards in its Order WQ 91-03. In that Order, the SWRCB also concluded that it was appropriate for Regional Boards to achieve this result by requiring best

management practices, rather than by inserting numeric effluent limitations into MS4 permits. Later, in Order WQ 98-01, the SWRCB prescribed specific precedent setting Receiving Water Limitations language to be included in all future MS4 permits. This language specifically requires that MS4 dischargers meet water quality standards and allows for the use of narrative BMPs (increasing in stringency and implemented in an iterative process) as the mechanism by which water quality standards can be met.

In Order WQ 99-05, the SWRCB modified its receiving water limitations language in Order WQ 98-01 to meet specific objections by USEPA (the modifications resulted in stricter compliance with water quality standards). SWRCB Order WQ 99-05 states:

> "In Order WQ 98-01, the SWRCB ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Boards for Vallejo and Riverside respectively, the USEPA objected to the permits. The USEPA objection was based on the receiving water limitation language. The USEPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.
>
> In light of USEPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the SWRCB is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the USEPA language. Based on the reasons stated here, and as a precedent decision, the following receiving water limitation language shall be included in future municipal storm water permits."

In 1999 case involving MS4 permits issued by USEPA to several Arizona cities (*Defenders of Wildlife v. Browner*, 1999, 197 F. 3d 1035), the United States Court of Appeals for the Ninth Circuit upheld USEPA's requirement for MS4 dischargers to meet water quality standards, but it did so on the basis of USEPA's discretion rather than on the basis of strict compliance with the Clean Water Act. In other words, while holding that the Clean Water Act does not require all MS4 discharges to comply strictly with state water quality standards, the Court also held that USEPA has the authority to determine that ensuring strict compliance with state water quality standards is necessary to control pollutants. On the question of whether MS4 permits must contain numeric effluent limitations, the court upheld USEPA's use of iterative BMPs in place of numeric effluent limits.

On October 14, 1999, the SWRCB issued a legal opinion on the federal appellate decision and provided advice to the Regional Boards on how to proceed in the future. In the memorandum, the SWRCB concludes that the recent Ninth Circuit opinion upholds the discretion of USEPA and the State to (continue to) issue permits to MS4s that require compliance with water quality standards through iterative BMPs. Moreover, the memorandum states that "[…] because most MS4 discharges enter impaired water bodies, there is a real need for permits to include stringent requirements to protect those water bodies. As TMDLs are developed, it is likely that MS4s will have to participate in pollutant load reductions, and the MS4 permits are the most effective vehicles for those reductions." In summary, the SWRCB found that the Regional Boards should continue to include the RWL established in SWRCB Order WQ 99-05 in all future permits.

The issue of the RWLs language was also central to BIA's (and others') appeal of Order No. 2001-01 (Order No. R9-2007-0001 serves as the reissuance of Order No. 2001-01). BIA contended that the MEP standard was a ceiling on what could be required of the Copermittees in implementing their urban runoff management programs, and that Order No. 2001-01's receiving

water limitations requirements exceeded that ceiling. In other words, BIA argued that the Copermittees could not be required to comply with receiving water limitations if they necessitated efforts which went beyond the MEP standard. Again, the courts upheld the Regional Board's discretion to require compliance with water quality standards in municipal storm water permits, without limitation. The Court of Appeal, Fourth Appellate District found that the Regional Board has "the authority to include a permit provision requiring compliance with water quality standards."[102] On further appeal by BIA, the California State Supreme Court declined to hear the matter.

While implementation of the iterative BMP process is a means to achieve compliance with water quality objectives, it does not shield the discharger from enforcement actions for continued non-compliance with water quality standards. Consistent with USEPA guidance,[103] regardless of whether or not an iterative process is being implemented, discharges that cause or contribute to a violation of water quality standards are in violation of Order No. R9-2007-0001.

Finding E.2: The Basin Plan identifies the following beneficial uses for water bodies in the Santa Diego County watersheds: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Process Supply (PROC), Industrial Service Supply (IND), Ground Water Recharge (GWR), Contact Water Recreation (REC1) Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Wildlife Habitat (WILD), Rare, Threatened, or Endangered Species (RARE), Freshwater Replenishment (FRSH), Hydropower Generation (POW), and Preservation of Biological Habitats of Special Significance (BIOL). The following additional beneficial uses are identified for coastal waters of San Diego County: Navigation (NAV), Commercial and Sport Fishing (COMM), Estuarine Habitat (EST), Marine Habitat (MAR), Aquaculture (AQUA), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), and Shellfish Harvesting (SHELL).

Discussion: The San Diego County watersheds include all of Carlsbad, San Dieguito, Penasquitos, San Diego, Pueblo, Sweetwater, and Otay watersheds, and portions of Santa Margarita, San Luis Rey, and Tijuana watersheds. Major Rivers include the Santa Margarita River, the San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, Otay River and the Tijuana River. Major coastal waterbodies include Buena Vista Lagoon, Agua Hedionda Lagoon, Batiquitos Lagoon, San Elijo Lagoon, San Dieguito Lagoon, Los Penasquitos Lagoon, Mission Bay, San Diego Bay, Tijuana River estuary, and the Pacific Ocean. Major inland waterbodies include Lake Henshaw, Lake Wohlford, Lake Hodges, Sutherland Reservoir, Miramar Reservoir, San Vicente Reservoir, El Capitan Reservoir, Cuyamaca Reservoir, Sweetwater Reservoir, Loveland Reservoir, Otay Lakes, Barrett Lake and Morena Reservoir.

The San Diego County watersheds are approximately 2820 square miles and includes unincorporated portions of San Diego County, the Cities of Carlsbad, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, Poway, San Diego, San Marcos, Santee, Solana Beach, Vista, as well as the San Diego Unified Port District and the San Diego County Regional Airport Authority, portions of the Cleveland National Forests, and the several Indian Reservations. Approximately 2.8 million people reside within the permitted area. Approximately 442 thousand people reside in the unincorporated area while the rest reside within the cities.

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[102] Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.
[103] USEPA, 1998. Jan. 21, 1998 correspondence, "SWRCB/OCC File A-1041 for Orange County," from Alexis Strauss to Walt Petit, and March 17, 1998 correspondence from Alexis Strauss to Walt Petit.

Finding E.3: This Order is in conformance with SWRCB Resolution No. 68-16 and the federal Antidegradation Policy described in 40 CFR 131.12.

Discussion: Urban runoff management programs are required to be designed to reduce pollutants in urban runoff to the maximum extent practicable and achieve compliance with water quality standards. Therefore, implementation of urban runoff management programs, which satisfy the requirements of Order No. R9-2007-0001, will prevent violations of receiving water quality standards. The Basin Plan states that "Water quality objectives must […] conform to US EPA regulations covering antidegradation (40 CFR 131.12) and State Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California." As a result, when water quality standards are met through the implementation of urban runoff management programs, USEPA and SWRCB antidegradation policy requirements are also met.

Finding E.4: Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA addresses five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The adoption and implementation of this NPDES permit relieves the Permittee from developing a non-point source plan, for the urban category, under CZARA. The Regional Board addresses septic systems through the administration of other programs.

Discussion: Coastal states are required to develop programs to protect coastal waters from nonpoint source pollution, as mandated by the federal CZARA. CZARA Section 6217 identifies polluted runoff as a significant factor in coastal water degradation, and requires implementation of management measures and enforceable policies to restore and protect coastal waters. In lieu of developing a separate NPS program for the coastal zone, California's NPS Pollution Control Program was updated in 2000 to address the requirements of both the CWA section 319 and the CZARA section 6217 on a statewide basis. The California Coastal Commission (CCC), the SWRCB, and the nine Regional Water Quality Control Boards are the lead State agencies for upgrading the program, although 20 other State agencies also participate. Pursuant to the CZARA (6217(g) Guidance Document the development of urban runoff management programs pursuant to this NPDES permit fulfills the need for coastal cities to develop an urban runoff non-point source plan identified in the State's Non-point Source Program Strategy and Implementation Plan.[104]

Finding E.5: Section 303(d)(1)(A) of the CWA requires that "Each state shall identify those waters within its boundaries for which the effluent limitations…are not stringent enough to implement any water quality standard (WQS) applicable to such waters." The CWA also requires states to establish a priority ranking of impaired waterbodies known as Water Quality Limited Segments and to establish TMDLs for such waters. This priority list of impaired waterbodies is called the Section 303(d) List. The current Section 303(d) List was approved by the State Water Resources Control Board on February 4, 2003 and on July 25, 2003 by USEPA.

Discussion: Section 303(d) of the federal CWA (CWA, 33 USC 1250, et seq., at 1313(d)), requires States to identify waters that do not meet water quality standards after applying certain required technology-based effluent limits ("impaired" water bodies). States are required to compile this information in a list and submit the list to USEPA for review and approval. This list

[104] SWRCB/CCC, 2000. Nonpoint Source Program Strategy And Implementation Plan, 1998-2013 (PROSIP).

is known as the Section 303(d) list of impaired waters. As part of this listing process, States are required to prioritize waters/watersheds for future development of TMDL. The SWRCB and Regional Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs. The 2002 California 303(d) List identifies impaired receiving water bodies and their watersheds within the State of California. Urban runoff that is discharged from the Copermittee's MS4s is a leading cause of receiving water quality impairment in the San Diego Region.

Finding E.6: This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on August 14, 2002 for diazinon in Chollas Creek by establishing WQBELs for the Cities of San Diego, Lemon Grove, and La Mesa, the County of San Diego, and the San Diego Unified Port District; and by requiring: 1) legal authority, 2) implementation of a diazinon toxicity control plan and a diazinon public outreach/ education program, 3) achievement of the Compliance Schedule, and 4) a monitoring program. The establishment of WQBELs expressed as iterative BMPs to achieve the WLA compliance schedule is appropriate and is expected to be sufficient to achieve the WLA specified in the TMDL.

Discussion: On August 14, 2002, the Regional Board adopted the TMDL Implementation Plan[105] for diazinon in Chollas Creek by establishing WQBELs for the Cities of San Diego, Lemon Grove, and La Mesa, the County of San Diego, and the San Diego Unified Port District. The adopted Implementation Plan states:

> "The Regional Board will revise existing waste discharge requirements / NPDES permits to incorporate effluent limitations in conformance with the Waste Load Allocations for diazinon as specified above. Modifications to the MS4 Permit can occur when the permit is reopened or during scheduled permit reissuance. Compliance with numeric limitations for diazinon will be required in accordance with a phased schedule of compliance. The compliance schedule will be jointly developed by the Regional Board and the Chollas Creek stakeholders and will be finalized no later than one year following adoption of this TMDL by the Regional Board. The phased compliance schedule will apply only to attainment of numeric limitations for diazinon. All other requirements of this TMDL will be immediately effective upon incorporation into applicable NPDES permits."

On September 30, 2004, the compliance schedule was developed. The Order incorporates the compliance schedule. The TMDL Implementation Plan requires 1) Legal authority, 2) Implementation of a diazinon toxicity control plan and a diazinon public outreach / education program, 3) Achievement of the Compliance Schedule, and 4) Monitoring program. These requirements have been incorporated in the Order. The Implementation Plan states:

> "The municipal Copermittees in the Chollas Creek watershed shall implement the requirements of the MS4 Permit." And

> "The Regional Board will use its enforcement authority as necessary to ensure compliance with applicable waste discharge requirements and Basin Plan waste discharge prohibitions."

Finding E.7: This Order fulfills a component of the TMDL Implementation Plan adopted by this Regional Board on February 9, 2005 for dissolved copper in Shelter Island Yacht Basin (SIYB) by establishing WQBELs expressed as BMPs to achieve the WLA of 30 kg copper / year for the

[105] Regional Board, 2002. Basin Plan Amendment, Attachment A to Resolution No. R9-2002-0123, Chollas Creek Diazinon Total Maximum Daily Load. P. 6-8.

City of San Diego and the San Diego Unified Port District. The establishment of WQBELs expressed as BMPs is appropriate and is expected to be sufficient to achieve the WLA specified in the TMDL.

Discussion: On February 9, 2005, the Regional Board adopted the TMDL Implementation Plan[106] for dissolved copper in the SIYB by establishing WQBELs expressed as BMPs to achieve the WLAs for the San Diego Unified Port District and to a much lesser extent the City of San Diego. The TMDL Implementation Plan states:

> "The Regional Board will regulate discharges of copper to SIYB through the issuance of WDRs, Waivers of WDRs (waivers), or adoption of Waste Discharge prohibitions." And
>
> "The Regional Board will amend Order No. 2001-01, "Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm / Sewer Systems" to require that discharges of copper into SIYB waters via the City's municipal separate storm sewer system not exceed a 30 mg/kg wasteload for copper."

The Order is a WDR, therefore the discharge of copper to SIYB is regulated as required in the TMDL Implementation Plan. As stated in Finding A.2, the Order renews Order No. 2001-01, therefore the TMDL Implementation Plan requirements are included in this Order. The establishment of WQBELs expressed as BMPs is appropriate and is expected to be sufficient to achieve the WLAs specified in the TMDL.

Finding E.8: This Order establishes WQBELs and conditions consistent with the requirements and assumptions of the WLAs in the TMDLs as required by 40 CFR 122.44(d)(1)(vii)(B).

Discussion: The establishment of WQBELs expressed as iterative BMPs to achieve the WLA compliance schedule is appropriate and is expected to be sufficient to achieve the WLAs specified in the TMDL.

Finding E.9: Requirements in this Order that are more explicit than the federal storm water regulations in 40 CFR 122.26 are prescribed in accordance with the CWA section 402(p)(3)(iii) and are necessary to meet the MEP standard.

Discussion: The CWA explicitly preserves independent state authority to enact and implement its own standards and requirements, provided that such standards and requirements are at least as stringent as those that would be mandated by the CWA and the federal regulations. For example, as one general overriding principle, CWA section 510 states "nothing in this chapter shall (1) preclude or deny the right of any State or political subdivision thereof or interstate agency to adopt or enforce (A) any standard or limitation respecting discharges of pollutants, or (B) any requirement respecting control or abatement of pollution […]." When relating specifically to storm water, CWA section 402(p)(3)(B)(iii) clearly provides states with wide-ranging discretion, stating that municipal storm water permits "[s]hall 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"

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[106] Regional Board, 2005. Basin Plan Amendment, Attachment A to Resolution No. R9-2005-0019, Amendment to the Water Quality Control Plan for the San Diego Region to Incorporate a Total Maximum Daily Load for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay. P. 5.

Therefore, where the Order contains requirements more specific than those included in the federal NPDES regulations 40 CFR 122.26(d), it is seeking to meet the above CWA requirements, as well as other particular federal NPDES regulations such as 40 CFR 122.44(d)(1)(i). This federal NPDES regulation requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." Given the continued impact of urban runoff on receiving waters within the San Diego region, increased specificity in municipal storm water permits is necessary to meet the above CWA and federal regulation requirements.

In a 1992 decision, the U.S. Court of Appeals for the Ninth Circuit (NRDC v. USEPA, 966 F.2d 1292) interpreted the language in Clean Water Act section 402(p)(3)(B)(iii) as providing the State with substantial discretion and authority: "[t]he language in (iii), above, requires the Administrator or the State to design controls. Congress did not mandate a minimum standards approach or specify that USEPA develop minimal performance requirements […] we must defer to USEPA on matters such as this, where USEPA has supplied a reasoned explanation of its choices." The decision in essence holds that USEPA and the States are authorized to require implementation of storm water control programs that, upon "reasoned explanation," accomplish the goals of CWA section 402(p). The Ninth Circuit Court of Appeals further reinforced the State's authority in this area more recently in 1999. In Defenders of Wildlife v. Browner (1999) Case No. 98-71080, the Court cited the language of CWA section 402(p)(3)(B)(iii) and stated "[t]hat provision gives the USEPA discretion to determine what pollution controls are appropriate. As this court stated in NRDC v. USEPA, 'Congress gave the administrator discretion to determine what controls are necessary […].'"

Furthermore, the increased specificity included in the Order is in line with USEPA guidance included in its *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*[107] and its *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*.[108] Where the permit is more specific than the federal regulations, it is frequently based on the recommendations of the Guidance Manual. The Interim Permitting Approach also supports increased specificity in storm water permits, recommending that municipal storm water permits use BMPs in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate." It is important to note that the SWRCB cited USEPA's Interim Permitting Approach as support for its decision which upheld the increased specificity of numeric sizing criteria requirements for post-construction BMPs as appropriate requirements in municipal storm water permits.

Finding E.10: Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the

[107] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[108] USEPA, 1996. Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. 61 FR 43761.

U.S. Authorizing the construction of an urban runoff treatment facility within a water of the U.S., or using the water body itself as a treatment system or for conveyance to a treatment system, would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This is consistent with USEPA guidance to avoid locating structural controls in natural wetlands.

Discussion: Urban runoff treatment and/or mitigation in accordance with any of the requirements in the Order must occur prior to the discharge of storm water or urban runoff into receiving waters. Allowing polluted runoff to enter receiving waters prior to treatment to the MEP will result in degradation of the water body and potential exceedances of water quality standards, from the discharge point to the point of dissipation, infiltration, or treatment. Furthermore, the construction, operation, and maintenance of a pollution control facility in a water body can negatively impact the physical, chemical, and biological integrity, as well as the beneficial uses, of the water body. This requirement is supported by federal regulation 40 CFR 131.10(a) and USEPA guidance. According to USEPA,[109] "To the extent possible, municipalities should avoid locating structural controls in natural wetlands. Before considering siting of controls in a natural wetland, the municipality should demonstrate that it is not possible or practicable to construct them in sites that do not contain natural wetlands… Practices should be used that settle solids, regulate flow, and remove contaminants prior to discharging storm water into a wetland."

Finding E.11: Urban runoff is a significant contributor to the creation and persistence of Toxic Hot Spots in San Diego Bay. CWC section 13395 requires regional boards to reevaluate WDRs associated with toxic hot spots. The SWRCB adopted the Consolidated Toxic Hot Spot Cleanup Plan in June 1999. The Plan states: "The reevaluation [of WDRs associated with toxic hot spots] shall consist of (1) an assessment of the WDRs that may influence the creation or further pollution of the known toxic hot spot, (2) an assessment of which WDRs need to be modified to improve environmental conditions at the known toxic hot spot, and (3) a schedule for completion of any WDR modifications deemed appropriate."

Discussion: Toxic hot spots are those areas in enclosed bays, estuaries, or any adjacent waters in the "contiguous zone" or the "ocean", where pollution or contamination affects the interests of the state, and where hazardous substances have accumulated to levels which: 1) may pose a substantial present or potential hazard to aquatic life, wildlife, fisheries, or human health, or 2) may adversely affect the beneficial uses of the bay, estuary, or ocean waters, or 3) exceeds adopted water quality or sediment quality objectives. San Diego Bay contains several toxic hot spots. In a National Oceanic and Atmospheric Administration (NOAA) study which compared EMAP-type sediment toxicity data from various bays, San Diego Bay ranked second with 56 percent of the area of the Bay considered toxic. In addition to chemical and physical impacts, urban runoff often contains pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters. A study of urban runoff samples from Chollas Creek in San Diego County, revealed toxic concentrations of

[109] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

organophospate pesticides and metals.[110] In Los Angeles County, storm water samples were found to be toxic to various aquatic organisms in the Los Angeles River, the San Gabriel River, Ballona Creek, and the Santa Monica Bay.[111] Also, a water quality data assessment conducted in Aliso Creek in Orange County showed that storm events caused varying degrees of mortality to test organisms.[112] For these reasons, the Order includes directives to prevent urban runoff from contributing to the further degradation of toxic hot spots.

Finding E.12: The issuance of waste discharge requirements and an NPDES permit for the discharge of urban runoff from MS4s to waters of the U.S. is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

Discussion: CWC Section 13389 exempts the adoption of waste discharge requirements (such as NPDES permits) from CEQA requirements: "Neither the state board nor the regional boards shall be required to comply with the provisions of Chapter 3 (commencing with section 21100) of Division 13 of the Public Resources Code prior to the adoption of any waste discharge requirement, except requirements for new sources as defined in the Federal Water Pollution Control Act or acts amendatory thereof or supplementary thereto."

This CEQA exemption was challenged during BIA's (and others') appeal of Order No. 2001-01 (Order No. R9-2007-0001 serves as the reissuance of Order No. 2001-01). BIA contended that the CEQA exemption did not apply to permit requirements where the Regional Board utilized its discretion to craft permit requirements which were more prescriptive than required by federal law. The Court of Appeal, Fourth Appellate District disagreed with this argument, stating "we also reject Building Industry's argument to the extent it contends the statutory CEQA exemption in Water Code section 13389 is inapplicable to a particular NPDES permit provision that is discretionary, rather than mandatory, under the CWA."[113] On further appeal by BIA, the California State Supreme Court declined to hear the matter.

In a recent decision, the Court of Appeal of the State of California, Second Appellate District, upheld the CEQA exemption for municipal storm water NPDES permits (County of Los Angeles, et al. v. California State Water Resources Control Board, et al.).

F. Public Process

Finding F.1: The Regional Board has notified the Copermittees, all known interested parties, and the public of its intent to consider adoption of an Order prescribing waste discharge requirements that would serve to renew an NPDES permit for the existing discharge of urban runoff.

Discussion: Public notification of development of a draft permit is required under Federal regulation 40 CFR 124.10(a)(1)(ii). This regulation states "(a) Scope. (1) The Director shall give public notice that the following actions have occurred: (ii) A draft permit has been prepared

[110] Bay, et al., 2001. Characterization of Stormwater Toxicants from an Urban Watershed to Freshwater and Marine Organisms. Southern California Coastal Water Research Project. Annual Report 1999-2000.
[111] LARWQCB, 2001. The Role of Municipal Operators In Controlling the Discharge of Pollutants in Storm Water from Industrial/Commercial Facilities: A Case for Inspection Activities in the Large and Medium Municipal Separate Storm Sewer Permits.
[112] Regional Board, 2002. Fact Sheet/Technical Report for Regional Board Order No. R9-2002-0001.
[113] Building Industry Association et al., v. State Water Resources Control Board, et al. 2004.

under Sec. 124.6(d)." Public notifications "shall allow at least 30 days for public comment," as required under Federal regulation 40 CFR 124.10(b)(1).

Finding F.2: The Regional Board has, at public meetings on (date), held public hearings and heard and considered all comments pertaining to the terms and conditions of this Order.

Discussion: Public hearings are required under CWC Section 13378, which states "Waste discharge requirements and dredged or fill material permits shall be adopted only after notice and any necessary hearing." Federal regulation 40 CFR 124.12(a)(1) also requires public hearings for draft permits, stating "The Director shall hold a public hearing whenever he or she finds, on the basis or requests, a significant degree of public interest in a draft permit(s)." Regarding public notice of a public hearing, Federal regulation 40 CFR 124.10(b)(2) states that "Public notice of a public hearing shall be given at least 30 days before the hearing."

X. DIRECTIVES DISCUSSION

This section discusses significant changes which have been made to the requirements of the Order from the requirements which were previously included in Order No. 2001-01. For each section of the Order than has been changed there is a discussion which describes the change that was made and provides the rationale for the change. In addition, comments on the Copermittees' ROWD recommendations, as they pertain to each changed requirement of the Order, are provided.

Requirements of the Order that are not discussed in this section have not been significantly changed from those requirements previously included in Order No. 2001-01. For such requirements, discussions and rationale for the requirements can be found in section VII of the Fact Sheet/Technical Report for Regional Board Order No. 2001-01, dated November 6, 2001. Section VII also provides additional background information for those requirements that have undergone significant change which are described in detail in this report. The Fact Sheet/Technical Report is available for download at:

http://www.waterboards.ca.gov/sandiego/programs/sd_stormwater.html

Legal authority citations are provided for each major section of the Order. These citations apply to all applicable requirements within the section for which they are provided.

A. Prohibitions and Receiving Water Limitations

The following legal authority applies to section A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: The Regional Board Water Quality Control Plan for the San Diego Basin (Basin Plan) contains the following waste discharge prohibition: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited."

California Water Code section 13050(l) states "(1) 'Pollution' means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) 'Pollution' may include "contamination."

California Water Code section 13050(k) states "'Contamination' means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected."

California Water Code section 13050(m) states "'Nuisance' means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes."

California Water Code section 13241 requires each regional board to "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 […]."

California Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the Regional Board implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A - D) require municipalities to have legal authority to control various discharges to their MS4.

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]cheive water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Section A of the Order combines two previously distinct requirement sections – Prohibitions and RWLs. These sections have been combined into one section for organization purposes and to reduce redundancy, since both sections address the same issue. In addition, the prohibition specifically addressing post-development runoff has been removed from the Order since it reiterated other more broad prohibitions, making it redundant. These changes have no net effect on the implementation and enforcement of the Order.

B. Non-Storm Water Discharges

The following legal authority applies to section B:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators "to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittees shall prevent all types of illicit discharges into the MS4 except for certain non-storm water discharges.

Section B of the Order has been reworded to simplify and clarify the requirements for addressing non-storm water discharges that are not prohibited. This rewording has no net effect on the implementation and enforcement of the Order.

In their ROWD, the Copermittees recommend expanding the BMP exemption for emergency fire fighting flows so that it would apply to all emergency water flows. However, the Copermittees provide no information regarding what types of urban runoff are considered "emergency water flows." In addition, the level of pollutants in such flows is not discussed. Due to the lack of such information, the requirement regarding emergency fire fighting flows has not been changed.

C. Legal Authority

The following legal authority applies to section C:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that the Copermittees shall develop and implement legal authority to "Control through ordinance, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that the Copermittees shall develop and implement legal authority to "Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Illicit discharge is defined under Federal NPDES regulation 40 CFR 122.26(b)(2) as "any discharge to a municipal separate storm sewer system that is 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 resulting from fire fighting activities."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A - D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulation 40 CFR 122.26(d)(1)(ii) requires from the Copermittee "A description of existing legal authority to control discharges to the municipal separate storm sewer system."

Section C.1.j has been added to the Order to ensure that BMPs implemented by third parties are effective. Since the Copermittees cannot passively receive and discharge pollutants from third parties, the Copermittees must ensure discharges of pollutants to the MS4 are reduced to the MEP. In order to achieve this, the Copermittees must be able to ensure that effective BMPs are being implemented by requiring the third parties to document BMP effectiveness. Regarding the Copermittees' ability to require documentation and reporting from third parties, USEPA states "municipalities should provide documentation of their authority to enter, sample, inspect, review, and copy records, etc., as well as demonstrate their authority to require regular reports."[114]

Section C.2.d has been added to the Order to ensure that the Copermittees' enforcement tools are effective enough to ensure compliance with the Order. USEPA supports the need for the adequate Copermittee enforcement when it states that the Copermittees' general counsels "should state that the applicant has the legal authority to apply and enforce the requirements of 40 CFR 122.26(d)(2)(i)(A-F)."[115]

D. Jurisdictional Urban Runoff Management Program

D.1. Development Planning

The following legal authority applies to section D.1:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWA section 402(a), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F), 40 CFR 131.12, and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(2) provides that Copermittees develop and implement a proposed management program which is to include "A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed."

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]cheive water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

Sections D.1.a and D.1.b (General Plan and Environmental Review Process) require the Copermittees to update and revise their General Plan (or equivalent plan) and environmental review processes to ensure water quality and watershed protection principles are included. The Copermittees are required to detail any changes to the General Plan or environmental review process in their Jurisdictional Urban Runoff Management Program Annual Reports.

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[114] USEPA, 1992. Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.
[115] Ibid.

The change made to these sections, which requires updating the General Plan and Environmental Review Process on an as needed basis, is supported by information provided in the Copermittees' ROWD. The ROWD states that all Copermittees have either updated, are in the process of updating, or have assessed their General Plan to ensure the General Plans include the required principles and are in compliance with Order No. 2001-01. The ROWD also states that all the Copermittees have updated their environmental review processes.

Section D.1.c (Approval Process Criteria and Requirements) requires that all development projects (regardless of size) implement BMPs to reduce pollutant discharges to the MEP. Source control and site design BMP requirements were not clearly described in this section of Order No. 2001-01. Additional detail has been added to this section to better describe the source control and site design BMPs needed for implementation. This additional detail is consistent with the requirements of the Model SUSMP. However, only source control and site design BMPs that apply to all types of development projects are required (i.e., properly designed trash storage areas).

In addition, Order No. 2001-01's requirement that applicants must provide evidence of coverage under the General Industrial Permit has been removed. This requirement was difficult to implement since industrial tenants for a development project are usually not known during the planning stage.

Sections D.1.d and D.1.d.(1) (Standard Urban Storm Water Mitigation Plans) require the Copermittees to review and update their local SUSMPs for compliance with the Order. The sections also require all Priority Development Projects falling under certain categories to meet SUSMP requirements. The update is necessary to ensure that the Copermittees' local SUSMPs are consistent with the changes that have been made to the Order's SUSMP requirements. The requirement for the development/adoption of a Model SUSMP has been removed since a model was completed and adopted in 2002.

Section D.1.d.(2) (Priority Development Project Categories) has been changed to simplify and clarify the Priority Development Project categories. The two housing development categories were combined into one category that includes 10 or more housing units. In addition, requirements which specifically apply to restaurants have been combined in this section. The section has been modified to clarify that restaurants with less than 5,000 square feet of development are subject to SUSMP requirements, except for the treatment control BMP and hydromodification control requirements. This is consistent with Order No. 2001-01's approach for applying SUSMP requirements to restaurants.

Section D.1.d.(2)(i) includes Retail Gasoline Outlets (RGOs) as a Priority Development Project category because RGOs are points of confluence for motor vehicles for automotive related services such as repair, refueling, tire inflation, and radiator fill-up. RGOs consequently produce significantly greater pollutant loadings of hydrocarbons and trace metals (including copper and zinc) than other urban areas. To meet MEP, source control and structural treatment BMPs are needed at RGOs that meet the following criteria: (a) 5,000 square feet or more of developed area, or (b) a projected ADT of 100 or more vehicles per day. These are appropriate thresholds since development size and volume of traffic are good indicators of potential impacts of urban runoff from RGOs on receiving waters.

In SWRCB WQ Order No. 2000-11, the SWRCB removed RGOs as a SUSMP category because the SWRCB found that RGOs were already heavily regulated and limited on their ability to construct infiltration devices or perform treatment. Order No. 2000-11 also acknowledged that a

threshold (size, average daily traffic, etc.) appropriate to trigger SUSMP requirements should be developed, and that specific findings regarding RGOs should be included in MS4 permits to justify the requirement.[116] The SWRCB also removed the RGO category from the San Diego County MS4 permit (Order No. 2001-01) because the Regional Board did not specifically address the issues raised in WQ Order No. 2000-11.

As discussed further below, the LARWQCB and the Regional Board have adequately addressed these issues. RGOs have been included as a SUSMP category in the Los Angeles County MS4 permit (Order No. R4-01-182), the statewide general Phase II MS4 permit (WQ Order No. 2003-0005-DWQ), and the Regional Board Southern Riverside County MS4 permit (Order No. R9-2004-001). The SWRCB also addressed the inclusion of RGOs through the appeals of MS4 permits issued by the Los Angeles and San Francisco Bay Area Regional Boards. The SWRCB held a workshop addressing RGOs and identified RGOs as significant sources of pollutants. The SWRCB then dismissed the petitions for removal of RGOs from the SUSMP requirements in the Los Angeles and San Francisco Bay Area MS4 permits.

The following issues regarding RGOs have been addressed:

Heavily Regulated - The heavily regulated distinction does not remove RGOs as significant source of pollutants in urban runoff and therefore should not be a basis for exempting them from SUSMP requirements. Other regulation of RGOs is separate from regulation under the CWA and does not necessarily relate to water quality and urban runoff. Moreover, other municipalities already require that RGOs implement structural BMPs, even though RGOs are regulated under other programs.

Treatment Limitations - Inexpensive and effective structural treatment BMPs which reduce pollutants and control peak flow rates and velocities are available for use at RGOs. Studies have shown that some catch basin inserts can remove hydrocarbons and heavy metals, which are typical pollutants of concern at RGOs. Sand or media filters have also been found to be effective and available for use at RGOs. Cisterns are examples of established BMPs to control flow, but RGOs could also use site design measures such as small weirs, baffles, and redirecting roof runoff to pervious areas.

Safety - No evidence has been provided to indicate that use of these structural BMPs at RGOs will pose a safety risk. In fact, filter BMPs have been installed at RGOs in other municipalities without apparent adverse safety effects. In addition, similar BMPs such as oil/water separators have been used for years by RGOs without safety problems.

Threshold - Studies indicate that runoff from RGOs contains similar pollutants to runoff from commercial parking lots. In precedential WQ Order 2000-11, the SWRCB determined that parking lots with a size threshold of 5,000 square feet or more is an appropriate SUSMP category. Based in part on the similarity of pollutants, the 5,000 square feet size threshold was also included for RGOs in the Order. In addition, other municipalities currently use similar size thresholds for RGOs when requiring design standards to mitigate storm water runoff. To provide additional flexibility for the Copermittees, another threshold of 100 or more motor vehicles ADT has been added to the Order. This threshold is based on requirements used in Washington and Oregon for what are considered “high use” sites. This is an appropriate threshold since vehicular traffic is a good indicator of the amount of pollutants generated at a site.

[116] SWRCB, 2000. Order WQ 2000-11.

The Regional Board followed the SWRCB's direction regarding RGOs by including the above discussion in this Fact Sheet, as well as a specific finding that justifies the regulation of urban runoff from RGOs that meet certain criteria. Considering all of the supporting documentation discussed above, it is appropriate to include RGOs as a Priority Development Project category.

Additional detailed supporting information can be found in the 2001 technical report titled *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts* by the LARWQCB and the Regional Board.

Section D.1.d.(4) (Site Design BMP Requirements) requires the Copermittees to place site design requirements on new development within their jurisdictions. The site design BMP options listed in these sections are consistent with the site design BMPs currently required by the Copermittees in the Model SUSMP. However, the Model SUSMP employs an open-ended approach to requirements for site design BMPs, requiring implementation of site design BMPs "where determined applicable and feasible by the Copermittee." Unfortunately, this approach has proven to be ineffective in integrating site design BMPs in project designs. Audits of ten of the Copermittees' SUSMP programs exhibited that "many of the SUSMP plans reviewed for this program evaluation did not adequately address site design."[117] Moreover, the auditor identified site design as one of three principal areas where further program oversight was necessary.[118]

For these reasons, the Order directs the Copermittees to require new development projects to employ at least one site design BMP from each of the two lists of site design BMP options provided in this section of the Order. Two lists of site design BMP options are provided to represent different categories of site design BMPs available for implementation. The first list includes site design BMPs that are less frequently utilized, though they are effective and achievable. The second list includes site design BMPs which are commonly cited in project proponents' SUSMP reports as the site design BMPs that have been incorporated into Priority Development Projects. Implementation of one site design BMP from each list is required to improve site design implementation at Priority Development Projects, while providing a reasonable and achievable minimum measure for site design BMP implementation. Through its process of conditioning development projects under the CWA section 401 Water Quality Certification program, the Regional Board finds that this level of site design BMP implementation is feasible for all projects. This site design BMP requirement will help ensure that site design BMPs are implemented for new development projects. Site design BMPs are a critical component of urban runoff management at new development projects, since the BMPs provide multiple benefits including preservation of hydrologic conditions, reduction of pollutant discharges, cost effectiveness, and green space.

The Order continues to provide the Copermittees with flexibility in implementing site design BMP requirements by providing lists from which site design BMP approaches can be chosen. Moreover, flexibility is inherently included in the site design options listed - each option provides the opportunity for numerous implementation approaches that can be used to achieve compliance.

In its October 29, 2004 letter to the Copermittees, as well as in subsequent meetings, the Regional Board notified Copermittees of the need for improvement in site design BMP implementation at development projects. In addition, at its May 5, 2005 meeting with the Copermittees, the

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[117] Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 4.

[118] Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 3.

Regional Board suggested that the Copermittees propose specific methods in their ROWD that would improve site design BMP implementation. In response, the Copermittees recommended that the Order "include an option for Copermittees to develop a low-impact design credit program." However, such a requirement would be unenforceable, due to its vague nature. Moreover, if such a credit program were to take years to develop, lack of implementation of site design BMPs would continue unabated. To address this issue, the Order includes minimum requirements for site design BMP implementation, while also providing the Copermittees with their requested option to develop a site design credit program.[119] This provides assurance that site design BMPs will be implemented in a timely manner, while also providing the Copermittees with flexibility for site design credit program development.

The site design BMP options listed do not need to be costly. Some design options, such as concave vegetated surfaces or routing rooftop or walkway runoff to landscaped areas, are cost neutral.[120] Other site design BMPs, such as minimizing parking stall widths or use of efficient irrigation devices, are oftentimes already required. In addition, use of these site design BMPs reduces runoff quantity, allowing for treatment control BMPs on site to be smaller, therefore savings costs. Routing runoff through landscaped areas can also reduce the cost of irrigation.

Section D.1.d.(5) (Source Control BMP Requirements) requires that Priority Development Projects implement minimum source control BMPs. This section has been added to provide more detail and clarify the Order's requirements for source control BMPs. The minimum source control BMPs listed in the section are consistent with the Model SUSMP.

Section D.1.d.(6) (Treatment Control BMP Requirements) clarifies that treatment control BMPs are not required to be designed to treat runoff from preservation areas, or other areas not being disturbed at a priority development project. This is a clarification of the requirements of Order No. 2001-01.

Section D.1.d.(6)(c)(i) ensures that priority development project proponents utilize the most accurate information to determine the volume or flow of runoff which must be treated. Using detailed local rainfall data, the County of San Diego has developed the 85th Percentile Precipitation Isopluvial Map, which exhibits the size of the 85th percentile storm event throughout San Diego County. Since this map uses detailed local rainfall data, it is more accurate for calculating the 85th percentile storm event than other methods which were included in Order No. 2001-01. The other methods found in Order No. 2001-01 were included as options to be used in the event that detailed accurate rainfall data did not exist for various locations within San Diego County. The County of San Diego's development of the 85th Percentile Precipitation Isopluvial Map makes these other less accurate methods superfluous. Therefore, these other methods for calculating the 85th percentile storm event have been removed from the current Order.

Section D.1.d.(6)(d)(i) (Treatment Control BMPs) requires that treatment control BMPs selected for implementation at Priority Development Projects have a removal efficiency rating that is higher than the "low removal efficiency," as presented in the Model SUSMP. The requirement allows exceptions for those projects that, with a feasibility analysis, can justify the use of a treatment control BMP with a low removal efficiency for a Priority Development Project. This requirement is needed because to date, the Copermittees have generally approved low removal efficiency treatment control BMPs without justification or evidence that use of higher efficiency treatment BMPs was considered and found to be infeasible. Specifically, it has been found

[119] See section discussion for section D.1.d.(7) on the site design BMP credit program.
[120] BASMAA, 1999. Start at the Source. P. 149.

during audits of the Copermittees' SUSMP programs that many SUSMP reports do not adequately describe the selection of treatment control BMPs. Moreover, USEPA's contractor Tetra Tech, Inc. recommends that "project proponents should begin with the treatment control that is most effective at removing the pollutants of concern […] and provide justification if that treatment control BMP is not selected."[121]

In the ROWD, the Copermittees acknowledge the need for further attention to the selection and implementation of effective treatment BMPs. They propose to work with the Regional Board to come to a "common understanding" without a fixed permit requirement. However, due to this widespread deficiency regarding treatment control BMP selection in the Copermittees' SUSMP programs, the treatment control BMP feasibility requirement is needed in the Order. The requirement is needed to provide clarification that selection of low efficiency treatment control BMPs over high efficiency BMPs without justification does not meet permit requirements and is not in compliance with the MEP standard.

Section D.1.d.(7) (Site Design BMP Substitution Program) has provisions for the site design BMP credit program which largely mirror components of the program suggested by the Copermittees in their ROWD. In their ROWD, the Copermittees requested the option to develop a site design BMP credit program, under which projects that implement a high level of site design BMPs could receive credit towards compliance with treatment control BMP requirements. The program would provide the opportunity for development projects to avoid partial or full treatment control BMP implementation in exchange for implementation of a high level of site design BMPs. The Regional Board agrees that such a program could be beneficial. As the ROWD notes, the program could achieve equal or greater water quality benefits while also (1) providing greater assurance of adequate operation and maintenance; (2) improved review processes of site design BMP proposals; (3) increased acceptance of site design BMPs; and (4) greater usage of site design BMPs. For this reason, the Regional Board has added to the Order an option for the Copermittees to develop such a program.

In addition to the Copermittees' proposals, the provisions require (1) that runoff originating from pollutant generating exposed impervious areas must be routed through pervious areas prior to entering the MS4, and (2) that development project categories, such as automotive repair shops or streets, roads, highways, or freeways, which have a high potential to generate high levels of pollutants, not be covered under the program. Runoff from pollutant generating impervious areas must be routed through pervious areas in order to ensure that some level of treatment is provided for the protection of water quality. Without such a provision, the program could result in the direct discharge of significant levels of pollutants to the MS4 without treatment. In addition, development projects which frequently generate high levels of pollutants, such as automotive repair shops and streets, roads, highways, and freeways, should not be included in the program due to the need for treatment control BMPs at such development projects. When high levels of pollutants are present at a development project, site design BMPs alone are unlikely to adequately reduce pollutant discharges; treatment BMPs are also needed to polish urban runoff and serve as a last line of defense.

In precedent setting Order No. 2000-11, the State Board determined that implementation of treatment control BMPs is appropriate for development projects falling under the priority development project categories. Therefore, any program which allows development projects to forgo treatment control BMP implementation must include provisions which will achieve similar

[121] Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 5.

water quality benefits. To ensure that this is the case for the site design BMP credit program, minimum provisions for the program have been added to the Order. Due to the addition of the minimum provisions in the Order, the program will not need to undergo a lengthy Regional Board approval process at a later date.

Section D. 1.d.(8) (Treatment Control BMP Design Standards) addresses a need for the Copermittees to develop and apply consistent criteria for the design and maintenance of structural treatment BMPs. Correct BMP design is critical to ensure that BMPs are effective and perform as intended. Without design criteria, there is no assurance that this will occur, since there is no standard for design or review. This issue was noted during audits of the Copermittees' SUSMP programs, where it was found that "some SUSMP reports did not clearly describe how treatment control BMPs were designed."[122] Based upon these findings, it was recommended that the Copermittees "require developers to use standard forms to document the design of treatment control BMPs. As an example, Ventura County has developed a BMP manual that includes standard design procedure forms for BMPs. Ventura County's *Technical Guidance Manual for Storm Water Quality Control Measures* is available at http://www.vcstormwater.org/publications.htm."[123] California Stormwater Quality Association (CASQA) also confirms the necessity of design criteria when it includes such criteria in its New Development and Redevelopment BMP Handbook.[124]

Section D.1.d.(11) (Waiver Provision) allows Copermittees to waive treatment BMPs when all available BMPs have been considered and rejected as infeasible. The requirement also allows the Copermittees to develop a program to require projects that receive waivers, to transfer the cost savings to a fund. The intent of the requirements is to allow Copermittees the necessary flexibility to waive treatment BMPs when it can be established that the implementation of treatment BMPs that meet numeric sizing criteria is not feasible at a given site. This provision also allows Copermittees discretion to transfer the cost savings from such a waiver to a fund for water quality projects within the watershed.

Section D.1.e (Treatment Control BMP Maintenance Tracking) requires steps to be taken by the Copermittees to ensure that approved treatment control BMPs are correctly constructed and maintained, including development of a database. This is critical to ensure that the treatment control BMPs are effective in removing pollutants from urban runoff leaving new development and significant redevelopment projects. Treatment control BMP maintenance has been identified as a critical aspect of addressing urban runoff from new development and significant redevelopment by many prominent urban runoff authorities, including the CASQA which states that "long-term performance of BMPs hinges on ongoing and proper maintenance."[125] USEPA also stresses the importance of BMP maintenance, stating: "Lack of maintenance often limits the effectiveness of storm water structural controls such as detention/retention basins and infiltration devices."[126]

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[122] Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 5.
[123] Ibid.
[124] California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment.
[125] California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment. P. 6-1.
[126] USEPA, 1992. Guidance Manual for the Preparation of Part II of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems. EPA 833-B-92-002.

This permit section is needed due to findings that treatment control BMPs and treatment control BMP maintenance have predominantly not been tracked by the Copermittees. Following audits of SUSMP implementation of ten Copermittees, each of the Copermittees were recommended to develop a tracking system for treatment control BMPs and treatment control BMP maintenance. It has been found that "source and treatment control BMPs should be tracked in order to assess the number of BMPs installed, for reporting purposes, and to create an inventory for verifying maintenance in the future."[127] Moreover, during the SUSMP audits, two of the ten Copermittees audited were found to have inadequately maintained treatment BMPs within their jurisdiction.[128] Again, it was recommended that Copermittees "should periodically inspect selected SUSMP projects to verify if BMPs are being properly maintained."[129] USEPA also recommends "post-construction inspection and maintenance of BMPs" in the Phase II storm water regulations.[130]

At its May 5, 2005 meeting with the Copermittees, the Regional Board requested that the Copermittees propose a program for addressing treatment control BMP tracking and inspection in their ROWD. In response, the Copermittees' ROWD did not propose a program but instead recommended that the Order include "an option for the Copermittees to develop a Model Program for Permanent BMP Operation and Maintenance Verification."[131] This proposal lacks sufficient detail to be included in the Order, since it would result in an unenforceable permit requirement. As a result, the Order has been crafted to allow the Copermittees to develop their proposed program, but with minimum measurable outcomes to ensure that the program is adequate and effective.

These minimum measurable outcomes largely incorporate suggestions from the Copermittees' ROWD, though some contain more detailed requirements than what was proposed by the Copermittees. In particular, while the Copermittees are free to prioritize most projects with treatment control BMPs, those projects with drainage insert treatment control BMPs must be categorized as at least a medium priority. This will ensure that such projects will be inspected every other year. Tracking of these projects in this manner is necessary because of the frequent maintenance that drainage inserts require, as well as the sensitivity of drainage insert performance to adequate maintenance. Drainage inserts fill relatively rapidly, causing plugging and bypass, rendering them ineffective. For example, CASQA recommends "frequent maintenance, on the order of several times per year."[132]

Another significant measurable outcome requirement is that all projects with treatment control BMPs must be inspected for operation and maintenance at least once during the permit cycle. This is reasonable, since treatment control BMPs are typically recommended to be maintained semi-annually or annually. An activity which needs to be conducted semi-annually or annually should be spot-checked at least once every five years. Twenty percent of the projects within a jurisdiction with approved treatment BMPs are required to be inspected annually in order to ensure that treatment control BMP operation and maintenance oversight is consistent during the permit cycle.

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[127] Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 6.
[128] Ibid. P. 25, 38.
[129] Ibid.
[130] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845.
[131] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-16.
[132] California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment. P. M-52.

Section D.1.f (BMP Verification) helps ensure that BMPs constructed at new development sites are consistent with proposed and approved design plans. Correct construction of BMPs is necessary to ensure that the BMPs are effective and that pollutants discharged from new development projects are reduced to the maximum extent practicable and do not cause or contribute to violations of water quality standards. This permit section is needed because it has been found that BMPs frequently are not constructed in the field as they were proposed by applicants and/or approved by Copermittees. Four of the ten Copermittees audited during the SUSMP audits were found to have projects within their jurisdictions with incorrectly constructed BMPs. It was recommended that Copermittees ensure "that the SUSMP BMPs are properly installed in the field. This includes verifying factors such as the location, sizing, and type of BMPs installed."[133] Also recommended is that "Copermittees should ensure that the BMP design details in SUSMP reports are translated to the engineering plan sheets used in the field."[134] In addition, USEPA recommends such practices in the Phase II storm water regulations, promoting "inspections during construction to verify BMPs are built as designed."[135]

Section D.1.g (Hydromodification) addresses the changes in a watershed's runoff characteristics resulting from development, together with associated morphological changes to channels receiving the runoff. These changes are termed hydromodification. As the total area of impervious surfaces increases in previously undeveloped areas, infiltration of rainfall decreases, causing more water to run off the surface at a higher rate. Runoff from developed areas can produce erosive flows in channels under rainfall conditions where previously they did not exist. Moreover, runoff from developed areas increases the duration of time that channels are exposed to erosive flows. The increase in the volume of runoff and the length of time that erosive flows occur ultimately intensify sediment transport, causing changes in sediment transport characteristics and the hydraulic geometry (width, depth, slope) of channels.[136]

These types of changes have been documented in southern California. It has been reported that researchers studying flood frequencies in Riverside County have found that increases in watershed imperviousness of only 9-22% can result in increases in peak flow rates for the two-year storm event of up to 100%.[137] Such changes in runoff have significant impacts on channel morphology. It has recently been found that ephemeral/intermittent channels in southern California appear to be more sensitive to changes in imperviousness than channels in other areas. Morphology of small channels in southern California was found to change with only 2-3% watershed imperviousness, as opposed to 7-10% watershed imperviousness in other parts of the nation.[138]

Stream channels typically respond to increased runoff rates and durations by increasing their cross-sectional area to accommodate the higher flows. This is done through widening of the channel banks, down-cutting of the channel bed, or both. This channel instability results in streambank erosion and habitat degradation, which is a significant impact to beneficial uses. Channel instability causes impacts to beneficial uses through sedimentation, loss of overhead

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[133] Tetra Tech, Inc., 2005. Program Evaluation Report –San Diego Standard Urban Storm Water Mitigation Plan (SUSMP) Evaluation. P. 6.
[134] Ibid.
[135] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845.
[136] Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 1-1.
[137] Schueler and Holland, 2000. Storm Water Strategies for Arid and Semi-Arid Watersheds (Article 66). The Practice of Watershed Protection.
[138] Coleman, et. al., 2005. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. P. iv.

cover, and loss of instream habitat structures, such as the loss of pool and riffle sequences.[139] Numerous studies have exhibited the link between urbanization, poor habitat quality, and impaired beneficial uses such as reduced insect and fish diversity.[140] These findings are also supported by the Copermittees' bioassessment data, which typically exhibits Poor to Very Poor Index of Biotic Integrity ratings for San Diego County channels, even though toxicity is frequently not found to be persistent.[141]

This section of the Order expands the requirements for control of hydromodification caused by changes in runoff resulting from development and urbanization. Expansion of these requirements is needed due to the current lack of a clear standard for controlling hydromodification resulting from development. While the Model SUSMP developed by the Copermittees requires project proponents to control hydromodification, it provides no standard or performance criteria for how this is to be achieved. Without any kind of clear standard or criteria, what must be done to prevent hydromodification is not known by project proponents and plan reviewers. As a result, project proponents do not know what to propose (if anything) and Copermittee review staff do not know what to require. Ultimately, Priority Development Projects implement few measures which can be expected to adequately control hydromodification. In any event, it is clear that Priority Development Projects in San Diego County are not implementing the type of measures which have been identified and required in other parts of California as necessary to prevent hydromodification.

To address this situation, this section of the Order requires the development and implementation of a Hydromodification Management Plan and outlines a process for the development and implementation of a standard and criteria to limit hydromodification of downstream channels. The required process is based on processes currently being developed and/or used in the San Francisco Bay Area and Los Angeles and Ventura Counties.[142] It also corresponds with the planned second phase of the Southern California Stormwater Monitoring Coalition's Hydromodification Control Study, which is expected to develop a regional stream classification system, a numerical model to predict the hydrological changes resulting from development, and to identify effective mitigation strategies.

A detailed example of a process that can be used to develop a standard and criteria for control of hydromodification resulting from new development can be found in the Santa Clara Valley Urban Runoff Pollution Prevention Hydromodification Management Plan.[143] It involves developing ratios of work done on representative channel segments by runoff, where work done to a channel segment under pre-urban conditions is compared to work done under existing conditions. The calculated ratio is called the Erosion Potential (Ep) of the channel segment.[144] The Ep ratios for particular channel segments are then compared to field classified erosion conditions (such as stable/low or medium/high level of erosion). This comparison is used to identify an Ep ratio that has a low risk of resulting in an unstable channel or a channel with a medium/high level of

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[139] Schueler and Holland, 2000. The Importance of Imperviousness (Article 1). The Practice of Watershed Protection.
[140] Ibid.
[141] County of San Diego, 2005. San Diego County Municipal Copermittees 2003-2004 Urban Runoff Monitoring Final Report. By MEC Analytical Systems – Weston Solutions, Inc. Index of Biotic Integrity ratings give an absolute value to the benthic community quality based on the range of reference conditions in the region. The Index of Biotic Integrity ratings can be used to evaluate community conditions over time to monitor the effects of habitat degradation or the success of restoration efforts.
[142] See http://www.ccleanwater.org/construction/nd.php or http://www.scvurppp.org/ under "C.3 Submittals" for examples of a Hydromodification Management Plans.
[143] Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 3-1 – 3-20.
[144] Ep is discussed in detail in the definitions section of the Permit.

erosion. Generally, an Ep of approximately 1, where work done hydraulically on a channel matches a baseline condition, will have a low risk of causing stream instability.

Once an Ep ratio that will result in stable channels is determined, it is used as a standard upon which to base development of runoff flow rate and duration criteria. Stream channel erosion is caused by increases in runoff flow rates and durations for the small and moderate magnitude runoff flows above the threshold for sediment transport and channel bank erosion.[145] Runoff flow rate and duration criteria identify the range of storms for which flow rates and durations must be controlled to pre-project conditions in order to meet the Ep standard. This involves identifying the critical flow that produces the critical shear stress that initiates bed movement or that erodes the toe of channel banks, and then relating the critical flow to a percentage of the 2-year peak flow, which serves as the lower bound of the range of storm events which must be controlled. The upper bound of the range of storm events is based on the storm event where significant post-project increases in the total work done on the channel do not occur.

Due to the ongoing high level of development in San Diego County, this section of the Order also contains an interim hydromodification standard for large Priority Development Projects. Without an interim hydromodification standard, major Priority Development Projects will be developed without hydromodification controls, resulting in impacts to relatively stable streams with good habitat quality. Examples of areas that can be expected to be developed in the near future include the Otay Valley Hydrologic Area and the Bonsall Hydrologic Subarea.

Priority Development Projects over 50 acres in size are required to meet the interim criteria because large projects have a greater potential to impact streams through hydromodification. Larger projects create more impervious surface, increasing runoff flow rates and durations to a greater extent, resulting in greater potential for hydromodification of receiving channels. The 50 acre size limit was chosen based on high priority status placed on construction sites larger than 50 acres. Applying an interim criteria to projects over 50 acres in size is manageable for Copermittees because of the relative infrequency of development projects larger than 50 acres. Approximately 88% of the construction sites with coverage under the statewide General Construction Storm Water Permit are smaller than 50 acres in size. Moreover, since larger Priority Development Projects typically have greater resources, they have the capability to conduct the necessary analyses and implement measures to maintain the morphology of receiving channels. For example, such analysis (together with proposed implementation of flow rate and duration controls) has been conducted for the Rancho Mission Viejo project in southern Orange County.[146]

The Copermittees' ROWD essentially proposes a continuation of the current process for addressing hydromodification. As with the existing process, it is proposed that the project proponent will somehow demonstrate that the Priority Development Project will not impact downstream erosion or stream habitat. However, as discussed above, without a standard or specific criteria for how this will be done, neither the project proponent or a Copermittee's project review staff will know what needs to be implemented. Without specific standards or criteria, effective measures cannot be expected to be implemented to control hydromodification. For this reason, this section contains requirements that specific standards and criteria to control hydromodification be developed.

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[145] Santa Clara Valley Urban Runoff Pollution Prevention Program, 2005. Hydromodification Management Plan. P. 5-1.

[146] County of Orange, 2004. The Ranch Plan Draft Environmental Impact No. 589. Section 4.5.

Section D.1.h (Enforcement of Development Sites) ensures that the Copermittees will use enforcement to pursue corrections of noted violations at development sites. The section is being added to the Development Planning to complement the requirements for inspections of post-construction BMPs and BMP maintenance. Where ineffective BMP implementation or inadequate BMP maintenance is noted during inspections, Copermittees must take effective enforcement actions that ensure violations are corrected and pollutants are reduced to the maximum extent practicable. USEPA recommends the development of ordinances and the use of enforcement procedures to address post-construction storm water management issues in the Phase II storm water regulations.[147]

D. 2. Construction

The following legal authority applies to section D.2:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) provides that the proposed management program include "A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) provides that the proposed management program include "A description of procedures for site planning which incorporate consideration of potential water quality impacts."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) provides that the proposed management program include "A description of requirements for nonstructural and structural best management practices."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) provides that the proposed management program include "A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermitee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that "The following categories of facilities are considered to be engaging in 'industrial activity' for the purposes of this subsection: […] (x) Construction activity including cleaning, grading and excavation activities […]."

[147] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68845.

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Section D.2.a (Ordinance Update and Approval Process) requires each Copermittee to review and update its grading and storm water ordinances as necessary to comply with the MS4 permit. By updating the grading and storm water ordinances, the Copermittees will have the necessary legal authority to require construction sites to implement effective BMPs that will reduce pollutant discharges to the maximum extent practicable. The Order allows the Copermittees 365 days to review and update their ordinances. The 365 days should be more than adequate to allow for the relatively minor changes that might be needed since their ordinances were last updated under Order No. 2001-01.

This section now requires the Copermittees to review project proponents' storm water management plans for compliance with local regulations, policies, and procedures. USEPA recommends that it is often easier and more effective to incorporate storm water quality controls during the site plan review process or earlier.[148] In the Phase I storm water regulations, USEPA states that a primary control technique is good site planning.[149] USEPA goes on to say that the most efficient controls result when a comprehensive storm water management system is in place.[150] To determine if a construction site is in compliance with construction and grading ordinances and permits, USEPA states that the "MS4 operator should review the site plans submitted by the construction site operator before ground is broken."[151] Site plan review aids in compliance and enforcement efforts since it alerts the "MS4 operator early in the process to the planned use or non-use of proper BMPs and provides a way to track new construction activities."[152] During audits of San Diego Copermittee storm water programs, it was found on two separate occasions that site plan and SWPPP review were inadequate and inconsistent.[153]

Section D.2.b (Source Identification) requires the Copermittees to develop and update a watershed based inventory of all construction sites regardless of size or ownership. This section has been modified to require at least monthly updates of construction site inventories to ensure the Copermittees have a more accurate inventory of construction sites within their jurisdiction. A regularly updated inventory of active construction sites will assist the Copermittees in ensuring that all sites are inspected per Order requirements. In the ROWD, the Copermittees provide support for more regular updates by stating "Any inventory…is likely to change significantly within weeks or even days."[154] Reporting of the inventory to the Regional Board would remain on an annual basis in the Jurisdictional Urban Runoff Management Program Annual Report.

Section D.2.c (BMP Implementation) includes modifications to the requirements for each Copermittee to designate and ensure implementation of a set of minimum BMPs at construction sites. These modifications are based on Regional Board findings and experience during implementation of Order No. 2001-01. During audits of the Copermittees' storm water programs,

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[148] USEPA, 1992. Guidance 833-8-92-002. Section 6.3.2.1.
[149] Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48034.
[150] Ibid.
[151] USEPA, 2000. Guidance 833-R-00-002. Section 4.6.2.4, P. 4-30.
[152] Ibid., P. 4-31.
[153] Tetra Tech, Inc., 2002. Program Evaluation Report – San Diego Area Storm Water Programs – El Cajon. P. 15; and Tetra Tech, 2005. Program Evaluation Report – San Diego Area Storm Water Programs – Port of San Diego. P. 15.
[154] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-23.

BMP implementation at construction sites was found to be second only to education in the number of deficiencies and potential permit violations. Eleven cities had deficiencies or potential permit violations, with the most common being that BMPs were not adequately implemented at construction sites and that the Copermittees' standards were not up to date. Both private and public construction sites were found to have inadequately implemented BMPs.[155] In addition, the only civil liability assessed on a municipality for violations of an MS4 permit under the previous municipal permit, Order No. 2001-01, was based in part on a Copermittee's failure to adequately implement or require implementation of BMPs at a construction site.[156]

This section describes the types of BMPs that are required to be implemented at construction sites. Many of these BMPs are found in Order No. 2001-01.[157] Differences in the BMP requirements from Order No. 2001-01 include: Removal of site priority specific BMP designations; removal of seasonal restrictions on grading; more specificity on slope stabilization; more specificity on phased grading; and the addition of advanced treatment requirements. Since pollution prevention methods are considered a BMP, the pollution prevention requirements have been moved to the BMP implementation section.

Unlike Order No. 2001-01, this Order does not require the Copermittee to designate a set of minimum BMPs for high, medium, and low threat to water quality construction sites. This change was made in recognition of most Copermittees' application of one consistent set of BMPs throughout their jurisdictions.

The Order's requirements for seasonal restrictions on grading have been changed. Seasonal restrictions on grading for storm water are difficult to implement due to the conflict between seasonal grading restrictions and endangered bird's breeding seasons; therefore the seasonal grading restrictions have not been included with the other BMPs in the Order. Found in southern California, the Least Bell's Vireo and the Coastal California Gnatcatcher are listed as federally endangered and threatened, respectively.[158] Permits issued by the California Department of Fish and Game (CDFG) restrict grading during these birds' breeding seasons, which is from April 10 to August 31 for the Least Bell's Vireo[159] and from February 15 to August 31 for the Coastal California Gnatcatcher.[160] Ideally storm water restrictions on grading would be during the wet season from October 1 through April 30.[161] Combined these restrictions would limit construction grading to be during the month of September, which is infeasible. Section D.2.c of the Order still requires "project proponents to minimize grading during the wet season and coincide grading with seasonal dry weather periods to the extent feasible. If grading does occur during the wet season, require project proponent to implement additional BMPs for any rain events which may occur."

Sections D.2.c.(1)(e-f) of the Order require slope stabilization on all active and inactive slopes during rain events regardless of the season, except in areas implementing advanced treatment. Slope stabilization is also required on inactive slopes throughout the rainy season. These

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[155] Tetra Tech, Inc., various. Program Evaluation Reports San Diego Area Storm Water Programs.
[156] Regional Board, 2005. Order No. R9-2005-0237. Administrative Assessment of Civil Liability against JRMC Realty, Inc. and the City of Escondido. P. 3.
[157] Regional Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. P. 22.
[158] State of California, Department of Fish and Game, 2005. State and Federally Listed Endangered and Threatened Animals of California.
[159] United States Department of the Interior, Fish and Wildlife Service, 2001. Least Bell's Vireo Survey Guidelines.
[160] United States Department of the Interior, Fish and Wildlife Service, 1997. Coastal California Gnatcatcher (*Polioptila californica californica)* Presence/Absence Survey Guidelines.
[161] Regional Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. Directive F.2.g.(2).

requirements are needed because un-stabilized slopes at construction sites are significant sources of erosion and sediment discharges during rainstorms. "Steep slopes are the most highly erodible surface of a construction site, and require special attention."[162] USEPA exhibits the importance of slope stabilization when it states that "slope length and steepness are key influences on both the volume and velocity of surface runoff. Long slopes deliver more runoff to the base of slopes and steep slopes increase runoff velocity; both conditions enhance the potential for erosion to occur."[163] In lieu of vegetation preservation or replanting, soil stabilization is the most effective measure in preventing erosion on slopes. Research has shown that effective soil stabilization can reduce sediment discharge concentrations up to six times, as compared to soils without stabilization.[164] In their ROWD,[165] the Copermittees propose that standardized requirements for slope stabilization be developed after Permit adoption, due to the unique differences between the Copermittees' programs and the "need to develop consensus." However, slope stabilization at construction sites is already the consensus among the regulatory community and is found throughout construction BMP manuals and permits. For these reasons, slope stabilization requirements have been added to the Order, while providing sufficient flexibility for each Copermittee's unique storm water program.

Sections D.2.c.(1)(g-j) of the Order provide more specificity regarding phased grading requirements, prescribing that phased grading be implemented utilizing a maximum disturbed area, as determined by the Copermittees. This specificity has been added to the Order because of the importance of phased grading in controlling sediment from leaving construction sites. Phased grading minimizes the disturbed area and the time that the soil is exposed to erosive conditions.[166] USEPA provides guidance stating "construction should be planned to occur in phases in order to minimize the amount of disturbed land exposed at any one time, thus limiting the overall erosion potential of the site."[167] It is important to note that phased grading does not limit the overall development of a project. Moreover, phased grading should not be confused with seasonal restrictions on grading that were addressed above.

The Copermittees are required to designate a maximum disturbed area to be open at any one time. The Order prescribes that construction projects within the Copermittees' jurisdiction are not allowed to expose more soil than the maximum disturbed area, unless authorized to do so in writing by the Copermittee. Prior to the Copermittee's authorization to exceed the maximum disturbed area, the construction site must be in compliance with applicable storm water regulations and have adequate control practices implemented to prevent storm water pollution. The Copermittee's authorization gives the construction industry the flexibility needed to conduct business while continuing to protect water quality. This permit requirement is not unprecedented. The Caltrans construction standard specifications states that no more than 17 acres be exposed unless otherwise approved by their engineer in writing.[168] If needed, local Caltrans districts can

[162] Schueler, T. and Holland, H., 2000. "Muddy Water In – Muddy Water Out?" The Practice of Watershed Protection. P. 6.
[163] USEPA, 1990. "Sediment and Erosion Control: An Inventory of Current Practices." P. II-1.
[164] Schueler, T. and Holland, H., 2000. "Muddy Water In – Muddy Water Out?" The Practice of Watershed Protection. P. 5.
[165] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-27.
[166] Schueler, T. and Holland, H., 2000. "Muddy Water In – Muddy Water Out?" The Practice of Watershed Protection. P. 5.
[167] USEPA, 1990. "Sediment and Erosion Control: An Inventory of Current Practices." P. III-1.
[168] State of California, Department of Transportation, 2002. "Standard Specifications for Construction of Local Streets and Roads." Section 7-1.01G; P. 52.

decrease the maximum disturbed soil area to 5 acres during the rainy season.[169] In the Order, the Copermittee determines the maximum disturbed acreage size.

In the ROWD,[170] the Copermittees report that because their programs are unique, more time is needed on phased grading to develop consensus and to further dialogue. They speculate that the phased grading requirements will need consultation with the construction community, California Department of Fish and Game, United States Fish and Wildlife Service, and the Army Corps of Engineers. The Copermittees propose that they develop phased grading requirements after adoption of the Order. However, phased grading was a requirement in Order No. 2001-01.[171] In the five years since the adoption of Order No. 2001-01, the Copermittees did not develop a consensus on phased grading requirements. Even though previously required, the Regional Board inspectors have never observed phased grading implemented within the jurisdictions of the Copermittees. The lack of Copermittee action on phased grading during the past Permit cycles has necessitated the adoption of more specific enforceable requirements on phased grading. Caltrans and its private contractors from the construction community have implemented phased grading on construction projects since 2000 with no issues raised by the construction community or resource agencies. The ability of the Copermittee to increase the size of the maximum disturbed area for a given site will enable the construction site to feasibly grade while maintaining compliance with other environmental permits.

Section D.2.c.(1)(k) of the Order requires the implementation of advanced treatment for sediment at construction sites that the Copermittees or the Regional Board determines to be a significant threat to water quality. In evaluating the threat to water quality, the following factors shall be considered: (1) soil erosion potential; (2) the site's slopes; (3) project size and type; (4) sensitivity of receiving water bodies; (5) proximity to receiving water bodies; (6) non-storm water discharges; and (7) any other relevant factors. Advanced treatment is defined in the Order as "using mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge." Advanced treatment consists of a three part treatment train of coagulation, sedimentation, and polishing filtration.

Advanced treatment has been effectively implemented extensively in the other states and in the Central Valley Region of California.[172] In addition, the Regional Board's inspectors have observed advanced treatment being effectively implemented at large sites greater than 100 acres and at small, 5 acre, infill sites. Advanced treatment is often necessary for Copermittees to ensure that discharges from construction sites are not causing or contributing to a violation of water quality standards. For example, the Basin Plan lists the water quality objective for turbidity as 20 NTU for all hydrologic areas and subareas except for the Coronado HA (10.10) and the Tijuana Valley (11.10). For certain construction sites with large slopes and exposed areas, the only technology that is likely to meet 20 NTU is advanced treatment combined with erosion and sediment controls. To ensure the MEP standard and water quality standards are met, the requirement for implementation of advanced treatment at high threat construction sites has been added to the Order, while still providing sufficient flexibility for each Copermittee's unique program.

Sections D.2.c.(1)(l-m) of the Order require the revegetation of a construction site as early as feasible. The Order includes revegetation requirements in the BMP implementation section,

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[169] Caltrans Storm Water Quality Handbooks, 2000. "Construction Site Best Management Practices Manual." Section 2.2.4.1.
[170] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-27.
[171] Regional Board, 2001. Order No. 2001-01, San Diego County MS4 Permit. Directive F.2.b.(4); P. 22.
[172] SWRCB, 2004. Conference on Advanced Treatment at Construction Sites.

while Order No. 2001-01 required revegetation as part of the grading ordinance update. Implementation of revegetation reduces the threat of polluted storm water discharges from construction sites. For example, it has been found that construction sites should permanently stabilize disturbed soils with vegetation at the conclusion of each phase of construction.[173] A survey of grading and clearing programs found one-third of the programs without a time limit for permanent revegetation, "thereby increasing the chances for soil erosion to occur."[174] USEPA states "the establishment and maintenance of vegetation are the most important factors to minimizing erosion during development."[175] With the construction site being responsible for revegetation, the Copermittee will be more likely to enforce revegetation requirements during oversight of construction site requirements.

Section D.2.c.(2) of the Order requires that dry season BMP implementation must include planning for and addressing rain events that may occur during the dry season. This requirements was added to the Order to emphasize that, although rare, thunderstorms do occur in inland areas of the San Diego Region during the dry season.

Section D.2.d (Inspection of Construction Sites) prescribes a minimum inspection frequency for construction sites. Where Order No. 2001-01 required weekly inspections of high priority sites and monthly inspections of medium and low priority sites during the wet season, this Order prescribes biweekly inspections during the wet season of high priority sites, monthly inspections for medium priority sites, and as needed inspections for low priority sites. High priority sites are identified as all sites greater than 50 acres, or greater than 1 acre and tributary to a CWA Section 303(d) water body impaired for sediment or discharging directly to a ESA. Medium priority sites are all sites causing soil disturbance of one acre or more that are not a high priority. The proposed changes to the Order allow the Copermittees to concentrate more effort on sites that are less than 50 acres, but still have significant disturbed areas. The reduction in inspection frequency for sites greater than 50 acres is justified because the sites have generally improved their erosion and sediment control measures since adoption of Order No. 2001-01. Biweekly inspections of these sites in the future should be sufficient to ensure compliance at these sites.

The Order omits Order No. 2001-01's provision allowing a Copermittee to decrease the inspection frequency for high priority sites if the Copermittee certifies in writing to the Regional Board that they have recorded the site's Waste Discharge Identification Number, reviewed the site's Storm Water Pollution Prevention Plan (SWPPP), assured the site's SWPPP is in compliance, and assured the SWPPP is properly implemented at the site. Under Order No. 2001-01, the Regional Board never received from any of the Copermittees a certification to decrease the inspection frequency at high priority sites. Since the certification process was never used, the language has been deleted from the Order.

In their ROWD,[176] the Copermittees recommend that the use of weather triggered action plans be used in place of minimum inspection frequencies at construction sites during the month of October. The Copermittees' proposal is not to be confused with using weather triggered action plans to implement BMPs; rather the plan would be used during October by Copermittees to conduct inspections. The Order does not include this measure because historical rainfall data shows that San Diego received significant rainfall during October in 2005, 2004, and 2000.[177]

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[173] Schueler, T. and Holland, H., 2000. "Muddy Water In – Muddy Water Out?" The Practice of Watershed Protection. P. 5.
[174] Ibid.; P.11.
[175] USEPA, 1990. "Sediment and Erosion Control: An Inventory of Current Practices", P. II-1
[176] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-27.
[177] National Weather Service, Surface Observations at Lindbergh field; www.wrh.noaa.gov/sgx/obs/rtp/linber.html

Moreover, based upon Regional Board inspections, construction sites rarely have been found to have fully implemented their SWPPP by October 1 in anticipation of the rainy season. During those years that rainfall does not occur during October, Copermittees' biweekly inspections during October can ensure that construction sites are implementing and preparing for the eventual rains. Like dry weather inspections, these inspections can also identify sources of non-storm water pollution and discharges.

This section also requires the Copermittees to track the number of inspections for each inventoried construction site. This requirement has been added to ensure that the Copermittees can demonstrate that construction sites are inspected at the minimum frequencies.

Section D.2.e (Enforcement of Construction Sites) requires each Copermittee to develop and implement an escalating enforcement process that achieves prompt and effective corrective actions at all construction sites for violations of the Copermittee's requirements and ordinances. Each Copermittee develops their own unique enforcement procedure tailored for their specific jurisdiction. This requirement is similar to Order No. 2001-01, except that enforcement procedures are required to be escalating and enforcement sanctions are required to be implemented in a prompt and effective manner.

Under Order No. 2001-01, inspections conducted by the Regional Board noted deficiencies in the Copermittees' enforcement procedures and implementation. The most common issues found were that enforcement was not firm and appropriate to correct the violation, and that repeat violations did not result in escalated enforcement procedures. Moreover, in the municipal audit reports, deficiencies and potential permit violations were found in Copermittee's enforcement programs.[178] USEPA supports enforcement of ordinances and permits at construction sites stating "Effective inspection and enforcement requires […] penalties to deter infractions and intervention by the municipal authority to correct violations."[179] In addition, USEPA expects permits issued to municipalities to address "weak inspection and enforcement."[180] For these reasons, the enforcement requirements in this section have been modified, while providing sufficient flexibility for each Copermittee's unique storm water program.

In their ROWD, the Copermittees strongly oppose "the revision of Permit requirements for the purpose of standardizing processes that are necessarily unique to individual jurisdictions."[181] However, the Order does not require that Copermittees standardize enforcement procedures to be the same among all the Copermittees, but requires that each Copermittee will consistently implement their unique enforcement procedures at construction sites within their jurisdiction.

The Order requires that inspectors have the authority to conduct immediate enforcement actions when appropriate. Inspectors conducting immediate enforcement will quickly implement corrections to violations, thereby minimizing and preventing threats to water quality. When inspectors are unable to conduct immediate enforcement actions, the threat to water quality continues until an enforcement incentive is issued to correct the violation. In the municipal audits, storm water inspectors for several municipalities were found to lack the necessary

[178] Tetra Tech, Inc., 2002-05, Program Evaluation Reports – San Diego Area Storm Water Programs – July 23, 2002, Chula Vista P. 11, El Cajon P. 15; April 8, 2003, Oceanside P. 16; December 17, 2003, San Marcos P.20, Vista P.26; June 11, 2004, Poway P. 12, Santee, P. 15; January 31, 2005, Del Mar P.9, Solana Beach, P.12.
[179] USEPA, 1992. Guidance 833-8-92-002. Section 6.3.2.3.
[180] Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48058
[181] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-28.

enforcement authority.[182] In its Phase II Compliance Assistance Guidance, USEPA says that "Inspections give the MS4 operator an opportunity to provide additional guidance and education, issue warnings, or assess penalties."[183] In order to issue warnings and assess penalties during inspections, inspectors need to have the legal authority to conduct enforcement.

D.3. Existing Development

D.3.a Municipal

The following legal authority applies to section D.3.a:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) provides that the proposed management program include "A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) provides that the proposed management program include "A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) provides that the proposed management program include "A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) provides that the proposed management program include "A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a

[182] Tetra Tech, Inc., 2003-05. Program Evaluation Reports – San Diego Area Storm Water Programs –April 8, 2003, Oceanside P. 16; June 11, 2004, Poway P. 12, Santee, P. 15; January 31, 2005, Solana Beach, P.12.
[183] USEPA, 2000. 833-R-00-002, Storm Water Phase II Compliance Assistance Guide, P.4-31

level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Section D.3.a.(2) (BMP Implementation) requires the Copermittees to designate minimum BMPs for all municipal areas and activities, regardless of their threat to water quality. The requirement that different types of BMPs be designated for different threat to water quality categories of municipal areas and activities has been removed from the Order to help simplify and clarify the Order's requirements. BMPs required to be implemented at a site can now be based on the sources or activities present at the site. This more closely matches the approach taken by the Copermittees in their JURMPs. Threat to water quality is used to determine inspection frequencies in section D.3.a.(7).

Section D.3.a.(3) (Operation and Maintenance of MS4 and Structural Controls) requires the Copermittees to inspect and remove waste from their MS4s prior to the rainy season. Additional wording has been added to clarify the intent of the requirements. The Copermittees will be required to inspect all storm drain inlets and catch basins. This change will assist the Copermittees in determining which basins/inlets need to be cleaned and at what priority. Removal of trash has been identified by the Copermittees as a priority issue in their long-term effectiveness assessment. To address this issue, wording has been added to require the Copermittees, at a minimum, inspect and remove trash from all their open channels at least once a year.

Section D.3.a.(5) (Sweeping of Municipal Areas) requires the Copermittees to implement a program to sweep all municipal roads, streets, highways, and parking facilities. This section has been added to ensure that the Copermittees are implementing this effective BMP at all appropriate areas. The reporting requirements of the Order have also be modified to ensure that the Copermittees consistently report their sweeping and pollutant removal activities.

Section D.3.a.(6) (Limit Infiltration From Sanitary Sewer to MS4/Provide Preventive Maintenance of Both) requires the Copermittees to implement controls and measures to limit infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4. In their ROWD, the Copermittees requested this section be removed form the Illicit Discharge Detection and Elimination Component and added to the Municipal Component since it is a municipal activity. We agree and have moved the section to the municipal component of the Order.

Section D.3.a.(7) (Inspection of Municipal Areas and Activities) establishes a minimum set of municipal areas and activities for oversight and inspection by the Copermittees. In their ROWD, the Copermittees stated that some high priority areas on the list are not present in San Diego County. In response to this comment, incinerators, uncontrolled sanitary landfills, sites for disposing and treating sewage sludge, and hazardous waste treatment, disposal, and recovery facilities have been removed as high priority municipal areas. Household hazardous waste collection facilities and parks/recreation facilities have been identified by the Copermittees as municipal areas in their JURMPs and therefore have been added to the high priority list.

D.3.b. Industrial and Commercial

The following legal authority applies to section D.3.b:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) provides that the proposed management program include "A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that the Copermittee must "identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(2) provides that the proposed management program shall "Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5 , TSS, total phosphorus, total Kjeldhal nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under 40 CFR 122.21(g)(7)(iii) and (iv)."

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that the Copermittee "Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Copermittee must demonstrate that it can control "through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."

Section D.3.b requires the Copermittees to implement an industrial and commercial program to reduce pollutants in runoff from all industrial and commercial sites/sources. The industrial and commercial sections of Order No. 2001-01 have been combined into one section in this Order. This change will streamline and simplify the Order, without negatively impacting water quality. This change is not unprecedented because industrial and commercial facilities are commonly

addressed together. For example, the Southern Riverside County MS4 Permit[184] combined industrial and commercial programs into one section. In addition, in their ROWD,[185] the Copermittees jointly addressed industrial and commercial components. USEPA contractor Tetra Tech also evaluated and reported on the industrial and commercial programs jointly during their program evaluations.[186]

Section D.3.b.(1)(a) (Commercial Sites/Sources) requires that building material retailers and storage, animal facilities, and power washing services be included in the Copermittee's inventory of commercial sites/sources. In their ROWD, the Copermittees state "Two sources that were not identified in the Permit [Order No. 2001-01] as high priorities (animal facilities and pressure washers) were determined to justify close attention due their significant number and their potential to discharge pollutants." The Regional Board agrees with the Copermittees statement in the ROWD; therefore, animal facilities and pressure washers are included in the source identification section. Building material retailers and storage facilities are included because they are potential sources of pollutants to urban runoff. These facilities typically store and vend building materials in the outdoors exposed to storm water without implementing BMPs.

The Order has revised requirements for identifying industrial sites/sources. The revised requirements are identical to those found in the Southern Riverside County MS4 permit.[187] USEPA requires the same identification: "Measures to reduce pollutants in storm water discharges to municipal separate storm sewers from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)."[188] USEPA "also requires the municipal storm sewer permittee to describe a program to address industrial dischargers that are covered under the municipal storm sewer permit."[189] In order to more closely follow USEPA's guidance, this Order also includes operating and closed landfills, and hazardous waste treatment, disposal, storage and recovery facilities.

The Order continues to require the Copermittees to identify industrial sites and sources subject to the General Industrial Permit or other individual NPDES permit. This requirement is despite the Copermittees' recommendation, "The Permit should be amended to eliminate the requirement to include sites with coverage under the General Industrial Permit, or other permits with storm water requirements, on the list of minimum high priority industrial facilities."[190] USEPA supports the municipalities regulating industrial sites and sources that are already covered by a NPDES permit:

> "Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system. It is anticipated that general or individual permits covering industrial storm water discharges to these municipal

[184] Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2; P. 24.
[185] San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.1, P. D-37.
[186] Tetra Tech, Inc., 2002-05. Program Evaluation Reports – San Diego Area Storm Water Programs; July 23, 2002; December 13, 2002; December 26, 2002; April 8, 2003; December 17, 2003; June 11, 2004; January 31, 2005.
[187] Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.b)(2); P. 25.
[188] Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48056.
[189] Ibid.
[190] San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.6, P. D-43

> separate storm sewer systems will require industries to comply with the terms of the permit issued to the municipality, as well as other terms specific to the permittee." [191]

And:

> "Although today's rule will require industrial discharges through municipal storm sewers to be covered by separate permit, USEPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program."[192]

The Order's requirement to inventory those sites subject to the General Industrial Permit is identical to the requirements found in the Southern Riverside County MS4 Permit, Order No. R9-2004-001.[193] USEPA supports the list of industrial facilities in the Order when it states the following:

> "The issue of industrial inspections also arose for the Los Angeles County MS4 permit. The State Board, in a memo dated November 9, 2001, from Michael Lauffer of the State board to Dennis Dickerson, Executive Officer of the Los Angeles Regional Board, noted that under Section 402 (p)(3)(B)(iii) of the CWA, the Board has broad authority to require 'such other provisions…as the State determines appropriate…' and that this would provide a basis for requirements that go beyond specific provisions of the EPA regulations. We would agree with the State Board on this matter, and that the Regional Board would have the authority to require inspections of all the industrial facilities listed in the permit [Order], notwithstanding the specific provisions of the EPA regulations."[194]

Section D.3.b.(2) (BMP Implementation) adds a pollution prevention requirement, since pollution prevention methods are considered a BMP. Moving this requirement will streamline the Order, without causing a detrimental effect on water quality.

Section D.3.b.(3) (Inspection of Industrial and Commercial Sites/Sources) includes requirements for inspections of industrial and commercial sites/sources. The Order is similar to the Southern Riverside County MS4 permit[195] in requiring that inspections check for coverage under the General Industrial Permit; assessment of compliance with Copermittee ordinances and permits related to urban runoff; assessment of BMP implementation, maintenance, and effectiveness; visual observations for non-storm water discharges, potential illicit connections, and potential discharge of pollutants in storm water runoff; and education and outreach on storm water pollution prevention. The Order also requires that inspections include review of BMP implementation plans if the site uses or is required to use such a plan, and the review of facility monitoring data if the site monitors its runoff. These changes are necessitated by the results of

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[191] Federal Register / Vol. 55, No. 222 / Friday, November 16, 1990 / Rules and Regulations. P. 48006.
[192] Ibid. P. 48000
[193] Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.b)(2); P. 25.
[194] Letter dated March 5, 2004 from Doug Eberhardt, EPA Manager to John Robertus, Executive Officer of Regional Board containing comments on Order No. R9-2004-001.
[195] Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.d)(3); P. 26.

storm water program evaluations.[196] It was observed that 12 Copermittees had deficiencies or potential permit violations in their industrial and commercial component. The inspection section received twice as many comments than any other requirement in the industrial/commercial program evaluation reports section. These changes in the Order mimic USEPA's guidance: "Site inspections should include (1) an evaluation of the pollution prevention plan and any other pertinent documents, and (2) an onsite visual inspection of the facility to evaluate the potential for discharges of contaminated storm water from the site and to assess the effectiveness of the pollution prevention plan." [197] In 1999, USEPA "recognized visual inspection as a baseline BMP for over 10 years," and "visual inspections are an effective way to identify a variety of problems. Correcting these problems can improve the water quality of the receiving water." [198]

Section D.3.b.(3)(c) of the Order requires that at a minimum, 40% of the sites inventoried shall be inspected each year, including all sites determined to pose a high threat to water quality. This requirement maintains inspection frequencies and rates while allowing more flexibility for the Copermittees to decide where to conduct inspections. In the ROWD,[199] the Copermittees reported 18,017 industrial and commercial sources. In fiscal year 2002-2003, the Copermittees conducted 10,133 inspections, giving an inspection rate of 56%. In fiscal year 2003-2004, the Copermittees conducted 8,546 inspections giving an inspection rate of 47%. USEPA guidance[200] says, "management programs should address minimum frequency for routine inspections." The USEPA Fact Sheet – Visual Inspection[201] says, "To be effective, inspections must be carried out routinely. This requires a corporate commitment to implementing them."

In their ROWD,[202] the Copermittees recommend, "The Permit should allow revision of mandated inspection requirements in accordance with demonstrated needs." The Copermittees "strongly discourage Permit requirements that seek to establish minimum levels of inspection activity." The Order includes the minimum level of inspection activity because without minimum levels, the Regional Board has no assurance that inspections of commercial and industrial sites will be conducted. Without inspections, the Copermittees would be unable to adequately verify that industrial and commercial sites are in compliance with their local storm water ordinances and regulations. Even though minimum inspection levels have been included, the Order allows enough flexibility to maximize the effectiveness of inspections by concentrating resources on industrial and commercial sites that are higher threats to water quality without neglecting other industrial and commercial sites. Further flexibility is provided in prioritizing inspections, as discussed next.

The Order no longer includes a section titled "Threat to Water Quality Prioritization." Rather, threat to water quality prioritization is incorporated within the inspection section. The Order requires several criteria to determine if a site is a high threat to water quality that needs an annual inspection. This change is identical to the requirements in the Southern Riverside County MS4 permit,[203] except for the addition of a few criteria recommended in the Copermittees' ROWD.[204] The Copermittees recommended criteria that are included in the Order are No Exposure

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[196] Tetra Tech, Inc., 2002-05. Program Evaluation Reports – San Diego Area Storm Water Programs; July 23, 2002; December 13, 2002; December 26, 2002; April 8, 2003; December 17, 2003; June 11, 2004; January 31, 2005.
[197] USEPA, 1992. Guidance 833-8-92-002, section 6.3.3.4 "Inspection and Monitoring".
[198] USEPA, 1999. 832-F-99-046, "Storm Water Management Fact Sheet – Visual Inspection".
[199] San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.
[200] USEPA, 1992. Guidance 833-8-92-002, section 6.3.3.4 "Inspection and Monitoring".
[201] USEPA, 1999. 832-F-99-046,, "Storm Water Management Fact Sheet – Visual Inspection".
[202] San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.3.
[203] Regional Board, 2004. Order No. R9-2004-001; Riverside County MS4 Permit. Section H.2.d)(1); P. 26.
[204] San Diego County Copermittees, 2005. Report of Waste Discharge. Section D.5.1.

Certification / Notice of Non-Applicability, Compliance History, and Facility Design. "Existing Regulatory Oversight" is already included as a criterion in the Order as "Whether the site is subject to the Statewide Industrial Permit." Self-certification status and Green Business Certification are not included in the Order because these certifications do not ensure that storm water is addressed. In the ROWD,[205] the Copermittees recommend, "The Permit should allow re-prioritization of currently mandated minimum high priority industrial and commercial sources." The Order has been modified to increase flexibility and allow the Copermittees to reprioritize sites as more information is learned about the sites' potential threat to water quality.

In their ROWD[206], the Copermittees recommend, "The Permit should allow and encourage alternatives to current inspection requirements." They suggest utilizing non-inspection methods including self-certification, certified submission of monitoring results demonstrating that benchmarks have been met, third-party inspections, facility- or industry-specific surveys, and/or phone interviews. The proposed alternatives do not provide the same level of compliance oversight as inspections provide; therefore the Order includes such a section not as an alternative to inspections but in addition to inspections. The Order allows the use of these alternatives if they are determined to be necessary by the Copermittee.

Section D.3.b.(4) (Regulation of Mobile Businesses) is a new section. Mobile businesses are service industries that travel to the customer to perform the service rather than the customer traveling to the business to receive the service. Examples of mobile businesses are power washing, mobile vehicle washers, carpet cleaners, port-a-potty servicing, pool and fountain cleaning, mobile pet groomers, and landscapers. These mobile services produce waste streams that could potentially impact water quality if appropriate BMPs are not implemented. Mobile businesses present a unique difficulty in storm water regulation. Due to the transient nature of the business, the regular, effective practice of unannounced inspections is difficult to implement. Also, tracking these mobile businesses is difficult because they are often not permitted or licensed and their services cross Copermittee jurisdictions. The Order takes into account the difficulties in regulating mobile businesses. Only those mobile businesses that are known to operate within their jurisdiction are required to be inventoried and notified. The inventory shall be updated as additional mobile businesses are identified.

The Order requires that mobile businesses shall be inspected as needed. Inspections can be accomplished in response to complaints. Inspections can be scheduled through contacting the business. Impromptu inspections can be conducted if a Copermittee's inspector observes a mobile business operating in the course of the inspector's normal travels throughout their jurisdiction. In their ROWD,[207] the Copermittees recommend, "Copermittees should increase their collaboration on the regulation of mobile businesses". The Order allows but does not require collaboration among the Copermittees. Due to the Copermittee's differences in watersheds, culture, ethnicity, ordinances, regulations, policies and procedures, Copermittee collaboration on regulating mobile businesses is left up to the Copermittees as they see fit.

Section D.3.b.(5) (Enforcement of Industrial and Commercial Sites/Sources) requires that inspectors have authority to conduct immediate enforcement actions when appropriate. Inspectors conducting immediate enforcement will quickly correct violations, thereby minimizing and preventing threats to water quality. When inspectors are unable to conduct immediate enforcement actions, the threat to water quality continues until an enforcement incentive is issued

[205] Ibid. Section D.5.2.
[206] Ibid. Section D.5.4
[207] Ibid. Section D.5.5.

to correct the violation. In the municipal audits, Tetra Tech reported deficiencies where several Copermittees needed to ensure that their storm water inspectors have enforcement authority.[208] In its Phase II Compliance Assistance Guidance, USEPA says that "Inspections give the MS4 operator an opportunity to additional guidance and education, issue warnings, or assess penalties."[209] In order to issue warnings and assess penalties during inspections, inspectors need to have the legal authority to conduct enforcement.

D.3.c. Residential

The following legal authority applies to section D.3.c:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A) provides that the Copermittee develop a proposed management program which includes "A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Section D.3.c.(2)(b) of the Order moves the residential pollution prevention requirements together with the other BMP requirements in order to improve the organization of the Order. This change has no net effect on the implementation and enforcement of the Order.

Section D.3.c.(2)(c) of the Order moves the requirement for proper management of used oil, toxic materials, and other household hazardous wastes to the residential section of the Order, since this requirement generally applies to residents. This change improves the organization of the Order, and has no net effect on its implementation and enforcement.

Section D.3.c.(4) (Regional Residential Education Program) of the Order requires each Copermittee to participate in a Regional Residential Education Program. An education program specifically targeting residential sources is needed due to the fact that residential housing units encompass the largest category of specific sources in San Diego County and have been identified by the Copermittees as a regional priority source. Moreover, the Copermittees recommend in their ROWD that such a program be developed. Section F.7 of the Order, which is referenced in section D.3.c.(4), expands on the Regional Residential Education Program requirements by requiring that the program focus on bacteria, nutrients, sediment, pesticides, and trash. This is appropriate for a regional education program, since the Copermittees have identified these constituents as regional priorities.

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[208] Tetra Tech, Inc., 2002-05. Program Evaluation Reports – San Diego Area Storm Water Programs.
[209] USEPA, 2000. Storm Water Phase II Compliance Assistance Guide. 833-R-00-002. P. 4-31.

D.4. Illicit Discharge Detection and Elimination

The following legal authority applies to section D.4:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) provides that the proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Copermittee include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) provides that the Copermittee include in its proposed management program "a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) provides that the Copermittee include in its proposed management program "procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) provides that the Copermittee include in its proposed management program "a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(5) provides that the Copermittee include in its proposed management program "a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the Copermittee include in its proposed management program "a description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(7) provides that the Copermittee include in its proposed management program "a description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary."

Section D.4.a (Illicit Discharges and Connections) requires the Copermittees to implement a program to actively seek and eliminate illicit connections and discharges (IC/ID). Additional wording has been added to this section to clarify and ensure that all appropriate (i.e., field personnel) municipal personnel are utilized in the program to observe and report these illicit discharges and connections.

Section D.4.b (Develop/Maintain MS4 Map) requires the Copermittees to develop or obtain a map of their entire MS4 system and drainages within their jurisdictions. To provide clarification to the Order, this requirement has been moved to the IC/ID component of the Order from the Dry Weather Field Screening and Analytical Monitoring Specifications (Attachment E in previous Order No. 2001-01).

Section D.4.d (Investigation/Inspection and Follow-Up) requires the Copermittees to conduct follow up investigations and inspect portions of the MS4 for illicit discharges and connections, based on dry weather field screening and analytical monitoring results. The section also requires the Copermittees to establish criteria for triggering follow up investigations. Additional language has been added to this section to clarify the minimum level of effort and timeframes for follow up investigations when dry weather action levels (developed by the Copermittees) are exceeded. Timely investigation and follow up when action levels are exceeded is necessary to identify sources of illicit discharges, especially since many of the discharges are transitory. The requirements for a 48-hour minimum response time when action levels are exceeded and for immediate response to obvious illicit discharges is necessary to ensure timely response by the Copermittees.

In its October 29, 2004 letter to the Copermittees, as well as in subsequent meetings, the Regional Board notified Copermittees that standardized procedures were necessary to ensure timely IC/ID investigations. In the ROWD, the Copermittees state that procedures for dry weather programs should not be standardized and that a minimum response timeframe would hamper their efforts to prioritize and respond to IC/IDs. However, the purpose of the dry weather action levels is to help the Copermittees prioritize and investigate the most likely IC/IDs. Sampling locations that exceed these action levels warrant timely investigation/response, and the minimum time frames in the requirements are reasonable. The Copermittees may also determine that the exceedances do not pose a threat to water quality and therefore do not warrant further investigation. The rationale for no further action for dry weather sampling stations that exceed action levels would be reported in the Jurisdictional Urban Runoff Management Program Annual Report.

D.5. Education Component

The following legal authority applies to section D.5:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include “A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include “A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) provides that the proposed management program include "A description of appropriate educational and training measures for construction site operators."

Section D.5 includes an introductory paragraph that is the same as in Order No. 2001-01, except for the removal of Quasi-Governmental Agencies/ Districts. The Copermittees' ROWD recommends elimination of the requirement to educate quasi-governmental entities.[210]

Section D.5.a (General Requirements) includes education topics from the existing permit with some minor wording and formatting changes. The Copermittees' ROWD recommends that the Copermittees should focus educational efforts on the most important constituents and not on a list of topics.[211] The Regional Board agrees with the focused efforts, but a list of topics is needed to provide a goal of basic storm water knowledge. The Copermittees can choose how and to what degree to address these topics. Copermittees may decide to focus on some topics and not on others. Some topics may be more important for certain target communities or watersheds.

The Regional Board has incorporated the following recommendation from the Copermittees' ROWD into the permit: "Copermittee educational programs should emphasize underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges."[212] In conducting audits of the Copermittees' storm water program, Tetra Tech found that several of the Copermittees could improve education of specific target audiences with pollutant-specific educational campaigns, messages, or technical guidance.[213]

Section D.5.b (Specific Requirements) requires the Copermittees to educate their own departments and personnel. The new development and redevelopment as well as the municipal construction education requirements were taken from Order No. 2001-01 with some minor wording changes. Additional clarification was added regarding storm water management plans and SUSMP requirements due to deficiencies found during the SUSMP audits. The Regional Board considers it vital for the Copermittees' planning and development staff, who have a broad authority and influence over new and redevelopment projects, to thoroughly understand storm water management plan development and SUSMP requirements. Municipal construction staff also need a thorough understanding of SUSMP requirements to adequately oversee active construction projects which are implementing SUSMPs.

A new requirement has also been added for education of activity specific BMPs for municipal personnel and contractors performing activities that generate pollutants. Education is required at all levels of municipal staff and contractors. Education is especially important for the staff in the field performing activities which might result in discharges of pollutants if proper BMPs are not used. The CASQA Municipal Handbook states that successful implementation of BMPs is dependent on "Effective training of municipal and contract employees working in both fixed facilities and field programs."[214] This training can be conducted in either a formal or an informal tail-gate format.

Section D.5.b.(2) (New Development and Construction Education) requires the Copermittees to educate all project applicants, developers, contractors, property owners, community planning

[210] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-57.
[211] Ibid. P. D-52.
[212] Ibid. P. D-53.
[213] Tetra Tech, Inc., 2002-03. Program Evaluation Reports -- San Diego Area Stormwater Program.
[214] California Stormwater Quality Association, 2003. Stormwater Best Management Practices Handbook, Municipal. P. 5-1

groups, and other responsible parties about stormwater issues and BMPs, including annual training before the rainy season. The first requirement is taken from the existing permit sections on new development and construction, with some minor wording changes and an additional topic at the end to recognize the importance of training for field level construction workers. Different levels of training will be needed for planning groups, owners, developers, contractors, and construction workers, but everyone should get a general education of stormwater requirements. Education of all construction workers can prevent unintentional discharges, such as discharges by workers who are not aware that they are not allowed to wash things down the storm drains. Training for BMP installation workers is imperative because the BMPs will fail if not properly installed and maintained.[215] Training for field level workers can be formal or informal tail-gate format.

Section D.5.b.(3) (Residential, General Public, and School Children Education) requires the Copermittees to collaboratively develop and implement a plan to educate residential, general public, and school children through use of mass media, mailers, door hangers, booths at public events, classroom education, field trips, hands-on experiences, or other educational methods. USEPA supports education of the general community when it states: "An informed and knowledgeable community is critical to the success of a storm water management program since it helps ensure the following:

> Greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important. […]
>
> Greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[216]

Regarding target audiences, USEPA also finds that "The public education program should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children."[217] The SWRCB TAC also supports education of schoolchildren, stating:

> "Target Audiences should include:
>
> 1. Government: Educate government agencies and officials to achieve better communication, consistency, collaboration, and coordination at the federal, state and local levels.
> 2. K-12/Youth Groups: Establish statewide education programs, including curricula, on watershed awareness and nonpoint source pollution problems and solutions, based on a state lead role building upon and coordinating with existing local programs.
> 3. Development Community: Educate the development community, including developers, contractors, architects, and local government planners, engineers, and inspectors, on nonpoint source pollution problems associated with development and redevelopment and construction activities and involve them in problem definitions and solutions.
> 4. Business and Industrial Groups."[218]

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[215] Ibid P.2-6.
[216] USEPA, 2000. Storm Water Phase II Compliance Assistance guide. EPA 833-R-00-002.
[217] Ibid.
[218] SWRCB, 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

D.6 Public Participation

The following legal authority applies to section D.6:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

No significant changes have been made to this section of the Order.

E. Watershed Urban Runoff Management Program

The following legal authority applies to section E:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(ii) states: "The Director may […] issue distinct permits for appropriate categories of discharges […] including, but not limited to […] all discharges within a system that discharge to the same watershed […]"

Federal NPDES regulations 40 CFR 122.26(a)(3)(v) states: "Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed, or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas [watersheds] which contribute storm water to the system."

Federal NPDES regulation 40 CFR 122.26(a)(5) states: "The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)91)(v) of this section on a system-wide basis, a jurisdiction-wide basis, watershed basis, or other appropriate basis."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) states: "Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls."

Section E.2.b of the Order requires the Copermittees to develop a watershed map. The section has been slightly modified from Order No. 2001-01 in that it no longer requires mapping of inventoried construction sites. The reason for this change is the temporary nature of construction sites. The location of construction sites is constantly changing, making the mapping of construction sites not useful.

Section E.2.c of the Order requires identification and description of available water quality data for each watershed. The minimum types of water quality data the Copermittees must consider are listed. For the most part, the listed types of water quality data match the types of data already used by the Copermittees for watershed management. Additional types of monitoring to be considered have been added, such as toxic hot spot and TMDL monitoring, because of their potential to provide useful information during identification and prioritization of watershed water quality problems. The listing of data types is necessary because the Copermittees have previously not used all available watershed water quality data while assessing watershed conditions. For example, in a March 10, 2003 letter, the Regional Board directed the Copermittees to utilize additional available data during WURMP implementation because initial Copermittee data use was limited.

Sections E.2.d and E.2.e of the Order require assessment and analysis of water quality data to prioritize each watershed's water quality problems, together with identification of the sources of the high priority water quality problems. These requirements are essentially the same as the requirements of Order No. 2001-01; they have simply been reorganized to more clearly convey the process required.

Section E.2.f of the Order requires the Copermittees to develop a list of Watershed Water Quality Activities for potential implementation. This requirement developed over time while working with the Copermittees on their WURMP implementation under Order No. 2001-01. In October 2004 letters, the Regional Board recommended the Copermittees develop a list of Watershed Water Quality Activities for potential implementation. Following receipt of the Regional Board letters, the Copermittees created Watershed Water Quality Activity lists. Although the Copermittees' lists needed improvement, the Regional Board found the lists to be useful planning tools that can be evaluated to identify effective and efficient Watershed Water Quality Activities. Because the lists are useful and have become a part of the WURMP implementation process, a requirement for their development has been written into the Order.

The goal of the WURMPs is to abate sources and reduce pollutant discharges causing the high priority water quality problems within a watershed. For this reason, it is required that the Watershed Water Quality Activity list describes how each Watershed Water Quality Activity will meet this goal.

Section E.2.g of the Order requires the Copermittees within a watershed to develop a strategy for implementation of Watershed Water Quality Activities and Watershed Education activities. The requirement for development of an implementation strategy is necessary because it should guide effective implementation of watershed activities. Moreover, it has been found that many of the Copermittees' current Watershed Water Quality Activities have no clear connection to the high priority water quality problems within the watersheds where they are being implemented. For example, when reviewing the 2003-2004 Watershed Urban Runoff Management Program Annual Report for the San Diego River, the Regional Board found that for several of the Watershed Water Quality Activities being implemented, it is "unclear what the connection is between this project and the identified high priority water quality problems in the watershed."[219] Similar findings were also noted during Regional Board review of the 2002-2003 Watershed Urban Runoff Management Program Annual Reports and issuance of corresponding comment letters.

Section E.2.h of the Order requires the Copermittees to evaluate the effectiveness of proposed activities. This will help the Copermittees choose the most effective activities for implementation. Implementation of effective activities is critical to ensure an effective Watershed Urban Runoff Management Program.

Section E.2.i of the Order requires each Copermittee to implement a certain number of Watershed Water Quality Activities annually. In crafting this section of the Order and the Watershed Water Quality Activity definition, the Regional Board sought to obtain a balance between the enforceability of the Order and Copermittee flexibility in implementing the Order.

So that the section is enforceable, it requires each Copermittee to implement a minimum number of Watershed Water Quality Activities which will directly and significantly abate sources and reduce pollutant discharges causing the high priority water quality problems within a watershed.

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[219] Regional Board, 2005. Review of Notices of Violation Issued to the San Diego County Copermittees for Watershed Urban Runoff Management Program Implementation.

This requirement provides measurable outcomes for WURMP implementation. WURMP measurable outcomes are needed in the Order because the Regional Board previously found that Copermittee implementation of Watershed Water Quality Activities was inadequate over the course of several years, despite several Regional Board efforts to precipitate improvement. The Regional Board issued comment letters in March 2003, California Water Code section 13267 information request letters in October 2004, and Notices of Violation in June 2005, all in an attempt to improve the Copermittees' implementation of Watershed Water Quality Activities that would effectively reduce discharges of pollutants causing the watersheds' high priority water quality problems. In addition, in a detailed review of the Copermittees' 2003-2004 Watershed Urban Runoff Management Program Annual Reports, the Regional Board found that for most watersheds, the Copermittees' reported "water quality activities" would not result in any significant reduction of pollutant discharges.[220]

Despite these efforts and findings by the Regional Board, the majority of the Copermittees contended as a group that their WURMP implementation was adequate and that they were in compliance with Order No. 2001-01's WURMP requirements. The Copermittees' position exhibits the lack of clarity and unenforceability of Order No. 2001-01's language regarding implementation of Watershed Water Quality Activities. To rectify this situation and ensure that WURMP implementation actually results in pollutant discharge reductions, a requirement for measurable outcomes has been added to the Order in the form of a minimum number of Watershed Water Quality Activities to be implemented which must reduce the discharge of pollutants and abate pollutant sources.

While section J.1.h specifically requires implementation of a measurable number of Watershed Water Quality Activities, the section and the Watershed Water Quality Activity definition also provide significant flexibility to the Copermittees regarding what constitutes a Watershed Water Quality Activity. The bottom line requirements for Watershed Water Quality Activity is that they reduce pollutant discharges causing high priority water quality problems within a watershed and exceed the baseline jurisdictional requirements. Beyond these bottom line requirements, the Copermittees have ample implementation flexibility. For example, both jurisdictional and regional activities in some circumstances can be considered Watershed Water Quality Activities. The same is true for TMDL activities. In addition, Copermittees can implement Watershed Water Quality Activities within their jurisdictions or outside of their jurisdictions; whichever they prefer. Moreover, Copermittees within a watershed can implement different Watershed Water Quality Activities, provided they are part of the watershed Copermittees' larger watershed strategy.

Details regarding what constitutes a Watershed Water Quality Activity are included in the definition section of the Order. The definition was written to clarify the following points:

- A Watershed Water Quality Activity must abate the sources and/or reduce the discharge of pollutants causing high priority water quality problems in the watershed. Activities that do not specifically abate sources and/or reduce pollutant discharges causing high priority water quality problems in a watershed are not Watershed Water Quality Activities.

- Watershed Water Quality Activities must implement an overall watershed strategy collaboratively developed by the Copermittees within a watershed.

[220] Regional Board, 2005. Supplemental Report for Review of Notices of Violation Issued to the San Diego County Copermittees for Watershed Urban Runoff Management Program Implementation. P. 5-14.

- Jurisdictional activities which exceed the baseline jurisdictional requirements may constitute Watershed Water Quality Activities, if they are more protective of water quality than baseline jurisdictional activities. Such activities must specifically abate sources and/or reduce the discharge of pollutants causing high priority water quality problems within a watershed. The jurisdictional activities must be organized and implemented as part of a larger watershed strategy.

- Specific Watershed Water Quality Activities do not need to be implemented watershed-wide, but all Copermittees within a watershed must implement well-coordinated Watershed Water Quality Activities.

- Watershed Water Quality Activities must be new activities; activities that have been conducted for many years without regard for watershed concerns are not Watershed Water Quality Activities. Moreover, as high priority water quality problems within watersheds continue, efforts to implement new and more effective activities are needed.

- Education, public participation, and planning efforts are not Watershed Water Quality Activities.

- Activities that only consist of monitoring are not Watershed Water Quality Activities. There must also be an element of the monitoring program that directly results in the abatement of sources and/or reduction of pollutant discharges causing high priority water quality problems.

This section of the Order also splits the implementation of Watershed Water Quality Activities into two categories. The first category requires implementation on an annual basis. This helps ensure meaningful and consistent implementation and allows for the use of measurable outcomes. The second category recognizes that not all Watershed Water Quality Activities lend themselves to annual implementation. The Copermittees are provided significant flexibility in taking the steps necessary to implement long-term Watershed Water Quality Activities, since no time frame for implementation is dictated.

Sections E.2.j and E.2.k of the Order require development of a list of potential Watershed Education Activities and implementation of a portion of those activities. Specific implementation of Watershed Education Activities in each jurisdiction within a watershed is being required due to the Regional Board's findings that previous Copermittee reporting often has not exhibited implementation of watershed and pollutant specific education activities. Moreover, the Regional Board has found from the Copermittees' reporting that regional education efforts are not always implemented in all watersheds. These findings have been documented in the Regional Board's Watershed Urban Runoff Management Program Annual Report review letters, which were issued in March 2003 and October 2004.

Implementation of Watershed Education Activities has been split into two categories, in order to represent two types of education pertaining to watershed management of urban runoff. During the previous permit cycle, the Copermittees primarily focused on watershed concept-based education activities. These efforts should proceed, but as high priority water quality problems and impairments within watersheds continue, source and pollutant discharge-based education efforts are also needed. The two categories of Watershed Education Activities provided in the Order ensure that both types of watershed education are conducted.

Section E.2.l of the Order includes minor alterations from Order No. 2001-01 which encourage the Copermittees to seek participation in the WURMP process from other potential interested parties. Increased participation in the WURMP process by interested parties can improve support for WURMP implementation, increasing the probability of implementation of effective programs.

Section E.2.m of the Order requires Copermittee collaboration, including frequent regularly scheduled meetings. The requirement for regularly scheduled meetings has been added based on Regional Board findings that watershed groups which hold regularly scheduled meetings (such as for San Diego Bay) typically produced better programs and work products than watershed groups that went for extended periods of time without scheduled meetings (such as San Dieguito and Los Penasquitos). For example, in their 2002-2003 Annual Reports, the San Dieguito and Los Penasquitos watersheds listed implementation of the same watershed activities, despite the fact that the two watersheds have different high priority water quality problems.

F. Regional Urban Runoff Management Program

The following legal authority applies to section F:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

Federal NPDES regulations 40 CFR 122.26(a)(3)(v) states: "Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed, or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas [watersheds] which contribute storm water to the system."

Federal NPDES regulation 40 CFR 122.26(a)(5) states: "The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)91)(v) of this section on a system-wide basis, a jurisdiction-wide basis, watershed basis, or other appropriate basis."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) states: "Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls."

Section F of the Order requires the Copermittees to develop a Regional Urban Runoff Management Program to facilitate Copermittee implementation of urban runoff management activities on a regional level. The requirement has been included in the Order because of the recognition that some aspects of urban runoff management can be effectively addressed at a regional level. Residential education and implementation of TMDLs covering multiple watersheds are examples of urban runoff issues which can be addressed regionally, since the scope of these issues are not limited to particular jurisdictions or watersheds. Such regional implementation provides opportunities for improved efficiency and utilization of economies of scale.

The Copermittees' ROWD identifies regional urban runoff management as an important aspect of their programs.[221] This requirement for the development of a regional urban runoff management program provides organization and structure for both the Copermittees and Regional Board to track regional efforts. The requirements include continuation of existing regional efforts and identify additional areas for regional implementation. However, significant flexibility has been provided to the Copermittees for new regional requirements. Typically, implementation of such regional requirements is required only where it is determined to be necessary by the Copermittees.

G. Fiscal Analysis

The following legal authority applies to section G:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(vi) provides that "[The Copermittee must submit] for each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds."

Section G has been expanded to achieve better consistency between the Copermittees in reporting budget and expenditure information. The section also requires clarification regarding which expenditures are solely attributable to the urban runoff program, as opposed to those expenditures which are also partially attributable to other programs (such as trash collection and street sweeping). Consistency and clarification of fiscal information are valuable for assessing program effectiveness and adapting programs to help ensure that they are efficient and effective, which is one important purpose of the fiscal analysis.

This section also requires the Copermittees to develop and use a metric for fiscal analysis reporting. This provides standardization of reporting so that figures between Copermittees are comparable, which is one of many types of information which can be used by the Regional Board to better understand Copermittee program implementation. Standardization and comparison of fiscal analysis reporting is supported by the State Board funded NPDES Stormwater Cost Survey, which finds that "standards for reporting costs and stormwater activities are needed to allow accurate cost comparisons to be made between stormwater activities."[222] This document also provides guidance regarding categorization of expenditures for tracking and reporting.

H. Total Maximum Daily Loads

The following legal authority applies to section H:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

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[221] San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-12.
[222] Currier, et al., 2005. NPDES Storm Water Cost Survey Final Report. Prepared for California State Water Resources Control Board by Office of Water Programs, California State University, Sacramento. P. 63.

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]cheive water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

Section H of the Order incorporates the two TMDLs that have been fully approved and are effective for the Copermittees. These TMDLs are for diazinon in Chollas Creek and for dissolved copper in SIYB.

Where a TMDL has been approved, NPDES permits must contain effluent limitations and conditions consistent with the requirements and assumptions in the TMDL.[223] Effluent limitations are generally expressed in numerical form. However, USEPA recommends that for NPDES-regulated municipal and small construction storm water discharges, effluent limitations should be expressed as best management practices or other similar requirements rather than as numeric effluent limitations.[224] Consistent with USEPA's recommendation, this section implements WQBELs expressed as an iterative BMP approach capable of meeting the WLAs in accordance with the associated compliance schedule. The Order's WQBELs include the numeric WLA as a performance standard and not as an effluent limitation. The WLA can be used to assess if additional BMPs are needed to achieve the TMDL Numeric Target in the waterbody.

Section H.1.a requires the Copermittees to implement BMPs capable of achieving the WLAs for diazinon in the storm drains in accordance with the Compliance Schedule. This requirement is consistent with the USEPA memorandum dated November 22, 2002, which states that NPDES permit conditions must be consistent with the assumptions and requirements of available WLAs.[225]

Section H.1.b requires that the Copermittees not cause or contribute to violations of the Interim TMDL Numeric Targets for diazinon in Chollas Creek. This requirement is necessary to ensure the effectiveness of the BMPs. The BMPs for diazinon control consist primarily of a phase out of the legal uses of diazinon and education and public outreach. Due to the difficulty in measuring the effectiveness of these BMPs directly, an indirect assessment method is necessary in the form of a receiving water limit.

Section H.1.c requires the Copermittees to implement the Diazinon Toxicity Control Plan and Diazinon Public Outreach / Education Program as described in the report titled, *Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County*, August 14, 2002, to achieve the WLA. These BMPs are expected to be effective based on the current monitoring in Chollas Creek which shows dramatically decreasing levels of diazinon in the water column.[226]

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[223] 40 CFR 122.44(d)(1)(vii)(B)
[224] USEPA, 2002. Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs. P. 4.
[225] Ibid.
[226] Chollas Creek Copermittees, 2006. Response to Monitoring in Chollas Creek, Investigation Order No. R9-2004-0277, Proposition 13, PRISM Grant Agreement No. 04-17-559-0, San Diego Region, Integrated Pest Management

Compliance with Section H.1.a and c will be assessed with the WURMP annual reports, which will include a description of all TMDL activities implemented in the watershed and an effectiveness assessment of those activities. Compliance with Section H.1.b will be assessed using the monitoring data collected pursuant to the existing Investigation Order No. R9-2004-0277, *California Department of Transportation and San Diego Municipal Separate Storm Sewer System Copermittees Responsible for the discharge of Diazinon in the Chollas Creek Watershed, San Diego, California* (Investigation Order). This Investigation Order requires water column samples to be collected at two locations and analyzed for diazinon during three storms annually. Water column samples will also be analyzed for total and dissolved copper, lead, and zinc, and hardness. Acute and chronic toxicity tests will be conducted using the water flea for samples from each of these storm events at these two locations. Concentrations of diazinon in sediment at three locations will also be evaluated.

The diazinon water column values obtained from the Investigation Order R9-2004-0277 sampling will be compared with the Interim TMDL Numeric Target adjusted for the time schedule as shown below:

Calendar Year	Year	Waste Load Allocation	Interim TMDL Numeric Target	% Reduction
2004	1	0.460 µg/L	0.5 µg/L	0
2005	2	0.460 µg/L	0.5 µg/L	0
2006	3	0.460 µg/L	0.5 µg/L	0
2007	4	0.414 µg/L	0.45 µg/L	10
2008	5	0.322 µg/L	0.35 µg/L	20
2009	6	0.184 µg/L	0.20 µg/L	30
2010	7	0.045 µg/L	0.05 µg/L	30

Chollas Creek Diazinon TMDL - Background

Chollas Creek was placed on the CWA section 303(d) List of Water Quality Limited Segments (303(d) List) in 1996 for toxicity. The pesticide diazinon was found to be causing the toxicity. The Regional Board has established a TMDL for diazinon to address the toxicity as required by the CWA for water quality limited segments at the August 14, 2002 Regional Board meeting. The State Water Resources Control Board approved the TMDL on July 16, 2003. The Office of Administrative Law approved the TMDL on September 11, 2003. USEPA approved the TMDL on November 3, 2003. Documentation for the Chollas Creek Diazinon TMDL is in the report titled, "Technical Report for Total Maximum Daily Load for Diazinon in Chollas Creek Watershed, San Diego County, August 14, 2002."

The Chollas Creek diazinon TMDL is a concentration based TMDL determined from the CDFG's Water Quality Criteria (WQC) for the protection of freshwater aquatic organisms from diazinon. Using a margin of safety (MOS) of 10%, the TMDL is equal the WLA plus the MOS. The TMDL Numeric Targets and WLA derived from the CDFG WQC are shown in the table below.

(IPM) Education and Outreach Program, 2004-2005 Water and Sediment Quality Monitoring Data Summary for Chollas Creek. P. 48, Figure 4-2.

TMDL Numeric Targets and Waste Load Allocation for Diazinon Acute and Chronic Conditions

Exposure Duration	TMDL Numeric Targets	Margin of Safety	Waste Load and Load Allocations
Acute	0.08 µg/L	0.008 µg/L	0.072 µg/L
Chronic	0.05 µg/L	0.005 µg/L	0.045 µg/L

A compliance schedule for achieving the WLAs was established by the Regional Board Executive Officer on September 30, 2004. This compliance schedule uses an exponential approach to reduction that involves an increasing percent reduction over a 7-year period to meet the objectives. This percent reduction established for WLA in the September 2004 compliance schedule was used to calculate the Interim TMDL Numeric Targets shown in the table below:

Compliance Schedule for Diazinon TMDL Implementation

Calendar Year	Year	Waste Load Allocation	Interim TMDL Numeric Target	% Reduction
2004	1	0.460 µg/L	0.5 µg/L	0
2005	2	0.460 µg/L	0.5 µg/L	0
2006	3	0.460 µg/L	0.5 µg/L	0
2007	4	0.414 µg/L	0.45 µg/L	10
2008	5	0.322 µg/L	0.35 µg/L	20
2009	6	0.184 µg/L	0.20 µg/L	30
2010	7	0.045 µg/L	0.05 µg/L	30

The WLAs shall not be exceeded more than 1 time in any 3-year period. Season and flow conditions will not be a consideration.

Section H.2.a requires the Copermittees in the SIYB watershed to implement BMPs to maintain a total annual copper load of less than or equal to 30 kg copper/year.

Section H.2.b requires the Copermittees in the SIYB watershed to implement, at a minimum, the BMPs contained in the Copermittees' JURMP which address the discharge of copper to achieve the total annual copper load in Section H.2.a above. The WLA was established to maintain the current discharge level of 30 kg copper/year which leads to the conclusion that the current BMPs being implemented in the Copermittees' JURMP will be effective in maintaining this discharge level. Compliance with these requirements will be assessed by re-evaluating the data and assumptions used to estimate the WLA to SIYB of 30 kg copper/year. The Copermittees will be required to evaluate if any changes have occurred in the watershed which could cause or contribute to a higher copper urban runoff discharge and any actions necessary to address these changes. Because the original WLA for municipalities in SIYB was calculated using land use data, drainage area size, event mean concentration and modeling with no actual water quality samples, it is appropriate to use the same or similar method to assess compliance.

SIYB Copper TMDL - Background

SIYB is a popular recreational marina located at the north end of San Diego Bay. It is a semi-enclosed marina that supports a high density of recreational vessels in an area of low tidal flushing. The SIYB watershed is within the City of San Diego. SIYB was placed on the CWA Section 303(d) List of Water Quality Limited Segments (303(d) List) in 1996 due to high concentrations of dissolved copper. The Regional Board has established a TMDL for dissolved copper in SIYB as required by the CWA at the February 9, 2005 Regional Board meeting. The SWRCB approved resolution R9-2005-0019 on September 22, 2005. The Office of Administrative Law approved the TMDL on December 2, 2006 and Resolution R9-2005-0019

has been forwarded to USEPA for final review and approval. Documentation for the SIYB Copper TMDL is included in the report titled, "Total Maximum Daily Load for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay, Technical Report, February 9, 2005."

The existing dissolved copper load from urban runoff to SIYB was estimated to be roughly 30 kg copper/year or 1% of total loading. Due to the relatively insignificant magnitude of the contribution of dissolved copper from urban runoff, no reductions were assigned to urban runoff and the WLA was assigned the existing 30 kg copper/year. The Basin Plan has been amended to include the following "The Regional Board will amend Order No. 2001-01, *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm /Sewer Systems* to require that discharges of copper into Shelter Island Yacht Basin waters via the City of San Diego's MS4 not exceed a 30 kg/year wasteload for copper."[227]

The WLA for urban runoff was estimated using land use data, drainage area size, event mean concentration for copper in residential areas. This information and assumptions such as wet weather copper concentrations equal dry weather concentrations were used to estimate the WLA of 30 kg copper/year. Once during the permit cycle, the Copermittees will evaluate the data and assumptions used in estimating the WLA to ensure that nothing has changed which could result in a higher copper discharge.

I. Program Effectiveness Assessment

The following legal authority applies to section I:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(v) provides that the Copermittees must include "Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water." Under Federal NPDES regulation 40 CFR 122.42(c) applicants must provide annual reports on the progress of their storm water management programs.

Section I.1.a of the Order requires the Copermittees to assess the effectiveness of the implementation of their jurisdictional programs and activities. The section requires both specific activities and broader programs to be assessed since the effectiveness of jurisdictional efforts may be evident only when considered at different scales. The effectiveness assessment requirements incorporate the approaches developed by the Copermittees in their October 16, 2003 "Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs," including use of "outcome levels" and "major effectiveness assessment elements."

In their ROWD, the Copermittees request that use of particular outcome levels not be required for assessing the effectiveness of specific activities implemented by the Copermittees. Because many of the techniques for using the various outcome levels are still in development, the conditions under which each outcome level must be used is not specified in the Order. However,

[227]Regional Board, 2005. Attachment A to Resolution No. R9-2005-0019, Amendment to the Water Quality Control Plan for the San Diego Region to Incorporate a Total Maximum Daily Load for Dissolved Copper in Shelter Island Yacht Basin, San Diego Bay. P. 5.

during review of the Copermittees' annual reports, the Regional Board has frequently needed to request that the Copermittees improve their effectiveness assessments and utilize the various assessment methods that are available. Moreover, half of the Copermittees audited were found to have inadequate effectiveness assessments which frequently lacked use of measurable goals. For these reasons, the Order contains language requiring the Copermittees to utilize the various outcome levels "where applicable and feasible." This will help ensure that the Copermittees vigorously use outcome levels, while also providing the Copermittees with flexibility to develop techniques to use outcome levels where such techniques do not currently exist.

The Copermittees also request in their ROWD that they not be responsible for assessment of the impact of their jurisdictional programs on pollutant load reductions, urban runoff water quality, and receiving water quality (outcome levels 4-6). This request slights the overall goal of the Copermittees' jurisdictional programs, which is to reduce discharged pollutants loads and improve water quality. A link between the Copermittees' jurisdictional programs and improved urban runoff and receiving water conditions must be made whenever adequate information exists. This can help validate current efforts, which is essential for maintaining program support, while also guiding future efforts.

Assessments of jurisdictional programs on water quality have been conducted by Copermittees in the past and have been useful. For example, the City of Encinitas reports decreasing bacteria levels in commercial areas following increased inspections of commercial facilities. The City also reports similar results in residential areas following increased residential education efforts.[228] Such information provides very useful feedback to the Copermittees, since the results are specific and localized. The results provide direct evidence of program impact which may otherwise be missed by assessments conducted at a watershed level. Program assessment capable of linking jurisdictional programs and water quality improvements is an important tool that can exhibit to program managers, decision makers, and the public that jurisdictional urban runoff management program efforts are worthwhile and should continue. For these reasons, the Order requires the Copermittees to assess the impact of their jurisdictional program on pollutant load reductions and water quality, where applicable and feasible.

Section I.1.b of the Order requires the Copermittees improve jurisdictional activities or BMPs when they are found to be ineffective or when water quality impairments are continuing. This requirement fulfills the purpose of conducting effectiveness assessments – to improve and refine the Copermittees' programs. The requirement is consistent with USEPA's Phase II regulations, which state: "If the permittee determines that its original combination of BMPs are not adequate to achieve the objectives of the municipal program, the MS4 should revise its program to implement BMPs that are adequate […]."[229]

Section I.2.a of the Order requires the Copermittees to assess the effectiveness of the implementation of their watershed programs and activities. The section requires both specific activities and broader programs to be assessed since the effectiveness of watershed efforts may be evident only when considered at different scales. The effectiveness assessment requirements incorporate the approaches developed by the Copermittees in their October 16, 2003 "Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs," including use of "outcome levels" and major effectiveness assessment elements.

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[228] City of Encinitas, 2006. Jurisdictional Urban Runoff Management Program Annual Report FY 2004-2005. P. 11-9.
[229] Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68762.

As with the jurisdictional assessments discussed for section I.1.a, the Order contains language requiring the Copermittees to utilize outcome levels 1-4 for assessment "where applicable and feasible." This will help ensure that the Copermittees vigorously use the outcome levels, while also providing the Copermittees with flexibility to develop techniques to use outcome levels where such techniques do not currently exist. The section also places particular focus on the Copermittees' utilization of outcome levels 5 and 6, which address urban runoff and receiving water quality. Since the entire thrust of the watershed urban runoff management programs is to improve the high priority water quality problems within the various watersheds, use of outcome levels 5 and 6 is needed to assess the effectiveness of the watershed urban runoff management programs. After 15 years of implementation of the storm water program in San Diego County, impact of the program on water quality must be assessed. Without such assessments, it will not be known whether the watershed urban runoff management programs are achieving their purpose. The Copermittees' receiving waters monitoring program, which is watershed-based, is expected to provide the Copermittees with information to conduct these assessments.

Section I.2.b of the Order includes requirements for modification of watershed activities similar to those for modification of jurisdictional activities discussed in section I.1.b. Please see the section I.1.b discussion for further information.

Section I.3.a of the Order requires the Copermittees to assess the effectiveness of their regional activities and programs in a manner similar to the assessment requirements discussed for section I.1.a and I.2.a. Please see the discussions for these sections for further information. Section I.3.a also requires the Copermittees to evaluate their progress in implementing measures on a regional basis. These evaluations are needed to track the Copermittees' progress towards meeting their goals and objectives for regional urban runoff management.

Section I.4 (TMDL BMP Implementation Plan) requires the Copermittees to assess the effectiveness of their TMDL BMP Implementation Plans or equivalent plans in a manner similar to the assessment of the effectiveness of the watershed urban runoff management programs. This is appropriate, since implementation of TMDL BMP Implementation Plans is similar to implementation of watershed urban runoff management programs.

Section I.5 (Long-Term Effectiveness Assessment) requires the Copermittees to conduct a Long-Term Effectiveness Assessment prior to their submittal of an application for reissuance of the Order. The Long-Term Effectiveness Assessment is necessary to provide support for the Copermittees' proposed changes to their programs in their ROWD. It can also serve as the basis for changes to the Order's requirements. The Copermittees recommend that the Order include a requirement for development of a Long-Term Effectiveness Assessment in their ROWD.[230]

J. Reporting

The following legal authority applies to section J:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 122.26(a)(1)(v) of this part

[230] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-82.

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 program that are established as permit condition. Such proposed changes shall be consistent with § 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 § 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; (7) Identification of water quality improvements or degradation."

California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Section J.1 (Jurisdictional Urban Runoff Management Plans) outlines the information to be included in the Copermittees' JURMPs. It utilizes an approach similar to the approach used in Order No. 2001-01. The information to be included in the JURMP is listed in detail in Attachment D. Significant detail is included in the Order regarding what information should be in the JURMPs in order to provide certainty to the Copermittees when they develop and submit their JURMPs. By providing detail for what information should be included in the JURMP, time spent by the Copermittees and Regional Board on JURMP reporting, review, comment, and response is expected to be reduced.

It is important to note that in many cases, the requirements of the Order should not necessitate a complete rewrite of the JURMPs. Only sections of the Order which are new or have been significantly changed should warrant rewriting of JURMP sections. The Regional Board plans to work with the Copermittees and provide guidance regarding where JURMPs must be updated in accordance with the Order. This will help ensure that rewriting, reporting, and review efforts are minimized.

Sections J.2 and J.3 (Watershed and Regional Urban Runoff Management Plans) include requirements for information to be included in the WURMPs and RURMP that are similar in scope to the requirements for information to be included in the JURMPs (section J.1). Please see the discussion for section J.1 for further information.

Section J.4 (Hydromodification Plan) requires various submittals during the development of the HMP. These submittals are necessary to provide both the Copermittees and the Regional Board the opportunity to review progress being made on the HMP. Frequent review of the HMP as it develops is needed due to the complex nature of the issues the HMP will address. The HMP submittal process included in the Order is based on a successful HMP submittal process previously implemented in the San Francisco Bay Area.

The final HMP requires approval by the Regional Board. Final approval by the Regional Board is necessary because the HMP requirements are new and relatively complex. Full vetting of the HMP before the Regional Board will provide all interested parties the opportunity to participate on HMP development and help ensure a workable end product for the interested parties.

Section J.6 (Report of Waste Discharge) requires submittal of a ROWD prior to the expiration of the Order. The section identifies the minimum information to be included in the ROWD, based

on USEPA's May 17, 1996 guidance "Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems."

K. Modifications of Programs

The following legal authority applies to section K:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Section K of the Order provides a process for the Copermittees to modify their urban runoff management programs. This process will be useful so that the Copermittees can continue to refine and improve their programs based on the findings of their annual program effectiveness assessments. The process allows for minor modifications to the Copermittees' programs where the Copermittees can exhibit that the modifications meet or exceed existing legal requirements under the Order. Such a process avoids lengthy and time consuming formal approvals of proposed modifications before the Regional Board, while still ensuring compliance with applicable legal standards and the Order. The Copermittees requested inclusion of a process in the Order to allow for minor modifications to their urban runoff management programs in their ROWD.[231] The process included in the Order is based on a process utilized by the San Francisco Bay Area Regional Water Quality Control Board in their MS4 permit for Alameda County.[232]

L. All Copermittee Collaboration

The following legal authority applies to section L:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

No significant changes were made to this section.

M. Principal Permittee Responsibilities

The following legal authority applies to section M:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.26(a)(3)(iii)(C) provides that "A regional authority may be responsible for submitting a permit application."

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(D) provides that "[The Copermittee must demonstrate that it can control] through interagency agreements among coapplicants the

[231] San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-10.
[232] San Francisco Bay Area Regional Water Quality Control Board, 2003. Order No. R2-2003-0021. P. 45.

contribution of pollutants from one portion of the municipal system to another portion of the municipal system."

No significant changes were made to this section.

N. Receiving Waters Monitoring and Reporting Program

The following legal authority applies to section N:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii).

See section V of this Fact Sheet/Technical Report for a discussion of changes to the Receiving Waters Monitoring and Reporting Program.

O. Standard Provisions, Reporting Requirements, and Notifications

The following legal authority applies to section O:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Section O.2 of the Order has been changed to remove the statement that all plans and reports submitted in compliance with the Order are an enforceable part of the Order. This statement has been removed because it is unnecessary. The Order itself contains sufficient detailed requirements to ensure that compliance with discharge prohibitions, receiving water limits, and the narrative standard of MEP are achieved. Implementation by the Copermittees of programs in compliance with the Order's requirements, prohibitions, and receiving water limits is the pertinent compliance standard to be used under the Order, as opposed to assessing compliance by reviewing the Copermittees' implementation of their plans alone.

Rather than being substantive components of the Order itself, the Copermittees' urban runoff management plans are simply descriptions of their urban runoff management programs required under the Order. These plans serve as procedural correspondence which guides program implementation and aids the Copermittees and Regional Board in tracking implementation of the programs. In this manner, the plans are not functional equivalents of the Order. For these reasons, the Copermittees' urban runoff management plans need not be an enforceable part of the Order.

P. Attachment A

The following legal authority applies to Attachment A:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code Section 13243 provides that "A regional board, in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the SDRWQCB implement the Basin Plan.

No significant changes were made to this attachment.

Q. Attachment B

The following legal authority applies to Attachment B:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in Federal NPDES regulation 40 CFR 122.41.

Attachment B includes Standard Provisions which have been developed by the SWRCB. These Standard Provisions ensure that NPDES permits are consistent and compatible with USEPA's federal regulations. Some Standard Provisions sections specific to publicly owned sewage treatment works are not included in Attachment B.

R. Attachment C

The following legal authority applies to Attachment C:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Attachment C contains definitions for new terms found in the Order. In addition, definitions for terms previously defined in Order No. 2001-01 Attachment D, but which are not found in the current Order, have been deleted.

S. Attachment D

The following legal authority applies to Attachment D:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Please see the discussion for section J.1 for further information.

T. Attachment E

The following legal authority applies to Attachment E:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 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 program that are established as permit condition. Such proposed changes shall be consistent with § 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 § 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; (7) Identification of water quality improvements or degradation."

California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Attachment E to the Order outlines the information to be included in the Copermittees' Jurisdictional Urban Runoff Management Program Annual Reports. Significant detail is included in the attachment regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

U. Attachment F

The following legal authority applies to Attachment F:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 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 program that are established as permit condition. Such proposed changes shall be consistent with § 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 §

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; (7) Identification of water quality improvements or degradation."

California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

Attachment F to the Order provides a table summary of scheduled submittals required by the Order. Unscheduled submittals are no longer added to the table, since there is no proper due date for such submittals. A task summary has not been created for the Order, since the previous task summary was found to be redundant, repeating information found in the submittal summary and elsewhere in the Order.

V. Receiving Waters Monitoring and Urban Runoff Reporting Program

The following legal authority applies to the Receiving Waters Monitoring and Urban Runoff Reporting Program:

Broad Legal Authority: CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

Specific Legal Authority: Copermittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.26(d)(2)(iii).

Federal NPDES regulation 40 CFR 122.42(c) requires that "The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer system that has been designated by the director under § 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 program that are established as permit condition. Such proposed changes shall be consistent with § 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 § 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; (7) Identification of water quality improvements or degradation."

California Water Code section 13267 provides that "the regional board may require than any person who has discharged […] shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires."

1. Purpose

According to USEPA, the benefits of sampling data include, but are not limited to:

1. Providing a means for evaluating the environmental risk of storm water discharges by identifying types and amounts of pollutants present;

2. Determining the relative potential for storm water discharges to contribute to water quality impacts or water quality standard violations;
3. Identifying potential sources of pollutants; and
4. Eliminating or controlling identified sources more specifically through permit conditions.[233]

Equally important, monitoring programs are an essential link in the improvement of urban runoff management efforts. Data collected from monitoring programs can be assessed to determine the effectiveness of management programs and practices, which is vital for the success of the iterative approach used to meet the MEP standard. Specifically, when data indicates that a particular BMP or program component is not effective, improved efforts can be selected and implemented. Also, when water quality data indicate that water quality standards or objectives are being exceeded, particular pollutants, sources, and drainage areas can be identified and targeted for specific urban runoff management efforts.

Considering the benefits described above, the Receiving Waters Monitoring and Reporting Program (MRP) has been designed to determine impacts to receiving water quality and beneficial uses from urban runoff and to use the results to refine the Copermittees' urban runoff management programs for the reduction of pollutant loadings to the MEP. The primary goals of the MRP include:

1. Assess compliance with Order No. R9-2007-0001;
2. Measure and improve the effectiveness of the Copermittees' urban runoff management programs;
3. Assess the chemical, physical, and biological impacts of receiving waters from urban runoff;
4. Characterize urban runoff discharges;
5. Identify sources of specific pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
8. Assess the overall health of receiving waters.

Each of the components of the MRP is necessary to meet the objectives listed above. In addition, the MRP has been designed in accordance with the guidance provided by the Southern California Stormwater Monitoring Coalition's Model Monitoring Technical Committee in its August 2004 "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California." This guidance document was developed in response to Senate Bill 72 (Kuehl), which addressed the standardization of sampling and analysis protocols in municipal stormwater monitoring programs. The technical committee which developed the guidance included representatives from Southern California Regional Water Quality Control Boards (including San Diego), municipal storm water permittees (including the County of San Diego), Heal the Bay, and the Southern California Coastal Water Research Project.

As its title suggests, the guidance essentially developed a model municipal storm water monitoring program for use in Southern California. The model program is structured around five fundamental management questions, outlined below. The MRP is designed as an iterative step towards ensuring that the Copermittees' monitoring program can fully answer each of the five management questions.

[233] USEPA, 1992. NPDES Storm Water Sampling Guidance Document. EPA/833-B-92-001.

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 of urban runoff that contribute to receiving water problem(s)?
5. Are conditions in receiving waters getting better or worse?

The justifications for each component of the monitoring program are discussed below.

2. Monitoring Program

Summary of Order No. 2001-01 Monitoring Program and Results

The Copermittees' monitoring under Order No. 2001-01 includes several components: (a) wet weather mass loading station monitoring (including toxicity monitoring); (b) bioassessment monitoring; (c) dry weather field screening and analytical monitoring; (d) coastal storm drain monitoring; and (e) ambient bay and lagoon monitoring. Each of these is briefly summarized below with recent results briefly discussed. The Copermittees' most recent monitoring report is available at:

http://www.projectcleanwater.org/html/wg_monitoring_04-05report.html.

Wet Weather Mass Loading Station Monitoring

The Copermittees' wet weather mass loading station monitoring consists of water quality monitoring during three storm events annually within the main drainage at the base of each major watershed in San Diego County. There are currently 11 wet weather mass loading stations throughout San Diego County, where various constituents of concern, bacterial indicators, and toxicological impacts are measured. Using data collected from the wet weather mass loading stations, persistent wet weather constituents of concern have been identified by the Copermittees in their Baseline Long-Term Effectiveness Assessment document. Persistent wet weather constituents of concern are generally those constituents which have concentrations which persistently exceed water quality objectives. Increasing and decreasing trends in constituent concentrations have also been identified by the Copermittees.

Mass Loading Station Persistent Wet Weather Constituents and Trends[234]

Mass Loading Stations	Persistent Wet Weather Constituents of Concern	Significant Trends Observed
Santa Margarita	Fecal Coliform Total Suspended Solids Turbidity	
San Luis Rey	Total Dissolved Solids	
Agua Hedionda	Fecal Coliform Total Dissolved Solids Total Suspended Solids Turbidity	Increasing chemical oxygen demand Increasing total kjeldahl nitrogen Increasing total phosphorus Increasing total suspended solids Increasing turbidity
Escondido Creek	Fecal Coliform Total Dissolved Solids Turbidity	

[234] San Diego County Copermittees, 2005. Baseline Long-Term Effectiveness Assessment.

San Dieguito River	Total Dissolved Solids	
Penasquitos River	Total Dissolved Solids	
Tecolote Creek	Fecal Coliform Turbidity Diazinon	Increasing arsenic (still below water quality objective) Decreasing total suspended solids Decreasing total zinc
San Diego River	Fecal Coliform	
Chollas Creek	Fecal Coliform Total Suspended Solids Turbidity Diazinon Copper Zinc Toxicity (Ceriodaphnia and Hyalella)	Increasing nitrate Increasing lead Decreasing total suspended solids Decreasing total dissolved solids Decreasing nickel
Sweetwater River	Total Dissolved Solids Fecal Coliform Diazinon	
Tijuana River	Fecal Coliform Ammonia Biochemical Oxygen Demand Chemical Oxygen Demand Total Phosphorus Total Suspended Solids Turbidity Chlorpyrifos Diazinon Malathion Toxicity (Ceriodaphnia)	

Bioassessment Monitoring

Bioassessment monitoring is conducted to provide site-specific information about the health and diversity of freshwater benthic communities within a specific reach of a creek. It consists of collecting samples of the benthic communities during dry weather and conducting a taxonomic identification to measure community abundance and diversity. Benthic community abundance and diversity is then compared to a reference creek to assess benthic community health. Under Order No. 2001-01, the Copermittees are required to conduct bioassessment monitoring on 23 stream reaches. The results from the Copermittees' bioassessment monitoring demonstrate that the beneficial uses of urban streams are being adversely impacted by urban runoff. The San Luis Rey, Carlsbad, San Dieguito, Penasquitos, Mission Bay, San Diego River, San Diego Bay, and Tijuana River watersheds all had Poor to Very Poor Index of Biotic Integrity ratings.[235]

Dry Weather Field Screening and Analytical Monitoring

The Copermittees conduct dry weather field screening and analytical monitoring throughout their jurisdictions at various locations within their MS4s. While a principal purpose of the dry weather field screening and analytical monitoring is to identify illicit discharges and/or connections to the MS4, the data gathered also provides useful information regarding water quality within the Copermittees' MS4s during dry weather conditions. Data from dry weather field screening and

[235] San Diego County Municipal Copermittees, 2005. 2004-2005 Urban Runoff Monitoring Final Report. Executive Summary.

analytical monitoring is often used effectively to identify and abate illicit discharges, but it also indicates high levels of pollutants in the Copermittees' MS4s. The number of exceedances of water quality criteria for various constituents at dry weather field screening and analytical monitoring sites frequently exceeds the number monitoring site visits conducted.[236]

Coastal Storm Drain Monitoring

Coastal storm drain monitoring involves monitoring discharges from coastal storm drains and nearby receiving waters for bacterial indicators. Approximately 59 coastal storm drains are monitored year round on a weekly or monthly basis, depending on the season. For samples collected in receiving waters, total coliform, fecal coliform, and Enterococcus water quality standards were exceeded at a rate of 2.0%, 1.7%, and 4.4% respectively in 2003-2004. Counts of bacterial indicators in samples collected from coastal storm drain discharges greatly exceeded those of samples collected in receiving waters, but were not reported in relation to water quality standards.[237]

Ambient Bay and Lagoon Monitoring

To monitor ambient bay and lagoon conditions, the Copermittees focus on assessing bay and lagoon sediments where contaminants are most likely to be found. Monitoring is conducted in twelve coastal embayments for various constituents, toxicity, and benthic infauna. Most of the embayments monitored were found to contain toxic elements in their sediment. However, this monitoring did occur in embayment areas targeted because of their likelihood to contain contaminated sediment, essentially representing worst-case scenarios.[238]

Mass Loading Station Monitoring

Section II.A.1 of the MRP requires mass loading and toxicity monitoring at monitoring stations located at the bottom of major watersheds within San Diego County. The mass loading monitoring will provide data representing event mean concentrations of pollutants, total pollutant loadings, and toxicity conditions from specific drainage areas. Mass loading monitoring stations are recommended by the Model Monitoring Technical Committee in order to answer management questions 1, 2, and 5.[239] The stations are also expected to contribute towards meeting MRP goals 1, 2, 3, 4, 6, and 8. The mass loading station monitoring included in the MRP is the same as the mass loading station monitoring proposed by the Copermittees in their ROWD.[240]

Sections II.A.1.a and II.A.1.b of the MRP identify the location of the mass loading stations and the frequency of the monitoring to be conducted at the mass loading stations. The locations of the stations are identical to the locations utilized under Order No. 2001-01, and match the locations proposed by the Copermittees in their ROWD.[241] These locations provide substantial coverage of the major watersheds within the San Diego Region portion of San Diego County.

The frequency of monitoring at the mass loading stations has been changed from monitoring each station for three wet weather events every year to monitoring each station for two wet weather

[236] Ibid. Sections 4-12.
[237] Ibid. Attachment A.
[238] Ibid. Executive Summary.
[239] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Chapter 5.
[240] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 9.
[241] Ibid. Attachment 3, p. 9.

and two dry weather monitoring events every other year. While this is an overall reduced frequency of monitoring at the mass loading stations, it is replaced by the addition of new monitoring stations to be located in the upper watersheds (called temporary watershed assessment stations). The new information generated from the temporary watershed assessment stations, as well as from new monitoring of dry weather events, offsets the reduced amount of information gathered at mass loading stations resulting from the monitoring of fewer wet weather events.

In their ROWD, the Copermittees statistically compared the Order No. 2001-01 monitoring program with the proposed program in order to determine any loss in the ability to observe trends resulting from the reduced wet weather monitoring frequency. The Copermittees' statistical assessments utilized empirical data from the existing monitoring program and used existing trends to predict or model the future data sets to estimate when water quality objectives would be reached assuming that current trends continue. The Copermittees found that "depending upon the current rate of decrease in observed concentration and variability of constituents, the ability to observe trends will not change significantly with the recommended program."[242] Using an example worst case scenario of a data exhibiting a non-significant downward trend (copper in Tecolote Creek), it was estimated that the frequency of monitoring conducted under Order No. 2001-01 would not exhibit concentrations below the water quality objective with 95% confidence for 18 years. Using the frequency of monitoring included in the MRP, however, it would take 22 years to see the same results - a relatively modest increase. The Copermittees further considered the ability to identify statistically significant differences between watersheds or between years when data from only two wet weather events is collected, as opposed to three events. Again, the Copermittees found that results are similar whether two wet weather events or three are monitored.[243]

While the reduction in the frequency of monitoring of wet weather events will certainly impact the ability to observe statistically significant trends and differences to some extent, the new MRP will advance the understanding of conditions in San Diego County watersheds. Segmenting the watershed and adding new temporary watershed assessment stations will provide additional watershed information relative to magnitude and extent, as well as increased spatial coverage to focus management efforts. Moreover, the MRP provides a more comprehensive temporal view of the watershed with the addition of dry weather monitoring, which will improve the Copermittees' ability to complete the pollutant loading picture.[244]

Sections II.A.1.c-f of the MRP include requirements that standard sampling and analysis protocols are followed by the Copermittees during monitoring. These are generally the same requirements included in Order No. 2001-01.

Section II.A.1.g of the MRP lists the constituents to be monitored at mass loading stations and temporary watershed assessment stations. These constituents have not changed from the constituents monitored under Order No. 2001-01.

Section II.A.1.h of the MRP requires the analysis of several additional constituents at stations in the Chollas Creek watershed. These constituents are required for analysis to assess the contribution of urban runoff to the Toxic Hot Spot at the mouth of Chollas Creek. The requirement for this analysis is consistent with the SWRCB's June 1999 Consolidated Toxic Hot Spot Cleanup Plan.

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[242] Ibid. Attachment 3, p. 14.
[243] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, Appendix A, p. 2-5.
[244] Ibid. Attachment 3, p. 18.

Sections II.A.1.i-j of the MRP identify the toxicity testing to be implemented and require that standard toxicity testing procedures be followed during the testing. These toxicity testing requirements have not changed for the toxicity testing requirements of Order No. 2001-01.

Temporary Watershed Assessment Station Monitoring

Section II.A.2.a of the MRP identifies the number of temporary watershed assessment stations to be monitored in a given year for each watershed. Temporary watershed assessment stations will serve to segment watersheds, providing information on sub-watersheds which have previously not been monitored extensively. This will aid in the identification of water quality problem areas and help identify sources. Temporary watershed assessment stations are recommended by the Model Monitoring Technical Committee in order to answer management questions 1, 2, 3, and 5.[245] The stations are also expected to contribute towards meeting MRP goals 1, 2, 3, 4, 5, 6, and 8.

The section allows for the number of stations within a watershed to change, as long as the total number of stations monitored is not reduced. The number and watershed location of the stations and the frequency that they are to be monitored matches the Copermittees' proposal in their ROWD.[246] However, the location of the stations within each watershed is critical in terms of determining the monitoring program's effectiveness. If correctly sited, the stations are expected to be very useful in answering the program's management questions and meeting the program's goals. For this reason, the MRP includes requirements to guide where the stations are located. This will help maximize the utility of the stations, while also providing the Copermittees with adequate flexibility to ultimately choose the locations of the stations. The requirements for locating the stations is based on recommendations made by USEPA's contractor Tetra Tech during its review of the Copermittees' monitoring program proposal.[247]

Section II.A.2.b of the MRP identifies the required frequency of monitoring of temporary watershed assessment stations in a given year. The stations will be monitored with the same frequency as the mass loading stations. This frequency was proposed by the Copermittees in their ROWD.[248] The frequency of monitoring is appropriate for the same reasons it is appropriate at the mass loading stations (see the discussion for sections II.A.1.a and II.A.1.b).

Section II.A.2.c of the MRP requires temporary watershed assessment stations to be monitored in the same manner as mass loading stations, in terms of procedures, protocols, analysis, etc.

Bioassessment Monitoring

Section II.A.3 of the MRP requires the Copermittees to conduct bioassessment monitoring. Bioassessment monitoring is a cost-effective tool that measures the effects of water quality over time.[249] It is an important indicator of stream health and impacts from urban runoff. It can detect impacts that chemical and toxicity monitoring cannot. USEPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of

[245] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. Chapter 5.
[246] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.
[247] Tetra Tech, Inc., 2006. Review of San Diego County MS4 Monitoring Program. P. 13.
[248] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.
[249] California Department of Fish and Game, 2002. California Regional Water Quality Control Board, San Diego Region 2002 Biological Assessment Report: Results of May 2001 Reference Site Study and Preliminary Index of Biotic Integrity.

impacts from urban runoff.[250] Therefore, the Regional Board commonly requires bioassessment monitoring in MS4 and other types of discharge permits.

Bioassessment is the direct measurement of the biological condition, physical condition, and attainment of beneficial uses of receiving waters (typically using benthic macroinvertebrates, periphyton, and fish). Bioassessment monitoring integrates the effects of both water chemistry and physical habitat impacts (e.g., sedimentation or erosion) of various discharges on the biological community native to the receiving waters. Moreover, bioassessment is a direct measurement of the impact of cumulative, sub-lethal doses of pollutants that may be below reasonable water chemistry detection limits, but that still have biological affects.

Because bioassessment focuses on communities of living organisms as integrators of cumulative impacts resulting from water quality or habitat degradation, it defines the ecological risks resulting from urban runoff. Bioassessment not only identifies that an impact has occurred, but also measures the effect of the impact and tracks recovery when control or restoration measures have been taken. These features make bioassessment a powerful tool to assess compliance, evaluate the effectiveness of BMPs, and to track both short and long-term trends (MRP goals 1,2,3, and 8). Bioassessment can also help answer management questions 1, 2, and 5.

Section II.A.3.a of the MRP specifies the number of bioassessment stations to be monitored and their watershed location. This specification is consistent with Order No. 2001-01's bioassessment requirements and the Copermittees' ROWD.[251] This section also identifies the most current established protocol to be used in identifying bioassessment reference stations. The protocol referenced in the Order is specified because it provides a qualitative and repeatable method for identifying reference sites. Moreover, the protocol is well established, since it has been peer reviewed and published.

Section II.A.3.b of the MRP requires bioassessment stations to be collocated with mass loading and temporary watershed assessment stations. This improves the accuracy of the conclusions of the triad approach for a particular area, since all data will be collected from one location within a watershed, instead of several areas. This approach is recommended by the Copermittees in their ROWD.[252]

Section II.A.3.c of the MRP requires bioassessment monitoring to be conducted in May and October, which is a continuation of the standard practice conducted under Order No. 2001-01. Timing of bioassessment monitoring is also required to coincide with dry weather monitoring at mass loading and temporary watershed assessment stations. This improves the accuracy of the conclusions of the triad approach for particular time periods, since all data will be collected at specific times within a watershed, instead of at different times. This approach is recommended by the Copermittees in their ROWD.[253]

Section II.A.3.d of the MRP requires bioassessment monitoring to utilize the targeted riffle composite approach, which is consistent with the SWRCB's Surface Water Ambient Monitoring Program (SWAMP) Quality Assurance Management Plan (QAMP), as amended. Through SWAMP, various bioassessment methods were evaluated and it was found that the targeted riffle

[250] USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 2-5.
[251] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.
[252] Ibid. Attachment 3, p. 10.
[253] Ibid. Attachment 3, p. 10.

composite approach was a particularly efficient method, providing accurate data in a cost efficient manner.

Section II.A.3.e of the MRP requires bioassessment monitoring to include assessment of periphyton (algae). Advantages of bioassessment using periphyton include: (1) they have rapid reproduction rates and very short life cycles, making them valuable indicators of short-term impacts; (2) as primary producers, they are most directly affected by physical and chemical factors; (3) sampling is easy and inexpensive; and (4) algal assemblages are sensitive to some pollutants which may not visibly affect other aquatic assemblages.[254]

Section II.A.3.f of the MRP specifies an approach for calculation of an Index of Biotic Integrity for all bioassessment stations. The specified approach is consistent with USEPA's procedures for developing an Index of Biotic Integrity. The approach is also specified because it is highly repeatable and robust. In addition, the specified approach has previously been utilized by the Copermittees under Order No. 2001-01's requirements.

Section II.A.3.g of the MRP includes a standard requirement for a professional laboratory to perform the bioassessment procedures.

Follow-Up Analysis and Actions

Section II.A.4 of the MRP requires the Copermittees to use the results of the chemistry, toxicity, and bioassessment monitoring to determine if impacts from urban runoff are occurring and when follow-up actions are necessary. The triad approach allows a wide range of measurements to be combined to more efficiently identify pollutants, their sources, and appropriate follow-up actions. Results from the three types of monitoring shall be assessed to evaluate the extent and causes of pollution in receiving waters and to prioritize management actions to eliminate or reduce the sources. The framework provided in Table 3 is to be used to determine conclusions from the data and appropriate follow-up actions. The framework in Table 3 was derived from the Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California.[255] These follow-up actions are expected to primarily help answer management questions 2 and 4, as well as address MRP goals 2, 4, 5, 6 and 7.

When, based on the framework in Table 3, data indicates the presence of toxic pollutants in runoff, the Copermittees are required to conduct a Toxicity Identification Evaluation (TIE). A TIE is a set of procedures used to identify the specific chemical(s) responsible for toxicity to aquatic organisms. When discharges are toxic to a test organism, a TIE must be conducted to confirm potential constituents of concern and rule out others, therefore allowing Copermittees to determine and prioritize appropriate management actions. If a sample is toxic to more than one species, it is necessary to determine the toxicant(s) affecting each species. If the type and source of pollutants can be identified based on the data alone and an analysis of potential sources in the drainage area, a TIE is not necessary.

When a TIE identifies a pollutant associated with urban runoff as a cause of toxicity, it is then necessary to conduct follow-up actions to identify the causative agents of toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. Follow-up actions should analyze all potential source(s) causing toxicity,

[254] USEPA, 1999. Rapid Bioassessment Protocols for Use in Wadeable Streams and Rivers. EPA 841-B-99-002. P. 3-3.
[255] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 5-61.

potential BMPs to eliminate or reduce the pollutants causing toxicity, and suggested monitoring to demonstrate that toxicity has been removed.

Ambient Bay and Lagoon Monitoring

Sections II.A.5.a-c of the MRP requires to Copermittees to conduct monitoring of the ambient conditions of bays, lagoons, and similar waters. Focused monitoring on these resources is needed because of their uniqueness and the high value of their beneficial uses. Such monitoring is recommended by the Stormwater Monitoring Coalition's Model Monitoring Technical Committee.[256]

The MRP requires the Copermittees to assess the data collected for the bays and lagoons over the last three years and refocus the monitoring program based on the assessment conducted. If links between bay and lagoon conditions and mass loading stations are observed, monitoring is to be conducted in all bays and lagoons in order to gain a better understanding of this relationship. If such a linkage is not observed, special studies shall be conducted specific to the various bays and lagoons and the issues they face. The approach outlined in the MRP for the ambient bay and lagoon monitoring program is based on the proposal found in the Copermittees' ROWD.[257] It is expected to help answer management questions 1, 2, and 5, as well as address MRP goals 1, 2, 3, 6, and 8, with regards to bays and lagoons.

Section II.A.5.d of the MRP requires that ambient bay and lagoon monitoring utilize the triad approach for assessment of data. The triad approach links chemistry, toxicity, and bioassessment data to better identify and understand the causes of impacts to beneficial uses. This approach has previously been used by the Copermittees in their ambient bay and lagoon monitoring.[258]

Section II.A.5.e of the MRP requires monitoring of the water column in bays and lagoons as necessary to supply information needed for TMDLs. This requirement has been added to the MRP to better ensure that storm water and TMDL monitoring complement each other where possible. This is expected to improve the efficiency with which monitoring resources are used. The Copermittees support complementary storm water and TMDL efforts in their ROWD.[259]

Coastal Storm Drain Monitoring

Section II.A.6 of the MRP continues the Copermittees' coastal storm drain monitoring program in the same manner as it was conducted under Order No. 2001-01's receiving waters monitoring program. The coastal storm drain monitoring program outlined in the MRP is consistent with the Copermittees' proposal in their ROWD.[260] Coastal storm drain monitoring is critical because one of the primary impacts to coastal receiving waters is the loss of recreational beneficial uses resulting from high levels of bacteria in urban runoff. The coastal storm drain monitoring program is expected to help answer management questions 1, 2, 3, 4 and 5, as well as address MRP goals 1, 2, 3, 4, 5, 6, 7, and 8.

Sections II.A.6.a and II.A.6.b.(1) of the MRP require the Copermittees to identify all coastal storm drains and sample those that are flowing on a monthly basis. All coastal storm drains are

[256] Ibid. P. 5-38.
[257] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 10-12.
[258] San Diego County Copermittees, 2005. San Diego County Copermittees 2004-2005 Urban Runoff Monitoring Final Report. P. ES-2.
[259] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-10.
[260] Ibid. Attachment 4.

required to be part of the program; skipping certain storm drains simply because they are near other storm drains is inappropriate, since each storm drain can have significantly different conditions within its drainage area. One purpose of coastal storm drain monitoring is to identify and abate sources of bacterial contamination. Since the sources of bacterial contamination at a storm drain are generally not known, the potential for a flowing coastal storm drain to be discharging urban runoff with high levels of bacteria cannot be known unless the storm drain is monitored.

The requirement that all coastal storm drains be part of the program is offset by the reduction in sampling frequency to a monthly basis year round, instead of weekly in the summer and monthly in the winter. Moreover, the MRP allows sampling frequency to be further reduced when monitoring results indicate bacteria levels are consistently below an identified criteria. These reductions in sampling frequency are allowed because the Copermittees have found monthly monitoring to typically be representative of storm drain conditions. Also, the Copermittees have identified some storm drains which consistently have low levels of bacteria and do not cause exceedances of standards in receiving waters. Reduction in monitoring frequency provides the Copermittees with more time and resources to investigate problem storm drains, as required in MRP sections II.A.6.b.3-5. The monitoring frequencies in the MRP are recommended by the Copermittees in their ROWD.[261]

Section II.A.6.b.(2) of the MRP requires the Copermittees to notify the Regional Board if they are going to reduce the monitoring frequency of a coastal storm drain. This will allow the Regional Board the opportunity to review the proposed reduction prior to the reduction being enacted by the Copermittee.

Sections II.A.6.b.(3-5) of the MRP identifies when follow-up investigations must be conducted based on results of coastal storm drain monitoring. Criteria to trigger investigations is needed to ensure that problem storm drains are investigated. Without criteria triggering investigations, there is the potential that sources causing high bacteria levels in storms drains and coastal receiving waters could go uninvestigated.

Section II.A.6.b.(6) of the MRP requires the Copermittees to provide notification of exceedances of public health standards so that proper action can be taken by public health agencies.

Toxic Hot Spot Monitoring

Section II.A.7 of the MRP requires the Copermittees to develop and implement a monitoring program for Toxic Hot Spots in San Diego Bay. This requirement is identical to the requirement included in the receiving waters monitoring and reporting program for Order No. 2001-01, and is necessary to ensure the Order is consistent with the SWRCB's June 1999 Consolidated Toxic Hot Spot Cleanup Plan.

Pyrethroids Monitoring

Section II.A.8 of the MRP requires the Copermittees to develop and implement a monitoring program which addresses pyrethroids. A program to monitor pyrethroids is needed because they are the leading insecticides sold to homeowners and have been found at toxic levels in suburban

[261] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 4.

stream sediments in California when investigated.[262] Moreover, their use is likely to increase as diazinon use decreases. Monitoring of pyrethroids will help guide efforts to ensure that the gains achieved by the phasing out of diazinon are not nullified by increased use of pyrethroids.

Since a monitoring program for pyrethroids is new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop a program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

Trash Monitoring

Section II.A 9 of the MRP requires the Copermittees to develop and implement a monitoring program which addresses trash. A program to monitor trash is needed because trash conditions impacting beneficial uses have frequently been observed within the Copermittees' jurisdictions. For example, the Regional Board directed the Copermittees within the watersheds of Chollas and Paleta Creeks to implement the "iterative process" to address violations of water quality standards due to trash conditions within the creeks.[263] The Regional Board also issued a Notice of Violation to the City of Escondido for trash conditions in Escondido Creek.[264] Moreover, the Copermittees have identified trash as a regional priority.[265]

Since a monitoring program for trash is new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

MS4 Discharge Monitoring

Section II.A.10 of the MRP requires the Copermittees to develop and implement a program to monitor and characterize pollutant discharges from MS4 outfalls. After over 15 years of program implementation, most Copermittees have not monitored their MS4 discharges significantly and still do not know the quality of those discharges during various conditions. Such monitoring is critical, since it will provide for prioritization of areas for increased management efforts. It will also provide the Copermittees the ability to better assess and improve their jurisdictional programs and BMPs. For example, the Copermittees' assessment framework calls for assessing changes in load reductions and MS4 discharge quality.[266] Monitoring of MS4 discharges will enable the Copermittees to meet these program assessment goals. Without monitoring of MS4 discharges, it is unclear how these program assessment goals will be met. This type of monitoring is recommended for high priority outfalls by the Stormwater Monitoring Coalitions' Model Monitoring Technical Committee.[267] It is expected to help answer management questions

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[262] Science News Online, 2006. A Little Less Green? Studies Challenge the Benign Image of Pyrethroid Insecticides. www.sciencenews.org/articles/20060204/bob9/asp.
[263] Regional Board, 2001. California Water Code Section 13267 Directives Issued to the City of San Diego, City of La Mesa, City of Lemon Grove, and City of National City.
[264] Regional Board, 2000. Notice of Violation No. 2000-181.
[265] San Diego County Copermittees, 2005. Report of Waste Discharge. P. C-3.
[266] San Diego Municipal Stormwater Copermittees, 2003. A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs. P. 14.
[267] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 5-55.

3and 4, which is consistent with Tetra Tech's review of the Copermittees' monitoring proposal, which stated "give substantially more attention of questions 3 and 4."[268] It will also address MRP goals 1, 2, 4, 5, 6, and 7.

Since a monitoring program for MS4 discharges is new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

Source Identification Studies

Section II.A.11 of the MRP requires the Copermittees to develop and implement a program to identify sources of discharges of pollutants causing the high priority water quality problems within each watershed. Identification of sources causing high priority water quality problems is a central purpose of urban runoff management programs. Monitoring which enables the Copermittees to identify sources of water quality problems aids the Copermittees in focusing their management efforts and improving their programs. In turn, the Copermittees' programs can abate identified sources, which will improve the quality of urban runoff discharges and receiving waters. This monitoring is needed to address management question 4 (What are the sources to urban runoff that contribute to receiving water problems?). Source identification monitoring is a key component of the Model Monitoring Program, which states "once it has been determined […] that urban runoff is, or is likely to be, a significant source of one or more receiving water problems, then more intensive source identification efforts are called for."[269] Moreover, in its review of the Copermittees' monitoring proposal, Tetra Tech finds that "after some years of assessment monitoring, it is time to look more systematically at determining the relative urban contributions and the sources of urban runoff that contribute to identified receiving water problems."[270]

Since a monitoring program for source identification is mostly new, the Copermittees are provided significant leeway in the development and implementation of the program. The Copermittees can utilize the flexibility incorporated into the MRP to develop program that is workable for them while providing the necessary information. Moreover, the MRP provides the Copermittees with over a year to develop the program.

TMDL Monitoring

Section II.A.12 of the MRP requires the Copermittees to continue to monitor for TMDLs in Chollas Creek as required in the Regional Board's Investigation Order No. R9-2004-0277.

Regional Monitoring Program

Section II.B.1 of the MRP requires the Copermittees to conduct regional monitoring if directed by the Executive Officer. Such investigations may be required under CWC sections 13267 and 13383.

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[268] Tetra Tech Inc., 2006. Review of San Diego County MS4 Monitoring Program. P. 15.
[269] Model Monitoring Technical Committee, 2004. Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California. P. 4-17.
[270] Tetra Tech Inc., 2006. Review of San Diego County MS4 Monitoring Program. P. 15.

Section II.B.2 of the MRP allows the Copermittees to participate in Bight '08. This will provide the Copermittees and Regional Board with insight on the impact of urban runoff on a regional level in the Southern California Bight. Participation in Bight '08 was recommended by the Copermittees in their ROWD.[271] Since participation in Bight '08 is optional for the Copermittees, this section outlines the monitoring which must be conducted if the Copermittees do not participate in the study. The monitoring the Copermittees are to conduct if they do not participate in Bight '08 is consistent with the monitoring they are required to conduct in other years.

Special Studies

Section II.C of the MRP requires the Copermittees to conduct special investigations if directed by the Executive Officer. Such investigations may be required under California Water Code sections 13267 and 13383.

Dry Weather Field Screening and Analytical Monitoring

Section II.D of the MRP requires the Copermittees to conduct dry weather field screening and analytical monitoring. In general, the Order's requirements are the same as the dry weather monitoring requirements of Order No. 2001-01. Significant changes in the requirements are discussed below.

Section II.D.1 of the MRP requires the Copermittees to select dry weather monitoring stations to cover the entire MS4 system, as well as be in compliance with minimum guidelines/criteria. These criteria require a minimum number of stations per square mile. Additional language has been added to provide the Copermittees flexibility in providing equivalent coverage of the MS4 with fewer stations.

In its October 29, 2004 letter to the Copermittees, as well as in subsequent meetings, the Regional Board notified the Copermittees that a process should be developed for determining the minimum number of dry weather sampling stations that should be required in each jurisdiction. The process was needed due to the apparent disparity in the number of sampling stations among the Copermittees. The Copermittees formed a subcommittee to address this issue, but were unable to develop a consensus process. As a result, the Copermittees have requested that a standardized method for determining number of dry monitoring stations not be included in the Order. In response, the Regional Board has relied on Order No. 2001-01's requirements and some additional clarifying language. This continues Order No. 2001-01's process for identifying the number of stations, while allowing the Regional Board to evaluate the adequacy of the each Copermittee's number of dry weather stations.

Order No. 2001-01's requirement for a monitoring map (Task 5) has been moved to the Illicit Discharge Detection and Elimination Component of Order No. R9-2007-0001. This has been done for clarification purposes, since map development is not expressly a monitoring effort.

Section II.D.3 of the MRP requires the Copermittees to collect and analyze dry weather samples using laboratory or field screening methods. Language to has been added to this section to reflect that the Copermittees must collect samples for analytical laboratory analysis for at least 25% of dry weather monitoring stations.

[271] San Diego County Copermittees, 2005. Report of Waste Discharge. Attachment 3, p. 12.

In the ROWD, the Copermittees requested field screening be allowed for surfactants and dissolved copper constituents. The Copermittees also requested that Colilert and Enterolert methods should be allowed for bacteria sampling. The Regional Board agrees with the Copermittees' proposed changes since they will expedite the turnaround time for sampling results for these constituents and assist the Copermittees in their IC/ID investigations. In response the Copermittees' request, surfactants and dissolved copper have been added to the list of field screening constituents. A footnote has also been added allowing for use of Colilert and Enterolert methods for bacteria.

Monitoring Provisions

Section II.E of the MRP includes monitoring provisions which are standard requirements for all municipal storm water permits.

3. Reporting Program

Section III.1 of the MRP discusses submittal of the Jurisdictional Urban Runoff Management Program Annual Reports. The section continues the approach utilized under the requirements of Order No. 2001-01, where Copermittees submit their reports to the Principal Permittee to be unified into one document. The section moves forward the due date for these annual reports from January 31 to September 30. This requires jurisdictional annual reports to be submitted closer to the end of the reporting period they address, which will result in earlier review by the Regional Board. Submittal will also be staggered with submittal of the watershed and regional annual reports, spreading out Regional Board review of annual reports, leading to faster review. Earlier and faster review is useful, because Regional Board comments can be received and responded to quicker by the Copermittees. In this manner, Copermittee programs can be modified and benefit from the jurisdictional annual report review, comment, response process at an earlier date, leading to more effective program over the long-term. In their ROWD, the Copermittees agree that separating due dates for jurisdictional and watershed annual reports would be helpful in spreading out the workload associated with their preparation.[272]

Sections III.2.a and III.2.c of the MRP continues the reporting approach utilized under the requirements of Order No. 2001-01, where Lead Permittees for each watershed submit their annual reports to the Principal Permittee to be unified into one document.

Section III.2.b of the MRP outlines the information to be included in the Copermittees' Watershed Urban Runoff Management Program Annual Reports. Significant detail is included regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

Section III.3 of the MRP outlines the information to be included in the Copermittees' RURMP Annual Reports. Significant detail is included regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

[272] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-81.

Section III.4.a of the MRP requires the Copermittees to annually submit a description of the monitoring that will be conducted prior to the start of each monitoring year. This is needed because of the changes the monitoring program frequently undergoes each year. For example, as monitoring programs develop, some monitoring components of the programs are added or dropped. In addition, requirements for conducting monitoring efforts such as TIEs may be applicable. A description of the monitoring to be conducted each year will aid the Regional Board and Copermittees in tracking monitoring activities and compliance with the MRP.

Section III.4.b of the MRP outlines the information to be included in the Copermittees' Receiving Waters Monitoring Annual Reports. The information required to be included in the reports is needed to meet the goals of the MRP and answer the MRP's management questions. The reporting requirements emphasize identifying and assessing the impact of urban runoff on receiving water quality, as well as the impact of the Copermittees' programs on urban runoff quality. Significant detail is included regarding what information should be in the annual reports in order to provide certainty to the Copermittees when they develop and submit their annual reports. By providing detail for what information should be included in the annual reports, time spent by the Copermittees and Regional Board to generate, review, and comment on annual reports should be reduced.

Section III.4.c of the MRP requires the Copermittees to submit a description of the new monitoring programs to be developed under the MRP. Submittal of such a document is necessary in order to identify the monitoring that will be conducted and provide the Regional Board the opportunity to review the monitoring programs.

Section III.4.d of the MRP requires the City of San Diego to report on the Shelter Island Yacht Basin TMDL in order to exhibit that the WLA can be expected to continue to be met. This report is necessary, since MS4 discharge monitoring is not required by the TMDL.

Section III.4.e of the MRP requires that monitoring programs comply with standard provisions, notifications, and reporting requirements.

Section III.4.f of the MRP requires that the Copermittees make data available to the Regional Board during report preparation, if requested. This is a necessary option since monitoring annual reports are not submitted for many months after much of the monitoring data is collected.

Section III.5 of the MRP allows for the Copermittees to develop and submit a reporting format for annual report integration. In their ROWD, the Copermittees requested a requirement that annual reporting ultimately be integrated.[273] Rather than including annual report integration as a requirement in the Order, it is included as an option for the Copermittees to utilize. Annual report integration is left as an option because information addressing what such integration would encompass is largely unknown. Annual reporting is an important tool for the Regional Board for compliance assessment. Where the outcomes regarding compliance assessment are uncertain, it is more appropriate to incorporate such concepts into the Order as options, instead of requirements. However, nothing in the Order prevents the Copermittees from developing an annual report integration format for Regional Board review and approval. To clarify Regional Board expectations for an annual report integration format, minimum standards for the format are provided in the Order.

[273] San Diego County Copermittees, 2005. Report of Waste Discharge. P. D-77.

Section III.6 of the MRP includes universal reporting requirements, which have not changed from the requirements of Order No. 2001-01.

Section III.7 of the MRP clarifies that reporting should continue as it is conducted under Order No. 2001-01 until reporting requirements under Order No. R9-2007-0001 begin.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ADDENDUM NO. 1 TO ORDER NO. R9-2007-0001
NPDES PERMIT NO. CAS0108758

AN ADDENDUM EXTENDING SELECTED DUE DATES FOR ORDER NO. R9-2007-0001 AS A RESULT OF THE OCTOBER 2007 WILDFIRES IN SAN DIEGO COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds that:

1. Regional Board Order No. R9-2007-0001 (NPDES Permit No. CAS0108758), *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority*, prescribes requirements for the control of pollutant discharges from MS4s within San Diego County.

2. Order No. R9-2007-0001 requires the Copermittees to submit reports and plans on prescribed dates to ensure compliance with the directives of Order No. R9-2007-001.

3. On October 21, 2007, the Governor proclaimed a regional disaster area in the San Diego Region. As of November 13, 2007, wildfires had reportedly burned an estimated 400,000 acres, destroyed or damaged over 3,100 structures, and caused the evacuation of over 500,000 residents in San Diego County.

4. On November 13, 2007, the County of San Diego, on behalf of the San Diego Region Municipal Copermittees, provided the Regional Board with a written request for an extension of due dates for a period of up to eight weeks, for the submittal and implementation of selected deliverables, required by Order No. R9-2007-0001. The Copermittees emergency response to the wildfires has resulted in the reassignment of hundreds of staff whose expertise is needed to submit the deliverables by the prescribed due dates.

5. The Regional Board has notified all known interested parties of its intent to modify Order No. R9-2007-0001 to reflect the extension of due dates for selected required deliverables.

6. The Regional Board in a public hearing heard and considered all comments pertaining to the modification of Order No. R9-2007-0001.

IT IS HEREBY ORDERED THAT

1. Order No. R9-2007-0001 is modified as the following:

   a. Jurisdictional Urban Runoff Management Program, Section D, page 15 – "Each Copermittee shall implement all requirements of section D of this Order no later than ~~365~~ **425** days after adoption of the Order, unless otherwise specified in this Order. Prior to ~~365~~ **425** days after adoption of the Order each Copermittee shall at a minimum implement is Jurisdictional URMP document, as the document was developed and amended to comply with the requirements of Order No. 2001-01."

   b. Construction Component Ordinance Update and Approval Process, Section D.2.a.(1), page 28 – "Within ~~365~~ **425** days of adoption of this Order, each Copermittee shall review and update its grading ordinances and other ordinances as necessary to achieve full compliance with this Order, including requirements for the implementation of all designated BMPs and other measures."

   c. Watershed Urban Runoff Management Program, Section E.1, page 46 – "Each Copermittee shall implement all requirements of section E of this Order no later than ~~365~~ **425** days after adoption of this Order, unless otherwise specified in this Order. Prior to ~~365~~ **425** days after adoption of this Order, each Copermittee shall collaborate with the other Copermittees within its Watershed Management Area(s) (WMA) to at a minimum implement its Watershed URMP document, as the document was developed and amended to comply with the requirements of Order No. 2001-01."

   d. Regional Urban Runoff Management Program, Section F, page 50 – "The Copermittees shall implement all requirements of section F of this Order no later than ~~365~~ **425** days after adoption of this Order, unless otherwise specified in this Order."

   e. Reporting, Urban Runoff Management Plans, Jurisdictional Urban Runoff Management Plans, Section J.1.a.(2), page 58 – "Principal Permittee – The Principal Permittee shall be responsible for collecting and assembling the individual JURMPs which cover the activities conducted by each individual Copermittee. The Principal Permittee shall submit the JURMPs to the Regional Board ~~365~~ **425** days after adoption of this Order."

   f. Reporting, Urban Runoff Management Plans, Watershed Urban Runoff Management Plans, Section J.1.b.(3), page 62 – "Principal Permittee – The Principal Permittee shall assemble and submit the WURMPs to the Regional Board ~~365~~ **425** days after adoption of this Order."

g. Reporting, Urban Runoff Management Plans, Regional Urban Runoff Management Plan, Section J.1.c.(2), page 64 – "The Principal Permittee shall be responsible for creating and submitting the RURMP. The Principal Permittee shall submit the RURMP to the Regional Board ~~365~~ **425** days after adoption of this Order."

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Addendum adopted by the California Regional Water Quality Control Board, San Diego Region, on December 12, 2007.

JOHN H. ROBERTUS
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ADDENDUM NO. 2 TO ORDER NO. R9-2007-0001
NPDES PERMIT NO. CAS0108758

AN ADDENDUM EXTENDING THE DUE DATE FOR THE ILLICIT DISCHARGE DETECTION AND ELIMINATION REPORTING REQUIREMENT AND CHANGING THE BIOASSESSMENT MONITORING PROGRAM FOR ORDER NO. R9-2007-0001

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds that:

1. On January 24, 2007, the Regional Board adopted Order No. R9-2007-0001 (NPDES Permit No. CAS0108758), *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority (Copermittees)*, which prescribes requirements for the control of pollutant discharges from MS4s within San Diego County.

2. Order No. R9-2007-0001 requires the Copermittees to submit reports and plans on prescribed dates to ensure compliance with the directives of Order No. R9-2007-001. As part of the reporting requirements, the Copermittees must submit Jurisdictional Urban Runoff Management Plan (JURMP) annual reports by September 30th each year. This includes reporting on the Illicit Discharge Detection and Elimination program component.

3. The Illicit Discharge Detection and Elimination program component involves extensive water quality sampling during the dry weather season. The dry weather season is defined as May 1 through September 30th.

4. More time is needed for reporting of the Illicit Discharge Detection and Elimination program component, since the current reporting requirement due date is on the same calendar day as the end of the dry weather season. A delayed reporting requirement for this specific program component is necessary to submit all dry season monitoring and program information together.

5. Order No. R9-2007-0001 requires the Copermittees to conduct bioassessment in May or June and September or October in accordance with the Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001.

6. Bioassessment in May or June is more effective in San Diego streams since some streams are ephemeral and only have flow during spring after winter storms.

7. The Stormwater Monitoring Coalition of Southern California designed a Storm Water Monitoring Coalition Regional Watershed Monitoring Program (SMC study). The goal of this project is to implement a large-scale, regional bioassessment monitoring program for southern California's coastal streams and rivers. The SMC study will use a probabilistic design (randomly selected sites) that provides an accurate assessment of stream health in southern California. The study is designed for continuous monitoring with samples taken over a five-year cycle.

8. Participation of the Copermitees in the SMC study would enhance their bioassessment monitoring efforts. The Regional Board and the Copermittees have agreed to share the costs of the implementation of the SMC study.

9. The Regional Board has notified all known interested parties of its intent to modify Order No. R9-2007-0001 to reflect the extension of the due date for the Illicit Discharge Detection and Elimination reporting requirement and the change of the bioassessment monitoring program.

10. The Regional Board in a public hearing heard and considered all comments pertaining to the modification of Order No. R9-2007-0001.

11. The modification of Order No. R9-2007-0001, an NPDES permit, is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (CEQA) (Public Resources Code, Division 13, Chapter 3, section 21000 et seq.) in accordance with the CWC section 13389.

IT IS HEREBY ORDERED THAT

1. Order No. R9-2007-0001 is modified as follows:

   a. Section J.3.a. JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORTS. Each Jurisdictional Urban Runoff Management Program Annual Report shall contain a comprehensive description of all activities conducted by the Copermittee to meet all requirements of section D**, with the exception of section D.4**. The reporting period for these annual reports shall be the previous fiscal year. ~~**For example, the**~~ The report submitted September 30, 2008 shall cover the reporting period July 1, 2007 to June 30, 2008. **For section D.4, the report shall be submitted December 15, 2008, and shall cover the dry weather season May 1, 2008 through September 30, 2008**.

(1) Copermittees—Each Copermittee shall generate individual Jurisdictional Urban Runoff Management Program Annual Reports which cover implementation of its jurisdictional activities during the past annual reporting period. Each Copermittee shall submit to the Principal Permittee its individual Jurisdictional Urban Runoff Management Program Annual Report by the date specified by the Principal Permittee. Each individual Jurisdictional Urban Runoff Management Program Annual Report shall be a comprehensive description of all activities conducted by the Copermittees to meet all requirements of each component of section D, **with the exception of section D.4,** of this order.

(2) Principal Permittee—The Principal Permittee shall submit Unified Jurisdictional Urban Runoff Management Program Annual Reports to the Regional Board by September 30 of each year, beginning on September 30, 2008. **The exception is section D.4, which shall be submitted by December 15 of each year, beginning on December 15, 2008.** The Unified Jurisdictional Urban Runoff Management Program Annual Report shall contain the twenty-one individual Jurisdictional Urban Runoff Management Program Annual Reports.

b. Attachment D, fourth row from bottom:

Principal Permittee submits unified Jurisdictional Urban Runoff Management Program Annual Report to Regional Board**, with the exception of section D.4.**

Add new row:

Principal Permittee submits section D.4 of unified Jurisdictional Urban Runoff Management Program Annual Report.
Permit Section: J.3.a.

Completion Date: December 15, 2008, and annually thereafter
Frequency: Annually

c. Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001, Section II.A.3.c:

Bioassessment stations to be monitored in a given monitoring year shall be monitored in May or June (to represent the influence of wet weather on the communities) and September or October (to represent the influence of dry weather flows on the communities). **If the Copermittees participate in the Storm Water Monitoring Coalition Regional Watershed Monitoring Program, bioassessment stations only need to be monitored once per year in May or June.** The timing of monitoring of

bioassessment stations shall coincide with dry weather monitoring of mass loading and temporary watershed assessment stations.

d. Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001, Section II.C.3:

3. Storm Water Monitoring Coalition Regional Watershed Monitoring Program (SMC study) Starting in the monitoring year 2008-2009 (Permit Year 2), the Copermittees may participate in the SMC study. Any participation shall include the contribution of all funds not otherwise spent for the full implementation of the bioassessment monitoring. If the Copermittees do not participate in the SMC study, then the bioassessment monitoring in spring and fall shall be implemented. During Bight '08, the Copermittees are not required to spend funds from the bioassessment monitoring towards the SMC study. During Bight years subsequent to Bight '08, monitoring for the SMC study shall be implemented and shall not be exchanged for Bight monitoring. Data shall be submitted through the SMC's standardized data transfer formats.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Addendum adopted by the California Regional Water Quality Control Board, San Diego Region, on September 10, 2008.

JOHN H. ROBERTUS
Executive Officer