

# TENTATIVE

## CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL VALLEY REGION

ORDER NO. R5-2008-\_\_\_\_\_

NPDES NO. CAS082597

### WASTE DISCHARGE REQUIREMENTS

#### CITIES OF CITRUS HEIGHTS, ELK GROVE, FOLSOM, GALT, RANCHO CORDOVA, SACRAMENTO, AND COUNTY OF SACRAMENTO STORM WATER DISCHARGES FROM MUNICIPAL SEPARATE STORM SEWER SYSTEM SACRAMENTO COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Water Board) finds that:

1. The Cities of Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, Sacramento and the County of Sacramento, hereafter jointly referred to as Permittees, submitted a completed Report of Waste Discharge (ROWD) on 1 June 2007, requesting reissuance of waste discharge requirements under the National Pollutant Discharge Elimination System (NPDES) area-wide municipal separate storm sewer system (MS4) permit to discharge storm water runoff from storm drains within their jurisdictions. Included with the ROWD was the Permittees' Stormwater Quality Improvement Plans (SQIPs, a.k.a. Storm Water Management Plan (SWMP)). The SQIP is required as part of the ROWD pursuant to 40 CFR 122.26(d)(2)(iv); therefore it is an integral and enforceable component of the MS4 permit. In addition, the California Superior Court ruled, "*Because the Storm water Management Plan is incorporated and is deemed an integral part of the Permits...any changes to the Plan are actually changes to the Permits. Because these are changes to the Permits, the notice and comment requirements must be complied with.*" (*San Francisco Baykeeper vs. Regional Water Quality Control Board, San Francisco Bay Region*, Consolidated Case No. 500527, California Superior Court, 14 November 2003).
2. The Permittees have chosen the title of Stormwater Quality Improvement Plan (SQIP) to refer to any SWMP requirements or references in this Order.
3. Prior to issuance of this Order, the Permittees were covered under the NPDES area-wide MS4 permit, Order No. R5-2002-0206 (NPDES No. CAS082597), adopted on 6 December 2002. The MS4 permit was originally issued in 1990 and this will be the Permittees fourth permit term.
4. The County and the City of Sacramento (population approximately 1.4 million) are defined as large municipalities (i.e., those with populations greater than 250,000) in the Code of

Federal Regulations (40 CFR 122.26(b)(7)). As such, the County and the City of Sacramento must obtain an NPDES municipal storm water permit. The City of Sacramento has a population of approximately 468,000.

5. The City of Folsom is an urbanized area with a population of about 71,000. Because of its proximity to the urbanized areas of the County, and the location of its storm sewer system discharges relative to discharges from the County's system, Folsom was designated in 1990 as part of the large MS4 (40 CFR 122.26(b)(4)(iii)).
6. The City of Galt is an urbanized area with a population of about 24,000. Galt is unlike the other Permittees in that its MS4 is non-contiguous with the other MS4s; it is also surrounded by rural and agricultural areas that are not subject to the NPDES regulations. Galt became part of the Phase I Sacramento Storm Water Management Program voluntarily in 1990.
7. The Cities of Citrus Heights and Rancho Cordova have a population of less than 100,000 with contiguous urbanized areas within the County. Therefore, the Cities of Citrus Heights and Rancho Cordova are designated as part of the large MS4.
8. The City of Elk Grove has a population of approximately 137,000 and has the nation's fastest growth rate among large cities (100,000 or more population) between July 1, 2004, and July 1, 2005, according to new U.S. Census Bureau population estimates. The City is a contiguous urbanized area within the County. Therefore, the City of Elk Grove is designated as part of the large MS4.
9. Additional cities located in Sacramento County may be incorporated during the life of this Order. If that occurs, the Order may be reopened to consider designating those cities as part of the large MS4, and subject to the requirements of the Order.
10. The MS4 Permit does not apply to all areas within Sacramento County. The MS4 permit covers the land within the Sacramento County Urban Service Area boundary, as well as the City of Galt and the Sacramento International Airport. Land designated within the Urban Service Area includes the Cities of Citrus Heights, Elk Grove, Folsom, Rancho Cordova, Sacramento and unincorporated Sacramento County.
11. The Permittees have jurisdiction over and/or maintenance responsibilities for their respective MS4s that they own and operate in the Sacramento Urbanized Area. The storm water discharge consists of urban runoff generated from various land uses discharging from MS4s into smaller tributary watercourses and the primary rivers flowing through the area. The quality and quantity of these discharges varies considerably due to the effects of land use, season, geology, and the sequence and duration of hydrologic events.
12. Development which is not guided by water quality planning policies and principles can result in increased pollutant load discharges, flow rates, and flow durations, which can impact receiving water beneficial uses. Construction sites without adequate best management practices (BMPs) implementation result in sediment runoff rates which can

greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. Existing development without adequate BMPs can generate substantial pollutant loads, which can be discharged in urban runoff to receiving waters.

13. The Permittees' land use authority allows urban developments that may generate pollutants and runoff that could impair receiving water quality and beneficial uses. The Permittees are therefore responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Clean Water Act (CWA) requirement to reduce the discharge of pollutants in municipal storm water to the MEP from new development and redevelopment activities. In addition, the Permittees must exercise their legal authority to ensure that the increased pollutant loads and flows do not degrade the beneficial uses of the receiving water.
14. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with California Health and Safety Code § 2270 et seq. and §116110 et seq. Certain Treatment Control Best Management Practices (BMPs) if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order expects that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.
15. There are portions of the Sacramento MS4 that are rural, and open space lands. It is not the intent of the federal storm water regulations to regulate storm water discharges from land uses of these types. Therefore, these areas are exempt from the requirements of this Order. However, discharges from these sources may be subject to TMDL allocations and control programs.
16. 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 can 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 forces.<sup>1</sup>

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<sup>1</sup> 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.

17. 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 be washed or directly dumped into the MS4. As a result, the runoff leaving the developed urban area may be 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.
18. Development and urbanization may threaten environmentally sensitive areas (ESAs), which are water bodies supporting a rare beneficial use (supporting rare, threatened or endangered species) and CWA 303(d) impaired water bodies. These waters have a reduced capacity to withstand certain pollutant loads. In essence, development that is ordinarily insignificant in its impact on the environment may be 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.
19. Infiltration is a technique that can be used to treat and reduce site runoff in areas with appropriate soils where the infiltration of storm water would not pose a potential threat to groundwater quality. Precautions must be taken to avoid damage to structures, roadways and utilities. The risks associated with infiltration can be managed by various techniques, such as: (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) requiring setbacks and other features to protect footings and foundations; and (4) ensuring that each drainage feature is adequately maintained in perpetuity.
20. The Permittees implement New Development Standards to mitigate potential urban runoff pollution and other water quality impacts associated with new development and redevelopment. As indicated by the anti-degradation analysis submitted in October 2007, and the 2005 Discharge Characterization study, the Permittee New Development Standards have been implemented to mitigate water quality impacts with new development and redevelopment.

### **DISCHARGE CHARACTERISTICS**

21. The quality and quantity of MS4 discharges vary considerably because of the effects of hydrology, geology, land use, season, and sequence and duration of precipitation events. Urban storm water runoff may contain pollutants that may lower the quality of receiving waters and adversely impact beneficial uses of the Lower Sacramento and American River watersheds. Studies indicate there may be increases in pollutant levels and aquatic toxicity in receiving waters as a result of urban storm water discharges.
22. Pollutants that may be contained in storm water include, but are not limited to, certain heavy metals; sediments; petroleum hydrocarbons from sources such as used motor oil; microbial pathogens; pesticides; sources of acute and chronic aquatic toxicity; and

nutrients that cause or contribute to the depletion of dissolved oxygen and/or toxic conditions in the receiving water. Excessive flow rates of storm water may cause or contribute to downstream erosion and/or excessive sediment discharge and deposition in stream channels.

23. The discharge of wash waters and polluted storm water from industries and businesses is an environmental threat, and can also adversely impact public health and safety. The pollutants of concern in such wash waters include food waste, oil and grease, and toxic chemicals (Washtenaw County Statutory Drainage Board – 1987 Huron River Pollution Abatement Program). Other storm water/industrial waste programs in California have reported similar observations and have identified illicit discharges from automotive and food service facilities as a major cause of contamination and water quality problems.
24. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: polyaromatic hydrocarbons which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate, pesticides, metals, and mercury from wet and dry atmospheric deposition; lead from fuels, copper from brake pad wear; zinc from tire wear; bacteria from natural sources including wildlife; dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters to the MEP.
25. The Permittees have been monitoring storm water discharges since inception of the program in 1990. The Permittees have conducted various types of monitoring and maintain a database that includes data from river, creek and urban run-off discharge quality characterization, as well as water column toxicity and bioassessment monitoring.
26. The previous permit required under Discharge Prohibition. B. Receiving Water Limitations, the submittal of a report of water quality exceedance (RWQE) upon determination by either the Permittee or Regional Water Board that discharges are causing or contributing to an exceedance of applicable Water Quality Standards. As a result, the Permittees initiated studies for pesticide and metals persistence, and assessment of metals toxicity, and follow-up monitoring related to exceedances for pH, temperature, and dissolved oxygen in urban tributaries and pathogen source identification efforts.
27. In addition, the Permittees have developed and implemented a Target Pollutant Program (referred to as Water Quality Based Programs in this Order) to target specific pollutants that have been identified to cause or contribute to exceedances of water quality standards and potential impairment of beneficial uses. During the third permit term these programs included:
  - Pesticide Plan (including organophosphate pesticides);
  - Mercury Plan

- Fecal Waste Reduction Strategy
- Lead and Copper Control Strategies

The progress in implementing these plans has been reported in the Permittees' annual reports.

### STATUTORY AND REGULATORY CONSIDERATIONS

28. The CWA authorizes the U.S. Environmental Protection Agency (U.S. EPA) to permit a state to serve as the NPDES permitting authority in lieu of the U.S. EPA. The State of California has in-lieu authority for the NPDES program. The Porter-Cologne Water Quality Control Act or California Water Code (CWC) authorizes the State Water Resources Control Board (State Board), through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State. On 22 September 1989, the State Board entered into a memorandum of agreement with the U.S. EPA to administer the NPDES Program governing discharges to waters of the United States.
29. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIII B, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Order implements federally mandated requirements under federal Clean Water Act section 402, subdivision (p)(3)(B). (33 U.S.C. § 1342(p)(3)(B).) This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Federal cases have held these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (*Natural Resources Defense Council, Inc. v. U.S. E.P.A.* (9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.) The authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause (*cf. Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements which are not "less stringent" than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

Likewise, the provisions of this Order to implement total maximum daily loads (TMDLs) are federal mandates. The federal Clean Water Act requires TMDLs to be developed for water bodies that do not meet federal water quality standards. (33 U.S.C. § 1313(d).) Once the U.S. Environmental Protection Agency or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable waste load allocation. (40 C.F.R. § 122.44(d)(1)(vii)(B).)]

Second, the local agency permittees' obligations under this Order are similar to the obligations of non-governmental dischargers who are issued NPDES permits for storm water discharges. With a few inapplicable exceptions, the Clean Water Act regulates the discharge of pollutants from point sources (33 U.S.C. § 1342) and the Porter-Cologne regulates the discharge of waste (Wat. Code, § 13263), both without regard to the source of the pollutant or waste. As a result, the "costs incurred by local agencies" to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and nongovernmental dischargers. (See *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 57-58 [finding comprehensive workers compensation scheme did not create a cost for local agencies that was subject to state subvention].)

Third, the local agency permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. The fact sheet demonstrates that numerous activities contribute to the pollutant loading in the municipal separate storm sewer system. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

Fourth, the permittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in federal Clean Water Act section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their discharges. To the extent, the local agencies have voluntarily availed themselves of the permit, the program is not a state mandate. (Accord *County of San Diego v. State of California* (1997) 15 Cal.4th 68, 107-108.) Likewise, the permittees have voluntarily sought a program-based municipal storm water permit in lieu of a numeric limits approach. (See *City of Abilene v. U.S. E.P.A.* (5th Cir. 2003) 325 F.3d 657, 662-663 [noting that municipalities can choose between a management permit or a permit with numeric limits].) The local agencies' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See *Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832, 845-848.)

Fifth, the local agencies' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under state law predates the enactment of Article XIII B, Section (6) of the California Constitution.

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

- The U.S. EPA Phase I storm water regulations were directed at MS4s serving a population of 100,000 or more, including interconnected systems and storm water discharges associated with industrial activities, including construction activities. The Phase I Final Rule was published on November 16, 1990 (55 *Fed. Reg.* 47990).
  - The U.S. EPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the U.S. EPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (64 *Fed. Reg.* 68722).
31. This Order specifies requirements necessary for the Permittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP).<sup>2</sup> However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Permittees' storm water programs must continually be assessed and modified to incorporate improved programs, control measures, and best management practices (BMPs), etc. in order to achieve the evolving MEP standard. MEP is a 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. Factors that must be considered when defining MEP include, but is not limited to; effectiveness, regulatory compliance, public acceptance, cost and technical feasibility. This continual assessment, revision, and improvement of storm water management program implementation is expected to ultimately achieve compliance with water quality standards.
32. This Order contains requirements based on assessments by Regional Water Board staff. Those assessments found that modifications were necessary to improve the Permittees efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality standards.
33. This Order is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water runoff to the MEP from the permitted areas in the Sacramento Urbanized Area subject to the Permittees' jurisdiction to receiving waters.
34. Section 402(p)(3)(B)(ii) of the CWA requires that NPDES permits effectively prohibit non-storm water discharges into MS4s. Federal regulation 40 CFR 122.26(d)(2)(iv)(B)(1) requires control programs to prevent illicit discharges to MS4s and allows certain categories of non-storm water discharges to MS4s, provided that the Permittees eliminate such discharges once they are identified as sources of pollutants to waters of

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<sup>2</sup> A definition of MEP may be found in Attachment C.

the United States. Illicit discharges can include low levels of chlorine if they originate from potable water sources.

35. The State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (General Industrial Permit)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (General Construction Permit)]. These two General Permits are scheduled for renewal during this 5-year term of this Order. In addition, the Regional Water Board has issued General Permit Order No. R5-2008-0082 for dewatering and other low threat discharges, which authorizes such discharges to the MS4s owned and operated by Permittees. This Order requires the Permittees to conduct compliance inspections at industries and construction sites that discharge to their MS4s. Many of these sites are currently covered under State NPDES General Permits.
36. The Permittees have adopted their own respective storm water ordinances. These ordinances provide the Permittees the authority to protect and enhance the water quality of watercourses, water bodies, and wetlands in the Sacramento Urbanized Area in a manner pursuant to and consistent with the CWA and the Porter-Cologne Water Quality Control Act.
37. Federal regulations 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 Permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. Federal regulations require that Permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the U.S. EPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Water Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 Fed. Reg. 61157).
38. When industrial or construction site discharges occur in violation of local permits and ordinances, the Regional Water Board defers first to the municipality where the discharge occurs for appropriate actions. If the municipality has demonstrated a good faith effort to educate and enforce but remains unsuccessful, the Regional Water Board may assist the municipality and conduct a cooperative investigation and/or enforcement effort including enforcement of the applicable statewide General Permit. If the municipality has not demonstrated a good faith enforcement effort, the Regional Water Board may initiate enforcement action against both the industrial or construction discharger under the statewide General Permits, as well as against the authorizing municipal Permittee for violations of this Order. Each Permittee must also provide the first level of enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.
39. This Order shall assure compliance with water quality standards. This Order therefore includes requirements to the effect that discharges shall not cause or contribute to

violations of water quality standards that would cause or create a condition of nuisance, pollution, or water quality impairment in receiving waters. The Regional Water Board is requiring that these requirements be addressed through the effective implementation of Best Management Practices (BMPs) to reduce pollutants in storm water.

40. Regulations in 40 CFR 122.26(d)(2)(iv) require that the SQIP be implemented during the entire duration of the permit, which is five years. The Permittees shall demonstrate substantial compliance with the SQIP and this Order through the information and data supplied in the Annual Report. The SQIP shall remain in effect as an integral and enforceable part of this Order until revised and approved by the Regional Water Board. If there are conflicts between the SQIP and this Order, then the Order supercedes the SQIP.
41. Federal, state, regional, or local entities within the Permittees' boundaries, not currently named in this Order, operate storm drain facilities and/or discharge storm water to the storm drains covered by this Order. The Permittees may lack legal jurisdiction over these entities under applicable state and federal authorities. Consequently, the Regional Water Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. However, Permittees should notify the Regional Water Board upon recognition of discharges, which are a threat to storm water quality protection.
42. The State and Regional Water Boards may consider issuing separate NPDES storm water permits to other federal, state, or regional entities operating and discharging within the Permittees' boundaries that may not be subject to direct regulation by the Permittees. Federal agencies are not subject to municipal storm water requirements although they may be permitted as industrial dischargers.
43. The State Water Resources Control Board adopted an NPDES General Permit for the Discharge of Storm Water from Small MS4s (WQ Order No. 2003-0005-DWQ) to provide permit coverage for smaller municipalities, including non-traditional Small MS4s, which are governmental facilities such as military bases, public campuses, and prison and hospital complexes. Currently the following entities have been designated to have a separate NPDES Small MS4 General Permit located within the Sacramento County Urbanized area:
  - California Exposition and Fair;
  - California State University at Sacramento;
  - Cosumnes Community Services District; and
  - Elk Grove Unified School District under the purview of Sacramento County Office of Education

The Permittees should work cooperatively with these entities for the purpose of maintaining mutually beneficial storm water management program coordination, cooperation and communication. This will help provide consistency of storm water regulations throughout each Permittee's jurisdiction.

44. The Regional Water Board adopted the *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. This Order implements the Basin Plan.
45. The beneficial uses of the American River, Cosumnes River, Mokelumne River, Sacramento River, and the Delta downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal, domestic, industrial and agricultural supply; water contact and non-contact recreation; aesthetic enjoyment; navigation; groundwater recharge; fresh water replenishment; and preservation and enhancement of fish, wildlife and other aquatic resources. Tributaries of the waters may have similar beneficial uses.
46. The beneficial uses of the underlying ground water beneath the Sacramento Urbanized Area as identified in the Basin Plan are municipal and domestic water supply, industrial service, industrial process, and agricultural supply.
47. Congress has determined that it is not feasible at this time to establish numeric effluent limits for pollutants in storm water discharges from MS4s [Clean Water Act (CWA)<sup>3</sup> Section 402(p)(3)(B)(iii)<sup>4</sup>]. In addition, the California Superior Court ruled; *“Water quality-based effluent limitations are not required for municipal Stormwater discharges [33 USC §1342(p)(3)(B)] and [40 CFR §122.44(k)(3)]. For municipal stormwater discharges, the Permits must contain best management practices (BMPs), which reduce pollutants to the maximum extent practicable [33 USC §1342(p)(3)(B)]. These Permits do contain these through the Stormwater Management Plan which is incorporated into the Permits by reference.”* (*San Francisco Baykeeper vs. Regional Water Quality Control Board, San Francisco Bay Region, Case No. 500527, 14 November 2003*). Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in storm water discharges to the MEP. In lieu of numeric effluent limitations, this Order requires the implementation of BMPs identified in the Permittees’ SQIP to control and abate the discharge of pollutants in storm water discharges. Implementation of BMPs, compliance with long-term performance standards in accordance with the Permittees’ SQIP and its schedules, an established maintenance program with enforcement procedures, constitutes compliance with the MEP standard.
48. 40 CFR 122.26(d)(2)(iv)(B)(1)]<sup>5</sup> lists types of non-storm water flows that are not required to be prohibited unless such discharges are specifically identified by the Phase I MS4 Permittees as sources of pollutants to waters of the United States.

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<sup>3</sup> The U.S. Environmental Protection Agency (EPA) published the regulation entitled “National Pollutant Discharge Elimination System - Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges” (Federal Register, Volume 64, Number 235, pages 68722-68852) on December 8, 1999 as required by Section 402(p) of the Clean Water Act (CWA).

<sup>4</sup> CWA Section 402(p)(3)(B)(iii): “...controls to reduce 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.”

<sup>5</sup>40 CFR 122.26(d)(2)(iv)(B)(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be

49. The State Water Resources Control Board (SWRCB) convened a Storm Water Panel (Blue Ribbon Panel) of experts to address the issue of numeric effluent limits<sup>6</sup>. The study concluded that it is not feasible at this time to set enforceable numeric effluent criteria for storm water and non-storm water discharges from MS4s.
50. The U.S. EPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 Fed. Reg. 43761). This policy discusses the appropriate kinds of water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.
51. On 12 March 2001, the U.S. Court of Appeals ruled that it is necessary to obtain an NPDES permit for application of aquatic pesticides to waterways [Headwaters, Inc. vs. Talent Irrigation District, 243 F.3d. 526 (Ninth Cir., 2001)]. The U.S. EPA issued a Final Rule on 17 October 2006, that exempts the application of a pesticide to or over, including near, waters of the United States if conducted consistent with all relevant requirements under the Federal Insecticide and Fungicide Rodenticide Act (FIFRA), from an NPDES permit under the Clean Water Act in the following two circumstances: (a) the application of pesticides directly to waters of the United States in order to control pests, and (b) The application of pesticides to control pests that are present over waters of the United States, including near such waters, that results in a portion of the pesticides being deposited to waters of the United States (40 CFR 122.3(h)).
52. On 17 June 1999, the State Board adopted Order No. WQ 99-05 (SBO 99-05), a precedent setting-decision, which identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Water Boards. The receiving water limitations included herein are consistent with the State Board Order, U.S. EPA policy, and the U.S. Court of Appeals decision in *Defenders of Wildlife v. Browner* (Ninth Cir., 1999). The State Board's OCC has determined that the federal court decision did not conflict with SBO 99-05 (memorandum dated October 14, 1999).
53. Federal regulation 40 CFR 122.42(c)(7) requires the Permittees to submit an annual report that identifies water quality improvements or degradation.

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addressed where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States).

<sup>6</sup> Recommendations of the Blue Ribbon Panel were finalized as *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities*, dated 19 June 2006.

54. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Public Resources Code, Section 21100, et. seq.) in accordance with Section 13389 of the California Water Code.
55. This Order serves as an NPDES permit, pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect 50 days from the date of hearing, provided that U.S. EPA has no objections.
56. This Order does not authorize any take of endangered species. To ensure that endangered species issues have been raised to the responsible agencies, the Regional Water Board notified the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the California Department of Fish and Game of Regional Water Board consideration of this Order.
57. State law pre-empts local storm water programs from regulating pesticide sales and use. Regulatory activities by state and federal agencies, especially the state Department of Pesticide Regulation DPR and the United States Environmental Protection Agency (USEPA), are critical for achieving adequate control of pesticide uses that result in pesticide discharges in storm water. Pesticide registration and re-registration activities, which are very active areas of pesticide regulation, are especially important in the control of pesticide use.
58. Individually, and through California Stormwater Quality Association (CASQA), the Permittees have actively participated in State and Federal organizations and processes to address regulatory issues. This includes the Urban Pesticide Committee (UPC) and Department of Pesticide Regulation's (DPR) Pest Management Advisory Committee (PMAC) and Pesticide Registration and Evaluation Committee (PREC), and various committees convened by the State Structural Pest Control Board. These committees provide forums in which USEPA, DPR, and the Regional Water Boards participate, and have been effective in bringing water quality concerns to the attention of state and federal pesticide regulators. Ongoing support and participation in these efforts by the Regional Water Boards is an important factor for continued progress. Progress in these efforts has been documented in reports submitted to the San Francisco Bay Regional Water Board by the San Francisco Estuary Project.

### **STORM WATER QUALITY IMPROVEMENT PLAN**

59. The Permittees submitted a Report of Waste Discharge (ROWD), as well as a proposed SQIP on 1 June 2007. The ROWD evaluated the effectiveness of the Permittees' storm water programs over the third permit term, identified which BMPs should continue to be implemented, and, as part of the iterative process, determined what additional efforts may be necessary in order to improve the storm water program and reduce the discharge of pollutants to the MEP. Based on the evaluation, the ROWD and proposed SQIP propose a wide range of continuing, enhanced and new BMPs, control measures, and performance standards to be implemented during the fourth term Permit period (2008-2013).

60. Federal regulation 40 CFR 122.26(d)(2)(iv) requires the Permittees to submit a SQIP to reduce the discharge of pollutants in storm water to the MEP, and to effectively prohibit non-storm water discharges into municipal storm drain systems within the Permittees' jurisdictions during the five-year duration of the permit. During the fourth term permit period, the Permittees shall continue to demonstrate substantial compliance with their respective SQIP and this Order through the information and data supplied in the Annual Reports. The SQIP shall remain in effect, as an enforceable component of this Order, until revised and approved by the Regional Water Board. If there are conflicts between the SQIP and this Order, then the Order supersedes the SQIP.
61. This Order requires evaluation of water quality impacts of storm water discharges from existing urbanized areas and new developments. This Order also requires implementation and evaluation of the SQIP and related programs to reduce the discharge of pollutants in storm water runoff to MEP and to improve water quality and protect beneficial uses.
62. The Permittees are required to submit a revised SQIP by **12 March 2009** (or 6 months after the effective date of this Order, whichever is later). The SQIP fulfills the Regional Water Board's permit application requirements subject to the condition that it will be improved and revised in accordance with the provisions of this Order. The SQIP includes program elements and control measures that each Permittee will implement to reduce the discharge of pollutants in storm water to the MEP, and to effectively prohibit non-storm water discharges into MS4s and watercourses within each Permittees jurisdiction. The Permittee's SQIP is a site-specific modification of the existing Storm Water Management Plan required under the previous MS4 permit Order No. R5-2002-0206. The various components of the SQIP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the MEP.
63. The SQIP describes the framework for management of storm water discharges during the term of this Order. The Permittees' SQIPs contain comprehensive activities that provide the framework and direction for each Permittee to implement BMPs. The Permittees' SQIPs include joint program and individual Permittee activities as described below.
  - a. Joint Program Activities:
    - i. Program Management – Planning, cost-sharing and coordination activities.
    - ii. Target Pollutant Program – Based on the Permittees methodologies, Target Pollutants have been identified and prioritized that have the potential to cause exceedances of water quality standards and impairment of beneficial uses. Some of these Target Pollutants are also 303(d) listed constituents. Pollutant sources and control measures are identified and strategies developed to focus joint program resources and activities.
    - iii. Monitoring Program - This program includes extensive monitoring to provide data used to characterize storm water discharge and receiving water quality, evaluate BMP performance and assess SQIP effectiveness.

- iv. Special Studies – Includes effectiveness evaluations for various new development storm water quality control measures, such as a wet detention basin and proprietary treatment control devices.
- v. Regional Public Outreach – The Permittees conduct regional public outreach programs to educate residents, school children, and businesses about the harmful effects of storm water pollution and create opportunities for public involvement. The Permittee’s public outreach implementation strategy includes, but is not limited to, developing and distributing educational materials, conducting media campaigns, and participating in public outreach events.
- vi. Program Effectiveness Assessment - Evaluation activities are a required and important aspect of the Program. Conducting assessments and evaluating performance standards and BMP studies allow for modification and continued improvement of program activities.

b. Individual Permittee-Specific Activities

The Permittees’ SQIPs include a description of each Permittee’s program organization, legal authority and funding. The following implementation activities are also described:

- i. Program Management (includes planning, staffing and fiscal analysis)
- ii. Construction
- iii. Illicit Discharge
- iv. Commercial/Industrial
- v. Municipal Operations and Facilities
- vi. Planning and New Development
- vii. Public Education and Outreach
- viii. Watershed Stewardship
- xi. Program Effectiveness Assessment and Reporting

64. The overall goals of the Permittees’ SQIP are to: a) reduce the degradation of waters of the State and Waters of the United States (U.S.) by urban runoff and protect their beneficial uses; and b) develop and implement an effective SQIP that is well understood and broadly supported by regional stakeholders.

The core objectives are to:

- a. Identify and control those pollutants in urban runoff that pose significant threats to the waters of the State and waters of the U.S. and their beneficial uses;
- b. Comply with the federal regulations to eliminate or control, to the MEP, the discharge of pollutants from urban runoff associated with the storm drain system;
- c. Achieve compliance with water quality standards;
- d. Develop a cost-effective program which focuses on pollution prevention of urban storm water;

- e. Seek cost effective alternative solutions where prevention is not a practical solution for a significant problem; and
  - f. Coordinate implementation of control measures with other agencies.
65. This Order includes a Monitoring Program that incorporates analytical Minimum Levels (MLs) established under the State Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.
66. The Permittees' proposed SQIPs contain control measures that identify the specific BMPs that each Permittee will implement to reduce the discharge of pollutants from their respective MS4s to the MEP. The SQIPs also include performance standards for each Control Measure to establish the level of effort required to comply with this Order and the federal MEP standard and an implementation schedule to identify when certain activities must be completed. Each Program Element also identifies how effectiveness assessments will be utilized to ensure that the program is resulting in the desired outcomes and that the resources that are expended are providing commensurate benefit and are protective of water quality.
67. The SQIPs and modifications or revisions to the SQIPs that are approved in accordance with this Order, are an integral and enforceable component of this Order. USEPA Phase I Final Rule and Regulations states the Clean Water Act contemplated MS4 permit conditions requiring storm water management programs to be developed and implemented or required specific practices, those program elements were enforceable in accordance with the terms of permit.
68. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16. Resolution 68-16 incorporates the federal antidegradation policy (40 CFR 131.12) where the federal policy applies under federal law. The proposed discharge complies with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Resolution 68-16 requires in part:
- 1) High quality waters be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies; and
  - 2) Any activity, which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to

assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

The Permittees submitted an antidegradation analysis in October 2007. The report demonstrates that the proposed increase in discharge as a result of continued urban development will result in some minimal degradation of waters of the State and navigable waters of the United States, but in this case, such degradation is consistent with the maximum benefit to the people of the state. Limited degradation that does not cause exceedance of water quality objectives is warranted to allow for the economic benefit stemming from local growth. There is a need in Sacramento to accommodate growth. The Regional Water Board does not have the jurisdiction to control growth in the Sacramento Urbanized Area, but is required to assure that the receiving waters are adequately protected as a result of urban discharges. The proposed Order allows the service necessary to accommodate housing and economic expansion in the area and is considered to be a benefit to the people of the State. The Fact Sheet contains additional information regarding the antidegradation analysis and constituents of concern in the waste discharge. The run-off concentrations for all constituents are based on water quality objectives and an increase in mass for some constituents, if any, will be insignificant. While the accommodation of the development can in some circumstances justify lowering of receiving water quality, in this case, the proposed Order would authorize, very minimal, if any lowering of receiving water quality given the requirement to meet MEP by this Order.

These requirements implement best management practices and reduce pollutants to the maximum extent practicable to assure that pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the State will be maintained. Due to the high level of source and treatment control measures to prevent and reduce discharges to surface waters, the proposed order will result in maintenance of existing in-stream uses.

### **DEVELOPMENT STANDARDS**

69. The primary purpose of the New Development Standards is to mitigate urban run-off pollution and other water quality impacts associated with new development and redevelopment.
70. On 5 October 2000, the State Board adopted Order WQ 2000-11, a precedent setting decision concerning the use of Standard Urban Storm Water Mitigation Plans (hereafter Development Standards) in municipal storm water permits for new developments and significant redevelopments. The State Board recognized that the decision includes significant legal or policy determinations that are likely to recur (Gov. Code §11425.60). Due to the precedent setting nature of Order WQ 2000-11, the Regional Water Board's MS4 permits must be consistent with applicable portions of the State Board's decision and include Development Standards.

71. Federal regulation 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the United States. Authorizing the construction of a storm water/urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment in accordance with Development Standards and any other requirements of this Order must occur prior to the discharge of storm water into a water of the United States.
72. The Permittees are implementing programs consistent with their Development Standards Plan (DSP), which was approved by the Regional Water Board on 18 May 2005. The DSP requires the Permittees to have development standards related to storm water quality management for eight categories of new development and significant redevelopment and consistent with State Board adopted Order WQ 2000-11. Each Permittee amended its development standards (effective 18 May 2006) to conform to the DSP. Compliance with the Permittees' development standards requires the selection of post-construction storm water quality controls (BMPs) to reduce pollutants from new development and significant redevelopment to the MEP.
73. The Permittees published updated technical design guidelines on 18 May 2007 to help the development community understand and comply with the Permittees' amended development standards. Use of the guidelines requires a thoughtful process to select from the menu of BMPs those that are most appropriate for the site's land use (expected pollutant loadings) and unique site conditions. The Permittees consider potential storm water impacts when making planning decisions in order to fulfill the Clean Water Act (CWA) requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable (MEP) from new development and redevelopment projects within their local jurisdiction. In doing so, each Permittee exercises their legal authority to ensure that the increased pollutant loads and flows do not degrade the beneficial uses of their local receiving waters. This was demonstrated by the Antidegradation Analysis completed by the Permittees in 2007.
74. Urbanization is defined as the transformation of land into residential, commercial and industrial properties, and associated drainages, roads, sewers and other community planned infrastructure. Urbanization modifies natural watershed and stream processes by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, installing drainage and flood control infrastructure and altering the condition of stream channels through straightening, deepening, and armoring. These changes affect hydrologic characteristics in the watershed (rainfall interception, infiltration, runoff and stream flows) and affect the supply and transport of sediment in the stream system. The change in runoff characteristics from a watershed caused by changes in land use conditions (i.e., urbanization) is defined as hydrograph modification, or hydromodification.<sup>7</sup> When development projects do not

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<sup>7</sup> Santa Clara Valley Urban Runoff Pollution Prevention Program. March 2005. Hydromodification Management Report. (Chapter 1, Problem Statement).

address and mitigate for this change in runoff characteristics, a variety of problems can result, such as: excess sediment flowing into streams; downstream erosion and sedimentation; flooding; disruption of natural drainage patterns, stream flows and riparian habitat; and elevated water temperatures.

75. Urban development includes both new development and redevelopment of existing properties. These development projects may be undertaken by either private or public entities. Policies governing review and approval of development projects for compliance with this Order vary among the Permittees.
76. The quality and quantity of storm water runoff must be considered early during project planning to identify permanent (post-construction) BMPs that will be included in project design, constructed as part of the project, and ultimately implemented and maintained for the life of each category of urban development in order to protect storm water quality.
77. On January 20, 2005, the State Water Resources Control Board adopted sustainability as a core value for all California Water Boards' activities and programs, and directed California Water Boards' staff to consider sustainability in all future policies, guidelines, and regulatory actions.
78. Low Impact Development (LID) sometimes referred to as Low Impact Design, is a sustainable practice that benefits water supply and contributes to water quality protection. LID uses site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using de-centralized design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to traditional storm water management. The Water Boards are advancing LID in California in various ways, specifically through regulation of site-specific (Phase I MS4) and general permits (Phase II MS4).
79. In a study conducted for the San Diego region, it was concluded that LID substantially preserves pre-development hydrologic conditions and prevents most or all pollutant transport to receiving waters from urbanization.<sup>8</sup> Further, it was concluded that LID reduces storm water run-off and contaminants by decreasing their generation at sources, infiltrating into the soil or evaporating storm flows before they can enter surface receiving waters, treating flow remaining on surface through contact with vegetation and soil, or a combination of these strategies.<sup>9</sup> LID practices maintain and restore the natural hydrologic functions of a site to achieve natural resource protection objectives.
80. During the initial site layout and design planning of new development or re-development for LID integration, there is a higher probability for preservation/integration of existing

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<sup>8</sup> Horner, Richard R., Ph.D., "Investigation of the feasibility and benefits of Low Impact Design (LID) practices for the San Diego Region," University of Washington.

<sup>9</sup> Ibid.

natural resource features (trees and other vegetation, creek buffers, wetlands, vernal pools, and open space).

81. In November 2005, under the direction of EPA Assistance Agreement funded by the Office of Water, The Low Impact Development Center prepared a document titled, "Low Impact Development for Big Box Retailers."<sup>10</sup> The document provides recommendations to large building and site footprint high volume retailers with strategies that integrate innovative and highly effective LID storm water management techniques into their site designs for regulatory compliance and natural resource protection at the local levels.
82. Studies indicate that facilities with paved surfaces subject to frequent motor vehicle traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt et al., Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability, Water Environment Res., 67, 260 (1995); Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study, Western States Petroleum Association and American Petroleum Institute, (1994); Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices, Final Report, County of Sacramento (1993); Source Characterization, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press, Field, R et al. editors; Characteristics of Parking Lot Runoff Produced by Simulated Rainfall, L.L. Tiefenthaler et al. Technical Report 343, Southern California Coastal Water Research Project (2001)].
83. 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, source control and treatment control BMPs are needed at RGOs.
84. The Los Angeles and San Diego Regional Water Quality Control Boards have jointly prepared a Technical Report on the applicability of new development BMP design criteria for RGOs, [Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts, (June 2001)]. RGOs in Washington, Oregon, and other parts of the United States are already subject to numerical BMP design criteria under the MS4 program.
85. Each Permittee is individually responsible for adopting and enforcing local ordinances necessary to implement effective BMPs to prevent or reduce pollutants in storm water, and for providing funds for capital, operation, and maintenance expenditures necessary to implement such BMPs for the storm drain system that it owns and/or operates. Enforcement actions concerning this Order will, whenever necessary, be pursued only against the individual Permittee responsible for specific violations of this Order.

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<sup>10</sup> "Low Impact Development for Big Box Retailers," EPA Office of Water, November 2005

**IMPAIRED WATER BODIES**

86. 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.
87. CWA Section 303(d) and 40 CFR 130.7 require states to identify water quality-impaired water bodies and pollutants of concern, and develop Total Maximum Daily Loads (TMDLs). A TMDL is a quantitative assessment of the total pollutant load that can be discharged from all sources each day while still meeting water quality objectives. The Regional Water Board is currently in the process of developing TMDLs for listed water bodies within the Region. Prior to TMDL’s being adopted and approved, Permittees must implement actions to address their contribution to the water quality impairments. Once the Regional Water Board and U.S. EPA approve TMDLs, this Order may be amended to incorporate provisions consistent with waste load allocations established under the TMDLs.
88. The Regional Water Board considers storm water discharges from the Sacramento Urbanized Area to be significant sources of pollutants. The CWA Section 303(d) Listed Waterbodies in the Sacramento Urbanized Area include the following. These impairments are based on identified exceedances of water quality standards.

<b>Waterbody</b>	<b>Reach</b>	<b>Estimated Size Affected</b>	<b>Pollutant/Stressor(s)</b>
Sacramento San Joaquin Delta		41,746 acres	Chlordane DDT Dieldrin Dioxin Compounds (including 2,3,7,8-TCDD) Exotic Species Furan Compounds Mercury Nickel PCBs (Polychlorinated biphenyls) PCBs (Polychlorinated biphenyls (dioxin-like)) Selenium
American River (Nimbus Dam to	Lower	27 miles	Mercury

<b>Waterbody</b>	<b>Reach</b>	<b>Estimated Size Affected</b>	<b>Pollutant/Stressor(s)</b>
confluence with Sacramento River)			
Arcade Creek		9.9 miles	Chlorpyrifos Diazinon Copper
Morrison Creek	Morrison Creek from Elk Grove-Florin Rd to Beach Lake	26 miles	Chlorpyrifos Diazinon
Elder Creek		11 miles	Chlorpyrifos Diazinon
Elk Grove Creek		6.9 miles	Chlorpyrifos Diazinon
Strong Ranch Slough		6.4 miles	Chlorpyrifos Diazinon
Chicken Ranch Slough		8 miles	Chlorpyrifos Diazinon
Natoma, Lake		485 acres	Mercury
Natomas East Main Drainage Canal	(aka Steelhead Creek, downstream of confluence with Arcade Creek)	3.5 miles	Diazinon PCBs (Polychlorinated biphenyls)
Natomas East Main Drainage Canal	(aka Steelhead Creek, upstream of confluence with Arcade Creek)	12 miles	PCBs (Polychlorinated biphenyls)
Sacramento River	Knights Landing to the Delta	16 miles	Mercury Diazinon Unknown Toxicity

TMDLs for these water bodies are in various stages of completion. NPDES permits must be consistent with approved TMDL waste load allocations. To implement adopted TMDLs, this Order implements control programs developed to attain waste load allocations.

89. The Permittees submitted to the Regional Water Board a Pesticide Plan (in 2004) to fulfill the need for a pesticide toxicity control plan as required by the urban creeks pesticide TMDL. The Pesticide Plan was subsequently approved by the Regional Water Board. The plan addresses their own use of pesticides including diazinon, chlorpyrifos, and other lower priority pesticides and use of such pesticides by other sources within their jurisdiction.
90. The Regional Water Board Toxic Hot Spots Clean-up Plan (California Water Code section 13394) identified the following hot spots that are applicable to this discharge:
  - a. Mercury in the Delta; and
  - b. Diazinon and Chlorpyrifos in Morrison Creek in the City of Sacramento.
91. The Porter-Cologne Act (§ 13395) requires the reevaluation of waste discharge requirements for dischargers who have discharged pollutants causing all or part of the toxic hot spot. The waste discharge requirements must be revised to include requirements that “prevent the maintenance or further pollution of existing toxic hot spots.” Further “(t)he Regional Water Board may determine it is not necessary to revise a waste discharge requirement only if it finds that the toxic hot spot resulted from practices no longer being conducted by the discharger... or that the discharger’s contribution to the creation or maintenance of the toxic hot spot is not significant.”
  - a. The data are not available to determine the relative contribution of the Permittee’s discharge (compared to upstream and atmospheric contributions from non-urban sources) to the diazinon and chlorpyrifos levels in 303(d) listed waters and toxic hot spots. The provisions in the previous Order that addressed pesticide toxicity were intended to satisfy the toxic hot spot requirements for waste discharge requirement revisions. In compliance with those provisions, the Permittees submitted a Pesticide Plan, which was subsequently approved by the Regional Water Board. Implementation of the approved Pesticide Plan will continue under this Order, and satisfies the Permittee’s toxic hot spot requirement to establish a control plan for pesticide toxicity.
  - b. The phase-out of the sale of diazinon and chlorpyrifos for most residential and commercial uses was expected to reduce or eliminate the contribution of the Permittees’ discharge to the non-attainment of water quality standards in the 303(d) listed waters and the maintenance of the diazinon and chlorpyrifos hot spots.
  - c. The monitoring of diazinon and chlorpyrifos was conducted to determine the significance of the Permittees’ contribution to diazinon and chlorpyrifos levels in 303(d) listed waters and the toxic hot spots. The monitoring was also conducted to

determine the effectiveness of the phase-out of urban uses of diazinon and chlorpyrifos; to assess whether the hot spots are maintained; and to assess whether water quality objectives are met. The monitoring results were submitted in the June 2007 ROWD as well as prior years' annual reports.

Since the 2005 phase-out of urban uses, diazinon concentrations in receiving waters, when detected, have been consistently below water quality objectives and chlorpyrifos has been rarely detected in receiving waters. Diazinon and chlorpyrifos monitoring of the six additional pesticide locations and the Morrison Creek at Brookfield is no longer necessary. The data indicated that the seven creeks sampled had similar concentrations and those concentrations were reduced to non-detectable levels by 2005 once the phase-out went into effect. Analysis of the data shows that these sites are sufficiently characterized by the Arcade Creek at Watt Avenue and Willow Creek at Blue Ravine Road locations, which are part of the monitoring and reporting program of this Order.<sup>11</sup>

- d. The Regional Water Board has adopted water quality objectives for:
- i. Diazinon: 160 nanograms per liter (ng/L or parts per trillion), one-hour average, not to be exceeded more than once in a three-year period and 100 ng/L, four-day average, not to be exceeded more than once in a three-year period, which apply to Sacramento-San Joaquin Delta Waterways (Delta Waterways) (Basin Plan<sup>12</sup>);
  - ii. Diazinon: 80 nanograms per liter (ng/L or parts per trillion), one-hour average, not to be exceeded more than once every three years on average and 50 ng/L, four-day average, not to be exceeded more than once every three years on average (Sacramento River from the Colusa Basin Drain to I Street Bridge); and<sup>13</sup>
  - iii. Chlorpyrifos: 25 ng/L, one-hour average, not to be exceeded more than once in a three-year period and 15 ng/L, four-day average, not to be exceeded more than once in a three-year period, which apply to Delta Waterways (Basin Plan).<sup>14</sup>

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<sup>11</sup> *Evaluation of Additional Pesticide Monitoring Data – 2007 Update*. May 25, 2007 memorandum by Larry Walker Associates to Delia McGrath, City of Sacramento and Janet Parris, Sacramento County.

<sup>12</sup> Sacramento-San Joaquin Delta Waterways, Central Valley Regional Water Quality Control Board, *Water Quality Control Plan (Basin Plan), Central Valley Region, Sacramento River and San Joaquin River Basins (Fourth Edition, revised Oct. 2007)* including Appendix 42 –

<sup>13</sup> Amended by Regional Water Board Resolution R5-2007-0034 to 160 nanograms per liter (ng/L or parts per trillion), one-hour average, not to be exceeded more than once every three years on average and 100 ng/L, four-day average, not to be exceeded more than once every three years on average. Pending California's Office of Administrative Law and U.S. EPA approval.

<sup>14</sup> Amended by Regional Water Board Resolution R5-2007-0034 to include the Sacramento and Feather Rivers. Pending U.S. EPA approval.

- e. The Regional Water Board has also established in the Basin Plan the Loading Capacity for the Delta Waterways and Sacramento River<sup>15</sup>, Waste Load Allocations, and Load Allocations for discharges to the Delta Waterways and Sacramento River, which are equal to:

$$S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$$

where:

$C_D$  = diazinon concentration in  $\mu\text{g/L}$  of point source discharge for the WLA; nonpoint source discharge for the LA; or a Delta Waterway for the LC.

$C_C$  = chlorpyrifos concentration in  $\mu\text{g/L}$  of point source discharge for the WLA; nonpoint source discharge for the LA; or a Delta Waterway for the LC.

$WQO_D$  = acute or chronic diazinon water quality objective in  $\mu\text{g/L}$ .

$WQO_C$  = acute or chronic chlorpyrifos water quality objective in  $\mu\text{g/L}$ .

Compliance with the waste load allocation is required by December 1, 2011 (Basin Plan).

- f. Regional Water Board's Basin Plan requires dischargers of diazinon and chlorpyrifos to Delta Waterways and the Sacramento River to submit a management plan (i.e., BMPs, BMP implementation plan, effectiveness assessment, schedule) that describes actions that will be taken to reduce diazinon and chlorpyrifos discharges and meet the applicable allocations.
- g. The approved Pesticide Plan and any modifications to it, as proposed in the SQIP, meet the requirements for a management plan as described in the Basin Plan.
- h. This Order includes Provisions consistent with the TMDL waste load allocations and the Basin Plan implementation program. This Order specifies monitoring and assessment requirements to implement these Provisions.
92. The Delta, Sacramento River, American River, and Lake Natoma are on the Clean Water Act Section 303(d) List as mercury impaired because of elevated methylmercury levels in fish. In addition, as stated above, the State Water Resources Control Board (State Water Board) designated the Delta as a toxic hot spot for mercury under the Bay Protection and Toxic Hot Spot Cleanup Program. Urban runoff from the Sacramento area contributes total (inorganic) mercury and methylmercury to these mercury-impaired water bodies.
93. This Order requires an evaluation of total mercury and methylmercury data collected under the previous Order and additional urban discharge monitoring to determine how much methylmercury and total mercury loading urban lands within the Sacramento Area

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<sup>15</sup> Revised requirements for Diazinon and Chlorpyrifos discharges into the Sacramento River were adopted by the Regional Water Board by Resolution R5-2007-0034 and will become effective upon U.S. EPA approval.

contribute to the individual impaired water bodies (Delta, Sacramento River, American River, and Lake Natoma). In addition, the Order also requires that the Permittees estimate the amount of total mercury and sediment prevented from discharging to receiving waters by existing BMPs such as (but not limited to) street cleaning, detention basins, and erosion and sediment controls. This Order also requires that the Permittees consider including monitoring in the design of future BMP studies to estimate the extent to which existing and new BMPs reduce total mercury transport and reduce and/or increase methylmercury discharges. The Monitoring and Reporting Program (MRP) portion of this Order specifies monitoring and assessment requirements that must be implemented to gather information for mercury control programs for impaired water bodies. Once the Delta mercury control program is approved, there may be additional monitoring requirements to identify the sources of, and controls for, the methylmercury and total mercury in urban runoff.

94. The Permittees identified mercury as a top ranked target pollutant in 2002. The Permittees submitted to the Regional Water Board a Mercury Plan in 2004 that outlined the Permittees' strategy to reduce mercury in Sacramento area urban runoff. The Mercury Plan also included background information on mercury pollution in local waters, a summary of key regulations, and a description of related mercury control efforts and studies. Adequate progress was made on all Mercury Plan commitments during the term of the previous Order.
95. Ambient water and sediment quality monitoring by the Surface Water Ambient Monitoring Program (SWAMP - Sacramento Basin) identified a high incidence of sediment toxicity in several urban creeks that drain the suburbs of Roseville (Weston et al., 2005<sup>16</sup>). Nearly all creek sediments sampled caused toxicity to the resident aquatic amphipod *Hyaella azteca*, and about half the samples (10 of 21) caused nearly complete mortality (>90%). Another study by the Sacramento River Watershed Program (SRWP) observed sediment toxicity in almost every Sacramento area urban creek that was tested (Amweg et al., 2006<sup>17</sup>). Several pyrethroid pesticides were present in sediment samples from both studies at acutely toxic concentrations. Pyrethroid pesticides are persistent, hydrophobic, and rapidly sorb to sediments in aquatic environments. The sediment toxicity observed was localized to within tens to hundreds of meters downstream of storm water outfalls draining residential areas.

The phase-out of the sale of diazinon and chlorpyrifos for most residential and commercial uses resulted in an increase in the use of pyrethroid pesticide use in urban and residential areas. Monitoring of pyrethroid concentrations in sediment is needed to characterize sediment quality conditions, determine the significance of the increase in urban pyrethroid usage, and assess management practice effectiveness.

96. The Permittees have performed bioassessment monitoring at selected urban creek sites, in compliance with the Monitoring and Reporting Program requirements of previous

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<sup>16</sup> Weston, D.P., R.W. Holmes, J. You, and M.J. Lydy. 2005. Aquatic toxicity due to residential use of pyrethroid insecticides. *Environ. Sci. & Technol.* 39: 9778-9784.

<sup>17</sup> Amweg, E.L., D.P. Weston, J. You, and M.J. Lydy. 2006. Pyrethroid insecticides and sediment toxicity in urban creeks from California and Tennessee. *Environ. Sci. & Technol.* Published on web 1/31/2006.

Orders. The purpose of the bioassessment requirement is to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis. The State Water Resources Control Board (State Board) has developed a statewide strategy for the Surface Water Ambient Monitoring Program (SWAMP), with an emphasis on utilizing bioassessment to assess biological integrity in waters of the state. Characterizing the chemical (water quality), physical (sediment quality) and biological (bioassessment) processes of the waterways provides a holistic approach to designing BMPs. This Order requires the Permittees to evaluate the bioassessment data collected during previous years.

### **PUBLIC PROCESS**

97. The Regional Water Board has notified the Permittees and interested parties of its intent to prescribe waste discharge requirements for this discharge. These parties have been given an opportunity to address the Regional Water Board at a public hearing and an opportunity to submit their written views and recommendations to the Regional Water Board.
98. The Regional Water Board has considered the information in the attached Fact Sheet in developing the Findings of this Order. The attached Fact Sheet is in informational part of this Order.
99. The Regional Water Board, in a public meeting, has heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that Order No. R5-2002-0206 is rescinded, and that the Permittees, their agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

#### **A. Discharge Prohibitions – Storm Water Discharges**

1. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance as defined in Section 13050 of the California Water Code are prohibited.
2. Discharges from MS4s, which cause or contribute to exceedances of receiving water quality standards and water quality objectives (designated beneficial uses of the Basin Plan<sup>18</sup> and water quality objectives developed to protect beneficial uses) for surface water or ground water are prohibited.

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<sup>18</sup> California Water Code Section 13243 provides that a Regional Water 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 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 Central Valley Region.

3. Discharges from MS4s containing pollutants, which have not been reduced to the MEP, are prohibited.

**B. Discharge Prohibitions – Non-Storm Water Discharges**

1. Each Permittee shall effectively prohibit all types of non-storm water discharges into its MS4s unless such discharges are either authorized by a separate NPDES permit, or not prohibited in accordance with this Order.
2. Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), the following categories of non-storm water discharges need only be prohibited from entering a MS4 if such categories of discharges are identified as a source of pollutants to waters of the United States:
  - a. Diverted stream flows;
  - b. Rising ground waters;
  - c. Uncontaminated ground water infiltration as defined by 40 CFR 35.2005(20);
  - 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;
  - n. Irrigation water;
  - o. Individual residential car washing;
  - p. De-chlorinated swimming pool discharges;
  - q. Lawn watering; and
  - r. Street wash water.
3. When a non-storm water discharge category above is identified as a source of pollutants to waters of the United States, the Permittees shall either:
  - a. Prohibit the discharge category from entering its MS4s; or
  - b. Not prohibit the discharge category and implement, or require the responsible parties to implement, BMPs which will reduce pollutants to the MEP. In addition, permittees shall submit the following information to the Regional Water Board as part of the Annual Report:
    - i. The non-storm water discharge category listed above that the Permittee elects not to prohibit; and

- ii. The BMPs for each discharge category listed above that the Permittee will implement, or require the responsible parties to implement, to prevent or reduce pollutants to the MEP.
4. Emergency fire fighting flows (i.e., flows necessary for the protection of life or property) do not require immediate implementation of BMPs and are not prohibited.
5. Each Permittee shall examine all dry weather analytical monitoring results collected in accordance with the Monitoring and Reporting Program of this Order to identify water quality problems that may be the result of any non-storm water discharge, including any non-prohibited discharge category(ies). Follow-up investigations shall be conducted to identify and control any non-storm water discharges that are sources of pollutants. Non-prohibited discharges listed above containing pollutants that cannot be reduced to the MEP by the implementation of BMPs shall be prohibited on a categorical or case-by-case basis.

### **C. Receiving Water Limitations**

1. Receiving water limitations are site-specific interpretations of water quality standards from applicable water quality control plans. As such they are required as part of the permit. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this Order. The Regional Water Board may require an investigation to determine cause and culpability prior to asserting a violation has occurred.

Discharges from MS4s shall not cause the following in receiving waters:

- a. Concentrations of dissolved oxygen to fall below 6.0 mg/l from 1 September through 30 November and 5.0 mg/l the remainder of the year.
- b. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
- c. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.
- d. Aesthetically undesirable discoloration.
- e. Fungi, slimes, or other objectionable growths.
- f. The 30-day average for turbidity to increase as follows:
  - i. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
  - ii. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
  - iii. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.

- iv. More than 10 percent where natural turbidity is greater than 100 NTUs.
  - g. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 unit.
  - h. Deposition of material that causes nuisance or adversely affects beneficial uses.
  - i. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
  - j. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of Radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
  - k. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
  - l. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
  - m. In waters designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.
  - n. Violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Board pursuant to the CWA and regulations adopted thereunder.
2. The discharge shall not cause or contribute to an exceedance of any applicable water quality standards.
3. The Permittees shall comply with Discharge Prohibition A.2 and Receiving Water Limitations C.1 and C.2 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQIP and other requirements of this Order, including any modifications. The SQIP shall be designed to achieve compliance with Receiving Water Limitations C.1 and C.2. If exceedance(s) of water quality objectives or water quality standards (collectively, WQS) persist notwithstanding implementation of the SQIP and other requirements of this Order, the Permittees shall assure compliance with Discharge Prohibition A.2

and Receiving Water Limitations C.1 and C.2 by complying with the following procedure:

- a. The Permittees shall prepare Notification of Water Quality Exceedances (NWQE) pursuant to notification requirements set forth in the Monitoring and Reporting Program of this Order.
- b. The Permittees shall submit a Report of Water Quality Exceedance (RWQE) annually to the Executive Officer for reporting discharges that cause or contribute to an exceedance of applicable water quality standards. The RWQE shall describe BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. The Report of Water Quality Exceedance (RWQE) shall be incorporated in the Annual Report. The report shall include proposed revisions to the SQIP and an implementation schedule containing milestones and performance standards for new or improved BMPs, if applicable. The RWQE shall also include a monitoring program and the rationale for new or improved BMPs, including a discussion of expected pollutant reductions and how implementation of additional BMPs will prevent future exceedance of WQSs. The Regional Water Board may require modifications to the RWQE.
- c. Within **30 days** following approval of the RWQE by the Executive Officer, the Permittees shall revise the SQIP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.
- d. The Permittees shall implement the revised SQIP and monitoring program in accordance with the approved schedule after Regional Water Board approval of the revised SQIP.

So long as the Permittees have complied with the procedures set forth above and are implementing the revised SQIP, the Permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Executive Officer to develop additional BMPs.

#### **D. Provisions**

1. Within its geographic jurisdiction, each Permittee shall:
  - a. Comply with the requirements of this Order, the SQIP, any modifications to the SQIP, and directives of the Executive Officer concerning this Order;
  - b. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQIP applicable to such Permittee in an efficient and cost-effective manner;

- c. Participate in intra-agency coordination with agencies outside of its jurisdictional control (e.g. Federal and State agencies and special districts such as utility, sanitation, fire, park and recreation and school) necessary to successfully implement the provisions of this Order and the SQIP.

### **STORM WATER QUALITY IMPROVEMENT PLAN**

2. Upon the effective date of this Order, the Permittees shall modify their SQIPs to address the requirements of this Order and submit the revised SQIPs by **12 March 2009** (or six months after the Order is effective, whichever is later), for public review and comment, and Regional Water Board approval. The SQIPs shall include an implementation schedule containing identifiable milestones, performance standards, and a compliance monitoring and reporting program. The Permittees shall incorporate newly developed or updated BMPs and assessment tools/Performance Standards into applicable annual revisions to the SQIPs and adhere to implementation of the new/revised BMPs. The approved SQIPs shall serve as the framework for identification, assignment, and implementation of BMPs. The Permittees shall implement or require implementation of BMPs in the approved SQIPs to ensure that pollutant discharges from the MS4 are prevented or reduced to the MEP. The SQIPs shall contain the following components:
  - a. Program Management
    - i. Legal Authority
    - ii. Fiscal Analysis
  - b. Program Effectiveness Assessment
  - c. Program Elements
    - i. Construction
    - ii. Commercial/Industrial
    - iii. Municipal Operations
    - iv. Illicit (Illegal) Discharges
    - v. Public Education and Outreach
    - vi. Planning and New Development
    - vii. Monitoring Program (including Special Studies)
    - viii. Water Quality Based Program (Target Pollutant Program)

Each Permittee's SQIP shall include a section that identifies all departments within the jurisdiction that conduct activities that may potentially impact urban runoff quality, and their roles and responsibilities under this Order. The annual report shall include an up-to-date organizational chart specifying these departments and key personnel responsible for issuance of enforcement actions.

### PROGRAM MANAGEMENT

3. Program management involves ensuring that all elements of the SQIP are implemented on schedule and all requirements of this Order are complied with.
  - a. **Annual Work Plan:** The Permittees shall submit an Annual Work Plan by **1 May** of each year. The Annual Work Plan shall provide the Permittee's proposed activities for the upcoming fiscal year beginning 1 July of the current year and ending 30 June the following year. The Permittees may submit combined Annual Work Plans that cover more than one Permittee's jurisdiction, or they may submit separate Annual Work Plans.
  - b. **Annual Report:** The Permittees shall submit an Annual Report by **1 October** of each year. The Annual Report shall document the status of the SQIPs and the Permittees' activities during the previous fiscal year, including the results of a qualitative and quantitative assessment of activities implemented by the Dischargers, and the performance of tasks contained in the SQIP. The Annual Report shall include a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SQIP and Annual Work Plan. The Annual Report shall include a program effectiveness assessment and recommended modifications for each Program Element. Each Annual Report shall build upon the previous year's efforts. In each Annual Report, the Permittees may propose pertinent updates, improvements, or revisions to the SQIP, which shall be complied with under this Order.
  - c. **SQIP Implementation:** Each Permittee shall continue implementation of their current SQIP until such time that the SQIP has been modified to be consistent with this Order and approved by the Regional Water Board. Once approved, the Permittees shall implement the modified SQIP consistent with the schedule specified within this Order. The SQIP, with modifications, revisions, or amendments as may be approved by the Executive Officer or Regional Water Board, is an enforceable part of this Order.
  - d. **SQIP Modification:** The Permittees' SQIP may need to be modified, revised, or amended from time to time to respond to a change in conditions and to incorporate more effective approaches to pollutant control. Provisions of this Order require review and/or revision of the certain components of the Permittees' SQIP. Proposed SQIP revisions will be part of the annual review process and incorporated in the Annual Report.

In addition, the Permittees shall revise their SQIP to comply with regional or watershed-specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of TMDLs for impaired water bodies.

A thirty-day public notice and comment period shall apply to all proposed significant revisions to the SQIP. Significant revisions include the Hydromodification Management Plan (HMP) and *The Stormwater Quality*

*Design Manual for Sacramento and South Placer Regions* required under this Order. SQIP revisions which are significant in terms of the magnitude of public interest, as evidenced by public comments, shall be brought before the Regional Water Board for review and approval. Minor, non-substantive changes to the SQIP are not significant and therefore are not subject to the thirty-day public notice and comment period. Minor SQIP revisions may be approved by the Executive Officer.

- e. **Memorandum of Understanding:** The Permittees shall collaborate with each other to address common issues, promote consistency between SQIPs and Monitoring Programs, and to plan and coordinate activities required under this Order.
    - i. The Permittees shall review and revise their existing Memorandum of Understanding (MOU) to ensure that it provides for a management structure that includes the items below, and submit the updated MOU to the Regional Water Board no later than **12 March 2009** (or six months after the effective date of this Order, whichever is later). The MOU should address the following:
      - a) Designation of Joint Responsibilities;
      - b) Decision making;
      - c) Cost sharing;
      - d) Information management of data and reports, including the requirements under this Order; and
      - e) Any and all other collaborative arrangements for compliance with this Order.
    - ii. The Permittees shall jointly develop and/or update the standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Permittees and shall include protocols for electronic reporting, specifically data reporting.
4. **Legal Authority:** The Permittees shall review, revise, maintain, and enforce adequate legal authority to control pollutant discharges from their MS4s through ordinance, statute, permit, contract, or similar means. This legal authority must, at a minimum, authorize the Permittees to:
- a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to their MS4s. 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 that do not require permit coverage;
  - b. Effectively prohibit identified illegal discharges (e.g., discharges consisting of or resulting from the following: surface cleaning wastewater from gas stations

(RGOs) and parking lots; wastewater from mobile business activities; commercial vehicle and equipment washing wastewater; discharges of pool water containing chlorine or bromine; discharges/dumping of sediment, construction debris, pet waste, vegetation or food related wastes; pesticide dumping and rinsate; charitable car washes, etc.).

- c. Prohibit and eliminate illicit connections to the MS4s;
  - d. Prohibit the discharge of spills, dumping, or disposal of materials other than storm water and permitted non-storm water discharges to its MS4s;
  - e. Use enforcement mechanisms to require compliance with the Permittees storm water ordinances, permits, contracts, or orders;
  - f. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits, including the prohibition on illicit discharges to the MS4s;
  - g. Require the use of BMPs to prevent or reduce the discharge of pollutants from MS4s to the MEP; and
  - h. Require that Treatment Control BMPs be properly operated and maintained.
5. Each Permittee shall amend its existing ordinances to enforce all the requirements of this Order within **one year** after Regional Water Board approval of the SQIP. The ordinance(s) shall contain implementable and progressive enforcement procedures.
6. Each Permittee shall provide to the Executive Officer a statement certified by its chief legal counsel that it 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, including any modifications thereto in effect when the certified statement is provided. This statement shall be included in Permittees' revised SQIP(s), which shall describe the following:
- a. Citation of urban runoff related ordinances adopted by the Permittees and the reasons they are enforceable;
  - b. Progressive enforcement policy and how it will be effectively implemented;
  - 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. Description of how these ordinances are implemented and how enforcement actions under these ordinances may be 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.
  - f. Description of the Permittee's storm water management structure. There might be different departments that are to develop, implement, and enforce various components of the program. Summarize how the various departments communicate and coordinate activities.
7. **Fiscal Analysis:** Each Permittee shall secure the resources necessary to meet the requirements of this Order and shall prepare an annual fiscal summary as part of the SQIP Annual Report. This summary shall, for each fiscal year covered by this Order, identify the expenditures for the previous fiscal year and the budget for the following year necessary to accomplish the activities of the SQIP. Such summary shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

### **PROGRAM ELEMENTS**

8. **Construction Program Element**

- a. The objectives of the Construction Program are to:
  - i. Provide adequate legal authority to control pollutants from construction sites with land disturbance greater than or equal to one acre in size;
  - ii. Review construction plans and issue grading permits consistent with Permittee requirements;
  - iii. Require BMPs to control sediment and pollutants from construction sites;
  - iv. Maintain a tracking systems (inventory) of active construction sites;
  - v. Maintain tracking system of inspections and enforcement data;
  - vi. Inspect construction sites to ensure proper BMP implementation and compliance with Permittee requirements (e.g., Erosion and Sediment Control Plan [ESC plan]) and applicable Provisions of this Order;
  - vii. Bring forth enforcement actions for sites in violation of Permittee requirements and advise the Regional Water Board of violations of Construction General Permit requirements;
  - viii. Provide regular internal and external training on applicable components of the SQIP and related Permits; and

- ix. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.
- b. Each Permittee shall update and continue to implement the Construction Program Element of its SQIP to reduce pollutants in runoff from construction sites during all construction phases to the MEP. At a minimum, the Construction Program Element shall address the objectives listed above, as well as the following control measures:
  - Pollutant Source Identification
  - Threat to Water Quality Prioritization
  - Reporting of Non-compliant Sites
- c. Each Permittee shall continue to implement and enforce a program to control runoff from all construction sites subject to the NPDES General Construction Permit. The program shall ensure the following minimum requirements are effectively implemented at these construction sites:
  - i. Sediments generated on the project site shall be retained using adequate Source Control BMPs;
  - ii. Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;
  - iii. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site;
  - iv. Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs such as but not limited to; inspecting graded areas during rain events; limiting grading during the wet season; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
  - v. Prior to issuing a grading permit for a construction site, each Permittee must require submittal of an erosion and sediment control plan to the permitting agency that meets Permittee requirements.
    - (a) Prior to issuing a grading permit for a construction site, each Permittee shall require proof that a State General Construction Permit has been obtained, if applicable. Permittees shall verify that the State Storm Water Pollution Prevention Plan (SWPPP) contains, at a minimum, the following:
      - (i) If applicable to the site, a certification or proof that a Notice of Intent has been submitted to the State Water Board.

- (ii) A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;
  - (iii) A site map showing the construction project in detail, including the existing and planned paved areas and buildings; general topography both before and after construction; drainage patterns across the project area; and anticipated storm water discharge locations (i.e., the receiving water, a conduit to receiving water, and/or drain inlets);
  - (iv) A description of BMPs to address contractor activities that generates pollutants including, at a minimum, vehicle washing, equipment maintenance, and waste handling.
  - (v) A description of the type and general location of erosion and sediment control BMPs, such as but not limited to, limited grading during the wet season, and planting and maintenance of vegetation on slopes, to be employed at the site; and
  - (vi) The name and telephone number of the qualified person responsible for implementing the Storm Water Pollution Prevention Plan (SWPPP).
- d. If applicable, all environmental permits must be obtained from agencies such as Department of Fish and Game, U.S. Army Corp of Engineers, and the Regional Water Board's 401 Water Quality Certification.
- e. Inspections

The Permittees shall include the inspection frequency for construction sites for compliance with local ordinances in the SQIP and shall continue to inspect each site until construction activities are completed and the site has been stabilized. The inspections shall occur at a frequency determined to be effective by the Permittees and shall include a higher inspection frequency during the winter months (wet season) than during the summer months (dry season).

The Permittees shall inspect these sites for compliance with the local ordinances and the ESC plan described above and as prescribed in the SQIP. In addition, if the Permittees observe chronic (e.g., three or more) violations of their respective storm water ordinances at a given construction site, they shall notify the Regional Water Board as described in the SQIP. Each Permittee shall use its legal authority to promptly and effectively enforce its storm water ordinance to correct any violations observed during inspections.

- f. Interdepartmental Coordination and Agreement
  - i. Each Permittee shall enter into an agreement with other departments/entities charged with compliance of this section of the Order.
  - ii. The agreement shall describe policies and procedures and relationships of each interdepartmental coordination, in compliance of this Order.

**9. Industrial/Commercial Program:**

- a. The objectives of the Industrial/Commercial Program are to:
  - i. Provide adequate legal authority to control pollutants from industrial and commercial facilities;
  - ii. Develop and maintain an inventory of priority industrial and commercial facilities located within the Permittee's jurisdiction;
  - iii. Prioritize the industrial and commercial facilities within the inventory based on their threat to water quality;
  - iv. Conduct inspections of the priority industrial and commercial facilities that pose a significant threat to water quality with an inspection frequency based on the prioritization of the facility. Conduct follow-up inspections to verify compliance;
  - v. Implement a progressive enforcement policy to ensure that adequate enforcement is conducted;
  - vi. Refer significant violations of the Permittees' storm water ordinances and potential General Industrial Permit non-filers to the Regional Water Board. Coordinate inspections and enforcement with the Regional Water Board.
  - vii. Provide regular internal and external training on components of the SQIP and related Permits; and
  - viii. Conduct an assessment as described in the SQIP to determine the effectiveness of the Program Element and identify any necessary modifications.
- b. Each Permittee shall update and continue to implement the existing Industrial and Commercial Program component of its SQIP. At a minimum, the Industrial and Commercial Program shall address the objectives listed above, as well as to the following control measures:
  - i. Priority Facility Inventory/Tracking
  - ii. Prioritization and Inspection

- iii. Industrial/Commercial Outreach
- iv. Enforcement
- v. Training
- vi. Effectiveness Assessment

The program shall address the following priority commercial and industrial businesses: auto body shops, auto dealers, auto repair shops, equipment rental companies, nurseries, kennels, restaurants, retail gasoline outlets and those covered by the General Industrial Permit. The list of industries may be revised based on further prioritization or results of effectiveness assessment as reported in the annual reports.

- c. Each Permittee shall require implementation of pollutant reduction and control measures for activities associated with priority industrial and commercial businesses, with the objective of effectively prohibiting non-storm water runoff and reducing pollutants in storm water runoff to the MEP. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. The Regional Board recognizes that property owners are responsible for selecting and implementing BMPs since the Permittees do not have the authority to specify BMPs.

#### 10. **Municipal Program**

- a. The objectives of the Municipal Program are to:
  - i. Respond quickly and appropriately if an illicit discharge threatens to enter or enters the storm drain system;
  - ii. Implement standards that require BMPs to reduce pollutants from Permittee owned development and construction projects as specified in the New Development and Construction Elements;
  - iii. Implement pollution prevention BMPs for public facilities (e.g., corporation yards, material storage facilities, and vehicle/equipment maintenance facilities) having the potential to discharge pollutants to the storm drain system;
  - iv. Implement integrated pest management (IPM) and pesticide storage, usage, and disposal procedures as described in the Pesticide Plan;
  - v. Maintain the storm drain system (e.g., drain inlets, ditches/channels, detention basins and pump stations) to remove debris accumulation and prevent flooding;

- vi. Ensure that storm drain inlets are properly and legibly marked to discourage illicit discharges into the storm drain system.
  - vii. Conduct street sweeping activities;
  - viii. Maintain Permittee-owned parking facilities to minimize the build-up and discharge of pollutants to the storm drain system;
  - ix. Permittees having a fire protection agency within their jurisdictional control shall develop and implement a response plan to minimize the impact of fire fighting flows to the environment. BMPs must be implemented to reduce pollutants from non-emergency fire fighting flows (i.e., flows from controlled or practice blazes) identified by the Permittees to be significant sources of pollutants to waters of the State. The response plan and BMPs shall be updated and submitted with the Annual Reports.
  - x. Provide regular internal training on applicable components of the SQIP; and
  - xi. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.
- b. Each Permittee shall update and continue to implement a Municipal Program in its SQIP to effectively prohibit non-storm water discharges and prevent or reduce pollutants in runoff from all municipal land use areas, facilities, and activities to the MEP. At a minimum, the Municipal Program shall address the objectives listed above, as well as include the following control measures:
- i. New Development and Construction Requirements for Municipal Capital Improvement Projects;
  - ii. Pollution Prevention at Permittee Facilities;
  - iii. Landscape and Pest Management;
  - iv. Storm Drain System Maintenance;
  - v. Street Cleaning and Maintenance;
  - vi. Parking Facilities Maintenance;
  - vii. Detention Basin Maintenance;
  - viii. Emergency Procedures;
  - ix. Non-emergency Fire Fighting Flows;
  - x. Training; and
  - xi. Effectiveness Assessment.

#### 11. **Illicit Discharge Program**

- a. The objectives of the Illicit Discharge Program are to:
  - i. Provide adequate legal authority to control and/or prohibit pollutants from being discharged to the municipal storm drain system;

- ii. Proactively detect illicit discharges and illegal connections through a variety of mechanisms including, but not limited to, public reporting, dry weather monitoring, and field crew inspections;
  - iii. Upon identification of an illegal connection, investigate and eliminate the connection through a variety of mechanisms including, but not limited to, permitting or plugging the connection;
  - iv. Upon identification of an illicit discharge, investigate the discharge and conduct any necessary follow up actions to mitigate the impacts of the discharge;
  - v. Maintain a database for recording the information related to illicit discharges and illegal connections and, to the extent possible, use mapping to assist in evaluating the data; and
  - vi. Conduct an assessment as described in the SQIP to determine the effectiveness of the Program Element and identify any necessary modifications.
- b. Each Permittee shall update and continue to implement an Illicit Discharge Program component of the SQIP to actively seek and eliminate illicit discharges and connections. At a minimum, the Illicit Discharge Detection and Elimination Component shall address the objectives listed above and include the following control measures:
- i. Detection of Illicit Discharges and Illegal Connections;
  - ii. Illegal Connection Identification and Elimination;
  - iii. Investigation/Inspection and Follow-up Procedures;
  - iv. Enforcement of Local Codes and Ordinances;
  - v. Public Reporting of Illicit Discharges and Connections – Public Hotline;
  - vi. Training; and
  - vii. Effectiveness Assessment.

**12. Public Outreach and Public Education (Collectively Public Outreach Program):**

- a. Each Permittee shall implement a Public Outreach Program using appropriate media to (1) measurably increase the knowledge of target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to change the

behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. To accomplish these goals, the following objectives shall be addressed:

- i. Encourage the public to actively participate in the implementation of the storm water program as well as the various outreach events;
  - ii. Promote the use of the 24-hour public education and illicit discharge reporting hotline;
  - iii. Implement a public outreach strategy for the overall program that includes developing and distributing materials, conducting a mixed media campaign, participating in community outreach events, and conducting public opinion surveys to gauge the level of awareness and behavior change within a community and/or target audience;
  - iv. Coordinate with local school districts to deliver storm water education messages to schoolchildren;
  - v. Implement a business outreach program; and
  - vi. Conduct an assessment as described in the SQIP to determine the effectiveness of the Program Element and identify any necessary modifications.
- b. Each Permittee shall update and continue to implement the Public Outreach Component of its SQIP to educate the public and encourage their participation in the implementation of the SQIP. At a minimum, the Public Outreach Program shall address the objectives listed above and include the following control measures:
- i. Public Participation;
  - ii. Hotline;
  - iii. Public Outreach Implementation;
  - iv. Public School Education;
  - v. Business Outreach; and
  - vi. Effectiveness Assessment.
- c. Each Permittee shall incorporate a mechanism for public participation in the implementation of the SQIP (i.e., programs that engage the public in cleaning up creeks, removal of litter in river embankments, etc.).

### **PLANNING AND NEW DEVELOPMENT PROGRAM**

13. The objectives of the Planning and New Development Element are as follows:
  - a. Provide a framework and a process to incorporate watershed protection/storm water quality management principles into the Permittees' General Plan process, environmental review process, and development permit approval process;
  - b. Develop a program that covers initial project planning through design, construction and completion, including requirements for long-term maintenance of post-construction storm water controls;
  - c. Incorporate water quality and watershed protection principles into the Permittee's policies and into the planning procedures early in the development process;
  - d. Ensure storm water quality components have been addressed during the entitlement and CEQA process and verified as completed during the development plan process;
  - e. Ensure that selected post-construction storm water controls will remain effective upon project completion by requiring appropriate maintenance provisions for all priority development projects;
  - f. Ensure that storm water quality controls are properly selected and required during the development plan review process to minimize storm water quality impacts to the MEP;
  - g. Ensure that appropriate selected post-construction storm water controls are chosen on the basis of project- and site-specific conditions and land use characteristics, as well as receiving water impacts;
  - h. Provide regular internal training on applicable components of the SQIP; and
  - i. Conduct an assessment as described in the SQIP to determine the effectiveness of the Program Element and identify any necessary modifications.
  
14. Each Permittee shall ensure the Planning and New Development Program of its SQIP includes requirements to minimize the short and long-term impacts on receiving water quality from new development and redevelopment. At a minimum, the Planning and New Development Program shall address the objectives listed above, as well as the following:
  - a. Incorporation of Water Quality Protection Principles into Permittee Procedures and Policies;

- b. New/Revised Development Standards: Each Permittee shall continue to implement existing development standards as identified in the Permittees Development Standards Plan (a.k.a. *The Stormwater Quality Design Manual for Sacramento and South Placer Regions*) approved by Regional Water Board in May 2005. The plan identifies measures to reduce pollutant discharges from eight categories of new development and redevelopment (referred to as the Priority Development Project Categories);
  - c. Plan Review and Approval Process;
  - d. Maintenance Agreement and Transfer;
  - e. Training; and
  - f. Effectiveness Assessment.
15. **Water Quality Planning and Design Principles** - In order to reduce pollutants and runoff flows from new development and redevelopment to the MEP, each Permittee shall address the following concepts:
- a. Each Permittee shall incorporate water quality and watershed protection principles into planning procedures and policies or requirements to direct land-use decisions and require implementation of consistent water quality protection measures for priority development projects. These principles and policies shall be designed to protect natural water bodies and shall consider, at a minimum, the following:
    - i. Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment to maximize on-site infiltration of runoff (low impact development practices).
    - ii. Implement pollution prevention methods supplemented by pollutant source controls and treatment. Use strategies that control the sources of pollutants or constituents (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into MS4s.
    - iii. Preserve and create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones (e.g., levees).
    - iv. Minimize disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.

- v. Require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads from future development.
  - vi. Identify and avoid development in areas that are susceptible to erosion and sediment loss; and establish and implement development standards that protects areas from erosion and sediment loss.
  - vii. Coordinate with local traffic management programs to minimize pollutants associated with vehicles and increased traffic resulting from development.
  - viii. Implement source and/or treatment controls to protect downstream receiving water quality from increased pollutant loads in runoff flows from new development and significant redevelopment.
  - ix. Control the post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion and to protect stream habitat (hydromodification concepts).
- b. **Low Impact Development Strategies:** Priority new development and redevelopment projects shall integrate Low Impact Development (LID) principles early in the project planning and design process. LID is a storm water management and land development strategy that emphasizes conservation and the use of existing natural site features integrated with engineered, small-scale hydrologic controls to more closely reflect predevelopment hydrologic functions in residential, commercial, and industrial settings. When developing the LID Program the Permittees shall consider and incorporate all appropriate and applicable LID components and measures that have been successfully and effectively implemented in other municipal areas. Other programs include, but are not limited to, USEPA's "Managing Wet Weather with Green Infrastructure, Action Strategy, 2008" and LID program elements specified in the permits or Storm Water Management Plans of other MS4s throughout the state.

*The Stormwater Quality Design Manual for Sacramento and South Placer Regions* currently promotes LID principles such as conservation and use of natural site features; site specific, lot scale source and treatment control measures that keep pollutants from contacting run-off and leaving the site; and run-off reduction control measures integrated into site design.

- i. Each Permittee shall amend, revise or adopt development standards (including policies, codes, ordinances and/or regulations) to require implementation of LID strategies at priority new development and redevelopment projects **no later than six months** after approval of the HMP by the Regional Water Board.

c. **Hydromodification Management Plan (HMP)**

The Permittees shall submit a HMP Work Plan as part of their SQIPs for approval by the Regional Water Board. One year after Regional Board approval of the SQIP/HMP Work Plan, the HMP shall be submitted for approval. The Permittees shall amend their development standards to implement the HMP **no later than six months** after Regional Water Board approval of the HMP.

- i. The HMP shall require controls to manage the increases in the magnitude (e.g., flow control), frequency, volume and duration of runoff from development projects in order to protect receiving waters from increased potential for erosion and other adverse impacts with consideration towards maintaining (or reproducing) the pre-development hydrology. The HMP shall address, but not be limited to, the following:
  - (a) Requires incorporation of controls, including structural and non-structural BMPs, to mitigate the projected increases in flows;
  - (b) Controls post-development runoff rates and velocities from a site to avoid adverse impact on downstream erosion, flooding and stream habitat;
  - (c) Minimizes the quantity of storm water directed to impermeable surfaces and the MS4s (municipal storm drain);
  - (d) Maximizes the percentage of permeable surfaces to allow more percolation of storm water into the ground;
  - (e) Considers the full range of BMPs in the *Stormwater Quality Design Manual*; and
  - (f) Considers various assessment methodologies designed to evaluate the existing geomorphic condition of receiving waters, along with the expected susceptibility of these receiving waters to erosion/change as a result of hydromodification from land development and other land uses.
- ii. This requirement does not apply to new development and redevelopment projects where the project discharges storm water runoff into creeks or storm drains where the potential for erosion, or other impacts to beneficial uses, is minimal. The HMP shall describe the criteria used in determining the site-specific conditions applied to this requirement. Such situations may include, but not limited to the following:

- (a) Discharges into creeks that are concrete-lined or significantly armored;
- (b) Underground storm drain systems discharging directly to the rivers;
- (c) Construction of infill projects in highly developed watersheds, where the potential for single-project and/or cumulative impacts is minimal; and
- (d) Projects that do not create an increase in impervious surfaces over pre-project conditions.

**16. General Plan Update**

- a. Each Permittee's General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) shall include water quality and watershed protection principles and policies applicable to land use decisions and require implementation of consistent water quality protection measures for development projects paying special attention to water quality protection from urban runoff and storm water pollution.
- b. Each Permittee shall include principles and policies if the following are present in a Permittee's jurisdiction;
  - i. Sensitive water resources (e.g. 303d-listed water bodies) in, or immediately downstream of, their jurisdiction;
  - ii. Existing Total Maximum Daily Loads (TMDLs) or other such regulations pertaining to receiving waters within their jurisdiction;
  - iii. Major new development or significant redevelopment expected; and
  - iv. Major new infrastructure projects anticipated (e.g. roads, sewer, flood control, storm drains).
- c. Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with California Government Code § 65350 et seq.

- d. Each Permittee shall amend, revise, or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, (iv) Open Space (v) Circulation and Infrastructure (i.e. transportation), (vi) Safety, and (vii) and Public Facilities.
- e. Each Permittee shall review and modify the development goals and policies, open space goals and policies including preservation or integration with natural features, and when defined the need for specific urban runoff and storm water pollution protection policies (i.e., low impact development policies, hydromodification management plans) if they are determined deficient. Each Permittee shall provide the Regional Water Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with California Government Code § 65350 *et seq.* The Permittees shall also provide the Regional Water Board a written summary identifying how the draft amendment or revision complies with this Order.

**17. Entitlement Process:**

- a. Private Development: Each Permittee shall incorporate into its entitlement process standard procedures in order to consider potential storm water quality impacts early in the planning process of any new development and redevelopment project. The Permittees' shall clearly demonstrate the developer and Permittee considered storm water quality site issues before the facilities/projects are final designed. The Permittees must demonstrate involvement in the conceptual storm water quality design in either two different points in project planning and permitting process:
  - i. During Discretionary action<sup>19</sup> approval process (land use permit) of a proposed project, when the Permittee must exercise judgment or deliberation in order to approve or disapprove a development or significant redevelopment project, or
  - ii. During Ministerial action<sup>20</sup> approval process of issuing a grading, building, demolition, or similar "construction" permits in which only fixed standards or objective measures are applied.

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<sup>19</sup> A "discretionary action" under CEQA is defined as "an activity which requires the public agency to exercise judgment in deciding whether to approve or disapprove the particular activity, as distinguished from situations where the public agency merely has to determine whether there has been conformity with applicable ordinances or other laws." (California Public Resources Code § 21080(a); CEQA Guidelines § 15357)

<sup>20</sup> "Ministerial actions" under CEQA are those where little or no judgment or deliberation by a Permittee is required.

- b. **Permittee Development:** The process for planning and reviewing Permittee-owned new development and redevelopment projects differs from the private sector development process. However, Permittee-owned new development and redevelopment projects must consider potential storm water quality impacts early in the planning process. The Permittees shall develop an equivalent approach to ensure development process procedures consider storm water quality site issues before the facilities/projects are final designed.

#### **18. Maintenance Agreement and Transfer**

Each Permittee shall require that all developments subject to Development Standards and site specific plan requirements provide verification of maintenance provisions for Structural Treatment Control BMPs, including but not limited to legal agreements, covenants, California Environmental Quality Act (CEQA) mitigation requirements, and or conditional use permits. Verification at a minimum shall include:

- a. The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; or
- b. Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance; or
- c. Written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural Treatment Control BMPs; or
- d. Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural Treatment Control BMPs.

#### **19. Mitigation Funding**

The Permittees may propose a management framework, for endorsement by the Regional Water Board Executive Officer, to support regional or sub-regional solutions to storm water pollution, where any of the following situations occur:

- a. A waiver for impracticability is granted;
- b. Legislative funds become available;
- c. Off-site mitigation is required because of loss of environmental habitat; or an approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

20. **Waiver Program:** A Permittee may develop a waiver program that would require a developer to pay into an in-lieu fund or storm water mitigation fund instead of incorporating a structural treatment control measure into a development project. A waiver may be used for projects where accepted structural treatment control measures have been considered and rejected as infeasible. Infeasibility criteria may include items such as extreme space limitations in redevelopment projects or infill areas, unfavorable soil conditions for infiltration, potential groundwater contamination, or topographic and hydraulic head limitations. The storm water mitigation funds shall be used for regional or alternative solutions within the Sacramento River watershed. The Permittee shall obtain approval from the Executive Officer prior to implementation of a waiver program and shall notify the Regional Water Board annually of waivers granted in that year.

21. **California Environmental Quality Act (CEQA) Document Update**

Each Permittee shall incorporate into its CEQA process, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

- a. Potential impact of project construction on storm water runoff;
- b. Potential impact of project post-construction activity on storm water runoff;
- c. Potential for discharge of storm water from areas for material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
- d. Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
- e. Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;
- f. Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
- g. Potential for significant increases in erosion of the project site or surrounding areas.

22. **Coordination, Enforcement and Tracking**

- a. Each Permittee shall provide for the review of proposed project plan and require measures to ensure that all applicable development will be in compliance with their storm water ordinances, local permits, and all other

applicable ordinances and requirements.

- b. Each Permittee shall develop a process by which Development Standards will be implemented. The process shall identify at what point in the planning process development projects will be required to meet Development Standards. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the Development Standards, as well as any other measures necessary for the implementation of Development Standards.
- c. Each Permittee shall develop and implement (no later than one year after Regional Water Board approval of the SQIP) the following:
  - i. A GIS or other electronic system for tracking projects that have been issued a permit for the construction of post-construction treatment control BMPs. The electronic system, at a minimum, shall contain the following information:
    - a) Municipal Project ID.
    - b) State WDID No.
    - c) Project Acreage.
    - d) BMP Type and Description.
    - e) BMP Location.
    - f) Date of Acceptance.

23. **Infiltration and Groundwater Protection** – To protect groundwater quality, each Permittee shall consider the type of development and resulting storm water discharge and, if appropriate, apply restrictions to the use of structural BMPs which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins).

24. **Development Standards Outreach** – Each Permittee shall continue to implement outreach and training associated with the Planning and New Development Program Element.

25. **Targeted Employee Training**

Each Permittee shall periodically train its employees in targeted positions (whose jobs or activities are engaged in development planning) to ensure they can adequately implement the Planning and New Development Program requirements.

26. **Technical Guidance and Information for Developers**

The Permittees shall submit updated technical guidance consistent with the requirements of Provisions 15b and c of this Order, no later than 6 months following amendment of development standards. The updated technical guidance shall include and encourage low impact development/ hydromodification strategies for the development community in the Sacramento urbanized area. The strategies shall be

based on the existing site design control measures identified in the existing Development Standards. Prior to approval of the Development Standards, the early implementation of measures likely to be included in the Development Standards shall be encouraged by the Permittees.

### WATER QUALITY BASED PROGRAMS

27. The Permittees shall continue to implement the Target Pollutant identification and prioritization processes described in the SQIP. These processes shall continue to include as key evaluation criteria, pollutants that cause or contribute to exceedances of water quality standards and known or probable impairment of beneficial uses. The Permittees shall develop and/or implement target pollutant control programs for pollutants that have been identified as top priorities. Target pollutant control programs shall be incorporated into each Permittee's SQIP and revised in accordance with the directives of this Order. At a minimum, these control programs shall include the following:

- a. **Pesticides:** To address pesticide impairment of urban streams, the Permittees shall continue to implement the Regional Water Board-approved Pesticide Plan that addresses their own use of pesticides including diazinon and chlorpyrifos, and to the extent authorized by law, the use of such pesticides by other sources within their jurisdictions. The goal of the Pesticide Plan is to reduce the discharge of pesticides from municipal storm water systems to urban creeks within the Sacramento urbanized area. The Permittees shall identify and promote, within the context of integrated pest management (IPM) programs, the use of pest management practices that minimize the risk of pesticide impacts on surface water quality resulting from urban runoff discharges.

IPM shall be integrated into the Permittee municipal operations and promoted to residents, businesses and public agencies through the public outreach program.

- i. For municipal operations, the Permittees shall implement the action items listed under the "Permittee Pest Control" section of the Pesticide Plan
- ii. For public outreach, the Permittees shall implement the action items listed in the "Public Education and Outreach" section of the Pesticide Plan.
- iii. The Permittees shall conduct the following studies of the local or regional sales and use of residential and commercial pest control products potentially found in storm water runoff:
  - a) A telephone survey of residential pesticide use

- b) A review of structural and landscape pesticide use based on Pesticide Use Reports available from the DPR
- c) A shelf survey of pesticides available to the public at retail settings

The studies may be based on the study design used for previous studies conducted by the Permittees, and shall be conducted by 1 August 2011 (or three years after the effective date of this Order, whichever is later). The survey may be conducted in conjunction with other municipalities in the Central Valley or San Francisco Bay Area as long as residences and retailers located with Sacramento urbanized area are adequately represented.

- iv. **No later than the end of year 4 of the Permit term**, the Permittees shall complete an assessment to determine if urban storm water is causing or contributing to an exceedance of water quality standards for diazinon and chlorpyrifos. If urban storm water is causing or contributing to an exceedance, then the Permittees shall determine the relative contribution of urban storm water runoff to diazinon and chlorpyrifos levels in waters within its jurisdiction that are identified as a toxic hot spot (per § 13394 of Porter-Cologne) or are on the CWA 303(d) list.
  - v. The Permittees, either separately or through organizations such as CASQA, shall continue to support or participate in efforts to influence pesticide regulatory activities by state and federal agencies, especially DPR, the Structural Pest Control Board, and the USEPA Office of Pesticides, with respect to promoting adequate evaluation and regulation of pesticide uses that have significant potential to impact receiving waters through discharges of urban runoff.
  - vi. The Permittees shall coordinate with the Pesticide Plan component of the SQIP, to the extent that pesticides in sediments are identified as causing or contributing to receiving water impacts. The Permittees shall incorporate a Sediment Monitoring program into the Pesticide Plan as part of the SQIP. The Sediment Monitoring program shall include information as specified in the Monitoring and Reporting Program of this Order.
- b. **Mercury:** To address the mercury impairment of the Delta, Sacramento River, American River, and Lake Natoma, the Permittees shall continue to implement the mercury reduction strategy (Mercury Plan) that was submitted in 2004. Compliance with the Mercury Plan shall be assessed by data and information submitted in the Annual Reports.

In addition, the Permittees shall incorporate the following into their mercury reduction strategy.

- i. For public outreach and municipal operations, the Permittees' mercury control programs shall coordinate with the countywide universal waste (U-waste) management strategy, described in the "Sacramento Countywide U-Waste Collection Strategy Letter Report" (R3 Consulting Group Inc., 2007, pages 9 and 10), and describe in the Annual Reports specific coordination efforts related to mercury control (e.g., fluorescent lamp collections, public outreach, sustainable funding mechanisms, and U-waste tonnage tracking).
- ii. For public outreach, the Permittees shall evaluate and summarize the 2004 and 2007 public awareness/opinion survey data related to mercury (e.g., fluorescent lamps disposal). In the 2008/2009 Annual Report, provide recommendations for amending Permittees' mercury source control programs and amend the mercury source control programs in accordance with those recommendations.
- iii. As components of the Monitoring Program, the Permittees shall complete the following efforts, which are further described in the MRP:
  - a) Evaluate total mercury and methylmercury data collected under the previous Order and continue urban discharge monitoring to determine the amount of total mercury and methylmercury loading that urban lands within the Sacramento area contribute to individual impaired water bodies (the Delta, Sacramento River, American River, and Lake Natomas).
  - b) Estimate the amount of total mercury and sediment prevented from discharging to receiving waters by existing BMPs such as (but not limited to) street cleaning, detention basins, and erosion and sediment controls.
  - c) Consider including monitoring in the design of future BMP studies to estimate the extent to which existing and new BMPs reduce total mercury and methylmercury discharges.

Based on the results of the above mercury-related evaluations and Permittee recommendations, the Executive Officer may require additional mercury monitoring, BMPs, and SQIP revisions.

28. In support of the Water Quality Based Programs, the Permittees shall develop and implement the storm water monitoring program as defined in the Monitoring and

Reporting Program No. R5-2008-\_\_\_\_, which is part of this Order, and any revisions thereto adopted by the Regional Water Board.

## 29. Program Effectiveness Assessment

- a. The Permittees shall describe their approach to program effectiveness assessment in their SQIPs and report the results of the assessment in their Annual Reports. The assessment shall identify the direct and indirect measurements that the Permittees used to track the effectiveness of their programs as well as the outcome levels at which the assessment is occurring consistent with this Order. Direct and indirect measurements such as the following shall be included: conformance with established performance standards, quantitative monitoring to assess the effectiveness of representative control measures, measurements or estimates of pollutant load reductions or increases from identified sources where feasible, measurements of raised awareness of the public, and/or detailed accounting/documentation of SQIP accomplishments.
- b. The Permittees shall track the long-term progress of their SQIPs towards achieving improvements in receiving water quality.
- c. The Permittees shall use the information gained from the program effectiveness assessment to improve their SQIPs and identify new BMPs, or modification of existing BMPs. This information shall be reported within the Annual Reports consistent with this Order.
- d. Long Term Effectiveness Assessment (LTEA): Each Permittee shall collaborate with the other Permittees to develop the LTEA of the program, which shall build on the results of the Permittees' Annual Reports and the initial program effectiveness assessments. The LTEA shall be submitted to the Regional Water Board **no later than 180 days prior to the permit expiration date** and shall identify the storm water program long term effectiveness in achieving both programmatic goals (raising awareness, changing behavior) and environmental goals (reducing pollutant discharges, improving environmental conditions).

## ADDITIONAL REQUIREMENTS

30. Monitoring and Reporting Program: The Permittees shall comply with Monitoring and Reporting Program No. R5-2008-\_\_\_\_, which is part of this Order, and any revisions thereto approved by the Board. Because the Permittees operate facilities which discharge waste subject to this Order, the Monitoring and Reporting Program is necessary to ensure compliance with these waste discharge requirements.

31. This Order may be modified, or alternatively, revoked or reissued, prior to the expiration date as follows: a) to address significant changed conditions identified in the technical reports required by the Regional Water Board which were unknown at the time of the issuance of this Order; b) to incorporate applicable requirements of statewide water quality control plans adopted by the State Board or amendments to the Basin Plan approved by the State Board; or c) to comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirement of the CWA when applicable.
32. Each Permittee shall comply with all applicable items of the "Standard Provisions and Monitoring Requirements for Waste Discharge Requirements (NPDES)," dated February 2004 (Attachment D), which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
33. This Order expires on **11-12 September 2013**. The Permittees must file a Report of Waste Discharge (ROWD) in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for re-issuance of waste discharge requirements. U.S. EPA 40 CFR Part 122 Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems states the fourth year annual report may be used as the ROWD reapplication package. The reapplication package must identify any proposed changes or improvement to the SQIPs, an assessment of the effectiveness of the program, and monitoring activities for the upcoming five year term of the permit, if those proposed changes have not already been submitted pursuant to 40 CFR 122.42 (c).

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **11-12 September 2008**.

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PAMELA C. CREEDON, Executive Officer