

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2011-XXXX

NPDES NO. CAS0084077

WASTE DISCHARGE REQUIREMENTS
FOR
STOCKTON PORT DISTRICT
FACILITY-WIDE STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM AND
NON-STORM WATER DISCHARGES FROM THE PORT OF STOCKTON
SAN JOAQUIN COUNTY

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

1. The Stockton Port District (hereafter "Permittee") is a special district that owns and operates the Port of Stockton and its storm sewer system. The Port of Stockton ("Port") is located within the City of Stockton, which is the largest city in San Joaquin County, with a population of about 287,000. However, the Port has no permanent residents and the non-resident worker population of the Port is only approximately 3,500. In 1997, the Central Valley Water Board issued a municipal storm sewer system (MS4) permit to the Permittee that regulated ~~it~~ the Port as a medium MS4 under the Phase I federal storm water regulations (40 CFR Section 122.26(b)(7)) because there were no provisions for smaller MS4 regulation as there is now under the Phase II permit. The portion of the storm sewer system operated by the City of Stockton is separately regulated under different waste discharge requirements (Order R5-2007-0173).
2. Prior to issuance of this Order, the Permittee was covered under initially under the General Industrial Permit, and then by an NPDES area-wide Phase I MS4 permit; Order 97-042 (NPDES No. CAS0084077), issued by the Central Valley Water Board in 1997 and Order R5-2004-0136 (NPDES No. CAS0084077), adopted on 15 October 2004.
3. The ~~Port of Stockton (hereafter Port)~~ is physically divided into a West Complex (formerly Rough & Ready Island) and an East Complex. The 640-acre East Complex is older and more developed than the West Complex, which was a former Naval facility acquired from the United States Navy in September 2003. The West Complex is being converted and developed for full-scale shipping and manufacturing operations, which will include maritime, industrial, and commercial uses.
4. The 1,460-acre West Complex is surrounded by water: The Stockton Deep Water Ship Channel (DWSC) on the north, Burns Cutoff on the south and west, and the San Joaquin River to the east. Since tThe site was formerly the U. S. Naval Station, it and was previously zoned for institutional uses. However, tThe Permittee is pursuing a change of land use designation in order to accommodate maritime, industrial and commercial land

uses. The project will include the redevelopment of marine terminals on the existing 500 acres in the northern portion of the island and the development of a commercial and industrial park on the undeveloped 500 acres southern portion of the island.

5. Discharges from the Port's storm sewer system consist of storm water runoff and non-storm water discharges, which discharge directly or indirectly to the San Joaquin River and the Stockton ~~Deep Water Channel (DWSC)~~ as shown in the site location map in Attachment A. The receiving waters around the Port are tidally influenced.

~~6. Like any municipality, the Permittee's land use authority allows industrial activity that may generate pollutants and runoff that could impair receiving water quality and beneficial uses. As a large industrial facility, the Port should be subject to an equivalent discharge standard as other industrial sites. Discharge Prohibition A.3. therefore defines the maximum extent practicable (MEP) standard to be equivalent to Best Available Technology Economically Achievable for non-conventional and toxic pollutants (BAT), and Best Conventional Technology Economically Achievable for conventional pollutants (BCT) for the purposes of this Order; however, the Central Valley Water Board recognizes that the character of the Port's discharge (especially discharges from the West Complex) could change in the future, either because the nature of the tenants changes or because the Permittee may at some point segregate industrial discharges from other discharges (i.e., commercial and possibly residential). Should the Permittee demonstrate that certain non-commingled storm water discharges to receiving waters are not industrial in nature; the Central Valley Water Board may consider revising Discharge Prohibition B.1. to define the discharge standard for those flows as strictly MEP rather than equivalent to BAT/BCT.~~

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7. Some parts of the West Complex have elevations below the surrounding waterbodies, which cause the surface percolation of groundwater in these areas. This percolated groundwater is drained with reclamation ditches to a pump station, which discharges the groundwater to Burns Cutoff. Because the West Complex is known to have several areas where the underlying groundwater has been degraded from historical operations, groundwater discharges may be a source of pollution to surface waters.

8. This Order does not authorize the discharge of waste associated with groundwater pumping for the containment of contaminated groundwater plumes at the West Complex. Rather, the Permittee must submit a Report of Waste Discharge for coverage of the groundwater pumping operations, or submit a Notice of Intent for coverage under an applicable General NPDES Permit (e.g., low threat discharge, or groundwater treated for removal of fuel products or industrial solvents).

9. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Public Health 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

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Permittee will closely cooperate and collaborate with local vector control agencies and the State Department of Public Health for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.

10. The Port discharges urban runoff¹ from the East Complex retention basin to the San Joaquin River, a water of the United States, at the point latitude 37° 56'16" and longitude 121° 20'04". In addition, there are five major storm sewer discharges from the East Complex that flow via gravity into the DWSC, as shown on Attachment D. The West Complex has one major storm sewer discharge that flows to a pump station; discharge from the pump station is to the Burns Cutoff, as shown on Attachment C
11. The loading and unloading of materials from vessels and trains at the Port may result in pollutants (e.g., fertilizers and livestock feed) being spilled on the ground and discharged to adjacent waterbodies ~~during rain events, or being directly spilled into these waterbodies~~. Discharge Prohibition A.3. generally prohibits the discharge of pollutants; however, this prohibition is not violated if the Permittee demonstrates that the discharge did not cause or contribute to an exceedance of an applicable water quality standard, ~~and or if the Permittee that it~~ implemented best management practices (BMPs) meeting the ~~BAT/BCTMEP~~ standard (a requirement of this Order).
12. The Permittee and its tenants are engaged in the shipping, loading and unloading (vessels and trains) of bulk commodities at the East Complex. These commodities include, but are not limited to, bulk fertilizers, prilled sulfur, cement, cottonseed, anhydrous ammonia, liquid fertilizer, petroleum coke, coal, molasses, bagged rice, scrap metal and steel products. Because handling bulk commodities at the Port may result in pollutants (e.g., fertilizers and livestock feed) being spilled on the ground and discharged to adjacent waterbodies ~~during rain events, or being directly spilled into these waterbodies~~, monitoring during these activities is required.
13. Cargo ships are stabilized by filling ballast tanks or discharging water from them. The discharge of ballast tank water may result in non-native invasive species being introduced into the Delta. The organisms can become established in the Delta, where they may displace native species or cause significant ecological damage. In addition, ballast water may contain pathogens and other waste materials that may impact the beneficial uses of the Delta. Cargo ships have large ballast tanks, up to 30,000 cubic meters. International agreements² require cargo ships to intake and discharge ballast tank water in pelagic (open ocean) waters to the maximum extent practicable. This Order requires the Permittee to conduct outreach to ship operators to ensure they are aware of these agreements. This Order does not, however, prohibit ballast water discharge because adjustments in ballast water may be necessary to ensure the stability of docked vessels.

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¹ See Attachment E for a definition of "urban runoff" and other relevant terms.

² International Maritime Organization, International convention for the Control and Management of Ships Ballast & Sediments, adopted February 2004.

14. The Port currently has a daily non-residential worker population of approximately 3,500, and about 20 permitted industrial tenants, most of which are engaged in material storage, handling and transfer. These materials include cement, liquid and dry fertilizers, sulfur, scrap metals, steel products, petroleum products, anhydrous ammonia, lumber, molasses, bulk rice, sunflower seed, windmill parts, and other miscellaneous materials. The Port's Storm Water Management Plan (SWMP) will include a complete inventory of its industrial tenants, including their locations and activities.
15. Development which-that 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 BMP implementation result in sediment runoff rates which-that 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.
16. The Permittee's land use authority allows urban developments that may generate pollutants and runoff that could impair receiving water quality and beneficial uses. The Permittee is 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 Permittee must exercise their legal authority while utilizing their enforcement discretion to ensure that the increased pollutant loads and flows do not degrade the beneficial uses of the receiving water.
17. 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-can be lost. Therefore, runoff leaving a developed urban area is-may be significantly greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10 percent conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.³ This Order requires the Permittee to incorporate water quality and watershed protection principles into planning procedures and policies such as the Development Standards and requirements to direct land-use decisions and require implementation of consistent water quality protection measures for all development projects. These principles and policies shall be designed to protect natural waterbodies, reduce impervious land coverage (such as through low impact

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³ 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.

development design), slow runoff to prevent hydromodification of waterways, and where feasible, maximize opportunities for infiltration of rainwater into soil.

18. Development and urbanization especially may threaten environmentally sensitive waterbodies, such as those supporting rare, threatened or endangered species and CWA 303(d) impaired waterbodies. Such waterbodies may have a lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may become more significant in a particularly 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 environmentally sensitive water body.
19. Although dependent on several factors, the risks typically associated with properly managed infiltration of runoff are not significant. The risks associated with infiltration can be managed by many techniques, including (1) low impact design and hydromodification strategies required in the Development Standards; (2) 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); (3) taking reasonable steps to prevent the illegal disposal of wastes; (4) protecting footings and foundations; and (4) ensuring that each drainage feature is adequately maintained in perpetuity.

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DISCHARGE CHARACTERISTICS

20. The quality and quantity of MS4 discharges vary considerably because of the effects of local hydrology, geology, land use, season, and sequence and duration of precipitation events. Industrial storm water runoff may contain pollutants that may lower the quality of receiving waters and adversely impact beneficial uses of the San Joaquin River and Delta. Studies indicate there may be increases in pollutant levels and aquatic toxicity in receiving waters as a result of industrial storm water discharges.
21. 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; unidentified sources of acute and chronic aquatic toxicity; and nutrients and other organic material 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.
22. The discharge of contaminated wash waters and polluted storm water from industries and businesses is may present an environmental threat, and can also adversely impact public health and safety. The pollutants of concern in such wash waters may 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.

23. Certain pollutants present in storm water and/or industrial runoff may be derived from extraneous sources that the Permittee has no or limited jurisdiction over. Examples of such pollutants and their respective sources are: polynuclear aromatic hydrocarbons ~~which that~~ 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.
24. The Port has identified six outfalls, within its jurisdiction. The Port began monitoring ~~of~~ its storm water discharges as part of its original permit, Order 97-042, in 1997. Since receiving the second term permit in October 2004, the Permittee conducted Direct Discharge and Receiving Water Monitoring, which included urban discharge and receiving water monitoring for three events per year at five sites. In addition, water column toxicity testing, Port owned industrial monitoring, dry weather field monitoring, ship loading and unloading monitoring, and retention basin monitoring has been conducted as part of the baseline monitoring. These data have been reported in the Permittee's annual reports.
25. In addition to the baseline monitoring, the Permittee has developed and implemented a Water Quality Based Program to target specific waterbodies and evaluate the spatial and temporal trends of identified pollutants of concern (POC), as well as appropriate POC control measures. During 2004-2009 these special studies included:
 - Pesticide Plan;
 - Dissolved Oxygen Plan (oxygen-demanding compounds);
 - Total Mercury and Methylmercury Control Program;
 - Retention Basin Studies (variety of POCs); and
 - BMP Effectiveness Studies.

These data are reported in the Permittee's annual reports.

STATUTORY AND REGULATORY CONSIDERATIONS

26. 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 Water Board), through the Regional Water Boards, to regulate and control the discharge of pollutants into waters of the State. On

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22 September 1989, the State Water 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.

~~27. 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 waterbodies 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 permittee's obligations under this Order are similar to, and in many respects less stringent than, 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].)~~

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~~The Clean Water Act and the Porter-Cologne Water Quality Control Act largely regulate storm water with an even hand, but to the extent there is any relaxation of this even-handed regulation, it is in favor of the local agencies. Except for municipal separate storm sewer systems, the Clean Water Act requires point source dischargers, including discharges of storm water associated with industrial or construction activity, to comply strictly with water quality standards. (33 U.S.C. § 1311(b)(1)(C), *Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159, 1164-1165 [noting that industrial storm water discharges must strictly comply with water quality standards].) As discussed in prior State Water Resources Control Board decisions, this Order does not require strict compliance with water quality standards. (SWRCB Order WQ 2001-15, p. 7.) The Order, therefore, regulates the discharge of waste in municipal storm water more leniently than the discharge of waste from non-governmental sources.~~

~~Third, the local agency permittee has 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 permittee has 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 permittee has 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.~~

28:27. 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).

| 29-28. This Order contains requirements based on assessments by Central Valley Water Board staff. Those assessments found that modifications were necessary to improve the Permittee's efforts to reduce the discharge of pollutants in urban runoff to the MEP and achieve water quality standards.

| 30-29. 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 to the MEP from the permitted areas in the Port subject to the Permittee's jurisdiction.

| 31-30. 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 Permittee eliminates such discharges once they are identified as sources of pollutants to waters of the United States. Illicit discharges can include low levels of chlorine if they originate from potable water sources.

| 32-31. The Permittee must maintains ~~the legal lease agreements with its tenants. These lease agreements provide the Permittee~~ authority to protect and enhance the water quality of watercourses, waterbodies, and wetlands within the Port in a manner pursuant to and consistent with the CWA and the Porter-Cologne Water Quality Control Act.

| 33-32. 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 Central Valley Water Board and the Permittee for the

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inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 Fed. Reg. 61157).

34.33. The State Water 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)]. The current General Industrial Permit was reissued on 17 April 1997 and is scheduled for renewal during this 5-year term of this Order. The current General Construction Permit was reissued on 2 September 2009. In addition, the Central Valley Water Board has issued General Permit Order R5-2008-0081 for dewatering and other low threat discharges, which authorizes such discharges to the MS4s owned and operated by the Permittee. This Order requires the Permittee to work with the Central Valley Water Board to coordinate the conducting of-compliance inspections at industries and construction sites that discharge to its MS4. Many of these sites are currently covered under State NPDES General Permits.

35.34. When industrial or construction site discharges occur in violation of local permits and ordinances, the Central Valley Water Board in most cases refers first to the municipality where the discharge occurs for appropriate actions. If the Permittee has demonstrated a good faith effort to educate and enforce, but remains unsuccessful, the Central Valley Water Board may assist the Permittee 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 Central Valley Water Board may initiate enforcement action against both the industrial or construction discharger under the statewide General Permits, as well as against the authorizing Permittee for violations of this Order. The 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.

36.35. This Order shall assure eventual compliance with all applicable water quality standards. This Order therefore includes requirements to the effect that discharges shall not cause or contribute to exceedances of water quality standards that would cause or create a condition of nuisance, pollution, or water quality impairment in receiving waters. The Central Valley Water Board ~~is requiring~~anticipates that these requirements will be addressed over time through ~~the an~~ effective and iterative approach to implementation of Best Management Practices (BMPs) to reduce pollutants in storm water.

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37.36. Regulations in 40 CFR 122.26(d)(2)(iv) require that the Storm Water Management Plan (SWMP) be implemented during the entire duration of the permit, which is five years. The Permittee shall demonstrate substantial compliance with the SWMP and this Order through the information and data supplied in the Annual Report. The SWMP shall remain in effect as an integral and enforceable part of this Order until revised and approved by the Central Valley Water Board. If there are conflicts between the SWMP and this Order, then the Order supercedes the SWMP.

38.37. The State and Regional Water Boards may consider issuing separate NPDES storm water permits to other federal, state, ~~or regional~~, or municipal entities operating and discharging within the Permittee's boundaries that may not be subject to direct regulation by the Permittee. Federal agencies are not subject to municipal storm water requirements although they may be permitted as industrial dischargers.

39.38. Federal, state, regional, or local entities within the Permittee's 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 Permittee may lack legal jurisdiction over these entities under applicable state and federal authorities. Consequently, the Central Valley Water Board recognizes that the Permittee should not be held responsible for such facilities and/or discharges. However, the Permittee should notify the Central Valley Water Board upon recognition of discharges, which are a threat to storm water quality protection.

40.39. The Central Valley Water Board adopted the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins, Fourth Edition*, revised September 2009, 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.

41.40. The designated beneficial uses of the San Joaquin River and Delta downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal and domestic supply; industrial; and agricultural supply; contact and other non-contact recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources, including their habitat, migration routes, and spawning grounds.

42.41. The beneficial uses of the underlying ground water beneath the Stockton Urbanized Area as identified in the Basin Plan are municipal and domestic water supply, industrial service, industrial process, and agricultural supply.

43.42. This Order requires implementation of programs (i.e., ~~Best Management Practices, or BMPs~~) to reduce the level of pollutants in storm water discharges to the ~~maximum extent practicable (MEP)~~ and any additional controls ~~necessary to comply~~ consistent with the applicable Waste Load Allocations (WLAs) contained in approved Total Maximum Daily Loads (TMDLs). With future development within the area, it is possible that future degradation in water quality could occur. Any such change in water quality will not

unreasonably affect the present and anticipated beneficial uses of water and will not result in water quality less than that prescribed in policies of the State Water Board. The programs required pursuant to this order constitute the best practicable treatment or control of discharges necessary to ensure that any pollution or nuisance will not occur and the highest quality consistent with maximum benefit to people of the State will be maintained and is in accordance with federal and state antidegradation policies.

44.43. Clean Water Act section 402(p)(3)(B)(III) requires ~~municipal separate storm sewer system (MS4) operators~~ to control pollution in storm water to the ~~“maximum extent practicable” (MEP)~~. The MEP requirement is analogous to a technology-based requirement ~~in that it~~ focuses upon the feasibility of pollutant reduction measures rather than achievement of water quality standards in the receiving waters to achieve improvements in the quality of the storm water that is discharged. Compliance with the MEP requirement can range from implementation of structural and nonstructural best management practices to installation of end-of-pipe treatment systems. The MEP standard provides MS4 operators with considerable flexibility in proposing controls to be implemented through the development of a storm water management plan (see 55 Fed. Reg. 48037-38 and 48052-53 (Nov. 16, 1990)). However, the determination of what controls are sufficient to meet MEP is ultimately made by the Central Valley Water Board (40 CFR 122.26(d)(2)(iv)). ~~Nevertheless, MEP does not define the limits of pollution control measures that may be required of MS4 operators, and the requirement to implement controls that reduce pollutants to the MEP is not limited by the goal of attaining water quality standards. In some circumstances, compliance with MEP is not limited by the goal of attaining water quality standards. The Central Valley Water Board may use its discretion to impose other provisions beyond MEP, as it determines appropriate for the control of pollutants including ensuring strict compliance with water quality standards, (Defenders of Wildlife V. Browner (1999) 191 F.3d 1159, 1168). 40 CFR 122.26(d)(2)(iv)(B)(1)]⁴ lists several non-storm water flows that are not required to be prohibited unless such discharges are specifically identified by the Phase I MS4 Permittee as sources of pollutants to waters of the United States.~~

45.44. 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 guidance document discusses~~ discussed the ~~appropriate kinds of water quality-based effluent limitations~~ potential types of requirements that could ~~to~~ be included in NPDES storm water permits to provide for the attainment of water quality standards.

⁴ 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 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).

However, this guidance document preceded the *Defenders of Wildlife* decision and the State's policy not to require water quality based effluent limitations for stormwater discharges. (WQ 2001-0015.)

46.45. 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, which are covered by General Permits in California: (a) the application of pesticides directly to waters of the United States in order to control pests,⁵ and (b) The application of pesticides to control pests that are present over waters of the United States, including near such waters,⁶ that results in a portion of the pesticides being deposited to waters of the United States (40 CFR 122.3(h)).

47.46. On 17 June 1999, the State Water Board adopted Order WQ 99-05 (SBO 99-05), a precedent setting-decision issued prior to the *Defenders of Wildlife* case, which identifies-identified 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-applicable State Water Board Orders, U.S. EPA policy, and the U.S. Court of Appeals decision in *Defenders of Wildlife v. Browner* (Ninth Cir., 1999). The State Water Board's Office of Chief Counsel (OCC) has determined that the federal court decision did not conflict with Order 99-05 (memorandum dated October 14, 1999).

48.47. Federal regulation 40 CFR 122.42(c)(7) requires the Permittee to submit an annual report that identifies water quality improvements or degradation.

49.48. 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.

50.49. 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.

⁵ Water Quality Order No. 2004-0008-DWQ, Statewide General National Pollutant Discharge Elimination System Permit for Discharges of Aquatic Pesticides to Surface Waters of the United States for Vector Control, General Permit No. CAG990004

⁶ Water Quality Order No. 2004-0008-DWQ, Statewide General National Pollutant Discharge Elimination System Permit for Discharges of Aquatic Pesticides for Aquatic Weed Control in Waters of the United States, General Permit No. CAG990005

51.50. This Order does not authorize any take of endangered species. To ensure that endangered species issues have been raised to the responsible agencies, the Central Valley Water Board notified the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the California Department of Fish and Game of Central Valley Water Board consideration of this Order.

52.51. 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.

52. Individually, and through California Storm Water Quality Association (CASQA), the Permittee has 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 MANAGEMENT PROGRAM

56.53. In compliance with the second term Permit, the Permittee submitted a Report of Waste Discharge (ROWD), as well as a proposed SWMP on 17 April 2009. The ROWD evaluated the effectiveness of the Permittee's storm water programs over the second 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 SWMP propose include a wide range of continuing, enhanced, and new BMPs, control measures, and performance standards to be implemented during the third term Permit period (2011-2016).

57.54. Federal regulation 40 CFR 122.26(d)(2)(iv) requires the Permittee to submit a SWMP 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 Permittee's jurisdiction during the five-year duration of the permit. During the third term permit period, the Permittee shall continue to demonstrate substantial compliance with its SWMP and

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this Order through the information and data supplied in the Annual Reports. The SWMP shall remain in effect, as an integral and enforceable component of this Order, until revised and approved by the Central Valley Water Board. ~~If there are conflicts between the SWMP and this Order, then the Order supercedes the SWMP.~~

~~58.55.~~ This Order requires evaluation of water quality impacts of storm water discharges from industrial and construction sites, existing urbanized areas, and new developments. This Order also requires implementation and evaluation of the SWMP and related programs to reduce the discharge of pollutants in storm water runoff to MEP and to improve water quality and protect beneficial uses.

~~59.56.~~ The Permittee is required to submit a revised SWMP by **xx August 2011** (or 6 months after the effective date of this Order, whichever is later). The SWMP fulfills the Central Valley 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 SWMP describes the framework for management of storm water discharges during the term of this Order. The SWMP also describes the goals and objectives; legal authorities; source identification process; funding sources; fiscal analysis; assessment controls; BMPs evaluation and improvement process effectiveness assessment strategy, details pertaining to water quality based programs (e.g., DO, pesticides, and total mercury and methylmercury), sediment toxicity; and monitoring plan of the Permittee's storm water management program. The SWMP includes program elements and control measures that the 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 the Permittee's jurisdiction. The Permittee's SWMP is a site-specific modification of the existing ~~Storm Water Management Program~~ SWMP required under the previous MS4 permit Order R5-2004-0136. The various components of the SWMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the MEP.

~~60.57.~~ The overall goals of the Permittee's SWMP are to: a) reduce the degradation of waters of the State and ~~w~~Waters of the United States (U.S.) by industrial runoff and protect their beneficial uses, and b) develop and implement an effective SWMP 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. ~~Ultimately a~~Achieve compliance with all applicable 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

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- f. Coordinate implementation of control measures with other agencies.

61.58. The SWMP outlined in the ROWD and the additional and/or revised provisions contained in this Order emphasize pollution prevention through the following program elements:

- a. Program Management
- Legal Authority
 - Fiscal Analysis
- b. Program Elements
- Construction
 - Industrial and Commercial
 - Municipal Operations
 - Illicit/Illegal Discharges
 - Public Education and Outreach
 - Storm Water Planning and Development Standards
- c. Baseline Monitoring
- Urban Discharge Monitoring
 - Receiving Water Monitoring
 - East Complex Retention Basin Monitoring
 - Port Owned Industrial Monitoring
 - Ship Loading and Unloading Monitoring
 - Water Column Toxicity Monitoring
 - Dry Weather Field screening
- d. Sediment Toxicity Monitoring
- e. Water Quality Based Programs
- Pesticide Plan
 - Low Dissolved Oxygen Plan
 - Total Mercury and Methylmercury Control Program
- f. Special Studies
- Retention Basin Studies
 - BMP Effectiveness Studies
- g. Program Implementation
- Annual Work Plan
 - Annual Evaluation
 - Annual Reporting

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62. This Order includes a Monitoring and Reporting Program (MRP) that incorporates ~~analytical Minimum Levels (MLs) established under the State Water Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). The SIP's MLs represent requirements to utilize~~ 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, the Port should attempt to utilize represent~~ the best available science for ~~determining MLs detecting the presence and levels of pollutants, which and~~ are appropriate for a storm water monitoring program. ~~This will e-use of MLs-~~ allows the detection of toxic priority pollutants at concentrations of concern using ~~recent advances in approved~~ chemical analytical methods.
63. The Permittee's proposed SWMP contains control measures that identify the specific BMPs that will be implemented to reduce the discharge of pollutants from their MS4 to the MEP. The SWMP also includes 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.
64. The SWMP and modifications or revisions to the SWMP 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.

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DEVELOPMENT STANDARDS

65. 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.
66. On 5 October 2000, the State Water 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 Water 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 Central Valley Water Board's MS4 permits must be consistent with applicable portions of the State Water Board's decision and include Development Standards.

67. 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 and/or mitigation 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.
68. On 17 February 2006, the Port began implementing their Development Standards Plan and will continue to implement its.~~The~~ Development Standards for new development and significant redevelopment ~~are implemented through the tenant lease agreements.~~ The Development Standards establish requirements for the selection of construction and potentially post-construction storm water quality controls (i.e., BMPs) to reduce pollutants from new development and significant redevelopment to the MEP.
~~The Port should revise tenant lease agreements to ensure that they reflect the minimum standards set forth in the Development Standards Plan.~~
69. 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 ~~can modifies-modify~~ 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 may 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~~ic~~ modification, or hydromodification.⁷ When development projects do not 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.
70. Urban development includes both new development and redevelopment of existing properties. These development projects may be undertaken by either private or public entities.
71. 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.

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

72. 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.
73. Low Impact Development (LID) is a storm water management strategy concerned with maintaining or restoring the natural hydrologic functions of a site to achieve natural resource protection objectives and fulfill environmental regulatory requirements. LID employs a variety of natural and built features that reduce the rate of runoff, filter out ~~its~~ pollutants, and facilitate the infiltration of water into the ground. By reducing ~~water run-off~~ pollution and increasing groundwater recharge, LID ~~may helps~~ to improve the quality of receiving surface waters and stabilize the flow rates of nearby streams. Therefore, LID design concepts should be ~~considered and potentially be~~ addressed in the revised Development Standards for new developments and significant redevelopments.
74. 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.⁸ 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 the run-off~~ can enter surface receiving waters, treating flow remaining on surface through contact with vegetation and soil, or a combination of these strategies.⁹ LID practices ~~can potentially~~ maintain and restore the natural hydrologic functions of a site to achieve natural resource protection objectives.
75. During the initial site layout and design planning of new development (~~and possibly wither re-development~~) for LID integration, there is a higher probability for preservation/integration of existing natural resource features (trees and other vegetation, creek buffers, wetlands, vernal pools, and open space).
76. In November 2005, under the direction of U.S. 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."¹⁰ The guidance document provides recommendations ~~to for~~ 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.
77. Hydromodification is the alteration of the natural flow of water, and often takes the form of channelizing former stream or riverbeds. When development projects that modify hydrology are carried out without protecting soil and water resources, a variety of

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⁸ 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.

⁹ Ibid.

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

problems can result, including: excess sediment flowing into our watersheds; downstream erosion; disruption of natural drainage; irregular stream flows; and elevated water temperatures. Therefore, hydromodification design concepts should be addressed in the revised Development Standards for new developments and significant redevelopments.

78. 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)].

~~78. 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 that meet the following criteria: (a) 5,000 square feet or more. This is an appropriate threshold since vehicular development size is a good indicator of potential impacts of urban runoff from RGOs on receiving waters.~~

~~79. 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.~~

~~81.79.~~ The Permittee is responsible for adopting and enforcing ~~tenant lease agreements necessary to~~ the implementation of 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.

IMPAIRED WATERBODIES

~~82.80.~~ 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

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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.

83-81. CWA Section 303(d) and 40 CFR 130.7 require states to list water quality-impaired waterbodies and pollutants of concern, and develop ~~Total Maximum Daily Loads (TMDLs), which are. A TMDL is a~~ quantitative assessments of the total pollutant load that can be discharged from all sources each day while still meeting water quality objectives. The Central Valley Water Board is currently in the process of developing TMDLs for listed waterbodies within the Region. Prior to TMDLs being adopted and approved, the Permittee must implement actions and/or assessments to address their contribution to the water quality impairments. Once the Central Valley Water Board and U.S. EPA approve TMDLs, this Order may be reopened to incorporate provisions consistent with waste load allocations established under the TMDLs.

84-82. The Central Valley Water Board finds storm water discharges from urban, industrial, and developing areas in the Central Valley Region to be significant sources of certain pollutants that cause or may be causing or threatening to cause or contribute to water quality impairment in waters of the Region. Furthermore, as delineated in the CWA section 303(d) list (2010 Integrated Report), the Central Valley Water Board has found that there is a reasonable potential that municipal storm water discharges cause or may cause or contribute to an excursion above water quality standards for the following pollutants/stressor(s) and listed waterbodies:

Waterbody	Reach	Estimated Size affected	Pollutant/Stressor(s)
Delta Waterways	Eastern Portion	2972 acres	Chlorpyrifos (TMDL) DDT Diazinon (TMDL) Invasive Species Group A Pesticides Mercury Toxicity of Unknown Origin
Delta Waterways	Southern Portion	3125 acres	Chlorpyrifos (TMDL) DDT Diazinon (TMDL) Electrical Conductivity Group A Pesticides Invasive Species Mercury Toxicity of Unknown Origin

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Waterbody	Reach	Estimated Size affected	Pollutant/Stressor(s)
Delta Waterways	Stockton Ship Channel	1603 acres	Chlorpyrifos (TMDL) DDT Diazinon (TMDL) Dioxin Invasive Species Furan Compounds Group A Pesticides Mercury Low Dissolved Oxygen (TMDL) Pathogens PCBs (Polychlorinated Biphenyls) Toxicity of Unknown Origin

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In accordance with CWA section 303(d), the Central Valley Water Board is required to establish TMDLs for these pollutants to these waters to gradually eliminate impairment and attain water quality standards. Therefore, certain early pollutant-control actions and further pollutant impact assessments by the Permittee is warranted and required pursuant to this Order. TMDLs for these waterbodies 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.

85.83. The Central Valley 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;
- b. Diazinon and Chlorpyrifos in the Delta; and
- c. Dissolved oxygen in the San Joaquin River at City of Stockton.

86.84. The California Water Code section 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 Central Valley 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.” Requirements to prevent the creation of new or maintenance of existing toxic hot spots are required in the Provisions section of this Order to address the 303(d) listings for these waterbodies.

87.85. California Water Code Section 13263(a) requires waste discharge requirements to implement the Basin Plan. The Basin Plan contains numeric and

narrative water quality objectives to protect the beneficial uses of surface water and groundwater. The Basin Plan contains the “Policy for Application of Water Quality Objectives” that specifies how the Central Valley Water Board will ensure compliance with narrative water quality objectives. That Policy states that the Central Valley Water Board will consider:

“relevant numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., USEPA). In considering such criteria, the Board evaluates whether the specific numerical criteria, which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective.” (Basin Plan at IV-17.00)

| 88-86. The Basin Plan contains a narrative toxicity objective that states: “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00)

| 89-87. The Permittee submitted to the Central Valley Water Board the Pesticide, Herbicide and Fertilizer Management Plan, Port of Stockton (Pesticide Plan) on 10 October 2000 (revisions 10 October 2005, 3 March, 2006 and 5 May 2008). This work plan met the requirements for a pesticide pollution prevention plan under the NPDES area-wide MS4 permit, Order R5-2004-0136 (NPDES No. CAS00084077). The work plan was approved by the Executive Officer on 10 November 2004.

| 90-88. The Central Valley Water Board adopted a basin plan amendment (Resolution No. R5-2006-0061) that meets the requirements of a TMDL for the 303(d) listing for diazinon and chlorpyrifos in the Sacramento-San Joaquin Delta Waterways (Delta Waterways).

a. The basin plan amendment includes 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 Delta Waterways (Basin Plan¹¹); and
- ii. 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).

¹¹ 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. —

- b. The Central Valley Water Board has also established in the Basin Plan the Loading Capacity (LC) for the Delta Waterways, Waste Load Allocations (WLA), and Load Allocations (LA) for discharges to the Delta Waterways, which shall not exceed the sum (S) of one (1) as defined below:

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

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 1 December 2011** (Basin Plan).

- c. Dischargers of diazinon and chlorpyrifos to Delta Waterways are required to develop and implement a **Pesticide Management Plan** that describes actions that will be taken to reduce diazinon and chlorpyrifos discharges and meet the applicable allocations. The plan shall ensure that measures that are implemented to reduce discharges of diazinon and chlorpyrifos do not lead to an increase in the discharge of other pesticides to levels that cause or contribute to violations of applicable water quality objectives and Central Valley Water Board plans and policies. The plan shall be included as a component of the SWMP.
- d. The Permittee must consider whether any proposed alternative to the use of diazinon or chlorpyrifos has the potential to degrade ground or surface water. If the alternative has the potential to degrade groundwater, alternative pest control methods must be considered. If the alternative has the potential to degrade surface water, control measures must be implemented to ensure that applicable water quality objectives and Central Valley Water Board plans and policies are not violated, including State Water Resources Control Board Resolution 68-16.
- e. The approved Pesticide Plan and any modifications to it, as proposed in the SWMP, meet the requirements for a management plan as described in Resolution R5-2006-0061.
- f. Limited data are 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

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spots.

- g. The ban of the sale, with use allowed of existing stock, of diazinon and chlorpyrifos for most residential and commercial uses should significantly reduce or eliminate, over time, the contribution of the Permittee's 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.
- h. The continued monitoring of diazinon and chlorpyrifos is needed to determine the significance of the Permittee's contribution to diazinon and chlorpyrifos levels in 303(d) listed waters and the toxic hot spots. Monitoring is also needed 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.
- i. 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.

91. 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).¹² Nearly all creek sediments sampled caused toxicity to the resident aquatic amphipod *Hyalella 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).¹³ 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 sediment quality (sediment toxicity testing) and urban runoff/discharges is needed to characterize sediment/water quality conditions, determine the significance of the increase in urban pyrethroid usage, and assess management practice effectiveness.

92. The Basin Plan includes TMDL waste load allocations and an implementation program to control factors that contribute to the dissolved oxygen impairment in the Stockton Deep Water Ship Channel. To address the dissolved oxygen impairment, the Permittee shall

¹² 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.

¹³ 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.

develop and implement a **Low Dissolved Oxygen Plan** for the Stockton Deep Water Ship Channel. The plan shall be included as a component of the SWMP. This Order includes Provisions consistent with the TMDL waste load allocations and the Basin Plan implementation program.

93. The Central Valley Water Board adopted a basin plan amendment (Resolution No. R5-2005-0005) that meets the requirements of a TMDL for the 303(d) listing for Organic Enrichment/Low Dissolved Oxygen impairment in the Stockton Deep Water Ship Channel (DWSC).
- a. The Basin Plan identified the dissolved oxygen water quality objectives in the San Joaquin River (Stockton DWSC). These objectives are 6.0 mg/l between Turner Cut and Stockton (1 September through 30 November); and 5.0 mg/l in all other Delta waters.
 - b. The low dissolved oxygen impairment in the DWSC is caused by the following three main contributing factors:
 - i. Loads of oxygen demanding substances from upstream sources that react by numerous chemical, biological, and physical mechanisms to remove dissolved oxygen from the water column in the DWSC;
 - ii. Geometry of the DWSC that impacts various mechanisms that add or remove dissolved oxygen from the water column, such that net oxygen demand exerted in the DWSC is increased; and
 - iii. Reduced flow through the DWSC that impacts various mechanisms that add or remove dissolved oxygen from the water column, such that net oxygen demand exerted.
 - c. Entities responsible for point and non-point sources of oxygen demanding substances and their precursors within the TMDL source area are required to perform oxygen demand and precursor studies by December 2008. These studies may be conducted by individual responsible entities or in collaboration with other entities. These studies must identify and quantify:
 - i. sources of oxygen demanding substances and their precursors in the dissolved oxygen TMDL source area;
 - ii. growth or degradation mechanisms of these oxygen demanding substances in transit through the source area to the DWSC; and
 - iii. the impact of these oxygen demanding substances on dissolved oxygen concentrations in the DWSC under a range of environmental conditions and considering the effects of chemical, biological, and physical mechanisms that add or remove dissolved oxygen from the water column in the DWSC.

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- d. Within the Basin Plan Amendment, the Central Valley Water Board established the following waste load allocations:
 - i. Waste Load allocations or oxygen demanding substances and their pre-cursors for all NPDES-permitted discharges are initially set at the corresponding effluent limitations applicable on 28 January 2005.
 - ii. Waste Load allocations and permit conditions for new or expanded point source discharges in the San Joaquin River Basin upstream of the DWSC, including NPDES and storm water, will be based on the discharger demonstrating that the discharge will have no reasonable potential to cause or contribute to a negative impact on the dissolved oxygen impairment in the DWSC.
 - e. Alternate measures, as opposed to direct control, of certain contributing factors would be considered by the Central Valley Water Board if the alternate measures adequately address the impact on the dissolved oxygen impairment and do not degrade water quality in any other way.
 - f. Compliance with the waste load allocations for oxygen demanding substances and their precursors, and development of alternate measures to address non-load related factors will be required by 31 December 2011.
94. The Permittee was issued a unilateral Waste Discharge Requirements Order R5-2006-0078 for the West Complex Docks 14 and 15 Dredging Project. This Order, which is not incorporated by reference into this Order, requires mitigation measures for dissolved oxygen (DO) in the DWSC.
- a. Paragraph 3, Finding Number 62 of Order R5-2006-0078 states; "The mitigation for dissolved oxygen, identified in the EIR, is required by this Order. Consistent with 14 CCR Section 15096, the Order includes additional measures beyond those identified in the EIR to address DO, including requiring compliance with the applicable water quality objective in the receiving water for DO contained in the Basin Plan. The Order requires that the Port provide additional oxygen to mitigate for increased channel geometry as a result of dredging and operate an additional aeration device to address dissolved oxygen impacts while dredging operations are underway. The requirements to address dissolved oxygen are specified in the Aeration Requirement, Attachment C."
 - b. Provision Number 5 of Order R5-2006-0078 states; "The Discharger shall comply with the Aeration Requirement, Attachment C, which specifies the rate of oxygen that the Discharger must diffuse into the water column of the San Joaquin River on a daily basis. Failure to diffuse the prescribed rates of oxygen is a violation of this Order."

95. The Delta is impaired because of elevated levels of methylmercury in fish predominantly due to historic mining activities and aerial deposition. The Delta is on the Clean Water Act 303(d) list for mercury and the State Board has designated the Delta as a toxic hot spot under the Bay Protection and Toxic Hot Spot Cleanup Program. Urban runoff from the Stockton Port District contributes total (inorganic) mercury and methylmercury to these mercury-impaired waterbodies.
96. The Delta Mercury Control Program, Resolution No. R5-2010-0043 (methylmercury TMDL), was adopted by the Central Valley Water Board in April 2010 and is pending subsequent approval by the State Water Resources Control Board, the Office of Administrative Law, and U.S. EPA. U.S. EPA approval of the TMDL is expected in 2011.

The Delta Mercury Control Program will establish methylmercury waste load allocations (grams/year of methylmercury) for the Permittee, with a final compliance date of 2030. The methylmercury TMDL will require the Permittee to implement pollution prevention measures and BMPs to meet the methylmercury waste load allocation. This requirement will be implemented through mercury pollution prevention and reduction strategies contained in the Permit. Annually, the Permittee will report on the results of mercury monitoring and a description of implemented pollution prevention measures and their effectiveness on reducing mercury discharges. In addition, if determined to be a significant contributor, the Permittee will be required to conduct methylmercury control studies to monitor and evaluate the effectiveness of existing BMPs on the control of methylmercury, and to develop and evaluate additional BMPs as needed to reduce the mercury and methylmercury discharges to the Delta. The methylmercury control studies are to be completed nine years after the US EPA TMDL approval date.¹⁴ In accordance with the methylmercury TMDL, the Permittee is required to develop, fund, implement and report on an Exposure Reduction Program (ERP). The objective of the ERP is to reduce mercury exposure of Delta fish consumers most likely affected by mercury. The Permittee may work independently or with other stakeholders on the ERP.

97. Upon approval of the Delta Mercury Control Program by US EPA, the methylmercury waste load allocations for the Permittee, by Delta subregion, is:

Central Delta 0.39 grams/year, and
San Joaquin River 0.0036 grams/year.

The final compliance date for the waste load allocations is 2030. Compliance with the methylmercury waste load allocations shall be met as soon as possible, but no later than 2030, unless the Central Valley Water Board modifies the TMDL implementation schedule and Final Compliance Date. The methylmercury studies are to be completed by about 2017.

¹⁴ Central Valley Regional Water Quality Control Board, Resolution No. R5-2010-0043, Delta Mercury Control Program, Attachment 1, *Phase I Delta Mercury Control Program Review*, page 9.

98. The NPDES permits for urban runoff management agencies (i.e., Permittee) shown to be discharging significant contributions of mercury will require pollution prevention measures and the implementation of BMPs to minimize total mercury discharges. In addition to controlling mercury loads, BMPs or control measures will include actions to reduce mercury-related risks to human health and wildlife. Requirements in the permit issued or reissued and applicable for the term of the permit will be based on an updated assessment of pollution prevention measures and BMPs to minimize total (inorganic) mercury discharges to the MEP.
99. Monitoring and Reporting Program Order R5-2004-0136 required the Permittee to perform bioassessment at selected sites upstream and downstream of major discharge points from 2005 through 2009. The purpose of the bioassessment requirement was to assess the biological integrity of receiving waters, detect biological responses to pollution, identify probable causes of impairment not detected by chemical and physical water quality analysis, and provide a more holistic approach to evaluating processes of the waterways for designing effective BMPs. Two and half years of collected data have been fully evaluated and provide a limited assessment of overall biological response. Additional time is needed in order to fully evaluate biological information collected to date so that future monitoring can be adapted to continue assessment of biological integrity of receiving water, while linking more directly with the statewide Surface Water Ambient Monitoring Program's (SWAMP's), long term goal of utilizing bioassessment to develop biocriteria for a variety of eco-regions and land-use dominated areas in California. Further bioassessment monitoring activities will; therefore, not be required under this permit. Monitoring may be required in subsequent permits in compliance with the Department of Water Resources (DWR) and the Inter-Agency Ecologic Program, who which are currently monitoring the Delta.
100. The Central Valley Regional Water Board is currently developing a Delta Regional Monitoring Program (RMP) for the Sacramento-San Joaquin Delta, which will involve collection of data on pollutants and toxicity in water, sediment, and biota of the Delta. In support of the development of this program, all data in support of receiving water monitoring requirements shall be submitted in an editable electronic form. As the RMP develops, the Permittee's participation and support of the RMP may be used in consideration of to offset the level of receiving water monitoring required by this Order.
101. The California Water Code allows the Central Valley Water Board to require dischargers submit technical and monitoring reports where the burden of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. The Central Valley Water Board may require the monitoring and technical reports that are identified as necessary in the Findings above specifically in this Order or in a separate Order under authority of the California Water Code.

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PUBLIC PROCESS

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

IT IS HEREBY ORDERED that Order R5-2004-0136 is rescinded, and that the Permittee, its 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 Plan¹⁵ and water quality objectives developed to protect beneficial uses) for surface water or ground water, are prohibited.~~

~~2.32. Discharges from storm sewers containing pollutants that have not been reduced to the MEP are prohibited. Because activities at the Port are predominantly industrial, this Order defines the MEP discharge standard to be equivalent to BAT and BCT discharge standards that are typically established for industrial storm water discharges.~~

~~3.~~

¹⁵ California Water Code Section 13243 provides that a Central Valley 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.

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B. Discharge Prohibitions – Non-Storm Water Discharges

1. The Permittee shall have the legal authority to 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. The Discharge of material by the Permittee associated with shipping, receiving and storage activities conducted at the Port, such as, but not limited to, sulfur coal, cement, petroleum coke, raw sugar, copper concentrate, and fertilizers, to a surface water is prohibited. The Permittee will not be in violation of this prohibition if it demonstrates that it was not responsible for the discharge, that the discharge has not caused or contributed to an exceedance of an applicable water quality standard, and or that it has applied best management practicesBMPs that reflect BAT/BCTMEP to minimize or avoid such discharges.
3. 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 by the Permittee 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 and hydrant flushing;
 - l. Landscape irrigation;
 - m. Discharges from potable water sources other than water main breaks;
 - n. Irrigation water;
 - o. Individual residential car washing;
 - p. De-chlorinated swimming pool discharges;
 - q. Lawn watering; and
 - r. Street wash water.
4. When a non-storm water discharge category above is identified as a significant source of pollutants to waters of the United States, the Permittee shall either:
 - a. Prohibit the discharge category from entering its MS4s; or

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- b. Not prohibit the discharge category and implement, or require the responsible party(ies) to implement, BMPs which will reduce pollutants to the MEP; and
- c. Submit the following information to the Central Valley 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 party(ies) to implement, to prevent or reduce pollutants to the MEP.
5. 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. However, the Permittee should coordinate with other agencies to develop 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 Permittee to be significant sources of pollutants to waters of the State. The response plan and BMPs shall be updated as needed and incorporated into the SWMP.
6. The 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 as necessary 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.
7. Discharge of 'designated waste' per §13173 of the California Water Code that could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state (~~'designated waste' per §13173 of the California Water Code~~) is prohibited. This prohibition includes runoff and leachate from sulfur, coal, petroleum coke, cement, raw sugar, copper concentrate, and fertilizers that have constituents that exceed water quality objectives or affect beneficial uses.

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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 to be addressed 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 Central Valley 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, trash, and scums), suspended material, or settleable material that causes or creates a nuisance or adversely affects 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. Controllable factors shall not cause downstream turbidity to exceed 2 where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs)
 - ii. More than 1 NTUs where natural turbidity is between 1 and 5 NTUs.
 - iii. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - iv. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - v. More than 10 percent where natural turbidity is greater than 100 NTUs.
- g. The normal ambient pH shall not be depressed below 6.5 nor raised above 8.5.
- 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 at the time of Permit adoption; that harm human, plant, animal or aquatic life; or

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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 adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
- m. Pathogen/Bacteria concentrations to be present that exceed criteria or threaten public health. The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400/100 mL.

~~n. Violation of any applicable water quality standard for receiving waters adopted by the Central Valley Water Board or the State Water Board pursuant to the CWA and regulations adopted there under.~~

~~e.n. Upon approval of the Delta Mercury Control Program by U.S. EPA, the methylmercury waste load allocation for the Permittee, by Delta subregion, upon approval of the Delta Mercury Control Program by U.S. EPA and after 2030**. That wasteload allocation is:~~

Central Delta 0.39 grams/year; and
San Joaquin River 0.0036 grams/year.

~~**The final compliance date for the waste load allocations is 2030. Compliance with the methylmercury waste load allocation shall be met as soon as possible, but no later than 2030, unless the Central Valley Water Board modifies the Delta Mercury Control Program implementation schedule and final compliance date.~~

~~p.o. The natural ambient receiving water temperature to increase more than five °F.~~

~~e.p. For diazinon and chlorpyrifos, the Loading Capacity (LC) for the Delta Waterways, Waste Load Allocations (WLA), and Load Allocations (LA) for discharges to the Delta Waterways, shall not exceed the sum (S) of one (1) as defined below after 1 December 2011*:~~

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

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 $\mu\text{g/L}$. [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 Delta Waterways (Basin Plan¹⁶)]

WQO_C = acute or chronic chlorpyrifos water quality objective in $\mu\text{g/L}$. [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).¹⁷]

*The final compliance date for the waste load allocations is by **1 December 2011** (Basin Plan).

2. The discharge shall not cause or contribute to an exceedance of any applicable water quality standards.
3. The Permittee shall demonstrate compliance with Discharge Prohibitions in Section A.2 and Receiving Water Limitations in Sections C.1 and 2 above, and C.2 through its timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this Order, including any modifications. The SWMP shall be designed to achieve compliance with the above Discharge Prohibitions and 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 SWMP and other requirements of this Order, the Permittee shall assure-be deemed in compliance with Discharge Prohibitions A.2 and Receiving Water Limitations C.1 and 2 and C.2 by complying with the following additional requirements and procedure:

¹⁶ 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 –

¹⁷ Amended by Central Valley Water Board Resolution R5-2007-0034 to include the Sacramento and Feather Rivers. Pending U.S. EPA approval.

- a. The Permittee 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 Permittee 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 if necessary to prevent or reduce any pollutants in the Permittee's discharge that are demonstrated to be ~~are~~ causing or contributing to the exceedance of WQs. The Report of Water Quality Exceedance (RWQE) shall be incorporated in the Annual Report. The report shall include proposed revisions to the SWMP and an implementation schedule containing milestones and performance standards for new or improved BMPs, if applicable. As needed, ~~t~~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 WQs. The Central Valley Water Board may require modifications to the RWQE.
- c. Within **30 days** following approval of the RWQE by the Executive Officer, the Permittee shall revise the SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.
- d. The Permittee shall implement the revised SWMP and monitoring program in accordance with the approved schedule after Central Valley Water Board approval of the revised SWMP.

If the Permittee has complied with the procedures set forth above and is implementing the revised SWMP, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Executive Officer to develop additional BMPs or take further actions.

D. Provisions

1. Within its geographic jurisdiction, the Permittee shall:
 - a. Comply with the requirements of this Order, the SWMP, and any modifications to the SWMP, ~~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 SWMP applicable to such Permittee in an efficient and cost-effective manner;

~~c. Participate in intra-agency coordination necessary to successfully implement the provisions of this Order and the SWMP.~~

d.c. Prepare an annual fiscal analysis identifying the expenditures for the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

- i. Program management (administrative costs)
- ii. SWMP Development
 - a) Construction Element
 - b) Commercial/Industrial Element
 - c) Municipal Operations and Facilities Element
 - Maintenance of Structural BMPs and Treatment Control BMPs
 - d) Illicit Discharge and Detection Elimination Element
 - e) Public Outreach Element
 - f) Performance and Effectiveness Evaluations
- iii. Planning and Land Development
- iv. Monitoring Program
- v. Water Quality Based Programs
- vi. Training
- vii. Other Services and Expenses

STORM WATER MANAGEMENT PROGRAM

2. The SWMP is required as part of the application pursuant to 40 CFR 122.26(2)(d)(iv); therefore, ~~it~~ the SWMP is an integral and enforceable component of the MS4 permit. In addition, ~~the a~~ 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*).
3. Upon adoption of this Order, each Permittee shall modify its SWMP to address the requirements of this Order and submit the SWMP by ~~xx~~ **31 August 2010** (or six months after the effective date of this Order, whichever is later), for public review and comment, and Central Valley Water Board approval. New or revised BMPs may be based upon special studies or other activities conducted by the Permittee, literature review, or special studies conducted by other programs or dischargers. The SWMP shall contain the rationale for any new or revised BMPs and may include a discussion of baseline conditions, expected reductions in mass loading, and methods to be used to verify that BMPs have been successfully implemented. The SWMP shall include an implementation schedule containing identifiable milestones, detailed performance standards, and a compliance monitoring and reporting program.

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4. The performance standards in the SWMP shall be used as assessment tools to gauge the success of the program in achieving measurable benefits and improving water quality. The Permittee shall incorporate newly developed or updated BMPs and assessment tools/performance standards into applicable annual revisions to the SWMP and adhere to implementation of the new/revised BMPs. The approved SWMP shall serve as the framework for identification, assignment, and implementation of BMPs. ~~Each~~ The Permittee shall implement, or require implementation of, BMPs in the approved SWMP to ensure that pollutant discharges from its MS4s are prevented or reduced to the MEP. ~~Each~~ The Permittee shall implement a-its SWMP, ~~which that~~ contains the following components:
 - a. Program Management
 - i. Legal Authority
 - ii. Fiscal Analysis
 - b. Program Effectiveness Assessment and Reporting
 - c. Program Elements
 - i. Construction
 - ii. Industrial and Commercial
 - iii. Municipal Operations
 - iv. Illicit Connections/Illicit Discharges
 - v. Public Outreach
 - vi. Planning and Land Development (Development Standards)
 - vii. Monitoring Program (including Special Studies)
 - viii. Water Quality Based Program (Target Pollutant Program)

PROGRAM MANAGEMENT

4. Program management involves ensuring that all elements of the SWMP are implemented on schedule and all requirements of this Order are complied with.
 - a. **Annual Work Plan:** The Permittee shall submit an Annual Work Plan by **1 April** of each year. The Annual Work Plan shall provide the SWMP's and the Permittee's proposed activities for the upcoming year beginning 1 July of current year and ending 30 June the following year.
 - b. **Annual Report:** The Permittee shall submit an Annual Report by **1 September** of each year. The Annual Report shall document the status of the SWMP and Permittee activities during the previous fiscal year, including the results of a qualitative and quantitative field level assessment of activities implemented by the Dischargers, and the performance of tasks contained in the SWMP. The Annual Report shall include a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SWMP and

Annual Work Plan. The Annual Report shall include a program effectiveness assessment and recommended modifications to for each Program Element/Control Measure. Each Annual Report shall build upon the previous year's efforts. In each Annual Report, the Permittee may propose pertinent updates, improvements, or revisions to the SWMP, which shall be complied with under this Order.

- c. **SWMP Implementation:** The Permittee shall continue implementation of their current SWMP until such time that the SWMP has been modified to be consistent with this Order and approved by the Central Valley Water Board. Once approved, the Permittee shall implement the modified SWMP consistent with the schedule specified within this Order. The SWMP, with modifications, revisions, or amendments as may be approved by the ~~Executive Officer or~~ Central Valley Water Board, is an enforceable component of this Order.
 - d. **SWMP Modification:** The Permittee's SWMP 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 Permittee's SWMP. Proposed SWMP revisions will be part of the annual review process and incorporated in the Annual Report. In addition, the Permittee shall revise their SWMP 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 waterbodies, and/or amendments to the Basin Plan when the amendments become effective. A thirty-day public notice and comment period shall apply to all proposed significant revisions to the SWMP. Significant SWMP revisions shall be brought before the Central Valley Water Board for review and approval. Minor SWMP revisions may be approved by the Executive Officer.
 - e. **Departmental Coordination.** Identification of all departments within the Permittee's jurisdiction that conduct storm water pollution prevention-related activities 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.
5. **Legal Authority:** The Permittee shall review, revise, maintain, and enforce adequate legal authority to control pollutant discharges from their MS4s through ordinance, statute, ~~lease agreement,~~ permit, contract, or similar means. This legal authority must, at a minimum, authorize the Permittee 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 prohibit¹⁸ identified illegal discharges (e.g., discharges consisting of or resulting from the following: wash water from gas stations, mobile businesses, parking lots, storage areas containing equipment, discharges of pool water containing chlorine or bromine, discharges of sediment, pet waste, vegetation, food related wastes, toxic materials, pesticides, construction debris, 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 to its MS4s;
 - e. Use enforcement mechanisms as necessary to require compliance with the Permittee's storm water ordinances, permits, contracts, or orders;
 - f. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with the Port's ordinances, statutes, permits, contracts, or similar requirements, 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 retention ponds and other Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.
6. The Permittee shall amend its existing ~~lease agreements~~legal authority as needed, to enforce all the requirements of this Order within **one year** after adoption of the SWMP. The ~~lease agreements~~Port's legal authority shall contain implementable and progressive enforcement procedures.

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¹⁸ The legislative history of the 1987 amendments to the Clean Water Act state the following:

"Subsection ([p]l)(2)(B) requires that permits for municipal storm sewers contains a requirement to effectively prohibit non-stormwater discharges into storm sewers. Under this provision, all such permits must assure that such discharges are prohibited. The provision does not specify the type of permit requirement be effective in achieving prohibition of non-stormwater discharges."

P.L. 100-4, Water Quality Act of 1987, 1987 U.S.C.C.A.N. 5 (1987)(emphasis added). Thus, Congress recognized that even legal authority and diligent enforcement might not result in the total and complete achievement of the goal of prohibiting all non-stormwater discharges.

7. The 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 Permittee's revised SWMP(s), which shall describe the following:
- a. Citation of urban runoff related ~~lease agreements~~legal authority adopted by the Permittee and the reasons they are enforceable;
 - b. Enforcement Response Plan (ERP): The Permittee shall develop/modify and implement an ERP, ~~with consideration of all lease agreements,~~ which will serve as a reference document for inspection staff to take consistent actions to achieve timely and effective compliance from all public and private construction site owners/operators. The ERP shall include the following:
 - i. In the event that the Permittee determines, based on a conducted inspection, that a facility operator has failed to control pollution discharges to the storm sewer, ~~it the Permittee~~ shall take progressive enforcement action that, at a minimum, shall include follow-up inspections within seven (7) days of the date of the initial inspection.
 - ii. In the event that the Permittee determines that a facility operator has failed to control sources of pollution discharges to the storm sewer after a follow-up inspection, the Permittee shall appropriately escalate its enforcement action as established through its legal authority ~~in its tenant agreement~~.
 - iii. The Permittee shall maintain records, including inspection reports, warning letters, notices of violation, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance with applicable requirements.
 - iv. The Permittee shall continue to update and implement ~~an its~~ Enforcement Response Plan ~~(ERP)~~ to establish clear direction and procedures for progressive enforcement based on Port inspections of construction and industrial sites and other compliance activities.
 - c. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ~~lease agreements~~requirements and, therefore, with the conditions of this Order;
 - d. Description of how ~~these lease agreements~~the Permittee's legal authority is are implemented and how enforcement actions under ~~these lease agreements~~this authority may be appealed; and

- e. Description of whether the Port can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.
8. **Fiscal Analysis:** The Permittee shall secure the resources necessary to meet the requirements of this Order and shall prepare an annual fiscal summary as part of the SWMP Annual Report. This summary shall, for each fiscal year covered by this Order, identify the expenditures necessary to accomplish the activities of the SWMP. 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

9. **Construction Program**

- a. The objectives of the Construction Program are to:
 - i. Provide adequate legal authority to control pollutants to the MS4 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. Develop or designate a set of minimum BMPs and require their implementation to control sediment and pollutants from construction sites to the MS4;
 - iv. Develop and maintain a tracking system (inventory) of all active construction sites within Permittee's jurisdiction, including the project name, location, and disturbed area of each site;
 - v. Develop and maintain a tracking system of all active construction sites inspected by the Permittee, including the inspection date, violations observed, enforcement responses, and any re-inspection actions taken in response to violations;
 - vi. Inspect construction sites to ensure proper BMP implementation and compliance with Permittee requirements and applicable Provisions of this Order;
 - vii. Implement ~~the a~~ progressive enforcement policy, in accordance with the Provisions of Section D.7.b. of this Order, for sites in violation of Permittee requirements and advise the Central Valley Water Board of violations of Construction General Permit requirements;

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- viii. Provide regular internal and external training on applicable components of the SWMP 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. The Permittee shall update and continue to implement the Construction Component of its SWMP to reduce pollutants in runoff from construction sites during all construction phases to the MEP. At a minimum the Construction Program 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-Compliant Sites
- c. The Permittee shall continue to implement and enforce a program to control runoff from all construction sites subject to the NPDES General Construction Permit over which the Permittee has jurisdiction. 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, trash, 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. Ensure that prior to the issuance of a grading permit for a construction site the Port receives the required submittal of an erosion and sediment control plan that meets the Permittee's Development Standards Plan requirements. The Permittee shall verify that the State-site's Storm Water Pollution Prevention Plan (SWPPP) contains, at a minimum, the following:

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- a) If applicable to the site, a certification that a Notice of Intent has been submitted to the State Water Board;
 - b) A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;
 - c) 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);
 - d) A description of BMPs to address contractor activities that generate pollutants including, at a minimum, vehicle washing, equipment maintenance, and waste handling (e.g., concrete washout, paint, stucco);
 - e) A description of the type and location of erosion and sediment control BMPs, including, 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
 - f) The name and telephone number of the qualified person responsible for implementing the ~~Storm Water Pollution Prevention Plan (SWPPP)~~.
- d. If applicable, the construction site owner must obtain all environmental permits ~~must be obtained~~ from agencies such as Department of Fish and Game, U.S. Army Corp of Engineers, and the Central Valley Water Board's 401 Water Quality Certification.

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e. Inspections

The Permittee shall include the inspection frequency for each construction site to ensure compliance with ~~the lease agreements and~~ the Port's Storm Water Development Standards in the SWMP and shall continue to inspect each site until a notice of termination for coverage under the General Construction Permit is issued by the Central Valley Water Board. The inspections shall be at least once every two weeks during the wet season (i.e., October thru April), and once a month during the remaining months (dry season), until construction is terminated.

The Permittee shall inspect these sites for compliance with the ~~lease agreements and the~~ SWPPP components described above and as provided in the SWMP. In addition, if the Permittee observes chronic violations (e.g., three or more) ~~of their lease agreements~~ at a given construction site, ~~they the~~ Permittee shall notify the Central Valley Water Board as described in the SWMP. The Permittee shall use its legal authority to promptly and effectively enforce ~~its lease agreements to and~~ correct any violations observed during inspections.

10. **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 to the MS4;
 - ii. Develop and maintain an inventory of 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 and develop and maintain an efficient tracking system to record and document required inspection frequencies, observations, violations, and enforcement responses;
 - iv. Require industrial and commercial facilities select, install, implement, and maintain storm water control measures to the MEP;
 - v. Conduct inspections of the industrial and commercial facilities that pose a significant threat to water quality. The inspection frequency shall be based on the prioritization of the facility as established in the SWMP. Conduct follow-up inspections to confirm that necessary corrective actions are taken, and, if not, to appropriately escalate its enforcement posture in accordance with the Provisions of Section D.7.b. of this Order;

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- vi. Implement a progressive enforcement policy as necessary to ensure that adequate enforcement is conducted and coordinated with the Central Valley Water Board regarding referrals of potential non-filers and inspection;
 - vii. Refer significant violations of the Permittee's storm water ordinances and potential General Industrial Permit non-filers to the Central Valley Water Board. Coordinate inspections and enforcement with the Central Valley Water Board. The SWMP shall include a schedule for reporting non-filers and violations.
 - viii. Provide regular internal and external training on components of the SWMP 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. The Permittee shall update and continue to implement the Industrial/Commercial Component of its SWMP to reduce pollutants in runoff from industrial/commercial sites to the MEP. At a minimum, the Industrial/Commercial Program shall address the objectives listed above, as well as the following control measures:
- i. Facility Inventory/Tracking
 - ii. Prioritization and Inspection
 - iii. Industrial/Commercial Outreach
 - iv. Enforcement
 - v. Training
 - vi. Effectiveness Assessment
- c. The Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, 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 Source and Treatment Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities.
- d. The Permittee shall manage ship and dock activities as follows:

~~i. The Permittee shall conduct outreach to ensure its client ship operators are aware of international agreements on; (1) the requirement to intake ballast water in pelagic waters only; and (2) the prevention, to the maximum extent practicable, of the discharge of ballast water to waters of the State.~~

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~~ii. The Permittee shall conduct outreach to its client ship operators to ensure they know that the discharge of pollution, including vessel equipment wash water and deck wash-down water, to waters of the State is prohibited.~~

~~iii. The Permittee shall monitor ship cargo loading and unloading to prevent, to the MEP, ship operators from discharging pollution to waters of the State.~~

iv.i. The Permittee shall educate ship operators and implement BMPs to prevent or minimize the ~~direct~~ discharge of materials associated with shipping, receiving and storage activities at its docks that might cause run-off during rain events.

11. Municipal Program

a. The objectives of the Municipal Program are:

~~i. Prevent sanitary sewer overflows (SSO) or illicit discharges from entering the storm drain system and respond quickly and appropriately if an SSO or illicit discharge does enter the storm drain system.~~

~~— The Permittee shall implement a response plan for overflows of its sanitary sewer system that consists of at least the following:~~

~~a) Procedures to identify, repair, and remediate sanitary sewer blockages, exfiltration, and overflow from sanitary sewers to the storm sewer;~~

~~b) Investigation of any complaints received;~~

~~c) Upon notification, immediate response to overflow for containment;~~

~~d) Notification to appropriate sewer and public health agencies when a sanitary sewer overflows to the storm sewer; and~~

~~e) Continue to implement and update the preventative sanitary sewer system maintenance program which includes, at a minimum, preventative maintenance, rehabilitation, and replacement strategies.~~

ii.i. Implement development standards that require source and treatment control BMPs to reduce pollutants from Permittee-owned construction projects;

iii.ii. Implement pollution prevention BMPs for Port-owned facilities (e.g., corporation yards) and maintain a Facility Pollution Prevention Plan (FPPP) for Port-owned facilities to minimize or eliminate pollutant discharges to the storm drain system, including but not limited to good

house keeping practices, material storage control, vehicle leak and spill control, and illicit discharge control;

iv.iii. Implement a standardized protocol for routine and nonroutine storage, usage, and disposal of pesticides, herbicides (including pre-emergents), and fertilizers on Permittee-owned property ~~such~~ that:

- a) Is consistent with the State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order 2001-12 DWQ);
- b) Implements requirements and procedures prohibiting application of pesticides or fertilizers immediately before, during, or immediately after a predicted rain event or when water is flowing off the application area
- c) Implements requirements and procedures prohibiting application or storage of banned or unregistered pesticides;
- d) Requires that staff applying pesticides are licensed by the California Department of Pesticide Regulation, or under the direct supervision of a certified pesticide applicator;
- e) Implements procedures to encourage planting of native vegetation and reduces water, fertilizer, and pesticide needs;
- f) Requires the storage of fertilizers and pesticides indoors or under cover on paved surfaces or use of secondary containment;
- g) Minimizes the use, storage, and handling of hazardous materials to reduce the potential for spills; and
- h) Requires the regular inspection of pesticide and fertilizer storage areas.

This includes procedures for identification, outreach, inspection, filling, disposal and application. Specifically, when these services are contracted to vendors, procedures need to be implemented to effectively communicate, and require adherence to, Port-developed protocols;

vi.iv. ~~Promote~~ Consideration and promotion of the use of IPM methods and less toxic alternatives;

vi.v. Update and implement maintenance procedures for catch basins and sumps that include the following:

- a) Prioritizing catch basins and sumps for cleaning based on accumulation of waste and presence or absence of BMPs;

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- b) An inspection and cleaning schedule for removal of accumulated waste (e.g., sediment, trash, debris, and other pollutants) based on prioritization effort. At a minimum, cleaning of prioritized catch basins and sumps shall occur prior to the rainy season;
- c) Record keeping of cleaning and overall quantity of waste removed;
- d) Proper disposal of waste removed pursuant to applicable laws; and
- e) Measures to eliminate waste discharges during storm sewer maintenance and cleaning activities.

vii-vi. Continue to implement BMPs for storm drain maintenance that include:

- a) A program to visually monitor ~~discharger~~ Permittee-owned open channels and associated drainage structures for debris at least annually before the wet weather season (October 1); clean as needed based on visual inspections; and identify and prioritize problem areas of illicit discharge for additional inspections;
- b) A review of current maintenance activities to ensure that appropriate storm water BMPs are being used to protect water quality;
- c) Minimize the discharge of pollutants during storm sewer maintenance and clean outs
- d) Proper disposal of material removed; and
- e) Record keeping for cleaning and maintenance of open channels and associated drainage structures.

viii-vii. Ensure that catch basin inlets are properly stenciled, are permanently imprinted, or have legible curb markers to discourage illicit discharges into the storm drain system. The Permittee shall continue to promote the 24-hour hotline number.;

ix-viii. Update and implement guidelines for operating and maintaining retention basins. These guidelines shall consider, at a minimum, the following: (1) inspection frequency; (2) maintenance frequency for removal of accumulated sediment and debris; and (3) maintenance and stabilization of basin side slopes to prevent erosion and incorporation of additional sediment into outflow. Additionally, the Port must document the required inspections, monthly during the dry season and weekly during the wet season, in accordance with its stated procedures and notify the Central Valley Water Board within two weeks if evidence of berm seepage is discovered;

~~xix.~~ Continue to implement and update BMPs for streets and road maintenance that at a minimum include:

- a) Conduct appropriate street sweeping frequencies for streets, material handling and storage areas, and docks within its jurisdiction. Develop a plan and tracking system that includes routes, frequencies, and quantity of material removed;
- b) The Permittee shall ensure that wash water from street sweeping and street sweeper rinse out is not discharged to the storm sewer;
- c) The Permittee shall review and revise its maintenance practices to include the following:
 - i) Sawcutting wastes shall be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm sewer;
 - ii) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the storm sewer; and
 - iii) Concrete truck and chute washout shall only occur in designated areas; concrete rinse shall not be discharged to the storm sewer, open ditches, or streets.

~~xi.x.~~ Clean and inspect Permittee-owned parking facilities to minimize the build-up and discharge of pollutants to the storm drain system;

~~xii.xi.~~ Provide annual training for its employees in targeted positions (whose interactions, jobs, and activities may affect storm water quality) regarding the requirements of the SWMP and to (1) promote a clear understanding of the potential for maintenance activities to pollute storm water (2) identify and select appropriate BMPs; and

~~xiii.xii.~~ Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.

- b. The Permittee shall update and continue to implement a Municipal Program in its SWMP 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 the following control measures:
 - i. Sanitary Sewer Overflow and Spill Response;

- ii. New Development and Construction Requirements for Municipal Capital Improvement Projects;
- iii. Pollution Prevention at Permittee Facilities;
- iv. Landscape and Pest Management;
- v. Storm Drain, Catch Basin, and Sump System Maintenance;
- vi. Street Cleaning and Maintenance;
- vii. Parking Facilities Maintenance;
- viii. Detention Basin Construction and Maintenance;
- ix. Public Industrial Activities Management;
- x. Emergency Procedures;
- xi. Treatment Feasibility Study;
- xii. Non-emergency Fire Fighting Flows;
- xiii. Training; and
- xiv. Effectiveness Assessment.

12. Illicit/Illegal Discharge Detection and Elimination Program

- a. The objectives of the Illicit Discharge Detection and Elimination 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 (including closed/eliminated outfall discharge points), 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 the following actions to mitigate the impacts of the discharge:
 - a) Response to Illegal Connections
 - i) Upon discovery or upon receiving a report of a suspected illicit connection, the Permittee shall initiate an investigation within two days to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.
 - ii) Upon confirmation of illicit nature of a storm drain connection, the Permittee shall ensure termination of the connection within 5 business days, using enforcement authority as needed.

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- b) Response to Illicit Discharges
 - i) For illicit discharges that are known or suspected to contain hazardous substances (as defined by California law), the Permittee shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up such illicit discharges. For illicit discharges not known or suspected to contain hazardous substances, the Permittee shall respond within two days of discovery or report, and at a minimum require the identified responsible party(ies) to immediately cease such discharges.
 - ii) The Permittee shall perform follow up investigations of illicit discharges and take enforcement action as appropriate.
 - v. The Permittee shall conduct annual wet weather discharge screening inspection of all closed/eliminated outfall discharge points and other potential discharge points to determine if these points have any discharges. Theis visual screening inspection can be performed during any qualifying wet weather event while discharges are still occurring and must be conducted while outfalls and/or discharge points are completely above the tidally influenced water line. If the discharge outfall pipe is not visible or able to be safely accessed, the observation may be made at the last drainage inlet prior to the outfall pipe if feasible.
 - vi. 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
 - vii. Conduct an assessment as a part of the annual reporting process; determine the effectiveness of the Program Element and identify any necessary modifications.
- b. The Permittee shall update and continue to implement an Illicit Discharge Detection and Elimination Program component of the SWMP 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. Training; and
 - vi. Effectiveness Assessment.

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

- a. The Permittee shall implement a Public Outreach Program using all-available media as appropriate 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 are 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 reporting hotline;
 - iii. Implement a public education 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. Implement a business outreach program; and
 - v. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Program Element and identify any necessary modifications.

- b. The Permittee shall update and continue to implement the Public Outreach Component of its SWMP to educate the public and encourage their participation in the implementation of the SWMP. 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. Business Outreach; and
 - v. Effectiveness Assessment.

~~c. The Permittee shall incorporate a mechanism for **public participation** in the implementation of the SWMP (i.e., programs that engage the public in cleaning up creeks, removal of litter in river embankments, stenciling of storm drains, etc.).~~

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PLANNING AND LAND DEVELOPMENT PROGRAM

14. The objectives of the Planning and Land Development Program are as follows:

- a. Provide a framework and a process to incorporate water quality and watershed protection principles into the Permittee's policies and planning procedures early in the development 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. Ensure storm water quality components have been addressed ~~during the entitlement and CEQA process~~ and verified as completed during the development plan process;
- ~~d. Ensure that selected post-construction storm water controls will remain effective upon project completion by requiring a maintenance agreement and transfer or establishing a maintenance district zone for all priority development projects;~~
- e.d. Develop a formal system to track the deployment, ownership, and maintenance history of BMPs to ensure adequate long-term maintenance of the BMPs;
- f.e. 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.f. 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.g. Provide a comprehensive review of development plans to ensure that storm water quality controls are properly selected to minimize storm water quality impacts;
- i.h. Provide regular internal training on applicable components of the SWMP; and
- i.i. As a part of the annual reporting process, conduct an assessment (at least annually) to determine the effectiveness of the Program Element and identify any necessary modifications.

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15. The Permittee shall update and continue to implement the Planning and Land Development Component of its SWMP to minimize the short and long-term impacts on receiving water quality from new development and redevelopment. At a minimum, the Planning and Land Development Program shall address the objectives listed above and include the following control measures:
 - a. Incorporation of Water Quality Protection Principles into Permittee Procedures and Policies;
 - b. New/Revised Development Standards;
 - c. Plan Review Sign-Off;
 - d. Maintenance Agreement and Transfer; and
 - e. Training; and
 - f. ~~e. Effectiveness Assessment.~~

16. **Water Quality Planning and Design Principles** - In order to reduce pollutants and runoff flows from new development and redevelopment the Permittee shall address the following concepts:
 - a. The Permittee shall incorporate water quality and watershed protection principles into planning procedures and policies such as the Development Standards and requirements to direct land-use decisions and require implementation of consistent water quality protection measures for all development projects. These principles and policies shall be designed to where feasible protect natural waterbodies, reduce impervious land coverage ~~(such as through low impact development design)~~ as needed, slow runoff to prevent hydromodification of waterways, and ~~where feasible~~, maximize opportunities for infiltration of rainwater into soil. Such water quality and watershed protection principles and policies 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 and where feasible 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 where ~~possible~~ feasible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.

- iv. Minimize disturbances of natural waterbodies and natural drainage systems caused by development within the legal and geographic jurisdiction of the Permittee, including roads, highways, and bridges.
 - v. Use methods available to estimate increases in pollutant loads in runoff flows resulting from projected future development. Require incorporation of structural and/or non-structural BMPs to mitigate ~~the any~~ projected increases in pollutant loads.
 - vi. Identify and avoid development in areas that are particularly 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 reduce pollutants associated with vehicles during construction 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, where feasible and advisable, 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 a~~ LID Program, the Permittee 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 to consider include, but are not limited to, USEPA's guidance document entitled, "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.
- c. The Permittee shall amend, revise or adopt quantitative and qualitative development standards ~~(including lease agreements/standards/specifications)~~ to require the consideration implementation of LID strategies at priority new development and redevelopment projects **no later than six months** after the adoption of the SWMP, which shall include the revised

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Development Standards, by the Central Valley Water Board. The Development Standards shall be amended to ensure storm water quality and watershed principles, as listed in above in 16.a. and b., are integrated.

18. The Development Standards shall be amended, as part of the SWMP, to ensure that the storm water quality and watershed principles, as listed above in 16.a. and b., are integrated.

a. **Post-Application of Development Standards:** The Permittee shall ensure that all new development and significant redevelopment projects falling under the priority project categories listed below meet Development Standards. The revised Development Standards shall apply to all priority projects or phases of priority projects at the date of adoption of the Development Standards ~~which that~~ do not have one of the following: approval of a tentative map within two years prior to approval of the revised Development Standards, approval of improvement plans by the City or County engineers, or a permit for development or construction. Any extensions of a tentative map after adoption of revised Development Standards shall ensure compliance with the revised Development Standards. In addition, those infill projects that require only a Use Permit from the City or County that apply to the Priority Development ~~P~~project Categories are subject to the requirements under the Development Standards.

b. **Priority Development Project Categories** – Development Standards requirements shall apply to all new developments of greater than 100,000 square feet or parking lots of more than 5,000 square feet or 25 or more parking spaces potentially exposed to runoff, and significant redevelopment projects ~~falling under the priority project categories or locations as: (1) home subdivision of 10 housing units or more; (2) commercial developments greater than 100,000 square feet; (3) automotive repair shops; (4) restaurants; (5) parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to urban runoff; (6) street and roads; and (7) retail gasoline outlets (RGO).~~

Significant redevelopment is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to, expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where significant redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to the Development Standards, the numeric sizing criteria discussed

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below applies only to the addition, and not the entire development.

- i. The Port of ~~Stockton~~ shall develop and maintain a list of all Priority Development Projects, including all data necessary to determine whether the projects qualify as Priority Development Projects. The required data shall include, but are not limited to, project description at build-out, land use, impervious land area for development (square feet), Standard Industrial Classification (SIC) code, number of parking spaces, and all other data relating to the Priority Development Project Categories. As a component of the list, the Port must make an initial Priority Development Project Category determination regarding the need for DSP conditioning and supporting rationale. Furthermore, the Port must ensure that all current and future Priority Development Projects are reviewed for DSP applicability and that subsequent project plans are adequately conditioned and implemented for compliance with the Development Standards.
- c. **BMP Requirements** – The Development Standards shall include a list of recommended pollution prevention, source control, and/or structural treatment control BMPs. The Development Standards shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum: (1) source control BMPs and or (2) structural treatment control BMPs.

~~d. **Numeric Sizing Criteria** – The Development Standards shall require structural treatment BMPs to be implemented for all priority development projects. In addition to meeting the BMP requirements listed above, all structural treatment BMPs for a single priority development project shall be sized collectively to comply with either the volume-based or flow-based numeric sizing criteria:~~

~~i. Volume-based BMPs shall be designed to mitigate (infiltrate or treat) either:~~

~~a) The volume of runoff produced from a 24-hour 85th percentile storm event, as determined from the local historical rainfall record; or~~

~~b) The volume of runoff produced by the 85th percentile 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998)*; or~~

~~c) The volume of annual runoff based on unit basin storage volume, to achieve 80% or more volume treatment by the method~~

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~~recommended in California Storm Water Best Management Practices Handbook—Industrial/Commercial, (1993); or~~

~~d)A Permittee justified design storm volume that is determined as part of the Development Standard development and approved by the Executive Officer. The treatment of this volume shall achieve approximately the same reduction in pollutant loads achieved by treatment of the 85th percentile 24-hour runoff event.~~

~~ii.Flow-based BMPs shall be designed to mitigate (infiltrate or treat) either:~~

~~a)The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or~~

~~b)The maximum flow rate of runoff, as determined from local historical rainfall records, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.~~

~~e.Equivalent Numeric Sizing Criteria—The Permittee may develop any equivalent numeric sizing criteria or performance-based standard for post-construction structural treatment BMPs as part of the Development Standards. Such equivalent sizing criteria may be authorized for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.~~

f.d. **Pollutants and Activities of Concern** – As part of the Development Standards, the Permittee shall identify pollutants and/or activities of concern for each new development or significant redevelopment project. The Permittee shall identify the pollutants of concern by considering the following: (1) receiving water quality, including pollutants for which receiving waters are listed as impaired under CWA Section 303(d); (2) land use type of the development project and pollutants associated with that land use type; (3) pollutants expected to be present on site at concentrations that pose potential water quality concerns; (4) activities expected to be on the site; and (5) changes in flow rates and volumes resulting from the development project and sensitivity of receiving waters to changes in flow rates and volumes.

~~g.Restaurants Less than 5,000 Square Feet—New development and significant redevelopment restaurant projects where the land area development is less than 5,000 square feet shall meet all Development Standards except for structural treatment BMP and numeric sizing criteria requirement above.~~

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h.e. **Infiltration and Groundwater Protection** – To protect groundwater quality, the 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).

i.f. **Regional Storm Water Mitigation** – A Permittee may apply to the Central Valley Water Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly Development Standard requirements. The Central Valley Water Board may consider for approval such a program if its implementation will:

- a) Result in equivalent or improved storm water quality;
- b) Protect stream habitat;
- c) Promote cooperative problem solving by diverse interests;
- d) Be fiscally sustainable and has secure funding; and
- e) Be completed in five years including the construction and start-up of treatment facilities.

19. The Permittee submitted to the Central Valley Water Board the *Port of Stockton, Development Standards Plan (DSP)*, dated November 2005 (revised May 2007). This work plan met the requirements for Development Standards under the NPDES area-wide MS4 permit, Order R5-2004-0136 (NPDES No. CAS0084077) and was approved by Central Valley Water Board 17 November 2005.

20. Entitlement Process

- a. ~~Private Development: The City of Stockton is the responsible party for the issuance of grading, building, demolition, or similar "construction" permits for the Permittee's development. Each new development shall comply with any and all requirements outlined in the City-issued permits. Additionally, the 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. These standard procedures are contained in the Permittee's Development Standards Plan (DSP) which is required under this Order. As required by the DSP, the Permittee shall clearly demonstrate the developer and Permittee considered storm water quality site issues before the facilities/projects are final designed. In order to demonstrate involvement with and in the conceptual storm water quality design, the Permittee will implement project plan check program. The project plan check program will require review by the various departments within the Permittee's organization to ensure that all appropriate storm water designs/controls are included in the project design, are implemented during project construction, and are in place at completion of the project, as required by the DSP.~~

~~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 Permittee shall develop an equivalent approach to ensure development process procedures consider storm water quality site issues before the facilities/projects are final designed

21. **Maintenance Agreement and Transfer** – The 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; and either
- b. A signed statement from the public entity assuming responsibility for Structural Treatment Control BMP maintenance and that it meets all local agency design standards; or
- c. Written conditions ~~in the sales or lease agreement~~, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or

~~d. Written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural Treatment Control BMPs; or~~

~~e.d.~~ Any other legally enforceable agreement that assigns responsibility for the maintenance of ~~post-construction~~ Structural Treatment Control BMPs.

20.22. **Mitigation Funding** – The Permittee may propose a management framework, for endorsement by the Central Valley 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;

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- 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.

21.23. California Environmental Quality Act (CEQA) Document Update

The 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 from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
- d. Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
- e. Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and waterbodies;
- 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.

22.24. General Plan Update

- a. The Permittee's General 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. The 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, and (iv) Open Space.

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- c. The 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. The Permittee shall provide the Central Valley 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 Permittee shall also provide the Central Valley Water Board a written summary identifying how the draft amendment or revision complies with this Order.

23.25. Coordination, Enforcement and Tracking

- a. The Permittee shall provide for the review of proposed project plans and require measures to ensure that all applicable development will be in compliance with their storm water ordinances, ~~lease agreements~~, local permits, and all other applicable ordinances and requirements.
- b. The 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. The Permittee shall develop and implement (no later than 6 months from this Order's adoption) the following:
 - i. A GIS or other electronic system for tracking projects that have been conditioned for ~~post-construction~~ treatment control BMPs. The electronic system, at a minimum, should contain the following information:
 - a) Municipal Project ID.
 - b) State WDID No.
 - c) Project Acreage.
 - d) BMP Type and Description.
 - e) BMP Location (coordinates).
 - f) Date of Acceptance.
 - g) Date of O&M Certification.
 - h) Inspection Date and Summary.
 - i) Corrective Action.
 - j) Date Certificate of Occupancy Issued.

24.26. Infiltration and Groundwater Protection – To protect groundwater quality, ~~each the~~ Permittee shall consider the type of development and resulting storm water

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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).

25:27. **Targeted Employee Training**

The 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 Land Development Program requirements.

26. Technical Guidance and Information for Developers

By ~~xxx~~**5 February 2012** (or 1 year after the Order is adopted, whichever is later), the Permittee shall submit a revised/functionally updated Development Standards plan consistent with the requirements of this Order as a component of the SWMP. ~~The Development Standards shall include guidelines and provide recommendations for low impact development/ hydromodification strategies for the development of the Port. The guidelines shall encourage the use of low impact development/ hydromodification strategies and be based on the existing site design control measures identified in the existing Development Standards.~~ Prior to approval of the updated Development Standards, existing Development Standards shall be used by the Permittee.

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MONITORING PROGRAM

27. **Sediment Toxicity:** The Permittee shall develop and implement a sediment quality-monitoring program (**Sediment Plan**). The Sediment Plan shall be included as a component of the SWMP and address the following criterion:
- a. Development and adoption of policies, procedures, and/or ordinances to implement the Sediment Plan;
 - b. Plan for characterization of sediment quality within the Port areas receiving storm water discharges, including the detention basins;
 - c. Use of U.S. EPA standardized 10-day sediment toxicity testing method (U.S. EPA, 2000) for freshwaters using *Hyalella azteca*;
 - d. Sampling of sediment consistent with SWAMP Quality Assurance Management Plan (QAMP) protocols;
 - e. List of sample sites meeting the following criteria: sediment depositional areas downstream and within close proximity (within 25-100 meters) of representative storm water outfalls; assessment of land uses including residential, suburban residential, commercial, industrial, and mixed;

- f. Sediment Total Organic Carbon (TOC) and grain size shall be reported with each sediment toxicity testing data summary;
- g. If characterization of sediment quality has identified toxicity – follow up testing including sediment TIE approaches and chemical analyses of the sediments (including, but not limited to pyrethroid pesticide analyses) shall be conducted, in consultation with Regional Board staff, and
- h. Identification, development, implementation and assessment of BMPs to address controllable discharges of sediment-bound contaminants that may be linked to sediment toxicity to the MEP.
- i. The Sediment Plan shall include a time schedule for implementation and assessment.

WATER QUALITY BASED CONTROL PROGRAMS

28. The Permittee shall continue to implement the Target Pollutant identification and prioritization processes described in the SWMP. 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 Permittee 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 the Permittee's SWMP and revised in accordance with the directives of this Order. At a minimum, if the following pollutants are determined to be included in the Permittee's stormwater discharges, these control programs shall include the following:

- a. **Pesticides Toxicity Control Program:** To address pesticide impairment of urban streams by pesticide-related toxicity, the Permittee shall continue to implement and update a pesticide toxicity control program (**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 ban of the sale, with use of existing stock, of diazinon and chlorpyrifos for most residential and commercial uses should significantly reduce or eliminate, over time, the contribution of the Permittee's 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. The continued monitoring of diazinon and chlorpyrifos is needed to determine the significance of the Permittee's contribution to diazinon and chlorpyrifos levels in 303(d) listed waters and the toxic hot spots. Monitoring is also needed 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.

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This provision implements requirements of the TMDL for chlorpyrifos and diazinon to be met in urban runoff into the Sacramento-San Joaquin Delta Waterways (Delta Waterways)¹⁹ including Appendix 42 of the Basin Plan. Appendix 42 (including Figures 1 and 2) lists the Delta Waterways to which the site-specific diazinon and chlorpyrifos water quality objectives, the allocations, implementation and monitoring provisions apply.

The goal of the Pesticide Plan is to protect water quality by implementing Integrated Pest Management (IPM) and associated BMPs to minimize or eliminate pesticides in storm water. IPM shall be integrated into the Permittee's municipal operations and promoted through the public outreach program. Pesticides of concern include: organophosphorous pesticides (chlorpyrifos, diazinon, and malathion); pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin); carbamates (e.g., carbaryl); and fipronil.

- i. For municipal operations the Permittee shall complete the following efforts:
 - a) Implement pesticide, herbicide, and fertilizer application protocol at Port maintained sites, landscaped medians, and golf courses;
 - b) Implement IPM program;
 - c) Maintain and expand internal inventory on pesticide use;
 - d) Implement Landscaping Standards promoting native plants and IPM; and
 - e) Provide routine training for Port employees on IPM practices and the Permittee's IPM Policy who, within the scope of their duties, apply or use pesticides that threaten water quality.
- ii. For public outreach the Permittee shall complete the following efforts:
 - a) Coordinate with the County Agriculture Commission and Extension Service and environmental organizations, and interested stakeholders and provide targeted information concerning proper pesticide use and disposal, potential adverse impacts on water quality, and alternative, less toxic methods of pest prevention and

¹⁹ The Delta Waterways include only those reaches that are located within the "Legal" Delta, as defined in Section 12220 of the California Water Code.

control, including IPM;

- b) The Permittee shall support, enhance, and help publicize programs for proper pesticide disposal; and
 - c) Continue mechanisms to encourage the consideration of pest-resistant landscaping and design features in the design, landscaping, and/or environmental reviews of proposed development projects. Education programs shall target individuals responsible for these reviews and focus on factors affecting water quality impairment.
- iii. **By 1 September 2011 (or 6 months after the adoption of this Order, whichever is later)**, the Permittee shall complete an assessment to determine if urban storm water is causing or contributing to an exceedance of water quality standards and/or the TMDL allocation for diazinon and chlorpyrifos. If urban storm water is causing or contributing to an exceedance, then the Permittee 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. The assessment shall be reported in the Annual Report.
- iv. The Permittee, either separately or through organizations such as CASQA, shall continue to support and participate in efforts to influence pesticide regulatory activities by state and federal agencies, especially DPR, the Structural Pest Control Board, and the ISEPA 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.
- v. The Permittee shall coordinate with the Pesticide Plan component of the SWMP, to the extent that pesticides in sediments are identified as causing or contributing to receiving water impacts. The Permittee shall incorporate a Sediment Monitoring program in the Pesticide Plan as part of the SWMP. The Sediment Monitoring program shall include information as specified in the Monitoring and Reporting Program of this Order.
- vi. The Permittee shall work with the pesticide control stakeholders and other municipal storm water management agencies to assess which pesticide products and uses pose less risk to surface water quality. When applicable, such products will be incorporated into the Pesticide Plan. The Permittee shall also work with the Central Valley Water Board and other agencies in implementing the TMDL for pesticides in impaired urban waterways and other tributaries to the Stockton Deep Water

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Channel and the San Joaquin River.

- b. **Low Dissolved Oxygen Program:** To address the dissolved oxygen impairment and toxic hot spot, the Permittee ~~shall is already~~ implementing a **Low Dissolved Oxygen Plan pursuant to another Order of the Regional Board, which is not incorporated by reference into this permit,** for the following waterways:

- Stockton Deep Water Ship Channel
- San Joaquin River

~~To the extent that urban run-off from the Port contains oxygen-demanding substances, the Permittee's he plan shall be a component of the SWMP and shall include the following:~~

- i. The Permittee shall identify areas and/or activities, which contribute, via urban run-off, to low DO concentrations in the receiving water, such as unsewered areas within the Port, natural vegetation, animal and bird waste, discharges of food wastes, fertilizer and other oxygen demanding substances and their precursors, or direct discharges from existing collection systems due to sanitary sewer system overflow or blockage.

~~ii. The Permittee shall incorporate the aeration requirements found in Order R5-2006-0078 into the Low Dissolved Oxygen Plan.~~

~~iii.ii.~~ The Permittee shall include a discussion of their proposed actions for complying with the DO TMDL in respect to completing the oxygen demand and precursor studies and complying with the conditional prohibition of discharge. The Permittee shall also discuss their proposed actions for participating in the San Joaquin River DO TMDL Technical Working Group (TWG).

~~iv.iii.~~ The Permittee shall coordinate with other aerator operators and agencies/organizations performing dissolved oxygen monitoring programs in the Delta waters in the sharing of information, monitoring results, studies, and resources.

~~v.iv.~~ **By 1 September 2011**, the Permittee shall the Permittee shall complete an assessment to determine if urban storm water is causing or contributing to an exceedance of water quality standards and/or the TMDL allocation for DO. If urban storm water is causing or contributing to an exceedance, then the Permittee shall determine the relative contribution of urban storm water runoff to low DO levels in waters within its jurisdiction that are identified on the CWA 303(d) list, and compile a report that identifies the BMP approach that will be

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implemented to address areas and/or activities as identified above (Provision 28.b.i). This shall include an assessment of current BMPs, identification of new or modified BMPs, and an implementation schedule. This assessment and BMP report (if applicable) shall be included in the Annual Report.

vi.v. The Permittee shall incorporate a Dissolved Oxygen Monitoring program in the Low Dissolved Oxygen Plan as part of the SWMP. The Dissolved Oxygen Monitoring program shall include a sampling and analysis plan. A summary and analysis of the data collected and its relationship to the dissolved oxygen levels in the Stockton ~~Deep-Water Ship-Channel~~ shall be completed and included as a component of the **2016 Annual Report** (five years after adoption of the Order).

- c. **Total Mercury and Methylmercury Control Program:** To address the mercury impairment and the toxic hot spot of the Delta, the Permittee shall develop and implement a mercury pollution and prevention program as a component of the SWMP if the Port determines that it is a substantial contributor of mercury or methylmercury. The goal of the control program is to reduce methylmercury exposure to humans and wildlife in the Delta.

The Permittee shall implement the following control programs for mercury and methylmercury. The Permittee shall perform the control measures and provide reporting on those control measures according to the provisions below. The purpose of this provision is to implement the urban runoff requirements of the methylmercury TMDL and reduce inorganic mercury loads to make substantial progress toward achieving the urban runoff methylmercury load allocation established for the TMDL. Upon approval of the Delta Mercury Control Program by US EPA, the methylmercury waste load allocations for the Permittee by Delta subregion are: Central Delta 0.39 grams/year and San Joaquin River 0.0036 grams/year. The final compliance date for the waste load allocations is 2030, unless the Central Valley Water Board modifies the Delta Mercury Control Program implementation schedule and Final Compliance Date.

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i. **Mercury Collection and Recycling Implemented throughout the Stockton Port District**

- a) **Task Description** – The Permittee shall promote, facilitate, and/or participate in collection and recycling of mercury containing devices and equipment at the consumer level (e.g., thermometers, thermostats, switches, bulbs). The Permittees shall promote and facilitate the collection, recycling and/or diversion of mercury-containing waste products (e.g. gauges, batteries, fluorescent and other lamps, switches, relays and sensors) from the waste stream from industrial and commercial entities (e.g. auto dismantlers).
- b) **Implementation Level** – The Permittee shall evaluate reduction of mercury from controllable sources in storm water, including the identification of mercury-containing products used by the Permittees in their municipal operations (D.11) (e.g., corporate yards, office buildings). The Permittees shall also describe alternative ways to establish or improve proper handling, disposal and recycling.
- c) **Reporting** – The Permittee shall report on these efforts in their Annual Report, including an estimate of the mass of mercury collected and diverted.

ii. **Evaluate and Enhance Municipal Sediment Removal and Management Practices - Pilot Project**

- a) **Task Description** – The Permittee shall evaluate ways to enhance mercury load reduction benefits of operation and maintenance activities that remove or manage sediment. The knowledge and experience gained through this study will be used to determine the feasibility and efficacy of enhanced sediment removal and management practices in subsequent permit terms. The Permittee shall document the knowledge and experience gained through project implementation, and this documentation will provide a basis for determining the implementation scope of enhanced sediment removal management practices in subsequent permit terms. The Permittee shall also quantify and report the amount of mercury loads removed or avoided resulting from implementation of these measures.

Sediment control/removal BMPs include:

- i) Erosion and sediment control BMPs implemented under the Construction Element (Provision D.9);

- ii) Sediment control BMPs implemented under the Commercial/Industrial Element (Provision D.10);
 - iii) Operational BMPs implemented under the Municipal Operations Element (Provision D.11) – cleaning streets, detention basins, and storm-drainage pipelines, sumps and channels; and
 - iv) Storm water treatment facilities implemented under the New Development and Redevelopment Element (Provision D.14) (e.g., detention basins);
- b) **Implementation Level** – The Permittee shall evaluate ways to enhance existing sediment removal and management practices such as municipal street sweeping, curb clearing parking restrictions, inlet cleaning, catch basin cleaning, stream and storm water conveyance system maintenance, and pump station cleaning via increased effort and/or retrofits for the control of mercury. This evaluation shall also include consideration of street flushing and capture, collection, or routing to the sanitary sewer (in coordination and consultation with local sanitary sewer agencies) as a potential enhanced management practice in coordination and consultation with local sanitary sewer agencies.
- c) **Reporting**
 - i) The Permittee shall present a progress report on the results of the evaluation in their 2012 Annual Report and the final results in their 2013 Annual Report.
 - ii) The Permittee shall report the effectiveness of the enhanced sediment removal and management practices, report the estimates of loads reduce, and present a plan and schedule for possible expanded implementation for subsequent permit terms in the **2016 Annual Report** (five years after adoption of the Order).
- iii. **Public Education, Outreach and Participation Program**
 - a) **Task Description** – The Permittee shall add mercury pollution prevention messages to the Public Outreach and Education Element (D.13) designed to reach residential, commercial and industrial users or sources of mercury-containing products or emissions. The Permittees shall include messages about mercury contamination in fish and Department of Public Health (DPH) fish consumption advisories.

- b) **Implementation Level** – For public outreach (e.g., auto dismantlers) and municipal operations, the Permittee’s mercury control programs (e.g., enhance business hazardous waste collection program) shall coordinate with the countywide universal waste (U-Waste) management strategy in compliance with the Department of Toxic Substances Control (DTSC) Universal Waste Rule (Reference Number: R-97-08, Effective Date: 02/08/02). Participate with other organizations to develop programs to reduce or eliminate sources of mercury within the Permittee’s urbanized area. The Permittee may coordinate with publicly owned treatment works and other agencies to develop cooperative plans and programs.
- c) **Reporting** – Describe in the Annual Reports specific coordination efforts related to mercury pollution prevention control (e.g., fluorescent lamp collections, public outreach, sustainable funding mechanisms, and U-waste tonnage tracking). Permittees shall summarize activities completed and document any measureable awareness and behavior changes resulting from outreach. Evaluate the effectiveness of the mercury control programs; provide recommendations for amending Permittees’ mercury source control programs; and amend the mercury control programs in accordance with those recommendations.

iv. **Monitor Methylmercury**

- a) **Task Description** – The Permittee individually, or in cooperation with other local entities, shall monitor methylmercury in runoff discharges. The objective of the monitoring is to investigate Port drainages to obtain seasonal information and to assess the magnitude and spatial/temporal patterns of methylmercury concentrations.
- b) **Implementation Level** – The Permittee shall analyze aqueous grab samples already being collected for total mercury analysis for methylmercury as specified in the Monitoring and Reporting Program of this Order.
- c) **Reporting** – The Permittee shall report monitoring results annually beginning with their 2012 Annual Report

v. **Methylmercury Control Studies**

- a) **Task Description** – After US EPA approves the Delta Mercury Control Program, the Permittee shall conduct methylmercury control studies to monitor and evaluate the effectiveness of existing BMPs on the control of methylmercury, and shall develop and evaluate additional BMPs as needed to reduce mercury and methylmercury discharges to the Delta and meet methylmercury waste load allocations. The studies shall quantify methylmercury loads and loads reduced through source control, treatment and other management measures.
- b) **Implementation Level** – The Permittee shall demonstrate progress toward completing the methylmercury control studies by submitting a Control Study Workplan by nine months after the US EPA Delta methylmercury TMDL approval date. The control study workplan shall include details for:
 - i) Control Studies can be developed through a stakeholder group approach or other collaborative mechanism, or by the Permittee. The Permittee is not required to do individual studies if the Permittee joins a collaborative study group(s).
 - ii) Control Studies shall be implemented through Control Study Workplan(s). The Control Study Workplan(s) shall provide detailed descriptions of how methylmercury control methods will be identified, developed, and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the control methods.
 - iii) The Control Study Workplan(s) shall include details for organizing, planning, developing, prioritizing, and implementing the Control Studies.
 - iv) The Control Studies shall evaluate existing control methods and, as needed, additional control methods that could be implemented to achieve methylmercury waste load allocations. The Control Studies shall evaluate the feasibility of reducing sources more than the minimum amount needed to achieve allocations.
 - v) The Control Studies also may include an evaluation of innovative actions, watershed approaches, offset projects, and other short and long-term actions that result in reducing inorganic (total) mercury and methylmercury to address the

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accumulation of methylmercury in fish tissue and to reduce methylmercury exposure.

- vi) The Permittee may evaluate the effectiveness of using inorganic (total) mercury controls to control methylmercury discharges.
 - vii) The Permittee may conduct characterization studies to inform and prioritize the Control Studies. Characterization studies may include, but not be limited to, evaluations of methylmercury and total mercury concentrations and loads in source waters, receiving waters, and discharges, to determine which discharges act as net sources of methylmercury, and which land uses result in the greatest net methylmercury production and loss.
- c) **Reporting** – The Permittee shall submit reports in compliance with the following schedule to the Central Valley Water Board:
- i) By [four years after the US EPA Delta methylmercury TMDL approval date], the Permittee shall submit a Control Studies progress report.
 - ii) By [seven years after US EPA Delta methylmercury TMDL approval date], the Permittee shall complete the Control Studies and submit a Final Report that present the results and descriptions of methylmercury control options, their preferred methylmercury controls, and proposed methylmercury management plan(s) (including implementation schedules), for achieving methylmercury allocations. Final reports for Control Studies shall include a description of methylmercury and/or inorganic (total) mercury management practices identified in/during the studies; an evaluation of the effectiveness, costs, potential environmental effects, and overall feasibility of the control actions. Final reports shall also include proposed implementation plans and schedules to comply with methylmercury allocations as soon as possible.
 - iii) If the Control Study results indicate that achieving a given methylmercury allocation is infeasible, then the Permittees shall provide detailed information in the Final Report on why full compliance is not achievable, what methylmercury load reduction is achievable, and an implementation plan and schedule to achieve partial compliance.

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vi. **Methylmercury Exposure Reduction Program**

- a) **Task Description** – After US EPA approves the Delta methylmercury TMDL, the Permittee shall complete an Exposure Reduction Strategy as part of the Exposure Reduction Program (ERP). The ERP is not intended to replace timely reduction of mercury and methylmercury loads to Delta waters. Activities will require collaboration with public health agencies to develop an ERP strategy; submission of an Exposure Reduction Workplan; implementation of the workplan and reporting. If the Permittee does not participate in the collaborative effort to develop the ERP, the Permittee shall develop and implement an individual ERP.
- i) By one year after US EPA Delta methylmercury TMDL approval date, the Permittee shall work with Central Valley Water Board staff, State and local public health agencies and other stakeholders, including community-based organizations, tribes, and Delta fish consumers, to complete an Exposure Reduction Strategy. The purposes of the Strategy will be to recommend to the Executive Officer how the Permittee will be responsible for participating in an ERP, to set performance measures, and to propose a collaborative process for developing, funding and implementing the program.
- b) **Implementation Level** – The Permittee shall develop, submit, and implement an Exposure Reduction Workplan in accordance with the following:
 - i) The Permittee shall, either individually or collectively, or based on the Exposure Reduction Strategy, submit an Exposure Reduction Workplan for Executive Officer approval by two years after US EPA Delta methylmercury TMDL approval date. The ERP Workplan must include elements directed toward:
 - 1) Developing and implementing community-driven activities to reduce mercury exposure;
 - 2) Raising awareness of fish contamination issues among people and communities most likely affected by mercury in Delta-caught fish such as subsistence fishers and their families;
 - 3) Integrating community-based organizations that serve Delta fish consumers, tribes, and public health

- agencies in the design and implementation of an exposure reduction program;
- 4) Identifying resources, as needed, for community-based organizations and tribes to participate in the Program;
 - 5) Utilizing and expanding upon existing programs and materials or activities in place to reduce mercury, and as needed, create new materials or activities; and
 - 6) Developing measures for program effectiveness.
- ii) The Workplan shall address the Exposure Reduction Program objective, elements, and Permittee's coordination with other stakeholders. The Permittee shall integrate or, at a minimum, provide good-faith opportunities for integration of community-based organizations, tribes, and consumers of Delta fish into planning, decision making, and implementation of exposure reduction activities. The Permittees shall implement the Workplan by six months after Executive Officer approval of Workplan.
 - c) **Reporting** – Within three years after Workplan implementation begins, and every three years thereafter, the Permittee, shall submit a progress report to the Executive Officer. The Permittee shall participate in the Exposure Reduction Program until they comply with all requirements related to their methylmercury allocation.
29. In support of the Water Quality Based Programs, the Permittee shall develop and implement the storm water monitoring program as defined in the Monitoring and Reporting Program R5-2011-XXXX, which is part of this Order, and any revisions thereto adopted by the Central Valley Water Board.

The storm water monitoring program consists of the following elements:

- Baseline Monitoring
 - Urban Discharge Monitoring
 - Receiving Water Monitoring
 - Water Column Toxicity Monitoring
 - Dry Weather Field screening
- Sediment Toxicity Monitoring
- Water Quality Based Programs

- Pesticide Plan
- Low Dissolved Oxygen Plan
- Total Mercury and Methylmercury Control Program
- Special Studies
 - Retention Basin Studies
 - BMP Effectiveness Studies

The Permittee shall implement the Water Quality Monitoring program pursuant to the MRP and SWMP. Ultimately, the results of the MRP will be used to identify necessary BMPs, refine the SWMP to reduce pollutant loads, and protect and enhance the beneficial uses of the Port's receiving waters.

30. Program Effectiveness Assessment

- a. The Permittee shall describe their approach to program effectiveness assessment in their SWMP and report the results of the assessment in their Annual Reports. The assessment shall identify the direct and indirect measurements that the Permittee 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 shall include, but not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of Control Measures, measurements or estimates of pollutant load reductions or increases from identified sources, raising awareness of the public, and/or detailed accounting/documentation of SWMP accomplishments.
- b. The Permittee shall track the long-term progress of their SWMP towards achieving improvements in receiving water quality.
- c. The Permittee shall use the information gained from the program effectiveness assessment to improve their SWMP 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) Strategy: The Permittee shall develop a LTEA strategy, which shall build on the results of the Permittee's Annual Reports and the initial program effectiveness assessments. The LTEA shall be submitted to the Central Valley Water Board **no later than 180 days prior to the permit expiration date** (by xx month 2016) and shall identify how the Permittee will conduct a more comprehensive effectiveness assessment of the storm water program as part of the SWMP. The strategy will address the storm water program in terms of achieving both programmatic goals (raising awareness, changing behavior) and environmental goals (reducing pollutant discharges, improving environmental conditions).

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ADDITIONAL REQUIREMENTS

31. **Monitoring and Reporting Program:** The Permittee shall comply with Monitoring and Reporting Program R5-2011-XXXX, which is part of this Order, and any revisions thereto approved by the Board. Because the Permittee operates facilities which discharge waste subject to this Order, this Monitoring and Reporting Program is necessary to ensure compliance with these waste discharge requirements.
32. 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 Central Valley 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 Water Board or amendments to the Basin Plan approved by the State Water 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.
33. The Permittee shall comply with all applicable stormwater-related -items of the “Standard Provisions and Monitoring Requirements for Waste Discharge Requirements (NPDES),” dated February 2004 (Attachment F), which are part of this Order. This attachment and its individual paragraphs are referred to as “Standard Provisions.”
34. This Order expires on **xx February 2016**. The Permittee must file a Report of Waste Discharge (RWD) in accordance with Title 23, California Code of Regulations, not later than 180 days prior to the expiration 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 RWD reapplication package. The reapplication package must identify any proposed changes or improvement to the SWMP, 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 **xx February 2011**.

PAMELA C. CREEDON, Executive Officer

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