CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-0080

NPDES NO. CA0083500

WASTE DISCHARGE REQUIREMENTS FOR FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, CITY OF FRESNO, CITY OF CLOVIS, COUNTY OF FRESNO, AND CALIFORNIA STATE UNIVERSITY FRESNO STORM WATER DISCHARGES FROM MUNICIPAL SEPARATE STORM SEWER SYSTEM FRESNO COUNTY

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

1. The Fresno Metropolitan Flood Control District (District), City of Fresno, City of Clovis, County of Fresno, and California State University Fresno (CSUF), hereafter jointly referred to as 'Discharger' and individually as 'Permittees', submitted a complete Report of Waste Discharge (ROWD) on 16 September 2005, requesting renewal of Waste Discharge Requirements (WDRs) Order 5-01-048, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0083500 (Order or Permit) for discharges from the area-wide municipal separate storm sewer system (MS4) to groundwater and to waters of the United States (U.S.). The ROWD included a Storm Water Quality Management Program (SWQMP). Supplemental information was provided by the Discharger on 27 October 2008. The SWQMP plan is required as part of the application pursuant to 40 CFR 122.26(2)(d)(iv) and is an integral and enforceable component of the MS4 Permit.

2. Waste Discharge Requirements Order 5-01-048 (NPDES No. CA0083500) was adopted on 21 March 2001.

3. The City of Fresno is defined as a medium municipality (population greater than 100,000) in the Code of Federal Regulations (CFR) 40 CFR 122.26 (b)(4). As such, the City must obtain an NPDES municipal storm water permit for the area under its' jurisdiction. Although the population of the City is currently greater than a "medium sized municipality," it was defined as such in Appendix G to Part 122, 40 CFR.

4. The County of Fresno (hereafter County) contains urbanized areas and areas of potential growth, which are within the limits of the District, the cities of Fresno and Clovis, and CSUF or surrounding the District and Cities. Due to the proximity of the County's urbanized areas to the District and Cities of Fresno and Clovis, their physical interconnections to the District's storm sewer system, and the locations of their discharges relative to the District's system, the County is designated as part

of the MS4 in accordance with 40 CFR 122.26(b)(4)(iii). The area subject to the Permit requirements includes all local planned urban drainage areas defined in the Fresno Metropolitan Flood Control District Storm Drainage and Flood Control Master Plan, the community of Easton, and the County area along Friant Road between the San Joaquin River and the Friant-Kern Canal. This area will be referred to as the Fresno-Clovis Urbanized Area, and will expand as development progresses into areas of planned growth. Attachment A shows the Order coverage boundary at the time of Order adoption.

5. The Permittees have jurisdiction over and/or maintenance responsibilities for the storm drainage system in the Fresno/Clovis Urbanized Area. The storm drain system is owned and operated by the Fresno Metropolitan Flood Control District. The system includes 158 drainage areas, with all but five of the drainage areas discharging to 153 retention or detention basins, referred to in this permit as storm water basins. Three (3) of the five drainage areas discharge directly to surface water through a pumping station to an irrigation canal and two (2) of the drainage areas drain by gravity to the San Joaquin River without benefit of any basin storage. Six (6) drainage areas discharge to the river, upon release from storm basins, while thirty nine (39) storm water basins discharge to canals. The balance of the storm water basins have either indirect or direct relief lines to the 39 basins that discharge to canals or currently only discharge to the groundwater aquifer depending on the construction phase of the basin and/or the constructed drainage area's storm drain lines. The storm water basins are an engineered feature between 10 to 40 acres in size, situated at the lowest point in the drainage area, and collect storm water runoff from about one to two square miles of urbanized land. Urban storm water runoff not recharged by the storm water basins is discharged to canals of the Tulare Lake Basin. The majority of the canals eventually flow into the Herndon Canal which discharges into the San Joaquin River outside the MS4 permit area.

6. The Permittees' land use authority allows urban developments that may generate pollutants and runoff that could impair receiving water quality and beneficial uses. The Permittees are 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 maximum extent practicable (MEP) from new development and redevelopment activities. In addition, the Permittees must exercise their legal authority to ensure that the increased pollutant loads and flows do not adversely affect the beneficial uses of the receiving waters.

7. 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 Permittees will closely cooperate and collaborate with local vector control agencies and the California 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.

8. There are portions of the Cities and County that are mainly agricultural, rural, and open space lands. It is not the intent of the federal storm water regulations to regulate storm water discharges from land uses of these types. Therefore, these areas are exempt from the requirements of this Order unless they are a point source discharge to the Permittees' conveyance system. Discharges from these sources may be subject to TMDL allocations and control programs.

9. When natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots, the natural absorption and infiltration abilities of the land are lost. Runoff leaving a developed urban area is typically greater in runoff volume, velocity, and peak flow rate than pre-development runoff from the same area. Runoff durations can also increase as a result of flood control and other efforts to control peak flow rates. Increased volume, velocity, rate, and duration of runoff can accelerate the erosion of downstream natural channels. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. The increased runoff characteristics from new development must be controlled to protect against increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat.

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

11. Development and urbanization especially threaten environmentally sensitive water bodies such as those supporting rare, threatened or endangered species and CWA 303(d) impaired water bodies. Such water bodies 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 significant in a particular sensitive environment. Therefore, additional controls to reduce pollutants from new and existing development may be necessary for areas adjacent to or discharging directly to an

environmentally sensitive water body.

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

DISCHARGE CHARACTERISTICS

13. The quality and quantity of MS4 discharges vary considerably because of the effects of hydrology, geology, land use, season, and sequence and duration of precipitation events. Urban storm water runoff may contain pollutants that may lower the quality of receiving waters and adversely impact beneficial uses of the San Joaquin River, Herndon Canal, and Dry Creek Canal. Studies indicate there may be increases in pollutant levels and aquatic toxicity in receiving waters as a result of urban storm water discharges.

14. Pollutants that may be contained in storm water include, but are not limited to, certain heavy metals; sediments; petroleum hydrocarbons from sources such as used motor oil; microbial pathogens; pesticides; sources of acute and chronic aquatic toxicity; and nutrients that cause or contribute to the depletion of dissolved oxygen and/or toxic conditions in the receiving water. Excessive flow rates of storm water may cause or contribute to downstream erosion and/or excessive sediment discharge and deposition in stream channels.

15. The discharge of wash waters and polluted storm water from industries and businesses is an environmental threat, and can also adversely impact public health and safety. The pollutants of concern in such wash waters include food waste, oil and grease, and toxic chemicals. 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 water quality problems.

16. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: polynuclear aromatic hydrocarbons which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate, pesticides, metals, and mercury from wet and dry atmospheric deposition; lead from fuels, copper from brake pad wear; zinc

from tire wear; bacteria from natural sources including wildlife; dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters to the MEP.

17. Estimates in the District's Basin Hydrologic Study (1995) show that during an average year, the MS4 retains 90% of the urban runoff from the Permit area in storm water basins located throughout the Permit area. Another 8% of the urban runoff is discharged to canals or the San Joaquin River after being detained in storm water basins. The remaining 2% is discharged directly to canals or the San Joaquin River.

18. Very little of the storm water collected by the MS4 is discharged directly; most discharges are detained for extended periods of time. Because of this and the constraints of the current sampling procedures, it is not known for certain whether the existing sampling program captures the full effect of the urban runoff in the receiving water. Evaluation of the monitoring and sampling procedures is necessary to assure the effects of the discharge are being captured in the Discharger's sampling results.

19. Urban runoff is discharged to the San Joaquin River, and to various canals of the Tulare Lake Basin that eventually flow into the Herndon Canal or the Dry Creek Canal. The Herndon Canal spills to the San Joaquin River. The Dry Creek canal is hydraulically connected to the James Bypass, which flows to the Fresno Slough. All of these waters are considered waters of the United States.

STATUTORY AND REGULATORY CONSIDERATIONS

20. 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 quality control boards, to regulate and control the discharge of pollutants into waters of the State. On 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.

21. This Order does not constitute an unfunded local government mandate subject to subvention under Article XIIIB, 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.)

Second, the local agency permittees' 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].)

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 No. 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 permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. The fact sheet demonstrates that numerous activities contribute to the pollutant loading in the municipal separate storm sewer system. Local agencies can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The ability of a local agency to defray the cost of a program without raising taxes indicates that a program does not entail a cost subject to subvention. (*County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

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

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

22. 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).

23. This Order specifies requirements for the Permittees to reduce the discharge of pollutants in urban runoff to the MEP.[1] The State Board's Office of Chief Counsel (OCC) has issued a 11 February 1993 memorandum interpreting the meaning of MEP to include effectiveness, regulatory compliance, public acceptance, technical feasibility, and cost. The burden is on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived. However, since MEP is a dynamic performance standard which evolves over time as urban runoff management knowledge increases, the Permittees' storm water programs must continually be assessed and modified to incorporate improved programs, control measures; best management practices (BMPs), etc. in order to achieve the evolving MEP standard. MEP is a technology-based standard established in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve. Factors that must be considered when defining MEP include, but are not limited to; effectiveness, regulatory compliance, public acceptance, cost, and technical feasibility.

24. This Permit requires the Permittees to develop 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 Fresno-Clovis Urbanized Area subject to the Permittees' jurisdiction.

25. Section 402(p)(3)(B)(ii) of the CWA requires that NPDES permits effectively prohibit non-storm water discharges into MS4s. Federal regulations at 40 CFR 122.26(d)(2)(iv)(B)(1) require control programs to prevent illicit discharges to MS4s and allows certain categories of non-storm water discharges to MS4s provided that the Permittees eliminate such discharges once they are identified as sources of pollutants to waters of the United States.

26. The Permittees have adopted their own respective storm water ordinances. These ordinances provide the Permittees the authority to protect and enhance the water quality of watercourses, water bodies, and wetlands in the Fresno-Clovis

[1] A definition of MEP may be found in Attachment C.

Urbanized area in a manner pursuant to and consistent with the CWA and the Porter-Cologne Water Quality Control Act.

27. Federal regulations at 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, specifies minimum expectations between the Central Valley Water Board and the Permittees for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 Fed. Reg. 61157).

28. 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, Order No. 97-03-DWQ, General Industrial Activity Storm Water Permit (General Industrial Permit)] and the other for storm water from construction sites [NPDES No. CAS000002, Order No. 2010-0014-DWQ, General Construction Activity Storm Water Permit (General Construction Permit)]. The current General Industrial Permit is expired and its replacement is undergoing public review. The current General Construction Permit became effective on 1 July 2010. In addition, the Central Valley Water Board has issued General Order 5-00-175 for dewatering and other low threat discharges, which authorizes such discharges to the MS4s owned and operated by Permittees. This Order requires the Permittees to conduct compliance inspections at industries and construction sites that discharge to the MS4. Many of these sites are currently covered under State NPDES general permits.

29. On 10 January 2005, the California Regional Water Quality Control Board, Central Valley, conducted a program evaluation of three of the five co-permittees implementing the Fresno-Clovis Metropolitan Area Urban Storm Water Discharges Program. The purpose of the evaluation was: (1) to determine the co-permittees' compliance with the National Pollutant Discharge Elimination System Permit (WDRs Order No. 5-01-048), and (2) to evaluate the current implementation status of the co-Permittees' SWQMP. The following deficiencies were considered the most significant: the District lacked an appropriate enforcement escalation mechanism to address issues of continuous non-compliance; the City of Fresno does not require erosion and sediment control best management practices to be included on development grading plans and does not review storm water pollution prevention plans (SWPPPs) submitted for private development projects; a City of Clovis capital improvement project (CIP) Project did not include a SWPPP or submittal of a Notice of Intent for coverage under the State's Construction General Storm Water Permit. The District has since adopted a Progressive Enforcement

Response Plan that escalates enforcement activity in cases of non-compliance. The City of Fresno requires review of basic BMPs on the Erosion and Sediment Control Plan and now requires that the Plan be attached to a grading permit before the permit can be issued (for projects in excess of 1 acre). The City of Clovis CIP, which was originally designed to disturb less than one acre, was required to file for Construction General Permit coverage and the City has added a procedure that requires project area calculations earlier in the design and permitting process.

30. In 2005, a U.S. EPA contractor audited the MS4 program on behalf of the Central Valley Water Board. The audit found the District lacked an appropriate enforcement mechanism to address continuous non-compliance, the City of Fresno did not require erosion and sediment controls on grading plans and did not review storm water pollution prevention plans for private developments, and the City of Clovis did not obtain coverage under the State Water Resources Control Board Construction General Permit. The U.S. EPA conducted an audit of the construction component of the Districts SWQMP in November of 2009 (the other copermittees were not evaluated at this time). The auditors found that the District was not ensuring compliance with the Construction General Permit (i.e. adequate implementation of BMPs on individual construction projects inspected during the audit) as required by Provisions D.12 and D.13 of the District's MS4 Permit. The Dischargers responded to both audits; the responses provide for increased enforcement activity, regional training on the new Construction General Permit requirements, a commitment to re-writing the District's Construction Management Guidelines and an expanded inspection programs including increased site inspections, joint City-District inspections and follow up enforcement inspections. This Order requires review of the Permitee's Enforcement Response Plan, Memorandums of Understanding, roles and responsibilities, and Legal Authorities.

31. 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 municipality has demonstrated a good faith effort to educate and enforce but remains unsuccessful, the Central Valley Water Board may assist the municipality and conduct a cooperative investigation and/or enforcement effort including enforcement of the applicable statewide general permit. If the municipality has not demonstrated a good faith enforcement effort, the 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 municipal Permittee for violations of this Order. Each Permittee must also provide the first level of enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.

32. This Order includes requirements to ensure 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. These requirements must be addressed through the effective implementation of Best Management Practices (BMPs) to reduce pollutants in storm water to the MEP.

33. Regulations at 40 CFR 122.26(d)(2)(iv) require that the SWQMP be implemented for the entire duration of the Permit. The Permittees shall demonstrate compliance with the SWQMP and this Order through the information and data supplied in the Annual Report. The SWQMP 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 SWQMP and this Order, then this Order supercedes the SWQMP.

34. Federal, state, regional, or local entities within the Permittees' boundaries, not currently named in this Order, operate storm drain facilities and/or discharge storm water to the storm drains covered by this Order. The Permittees may lack legal jurisdiction over these entities under applicable state and federal authorities. Consequently, the Central Valley Water Board recognizes that the Permittees shall not be held responsible for such facilities and/or discharges. Caltrans is currently designated as such an entity. On 15 July 2000, the State Water Board issued a separate statewide NPDES storm water permit to Caltrans (NPDES No. CAS000003, Order No. 99-06-DWQ). The Permittees shall work cooperatively with Caltrans for the purpose of maintaining mutually beneficial storm water management program coordination, cooperation and communication.

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

36. The Central Valley Water Board adopted the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin, Fourth Edition, Revised October 2011,* and adopted the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, Revised January 2004* (collectively Basin Plans, individually Sacramento-San Joaquin River Basin Plan and Tulare Lake Basin Plan). The Basin Plans designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve water quality objectives for all waters of the Basins. This Order implements the Basin Plans.

37. The Sacramento-San Joaquin River Basin Plan designates the beneficial uses of the San Joaquin River between Friant Dam and Mendota Pool as Municipal and

Domestic Supply (MUN), Industrial Process Supply (PRO), Agricultural Supply (AGR); Water Contact Recreation (REC-1), Non-contact Water Recreation (REC-2), Warm Freshwater Habitat (WARM), Cold Freshwater Habitat (COLD), Migration of Aquatic Organisms (MIGR); Spawning, Reproduction, and/or Early Development (SPWN) and Wildlife Habitat (WILD).

38. The Tulare Lake Basin Plan designates the beneficial uses of Fresno Slough, as a Valley Floor Water, as Industrial Service Supply (IND), PRO, AGR; REC-1, REC-2, WARM, WILD, Rare, Threatened, or Endangered Species (RARE); and Groundwater Recharge (GWR).

39. Man-made conveyances such as the Dry Creek Canal, Herndon Canal, and the James Bypass do not have specifically designated beneficial uses in the Tulare Lake Basin Plan. State Water Board Resolution No. 88-63 establishes that all waters, with certain exceptions, shall be considered suitable or potentially suitable for municipal or domestic supply. In addition, the canals, as tributaries to navigable waters, are themselves waters of the U.S., the quality of water in the canals must be maintained to meet the federal Clean Water Act threshold of "swimmable and fishable." The existing uses of the canals include agricultural supply and groundwater recharge. The beneficial uses of water in the canals are therefore MUN, AGR, GWR, REC-1, and WARM.

40. As designated in the Tulare Lake Basin Plan, the beneficial uses of the groundwater beneath the Fresno Urbanized Area are MUN, IND, PRO, and AGR.

41. *Congress has determined* that it is not feasible at this time to establish numeric effluent limits for pollutants in storm water discharges from MS4s [Clean Water Act (CWA)[2] Section 402(p)(3)(B)(iii)[3]]. In addition, the California Superior Court ruled; *"Water quality-based effluent limitations are not required for municipal Stormwater discharges [33 USC §1342(p)(3)(B)] and [40 CFR §122.44(k)(3)]. For municipal stormwater discharges, the Permits must contain best management practices (BMPs), which reduce pollutants to the maximum extent practicable [33 USC §1342(p)(3)(B)]. These Permits do contain these through the Stormwater Management Plan which is incorporated into the Permits by reference."* (*San Francisco Baykeeper vs. Regional Water Quality Control Board, San Francisco*

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

[3] CWA Section 402(p)(3)(B)(iii): "…controls to reduce pollutants to the maximum extent practicable, including management practices, control techniques, and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

Bay Region, Case No. 500527, 14 November 2003). Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in storm water discharges to the MEP. In lieu of numeric effluent limitations, this Order requires the implementation of BMPs identified in the Permittees' SWQMP to control and abate the discharge of pollutants in storm water discharges. Implementation of BMPs, compliance with long-term performance standards in accordance with the Permittees' SWQMP and its schedules, an established maintenance program with enforcement procedures, constitutes compliance with the MEP standard.

42. 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 Permittees as sources of pollutants to waters of the United States.

43. *The State* Water Resources Control Board (SWRCB) convened a Storm Water Panel (Blue Ribbon Panel) of experts to address the issue of numeric effluent limits[5]. The study also concluded that it is not feasible at this time to set enforceable numeric effluent criteria for storm water and non-storm water discharges from MS4s.

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 discusses the appropriate kinds of water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

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 exempted the application of a pesticide to or over, including near, waters of the United States if conducted

[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).

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

consistent with all relevant requirements under the Federal Insecticide and Fungicide Rodenticide Act (FIFRA), from an NPDES permit under the Clean Water Act in the following two circumstances: (a) the application of pesticides directly to waters of the United States in order to control pests,[6] and (b) The application of pesticides to control pests that are present over waters of the United States, including near such waters,[7] that results in a portion of the pesticides being deposited to waters of the United States (40 CFR 122.3(h)). On 7 January 2009, the Sixth Circuit Court of Appeals vacated U.S. EPA's Final Rule and granted a two-year stay of the effect of the decision until 9 April 2011 in order to provide agencies time to develop, propose, and issue NPDES general permits for pesticide applications covered by the ruling. Subsequently, U.S. EPA was granted an extension of the stay until 31 October 2011. The State Water Board has adopted and is adopting NPDES general permits for various types of pesticide applications.

46. On 17 June 1999, the State Water Board adopted Order WQ 99-05 (SBO 99-05), a precedent setting-decision, which identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State Water Board and regional water boards. The receiving water limitations included herein are consistent with the State Water Board Order, U.S. EPA policy, and the U.S. Court of Appeals decision in Defenders of Wildlife v. Browner (Ninth Cir., 1999). The State Water Board's OCC has determined that the federal court decision did not conflict with SBO 99-05 (memorandum dated October 14, 1999).

47. Federal regulations at 40 CFR 122.42(c)(7) require the Permittees to submit an annual report that identifies water quality improvements or degradation.

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.

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.

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

[7] Water Quality Order 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

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, the National Marine Fisheries Service, and the California Department of Fish and Game of Central Valley Water Board consideration of this Order.

STORM WATER QUALITY MANAGEMENT PROGRAM

51. The 16 September 2005 ROWD includes the Permittee's draft SWQMP plan, including proposed changes to the SWQMP and monitoring programs, and the SWQMP 2004-2005 Annual Report. The Permittees submitted supplemental information on 27 October 2008. The supplemental information consists of an antidegradation analysis, information to support the continuation of the findings that indicate Fresno-Clovis new development and redevelopment standards continue to exceed SUSUP requirements, a Fresno-Clovis MS4 Permit water quality monitoring review document, and a description of the ways the Permittees are promoting water quality principles, low impact development, and smart growth.

52. 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 SWQMP and related programs to reduce the discharge of pollutants in storm water runoff to MEP and to improve water quality and protect beneficial uses.

53. Implementation of the the SWQMP shall result in:

    a. Identification 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. Compliance 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. Achievement with water quality standards;
    d. Development of a cost-effective program which focuses on pollution prevention of urban storm water;
    e. Implementation of effective alternative solutions where prevention is not a practical solution for a significant problem; and
    f. Coordination of control measures with other agencies.

54. The draft SWQMP outlined in the ROWD (dated June 2006) largely follows the requirements in 40 CFR 122.26 and contains the following program elements:

    a. Public Involvement and Participation Program
    b. Illicit Discharge Program

c. Structural Controls Program
d. Operations and Maintenance Program
e. Construction and Development Program
f. Commercial and Industrial Program
g. Legal Authority and Enforcement Authorities
h. Source Identification and Monitoring Element
i. Program Effectiveness Element

55. The Permittees' proposed SWQMP contains BMP control programs that identify the specific BMPs that each Permittee will implement to reduce the discharge of pollutants from their respective MS4s to the MEP. The SWQMP also includes objectives and measurable goals for each control program 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 BMP control program also identifies effectiveness assessments that the Discharger will utilize to ensure the program is meeting the desired objectives and that the resources expended are providing commensurate benefits and are protective of water quality.

56. On 12 April 2001, the Permittees submitted to the Central Valley Water Board three memorandums of understanding (MOUs) that formalize the partnership between the District and the City of Fresno, the City of Clovis, and Fresno County to control pollutants discharged from one portion of the shared MS4s to another portion of the storm sewer system. The City of Fresno adopted an MOU on 8 June 2001 (Provision D.9. of the previous permit required that this MOU be submitted to the Central Valley Water Board by 15 April 2001). The Fresno County Board of Supervisors approved its MOU with the District 29 July 1998. The Clovis City Council approved its MOU on 16 July 1996. The terms of the MOUs are automatically extended so long as the agencies remain co-permittees under the NPDES permit. The Permittees also submitted a 1995 Inspection Response and Enforcement Procedures used by the City and County to cooperate with the District to ensure compliance. The Permittees provided an evaluation report regarding whether the current MOUs contain sufficient enforcement tools and accurately reflect actual working relationships between the Permittees. The report indicated that the existing MOUs adequately defined Permittees responsibilities and provided for adequate enforcement of the SWQMP. This report met the requirements of Provision D.8. in the existing permit, WDRS Order 5-01-048 (NPDES No. CA0083500). Given the time that has elapsed and that the MS4 regulatory program has evolved, it is prudent to have the Permittees reevaluate and revise, if necessary, their MOUs.

57. On 14 September 2001, the Permittees submitted to the Central Valley Water Board a detailed training proposal outlining how various targeted groups were to

be trained per Provision D.11. of WDRs Order 5-01-048. The submittal indicates that the training would be provided to all Permittee employees, offered to regulated activities and businesses, and be required for illicit dischargers. The training proposal satisfied the requirements of Provision D.11 in WDRs Order 5-01-048 (NPDES No. CA0083500).

58. The State Water Board established California's antidegradation policy in Resolution 68-16. Resolution 68-16 incorporates the federal antidegradation policy (40 CFR 131.12) where the federal policy applies under federal law. The proposed discharge complies with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Resolution 68-16 requires in part that:

    a. High quality waters be maintained until it has been demonstrated that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies; and

    b. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (i) a pollution or nuisance will not occur and (ii) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

    The Permittees submitted an antidegradation analysis report on 27 October 2008. The report states that the proposed increase in discharge that results from continued urban development may result in some minimal and temporally limited degradation of waters of the State and navigable waters of the United States. As described in the Fact Sheet, the Regional Board concurs with that conclusion. Accordingly, a complete antidegradation analysis contemplated by the State Water Board's Administrative Procedures Update 90-004 (APU) is not necessary. Instead, a simplified antidegradation analysis is sufficient.

    In the simplified antidegradation analysis described in the Fact Sheet, the Regional Board concludes that the limited degradation anticipated to occur will be consistent with the maximum benefit to the people of the State. Limited degradation that does not cause exceedances of water quality objectives is warranted to allow for the economic benefit stemming from local growth. There is a need in the Fresno-Clovis Metropolitan Area to accommodate growth. The Central Valley Water Board does not have the jurisdiction to control growth in the region, but is required to assure that the receiving waters are adequately protected as a result of urban discharges. The proposed Order allows the expansion of service necessary to

accommodate housing and economic expansion in the area and is considered to be a benefit to the people of the State. The Fact Sheet contains additional information regarding the antidegradation analysis and constituents of concern in the waste discharge.

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

DEVELOPMENT STANDARDS

59. 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.

60. On 27 October 2008, the Permittees submitted a summary of existing post-construction programs being implemented within the permitted area. The summary demonstrates that existing regional storm water detention and retention implemented within the District's drainage areas meets or exceeds those standards specified by the Water Quality Planning and Design Principals.

61. The District Storm Drainage and Flood Control Master Plan (Master Plan) proposes to maintain approximately 153 storm water basins that currently exist in the Permit area, to design storm water basins to collect and retain or detain 100 percent of the runoff generated during storm events, and to continue to construct basins in drainage areas included in the Master Plan that do not yet have storm water basins.

62. Estimates in the District's Basin Hydrologic Study show that during an average year, the MS4 retains 90% of the urban runoff from the permit area in storm water basins located throughout the permit area. Another 8% of the urban runoff is discharged to the San Joaquin River or canals after being detained in storm water basins. The remaining 2% is discharged directly to the San Joaquin River or canals.

63. Since 1982, the District storm water management system has been designed so that 100 percent of all storm water runoff generated in new and redevelopment projects drains through storm water basins. The District maintains reserve storage capacity in storm water basins equal to the maximum 48 hour rain event, which exceeds the storage volume of the 85% storm by a factor of 4 to 6.

64. The District conducted In-System Water Quality Monitoring from 1996 through 2005 to determine and evaluate the pollutant removal capabilities of three storm water basins (Basins C, V and EK). The results of the monitoring confirm that the basins reduce the mass load discharge of TSS, metals, nutrients, pesticides and PAHs. Specifically, Basin EK exceeded an 80 percent load retention for aluminum, TSS, total Kjeldahl nitrogen, chlorpyrifos, and fluoranthene. The average load retention for total recoverable metals from EK was a 67.4 percent. Storm water basins V and C had statistically significant reductions for 19 pollutants including several PAHs, TSS, copper, lead, and zinc.

65. Several of the MS4 permits for areas around the State that are on their second and third terms contain or have given consideration to Standard Urban Storm Water Mitigation Plans (SUSMPs) for specific categories of new development and redevelopment. In general, the SUSMPs require that 85 percent of the runoff from the subject sites be infiltrated or treated and recommend or require other BMPs. The State Water Board has found that the provisions in the SUSMPs constitute MEP. However, a SUSMP was not considered for this Permit due to the nature of the MS4 in the Permit area. As summarized in the document *Continuation of Fresno-Clovis MS4 Permit Finding of Exceeding SUSMPs for New Development and Redevelopment* (submitted 27 October 2008) the MS4 continues to be composed of regional, structural detention/retention facilities, which capture runoff from all urban land uses, providing a substantially broader coverage than that created by the SUSMPs. The individual requirements imposed by the SUSMPs on specific categories of development would therefore create a non-productive duplication effort. Additionally, many of the BMPs included in the SUSMPs are already addressed in the Discharger's SWMP. Also, many of the BMPs are designed to address water quality issues different from what occurs in the area covered by this Permit. The regional nature of the MS4 and a single responsible body provides better assurance of proper operation and maintenance.

66. Federal regulations at 40 CFR 131.10(a) prohibit 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.

67. 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 pollutants, and facilitate the infiltration of water into the ground. By reducing water pollution and increasing groundwater recharge, LID helps to improve the quality of receiving surface waters and stabilize the flow rates of nearby streams. Therefore, LID design concepts should be promoted for new developments and significant redevelopments.

68. 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 problems can result, including: excess sediment flowing into our watersheds; downstream erosion; disruption of natural drainage; irregular stream flows; and elevated water temperatures. Due to the flat topography associated with the MS4 area, low annual rainfall, and the District's use of regional detention/retention facilities, discharges from the MS4 do not cause hydromodification issues in the receiving waters.

69. 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)].

70. 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.

71. 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 MS4 programs.

72. In March 1997, the California Storm Water Quality Task Force (SWQTF) published Best Management Practice Guide – Retail Gasoline Outlets.

State Water Board Order WQ 2000-11 directed the Los Angeles Regional Water Quality Control Board to mandate that RGOs employ the BMPs listed in SWQTF's March 1997 RGO BMP publication. Due to the potential threat to storm water quality from RGOs, Development Standards for RGOs are included in this Order.

73. Each Permittee is individually responsible for adopting and enforcing local ordinances necessary to implement effective BMPs to prevent or reduce pollutants in storm water, and for providing funds for capital, operation, and maintenance expenditures necessary to implement such BMPs for the storm drain system that it owns and/or operates. Enforcement actions concerning this Order will, whenever necessary, be pursued only against the individual Permittee responsible for specific violations of this Order.

IMPAIRED WATER BODIES

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

75. A TMDL is a quantitative assessment of the total pollutant load that can be discharged from all sources each day while still meeting water quality objectives. The Central Valley Water Board is currently in the process of developing TMDLs for listed water bodies within the Region. Prior to TMDL's being adopted and approved, Permittees must implement actions 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.

76. Urban runoff is discharged to the San Joaquin River, and to various canals of the Tulare Lake Basin that eventually flow into the Herndon Canal or the Dry Creek Canal. All of these waters are considered waters of the United States. The Central Valley Water Board adopted Water Quality Control Plans for the San Joaquin River Basin and Tulare Lake Basin (hereafter Basin Plans), which contain water quality objectives for all waters of the Basins. These requirements implement the Basin Plans.

77. The San Joaquin River from Friant Dam to Mendota Pool is listed on the 2010 Sectio 303(d) list as impaired for Invasive Species. Fresno Slough is listed as impaired for pesticides and unknown toxicity. A TMDL has not been established for these listings. The Central Valley Water Board has not identified any impaired segments nor established TMDLs for the distribution canals that receive discharges from the MS4. This Order contains a provision that requires the Permittees to submit within one year of TMDL approval a plan to comply with waste load allocations.

78. The 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 Water Code.

PUBLIC PROCESS

79. The Central Valley Water Board has notified the Permittees and interested parties of its intent to prescribe waste discharge requirements for this discharge. These parties have been given an opportunity to address the Central Valley Water Board at a public hearing and an opportunity to submit their written views and recommendations.

80. 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.

81. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 5-01-048 is rescinded, and that the Permittees, their agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions – Storm Water Discharges

1. Discharges from the MS4 in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance as defined in Water Code section 13050 are prohibited.

2. Discharges from the MS4, which cause or contribute to exceedances of water quality standards (designated beneficial uses in the Basin Plan and the water quality objectives developed to protect those uses) for surface water or groundwater, are prohibited.

3. Discharges from the MS4 containing pollutants, which have not been reduced to the MEP, are prohibited.

B. Discharge Prohibitions – Non-Storm Water Discharges

1. Each Permittee shall have and implement the legal authority necessary to effectively prohibit all types of non-storm water discharges into the MS4 unless such discharges are either authorized by a separate NPDES permit; or not prohibited in accordance with this Order.

2. Pursuant to 40 CFR 122.26(d)(2)(iv)(B)(1), the following categories of non-storm water discharges need only be prohibited from entering the MS4 if such categories of discharges are identified by the Permittees 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.

3. When a non-storm water discharge category above is identified as a source of pollutants to waters of the United States, the Permittees shall either:

   a. Prohibit the discharge category from entering its MS4s; or

   b. Not prohibit the discharge category and implement, or require the responsible 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.

~~4.~~ Emergency fire-fighting flows (i.e., flows necessary for the protection of life or property) do not require immediate implementation of BMPs and are not prohibited. However, each 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 Permittees 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 SWQMP.

5. Each Permittee shall examine all dry weather analytical monitoring results collected in accordance with the Monitoring and Reporting Program of this Order to identify water quality problems that may be the result of any non-storm water discharge, including any non-prohibited discharge category(ies). Follow-up investigations shall be conducted 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.

C. Receiving Water Limitations

1. Receiving water limitations are site-specific interpretations of water quality standards from applicable water quality control plans. As such they are required as part of the Permit. However, a receiving water condition not in conformance with the limitation is not necessarily a violation of this Order. The 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 7.0 mg/l.

    b. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.

    c. Oils, greases, waxes, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.

    d. Aesthetically undesirable discoloration.

    e. Fungi, slimes, or other objectionable growths.

    f. Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:
        i. Where natural turbidity is less than 1 Nephelometric Turbidity Unit (NTU), controllable factors shall not cause downstream turbidity to exceed 2 NTUs.
        ii. Where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU.
        iii. Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
        iv. Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
        v. Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

    g. The normal ambient pH to fall below 6.5, exceed 8.3, or change by more than 0.3 unit.

h. Deposition of material that causes nuisance or adversely affects beneficial uses.

i. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.

j. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of Radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

k. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.

l. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that 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 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/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.

2. The discharge shall not cause or contribute to an exceedance of any applicable water quality standards.

3. The Permittees shall comply with Discharge Prohibition A.2 and Receiving Water Limitations C.1 and C.2 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWQMP and other requirements of this Order, including any modifications. The SWQMP shall be designed to achieve compliance with the above mentioned 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

SWQMP and other requirements of this Order, the Permittees shall assure compliance with Discharge Prohibition A.2 and Receiving Water Limitations C.1 and C.2 by complying with the following procedure:

a. Upon a determination by either the Permittees or Central Valley Water Board that discharges are causing or contributing to an exceedance of an applicable WQS, the Permittees shall promptly notify and thereafter submit a report to the Executive Officer that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. This Report of Water Quality Exceedance (RWQE) shall be incorporated in the Annual Report unless the Central Valley Water Board directs an earlier submittal. The RWQE shall include proposed revisions to the SWQMP and an implementation schedule containing milestones and performance standards for new or improved BMPs, if applicable. The RWQE shall also include a monitoring program and the rationale for new or improved BMPs, including a discussion of expected pollutant reductions and how implementation of additional BMPs will prevent future exceedance of WQSs. The Central Valley Water Board may require modifications to the RWQE.

b. The Permittees shall submit any modifications to the RWQE required by the Central Valley Water Board within **30 days** of receipt of all data from analytical laboratories.

c. Within **30 days** following approval of the RWQE by the Executive Officer, the Permittees shall revise the SWQMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.

d. The Permittees shall implement the revised SWQMP and monitoring program in accordance with the approved schedule.

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

D. Provisions

1. Within its geographic jurisdiction, each Permittee shall:

   a. Comply with the requirements of this Order, the SWQMP, and any modifications to the SWQMP;

   b. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SWQMP applicable to such Permittee in an efficient and cost effective manner;

   c. Participate in intra-agency coordination (e.g. Public Works, Planning, Building, Fire Department, Code Enforcement, Public Health) necessary to successfully implement the provisions of this Order and the SWQMP.

   d. As part of the Annual Report and Annual Work Plan, the Permittees shall jointly prepare an annual fiscal analysis identifying the expenditures made during the Annual Report reporting period and projecting the planned future expenditures for the storm water management program. The analysis shall include a summary that identifies the storm water budget for both the previous year and estimates expenditures for the upcoming year using estimated percentages and written explanations where necessary, for the specific categories noted below:

      i. Program management (administrative costs)
      ii. SWQMP Development
         a) Construction Program
         b) Industrial and Commercial Program
         c) Municipal Operations Program
         d) Structural Controls
         e) Illicit Connection and Discharge Program
         f) Public Involvement and Education Program
         g) Planning and Land Development Program
         h) Performance and Effectiveness Evaluations
      iii. Storm Water Quality Monitoring Program
      iv. Training
      v. Other Services and Expenses

STORM WATER MANAGEMENT PROGRAM

2. The SWQMP is required as part of the application pursuant to 40 CFR 122.26(2)(d)(iv); therefore it is an integral and enforceable component of the MS4 Permit.

By **2 December 2013**, the Permittees shall modify the SWQMP to address the requirements of this Order, including but not limited to the Provisions below, and submit a revised SWQMP, 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 Permittees, literature review, or special studies conducted by other programs or dischargers. The SWQMP shall contain the rationale for any new or revised BMPs and 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 SWQMP shall include an implementation schedule containing identifiable milestones, detailed performance standards, and a proposed compliance monitoring and reporting program.

The performance standards shall be used as assessment tools to gauge the success of the program in achieving measurable benefits and improving water quality. The Permittees shall incorporate newly developed or updated BMPs and assessment tools/performance standards into applicable annual revisions to the SWQMP and adhere to implementation of the new/revised BMPs. The approved SWQMP shall serve as the framework for identification, assignment, and implementation of BMPs. The Permittees shall implement or require implementation of BMPs in the approved SWQMP to ensure that pollutant discharges from its MS4s are prevented or reduced to the MEP. The Permittees shall implement a SWQMP that contains the following components:

a. Program Management

   i. Annual Work Plan
   ii. Annual Reporting
   iii. Memorandums of Understanding
   iv. Departmental Coordination
   v. Training
   vi. Legal Authority
   vii. Fiscal Analysis

b. Programs

   i. Construction Program
   ii. Industrial and Commercial Program
   iii. Municipal Operations Program
   iv. Illicit Connection and Discharge Program
   v. Public Involvement and Education Program (Public Outreach)
   vi. Planning and Land Development Program
   vii. Storm Water Quality Monitoring Program

viii. Program Effectiveness Assessment and Reporting Program

PROGRAM MANAGEMENT

3. The Program Management component of the SWQMP shall involve ensuring that all elements of the SWQMP are implemented on schedule and all requirements of this Order are complied with.

SWQMP Implementation: Each Permittee shall continue to implement the current SWQMP until such time that the SWQMP has been modified to be consistent with this Order and approved by the Central Valley Water Board. Once approved, the Permittees shall implement the modified SWQMP consistent with the schedule specified within this Order. The SWQMP, 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.

SWQMP Modification: The Permittees' SWQMP may need to be modified, revised, or amended from time to time to respond to a change in conditions and to incorporate more effective approaches to pollutant control. Provisions of this Order require review and/or revision of the certain components of the Permittees' SWQMP. Proposed SWQMP revisions will be part of the annual review process and incorporated in the Annual Report. In addition, the Permittees shall revise their SWQMP to comply with regional or watershed-specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of TMDLs for impaired water bodies, and/or amendments to the Basin Plan when the amendments become effective. A 30-day public notice and comment period shall apply to all proposed significant revisions to the SWQMP. Significant SWQMP revisions shall be brought before the Central Valley Water Board for review and approval. Minor SWQMP revisions may be approved by the Executive Officer.

a. **Annual Work Plan:** The Permittees shall submit an Annual Work Plan as part of the Annual Report. The Annual Work Plan shall describe in detail the SWQMP's and the Permittees' proposed activities for the upcoming reporting year.

b. **Annual Report:** The Permittees shall submit an Annual Report by 1 September of each year beginning with the 2013-2014 reporting period. The Annual Report shall document the status of the SWQMP's and the Permittees' 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 SWQMP. The Annual Report shall include a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SWQMP and Annual Work Plan. Per 40 CFR 122.42(c), 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 Permittees may propose pertinent updates, improvements, or revisions to the SWQMP, which shall be complied with under this Order.

c. **Memorandums of Understanding:** The Permittees shall collaborate with each other to address common issues, promote consistency between SWQMP and Monitoring Programs, and to plan and coordinate activities required under this Order.

   i. The Permittees shall review and revise their existing MOUs to ensure that they provide for a management structure that addresses the items below, and submit the updated MOUs to the Central Valley Water Board by **2 June 2014**. The MOUs shall address the following:
      a) Designation of joint responsibilities;
      b) Decision making;
      c) Information management of data and reports, including the requirements under this Order; and
      d) Any and all other collaborative arrangements for compliance with this Order.

   ii. The Permittees shall jointly develop and/or update the standardized format(s) for all reports required under this Order (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Permittees and shall include protocols for electronic reporting, specifically data reporting.

f. **Departmental Coordination:** The Permittees shall identify all departments within their jurisdiction that conduct storm water pollution control related activities and their roles and responsibilities under this Order. The Annual Report shall include an up-to-date organizational chart identifying these departments and key personnel responsible for issuance of enforcement actions.

g. **Training:** The Permittees shall evaluate existing training protocols and submit a summary of how the protocols will be changed to meet the requirements of this Permit within the updated SWQMP.

h. **Legal Authority:** The Permittees shall review, revise, maintain, and enforce adequate legal authority to control pollutant discharges from the MS4 through ordinance, statute, permit, contract, or similar means.

i. This legal authority must, at a minimum, authorize the Permittees to:
   a) Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to the MS4. This requirement applies both to industrial and construction sites, which have coverage under the statewide general industrial or construction storm water permits, as well as to those sites that do not require permit coverage.
   b) Effectively prohibit identified illegal discharges into the MS4 (e.g., discharges of 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 to require compliance with the Permittees storm water ordinances, permits, contracts, or orders;
   f) Control the contribution of pollutants from one portion of the shared MS4s to another portion of the storm sewer system through interagency agreements among the Permittees (and other owners of the storm sewer system such as Caltrans);
   g) Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits, including the prohibition on illicit discharges to the MS4s;
   h) Require the use of BMPs to prevent or reduce the discharge of pollutants from MS4s to the MEP; and
   i) Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.

ii. Each Permittee shall amend its existing ordinances as needed, to enforce all the requirements of this Order by **2 June 2014** of the SWQMP. The ordinance(s) shall contain implementable and progressive enforcement procedures.

iii. Each Permittee shall provide to the Executive Officer by **1 December 2014** a statement certified by its chief legal counsel that it has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and this Order, including any modifications thereto in effect when the

certified statement is provided. This statement shall be included in Permittees' revised SWQMP(s) along with detailed descriptions of the following:

a) All urban runoff related ordinances adopted by the Permittees and appropriate citations thereof and the reasons they are enforceable;
b) The Permittee's Progressive Enforcement Policy and how it will be effectively implemented;
c) The local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and, therefore, with the conditions of this Order;
d) Descriptions of how these ordinances are implemented and how enforcement actions under these ordinances may be appealed; and
e) A description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

4. **Fiscal Analysis:** Each Permittee shall secure the resources necessary to meet the requirements of this Order and shall prepare an annual fiscal summary as part of the SWQMP Annual Report. The summary shall, for each fiscal year covered by this Order, identify the expenditures necessary to accomplish the activities of the SWQMP. The summary shall also 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.

SWQMP Programs

5. **Construction Program**

a. The objectives of the Construction Program shall be 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. Require review of construction plans and grading permits to ensure consistency with Permittee requirements;
iii. Require BMPs to control discharges sediment and pollutants from construction sites to the MS4;
iv. Maintain a tracking systems (inventory) of active construction sites;
v. Ensure inspections of construction sites to ensure proper BMP implementation and compliance with local requirements and applicable Provisions of this Order and follow-up inspections to bring inadequate sites into compliance;

vi. Bring forth enforcement actions for sites in violation of Permittee requirements and advise the Central Valley Water Board of potential violations of Construction General Permit requirements;
vii. Provide regular internal and external training on applicable components of the SWQMP and related Permits; and
viii. Conduct an assessment as a part of the annual reporting process to determine the effectiveness of the Construction Program element and identify any necessary modifications.

b. Each Permittee shall update its SWQMP to reduce pollutants in runoff from construction sites during all construction phases to the MEP. At a minimum, the Construction Program shall address the items above, as well as include the following control measures:

i. Source Identification,
ii. Threat to water quality prioritization,
iii. Progressive enforcement of non-compliant sites, and
iv. Reporting of recalcitrant non-compliant sites the Central Valley Water Board.

c. Each Permittee shall implement and enforce a program to control runoff from all construction sites subject to the NPDES General Construction Permit. The program shall ensure the following minimum requirements are effectively implemented at these construction sites:

i. Sediments generated on the project site shall be retained using adequate source control BMPs;
ii. Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage facilities, receiving waters, or adjacent properties by wind or runoff;
iii. Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site;
iv. Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs such as limiting grading during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes; and
v. Prior to issuance of a grading permit for a construction site, submittal to the permitting agency of an erosion and sediment control plan that contains, at a minimum, the following:
    a) If applicable to the site, a certification that a Notice of Intent to obtain coverage under the General Construction Permit 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) A description of the type and location of erosion and sediment control BMPs to be employed at the site, including but not limited to, limited grading during the wet season and planting and maintenance of vegetation on slopes, and
f) The name and telephone number of the qualified person responsible for implementing the Storm Water Pollution Prevention Plan (SWPPP).

vi. If applicable, all environmental permits must be obtained from agencies such as Department of Fish and Game, U.S. Army Corp of Engineers, and the Central Valley Water Board's 401 Water Quality Certification;
vii. The Permittees shall inspect construction sites within the MS4 Permit boundaries for compliance with local ordinances and SWQMP and to confirm the Construction General Permit required SWPPP documents are on site. Sites shall be reinspected at a frequency determined to be effective by the Permittees, based on the site's threat to water quality, and/or record of compliance until site completion and termination from coverage under the Construction General Permit. Sites in chronic noncompliance shall be reported to the Central Valley Water Board; and

d. On 14 September 2001, the Permittees submitted a Construction and Development Stormwater NPDES Assessment Checklist and a Grading Inspection Checklist to the Central Valley Water Board, as required by Provision D.10 in WDRs Order 5-01-048 (NPDES No. CA0083500). The checklist must be updated, and an updated copy included in the Annual Report.

6. **Industrial and Commercial Program**

a. The objectives of the Industrial and Commercial Program shall be 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 within the MS4's Permit boundary;

iii. Prioritize based on their threat to water quality the industrial and commercial facilities within the inventory;
iv. Inspect the industrial and commercial facilities that pose a significant threat to water quality at frequencies based on the inventory prioritization, and conduct follow-up inspections, as necessary, to bring non-compliant facilities into compliance;
v. Implement a progressive enforcement policy to ensure that adequate enforcement is conducted and coordinated with the Central Valley Water Board regarding targeted inspected facilities and referrals of potential non-filers;
vi. Provide for regular internal and external training on components of the SWQMP and related Permits; and
vii. Complete an assessment as part of the annual reporting process to determine the effectiveness of the Program Element and identify any necessary modifications.

b. Each Permittee shall update the Industrial/Commercial component of its SWQMP 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. At a minimum, the Permittees shall inventory restaurants, automotive service facilities, retail gasoline outlets, and industrial facilities that are not covered by the General Industrial Permit. The Permittees are required to inventory any additional facilities which may pose a threat to water quality.
ii. The Permittees must prioritize facilities into high, medium, and low categories on the basis of the potential for water quality impact using criteria such as pollutant sources on site, pollutants of concern, proximity to a water body, and violation history of the facility. The different priority categories can be assigned different inspection frequencies, with the highest priority facilities receiving more frequent inspections. The Permittees must describe the process for prioritizing inspections and frequency of inspections. High priority facilities must be inspected a minimum of once per year. If any geographical areas are to be targeted for inspections due to high potential for storm water pollution, these areas must be listed in the SWQMP. Further, the SWQMP must explain how the priority assigned to any one facility may be modified based on the site inspection findings and the facility's potential to discharge pollutants.
iii. Each Permittee shall require implementation of pollutant reduction and control measures at high priority industrial and commercial facilities per implementation of the approved model SWPPP or it's equivalent, with the objective of effectively prohibiting non-storm

water runoff and reducing pollutants in storm water runoff. 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, which can be applied before, during, and/or after pollution generating activities.

iv. Permittees must conduct inspections which at a minimum:
   a) Evaluate the facility's compliance with the requirement to select, design, install, and implement storm water control measures;
   b) Conduct a visual observation for evidence of unauthorized discharges, illicit connections, and potential discharge of pollutants to storm water;
   c) Verify whether the facility is required to be authorized under the General Industrial Permit, and whether the facility has in fact obtained such permit coverage; and
   d) Evaluate the facility's compliance with any other relevant local storm water requirements.

v. At a minimum, the Permittees must document the following for each inspection:
   a) The inspection date and time; the name(s) and signature(s) of the inspector(s);
   b) Weather information and a description of any discharges occurring at the time of the inspection;
   c) Any previously unidentified discharges of pollutants from the site;
   d) Any control measures needing maintenance or repairs;
   e) Any failed control measures that need replacement;
   f) Any incidents of noncompliance observed; and
   g) Any additional control measures needed to comply with the Permit requirements.

   Further, inspection findings must be tracked to ensure inspections are conducted at the frequency required and highlight and document the recidivism of noncompliant facilities, and aid follow up and enforcement activities;

vi. The Permittees must ensure that all necessary follow up and enforcement activities are conducted as necessary to require necessary implementation and maintenance of the control measures implemented by industrial/commercial facilities;

vii. The Permittees must ensure that all staff whose primary job duties are implementing the industrial storm water program is trained to conduct facility inspections. The training must cover what is required under this Permit in terms of storm water control measures, the requirements of other applicable industrial storm water general permits or other related local requirements, the Permittee's site inspection and documentation protocols, and enforcement procedures. Follow-up training must be provided

every other year to address changes in procedures, techniques, or staffing. Permittees must document and maintain records of the training provided and the staff trained; and

viii. The Permittees must conduct an assessment as a part of the Annual Report process to determine the effectiveness of the program and identify any necessary modifications.

7. **Municipal Operations Program**

a. The objectives of the Municipal Operations Program shall be to:

i. Prevent sanitary sewer overflows (SSO) or spills from entering the storm drain system and respond quickly and appropriately if an SSO or spill does enter the storm drain system;
ii. Participate in and implement the regional storm water basin system;
iii. Implement pollution prevention BMPs for public facilities (e.g., corporation yards) and facility pollution prevention plans (FPPPs) for public facilities to minimize or eliminate pollutant discharges to the storm drain system;
iv. Implement standard protocols for storage, usage, and disposal of pesticides, herbicides (including pre-emergents), and fertilizers on Permittee-owned property such as park sites, landscaped medians, and golf courses;
v. Promote the use of integrated pest management (IPM) methods and less toxic alternatives;
vi. Prioritize pump stations and siphons for cleaning based on accumulation of waste. Clean and maintain basin inlets when necessary to prevent debris accumulation and flooding;
vii. Ensure that basin inlets are properly stenciled, are permanently imprinted, or have legible curb markers to discourage illicit discharges into the storm drain system and promote a 24-hour reporting number;
viii. Maintain and inspect storm water basins and pump stations;
ix. Conduct street sweeping activities;
x. Clean and maintain Permittee-owned parking facilities to minimize the build-up and discharge of pollutants to the storm drain system;
xi. Provide regular internal training on applicable components of the SWQMP; and
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. Each Permittee shall update the Municipal Operations Program component in the SWQMP 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 Operations Program shall address the objectives listed above, as well as the following control measures:

i. Sanitary sewer overflow and spill response;
ii. Construction requirements for municipal capital improvement projects;
iii. Pollution prevention at Permittee facilities;
iv. Landscape and pest management;
v. Storm drain system maintenance;
vi. Street cleaning and maintenance;
vii. Parking facilities maintenance;
viii. Storm water basin construction and maintenance;
ix. Public industrial activities management;
x. Emergency procedures;
xi. Non-emergency fire fighting flows;
xii. Training; and
xiii. Effectiveness assessment.

8. **Illicit Connection and Discharge Program**

a. The objectives of the Illicit Connection Discharge Program shall be 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 connections through a variety of mechanisms including, but not limited to, public reporting, dry weather monitoring, and field crew inspections;
iii. Upon identification of an illegal connection, investigate and eliminate the connection through a variety of mechanisms including, but not limited to, permitting or plugging the connection;
iv. Upon identification of an illicit discharge, investigate the discharge and conduct any necessary follow up actions to mitigate the impacts of the discharge;
v. Conduct an assessment as a part of the annual reporting process; determine the effectiveness of the Program Element and identify any necessary modifications.

b. Each Permittee shall update the Illicit Connection and Discharge Program component of the SWQMP to actively seek and eliminate illicit discharges and connections. At a minimum, the Illicit Connection and Discharge Program shall address the objectives listed above and include the following control measures:

i. Detection of illicit connections and illicit discharges;
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.

9. **Public Involvement and Education Program (Public Outreach Program):**

a. Each Permittee shall implement a Public Outreach Program using all 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. The objectives of the Public Outreach Program shall be to:

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 phone number ;
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. Evaluate the ability to interface and coordinate with school education programs within the MS4 NPDES Permit boundaries;
v. Implement a business outreach program; and
vi. Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the program component and identify any necessary modifications.

b. Each Permittee shall update the Public Outreach Program component of its SWQMP to educate the public and encourage their participation in the implementation of the SWQMP. At a minimum, the Public Outreach Program shall address the objectives listed above and include the following control measures:

i. Public participation,
ii. Twenty-four hour reporting phone number,
iii. Public Outreach implementation,
iv. Public school education,
v. Business outreach, and
vi. Effectiveness assessment.

c. Each Permittee shall incorporate a mechanism for public participation in the implementation of the SWQMP (i.e., programs that engage the

public in cleaning up creeks, removal of litter in river embankments, stenciling of storm drains, etc.).

10. **Planning and Land Development Program:**

    a. The objectives of the Planning and Land Development Program shall be to:

        i. Incorporate water quality and watershed protection principles into the Permittee's policies and planning procedures by continuing to update the Storm Drainage and Flood Control Master Plan that covers the MS4 Permit boundaries to provide water quality and watershed protection through the implementation of a Regional Storm Water Basin System.
        ii. Ensure that all storm water basins are maintained to maximize infiltration rates.
        iii. Ensure that selected post-construction storm water controls will remain effective upon project completion by requiring maintenance agreements and by conducting periodic inspections for all priority development projects;
        iv. Provide a comprehensive review of development plans to ensure that all new and existing developments within the MS4 Permit boundaries are connected to the regional storm water basin system or have implemented equivalent temporary controls until the site is connected to the storm water basin system to minimize storm water quality impacts;
        v. Provide regular internal training on applicable components of the SWQMP; and
        vi. As a part of the annual reporting process, conduct an annual assessment to determine the effectiveness of the program element and identify any necessary modifications.

    b. Each Permittee shall update the Planning and Land Development Program component of the SWQMP 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 the following control measures:

        i. Implementation of the FMFCD Storm Drainage and Flood Control Master Plan;
        ii. Maintenance agreement and transfer where appropriate;
        iii. Training;
        iv. Update and implementation of post construction guidelines;
        v. Update of hydrology studies;
        vi. Study of storm water basin designs that improve storm water quality; and

vii. Effectiveness assessment.

11. **Water Quality Protection Principles** - In order to further reduce pollutants and runoff flows from new development and redevelopment beyond the criteria provided in the FMFCD Storm Drainage and Flood Control Master Plan, each Permittee shall encourage the following concepts:

    a. Minimization 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 concepts).

    b. Implementation of pollution prevention methods supplemented by pollutant source controls and treatment, and where practical, use of 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.

    c. Preservation, and where possible, creation or restoration of areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.

    d. Limiting disturbances of natural water bodies and natural drainage systems by development including roads, highways, and bridges.

    e. Identification and avoidance of development in areas that are particularly susceptible to erosion and sediment loss; or establishment of guidance that protects areas from erosion and sediment loss.

    f. Coordination with local traffic management programs to reduce pollutants associated with vehicles and increased traffic resulting from development.

    g. Implementation of source and structural controls as necessary and appropriate to protect downstream receiving water quality from increased pollutant loads and flows (hydromodification concepts) from new development and significant redevelopment.

    h. Control of the post-development peak storm water run-off discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat.

    i. Low Impact Development - New development and redevelopment projects shall consider integration of Low Impact Development (LID) principles into project design.

12. **Development Standards -** Permittees shall follow FMFCD development standards in accordance with the FMFCD Storm Drainage and Flood Control

Master Plan. Additionally, Permittees shall develop/revise **2 June 2014** Development Standards to address the following:

a. **Post Development Standards** - Each Permittee shall ensure that all new development and significant redevelopment projects falling under the Priority Development Project categories listed below and in Drainage Areas not discharging to storm water basins meet Development Standards. Development Standards shall apply to all Priority Development Projects or phases of Priority Development Projects.

b. **Priority Development Project Categories** – Development Standards shall apply to: (1) *significant* redevelopment; (2) home subdivisions of 10 housing units or more; (3) commercial developments great than 100,000 square feet; (4) automotive repair shops; (5) restaurants; (6) parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to urban runoff; (7) street and roads; and (8) 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 below applies only to the addition, and not the entire development.

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 and not discharging to a storm water basin to implement a combination of BMPs selected from the recommended BMP list, including at a minimum: (1) incorporation of LID principles where feasible, (2) source control BMPs and (3) structural treatment control BMPs.

d. **Numeric Sizing Criteria** – The Development Standards shall require structural treatment BMPs, including LID BMPs where feasible, 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 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 -** Each 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. **Pollutants and Activities of Concern** – As part of the Development Standards, each Permittee shall identify pollutants and/or activities of

concern for each new development or significant redevelopment project. The Permittees 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.

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

i. **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 for the Development Standards 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.

13. **Maintenance Agreement and Transfer -** Each Permittee shall require that all developments subject to 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. Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural Treatment Control BMPs.

14. **California Environmental Quality Act (CEQA) Document Update -** Each Permittee shall incorporate into its CEQA process, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

a. Potential impact of project construction on storm water runoff;

b. Potential impact of project post-construction activity on storm water runoff;

c. Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;

d. Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;

e. Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;

f. Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and

g. Potential for significant increases in erosion of the project site or surrounding areas.

15. **General Plan Update**

    a. FMFCD shall amend, revise, or update its Storm Drainage and Flood Control Master Plan to create drainage areas that encompass the Permittees' MS4 NPDES permit boundaries.

    b. FMFCD shall provide the Central Valley Water Board with the draft amendment or revision when its Storm Drainage and Flood Control Master Plan is amended to create new drainage areas that encompass the Co-Permittees General Plan within the NPDES permit area

16. **Planning Department Coordination, Enforcement, and Tracking**

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

    b. Each Permittee shall continue to follow its established process identified in its MOU with FMFCD that identifies when FMFCD – Storm Drainage and Flood Master Plan 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.

    c. Each Permittee shall develop and implement no later than **2 December 2013** 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 Address/Location.
            d) Project Acreage.
            e) Inspection Date and Summaries.
            f) Corrective Actions Taken.
            g) Date Certificate of Occupancy Issued.

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

18. **Outreach and Information for Developers** - Each Permittee, individually or in collaboration, shall develop and provide information to the development

community promoting water quality protection principles and LID designs for new development and redevelopment projects.

MONITORING PROGRAM

19. **Monitoring and Reporting Program**: The Permittees shall comply with Monitoring and Reporting Program No. R5-2013-0080, which is part of this Order, and any revisions thereto approved by the Board.

20. **Additional Studies:** The Permittees shall conduct any additional studies described herein, within the Monitoring and Reporting Program, or as described in the revised SWQMP, once approved by the Board.

21. **Program Effectiveness Assessment and Reporting Program**– By **2 December 2013** the Permittees shall submit a proposed Long Term Effectiveness (LTEA) strategy, which shall build on the results of the Permittees' Annual Reports and the initial program effectiveness assessments. The LTEA shall identify how the Permittees will conduct a more comprehensive effectiveness assessment of the storm water program as part of the SWQMP. The strategy shall identify key goals for the program and 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).

    a. The Permittees shall report program assessment results in the Annual Reports. The program assessments shall identify the direct and indirect measurements that the Permittees use 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 be 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 SWQMP accomplishments.

    b. The Permittees shall track the long-term progress of their SWQMP towards achieving improvements in receiving water quality.

    c. The Permittees shall use the information gained from the program effectiveness assessment to improve their SWQMPs and identify new BMPs, or modification of existing BMPs. This information shall be reported within the Annual Reports consistent with this Order.

ADDITIONAL REQUIREMENTS

22. 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 amendments to the Basin Plans approved by the State Water Board; c) to incorporate provisions as a result of new or amended statewide water quality control plans or policies adopted by the State Water Board, d) to incorporate changes due to State Water Board action regarding the precedential language of State Water Board Order WQ 99-05, (e) to replace the Monitoring and Reporting Program with regional monitoring requirements, or (f) 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.

23. Each Permittee shall comply with all applicable storm water-related items of the "Standard Provisions and Monitoring Requirements for Waste Discharge Requirements (NPDES)," dated February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."

24. Within one year of TMDL approval by the Office of Administrative Law, the Permittees shall submit to the Central Valley Water Board a Waste Load Allocation Plan for every TMDL that assigns the Permittee a wasteload allocation due to its MS4 discharges. Within 60 days of submitting the plan, the Permittees shall start implementing the plan. The Wasteload Allocation Attainment Plan(s) shall include, at a minimum, each of the components listed below, unless the Permittee provides justification for why specific components are in conflict with specific TMDL provisions.

    a. A detailed description of the Permittee's strategy for BMP selection, assessment, and implementation, to ensure that implemented BMPs will effectively abate pollutant sources, reduce pollutant discharges, and achieve wasteload allocations according to TMDL schedule.
    b. Identification of sources of the impairment within the Permit coverage area, including specific information on various source locations and their magnitude within the Permit coverage area.
    c. Prioritization of sources within the Permit coverage area, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.

d. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.
e. Prioritization of BMPs, based on expected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.
f. A detailed BMP implementation schedule. For each BMP, proposed milestones for tracking implementation, measurable goals that will use to assess implementation efforts and measures that will be used to assess BMP effectiveness. The Permittee shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.
g. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on published BMP pollutant removal performance estimates, best professional judgment, and other available tools, the Permittee's wasteload allocation according to the schedule identified in the TMDL
h. A detailed description, including a schedule, of the monitoring program the Permittees plans to implement or use to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the Permittee's wasteload allocation.
i. A description of how the Permittee will modify the plan to improve upon BMPs that the effectiveness assessment highlights as ineffective.
j. A detailed description of information the Permittee will include in Annual Reports to illustrate progress towards meeting wasteload allocations according to TMDL schedule.

25. This Order expires on **30 May 2018**. The Permittees must file a Report of Waste Discharge (RWD) in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for re-issuance of waste discharge requirements. U.S. EPA 40 CFR Part 122 *Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems* states the fourth year annual report may be used as the RWD reapplication package. The reapplication package must identify any proposed changes or improvement to the SWQMP, an assessment of the effectiveness of the program, and monitoring activities for the upcoming five year term of the Order, 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 31 May 2013.

Original signed by:

_____

PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-0080
NPDES PERMIT CA0083500

MONITORING AND REPORTING PROGRAM
FOR
FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, CITY OF FRESNO, CITY OF CLOVIS, COUNTY OF FRESNO, AND
CALIFORNIA STATE UNIVERSITY FRESNO
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
FRESNO COUNTY

I. MONITORING AND REPORTING PROGRAM REQUIREMENTS

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code Sections 13267.

The Permittees (Fresno Metropolitan Flood Control District (District), the City of Fresno, City of Clovis, and the County of Fresno urbanized areas, and California State University Fresno (CSUF)) shall not implement any changes to this MRP unless and until the Regional Water Board or Executive Officer issues a revised MRP. Attachment A shows the Fresno Urbanized Areas which are covered under this Order. To save time and money, and avoid duplication of efforts, the Permittees shall coordinate their monitoring program with local, state, and federal agencies whenever possible.

A. **Annual Work Plan:** By **1 September of each year**, the Permittees shall submit an Annual Work Plan with the Annual Report that supports the development, implementation, and effectiveness of the approved Storm Water Quality Management Plan (SWQMP) and Waste Discharge Requirements Order R5-2013-0080.

B. **Annual Report:** The Permittees shall submit, in both electronic and paper formats and no later than **1 September of each year** of each year, an Annual Report documenting the progress of the Permittees' implementation of the SWQMP and the requirements of Order No. R5-2013-0080. The Annual Report shall cover each fiscal year from **1 July through 30 June**. The status of compliance with permit requirements including implementation dates for all time-specific deadlines shall be described for each program area. If permit deadlines are not met, the Permittees shall report the reasons why the deadlines were not met and how they will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in the SWQMP and WDRs

Order R5-2013-0080 shall be included for each program area. Specific requirements that must be addressed in the Annual Reports are listed below.

1. An Executive Summary discussing the effectiveness of the SWQMP to reduce storm water pollution to the MEP and to achieve compliance with water quality objectives in receiving waters;.

2. A Summary of activities conducted by the Permittees;

3. Identification of BMPs and a discussion of their effectiveness at reducing urban runoff pollutants; and

4. A Summary of the monitoring data and an assessment of each component of the MRP. To comply with Provisions C.1 and C.2 of WDRs Order R5-2013-0080 the Permittees, shall compare receiving water and discharge data with applicable water quality standards. The lowest applicable standard from the Basin Plan, California Toxics Rule (CTR), and California Title 22 (Title 22), and constituent specific concentrations limits (e.g., mercury) shall be used for comparison. When the data indicate that discharges are causing or contributing to exceedances of applicable water quality standards or constituent specific concentrations limits, the Permittees shall prepare a Report of Water Quality Exceedance and identify potential sources of the problems, and recommend future monitoring and BMP implementation measures to identify and address the sources.

5. Raw data are required to be submitted in electronic format.

6. For each monitoring program requirement the Annual Reports shall include the following results and information:

    a. All physical, chemical and biological data collected in the assessment;
    b. All graphs, charts, statistical analysis, modeling, and any other analytical analyses in support of the Permittees' evaluation of the data and conclusions derived from that analysis; and
    c. Documentation of quality assurance and control procedures (QA/QC).

7. An effectiveness assessment for each program element, as defined in the SWQMP, shall be conducted annually, shall be built upon each consecutive year, and shall identify any necessary modifications. The SWQMP shall describe, in detail, the performance standards or goals to use to gauge the effectiveness of the storm water management

program. The primary questions that must be assessed for each program element include the following:

a. Level 1 Outcome: Was the Program Element implemented in accordance with the Permit Provisions, SWQMP Control Measures and Performance Standards?

b. Level 2 Outcome: Did the Program Element raise the target audience's awareness of an issue?

c. Level 3 Outcome: Did the Program Element change a target audience's behavior, resulting in the implementation of recommended BMPs?

d. Level 4 Outcome: Did the Program Element reduce the load of pollutants from the sources to the storm drain system?

e. Level 5 Outcome: Did the Program Element enhance or change the urban runoff and discharge quality?

f. Level 6 Outcome: Did the Program Element enhance or change receiving water quality?

8. A summary of any Reports of Water Quality Exceedance (RWQEs) that have been completed during the year, and a status update for those in progress. The summary shall include the conclusions and recommendations of completed RWQEs and the status of any additional BMP implementation pursuant to RWQEs;

9. Pursuant to 40 CFR 122.42(c)(7), the Permittees shall identify water quality improvements in, or degradation of, urban storm water;

10. An estimate of the amount of pollutant removal provided by the regional storm water management basin system.

11. For each monitoring component, photographs and maps of all monitoring station locations and descriptions of each location; and

12. Recommendations to improve the monitoring program, BMPs, Performance Standards, and the SWQMP to address potential receiving water quality exceedances and potential pollutant sources, and to meet the MEP standard.

C. Provide operating data from all FMFCD pump stations as an appendix in electronic format only to assist in calculating flow volumes, as applicable, or provide an equivalent means to calculate annual discharge flow volumes.

D. **Certification:** All work plans and reports submitted to the Regional Water Board shall be signed and certified pursuant to federal regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility, of a fine and imprisonment for knowing violations.

Executed on the ___ day of, 201__, at _____.

(Signature)_____(Title)_____";

The Permittees shall mail the original of each annual report to:

CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD – CENTRAL VALLEY REGION
1685 "E" Street, Suite 100
Fresno, CA 93706-2007

A copy of the annual report shall also be mailed to:

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY
REGION 9
75 Hawthorne Street
San Francisco, CA 94105

II. MONITORING PROGRAM

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

- Assessing compliance with this WDRs Order R5-2013-0080;
- Measuring and improving the effectiveness of the SWQMP;
- Assessing the chemical, physical, and biological impacts on receiving waters resulting from urban runoff;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

Ultimately, the results of the monitoring requirements outlined below shall be used to refine the SWQMP to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the Fresno Urbanized Area. The Monitoring Program consists of the following elements:

- Baseline Monitoring
  - o Receiving Water Monitoring

- Special Studies
  - o Canal Monitoring

The Permittees shall implement the Monitoring Program as follows:

Baseline Monitoring

A. Sampling Protocol

1. Samples from each receiving water and canal monitoring station described below shall be collected and analyzed following standard U.S. Environmental Protection Agency (U.S. EPA) protocol (40 CFR Part 136).

2. If a constituent is not detected at or above the method detection limit for its respective test method, as shown in Table 1, in the last 12 consecutive sampling events. The Permittees shall conduct confirmation sampling in the fourth year of the Permit for non-detected constituents during the first storm event monitored at each station.

3. Grab samples shall be used for receiving water monitoring.

4. The Permittees shall collect flow data at the time of sampling for all monitoring stations sampled during a given year. Receiving water or urban discharge flow may be estimated using U.S. EPA methods[1] at sites where flow measurement devices are not in place.

B. **Receiving Water Monitoring**

1. The Discharger shall continue to implement receiving water monitoring in accordance with the *Fresno-Clovis Metropolitan Storm Water Quality Management Program: Receiving Water Monitoring Plan* (6 January 1995) until it is updated and the update approved by the **Executive Officer**. The Permitee's are no longer required to monitor the receiving water for organochlorine pesticides, organophosphate pesticides and chlorinated herbicides. Additionally, the Permitees shall monitor each receiving water location for the following:

- Total Recoverable Mercury
- Total Recoverable and Dissolved Metals (As, Cd, Cr, Cu, Pb, Ni, Se, Ag, Zn)
- Ammonia
- Oil & Grease
- Total & Fecal Coliform
- E. coli and/or enterococcus[2]
- Cations (Al, Ba, B, K, Na)
- Chemical Oxygen Demand
- Anions (Chloride, Nitrate, Nitrite, Sulfate, Phosphate)
- Total phosphorus
- Hardness
- Total Kjeldahl Nitrogen
- Total Dissolved Solids

[1] NPDES Storm Water Sampling Guidance Document, U.S. EPA 833-B-92-001, July 1992

[2] Monitoring of E. coli and/or enterococcus shall begin following the update by the State Water Resources Control Board of its indicator bacteria water quality objectives, in accordance with any implementation schedule adopted with the update. If the update contains no implementation schedule, monitoring of E. coli and or enterococcus shall begin within 30 days of the final approval of the update.

- Total Organic Carbon
- Dissolved Organic Carbon
- Total Suspended Solids
- Polynuclear Aromatic Hydrocarbons

2. River monitoring sample stations shall be those described in *Standard Operating Procedures for the Fresno-Clovis Storm Water Quality Monitoring Program: River Monitoring* (Larry Walker Associates, 2011) until updated as described below.

3. The Permittees shall append the current monitoring database to include at minimum:
   a. Date of Sample (specify "first-flush")
   b. Constituent Name
   c. Minimum Limit
   d. Method Detection Limit
   e. Unit of Measure
   f. Test Method
   g. Water Quality Objective
   h. Water Quality Objective source and reference (e.g. CA Primary MCL, California Toxics Rule, Basin Plan, etc.)
   i. Water Quality Objective Exceedance (Y/N)
   j. Sampling Station ID No.

By 30 September 2013 the Discharger shall submit an update to the *Fresno-Clovis Metropolitan Storm Water Quality Management Program: Receiving Water Monitoring Plan* (Larry Walerk Associates, 1995) and the *Standard Operating Procedures for the Fresno-Clovis Storm Water Quality Monitoring Program: River Monitoring* (Larry Walker Associates, 2011) to assess changes that have occurred in the field of storm water monitoring and national policy and to reflect the above changes.

III. SPECIAL STUDIES

Canal Monitoring

By 30 September 2013, the Discharger shall submit an update of the *Fresno-Clovis Metropolitan Storm Water Quality Management Program: Receiving Water Monitoring Plan* that includes a plan for characterizing the discharges of pollutants discharge into the San Joaquin River via the Herndon Canal. This plan shall include, at a minimum, two monitoring locations: one at the point where the canal waters enter the NPDES permit area and one at least 100 feet downstream of the NPDES permit area on the Herndon Canal prior to discharge into the San Joaquin River. Further the plan shall

include a minimum of, if flow conditions exist, two annual wet weather sampling events for the first four years of the permit term at each monitoring location for the same pollutants which are currently sampled in the receiving water per II.C above and flow.

IV. STANDARD MONITORING PROVISIONS

All monitoring activities shall meet the following requirements:

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

Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

B. Monitoring and Records [40 CFR 122.41(j)(2)] [California Water Code §13383(a)]

The Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Water Board or U.S. EPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge.

C. Monitoring and Records [40 CFR 122.41(j)(3)]. Records of monitoring information shall include:

1. Date, location, and time of sampling or measurements;
2. Individual(s) who performed the sampling or measurements;
3. Date analyses were performed;
4. Individual(s) who performed the analyses;
5. The analytical techniques or methods used; and
6. Results of such analyses.

D. Monitoring and Records [40 CFR 122.41(j)(4)]

All sampling, sample preservation, and analyses must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this Order.

E. Monitoring and Records [40 CFR 122.41(j)(5)]

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by both.

F. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by an appropriate governmental regulatory agency.

G. For priority toxic pollutants that are identified in the CTR (65 Fed. Reg. 31682), the MLs published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California 2005 (SIP) shall be used for all analyses, unless otherwise specified. Appendix 4 of the SIP is included as Table 1. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Table 1 shall be used for all analyses, and the ML for these parameters shall be lower than or equal to the lowest applicable water quality criteria from the Basin Plan and/or the SIP.

H. The Annual Monitoring Report shall specify the analytical method used, the MDL and the ML for each pollutant. For the purpose of reporting compliance with numerical limitations, performance goals, and receiving water limitations, analytical data shall be reported with one of the following methods, as appropriate:

1. An actual numerical value for sample results greater than or equal to the ML;

2. "Not-detected (ND)" for sample results less than the laboratory's MDL with the MDL indicated for the analytical method used; or

3. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML. The estimated chemical concentration of the sample shall also be reported. This is the concentration that results from the confirmed detection of the substance by the analytical method below the ML value.
4. For priority toxic pollutants, if the Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and

processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Permittee must submit documentation from the laboratory to the Central Valley Water Board Executive Officer for approval prior to raising the ML for any constituent.

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

If the Permittees monitor any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Annual Report.

J. Monitoring Reports [40 CFR 122.41(l)(4)(iii)]

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

K. If no flow occurred during the reporting period, the Monitoring Report shall so state.

L. The Executive Officer or the Central Valley Water Board, consistent with 40 CFR 122.41, may approve changes to the Monitoring Program, after providing the opportunity for public comment, either:

1. By petition of the Permittees or by petition of interested parties after the submittal of the Annual Report. Such petition shall be filed not later than 60 days after the Annual Report submittal date, or

2. As deemed necessary by the Executive Officer following notice to the Permittees.

Original signed by:

Ordered by _____

PAMELA C. CREEDON, Executive Officer

31 May 2013

_____

Date

Attachment: Table 1

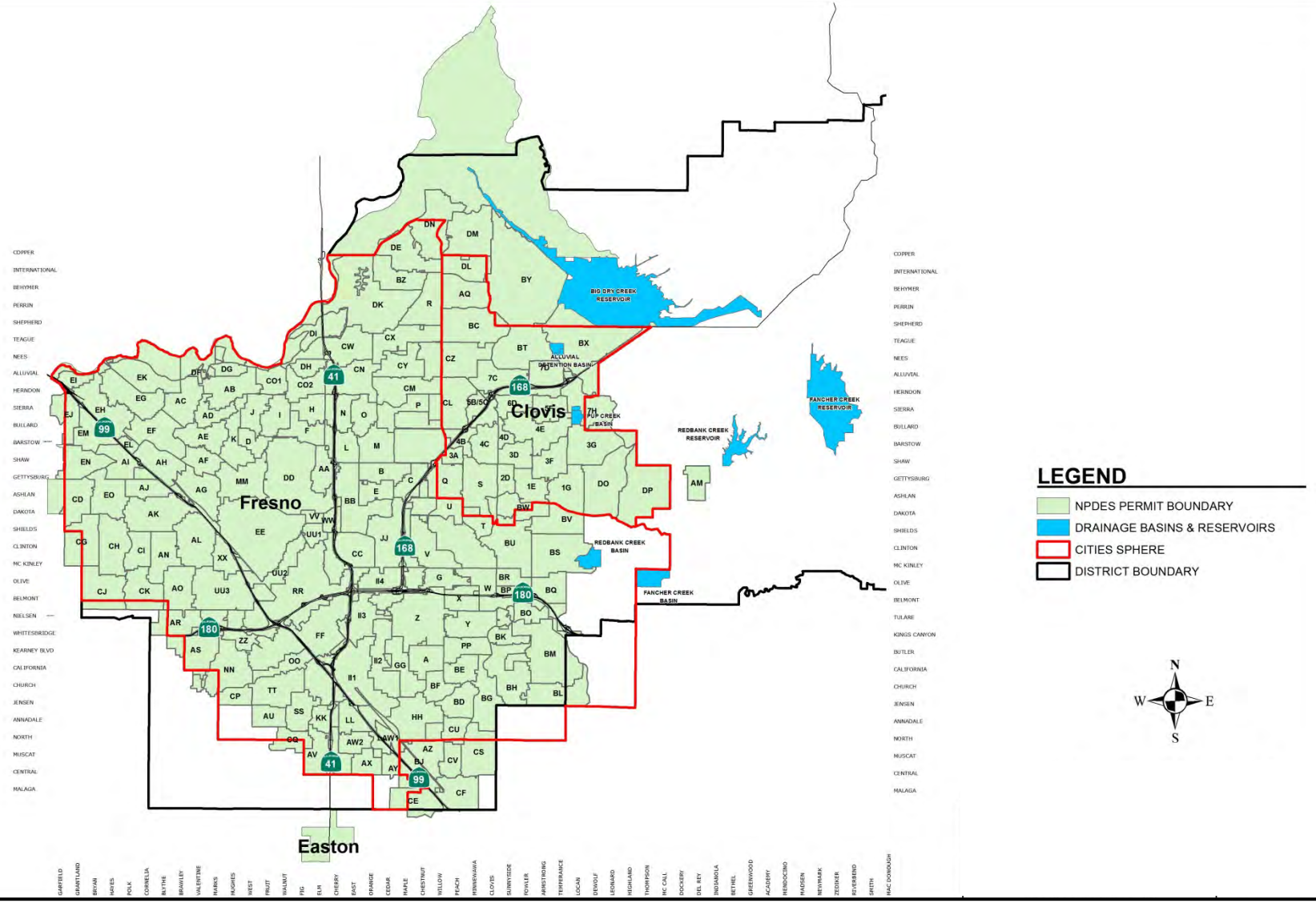
TABLE 1

LIST OF CONSTITUENTS AND THEIR ANALYTICAL LIMITS
ORDER R5-2013-0080
Fresno Metropolitan Flood Control District, Fresno County, Cities of Fresno And Clovis, And California State University Fresno
Municipal Separate Storm Sewer System

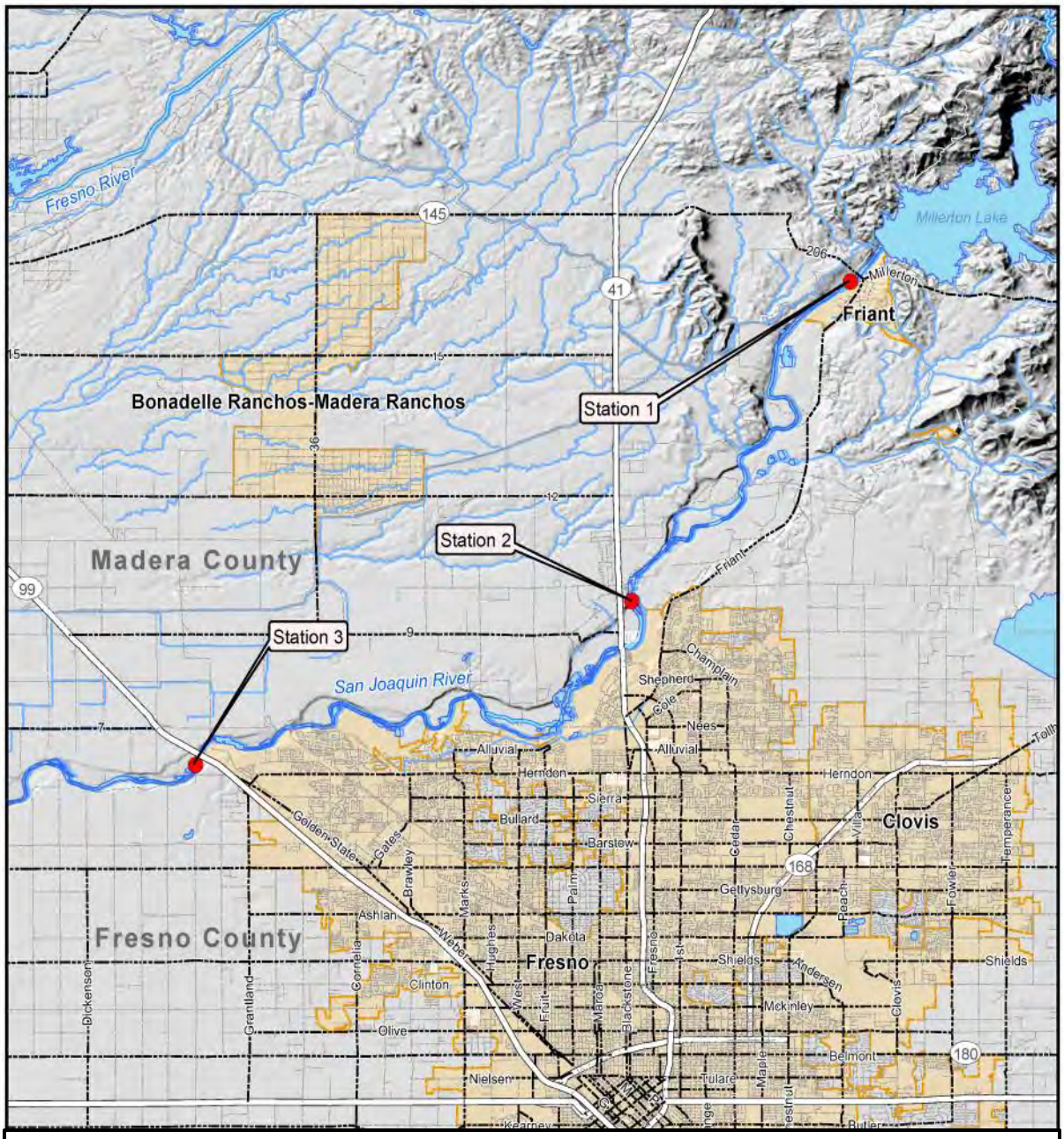
CONSTITUENTS	RLs[1]
CONVENTIONAL POLLUTANTS	**mg/L**
Oil and Grease	5
pH	0 - 14
Dissolved Oxygen	Sensitivity to 5 mg/L
FIELD MEASUREMENTS	
Date	mm/dd/yyyy
Sample Time	hr:min (regular time)
Weather	degrees F
Water Temperature	degrees C
BACTERIA	
Fecal coliform	<20 mpn/100ml
Total coliform	<20 mpn/100ml
GENERAL	**mg/L**
Turbidity	0.1 NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Total Organic Carbon	1
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Kjeldahl Nitrogen	0.1
Alkalinity	2
Total Ammonia as Nitrogen	0.1
Nitrate-Nitrite as Nitrogen	0.1

[1] For Priority Pollutants, the Reporting Levels (RLs) shall be equal to or less than the most stringent applicable criterion. If the lowest Minimum Level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) is not below the most stringent applicable criterion, the RL shall be equal to the lowest ML.

Total Phosphorus	0.05
Specific Conductance	1 umho/cm
Total Hardness	2
METALS	**µg/L**
Arsenic	2
Aluminum, Dissolved	50
Aluminum, Total	50
Cadmium	0.25
Chromium	0.5
Copper, Dissolved	0.5
Copper, Total	0.5
Iron, Total	100
Lead, Dissolved	0.5
Lead, Total	0.5
Mercury	0.5 ng/L
Nickel	1
Selenium	2
Zinc	1



ATTACHMENT A
PERMIT AREA
ORDER R5-2013-0080, NPDES PERMIT CA0083500
FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, FRESNO COUNTY,
CITIES OF FRESNO AND CLOVIS, AND
CALIFORNIA STATE UNIVERSITY FRESNO
MUNICIPAL SEPARATE STORM SEWER SYSTEM
FRESNO COUNTY



ATTACHMENT B
ORDER R5-2013-0080

Sampling Location

N

NPDES PERMIT CA0083500
FRESNO METROPOLITAN FLOOD CONTROL DISTRICT,
FRESNO COUNTY,
CITIES OF FRESNO AND CLOVIS, AND
CALIFORNIA STATE UNIVERSITY FRESNO
MUNICIPAL SEPARATE STORM SEWER SYSTEM
FRESNO COUNTY

ATTACHMENT C
ORDER R5-2013-0080
NPDES PERMIT CA0083500
FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, FRESNO COUNTY, CITIES OF FRESNO AND CLOVIS, AND CALIFORNIA STATE UNIVERSITY FRESNO
MUNICIPAL SEPARATE STORM SEWER SYSTEM
FRESNO COUNTY

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

Anti-degradation Policy means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16), which protects surface and ground waters from degradation. In particular, this policy protects water bodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

Applicable Standards and Limitations means all state, interstate, and federal standards and limitations to which a discharge or a related activity is subject under the Clean Water Act (CWA), including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, and pretreatment standards under CWA Sections 301, 302, 303, 304, 306, 307, 308, 403 and 404.

Authorized Discharge means any discharge that is authorized pursuant to a National Pollutant Discharge Elimination System (NPDES) permit or meets the conditions set forth in this Order.

Automotive Service Facilities means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539.

Basin Plan means either the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin, Fourth Edition (Revised October 2011) or the Water Quality Control Plan for the Tulare Lake Basin, Second Edition (Revised January 2004).*

Best Management Practices (BMPs) means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technologies (BCT) or Best Practicable Treatment or Control (BPTC): is a requirement of State Water Resources Control Board Resolution 68-16 - "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (referred to as the "Antidegradation Policy"). BPTC is the treatment or control of a discharge necessary to assure that, "(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained." Pollution is defined in CWC Section 13050(l). In general, an exceedance of a water quality objective in the Basin Plan constitutes "pollution".

Commercial Development means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls, business complexes, shopping malls, hotels, office buildings, public warehouses, and light industrial complexes.

Construction means clearing, grading, excavating, etc. that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

Control means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

Dechlorinated/Debrominated Swimming Pool Discharge means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

Development means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Director means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

Discharge means when used without qualification the discharge of a pollutant.

Discharger means any agency named in this Order as being responsible for permit conditions within its jurisdiction.

Discharging Directly means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.
Discharge of a Pollutant means any addition of any pollutant or combination of pollutants to waters of the State or waters of the United States from any point source or, any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the State and waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Disturbed Area means an area that is altered as a result of clearing, grading, and/or excavation.

Environmentally Sensitive Area (ESA) means an area defined by the California Department of Fish and Game (DFG), Environmentally Sensitive Areas Program, as an area that contains an important example of California's biological diversity. The most current ESA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

a. Areas supporting extremely rare species or habitats;
b. Areas supporting associations or concentrations of rare species or habitats; and
c. Areas exhibiting the best examples of rare species and habitats in the state.

General Construction Permit means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

General Industrial Permit means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

Hydromodification – means the change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and

groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive stream bank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Illicit Connection means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

Illicit Discharge means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in **Discharge Prohibitions** of this Order, and discharges authorized by the Regional Board.

Illicit Disposal means any disposal, either intentionally or unintentionally, of materials or wastes that can pollute storm water.

Industrial/Commercial Facility means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and nonprofessional services. This category of facilities includes, but is not limited to, any facility defined by the SIC Code. Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Infiltration means the downward entry of water into the surface of the soil.

Inspection means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

a. Pre-inspection documentation research;
b. Request for entry;
c. Interview of facility personnel;
d. Facility walk-through.
e. Visual observation of the condition of facility premises;
f. Examination and copying of records as required;
g. Sample collection if necessary or required;
h. Exit conference to discuss preliminary evaluation; and,
i. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Discharger may conduct an inspection from the curbside, provided that such curbside inspection provides the Discharger with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order and the SWMP.

Local SWPPP means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

Low Impact Development (LID) – A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Maximum Extent Practicable (MEP) – The technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that operators of MS4s must meet. Technologybased standards establish the level of pollutant reductions that dischargers must achieve; typically by treatment or by a combination of source control and treatment control BMPs. MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time:
Municipalities propose their definition of MEP by way of their storm water quality management programs (SWQMP). The Dischargers' total collective and individual activities conducted pursuant to the storm water management programs (SWQMP) becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for MS4 maintenance). In the absence of a proposal acceptable to the Central Valley Water Board, the Central Valley Water Board defines MEP. In a memo dated February 11, 1993, entitled *"Definition of Maximum Extent Practicable,"* Elizabeth Jennings, Senior Staff Counsel, SWRCB addressed the achievement of the MEP standard as follows:

> "*To achieve the MEP standard, municipalities must employ whatever Best Management Practices (BMPs) are technically feasible (i.e., are likely to be effective) and are not cost prohibitive. The major emphasis is on technical feasibility. Reducing pollutants to the MEP means choosing effective BMPs, and rejecting applicable BMPs only where other effective BMPs will serve the same purpose, or the BMPs would not be technically feasible, or the cost would be prohibitive. In selecting BMPs to achieve the MEP standard, the following factors may be useful to consider:*
>
> *a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?*

b. Regulatory Compliance: Is the BMP in compliance with storm water regulations as well as other environmental regulations?
c. Public Acceptance: Does the BMP have public support?
d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented."

Method Detection Limit (MDL) means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

Minimum Level (ML) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Municipal Separate Storm Sewer System (MS4) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to waters of the State and/or waters of the United States.

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

Natural Drainage Systems means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

New Development means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

Non-Storm Water Discharge means any discharge to a storm drain that is not composed entirely of storm water.

Nuisance means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Parking Lot means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

Pollutants means those substances defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

Potable Water Distribution Systems Releases means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

Project means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

Rain Event means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

Receiving Waters means all surface water bodies in the Central Valley Region that are identified in the Basin Plan.

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

Redevelopment means land-disturbing activity that result in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Regional Administrator means the Regional Administrator of the Regional Office of the U.S. Environmental Protection Agency (EPA) or the authorized representative of the Regional Administrator.

Reporting Level (RL)

The RL is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the RL depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied in the computation of the RL.

Restaurant means a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC Code 5812).

Retail Gasoline Outlet means any facility engaged in selling gasoline and lubricating oils.

Runoff means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface.

Screening means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

Sidewalk Rinsing means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallon per square foot, with no cleaning agents, and properly disposing of all debris collected.

Site means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

Source Control BMP means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

State Storm Water Pollution Prevention Plan (State SWPPP) means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-storm water discharges and reduce pollutants in storm water discharges during activities covered by the General Permit.

Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage.

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

Structural BMP means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

SUSMP or Development Standards means Standard Urban Stormwater Mitigation Plans. They are standards which the Discharger must develop and implement for new development and significant redevelopment projects to control the discharge of storm water pollutants in post construction storm water.

Total Maximum Daily Load (TMDL) means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

Treatment means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

Treatment Control BMP means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

U.S. EPA Phase I Facilities means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N); manufacturing facilities; oil and gas/mining facilities; hazardous waste treatment, storage, or disposal facilities; landfills, land application sites, and open dumps; recycling facilities; steam electric power generating facilities; transportation facilities sewage of wastewater treatment works; and light manufacturing facilities.

Vehicle Maintenance/Material Storage Facilities/Corporation Yards means any Permittee owned or operated facility or portion thereof that conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities; performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling; performs maintenance and/or repair of heavy industrial machinery/equipment ; and stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control, and Countermeasures (SPCC) plan.

Water Quality Standards and Water Quality Objectives means water quality criteria contained in the Basin Plan, the National Toxics Rule, the California Toxics Rule, and other State or federally approved surface water quality plans. Such plans are used by the Central Valley Water Board to regulate all discharges, including storm water discharges.

Waters of the State means any surface water or groundwater, including saline waters, within boundaries of the State.

Waters of the United States means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate wetlands;
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3. Which are used or could be used for industrial purposes by industries in interstate commerce;
d. All impoundments of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
f. The territorial sea; and
g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with U.S. EPA.

Wet Season means the calendar period beginning October 1 through April 15.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-0080

NPDES NO. CA0083500

FACT SHEET
FOR
FRESNO METROPOLITAN FLOOD CONTROL DISTRICT, CITY OF FRESNO,
CITY OF CLOVIS, COUNTY OF FRESNO, AND
CALIFORNIA STATE UNIVERSITY FRESNO
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
FRESNO COUNTY

I. PURPOSE

The Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will be considering renewal of the Waste Discharge Requirements Order/National Pollutant Discharge Elimination System (NPDES) Permit (Order) that regulates discharges from the Municipal Separate Storm Sewer System (MS4) that serves the cities of Fresno and Clovis, the County of Fresno, and California State University Fresno. The MS4 is owned and operated by the Fresno Metropolitan Flood Control District (District). All are hereafter referred to as Permittees. This Fact Sheet provides the Permittees and interested persons an overview of the proposed permit and the basis for the Permit requirements.

The proposed Order specifies requirements necessary for the Permittees to reduce the discharge of pollutants in urban runoff to the maximum extent practicable (MEP). Since compliance with the MEP standard is an iterative process, the Permittees' storm water programs must continually be assessed and modified as urban runoff management knowledge increases, to incorporate improved programs, control measures, best management practices (BMPs), etc., in order to achieve the MEP standard. This continual assessment, revision, and improvement of storm water management program implementation are expected to maintain compliance with water quality standards.

II. THE NEED TO REGULATE STORM WATER DISCHARGES

The National Urban Runoff Program (NURP) Study [U.S. Environmental Protection Agency (U.S. EPA) 1983] and several subsequent studies have shown that MS4 discharges draining from residential, commercial, and light industrial areas contain significant loadings of pollutants. Although the NURP Study did not cover industrial sites, the study suggests that runoff from industrial sites may have significantly

higher contaminant levels than runoff from other urban land use sites. Several studies tend to support this observation. For example, in Fresno, a NURP project site, industrial areas had the poorest storm water quality of the four land uses evaluated. The NURP Study also finds that pollutant levels from illicit discharges are high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.

The National Water Quality Inventory Reports to Congress [305(b) Report][1] prepared by the U.S. EPA indicate that storm water runoff and urban runoff remain one of the top ten causes of water quality impairments in rivers, lakes, and estuaries.

According to the NURP Study, if not properly controlled and managed, urbanization can result in the discharge of pollutants in urban runoff. "America's Clean Water-The States' Nonpoint Source Assessment, 1985" and the Biennial National Water Quality Inventory Reports to Congress cite urban runoff as a major source of beneficial use impairment. Urban area runoff may contain[2] elevated levels of pathogens (e.g., bacteria, protozoa, viruses), sediment, trash, fertilizers (nutrients, compounds of nitrogen and phosphorus), pesticides, heavy metals (e.g., cadmium, chromium, copper, lead, zinc), and petroleum products (e.g., oil, grease, petroleum hydrocarbons, polycyclic aromatic hydrocarbons). Urban runoff can carry these pollutants to rivers, streams, lakes, bays and the ocean. In addition, increased flows due to urbanization may increase erosion of stream banks and channels and cause stream channel alterations and impact aquatic resources.

III. BENEFITS OF PERMIT PROGRAM IMPLEMENTATION

Implementation of BMPs should reduce pollutant discharges from the municipal storm water system and improve surface water quality. The expected benefits of implementing the provisions of the MS4 NPDES permit include:

1. **Enhanced Aesthetic Value**: Storm water may affect the appearance and quality of a water body, and the desirability of working, living, traveling, or owning property near that water body. Reducing storm water pollution makes the benefits of these these water bodies more desirable.

2. **Enhanced Opportunities for Boating:** Reducing storm water runoff may, in turn, reduce the loading of sediment and/or other pollutants which could

[1] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 2004 Report to Congress* - U.S. EPA EPA 841-R-08-001 - June 2009.
[2] Makepeace, D.K., D.W. Smith, and S.J. Stanley. 1995. Urban stormwater quality: summary of contaminant data. Critical Reviews in Environmental Science and Technology 25(2):93-139.

adversely impact water clarity. By protecting the water clarity, the program enhances the boating experience.

3. **Enhanced Commercial Fishing:** Protecting commercial fishing is important because commercial fisheries are a significant part of the nation's economy, and 28% of the estuaries in the 305(b) report were impacted by storm water/urban runoff.

4. **Enhanced Recreational and Subsistence Fishing**: Pollutants in storm water can adversely impact the numbers, or size, of sport fish and shell fish in receiving waters. Reducing pollutant concentrations is storm water can reverse these impacts.

5. **Reduced Flood Damage**: Storm water runoff controls may mitigate the potential for flood damage by incorporating controls to address the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.

6. **Reduced Illness from Consuming Contaminated Fish**: Storm water controls may reduce the presence of pollutants in fish caught by recreational anglers.

7. **Reduced Illness from Swimming in Contaminated Water**: Epidemiological studies indicate that swimmers exposed to water with high bacteria levels, which are often associated with storm drain outfalls, are more likely to experience illness than those who swim farther away from storm drain outfalls.

8. **Enhanced Opportunities for Non-contact Recreation**: Storm water controls reduce turbidity, odors, floating trash, and other pollutants, which then allow waters to be used as focal point for recreation, and enhance the experience of the users.

9. **Drinking Water Benefits:** Pollutants from storm water runoff, such as solids, toxic pollutants, and bacteria may pose additional costs for drinking water treatment.

10. **Water Storage Benefits**: The heavy load of solids deposited by storm water runoff can lead to rapid sedimentation of reservoirs and the loss of water storage capacity.

11. **Improved Habitat Benefits:** Storm water can have significant impacts to habitat and aquatic life. Storm water controls can minimize impacts to creek corridors and the wildlife depended upon them.

IV. **STATUTORY AND REGULATORY CONSIDERATIONS**

The 1972 amendments to the federal Clean Water Act (CWA) prohibit the discharge of any pollutant to waters of the U.S. from a point source, unless a NPDES permit authorizes the discharge. The U.S. Congress amended the CWA in 1987, requiring the U.S. EPA to create phased NPDES requirements for storm water discharges.

In response to the 1987 Amendments to the CWA, the U.S. EPA developed Phase I of the NPDES Storm Water Program in 1990. Phase I requires NPDES permits for storm water discharges from: (i) "medium" and "large" MS4s generally serving, or located in incorporated places or counties with populations of 100,000 or more people; and (ii) eleven categories of industrial activity (including construction activity that disturbs one acre or greater of land).

Phase II, adopted in December 1999 and became effective in March 2003, requires operators of small MS4s and small construction sites (construction activity disturbing greater than or equal to 1 acre of land or less than 1 acre if part of a larger common plan of development or sale) in urban areas to control storm water runoff discharges. Phase II establishes a cost-effective approach for reducing environmental harm caused by storm water discharges from previously unregulated small MS4s.

CWA Section 402(p)(3)(B) specifically requires that permits for discharges from MS4s must: (1) effectively prohibit the discharges of non-storm water to the MS4; and (2) require controls to reduce pollutants in discharges from MS4s to the MEP including best management practices, control techniques, system design and engineering methods, and such other provisions determined to be appropriate. Compliance with water quality standards is to be achieved over time, through an iterative approach requiring improved BMPs.

CWA Section 402(p)(3)(B)(ii) requires that permits for discharges from municipal storm sewers “shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers.” The Central Valley Water Board’s *Water Quality Control Plan Sacramento River Basin and Joaquin River Basin, Fourth Edition (Basin Plan), Revised October 2011(with Approved Amendments)* also prohibits the discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050.

Pursuant to the CWA, the U.S. EPA promulgated the MS4 Permit application regulations set forth in 40 CFR 122.26(d). These federal regulations describe in detail the permit application requirements for MS4s operators. Federal regulations

at 40 CFR 122.26(d)(2)(iv)(B) also require MS4 operators, "to detect and remove illicit discharges and improper disposal into the storm sewer." Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Permittees shall prevent all types of illicit discharges into the MS4 except for certain, specified non-storm water discharges.

This Permit requires the implementation of a comprehensive SWQMP through a selection of BMPs [40 CFR 122.44(k)] as the mechanism for achieving the reduction of pollutants in storm water to the MEP [CWA Section 402(p)(3)(B)(iii)]. The information in the permit application (commonly called a Report of Waste Discharge) and the existing SWQMP was utilized to develop the Permit conditions.

No numeric effluent limitations are proposed at this time. In accordance with 40 CFR 122.44(k), the U.S. EPA has required a series of increasingly more effective BMPs[3], in the form of a comprehensive SWQMP, in lieu of numeric limitations.[4]

Additionally, on 14 November 2003, the California Superior Court ruled; "Water quality-based effluent limitations are not required for municipal Stormwater discharges [33 USC §1342(p)(3)(B)] and [40 CFR §122.44(k)(3)]. For municipal stormwater discharges, the Permits must contain best management practices (BMPs), which reduce pollutants to the maximum extent practicable [33 USC §1342(p)(3)(B)]. These permits do contain these through the Stormwater Management Plan which is incorporated into the Permits by reference." (*San Francisco Baykeeper vs. Regional Water Quality Control Board, San Francisco Bay Region,* Case No. 500527, 14 November 2003).

Subsequently, the State Water Resources Control Board (SWRCB) convened a Storm Water Panel (Blue Ribbon Panel) of experts to address the issue of numeric effluent limits.[5] The study, finalized in June 2006, also concludes that it is not feasible at this time to set enforceable numeric effluent limits for storm water and non-storm water discharges from MS4s.

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[3] *Interpretative Policy Memorandum on Reapplication Requirements* of MS4s issued by U.S. EPA (61 Fed. Reg. 41697)

[4] *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits* (61 Fed. Reg. 43761)

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

V. **FRESNO METROPOLITAN AREA MS4**

The Fresno Metropolitan Flood Control District (District) owns and operates a flood control/storm water management system that serves the City of Fresno, the City of Clovis, parts of Fresno County, and the California State University at Fresno (CSUF). The City of Fresno is defined as a medium municipality (population greater than 100,000) in the 40 CFR 122.26 (b)(4). As such, the City must obtain an NPDES municipal storm water permit for the area under its jurisdiction. Although the population of the City is currently greater than a "medium sized municipality," it was defined as such in Appendix G to 40 CFR Part 122. The County of Fresno (hereafter County) contains urbanized areas and areas of potential growth, which are within the limits of the District, the cities of Fresno and Clovis, or adjacent to the Cities. CSUF is within Fresno City limits and discharges to the District MS4. The District, Cities, CSUF and County (Permittees) are currently regulated by Waste Discharge Requirements Order 5-01-048, NPDES No. CA0083500, adopted on 16 March 2001.

The areas subject to this Permit include the areas within the sphere of influence of the City of Fresno, the sphere of influence of the City of Clovis, CSUF, all local planned urban drainage areas defined in the Fresno Metropolitan Flood Control District *Storm Drainage and Flood Control Master Plan*, and the community of Easton. This area will be referred to as the Fresno-Clovis Urbanized Area. Attachment A shows the permit coverage boundary.

There are portions within the Fresno-Clovis Urbanized Area that are mainly agricultural, rural, and open space lands. It is not the intent of the federal storm water regulations to regulate storm water discharges from land uses of these types. Therefore, these areas are exempt from the requirements of this Order unless they are a point source discharge to the Permittees' conveyance system. Discharges from these sources may be subject to TMDL allocations and control programs.

Storm Drain System

The Permittees have jurisdiction over and/or maintenance responsibilities for storm drainage system in the Fresno-Clovis Urbanized Area. The District MS4 system includes approximately 158 drainage areas with all but five (5) of these areas discharging to/through regional retention or detention basins. These are referred to hereafter as storm water basins or simply basins.

1. The 153 drainage areas that discharge to/through basins include the following:

a. Six drainage areas that discharge to the San Joaquin River upon release from storm water basins.
b. Thirty-nine drainage areas that discharge to basins with relief lines to canals.
c. The remainder of the drainage areas discharge to other storm water basins or percolate runoff into the groundwater aquifer.

2. The five drainage areas that do not contain a storm water basin include the following:
   a. Three drainage areas discharge directly to surface water through a pumping station to an irrigation canal.
   b. Two drainage areas drain by gravity to the San Joaquin River without benefit of any basin storage.

Approximately 90 percent of the average annual storm water runoff is retained in District storm water basins. Urban storm water runoff not recharged by the storm water basins is discharged to canals of the Tulare Lake Basin. The majority of the canals are unlined and percolate much of their contents to groundwater. Many of the canals eventually flow into the Herndon Canal or Dry Creek Canal. The Herndon Canal eventually can spill into the San Joaquin River outside the MS4 permit area. The Dry Creek Canal is hydraulically connected to the James Bypass, which flows to the Fresno Slough. All of these surface waters are considered waters of the United States.

Conjunctive Use

Many District basins are operated in the dry season as multiple use facilities including parks and recreation facilities (e.g. baseball/softball fields). Other basins are used to intentionally percolate excess surface water obtained from the San Joaquin and Kings rivers into the underlying aquifer to enhance the local drinking water supply.

Audits

In 2005, a U.S. EPA contractor (Tetra Tech, Inc.), on behalf of the Central Valley Water Board, audited three of the Permittees (City of Fresno, City of Clovis, and Fresno Metropolitan Flood Control District) to determine compliance with Waste Discharge Requirements Order 5-01-048, NPDES No. CA0083500, and to evaluate the Permittees' implementation with the SWQMP. During the 2005 audit, the contractor described the most significant issues as: (1) the District lacked an appropriate enforcement mechanism to address issues of continuous non-compliance, (2) the City of Fresno did not require erosion and sediment control BMPs on grading plans and did not review storm water pollution prevention plans for

private developments, and (3) the City of Clovis did not obtain coverage under the State Water Resources Control Board Construction General Permit. The Permitees responded by letter dated 23 September 2005. Regarding Item 1, the District noted that it did not have any facilities in continuous non-compliance, but committed to reviewing its enforcement and response procedures. Regarding Item 2, the City of Fresno responded that the Development Department grading plan check requires review of BMPs of an Erosion and Sediment Control Plan. The City committed to attach this plan to grading plans. Regarding Item 3, the City obtained the required permit coverage; the project was originally under the one acre threshold for coverage, but went over during construction.

U.S. EPA audited the construction component of the District's SWQMP in November of 2009 (the other copermittees were not evaluated at this time). The auditors found that the District was not ensuring compliance with the Construction General Permit (i.e. adequate implementation of BMPs on individual construction projects inspected during the audit) as required by Provisions D.12 and D.13 of the District's MS4 Permit. The District's response provides for increased enforcement activity, regional training on the new Construction General Permit requirements, a commitment to re-writing the District's Construction Management Guidelines and an expanded inspection programs including increased site inspections, joint City-District inspections and follow up enforcement inspections.

This Order requires review of the Permitee's Enforcement Response Plan, Memorandums of Understanding, roles and responsibilities, and Legal Authorities.

VI. **ANTIDEGRADATION**

State Water Resources Control Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") (Antidegradation Policy) requires the Central Valley Water Board to ensure that high quality of waters of the State are maintained unless it makes certain findings. Under this policy, water quality degradation may only be allowed if the following conditions are met: 1) any change in water quality must be consistent with maximum benefit to the people of the State; 2) the change will not unreasonably affect present and anticipated beneficial uses; 3) the change will not result in water quality less than prescribed in the Basin Plan; and 4) the discharge is required to meet waste discharge requirements that result in the best practicable treatment or control necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the state will be maintained.

The Permitees submitted an Antidegradation Analysis in October 2008[6]. The Antidegradation Analysis assesses the impacts of urban discharges from the Fresno-Clovis Urbanized Area. As described in more detail below, to determine whether its discharges from its MS4 impact the San Joaquin River, the District conducts dry weather and wet weather monitoring of the River both upstream of the MS4 influence on the River and immediatly downstream of the Fresno-Metropolitan Area. This monitoring has been ongoing since 1996. The Antidegradation Analysis summarizes the in-system monitoring program conducted between 1998 and 2005[7], and confirms that the basins remove a variety of pollutants including metals, nutrients, pesticides, and PAHs.

The communities covered by this Permit have continued to develop since adoption of the previous permit. The Antidegradation Analysis concludes that storm water runoff emanating from new urban development projected to occur in the Fresno-Clovis Urbanized Area during the subsequent five years will generally produce minor changes in loadings and concentrations of the seven pollutants of concern evaluated. The pollutants evaluated include: copper, lead, zinc, aluminum, diazinon, PAHs, and pathogens. The constituents were selected based on a screening process that compared basin influent and effluent, and receiving water data to State water quality objectives[8].

As part of its Monitoring and Reporting Program, the District also monitors three receiving water stations on the San Joaquin River. Stations 1 and 2 are upstream of inputs from the District's MS4. Station 3 is downstream of the MS4. Based on the monitoring data, available at the time, the Antidegradation Analysis concludes that there is no significant difference in concentrations of pollutants of concern within the receiving water between the uppermost sampling station (Station 1) and the downstream-most sampling station (Station 3). It also concludes that because future development will be required to implement the same level of water quality protection as the current program requires for existing development, the anticipated incremental growth over the this permit term is not excepted to cause impairments of receiving waters.

The Analysis notes that two of the drainage areas which discharge to the San Joaquin River are not served by basins; however, it contends that any degradation resulting from any untreated discharge is temporary in nature, occurring only during

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[6] *Antidegradation Analysis Renewal of Fresno-Clovis Metropolitan Area MS4 Permit,* October 2008, Larry Walker and Associates.
[7] Larry Walker Associates, 1998, 2001 and 2006.
[8] *Task 7041-6 (Part 1): Basin Stormwater Data Summary and Evaluation of Constituents of Concern (COCs),* April 2004, Aquatus Environmental.

storms from the drainage areas with no basins or during storms large enough to exceed the capacity of the basins.

The Permittess reevaluate both dry weather and wet weather San Joaquin River monitoring results each year and submit the analyses in their Annual Reports. Subsequent to the Antidegradation Analysis, the Permitees began using a different statistical methods to analyze monitoring data. These new analyses indicate that apparent increases between upstream (Stations 1 and 2) and downstream (Station 3) concentrations of dissolved lead and copper and PAH samples are statistically significant. The 2008/2009 Annual Report[9] evaluates river monitoring data collected since 1996 and reports that apparent increases in dissolved copper and lead concentrations at Station 3 are statistically significant, but that the magnitude of the concentrations is small relative to the data variability. The 2008-2009 Annual Report notes that none of the downstream copper data exceeded water quality objectives. Dissolved lead concentrations are reported to infrequently exceed hardness corrected California Toxics Rule (CTR) criteria at all sites. Napthalene, the most detected PAH with a water quality objective, was not found to have significant station-to-station differences. The 2009 -2010 Annual Report and the 2010-2012 Annual Report make similar conclusions, but note that downstream dissolved lead concentrations have not exceeded CTR criteria since 2007.

Analysis of the specific dissolved lead sampling events, which include 34 wet weather sampling events, shows the last wet weather exceedence of the CTR criteria for dissolved lead at the downstream monitoring location, Station 3, occurred in 2001. In 2007, the upstream Station 1 sample exceeded the CTR criteria for lead, but the downstream Station 3 complied with the water quality objective.

The wet weather data indicates that discharges from the MS4 to the San Joaquin River may be causing some minor degradation of the quality of water in the River, but that any degradation is of limited spatial extent, temporal in nature, and does not cause exceedences of applicable water quality objectives.

Dry weather monitoring data associated with 18 sampling events indicates that station monitoring data for dissolved lead exceeded the CTR chronic criteria on three dates: (1) 30 July 1996, (2) 3 October 2006, and (3) 18 September 2007. For the 1996 and 2007 events, the downstream Station 3 concentrations of dissolved lead were less than those from upstream Station 1. For the 2006 event, the

[9] *Fresno –Clovis Stormwater Quality Monitoring Program 2008-2009 Annual Report, Larry Walker Associates.*

upstream Station 1 sample exceeded the criteria while the downstream Station 3 sample did not.

The Antidegradation Analysis submitted by the Permitees and the monitoring data collected to date indicate that discharges from the MS4 may cause some degradation with respect to particular pollutants in the San Joaquin River. However, the magnitude of the degradation is small and does not cause exceedences of applicable water quality objectives.

Other conclusions documented in the Annual Reports follow:

1. Upstream and downstream monitoring indicates that the San Joaquin River is high quality with low or undetectable concentrations of dissolved metals, pathogens, TSS, pesticides, and nutrients.
2. Station to station differences were not statistically significant for naphthalene, the most detected PAH.
3. Pathogen indicators exhibit slight variability between stations. Inputs from non-urban runoff could explain the variability.
4. Chlorinated herbicides have not been detected above reporting limits at any of the River monitoring stations.
5. No organochlorine or organophosphate pesticides were detected above reporting limits at any of the monitoring stations.

Regarding groundwater, the Permitees percolate 90% of the storm water that falls within the MS4. The City of Fresno operates over 260 groundwater wells that supply its residents with drinking water. To date, there is no evidence that storm water that percolates to underlying groundwater has degraded groundwater. There is some anecdotal evidence that storm water and excess surface water percolated in District basins is improving the quality of groundwater polluted by salts associated with industrial activities.

Discharges from the MS4 associated with continued urban development may result in some minimal degradation of waters of the State and navigable waters of the United States, but in this case, such degradation is consistent with the maximum benefit to the people of the state. Limited degradation that does not cause exceedances of water quality objectives is warranted to allow for the economic benefit stemming from local growth. There is also a need in Fresno-Clovis Urbanized Area to accommodate growth. The Central Valley Water Board does not have the jurisdiction to control growth in the Fresno-Clovis Urbanized Area, but is required to assure that the receiving waters are adequately protected as a result of urban discharges. The proposed Order allows storm water utility service necessary to accommodate housing and economic expansion in the area, and is considered to

be a benefit to the people of the State. Compliance with these requirements will result in the reduction of discharge pollutants from the urban areas to the MEP. Reducing pollutants in the discharge to MEP will result in an insignificant impact on existing water quality.

Receiving Water Limitations

Receiving Water Limitations are retained from previous MS4 permits. They reflect applicable water quality standards from the Basin Plan.

Impaired Water Bodies on the CWA 303(d) List

Section 303(d) of the CWA requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. U.S. EPA approved the State's 2010 Integrated Report, including the 303(d) list of impaired water bodies, on 11 October 2011. The San Joaquin River from Friant Dam to Mendota Pool is listed for invasive species, source unknown. The Fresno Slough is listed for pesticides and unknown toxicity, source agriculture.

Total Maximum Daily Loads (TMDLs)

For all 303(d)-listed water bodies and pollutants, the Central Valley Water Board plans to develop and adopt Total Maximum Daily Loads (TMDLs) that will specify waste load allocations (WLAs) for point sources and load allocations (LAs) for non-point sources, as appropriate. No TMDLs currently apply to receiving waters within the Fresno-Clovis Metropolitan Area; however, should the U.S. EPA or the Regional Water Board develop applicable TMDLs, this permit may be reopened to impose additional conditions that require additional control measures.

VII. STORM WATER QUALITY MANAGEMENT PROGRAM ELEMENTS

40 CFR 122.26(d)(2)(iv)) provides that, "A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program."

The Permittees submitted a SWQMP on 16 September 2005 describing the framework for management of storm water discharges during the term of this permit.

The overall goals of the Permittees' SWQMP are to a) reduce the degradation of waters of the State and Waters of the United States (U.S.) by urban runoff and protect their beneficial uses, and b) develop and implement an effective SWQMP that is well understood and broadly supported by regional stakeholders. The SWQMP and modifications or revisions to the SWQMP that are approved in accordance with this proposed permit, are an integral and enforceable component of the permit.

The Permittees are required to modify and/or update the existing SWQMP, as necessary, to address the requirements of the following program components and submit to the Central Valley Water Board for review:

Program Management
- Annual Work Planning
- Annual Reporting
- Memorandums of Understanding
- Departmental Coordination
- Training
- Legal Authority
- Fiscal Analysis

Programs
- Construction Program
- Industrial and Commercial Program
- Municipal Operations Program
- Illicit Connection and Discharge Program
- Public Involvement and Education Program (Public Outreach)
- Planning and Land Development Program
- Storm Water Quality Monitoring Program
- Program Effectiveness Assessment and Reporting Program

The SWMP will be subject to a 30-day public comment/review period, prior to consideration by the Central Valley Water Board. The program components and the corresponding proposed permit requirements under those elements are discussed below.

Program Management

This permit requires submission of an Annual Work. The Annual Work Plan will describe the Permittees' proposed activities for the upcoming fiscal year.

Pursuant to 40 CFR 122.42(c), this permit also requires submission of an Annual Report by 1 September of each year. The Annual Report will document the

Discharger's status of implementing the SWQMP, proposed changes to the SWQMP programs, a summary of data accumulated throughout the year, documentation of the fiscal analysis discussed below, a summary of the number and nature of enforcement actions taken throughout the year, inspections conducted, and public education programs; identify water quality improvements or degradation, and identify the Permittees' status relative to the activities proposed in the previous year's Annual Work Plan. The Annual Report shall also include a program effectiveness assessment and recommended modifications for each Program Element listed above. Each Annual Report shall build upon the previous year's efforts using and identifying BMPs to the MEP. The Annual Report shall include a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SWQMP and Annual Work Plan.

The Permittees are required to coordinate in order to ensure that all of the requirements outlined in this Order and the SWQMP are implemented. To this end, the Permittee's are required to review and revise their existing memoranda of understanding (MOUs) to ensure that they provide a suitable management structure and outline the roles and responsibilities for each Permittee. The MOUs will be submitted to the Central Valley Water Board for review. The permit also requires the Permitees to identify all departments that control storm water pollution control regulated activities and their roles and responsibilities under this Order. This information will be presented on an organizational chart submitted with the Annual Report.

The Program Management component of the SWQMP requires the Permittees to evaluate existing training protocols and describe descriptions of how the protocols will be changed to meet the requirements of the updated Permit.

Each Permitee shall prepare an annual fiscal summary as part of the SWQMP Annual Report. This summary shall identify the expenditures necessary to accomplish the activities of the SWQMP and include a description of the source(s) of funds.

This Permit requires the Permitees to conduct an evaluation of their existing ordinances to determine whether they provide the authority needed to enforce all requirements of this Permit, including progressive enforcement. Pursuant to 40 CFR 126.26(d)(2)(i), at minimum, the ordinances must enable the Permitees to:

1. Control the contributions of pollutants associated with industrial activity, including construction activities, to the MS4,
2. Prohibit illicit discharges to the MS4,

3. Control spills, dumping, or disposal of materials other than storm water to the MS4.
4. Control through interagency agreements the contribution of pollutants from one portion of the MS4 to another,
5. Require compliance with conditions in ordinances, permits, contracts and orders,
6. Carry out inspection, surveillance, and monitoring to determine compliance or noncompliance with all Permit conditions.

The Permitess must then provide a statement certified by their chief legal counsel that their ordinances provide adequate legal authority to enforce the requirements of 40 CFR 122.26(d)(2)(i)(A-F).

Construction Program

40 CFR 122.26(d)(i) requires the Permittees to implement a program to control the contributions of pollutants to the MS4 from storm water discharges associated with industrial activities. Construction sites of five acres or more are considered industrial activities. For smaller sites, 40 CFR 122.26 (d) (iv) (D), also requires a program to implement and maintain structural and non-structural best management practices at construction sites. This Permit requires each Permitee update its SWQMP to reduce pollutants in runoff from construction sites during all construction phases to the MEP. At a minimum, the Construction Program shall ensure the following:

1. Identification of all active and inactive construction sites within their jurisdictions,
2. Prioritization of each site based on its threat to water quality,
3. And reporting to the Central Valley Water Board of non-compliant sites.

Additionally, this Permit requires each Permittee to implement and enforce a program to control runoff from all construction sites subject to the State's *NPDES, General Permit For Storm Water Discharges Associated With Construction And Land Disturbance Activities Order No. 2009-0009-DWQ, NPDES No. CAS000002* (General Construction Permit). The program must ensure that

1. Sediments are retained on-site by adequate source control BMPs; Construction-related materials, wastes, spills, or residues are retained at the project site,
2. Non-storm water runoff from equipment and vehicle washing and any other activity is contained on-site,
3. Erosion from slopes and channels is controlled by effective BMPs
4. Erosion and sediment control plans are secured prior to issuance of a grading permits,

5. All other environmental permits are obtained from agencies such as Department of Fish and Game, U.S. Army Corp of Engineers, and the Central Valley Water Board,
6. Construction sites within the MS4 permit boundaries are inspected for compliance with local ordinances and to confirm the Construction General Permit required SWPPP documents are on site, and
7. Sites in chronic noncompliance shall be reported to the Central Valley Water Board.

On 14 September 2001, the Permittees submitted a Construction and Development Storm Water NPDES Assessment Checklist and a Grading Inspection Checklist to the Central Valley Water Board, as required by Provision D.10 in WDRs Order 5-01-048 (NPDES No. CA0083500). This permit requires the Permittees to update the checklist and include a copy in the Annual Report.

Industrial and Commercial Program

40 CFR 122.26(d)(2)(iv)(C) requires "A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

1. Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;
2. Describe a monitoring program for storm water discharges associated with industrial facilities […]"

Industrial awareness of the program may not be complete; there may be facilities within the MS4 area that should have coverage under the State Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001
WDRS For Discharges Of Storm Water Associated With Industrial Activities, Excluding Construction Activities (General Industrial Permit) but do not (non-filers). The Permittees shall continue to implement an industrial and commercial inspection and enforcement program to control the contribution of pollutants from industrial and commercial sites to the MS4.

In the preamble to the 1990 regulations, the U.S. EPA states its intended strategy for discharges of storm water associated with industrial activity:

"Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system." The U.S. EPA also notes in the preamble *"municipalities will be required to meet the terms of their permits related to industrial dischargers*."

The U.S. EPA's Guidance Manual[10] (Chapter 3.0) specifies that MS4 applicants must demonstrate that they possess adequate legal authority to:

Control industrial discharges to the MS4s;
Prohibit illicit discharges and control spills and dumping;
Carry out inspection, surveillance, and monitoring procedures.

The document goes on to explain that *"control"*, in this context means not only to require disclosure of information, but also to *limit, discourage, or terminate* a storm water discharge to the MS4. Further, to satisfy its permit conditions, a municipality may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from industrial facilities *not* required to obtain permits.

In the same Guidance Manual (Chapter 6.3.3), states that the municipality is ultimately responsible for discharges from its MS4. Consequently, the MS4 applicant must describe how the municipality will help the U.S. EPA and authorized NPDES States to:

Identify priority industries discharging to their systems;
Review and evaluate storm water pollution prevention plans (SWPPPs) and other procedures that industrial facilities must develop under general or individual permits;
Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
Inspect and monitor industrial facilities discharging storm water to the municipal systems to ensure these facilities are in compliance with their NPDES storm water permit, if required.

[10] *Guidance Manual For the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* - U.S. EPA -November 1992

Consistent with federal regulations and the above described guidance, this Permit requires the Permittees to:

1. Review and update, if necessary, existing ordinances/standards/specifications to ensure they provide sufficient legal authority to implement the Industrial and Commercial Program,
2. Inventory and inspect industrial/commercial facilities within their jurisdiction and determine their compliance with local codes and ordinances, and
3. Coordinate with the State regarding the implementation of General Industrial Permit.

The goal is to control industrial and commercial sources identified as significant contributors of pollutants. The result should be a coordinated program with greater impact on limiting and eliminating (as a final goal) the contribution of pollutants to the receiving water. To achieve this goal, the Permittees to will be required to control the storm water discharges associated with industrial activities and other commercial facilities identified as significant contributors of pollutants; and assist the Regional Water Board in implementing the General Industrial Permit. The strategy, as outlined in this Permit, builds on the State/Permittee partnership by focusing their limited resources on the following activities:

> The Permittees will take a lead role in inspecting industrial and commercial facilities including, restaurants and automotive service facilities;
> The Regional Water Board will be the lead agency for inspections of facilities covered or in need of coverage under Industrial General Permit;
> The Permittees will assist the Regional Water Board in its activities to fully enforce the General Industrial Permit through spot check inspections, referrals, and/or joint inspections; and
> The Regional Water Board and Permittees will coordinate their information systems and task scheduling to avoid duplication and strengthen their inspections activities.

The Permit requires the Permittees to ensure that minimum control measures are implemented, as applicable, at the industrial/commercial facilities included in its inventory. As applicable, the controls required by the Permittees shall be consistent with the State's General Industrial Permit.

Municipal Operations Program

Federal regulations [40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5, and 6)] require that each Permittee must develop a program to reduce the discharge of pollutants from the MS4 to the MEP for all urban land uses and activities, including municipal areas and activities.

This Permit requires each Permittee to update and continue to implement a Municipal Operations Program in its SWQMP 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. This includes the development of standard operating procedures (SOPs) for:

1. Inspecting and maintaining drainage facilities, storm water basins, and pump stations;
2. Preventing sanitary sewer overflows (SSO) or spills from entering the storm drain system and responding quickly and appropriately if an SSO or spill does enter the storm drain system;
3. Implementing pollution prevention BMPs for public facilities (e.g., corporation yards) and facility pollution prevention plans (FPPPs) for public facilities to minimize or eliminate pollutant discharges to the storm drain system;
4. Implementing construction requirements for municipal capital improvement projects;
5. Implementing standard protocols for storage, usage, and disposal of pesticides, herbicides (including pre-emergents), and fertilizers on Permittee-owned property such as park sites, landscaped medians, and golf courses;
6. Promotion of the use of integrated pest management (IPM) methods and less toxic alternatives;
7. Ensuring that basin inlets are properly stenciled, are permanently imprinted, or have legible curb markers to discourage illicit discharges into the storm drain system;
8. Promoting a 24-hour reporting number;
9. Conducting street sweeping activities;
10. Cleaning and maintaining Permittee-owned parking facilities to minimize the build-up and discharge of pollutants to the storm drain system;
11. Developing requirements that address non-emergency firefighting flows;
12. Providing regular internal training on applicable components of the SWQMP; and;
13. Conducting an assessment as a part of the annual reporting process to determine the effectiveness of the program element and identify any necessary modifications

Illicit Connection and Discharge Program

Federal regulations [40 CFR 122.26(d)(2)(iv)(B)] state that the Permittees must implement a management program to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the MS4.

During dry weather, much of the discharge to storm drain systems consists of non-storm water sources. A portion of such discharges may be from illicit discharges or connections, or both. Illicit discharges may occur either through direct connections, such as deliberate or mistaken piping, or through indirect connections, such as dumping, spillage, subsurface infiltration, and washdown.

Consistent with 40 CFR 122.26(d)(2)(iv)(B), this Permit requires each Permittee to update, as needed, and continue to implement an Illicit Discharge Detection and Elimination Program component of the SWQMP to actively seek and eliminate illicit connections and illegal discharges to the MEP. This program must provide for:

1. On-going inspections and field screening activities,
2. Procedures to be followed to investigate portions of the MS4 to isolate suspected discharges,
3. Enforcement of an ordinance or similar instrument to remove the illicit connection or compel cessation of the illegal dumping activities,
4. Implementation of appropriate spill response measures to keep spills out of the MS4 and remediate them when they enter the MS4,
5. Implementation of measures to promote, publicize, and facilitate public reporting of illicit discharges and illegal discharges to the MS4 and their potential water quality impacts.

Public Involvement and Education Program (Public Outreach Program)

Federal regulations [40 CFR 122.26(d)(2)(iv)(A)(6)] requires that the Permittee's management program include, "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewer system associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities." These regulations [40 CFR 122.26(d)(2)(iv)(B)(6)] also provide that the proposed management program include, "A description of education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

To satisfy the Public Outreach Program requirement, the Permittees need to: (i) implement a program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local water bodies and the steps that can be taken to reduce storm water pollution; and (ii) determine the appropriate BMPs and measurable goals for this control measure.

Implementation of a Public Outreach Program is a critical BMP and a necessary component of a storm water management program. The State Board Technical Advisory Committee recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems. Furthermore, the public can provide valuable input and assistance to a municipal storm water management program and should play an active role in the development and implementation of the program. An active and involved community is essential to the success of a storm water management program.

This Permit requires the Permittees to continue their Public Outreach Program. The Permit also requires coordination between the Permittees to ensure they implement the most efficient and effective program possible. The next step in this targeted outreach program is education of specific businesses to facilitate employee compliance. Therefore, the proposed permit requires the Permittees to examine the implementation of a business outreach program to educate management and employees at prioritized businesses about storm water regulations.

The Public Outreach Program shall use all 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.

The Permit requires each Permittee to update and continue to implement the Public Outreach Component of its SWQMP to educate the public and encourage their participation in the implementation of the SWQMP to the MEP. In addition, each Permittee will be required to continue to incorporate a mechanism for public participation in the implementation of the SWQMP (i.e., programs that engage the public in cleaning up creeks, removal of litter in river embankments, stenciling of storm drains, etc.).

Planning and Land Development Program

40 CFR 122.26 (d) (2) (iv) requires the Permittees program to include a comprehensive planning process to reduce the discharge of pollutants to the MEP using management practices, control techniques and system design, and design and engineering methods. The program must describe structural and source control measures.

On 5 October 2000, the State Water Board adopted Order WQ 2000-11[11] concerning the use of Standard Urban Storm Water Mitigation Plans (SUSMPs) in municipal storm water permits for new developments and significant redevelopments by the private sector. The precedent setting decision largely sustained the Regional Water Quality Control Board, Los Angeles Region, SUSMPs. The State Water Board amended the SUSMP to limit its application to discretionary projects, as defined by California Environmental Quality Act (CEQA), eliminated the category for projects in environmentally sensitive areas, and set aside the requirement for retail gasoline outlets to treat storm water until a threshold is developed in the future. In addition, the State Water Board articulated its support for regional solutions and mitigation banking. 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, this permit must be consistent with applicable portions of the State Water Board's decision and include SUSMPs.

Several of the MS4 permits for areas around the State contain or have given consideration to Standard Urban Storm Water Mitigation Plans (SUSMPs), also referred to as Development Standards, for specific categories of new development and redevelopment. As described in the preceding paragraph, the State Board has found that the provisions in the SUSMPs constitute MEP. Also incorporated into more recent MS4 permits, including Waste Discharge Requirements Order R4-2012-0175 (NPDES Permit CAS004001) for the Coastal Watersheds of Los Angeles County, as MEP are design requirements for Low Impact Development (LID). LID is a methodology that uses various on-site best management practices (e.g., green roofs, permeable pavers, rain barrels, etc.) to optimize the percolation and treatment of storm water before it runs off-site. The focus of LID is percolating or reusing storm water. In general, project proponents have to comply with LID requirements or SUSMP requirements such that runoff controls ensure that capture and treatment methodologies are sized to treat runoff associated with the 85th percentile, 24-hour storm prior to discharge to surface waters. The 85th percentile 24-hour storm for the Fresno Metropolitan Area is 0.49 inches of rainfall.

As described above, and in the document titled, *Continuation of Fresno-Clovis MS4 Permit Finding of Exceeding SUSMPs for New Development and Redevelopment*, submitted on 27 October 2008, the MS4 system covered by this Permit is composed of and will continue to be composed of regional, structural detention/retention facilities, which capture runoff from all urban land uses. A major objective of the Permitees is to percolate as much rainfall as possible into the aquifer that underlies

[11] State Water Board Order WQ 2000-11: SUSMP; Memorandum from Chief Counsel to Regional Board Executive Officers, (December 26, 2000) discusses statewide policy implications of the decision.

the Fresno Metropolitan Area to replenish the drinking water supply and slow the decline of the groundwater table. As a result of its design, and as described below, the MS4 system provides a substantially broader coverage than that of current LID and SUSMP requirements.

The District Storm Drainage and Flood Control Master Plan proposes to maintain approximately 153 storm water basins that currently exist in the permit area, to design drainage areas for future development so that 100 percent of the storm water will flow to or through storm water retention or detention basins, and to continue to construct basins in drainage areas included in the Master Plan.

Since 1982, the District storm water management system has been designed to ensure 100 percent of all storm water runoff generated in new and redevelopment projects is routed to or through retention or detention basins. The storm water basins are designed and operated to significantly outperform both LID and SUSUMP requirements. The District designs its storm water basins to store 7 inches of rain. By comparison, LID and SUSMPs require capture of the 85th percentile storm, or 0.49 inches of rain in the Fresno area. Thus, the average District basin holds 14 times the volume of storm water captured by a basin designed to the 85th percentile storm. The District maintains enough reserve storage capacity in storm water management basins to capture the maximum recorded 48-hour rain event (3.38 inches of rain), which exceeds the storage volume of the 85th percentile storm event by a factor of 4-6. The basins are also largely interconnected so flow from smaller basins can often be transferred to larger basins with more capacity to minimize flooding and maximize percolation. Both the District's design and operational standards exceed the numeric sizing criteria listed in LID and SUSMP standards for current MS4 permits in the Central Valley and Southern California and constitute MEP.

Estimates in the District's 1985 Basin Hydrologic Study show that during an average year, the MS4 retains 90% of the urban runoff from the permit area in storm water basins located throughout the permit area. Another 8% of the urban runoff is discharged to the San Joaquin River or canals after being detained in storm water basins. The remaining 2% is discharged directly to the San Joaquin River or canals

The District conducted in-system water quality monitoring from 1996 through 2005 to determine and evaluate the pollutant removal capabilities of three storm water detention basins (Basins C, V and EK). The results of the monitoring effort confirm that the basins reduce the mass load discharge of TSS, metals, nutrients, pesticides and PAHs. Specifically, Basin EK exceeded 80 percent load retention for aluminum, TSS, total Kjeldahl nitrogen, chlorpyrifos, and fluoranthene. The average load retention for total recoverable metals from EK was a 67.4 percent. Basins V and C

had statistically significant reductions for 19 pollutants including several PAHs, TSS, copper, lead and zinc.

The above indicates that the individual requirements imposed by the SUSMPs on specific categories of development would create a non-productive duplication of effort. In addition, many of the BMPs included in the SUSMPs are already addressed in the Discharger's SWQMP. The regional nature of the MS4 and a single responsible party (District) provides more assurance of proper operation and maintenance. The District's regional storm water basins exceed the LID numeric sizing criteria listed in current California MS4 permits, capture over 98 percent of storm water generated in the entire permit area and remove storm water pollutants. The District's regional storm water basin system functions similarly to the intent of the regional or sub-regional mitigation programs envisioned in recently adopted Southern California MS4 permits and ensure compliance with MEP.

To ensure that the ever evolving standard of MEP is met, this Permit requires the Permittees to update the SWQMP to ensure:

1. Ongoing implementation of the FMFCD Storm Drainage and Flood Control Master Plan,
2. Continued maintenance of all storm water basins to maximize infiltration rates,
3. Continued maintenance of post-construction storm water controls not owned and operated by the Permitees by the implementation of transfer or maintenance agreements, as appropriate, and periodic inspections for all priority development projects;
4. Review of all development plans to make sure that all new and existing developments within the MS4 permit boundaries are connected to the regional storm water basin system or have implemented equivalent temporary controls to minimize storm water quality impacts until the sites are connected to the regional basin system,
5. Update of Hydrology Studies to account for the system growth that has occurred and is forecast to occur for a reasonable planning period,
6. Ongoing investigation of storm water basin designs that improve storm water quality,
7. Regular internal training is conducted on applicable components of the SWQMP; and
8. Completion, as a part of the annual reporting process, of an annual assessment to determine the effectiveness of the program component and identify any necessary modifications.

Water Quality Protection Principles

To further reduce pollutants and runoff flows from new development and redevelopment beyond the criteria provided in the FMFCD Storm Drainage and Flood Control Master Plan, this Order requires each Permittee to encourage:

1. Minimization 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;
2. Implementation of pollution prevention methods supplemented by pollutant source controls and treatment to minimize the transport of urban runoff and pollutants offsite and into MS4s;
3. Preservation, and where possible, creation or restoration of areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones;
4. Identification and avoidance of development in areas that are particularly susceptible to erosion and sediment loss;
5. Coordination with local traffic management programs to reduce pollutants associated with vehicles and increased traffic resulting from development;
6. Implementation of source and structural controls as necessary and appropriate to protect downstream receiving water quality from increased pollutant loads and flows from new development and significant redevelopment.

Development Standards

This Permit requires the Permittees to follow FMFCD development standards in accordance with the FMFCD Storm Drainage and Flood Control Master Plan. However, it also requires permitees to develop/revise Development Standards to address the following in new and redevelopment areas that do not discharge to storm water basins:

1. **Post Development Standards for Priority Development Projects.** Priority Development Project shall include: (1) *significant* redevelopment; (2) home subdivisions of 10 housing units or more; (3) commercial developments great than 100,000 square feet; (4) automotive repair shops; (5) restaurants; (6) parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to urban runoff; (7) street and roads; and (8) 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 below applies only to the addition, and not the entire development.

2. **BMP Requirements** – This Permit requires the Development Standards to include a list of recommended pollution prevention, source control, and/or structural treatment control BMPs, including LID BMPs where feasible, to be implemented by priority projects that do not discharge to one of the District's regional stormwater basins.
3. **Numeric Sizing Criteria** – This Permit also requires the Development Standards to include structural treatment BMPs to be sized according to standard volume or flow based sizing criteria. This Order gives each Permittee the opportunity to propose an equivalent sizing criteria for Central Valley Water Board consideration.
4. **Restaurants Less than 5,000 Square Feet** - New development and significant redevelopment restaurant projects of a land area less than 5,000 square feet are required to meet all Development Standards except for structural treatment BMP and numeric sizing criteria requirement above.
5. **Infiltration and Groundwater Protection –** To protect groundwater quality, this Order requires each Permittee to consider the type of development and resulting storm water discharge and, if appropriate, apply restrictions to the use of structural BMPs designed to primarily function as infiltration devices (such as infiltration trenches, dry wells, and infiltration basins).

California Environmental Quality Act (CEQA) Processes

This permit also requires each permittee to review and update as necessary its California Environmental Quality Act (CEQA) processes. Each Permittee shall incorporate into its CEQA process, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

1. Potential impact of project construction on storm water runoff;
2. Potential impact of project post-construction activity on storm water runoff;
3. Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
4. Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
5. Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;

6. Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and
7. Potential for significant increases in erosion of the project site or surrounding areas.

Planning Department Coordination, Enforcement, and Tracking

To ensure appropriate coordination and, if necessary, enforcement on new and redevelopment projects, this Permit requires each Permitee to:

1. Provide for the review of proposed project plans and require measures to ensure that all applicable development will be in compliance with local storm water ordinances, local permits, and all other applicable ordinances and requirements;
2. Follow the processes identified in its MOU with FMFCD that identifies when FMFCD – Storm Drainage and Flood Master Plan Development Standards will be implemented. The processes shall identify at what point in the planning process development projects will be required to meet Development Standards;
3. Develop and implement:
    a. 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, shall contain the following information:
        i. Municipal Project ID.
        ii. State WDID No.
        iii. Project Address/Location.
        iv. Project Acreage.
        v. Inspection Date and Summaries.
        vi. Corrective Actions Taken.
        vii. Date Certificate of Occupancy Issued.
    b. Targeted training for employees in positions whose jobs or activities are engaged in development planning to ensure they can adequately implement the Planning and Land Development Program requirements;
    c. Information to distribute to the development community promoting water quality protection principles and LID designs for new development and redevelopment projects.

VI. **MONITORING PROGRAM**

Federal regulations (40 CFR 122.26(d)) require the following: (1) quantitative data from representative outfalls designated by the permitting authority, which shall designate between five and ten outfalls or field screening points as representative of the commercial, residential, and industrial land use activities of the drainage area contributing to the MS4; (2) estimates of the annual pollutant load of the cumulative

discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges for constituents of concern; (3) estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of SWQMP implementation; and (4) the Permittees to submit an Annual Report that identifies, among other things, water quality improvements or degradation.

Since 1996, the District has monitored three locations along the San Joaquin River during 42 monitoring events. In addition and as discussed above, the District conducted In-System Water Quality Monitoring from 1996 through 2005 to determine evaluate the pollutant removal capabilities of three storm water basins (Basins C, V and EK).

This Permit requires the Permittees to continue to monitor the San Joaquin River in accordance with the *Fresno-Clovis Metropolitan Storm Water Quality Management Program: Receiving Water Monitoring Plan (6 January 1995)*, except that monitoring for organochlorine pesticides, organophosphate pesticides and chlorinated herbicides is no longer required. Chlorinated herbicides have not been detected above reporting limits since monitoring began in 1996. Organochlorine pesticides and organophosphate pesticides have not been detected above reporting limits since at least 2005.

The Herndon Canal runs through the regulated area and receives discharge from multiple basins within the MS4 boundary. Currently, the District monitors the San Joaquin River and in the past has characterized the discharge from multiple basins that discharge to either a canals or the river. The District has not characterized discharges to the Herndon Canal, which discharges to the San Joaquin River at three locations downstream of the District's current downstream monitoring location. To more fully characterize discharges from the MS4, this Permit requires the Permittees to implement a monitoring plan to characterize the pollutant contribution from the regulated MS4 to the San Joaquin River from the Herndon Canal.

VII. **PROGRAM EFFECTIVENESS ASSESSMENT**

The proposed permit requires the Permittees to provide an analysis of the effectiveness of their SWQMP in their Annual Reports. The assessment shall identify the direct and indirect measurements that the Permittees use to track the effectiveness of their programs as well as the outcome levels at which the assessment is occurring consistent with the proposed permit. Direct and indirect measurements shall include, but not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of

Program Elements, measurements or estimates of pollutant load reductions or increases from identified sources, raising awareness of the public, and/or detailed accounting/ documentation of SWQMP accomplishments.

a. The Permittees will be required to track the long-term progress of their SWQMP towards achieving improvements in receiving water quality.
b. The Permittees will be required to use the information gained from the program effectiveness assessment to improve their SWQMPs and identify new BMPs, or modification of existing BMPs, as needed. This information shall be reported within the Annual Reports consistent with this Order.
c. Long Term Effectiveness Assessment (LTEA) Strategy: The Permittees will collaborate to develop a LTEA strategy, which shall build on the results of the Annual Reports and the initial program effectiveness assessments. The LTEA is required to be submitted to the Regional Water Board within six months of the adoption of the Permit and shall identify how the Permittees will conduct a more comprehensive effectiveness assessment of the storm water program as part of the SWQMP. 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).