CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2013-XXXX

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.

[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.

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

[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.

feasible at this time to set enforceable numeric effluent limits for storm water and non-storm water discharges from MS4s.

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.

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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.

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 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

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

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 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.

[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

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.

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.
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

[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.

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 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).