

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2002-0182

NPDES NO. CAS083526

FOR
CITY OF MODESTO
STORM WATER DISCHARGES FROM MUNICIPAL
SEPARATE STORM SEWER SYSTEM
STANISLAUS COUNTY

I. **MONITORING AND REPORTING PROGRAM REQUIREMENTS**

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code Section 13267. Because the Discharger operates facilities, which discharge waste, subject to storm water regulations, Monitoring and Reporting Program No. R5-2002-0182 is necessary to ensure compliance with this Order No. R5-2002-0182.

The Discharger shall not implement any changes to this MRP unless and until the Regional Board or Executive Officer issues a revised MRP. **Attachment A** shows a map of the City of Modesto and the service area covered under this Order.

- A. **MRP Work Plan:** By **1 April 2003**, the Discharger shall submit an MRP Work Plan that supports the development, implementation, and effectiveness of the approved SWMP, and compliance with the maximum extent practicable (MEP) requirement and the receiving water limitations of Order No. R5-2002-0182.
- B. **Annual Report:** The Discharger shall submit, in both electronic and paper formats and no later than **1 September** of each year beginning in year 2003, an Annual Report documenting the progress of the Discharger's implementation of the SWMP and the requirements of this Order. The Annual Report shall cover each fiscal year from **1 July through 30 June**. The Annual Report shall use the attached form (**Attachment B**), or propose an alternative form in the revised SWMP to be used instead of the attached form. The status of compliance with the permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, the Discharger shall report the reasons why the requirement was not met and how the requirements will be met in the future, including projected implementation dates. A comparison of program implementation results to performance standards established in the SWMP and this Order 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 SWMP to reduce storm water pollution to the MEP.

2. Summary of activities conducted by the Discharger;
 3. Identification of BMPs and a discussion of their effectiveness at reducing urban runoff pollutants and flow;
 4. Summary of monitoring data, including identification of water quality improvements or degradation, and recommendations for improvements to the SWMP (including proposed BMPs) based on the monitoring results. All receiving water monitoring data shall be compared to applicable water quality standards in the Basin Plan, the California Toxics Rule (CTR), and California Title 22 (Title 22);
 5. An assessment of storm water program with applicable water quality standards for each component of the monitoring program. The assessment shall include the identification of water quality improvements or degradation and a comparison with applicable water quality standards. The lowest applicable standard from the Basin Plan, CTR, and Title 22 shall be used for comparison. When the data indicate that discharges are causing or contributing to exceedances of applicable water quality standards, a discussion of how the Discharger plans to comply with **Provisions 1 and 2** of Order No. R5-2002-0182 shall be included. In addition, the analysis shall compare discharge data with water quality standards to identify and prioritize water quality problems. Based on the identification and prioritization of water quality problems, the analysis shall identify potential sources of the problems, and recommend future monitoring and BMP implementation measures to identify and address the sources;
 6. An estimation of total annual pollutant loads due to storm water/urban runoff for each sampling station;
 7. For each monitoring component, maps of all monitoring station locations and descriptions of each location; and
 8. Recommendations to improve the monitoring program, BMPs, Performance Standards, and the SWMP to address potential water quality exceedances and potential pollutant sources, and to meet the MEP.
- C. **Comprehensive Monitoring Report:** In addition to the requirements listed above, once within the term of the Order, the Discharger will perform a comprehensive review of their Monitoring Program and the data that have been collected. The review shall include an analysis of long-term trends in water quality. This comprehensive review should be conducted near the end of the term of this order but be completed prior to the preparation of the Reports of Waste Discharge to be submitted for the following permit term. Therefore, the comprehensive monitoring

report should be completed by **15 November 2006** and include a comprehensive review of all Storm water Program monitoring data collected through **30 June 2005**.

- D. **Certification:** All work plans and reports submitted to the Regional 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 _____, 20__.

at _____.

(Signature) _____ (Title) _____";

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

CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD – CENTRAL VALLEY REGION
3443 ROUTIER ROAD, SUITE A
SACRAMENTO, CA 95827

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 include, but are not limited to:

- Assessing compliance with this Order;
- Measuring and improving the effectiveness of the SWMPs;
- Assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
- Characterization of storm water discharges;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

The Modesto storm drainage system is unique since only one-third of the city area drains directly to surface waters (positive storm drain system). The other two-thirds of the city area drains into rock wells. The positive storm drain system covers approximately 6,650 acres of the urban area with 33-percent draining to the Tuolumne River (0.9 percent of the Tuolumne River's total drainage area at that location), 54-percent to Dry Creek, and 13-percent to Modesto Irrigation Canals (MID Canals).

Ultimately, the results of the monitoring requirements outlined below should be used to refine the SWMP to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the Modesto Urbanized Area.

At a minimum, the Discharger shall conduct the following monitoring over the next five program years:

- (a) Receiving Water Monitoring;
- (b) Urban Discharge Monitoring;
- (c) Dry weather monitoring;
- (d) Detention basin monitoring;
- (e) Rock well and Groundwater monitoring;
- (f) Water Column Toxicity Monitoring; and
- (g) Bio-assessment Monitoring

Table 1 provides the schedule for the five-year monitoring program.

Table 1. Five-Year Monitoring Program Schedule

Monitoring Type	2002/03	2003/04	2004/05	2005/06	2006/07
Receiving water monitoring (Dry and Wet Season)		3 times/year @ 4 sites	3 times/year @ 4sites	3 times/year @ 4 sites	3 times/year @ 4 sites
Bio-assessment Monitoring					
Urban discharge monitoring (Dry and Wet Season)	3 times/year @ 2 sites		3 times/year @ 2 sites		3 times/year @ 2 sites
Dry weather/monitoring	2-years monitoring & review		Continue monitoring based on evaluation of first 2 years		
Basin monitoring		2 basins		2 basins	
Rock Well and Groundwater Monitoring	Assessment Plan	Implement monitoring identified in approved Assessment Plan			

A. Sampling Protocol

1. Samples from each receiving water and urban discharge station described below shall be analyzed for all constituents listed in Table 2. All sample collection and analyses shall follow standard U.S. Environmental Protection Agency (U.S. EPA) protocol.
2. If a constituent is not detected at the method detection limit for its respective test method listed in Table 2 in more than 75 percent of the first 12 sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than state water quality standards. The Discharger will also conduct annual confirmation sampling for non-detected constituents during the first storm of the wet season every year at each station. However, if confirmation sampling shows non-detect for a constituent for two successive years, the Discharger may propose to the Regional Board staff that the constituent be monitored at reduced frequency. If the constituent is detected, it must continue to be monitored.
3. The Discharger shall perform an annual analysis, to be included in the Annual Report, of the correlation between pollutants of concern (including but not limited to metals, OP pesticides, and PAHs) and TSS loadings for the sampling events that are analyzed for the full suite of constituents.

B. Urban Discharge Monitoring

Based on the land usage the Discharger has identified the following two locations for

monitoring purposes:

- (i) Scenic Drive--receives runoff from the Sonoma neighborhood, an entirely residential neighborhood; and
- (ii) Bodem Street--receives runoff from the McHenry Avenue Corridor, a mixed residential/commercial land

The Discharger monitored the same stations during the prior permit term. Use of the same location or at equivalent location further downstream will allow the Discharger to maintain consistency and compare the data obtained during the previous discharge monitoring studies. The Regional Board must approve any relocation of the stations. The Discharger shall monitor storm water discharges for every other year (three years) during the five-year term of the permit starting with the 2002/03 wet season. The proposed monitoring will allow Modesto to continue to characterize storm water discharges and track water quality constituent levels.

If additional sample station locations are needed, they shall be established under the direction of The Regional Board staff, and a description of the location shall be attached to this MRP. Sample collection and analysis shall follow standard U.S. EPA protocol. Samples shall be collected **twice during the wet season and once during the dry season**

C. **Receiving Water Monitoring**

Receiving water monitoring shall be conducted on Dry Creek and the Tuolumne River during Year 2 through Year 5 of the permit term. The purpose of receiving water monitoring will be to develop baseline water quality data on the receiving water and to assess any impacts from Modesto urban runoff on the beneficial uses of the receiving water. Receiving water monitoring shall include water chemistry monitoring and bioassessment monitoring.

The receiving water chemistry monitoring will be performed in the Tuolumne River and Dry Creek, the two major water bodies, which receive Modesto urban runoff. Monitoring shall be conducted at two sites (upstream and downstream) for each receiving water location. If additional sample station locations are needed, they shall be established under the direction of The Regional Board staff, and a description of the location shall be attached to this MRP. Sample collection and analysis shall follow standard U.S. EPA protocol. Receiving water monitoring shall be conducted **during the two storm events and once during the dry season.**

The **bio-assessment monitoring** will be performed along two reaches of Dry Creek, upstream and downstream of the Modesto urban area. Bioassessment monitoring shall be performed two times per year during Year 3 and Year 4 of the permit term and during non-storm events.

At a minimum the discharger will monitor the constituents listed in **Table 2** as part of the discharge monitoring and the receiving water monitoring. However, additional constituents may be added to the list if new water quality issues develop over the course of this permit term

D. Dry Weather Monitoring

The Discharger shall conduct dry weather urban run-off monitoring over approximately one-fifth of its drainage area each year for five years. After two years of dry weather monitoring the Discharger may evaluate the dry weather data and may propose to the Regional Board to discontinue the dry weather monitoring if sufficient justification exists.

In order to determine quality of discharge entering the rock wells, the Discharger shall conduct dry weather monitoring of rock wells. The Discharger shall collect at least 20 representative dry weather samples of flows entering the rock well system. Also, during the dry weather period, the Discharger shall conduct visual observation of rock well areas.

Dry weather sampling sites for the positive storm drain system will be located at storm drain outfalls greater than 24 inches in diameter or at the nearest manhole upstream of the outfall. For the positive drain system, all these outfalls will be monitored at least once. At a minimum the following constituents shall be monitored as part of the dry weather monitoring.

pH
Chlorine (total)
Copper
Phenol
Surfactants
Oil and Grease

E. Detention Basin Monitoring

The Discharger shall develop a plan to perform influent and effluent monitoring, and sediment chemistry monitoring of two detention basins during Year 2 and 4 of the permit term. This monitoring will be designed to evaluate the effectiveness of the detention basin in removing pollutants. The following constituents will be monitored as part of the sediment-monitoring program:

Arsenic
Barium
Mercury
Selenium
Silver

E. Detention Basin Monitoring (Continued)

Lead
Copper
Chromium
Nickel
Zinc
Total Petroleum Hydrocarbons (TPH)
Total Recoverable Petroleum Hydrocarbons (TRPH)

F. **Rock Well Monitoring**

Within four months of the date of this MRP the Discharger shall submit a **Rock Well Assessment Plan**. The plan shall recommend a monitoring program for assessing the effectiveness of the rock wells in protecting groundwater. The assessment shall include at a minimum following:

- Representative rock wells for monitoring (minimum of two) based on land use, runoff characteristics, rock well installation, soil conditions, and potential for groundwater impact.
- Sampling plan that includes runoff characterization, groundwater quality, and, if applicable, vadose zone and soil characterization. Sampling plan shall also include monitoring frequency and duration (minimum of two years) for adequately characterizing groundwater impacts from rock wells.
- Coordination with USGS ongoing National Water Quality Assessment Program and Modesto Irrigation District efforts to characterize sources of pollutants and track groundwater contamination. The Discharger shall coordinate with USGS to combine or complement monitoring efforts to optimize the rock well assessment.
- Schedule for completing the assessment and preparing a final report. The final report shall include summary of monitoring data, analysis of groundwater impact, and recommendations regarding rock wells installation and maintenance for the protection of groundwater quality

G. **Water Column Toxicity Monitoring**

The Discharger shall analyze samples to evaluate the extent and causes of toxicity in receiving waters and to modify and utilize the SWMP to implement practices that eliminate or reduce sources of toxicity in storm water.

The Discharger shall analyze samples from two storm events (including the first storm of each year) and one dry weather event from each Urban Discharge Monitoring station for toxicity every year. Test organisms for toxicity testing shall consist of the following: (1) Fathead minnow (*Pimephales promelas*) representing a

vertebrate species; (2) Water flea (*Ceriodaphnia dubia*) representing an invertebrate species; and (3) Algae (*Selenastrum capricornutum*) representing a plant species.

1. Toxicity Identification Evaluations (TIE)

The Discharger shall begin a Phase I TIE immediately on all samples that are substantially toxic to the test species. If a sample is substantially toxic, a TIE shall be performed. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, *Ceriodaphnia* TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay. TIE efforts should be conducted to target pollutants expected in storm water.

2. Toxicity Reduction Evaluations (TRE)

- a. If a discharge from the MS4 is identified to cause or contribute to toxicity in a receiving water body, a TRE shall be performed. TRE development shall be performed by a neutral third party, with input from the Discharger and Regional Board staff. The TRE shall include all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate the causes of toxicity. Once the source of toxicity and appropriate BMPs are identified, the Discharger shall submit the TRE to the Regional Board Executive Officer for approval. At a minimum, it shall include a discussion of the following items:
 - i. The potential sources of pollutant(s) causing toxicity;
 - ii. Recommended BMPs to reduce the pollutant(s) causing toxicity;
 - iii. Proposed changes to the SWMP to reduce the pollutant(s) causing toxicity; and
 - iv. Suggested follow-up monitoring to demonstrate that toxicity has been removed.
- b. If TRE implementation for a specific pollutant coincides with TMDL implementation for that pollutant, the efforts may be coordinated.
- c. Upon approval by the Regional Board Executive Officer, the Discharger shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.
- d. The Discharger shall develop a maximum of two TREs per year. If applicable, the Discharger may use the same TRE for the same toxic pollutant or pollutant class in different watersheds or basins. The TRE

process shall be coordinated with Total Maximum Daily Load (TMDL) development and implementation (For example, if a TMDL for zinc is being implemented when a TRE for zinc is required, the efforts shall be coordinated to avoid overlap).

- e. The Discharger shall report on the development, implementation, and results for each TRE in the Annual Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

H. **Bio-assessment**

The Discharger shall participate and coordinate with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Board to complete this requirement. The SWAMP has begun work on a statewide effort to determine how to identify reference sites with the goal of Index of Biological Integrity (IBI) development.

The purpose of this requirement is to detect biological trends in receiving waters and to collect data for the development of an Index of Biological Integrity (IBI). The ultimate goals of bioassessment are to assess the biological integrity of receiving waters, to detect biological responses to pollution, and to identify probable causes of impairment not detected by chemical and physical water quality analysis.

1. The Discharger shall participate and coordinate with SWAMP to identify the most appropriate locations for bioassessment stations within Modesto area.
2. The Discharger shall propose a tributary monitoring program by **1 April 2003**. Sampling shall begin immediately after approval of the sampling stations by the Executive Officer. A minimum of three replicate samples shall be collected at each station during each sampling event.
3. The Discharger shall develop Standard Operation Procedures (SOPs) for the bio-assessment monitoring program that describes all procedures and responsible parties. The Standard Operation Procedures (SOPs) must contain step-by-step field, laboratory, data entry, and QA/QC procedures. A copy of the SOPs shall be available to the Executive Officer upon request.
4. Field sampling must conform to the SOPs established for the California Stream Bioassessment Procedure (CSBP)¹ when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (e.g., an estuary or unwadable stream), the California Department of Fish and Game (DFG) and the Executive

¹ California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

Officer shall be consulted in order to determine the most appropriate protocol to be implemented. Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and errors by the field crews, the receiving laboratory, and the Discharger. These forms shall be available to DFG or the Executive Officer upon request.

5. Field inspections should be planned with random visits and should be performed by the Discharger, if properly trained in CSBP methods. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures.
6. Taxonomic identification laboratories shall process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. There should be intra-laboratory QA/QC results for subsampling, taxonomic validation and corrective actions. Biological laboratories should also maintain reference collections, vouchered specimens and remnant collections. Biological laboratories shall participate in an inter-laboratory (external) taxonomic validation program at a recommended level of 20% for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10% in year three upon approval from the Executive Officer. External QA/QC should be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory in Rancho Cordova.
7. Sampling, laboratory, quality assurance, and analysis procedures shall follow the standardized "Non-point Source Bioassessment Sampling Procedures" for professional bioassessment as set forth in the California Department of Fish and Game California Stream Bioassessment Procedure (CSBP)². The following results and information shall be included in the annual Monitoring Report:
 - a. All physical, chemical and biological data collected in the assessment;
 - b. Photographs and GPS locations of all stations;
 - c. Documentation of quality assurance and control procedures;
 - d. Analysis that shall include calculation of the metrics used in the CSBP;
 - e. Comparison of mean biological and habitat assessment metric values between stations and year-to-year trends;
 - f. Electronic data formatted to the California Department of Fish and Game Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and
 - g. Copies of all QA/QC documents from laboratories.

² California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Wadeable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

I. Water Quality Based Program

1. By **1 April 2003**, the Discharger shall submit the following water quality based programs for approval by the Executive Officer: Pesticide Plan, and Characterization Report Plan.
2. Pesticides Monitoring, which will be is described in more detail as part of the Pesticides Plan of this Order, shall be conducted as part of the receiving water and urban runoff monitoring efforts. The purpose of pesticides monitoring is to:
 - a. Monitor trends in the levels of diazinon and chlorpyrifos in all 303(d) listed waters within the Discharger's jurisdictions. Sampling must take place, at a minimum, in one storm event during the dormant spray application season, one storm event following the dormant spray application season, and once during dry season;
 - b. Monitor potential sources of diazinon and chlorpyrifos outside residential and commercial land areas, including discharges from agricultural areas and nurseries upstream or within the Discharger's jurisdictional boundaries; and
 - c. Monitor toxicity in storm water through the use of bioassay tests. Any toxicity found shall be evaluated by using TIE procedures, or as otherwise appropriate.

III. SPECIAL STUDIES

A. Peak Discharge Impact Study

The Discharger shall conduct a study to determine the extent of erosion of natural stream channels and banks caused by urbanization. If appropriate, the Discharger shall evaluate peak flow control and determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization.³ The Discharger shall submit a work plan by **1 April 2004**.

B. BMP Effectiveness Study

The Discharger shall conduct or participate with Stockton or Sacramento-area Permittees to evaluate the effectiveness of a total of three structural and treatment control BMPs. The Discharger may choose to conduct one BMP study each or may choose to contribute to studies by one of the Permittees. The objective of this study shall include the following:

1. Monitor the reduction of pollutants of concern in storm water (including, but not

³ Order No. 5-2002-0182 (Development Standards) requires the development of numerical criteria for peak flow control in natural drainage systems.

- limited to: pathogen indicators, nutrients, heavy metals, and oil and grease) from a minimum of one BMPs that has been properly installed within the year proceeding monitoring. Monitoring shall be continued until the effectiveness of the BMP can be determined;
2. Evaluate the requirements, feasibility and cost of maintenance for each BMP;
 3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water in Modesto Area.

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 Discharger shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the Report of Waste Discharge and application for this Order, for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or 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 122.21(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 122.21(j)(4)]

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

in this Order.

E. Monitoring and Records [40 CFR 122.21(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 - 2000 (SIP) shall be used for all analyses, unless otherwise specified. Appendix 4 of the SIP is included as Table 2. For pollutants not contained in Appendix 4 of the SIP, the test method and method detection limit (MDL) listed in Table 2 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 Ocean Plan.

H. The 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.

I. For priority toxic pollutants, if the Discharger 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 Discharger must submit documentation from the

laboratory to the Regional Board Executive Officer for approval prior to raising the ML for any constituent.

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

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

K. Monitoring Reports [40 CFR 122.41(I)(4)(iii)]

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

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

M. The Regional Board Executive Officer or the Regional 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 Discharger or by petition of interested parties after the submittal of the annual Monitoring Report. Such petition shall be filed not later than 60 days after the Monitoring Report submittal date, or
2. As deemed necessary by the Regional Board Executive Officer following notice to the Discharger.

Ordered by: _____
THOMAS R. PINKOS, Acting Executive Officer

Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0182

NPDES NO. CAS083526

WASTE DISCHARGE REQUIREMENTS
FOR
CITY OF MODESTO
STORM WATER DISCHARGE FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEM
STANISLAUS COUNTY

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

1. The City of Modesto submitted a Report of Waste Discharge (ROWD) in December 1998 and requested reissuance of Waste Discharge Requirements (WDR) under the National Pollutant Discharge Elimination System (NPDES) area-wide municipal separate storm sewer system (MS4) permit to discharge storm water runoff from storm drains and watercourses within the jurisdiction of the Discharger and to implement a Storm Water Management Plan (hereafter SWMP) for the City of Modesto.
2. Prior to issuance of this Order, the City of Modesto was covered under the NPDES area-wide MS4 permit, Order No. 94-163 (NPDES No. CA0083526) adopted on 24 June 1994.
3. The City of Modesto is at the confluence of Dry Creek and the Tuolumne River. The existing drainage system with storm water runoff discharges to surface water covers approximately 6,650 acres, consisting of approximately 18 major outfalls. These outfalls discharge storm water either to Dry Creek, the Tuolumne River or Modesto Irrigation District (MID) Lateral Canal No. 3. MID Lateral No. 3 and Dry Creek are tributary to the San Joaquin River. **Attachment A** shows a map of the City of Modesto and the service area covered under this permit.
4. In about one-third of Modesto, the storm water runoff is discharged to surface waters. In the remaining two-thirds of the City, the storm water runoff is discharged to rock wells. Surface water discharges occur generally in the older areas of the City or those areas immediately adjacent to the Tuolumne River, Dry Creek or irrigation canals.
5. The City of Modesto (hereafter referred to as the Discharger) is defined as a medium municipality (population greater than 100,000 but less than 250,000) in the Code of Federal Regulations (CFR) (40 CFR 122.26 (b)(7)). As such, the Discharger must obtain an NPDES municipal storm water permit.
6. The Discharger has jurisdiction over and/or maintenance responsibility for the MS4 that it owns and/or operates in Stanislaus County. The discharge consists of the surface runoff generated

from various land uses in all the hydrologic sub-basins, which discharge into either storm sewers or rockwells.

7. This Order and its requirements are not intended to restrict or control local land use decision-making authority. The Discharger retains authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within its jurisdiction. The Regional Board recognizes that the Discharger's land use authority allows urban developments that may generate pollutants and runoff that could impair receiving water quality and adversely impact beneficial uses. The Discharger is therefore responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Clean Water Act (CWA) requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable (MEP). This responsibility requires the Discharger to exercise its legal authority to ensure that any increased pollutant loads and flows do not affect the beneficial uses of the receiving water.
8. This Order is not intended to prohibit the inspection for or abatement of vectors by the State Department of Health Services or local vector agencies in accordance with Cal. 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 contemplates that the Discharger will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases .
9. There are portions of the City 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 discharge directly to the Discharger's conveyance system .
10. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants.
11. The increased volume, velocity, and discharge duration of storm water runoff from developed areas have the potential to greatly accelerate downstream erosion and impair stream habitat in natural drainages. Studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of its receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as 10 percent conversion from natural to impervious surfaces. Percentage impervious cover is a reliable indicator and predictor of potential water quality degradation

expected from new development. (*Impervious Cover as An Urban Stream Indicator and a Watershed Management Tool*, Schueler, T. and R. Claytor, In, *Effects of Water Development and Management on Aquatic Ecosystems* (1995), ASCE, New York; Leopold, L. B., (1973), *River Channel Change with Time: An Example*, Geological Society of America Bulletin, v. 84, p. 1845-1860; Hammer, T. R., (1972), *Stream Channel Enlargement Due to Urbanization: Water Resources Research*, v. 8, p. 1530-1540; Booth, D. B., (1991), *Urbanization and the Natural Drainage System--Impacts, Solutions and Prognoses: The Northwest Environmental Journal*, v. 7, p. 93-118; Klein, R. D., (1979), *Urbanization and Stream Quality Impairment: Water Resources Bulletin*, v. 15, p. 948-963; May, C. W., Horner, R. R., Karr, J. R., Mar, B. W., and Welch, E. B., (1997), *Effects of Urbanization on Small Streams in the Puget Sound Lowland Ecoregion: Watershed Protection Techniques*, v. 2, p. 483-494; Morisawa, M. and LaFlure, E. *Hydraulic Geometry, Stream Equilibrium and Urbanization In Rhodes, D. P. and Williams, G. P. Adjustments to the Fluvial System* p.333-350. (1979); Dubuque, Iowa, Kendall/Hunt. Tenth Annual Geomorphology Symposia Series; and *The Importance of Imperviousness: Watershed Protection Techniques*, 1(3), Schueler, T. (1994)).

Discharge Characteristics

12. The quality and quantity of these discharges vary considerably because of the effects of hydrology, geology, land use, season, and sequence and duration of hydrologic 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 and Delta. Studies indicate there may be increases in pollutant levels and aquatic toxicity in receiving waters as a result of urban storm water discharges.
13. 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.
14. Water quality assessments conducted by the Discharger and the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Modesto Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the City of Modesto in the ROWD. Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.
15. The Regional Board finds the discharge of washwaters and contaminated storm water from industries and businesses threaten water quality and can also adversely impact public health and safety. The pollutants of concern in such washwater 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 services facilities as a major contamination and water quality problems.

16. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that the Discharger has no or limited jurisdiction over. Examples of such pollutants and their respective sources are: PAHs which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, historic uses of leaded fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, pesticides from agricultural activities, 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. The Discharger has conducted storm water monitoring since the 1992-93 rain season. During this period (1992 – 2000), the Discharger monitored urban runoff, dry weather runoff, rainfall, and receiving waters--Dry Creek, and the Tuolumne River. While monitoring of some constituents varied each year, the following constituents were monitored :
 - a. Conventional water quality parameters (total suspended solids, total dissolved solids, hardness, pH);
 - b. Oxygen demand (COD, BOD₅);
 - c. Nutrients (various forms of nitrogen and phosphorus);
 - d. Total recoverable and dissolved metals;
 - e. Organics (cyanide, volatiles, semi-volatiles, organochlorine pesticides, organophosphate pesticides, carbamate pesticides, total phenolics, halocarbons, aromatics, total petroleum hydrocarbons, oil and grease);
 - f. Bacteriological (fecal and total coliform, fecal streptococcus); and
 - g. Toxicity
18. During the previous permit term, the Discharger had identified oxygen-demanding substances, copper, lead, zinc, and total petroleum hydrocarbons (TPH) as constituents that were detected frequently or occurred at potentially significant concentrations, referred to as constituents of concern (COCs). During the term of that permit (1994 through 1999), the Discharger conducted storm water discharge and receiving water monitoring for each of these constituents to further characterize their occurrence and establish if any of the constituents have the potential to impact receiving waters. In addition, the U.S. Geological Survey (USGS) conducted an intensive water quality study in the Modesto area during early 1995. The Regional Board also conducted some receiving water toxicity testing.
19. Based on the monitoring conducted during the previous permit term, the Discharger has now identified diazinon and chlorpyrifos as COCs. The Discharger has requested to downgrade COCs (lead, copper, zinc, and TPH), to constituents of interest (COIs). Sufficient data are not available to support the change in status of these constituents. As required by this Order, the Discharger will monitor these constituents and provide additional information to support reclassifying them to COI. In addition the Discharger has identified boron, selenium, electroconductivity, and mercury as 303(d) listed constituents which they will monitor further to characterize their concentrations in storm water discharges or in receiving waters.

20. The Discharger has conducted monitoring of non-storm water flows and has determined that there is relatively little non-storm water flow in its storm drain system. As outlined in an 11 May 2001 document, the Discharger proposes to conduct dry weather monitoring during the term of this permit. Based on the monitoring it has conducted, the Discharger has requested that the non-storm water flow categories identified under the Non-Storm Water Discharges section of this Order be allowed.
21. The Discharger submitted a revised monitoring plan in May 2001 to the Regional Board outlining the monitoring proposed for the term of this permit. The Discharger's plan replaces the monitoring plan proposed in the original ROWD (submitted December 1998). The Discharger proposes to monitor dry weather and wet weather discharges, receiving waters, and detention basins to characterize dry and wet weather discharges, evaluate impacts on urban runoff discharges, and evaluate effectiveness of its BMPs and control measures.

Storm Water Discharge To Shallow Ground Water

22. The Discharger uses wells to dispose of storm water in the two thirds of the city. These disposal wells are lined with rock to aid percolation. The wells are known as "rock wells".
23. The rock wells pose a potential threat to the shallow groundwater. These Waste Discharge Requirements address this threat by requiring the Discharger to implement Rock Well monitoring and shallow groundwater monitoring as outlined in the attached Monitoring and Reporting Program (MRP). The Discharger is addressing these concerns through the proposed monitoring program, new development program, public education and outreach program, and through the illicit discharges program element.
24. The MRP describes monitoring which is required to evaluate the effectiveness of BMPs and the impact of the discharge on shallow groundwater. In addition, the Discharger proposes to coordinate their efforts with US Geological Survey (USGS) to conduct ground water monitoring.
25. The USGS under the National Water Quality Assessment Program is in the process of developing a comprehensive plan for groundwater monitoring (including shallow groundwater) in the City of Modesto. USGS is planning to implement this groundwater monitoring program over the next several years and during the term of this permit.
26. Storm water runoff may contain wastes. These wastes may be in the form of suspended particles of soil or dissolved pollutants derived from fertilizers, pesticides or metals. Any person discharging waste or proposing to discharge waste that could affect the quality of the waters of the state must file a ROWD (California Water Code (CWC) § 13260). The Regional Board shall prescribe requirements that implement the Basin Plan, take into consideration the beneficial uses to be protected and the water quality reasonably required for that purpose (CWC § 13263).
27. The Discharger's rock wells are Class 5 injection wells under the U.S. EPA's Underground Injection Control program. The U.S. EPA does not provide regulation of these wells beyond registration.

28. Due to the discharge of storm water to shallow groundwater through rock wells and the large number of these wells operated by the City of Modesto, this discharge represents a potential threat to groundwater quality. It is the intent of these requirements to quantify the magnitude of this threat, determine if historic discharge to groundwater has impacted groundwater and to minimize the discharge of pollutants to groundwater.

Statutory and Regulatory Considerations

29. The CWA authorizes the 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 an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the State Water Resource Control Board (State Board), through the Regional Boards, to regulate and control the discharge of pollutants into waters of the State. The State Board entered into a Memorandum of Agreement with the U.S. EPA, on September 22, 1989, to administer the NPDES Program governing discharges to waters of the United States.
30. The Water Quality Act of 1987 added Section 402(p) to the 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:
- a. 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).
 - b. The U.S. EPA Phase II storm water regulations are directed at storm water discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991, and other discharges for which the U.S. EPA Administrator or the State determines that the storm water discharge contributes to a violation of a water quality standard, or is a significant contributor of pollutants to waters of the United States. The Phase II Final Rule was published on December 8, 1999 (*64 Fed. Reg.* 68722).
31. Section 402 (p) of the CWA (33 U.S.C. § 1342(p)) provides that MS4 permits must “require controls to reduce the discharge of pollutants to the MEP, including management practices, control techniques and system, design engineering method and such other provisions as the [U.S. EPA] Administrator or the State determines appropriate for the control of such pollutants.” The State Board’s Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being 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 (dated February 11, 1993).
32. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm

water to the MEP from the permitted areas in the City of Modesto to the waters of the United States.

33. Section 402(p)(3)(B)(ii) of the CWA requires NPDES permits to effectively prohibit non-storm water discharges into MS4s. Federal Regulations [40 CFR 122.26(d)(2)(iv)(B)(1)] require control programs to prevent illicit discharges to the MS4s. Certain categories of non-storm water discharges or flows are allowed to enter the MS4s provided that the Discharger has not identified such categories as significant sources of pollutants to waters of the United States.
34. The State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GIASP was reissued on April 17, 1997. The GCASP was reissued on August 19, 1999. In addition, the Regional Board has issued General Permit Order No. 5-00-175 for dewatering and other low threat discharges, which authorizes such discharges to the MS4s owned and operated by the Discharger. The Discharger propose to conduct local compliance inspections at industries or construction sites which discharge to its MS4 and which are currently covered under the State NPDES General Permits. The Discharger, through inspections of these facilities, can bring problems to the attention of Regional Board staff who can work cooperatively with the Discharger's to implement an effective storm water regulatory program.
35. Federal regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 Discharger's 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. These regulations require that the Discharger establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. This permit, consistent with the U.S. EPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Discharger for the inspection of industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).
36. When industrial or construction site discharges occur in violation of local permits and ordinances, the Regional Board 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 Regional Board may then step in to enforce the applicable statewide General Permit. If the municipality has been negligent in its enforcement efforts in compliance with this order , the Regional Board may initiate enforcement action against both the industrial or construction discharger (under the statewide General Permits), as well as against the Discharger for violations of this Order. The Discharger must also provide the first level of enforcement against illegal discharges from other land uses it has authorized, such as commercial and residential developments.
37. It is the Regional Board's intent that this Order shall protect the beneficial uses of receiving waters and ensure compliance with water quality standards. This Order, therefore, includes requirements to the effect that discharges shall not cause or contribute to violations of water

quality standards that would cause or create a condition of nuisance, pollution, or water quality impairment in receiving waters. Accordingly, the Regional Board is requiring that these requirements must be addressed through the effective implementation of BMPs to reduce pollutants in storm water. Regulations in 40 CFR 122.26(d)(2)(iv) require that the Storm Water Management Plan (SWMP) be implemented during the entire duration of the permit, which is five years. The Discharger shall demonstrate substantial compliance with the SWMP and this Order through the information and data supplied in the Annual Report.

38. Federal, State, regional or local entities within the Discharger's boundaries, not currently named in this Order, operate storm drain facilities and/or discharge storm water to the storm drains and watercourses covered by this Order. The Discharger may lack legal jurisdiction over these entities under the state and federal authorities. Consequently, the Regional Board recognizes that the Discharger should not be held responsible for such facilities and/or discharges. Caltrans is a state agency that is currently designated as one of these entities. On 15 July 1999, the State Board issued a separate NPDES storm water permit to Caltrans, NPDES No. CAS000003 (Order No. 99-06-DWQ). The State Board may consider issuing separate NPDES storm water permits to other federal, state or regional entities operating within the Discharger's jurisdictional boundaries that may not be subject to direct regulation by the Discharger. Federal agencies are not subject to municipal storm water requirements although they may be permitted as industrial dischargers.
39. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies to achieve water quality objectives for all waters of the Basin. This Order implements the Basin Plan.
40. The beneficial uses of the Tuolumne River downstream of storm water discharges as identified in Table II-1 of the Basin Plan are municipal, domestic, and agricultural supply; water contact and non-contact recreation; aesthetic enjoyment; and preservation and enhancement of fish, wildlife and other aquatic resources.
41. The beneficial uses of the underlying ground water beneath the City of Modesto, as identified in the Basin Plan, are municipal and domestic water supply, industrial service, industrial process, and agricultural supply.
42. It is not feasible at this time to establish numeric effluent limits for pollutants in storm water discharges from MS4s. Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in storm water discharges to the MEP. This Order requires the implementation of performance standards and BMPs (in lieu of numeric effluent limitations) identified in the Discharger's SWMP to control and abate the discharge of pollutants in storm water discharges. Implementation of performance standards and BMPs in accordance with the Discharger's SWMP and their schedules constitutes compliance with MEP requirements, and with requirements to achieve water quality objectives. Implementation of BMPs and compliance with performance standards in accordance with the Discharger's SWMPs and its schedule constitutes compliance with the MEP standard.

43. It is not feasible at this time to establish numeric effluent limits for pollutants in non-storm water discharges from facilities owned or operated by the Discharger. Therefore, the effluent limitations in this Order are narrative, and include the requirement to reduce pollutants in non-storm water discharges through implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technologies (BCT). Until such time that effluent limits are developed, implementation of both structural and non-structural BMPs constitutes compliance with the CWA Section 301 for BAT/BCT effluent limitation standards.
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 March 12, 2001, the U.S. Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways. (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F.3d. 526 (Ninth Cir., 2001)) This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.
46. On 17 June 1999, the State Board adopted Order No. WQ 99-05, a precedent setting-decision, which identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, U.S. EPA policy, and the U.S. Court of Appeals decision in, *Defenders of Wildlife v. Browner* (Ninth Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999).
47. Federal regulations in 40 CFR 122.42(c)(7) require the Discharger 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 21000 et seq.) in accordance with Section 13389 of the California Water Code.
49. This Order serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect fifty days from the date of hearing, provided U.S. EPA has no objections.

Storm Water Management Plan

50. Federal regulations (40 CFR 122.26(d)(2)(iv)), require that the SWMP be implemented to reduce the discharge of pollutants to the MEP during the entire 5-year duration of the Permit. Within

this permit period, the Discharger shall demonstrate compliance with the SWMP and this Order through the information and data supplied in annual Reports.

51. This Order requires evaluation of existing water quality impacts from urban storm water discharges, and the implementation and evaluation of the SWMP to reduce the discharge of pollutants into storm water runoff to the MEP and to improve water quality and protect beneficial uses. This Order requires implementation of the SWMP and its components to reduce pollutant loads from industrial and construction sites, new developments and existing urbanized areas. Additionally, this Order requires evaluation of the effectiveness of the SWMP in reducing the discharge of pollutants, improving water quality and protecting beneficial uses.
52. The Discharger submitted a SWMP dated December 1998. The ROWD included a description of the proposed SWMP to be implemented by the Discharger to reduce the discharge of pollutants in storm water to the MEP, and to effectively prohibit non-storm water discharges.
53. The SWMP describes the framework for management of storm water discharges during the term of this permit. The SWMP describes the goals and objectives, legal authorities, source identification process, funding sources, fiscal analysis, assessment controls, BMPs evaluation and improvement process, and monitoring plan of the Discharger's storm water management program.
54. The SWMP emphasizes pollution prevention through the following elements:
 - (a) Program Management
 - (b) Legal Authority
 - (c) Construction Program
 - (d) Industrial and commercial Program
 - (e) Municipal Operations and Maintenance Program
 - (f) Public Education Program
 - (g) Illicit Discharge Program
 - (h) Performance and Effectiveness Evaluation
 - (i) Fiscal Analysis
 - (j) Monitoring Plan
 - (k) Planning and New Development Program
 - (l) Pesticides Control Strategy

The SWMP defines the scope of each element, identifies responsible City of Modesto staff and estimates costs for the five-year period from 2002 to 2006.

55. The goal of the SWMP is to effectively eliminate illicit discharges and reduce pollutants in storm water to the MEP level. Criteria considered by the Discharger in selecting a program to reduce storm water pollutants to MEP include:
 - a. Mitigation of pollutants, which exceed water quality objectives, or known significant problem;
 - b. Technical feasibility and effectiveness;

- c. Cost effectiveness;
- d. Public priorities and public acceptance; and
- e. Consistency with the national and state storm water program objectives, as those objectives continue to be modified.

As part of the initial storm water application, the City of Modesto had conducted field screening to identify illicit connections. In addition, the Discharger has an ongoing program to identify possible illicit connections.

- 56. This Order includes a Monitoring Program that incorporates analytical Minimum Levels (MLs) established under the State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP)*. The SIP's MLs represent the lowest quantifiable concentration for priority toxic pollutants that is measurable with the use of proper method-based analytical procedures and factoring out matrix interference. The SIP's MLs therefore represent the best available science for determining MLs and are appropriate for a storm water monitoring program. The use of MLs allows the detection of toxic priority pollutants at concentrations of concern using recent advances in chemical analytical methods.
- 57. The SWMP contains performance standards and BMPs that the Discharger will perform to reduce the discharge of pollutants from its MS4. Performance standards represent the level of effort required of the Discharger in the implementation of BMPs and its SWMP. The specification of performance standards also simplifies the task of determining if the Discharger is putting forth a level of effort that will control pollutants in storm water discharges to the MEP.
- 58. Performance standards include implementation of recommended BMPs (source and treatment controls) for new development and redevelopment projects as required by local development standards and included in applicable standard specifications, design and procedures, and guidance documents (hereafter collectively referred to as Development Standards). The Discharger's Development Standards will be revised in accordance with the requirements of this Order.
- 59. The SWMP and modifications or revisions to the SWMP that are approved pursuant to this Order, are an integral and enforceable component of this Order.
- 60. This Order provides for an increase in storm water discharge due to continuing development within the Discharger's jurisdiction. Therefore, it is possible that future degradation of receiving water quality could occur. The continued implementation of the Discharger's SWMP that comply with the requirements of this Order will reduce the potential for discharges from MS4s to cause or contribute to the degradation of the receiving water quality. The continued implementation of the Permitte's SWMP that comply with the requirements of this Order will reduce the potential for discharges from MS4s to cause or contribute to the degradation of the receiving water quality. Therefore, this Order is consistent with the anti-degradation provisions of 40 CFR 131.12 and the State Board Resolution 68-16.

Development Standards

61. On 5 October 2000 the State Board adopted Order WQ 2000-11, a precedent setting decision concerning the use of Standard Urban Storm Water Mitigation Plans, hereafter Development Standards, in municipal storm water permits for new developments and redevelopments by the private sector. The State Board recognized that the decision includes significant legal or policy determinations that are likely to recur. (Gov. Code § 11425.60.) The State Board's Order requires that the Regional Board's MS4 permits must be consistent with applicable portions of the State Board's decision and include Development Standards.
62. Regulations 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the United States. Authorizing the construction of a storm water/ urban runoff treatment facility in a jurisdictional water body would be tantamount to accepting waste assimilation as an appropriate use for that water body. Furthermore, the construction and operation of a pollution control facility in a water body can impact the physical, chemical, and biological integrity as well as the beneficial uses of the water body. Therefore, storm water treatment and/or mitigation in accordance with Development Standards and any other requirements of this Order must occur prior to the discharge of storm water into a water of the United States.
63. 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)].
64. Retail gasoline outlets (RGOs) are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies in other areas indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. (*Schueler and Shepp* (1992)).
65. The Los Angeles and San Diego Regional Water Quality Control Boards have jointly prepared a Technical Report on the applicability of new development BMP design criteria for RGOs, [*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)]. RGOs in Washington, Oregon, and other parts of the United States are already subject to numerical BMP design criteria under the MS4 program. Currently the SWRCB is examining RGOs and deciding whether and to what extent RGOs should be regulated under the storm water NPDES program.

66. In March 1997, the California Storm Water Quality Task Force (SWQTF) published *Best Management Practice Guide – Retail Gasoline Outlets*.
67. 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.
68. The Discharger is 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.

Impaired Water Bodies

69. CWA Section 303(d) and 40 CFR 130.7 addresses waters that have not attained the CWA national goal of "fishable, swimmable" by requiring states to identify these impaired water bodies and develop total maximum daily loads (TMDLs) for them, with oversight from the U.S. EPA. A TMDL is a quantitative assessment of water quality problems, contributing sources, and load reduction or control actions needed to restore and protect bodies of water. Once the Regional Board and U.S. EPA approve TMDLs, discharge of storm water into an impaired water body will be subject to load allocations and implementation plans established under the TMDLs. Certain early actions and/or assessments by the Discharger to address 303(d) listed water bodies and constituents are warranted and required by this Order.
70. Both the San Joaquin River and the Lower Tuolumne River are listed as impaired water bodies pursuant to Section 303(d) of the CWA. Downstream of the San Joaquin and the Lower Tuolumne River, the Delta Waterways are listed as a water quality impaired water body. Regional Board staff are currently developing TMDLs for the San Joaquin River. The San Joaquin River is listed as impaired due to boron, chlorpyrifos, DDT, diazinon, electrical conductivity, Group A pesticides, selenium, and unknown toxicity. The Lower Tuolumne River is listed as impaired due to diazinon, Group A pesticides, and unknown toxicity. Once the Regional Board and U.S. EPA approve TMDLs, and if applicable, the Discharger's storm water NPDES permit may be modified to reflect the load allocation established by TMDLs.

Public Process

71. The Regional Board has notified the Discharger and interested parties of its intent to prescribe waste discharge requirements for this discharge. These parties have been given an opportunity to address the Regional Board at a public hearing and an opportunity to submit their written views and recommendations to the Regional Board.
72. The Regional Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The attached Information Sheet is part of this Order.

73. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 94-163 is rescinded, and that the Discharger, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted there under, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions – Storm Water Discharges

1. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in California Water Code § 13050), in waters of the state are prohibited.
2. Discharges from MS4s that cause or contribute to exceedances of receiving water quality standards for waters of the State are prohibited.
3. Discharges from the MS4s containing pollutants that have not been reduced to the MEP are prohibited.

B. Prohibition – Non-Storm Water Discharges

1. The Discharger shall, within its jurisdiction, effectively prohibit non-storm water discharges into its 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 an MS4 if such categories of discharges are identified by the Discharger or Regional Board as a significant source of pollutants to waters of the United States:
 - a. Diverted stream flows;
 - b. Rising ground waters;
 - c. Uncontaminated ground water infiltration [as defined at 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. Planned and unplanned discharges from potable water sources;
 - n. Irrigation water;

- 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, wax, floating material (liquids, solids, foams, and scums) or suspended material to create a nuisance or adversely affect beneficial uses.
- d. Chlorine to be detected in the receiving water in concentrations equal or greater than 0.01 mg/l.
- e. Aesthetically undesirable discoloration.
- f. Fungi, slimes, or other objectionable growths.
- g. The 30-day average for turbidity to increase as follows:
 - i More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
 - ii More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - iii More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
 - iv More than 10 percent where natural turbidity is greater than 100 NTUs.
- h. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units.
- i. Deposition of material that causes nuisance or adversely affects beneficial uses.
- j. 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.
- k. 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.
- l. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
- m. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental responses in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.

- n. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Board pursuant to the CWA and regulations adopted there under.
2. The discharge shall not cause or contribute to a violation of any applicable water quality standard for receiving waters contained in the Basin Plan. If different applicable water quality standards are adopted after the date of adoption of this Order, the Regional Board may revise and modify this Order as appropriate.

D. Provisions

1. The Discharger shall comply with this Order through the timely implementation of control measures and other actions to reduce pollutants in the discharge in accordance with the SWMP and other requirements of this Order including any modifications or amendments developed pursuant to this Order. The SWMP shall be designed to achieve compliance with this Order. If exceedance(s) of water quality standards persist, notwithstanding implementation of the SWMP, the Discharger shall comply with this Order by implementing the following procedure:
 - a. Upon determination by the Discharger that storm water discharges have caused or are causing an exceedance of an applicable water quality standard, the Discharger shall submit a report to the Regional Board 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 Regional Board directs an earlier submittal. The RWQE shall include proposed revisions to the SWMP and an implementation schedule for new or improved BMPs, if applicable. The Regional Board may require modification to the RWQE.
 - b. The Discharger shall submit any modification to the RWQE required by the Regional Board within 30 days of notification.
 - c. Within 30 days following approval of RWQE by the Regional Board, the Discharger shall revise the SWMP and its monitoring program to incorporate the approved modified BMPs that have been implemented, implementation schedule, and any additional monitoring required.
 - d. The Discharger shall implement the revised SWMP and monitoring program in accordance with the approved schedule.
2. As long as the Discharger has complied with the procedures set forth in Provision D.1 and is implementing the revised SWMP, it does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving WQS unless directed by the Regional Board to develop additional BMPs.
3. Within its jurisdiction, the Discharger shall:

- a. Comply with the requirements of this Order, the SWMP, and any modifications to the SWMP;
- b. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SWMP applicable to such Permittee in an efficient and cost-effective manner;
- c. Participate in intra-agency coordination (e.g. Fire Department, Building and Safety, Code Enforcement, Public Health, etc.) necessary to successfully implement the provisions of this Order and the SWMP.
- d. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:
 - i Program Management
 - a) Administrative Costs
 - ii Program Implementation – Where information is available, provide an estimated percent breakdown of expenditure for the following categories:
 - a) Illicit Connection/illicit discharge
 - b) Development planning
 - c) Development construction
 - d) Construction inspection activities
 - e) Industrial/Commercial inspection activities
 - f) Public Agency Activities
 - g) Maintenance of Structural BMPs and Treatment Control BMPs
 - h) Municipal Street sweeping
 - i) Catch basin cleanup
 - j) Trash collection
 - k) Capital costs
 - iii Public Information and Public Participation;
 - iv Monitoring program
 - v Miscellaneous Expenditures
 - vi In addition to the Budget Summary, the Discharger shall report any supplemental dedicated budgets for the same categories.

Storm Water Management Plan

4. Upon adoption of this Order, the discharger shall modify its SWMP to address the requirements of this Order and submit the SWMP by **1 April 2003** for public review, comment and Regional Board's approval. The Discharger shall address these comments

and modify, if necessary, the SWMP for submittal to the Regional Board for final approval. The SWMP shall include a description of new or revised BMPs that address the requirements of this Order. The SWMP shall also include performance standards or other assessment tools for verifying that the BMP has been achieved. The discharger shall incorporate newly developed or updated BMPs and assessment tools/Performance Standards acceptable to the Executive Officer, into revisions to the SWMP and adhere to implementation of the new/revised BMPs. The approved SWMP shall serve as the framework for identification, assignment, and implementation of BMPs. The Discharger shall develop and implement a SWMP that contains the following elements:

- a. Program Management
- b. Legal Authority
- c. Program Elements
 - i Construction Program
 - ii Industrial and Commercial Program
 - iii Municipal Operations
 - iv New Development and Planning (Development Standards)
 - v Illicit Discharge Program
 - vi Public Education Outreach Program
 - vii Fiscal Analysis
- d. Monitoring Plan
 - i Performance and Effectiveness Evaluation
- e. Water Quality Based Programs

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

Program Management

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

SWMP and Work Plan. In each Annual Report, the Discharger may propose pertinent updates, improvements, or revisions to the SWMP, which shall be complied with under this Order unless disapproved by the Executive Officer or acted upon in accordance with this Order. Annual Reports, including appendices and monitoring results, shall be made available to the public upon request.

- c. **SWMP Implementation:** The Discharger shall have commenced full implementation of all requirements of the SWMP Section of this Order by **1 September 2003**, with the exception of the requirements included in New Development or Significant Redevelopment Standards provisions of this Order. The SWMP is an enforceable part of this Order.
- d. **SWMP Modification:** The Discharger's SWMP may need to be modified, revised, or amended from time to time to respond to a change in conditions and to incorporate more effective approaches to pollutant control. Provisions of this Order require review and revision of the certain components of the Discharger's SWMP. Proposed SWMP revisions will be part of the annual review process and incorporated in the Annual Report. In addition, the Discharger shall revise its SWMP to comply with regional or watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the degradation and implementation of TMDLs for impaired water bodies. Significant SWMP revisions shall be brought before the Regional Board for approval. Minor SWMP revisions may be approved by the Executive Officer, following a 30-day public comment period.

Legal Authority

6. **Legal Authority:** Discharger shall establish, maintain, and enforce adequate legal authority to control pollutant discharges from its MS4 through ordinance, statute, permit, contract or similar means. This legal authority must, at a minimum, authorize the discharger to:
 - a. Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to its 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 illicit discharges for which pollutants have not been reduced to the maximum extent practicable including but not limited to the following:
 - i Sewage overflows;
 - ii Discharges of wash water resulting from the hosing or cleaning of gas stations, vehicle repair services, or other types of automotive service facilities;
 - iii Discharges resulting from storage, cleaning, repair, or maintenance of any type of equipment, machinery, or facility including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;

- iv Discharges of wash water from mobile operations such as mobile vehicle washing, steam cleaning, power washing, and carpet cleaning, etc.;
 - v Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, and commercial, areas including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
 - vi Discharges of runoff from material storage areas containing equipment, chemicals, fuels, grease, oil, or other hazardous materials;
 - vii Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
 - viii Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes;
 - ix Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.);
 - x Discharge of runoff from the washing of toxic materials from paved or unpaved areas; and
 - xi Discharge of material such as litter, landscape debris, construction debris, or any state or federally banned pesticides.
- c. Prohibit and eliminate illicit connections to the MS4;
 - d. Control the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;
 - e. Use enforcement mechanisms to require compliance with storm water ordinances, permits, contracts, or orders;
 - f. Control the contribution of pollutants from one portion of the MS4 to another portion of the MS4 through interagency agreements among the Discharger and other public entities discharging to the MS4 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 of illicit discharges to the MS4;
 - h. Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4; and
 - i. Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.
- 7. The Discharger shall amend and adopt (if necessary), no later than **1 April 2003**, a specific storm water and urban runoff ordinance to enforce all requirements of this Order.
 - 8. The Discharger shall provide to the Regional Board a statement certified by its chief legal counsel that the discharger 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. This statement shall be included in the annual report that describes the following:

- a. Citation of urban-runoff-related ordinances and the reasons they are enforceable;
- b. Identification of the local administrative and legal procedures available to mandate compliance with urban runoff related ordinances;
- c. Description of how these ordinances are implemented and appealed; and
- d. Description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

Additional Program Elements

9. Construction Program

- a. The Discharger shall update and continue to implement the Construction Component of its SWMP to reduce pollutants in runoff from construction sites during all construction phases. At a minimum the Construction Program shall address:
 - i Pollution Prevention
 - ii Grading Ordinance Modification
 - iii Construction and Grading Approval Process
 - iv Source Identification
 - v Threat to Water Quality Prioritization
 - vi BMP Implementation
 - vii Construction Site Inspections
 - viii Enforcement Measures for Construction Sites
 - ix Reporting of Non-compliant Sites
 - x Education Focused on Construction Activities
- b. The Discharger ensure the following minimum requirements are effectively implemented at all of these construction sites:
 - i Sediments generated on the project site shall be retained using adequate Source Control or Structural 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.
- v Prior to issuing a grading permit for all projects, require proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a local Storm Water Pollution Prevention Plan (SWPPP) to the permitting agency that contains, at a minimum, the following:
 - a) A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;
 - b) A The project architect, engineer of record, or authorized qualified designee, must sign the following statement on the SWPPP stating that appropriate BMPs have been selected and that the project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness 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);
 - c) A detailed, site-specific listing of the potential sources of storm water pollution;
 - d) A description of the type and location of erosion and sediment control BMPs and source and/or treatment control BMPs to be employed at the site; and
 - e) The name and telephone number of the qualified person responsible for implementing the SWPPP.
- vi Establish priorities for inspection of all construction sites subject to the General Construction Permit. Priorities shall be explained in detail in the SWMP and be based on at least the following factors:
 - a) Project size;
 - b) Soil erosion potential;
 - c) Proximity to water of the State;
 - d) Tributary to Clean Water Act section 303(d) listed waters; and
 - e) Previous violations of the General Construction Permit or local storm water ordinances.

The Discharger shall rate construction sites as high or moderate threat to water quality. Upon request by the Executive Officer, the Discharger shall submit prioritized lists of applicable sites within the Discharger jurisdiction for the

Executive Officer review and approval. At a minimum, all sites discharging to a tributary to a 303(d) listed surface water shall be considered high priority sites/

vii Inspect construction sites for compliance with local ordinances as follows:

- a) High Priority Sites, **a minimum of once every two weeks during wet weather period** (1 October to 30 April) and **once a month during the remainder of the year.**
- b) Medium Priority Sites, **a minimum of once a month year round.**

The Discharger shall inspect these sites for compliance with a Local SWPPP and ordinances. In addition, if the Discharger discovers apparent violations of the General Construction Permit, the Discharger shall notify the Regional Board as described below. The Discharger shall use its legal authority to promptly and effectively enforce its storm water ordinance(s) to correct any noncompliance observed during inspections.

c. General Construction Permit Violation Referrals

i Violations of the General Construction Permit

The Discharger shall refer an apparent violation(s) to the Regional Board provided that the Discharger has made a good faith effort of progressive enforcement. At a minimum, the Discharger's good faith effort must include documentation of:

- a) Two follow-up inspections, and
- b) Two warning letters or notices of violation.

ii Violations of the General Permit Filing Requirements –

For those projects subject to the General Permit, the Dischargers shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within seven days of making a determination. In making such referrals, the Dischargers shall include, at a minimum, the following documentation:

- a) Project location;
- b) Developer;
- c) Estimated project size; and
- d) Records of communication with the developer regarding filing requirements.

d. The Discharger shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than **1 April 2003**, and annually thereafter

10. **Industrial/Commercial Program:** The Discharger shall require implementation of pollutant reduction and control measures at industrial and commercial facilities, with the objective of effectively eliminating illegal non-storm water runoff and reducing pollutants in storm water runoff to the MEP. Except as specified in other sections of this Order, pollutant reduction and control measures can be used alone or in combination, and can include Structural and Source Control BMPs, and operation and maintenance procedures, which can be applied before, during, and/or after pollution generating activities. At a minimum, the Industrial/Commercial Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance at industrial and commercial facilities that are significant sources of pollutants in storm water to the MEP.

a. **Track Pollutant Sources**

- i The Discharger shall submit, as part of its modified SWMP, a list of top priority industries and businesses in its jurisdiction that will be subject to a program of routine inspections during the permit term. The SWMP shall include a description of the factors considered in prioritizing the industries and businesses, such as:
- a) Significance as potential target pollutant source;
 - b) Potential for or known history of non-storm water discharges;
 - c) The facility is already inspected for compliance with HazMat, pretreatment or other regulations by agency inspectors;
 - d) Coverage under the State's General Industrial Permit;
 - e) Use or sale of hazardous materials; and/or
 - f) Generation of hazardous wastes
- ii The Discharger shall maintain an inventory or database of all significant sources of unauthorized non-storm water discharges and the following industries and businesses:
- a) Industrial and commercial facilities as top priorities for the Discharger as described above;
 - b) The inventory or database shall include the following industrial or commercial facilities: auto body shops, auto dealers, auto repair shops, dry cleaners, equipment rentals, nurseries, pet kennels, restaurants and caterers, and RGOs; and
 - c) The inventory or database shall include the following businesses that create temporary or intermittent sources of unauthorized non-storm water discharges and/or storm water pollution in varied locations: automotive washing and detailing, carpet cleaners, commercial pesticide applicators, concrete pouring contractors, concrete cutting contractors, general building contractors, handyman service providers, janitorial service providers, landscape installation and/or maintenance contractors, paint contractors, portable toilet rental and maintenance, pressure washers, roofing contractors, street

sweepers, swimming pool contractors, and swimming pool maintenance providers.

- d) Facilities that require coverage under the NPDES General Permit for Storm Water Discharges Associated with Industrial Activity (hereafter General Industrial Permit).
- iii The Discharger shall include the following minimum fields of information for each industrial and commercial facility:
- a) Name and address of owner and operator;
 - b) Coverage under the General Industrial Permit or other individual or general NPDES permits; and
 - c) Narrative description and SIC code that best reflects the industrial or commercial activities at and principal products of each facility or business.

The Discharger may add other fields of information, such as material usage and/or industrial output, or discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity having potential to pollute storm water. In addition, the Discharger may use an automated database system such as a GIS or Internet-based system.

- iv The Discharger shall update its inventory of pollutant sources at least twice during the permit term. The update may be accomplished through collection of new information obtained through field activities or through other readily available intra-agency informational databases (e.g. business licenses, pretreatment permits, sanitary sewer hook-up permits, etc.).
- v The Discharger shall submit, as part of its modified SWMP, a list of top priority industries and businesses in its jurisdiction that will be subject to a program of routine inspections during the permit term. The SWMP shall include a description of the factors considered in prioritizing the industries and businesses, such as:
- Significance as a potential target pollutant source;
 - Potential for or known history of non-storm water discharges;
 - The facility is already inspected for compliance with HazMat, pretreatment or other regulations by agency inspectors;
 - Coverage under the State's General Industrial Permit;
 - Use or sale of hazardous materials; and/or
 - Generation of hazardous wastes

b. Inspect Pollutant Sources

The Discharger shall inspect all facilities at a level and frequency as specified below.

- i Industrial and commercial facilities identified by the Discharger as potentially significant sources of storm water pollution; these facilities shall include, but not be limited to, auto body shops, auto dealers, dry cleaners, equipment rentals, nurseries, pet kennels, restaurants and caterers, and RGOs.
 - a) **Frequency of Inspections:** Twice during the 5-year term of the Order, provided that the first inspection occurs no later than **1 December 2004**, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection. After the initial inspection the Permittee needs not perform additional inspections at those facilities determined by Permittee inspection to have no significant risk of pollutant exposure storm water of industrial activity.

Level of inspections: Inspections of industrial and commercial facilities shall be designed and conducted to verify the following:

- i) The facility operator has received educational materials on storm water pollution prevention practices and regulations;
- ii) The facility operator is in compliance with local storm water ordinances;
- iii) The potential for discharge of pollutants in storm water is reduced to the MEP; possible sources to be inspected include industrial processes; equipment and vehicle maintenance and storage; equipment, vehicle, and surface washing; raw material and product handling and storage; solid waste handling and storage; and hazardous waste handling and storage;
- iv) Unauthorized non-storm water discharges do not occur at the facility; and
- v) Illicit connections are not evident

ii **Facilities requiring coverage under General Industrial Permit**

At sites owned or operated by the Discharger, self-monitoring inspections conducted in compliance with the General Industrial Permit shall be deemed to satisfy the inspection requirements of this section. Also, The Discharger need not inspect facilities that have been inspected by the Regional Board within the past six months. For the remaining facilities, the Discharger shall conduct inspections as specified below.

- a) **Frequency of Inspection:** Twice during the five-year term of this Order, provided that the first inspection occurs no later than **1 December 2004**, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection. The Discharger need not perform additional inspections at those facilities determined by The Discharger inspection to have no risk of exposure of industrial activity to storm water.
- b) **Level of Inspection:** The Discharger shall confirm that each operator (1) has a current Waste Discharge Identification (WDID) number for facilities

discharging storm water associated with industrial activity, (2) that a Storm Water Pollution Prevention Plan is available on site, and (3) that the operator is effectively implementing BMPs in compliance with local ordinances.

c. Ensure Compliance of Pollutant Sources

- i **BMP Implementation:** The Discharger shall require through ordinance or other means, that industrial/commercial dischargers control pollutants in storm water discharges to the MEP, and effectively eliminate unauthorized non-storm water discharges to the MS4. The Discharger shall provide guidance on BMP selection; however, the Regional Board recognizes that the selection of specific BMPs to be implemented is the responsibility of the discharger.
- ii **Progressive Enforcement:** The Discharger shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with local ordinances and requirements within a reasonable period as specified below.
 - a) In the event that the Discharger determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, the Discharger shall take progressive enforcement action, which, at a minimum, shall include a follow-up inspection within a four weeks from the date of the initial inspection.
 - b) In the event that the Discharger determines that an operator has failed to adequately implement BMPs after a follow-up inspection, the Discharger shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.
 - c) The Discharger shall maintain records, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance with local storm water ordinances or requirements.

iii Interagency Coordination

- a) **Referral of apparent Violations of the General Industrial Activity Storm Water Permit, including Requirements to File a Notice of Intent:** The Discharger shall notify the Regional Board of industrial dischargers in its jurisdiction that receive a violation notice for noncompliance with local storm water ordinances or requirements. This requirement is limited to those industrial dischargers that must be covered under the General Industrial Permit. The notification to the Regional Board shall include at least the following:
 - i) Name of the facility;
 - ii) Operator of the facility;

- iii) Owner of the facility;
- iv) Industrial activity being conducted at the facility that is subject to the General Permit; and
- v) Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

This notice shall be provided to the Regional Board within 60 days of the observed violation by the Discharger.

- b) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** The Discharger shall initiate, within three business days, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint to determine if the facility is out of compliance with municipal storm water ordinances.
- c) **Support of Regional Board Enforcement Actions:** As directed by the Regional Board Executive Officer, the Dischargers shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

11. **Municipal Program**

- a. **Components:** The Discharger shall implement a Municipal Program to effectively prohibit non-stormwater discharges and prevent or reduce pollutants in runoff to the MEP from all municipal land use areas, facilities, and activities. At a minimum the Municipal Program shall consist of:
 - i Sewage System Maintenance, Overflow, and Spill Prevention
 - ii Public Construction Activities Management
 - iii Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management
 - iv Landscape and Recreational Facilities Management
 - v Storm Drain Operation and Management
 - vi Streets and Roads Maintenance
 - vii Parking Facilities Management
 - viii Public Industrial Activities Management
 - ix Emergency Procedures
 - x Treatment Feasibility Study
- b. **Discussion of Components**

i Sewage System Maintenance, Overflow, and Spill Prevention

- a) Within its jurisdiction, The Discharger shall implement a response plan for overflows of the sanitary sewer system which shall consist, at a minimum, of the following:
 - i) Investigation of any complaints received;
 - ii) Upon notification, immediate response to overflows for containment; and
 - iii) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.
- b) The Discharger shall also implement the following requirements:
 - i) Procedures to prevent sewage spills or leaks from entering the MS4; and
 - ii) Repair, and remediate sanitary sewer blockages, overflow, and wet weather overflows from sanitary sewers to the MS4.

ii Public Construction Activities Management

- a) The Discharger shall implement the Development Standard requirements at public construction projects.
- b) The Discharger shall implement the Construction Program requirements at Discharger owned construction sites.
- c) The Discharger shall obtain coverage under the General Permit for construction activity for public construction sites five acres or greater (or part of a larger area of development).
- d) By **10 March 2003**, The Discharger shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

iii Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

- a) The Discharger shall develop and implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.
- b) The Discharger shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:
 - i) Good housekeeping practices;
 - ii) Material storage control;
 - iii) Vehicle leaks and spill control; and

- iv) Illicit discharge control.
- c) The Discharger shall implement the following measures to prevent the discharge of pollutants to the MS4:
 - i) For existing facilities that are not already plumbed to the sanitary sewer, all vehicle and equipment wash areas (except for fire stations) shall either be:
 - Self-contained;
 - Equipped with a clarifier;
 - Equipped with an alternative pre-treatment device; or
 - Plumbed to the sanitary sewer
 - ii) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and, if required, be equipped with a pre-treatment device in accordance with requirements of the sewer agency.

iv Landscape and Recreational Facilities Management

The Discharger shall implement the following requirements:

- a) A standardized protocol for routine and non-routine application of pesticides, herbicides (including pre-emergent), and fertilizers;
- b) Consistency with the State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);
- c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied or when fog is present (for spray application only);
- d) Ensure no application or storage of banned or unregistered pesticides;
- e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;
- f) Implement an IPM program requiring the use of less toxic or non-toxic approaches to pest management;
- g) Implement procedures to 1) encourage retention and planting of native vegetation and 2) to reduce water, fertilizer, and pesticide needs;

- h) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;
- i) Encourage the reduction in the use, storage, and handling of hazardous materials to reduce the potential for spills; and
- j) Regularly inspect storage areas.

v **Storm Drain Operation and Management**

- a) The Discharger shall prioritize and designate catch basin inlets based on the degree of required maintenance. The Discharger shall also provide rationale for the above referenced designation.
- b) By **1 April 2003**, The Discharger shall prioritize and label all catch basins within its jurisdiction.
- c) The Dischargers shall clean their catch basins to ensure that the hydraulic properties are not jeopardized and to minimize the discharge of trash and debris. At a minimum the Discharger shall clean basins once a year prior to the wet season.
- d) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, and in areas served by a positive drain system discharging to the Tuolumne River, the municipality shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.
- e) The Discharger shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within one hundred eighty (180) days of inspection.
- f) The Discharger shall keep records of catch basins and storm sewer lines cleaned and maintained.
- g) The Discharger shall implement BMPs for Storm Drain Maintenance that include:
 - i) A program to visually monitor Discharger-owned drainage structures (i.e. detention basins, pump stations) for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

- ii) A review of current maintenance activities to ensure that appropriate storm water BMPs are being utilized to protect water quality;
- iii) Minimize the discharge of contaminants during MS4 maintenance and clean outs;
- iv) Proper disposal of material removed; and
- v) Record keeping of drainage structures cleaned and maintained.

vi Streets and Roads Maintenance

- a) The Discharger shall designate, and provide rationale for such designation, streets and/or street segments within its jurisdiction based on the required level of maintenance.
- b) The Discharger shall perform street sweeping of curbed streets to ensure that pollutants are reduced to the MEP.
- c) The Discharger shall require that:
 - i) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;
 - ii) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and
 - iii) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.
- d) By **1 April 2003**, The Discharger shall train its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program as follows:
 - i) Promote a clear understanding of the potential for maintenance activities to pollute storm water; and
 - ii) Identify and select appropriate BMPs.

vii Parking Facilities Management

Discharger-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup. The Discharger shall establish a cleaning and inspection frequency to minimize the discharge of pollutants. The Discharger shall provide the proposed schedule as part of the 2002/03 Annual Report.

viii **Emergency Procedures**

The Discharger shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as earthquakes, fires, floods, landslides, or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, The Discharger shall implement BMPs and programs as required under this Order.

ix **Treatment Feasibility Study**

The Discharger shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from the positive drainage system, which may impact public health and safety and/or the environment. The Discharger shall collectively review prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board by **1 September 2003**. *(This study should be limited to areas where stormwater is discharged to surface receiving waters.)*

12. **Illicit Discharge Detection and Elimination Program**

a. **General:** The Discharger shall implement an Illicit Discharge Detection and Elimination Program containing measures to actively seek and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Component shall address:

- i Dry Weather Analytical Monitoring
- ii Investigation/Inspection and Follow-up Procedures
- iii Elimination of Illicit Discharges and Connections
- iv Enforcement of Ordinance
- v Prevention and Response Procedures to Sewage Spills (including from private laterals) and Other Spills
- vi Public Reporting of Illicit Discharges and Connections – Public Hotline
- vii Appropriate Disposal of Used Oil and Toxic Materials
- viii Prevention of Infiltration from Sanitary Sewer to MS4s.

Tracking: By **1 September 2003**, the discharger shall develop and maintain a listing of reported illicit connections and illegal discharges on a map using a convenient scale and in a format that is easily discernible. This information shall be provided in the Annual Report. The Discharger shall use this information to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.

- b. **Training:** By **1 April 2003**, the Discharger shall train all their targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges.
 - c. **Illicit Connections**
 - i Screening for Illicit Connections: The Discharger shall conduct dry weather monitoring as noted in the MRP to identify possible illicit connections. The Discharger shall provide follow-up investigation to verify the presence of an illicit connection.
 - ii Response to Illicit Connections
 - a) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, the Discharger shall initiate an investigation within twenty-one (21) days, to determine the source of the connection, the nature and volume of discharge through the connection, and the responsible party for the connection.
 - b) Termination: Upon confirmation of the illicit nature of a storm drain connection, the Discharger shall ensure termination of the connection within One hundred eighty (180) days, using enforcement authority as needed.
 - d. **Illicit Discharges**
 - i Abatement and Cleanup: The Discharger shall respond, within one business day of discovery or a report of a suspected illicit discharge, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances. Records of illicit discharges shall be maintained and shall include at a minimum; pollutant discharged, date, location, responsible party, previous occurrences at the same location, corrective action taken or any enforcement action.
 - ii Investigation: The Discharger shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate
13. **Public Outreach and Public Education Program:** The Discharger shall implement a Public Outreach and Public Education (POPEP) 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) change the behavior of target communities and thereby reduce pollutant releases to MS4s and the environment. The Discharger shall incorporate a mechanism for **public participation** in the implementation of the SWMP (i.e., programs that engage the public in cleaning up creeks, removal of litter in river embankments, stenciling of storm drains, etc.). To meet the SWMP objectives and requirements of this Order, at a minimum, the

POPEP shall do the following:

- a. By **1 April 2003**, The Discharger shall establish a **24-hour HOTLINE** that will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. The Discharger shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed/published.
- b. By **1 April 2003**, The Discharger shall implement a POPEP program which must have the following components:
 - i Advertising;
 - ii Media relations;
 - iii Public service announcements;
 - iv "How To" instructional material distributed in a targeted and activity-related manner;
 - v Business, community association, environmental organization; and
 - vi Events targeted to specific activities, specific pollutants and population subgroups.
- c. Address the following target communities:
 - i Municipal Departments and Personnel
 - ii Construction Site Owners and Developers
 - iii Industrial/Commercial Owners and Operators
 - iv General Public, and School Children;
 - v Quasi-Governmental Agencies/Districts (i.e., educational institutions, water districts, sanitation districts, etc.); and
 - vi Residential Community - Activities that must be addressed include:
 - a) Automobile repair and maintenance;
 - b) Automobile washing;
 - c) Automobile parking;
 - d) Home and garden care activities and product use (pesticides, herbicides, and fertilizers);
 - e) Disposal of household hazardous waste (e.g., paints, cleaning products);
 - f) Disposal of pet waste;
 - g) Disposal of green waste; and
 - h) Any other residential source that the Discharger determine may contribute a significant pollutant load to the municipal separate storm sewer system;
- d. Based on approximately 190,000 residents in the Modesto Urbanized Area and 3-3.5 impressions per resident, the Discharger shall ensure that a minimum of 600,000 impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

- e. Provide schools within each public school district in the Modesto Area with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of fifty (50) percent of all school children in grade 4 every two years on storm water pollution.
 - f. Develop and implement a Business Outreach program to educate and inform business owners and operators about storm water regulations, with emphasis on RGOs and restaurant chains. At a minimum, this program shall include:
 - i. Conferring with owners and operators to explain storm water regulations;
 - ii. Distribution and discussion of educational material regarding storm water pollution and BMPs, and providing owners and operators with suggestions to facilitate employee compliance with storm water regulations.
 - iii. Business Outreach for all RGOs and restaurant chains shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than **1 April 2003**.
 - g. The Discharger shall conduct surveys during the first, third and fifth years of the permit to determine the effectiveness of the outreach program.
14. **Performance and Effectiveness Evaluation:** The discharger shall assess the effectiveness of its SWMP in the Annual Reports. The assessment shall address specific direct and indirect measurements that the discharger will use to track the long-term progress of the SWMP towards achieving improvements in receiving water quality. Direct and indirect measures of effectiveness assessment shall include, but are not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of control measures, measurements or estimates of pollutant load reductions or increases, detailed accounting of SWMP accomplishments, and funds expended or staff hours utilized. Methods to improve effectiveness in the implementation of tasks and activities including development of new, or modification of existing BMPs and Performance Standards, shall be identified through the SWMP effectiveness evaluation.
15. **Fiscal Analysis Element:** The Discharger shall secure the resources necessary to meet the requirements of this Order. As part of its SWMP, the Discharger shall prepare an annual fiscal analysis as part of the Annual Report. This analysis shall, for each fiscal year covered by this Order, evaluate the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) necessary to accomplish the activities outlined in SWMP. Such analysis shall include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.
16. **Monitoring Program:** The Discharger shall comply with Monitoring and Reporting Program No. R5-2002-0182, which is part of this Order, and any revisions or

modifications thereto as ordered by the Regional Board. Because the Discharger operate facilities which discharge waste subject to this Order, this Monitoring and Reporting Program is necessary to ensure compliance with these waste discharge requirements.

New Development and Planning Program

17. The Discharger shall minimize the short and long-term impacts on receiving water quality from new development and redevelopment. In order to reduce pollutants and runoff flows from new development and redevelopment to the MEP, Discharger shall at a minimum:
 - a. Incorporate water quality and watershed protection principles and policies into planning procedures and policies such as development standards or requirements to direct land-use decisions and require implementation of consistent water quality protection measures for all development projects. These principles and policies shall be designed to protect natural water bodies, reduce impervious land coverage, slow runoff, and where feasible, maximize opportunities for infiltration of rainwater into soil. Such water quality and watershed protection principles and policies shall consider the following:
 - i Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible maximize on-site infiltration of runoff.
 - ii Implement pollution prevention methods supplemented by pollutant source controls and treatment; where practical use strategies that control the sources of pollutants or constituents (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into an MS4.
 - iii Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.
 - iv Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.
 - v Use methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads.
 - vi Identify and avoid areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that identifies these areas and protects them from erosion and sediment loss.
 - vii Coordinate with local traffic management programs to reduce pollutants associated with vehicles and increasing traffic resulting from development.

- viii Implement source and structural controls as necessary to protect downstream receiving water quality from increased pollutant loads in runoff flows from new development and significant redevelopment.
 - ix Control the post-development peak storm water run-off discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat.
- b. Prior to project approval and issuance of local permits, Discharger shall review each individual proposed project plan and require measures to ensure that pollutants and runoff from the development will be in compliance with storm water ordinances, local permits, all other applicable ordinances and requirements, and this Order.

Development Standards

18. The Discharger has Development Standards requiring source and treatment control BMPs to reduce pollutants from new development and redevelopment areas. The Discharger shall continue to implement its Development Standards for new development and redevelopment projects. To ensure consistency with the applicable portions of State Regional Board Order WQ 2000-11, the Discharger will submit an **Assessment Report** to the Regional Board by **1 April 2003** for review and approval by the Regional Board. At a minimum, the Assessment Report shall provide the following information:
- a. Description of existing Development Standards including project categories, BMP requirements and numeric sizing requirements;
 - b. Comparison of existing development standards to the requirements established under State Board Order WQ 2000-11;
 - c. Description of the proposed modifications to the Development Standards to ensure that, at a minimum, consistent with the requirements of State Board Order WQ 2000-11.
19. By **1 December 2003**, after approval of the Assessment Report by the Regional Board, the Discharger shall adopt its own local Development Standards and submit the local Development Standards to the Regional Board for review. By **1 December 2003**, the Discharger shall submit to the Regional Board a copy of the amended ordinance for the Regional Board to determine if the amended ordinance is consistent with the approved Assessment Report. If the amended ordinance is not consistent with the approved Assessment Report, the Regional Board shall inform the Discharger.
20. Immediately following adoption of its local Development Standards, the Discharger shall ensure that all new development and significant redevelopment projects falling under the priority project categories listed below meet Development Standards. The Development Standards shall apply to all priority projects or phases of priority projects, which do not

have the following: approval by the City or County Engineer, permit for development or construction, or an approved tentative map.

- a. Priority Development Project Categories - New Development standards shall apply to all new development and significant redevelopment projects falling under the priority project categories or locations listed below. 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: the 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 Development Standard requirements, the numeric sizing criteria discussed below applies only to the addition, and not to the entire development.
 - i Home subdivisions of 10 housing units or more. This category includes single-family homes, multi-family homes, condominiums, and apartments.
 - ii Commercial developments with greater than one-acre of impervious area. This category is defined as any development on private land that is not for heavy industrial or residential uses where the total impervious land area for development is greater than one acre. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; and other light industrial facilities.
 - iii Automotive repair shops- This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539, where the total impervious area for development is greater than 5,000 square feet
 - iv Restaurants - This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the total impervious area for development is greater than 5,000 square feet.
 - v Parking lots that are 5,000 square feet or greater, or with 25 or more parking spaces and potentially exposed to urban runoff. Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

- vi Streets and roads. This category includes any paved surface in excess of one acre of impervious area used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
 - vii Retail Gasoline Outlets. Retail Gasoline Outlet is defined as any facility engaged in selling gasoline with 5,000 square feet or more of impervious surface area. At a minimum, the Discharger shall require the use of BMPs such as dry cleaning methods (e.g., sweeping) and other BMPs listed in the California Storm Water Quality Task Force, March 1997 BMP Guide for Retail Gasoline Outlets.
- b. BMP Requirements – The New Development standards shall include a list of recommended source control and structural treatment BMPs. The standards shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum: (1) source control BMPs, and; (2) structural treatment BMPs.
- c. Numeric Sizing Criteria – The New Development standards shall require structural treatment BMPs to be implemented for priority development projects. In addition to meeting the BMP requirements listed above, all structural treatment BMPs for a single priority development project shall collectively be sized to comply with the following numeric sizing criteria:
- i Volume-based BMPs shall be designed to mitigate (infiltrate, filter, 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 Discharger 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, filter, 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 the local historical rainfall record, 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.
- d. Equivalent Numeric Sizing Criteria - The Discharger may develop any equivalent numeric sizing criteria or performance-based standard for post-construction structural treatment BMPs as part of the New 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 by the Executive Officer of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.
- e. Pollutants and Activities of Concern – As part of the New Development standards, the Discharger shall identify pollutants of concern or activities of concern for each priority development project. The Discharger 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 Clean Water Act 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 concern; (4) activities expected to be present at the site; and (5) changes in flow rates and volumes resulting from the development project.
- f. Implementation Process – As part of the SWMP, the Discharger shall develop a process by building on existing programs upon which New Development standards will be implemented. The process shall identify at what point in the planning process development projects will be required to meet New Development Standards. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the New Development requirements, as well as any other measures necessary for the implementation of New Development requirements.
- g. Restaurants Less than 5,000 Square Feet - New development and significant redevelopment restaurant projects where the impervious land development is less than 5,000 square feet shall meet all source control requirements except for structural treatment BMP and numeric sizing criteria requirement above.
- h. Infiltration and Groundwater Protection - To protect groundwater quality, the Discharger shall apply restrictions to the use of structural BMPs, which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins).

- i. Downstream Erosion – as part of the Development Standards, the Discharger shall update any existing criteria for new development and significant redevelopment to ensure that discharges from design storms as defined by the Discharger maintain or reduce pre-development downstream erosion and protect stream habitat. At a minimum, criteria shall be developed to control peak storm water discharge rates and velocities in order to maintain or reduce pre-development downstream erosion and protect stream habitat.
- j. Regional Storm Water Management Program –The Discharger is encouraged to seek regional and/or watershed management programs that address runoff from new development and significant re-development. Such regional/watershed programs may be substituted in whole for individual priority project structural controls.

21. Maintenance Agreement and Transfer

The Discharger shall require that all developments subject to Development Standards and site specific plan requirements provide verification of maintenance provisions for Structural and 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 or 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 and Treatment Control BMPs; or
- e. Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

22. California Environmental Quality Act (CEQA) Document Update

The Discharger shall incorporate into its CEQA process, with immediate effect, 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.

23. General Plan Update

- a. The Discharger shall amend, revise, or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.
- b. The Discharger shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the General Plan is noticed for comment in accordance with California Government Code § 65350 *et seq.*

24. Targeted Employee Training

The Discharger shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than **1 April 2003**, and more frequently if necessary.

25. Developer Technical Guidance and Information

- a. The Discharger shall develop and make available to the developer community Development Standards (development planning) guidelines.
- b. By **1 April 2004**, the Discharger shall issue a technical manual for the siting and design of BMPs for the development community in the Modesto Area. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in January 2003. The technical manual shall at a minimum include:
 - i Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of consistency in the Modesto Area;

- ii Peak Flow Control criteria to control peak discharge rates, velocities and duration;
- iii Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature; and
- iv Maintenance considerations.

Water Quality Based Control Programs

26. **Water Quality-Based Requirements for Specific Pollutants of Concern:** The Discharger shall implement control programs for pollutants that have the reasonable potential to cause or contribute to exceedances of water quality standards. These control programs shall include the following:
- a. **Control Program for Pesticides:** To address pesticide impairment of urban streams, the Discharger shall implement a pesticide toxicity control plan (Pesticide Plan) that addresses their own use of pesticides including diazinon, chlorpyrifos, and the use of such pesticides by other sources within their jurisdictions. The Discharger may address this requirement by building upon prior submissions to the Regional Board.
 - b. **Pesticide Use by Discharger:** The Pesticide Plan shall include a program to quantitatively identify pesticide use by preparing a periodically updated inventory of pesticides used by all internal departments, divisions, and other operational units. The Pesticide Plan shall include implementing actions to replace pesticide use (especially diazinon use) with less toxic alternatives. The Discharger shall adopt and implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and the use of Integrated Pest Management (IPM) techniques in operations. The Discharger shall ensure that all municipal employees who apply pesticides receive annual training and are under the supervision of a certified pesticide applicator. The training shall address proper use and disposal of such pesticides, and less toxic methods of pest prevention and control, including IPM. The Pesticide Plan shall also be subject to updating via the Discharger's continuous improvement process.
 - c. **Other Pesticide Sources:** To address other pesticide users within the Discharger's jurisdiction, the Pesticide Plan shall include the following elements:
 - i. Public education and outreach programs. Such programs shall be designed for residential and commercial pesticide users and pest control operators. These programs shall be developed in coordination with the County Agriculture Extension Service and shall provide targeted information concerning proper pesticide use and disposal, potential adverse impacts on water quality, and alternative, less toxic methods of pest prevention and control, including IPM. These programs shall also target pesticide retailers to encourage the sale of less toxic alternatives and to facilitate point-of-sale public outreach efforts. These programs may also recognize local less toxic pest management practitioners.

- ii. Mechanisms to discourage pesticide use at new development sites. Such mechanisms shall encourage the consideration of pest-resistant landscaping and design features, and incorporation of storm water source control and treatment control BMPs in the design, landscaping of proposed development projects.
 - iii. Coordination with household hazardous waste collection agencies. The Discharger shall support, enhance, and help publicize programs for proper pesticide disposal.
 - iv. The Pesticide Plan shall include a schedule for implementation and a mechanism for reviewing and amending the plan, as necessary, in subsequent years. The Pesticide Plan shall be submitted to the Executive Officer by 1 April 2003.
 - v. The Discharger shall submit to the Executive Officer, by **1 April 2004**, the Pesticide Plan as part of the FY 2004-2005 Annual Work Plan. The Pesticide Plan shall include a schedule for implementation and assessment. In addition, the Discharger shall distribute the Pesticide Plan to interested parties for a 30-day review period. Interested parties may send comments on the Pesticide Plan to the Executive Officer during this period. At the conclusion of the review period, the Executive Officer will consider any comments along with the proposed plan. The Executive Officer may accept or reject the proposed plan, or schedule it for a hearing before the Regional Board. In any case, Regional Board staff will provide (1) a response to any objection to approval of the Pesticide Plan, or (2) comments to the Discharger if the Pesticide Plan is rejected.
- d. **Other Pesticide Activities:** The Discharger shall work with the pesticide control stakeholders and other municipal storm water management agencies to assess which pesticide products and uses pose less risk to surface water quality. The Discharger shall also work with the Regional Board and other agencies in developing a TMDL for pesticides in impaired urban creeks and other tributaries to the Tuolumne River. The Discharger will participate in stakeholder forums to assist the Regional Board in completing the TMDL.
27. **Characterization Report:** By **1 September 2003** the Discharger shall evaluate and prioritize the constituents in its discharge and develop work plan(s) for constituents determined to be constituents of concern. This report shall consider and expand on the previous effort by the Discharger to develop a list of constituents of concern and constituents of interest. The report shall include the following:
- a. Characterization of storm water discharges from representative drainage areas.
 - b. Prioritization of the constituents found in storm water discharges. The prioritization shall consider the following:
 - i. Constituents listed as causing impairment in the San Joaquin River and Lower Tuolumne River and present in the Discharge.

- ii. Constituents causing toxicity in urban runoff or local receiving waters.
 - iii. Pollutants identified in urban runoff that may cause or contribute to exceedances of water quality standards in the Central Valley Region Water Quality Control Plan (Basin Plan) and California Toxic Rules.
 - iv. Issues of significant public or regulatory concern.
 - v. Controllability of urban runoff constituents through implementation of available control practices.
- c. Identify sources of the constituents determined to be constituents of concern. This effort will include identifying controllable and non-controllable sources (including aerial deposition) of the constituent.
 - d. Development of work plans for controlling constituents of concern. The work plans shall evaluate the effectiveness of BMPs currently being implemented and additional BMPs that may be implemented to prevent or reduce the constituents of concern. The evaluation shall consider capital and operation costs, technical feasibility, regulatory limitations, and other consideration identified by the Discharger. The work plans shall also identify institutional needs, including policies, procedures, and/or ordinances, for addressing the constituents of concern. If applicable, the work plans shall identify stakeholder opportunities for the Discharger to pursue in addressing the constituents of concern.

Additional Requirements

- 28. This Order may be modified, or alternatively, revoked or reissued, prior to the expiration date as follows: a) to address significant changed conditions identified in the technical reports required by the Regional Board which were unknown at the time of the issuance of this Order; b) to incorporate applicable requirements of statewide water quality control plans adopted by the State Board or amendments to the Basin Plan approved by the State Board; or c) to comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirement of the CWA when applicable.
- 29. The Discharger shall comply with all applicable items of the “Standard Provisions and monitoring Requirements for Waste Discharge Requirements (NPDES),” dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as “Standard Provisions.”
- 30. This Order expires on **1 October 2007**. The Discharger must file a Report of Waste Discharge 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.

I, THOMAS R. PINKOS, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **18 October 2002**.

THOMAS R. PINKOS, Acting Executive Officer