

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER R5-2015-XXXX  
NPDES NO. CAS083470

MONITORING AND REPORTING PROGRAM

CITY OF STOCKTON  
AND  
COUNTY OF SAN JOAQUIN  
STORM WATER DISCHARGES FROM  
MUNICIPAL SEPARATE STORM SEWER SYSTEM  
SAN JOAQUIN COUNTY

**I. MONITORING AND REPORTING PROGRAM REQUIREMENTS**

This Monitoring and Reporting Program (MRP) is issued pursuant to Water Code Section 13267. MRP No. R5-2015-XXXX is necessary to determine compliance with Order No. R5-2015-XXXX, and to determine the effectiveness of the storm water program.

The Permittees shall not implement any changes to this MRP unless and until the Regional Water Board or Executive Officer issues a revised MRP or an alternative monitoring plan approved by the Executive Officer. For example, the Executive Officer may allow revisions to the MRP appropriate to implement Regional Monitoring Programs and reduce local water quality monitoring requirements ~~in lieu of the regional monitoring efforts~~. The Executive Officer may also allow revisions to the MRP if the Permittees propose an alternative monitoring program that meets the objectives of the MRP, directs their resources to the most critical water quality issues, and collects data to support management decisions to address those water quality issues. Attachment A shows the City of Stockton limits and the San Joaquin County urbanized areas (collectively called Stockton Urbanized Area) which are covered under this Order. To save time and money, and avoid duplication of efforts, the Permittees shall coordinate their monitoring program with local, state, and federal agencies whenever possible.

- A. **Annual Work Plan:** By **1 April**, each Permittee shall submit an Annual Work Plan that supports the development, implementation, and effectiveness of the approved Storm Water Management Plan (SWMP) and Order R5-2015-XXXX.
- B. **Annual Report:** The Permittees shall submit, in both electronic and paper formats and no later than **1 September** of each year, an Annual Report documenting the progress of the Permittees' implementation of the SWMP and the requirements of Order R5-2015-XXXX. The Annual Report shall

cover each fiscal year from **1 July through 30 June**. The status of compliance with permit requirements including implementation dates for all time-specific deadlines should be included for each program area. If permit deadlines are not met, the Permittees 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 Order R5-2015-XXXX 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 Permittees;
3. Identification of BMPs and a discussion of their effectiveness at reducing urban runoff pollutants; and
4. Summary of the monitoring data and an assessment of each component of the MRP. To comply with Provisions C.1 and C.2 (Receiving Water Limitations) of Order R5-2015-XXXX the Permittees shall compare receiving water and discharge data with applicable water quality standards. The lowest applicable standard from the Basin Plan, California Toxics Rule (CTR), and California Title 22 (Title 22), and constituent specific concentrations limits (e.g., mercury) shall be used for comparison. When the data indicate that MS4 discharges are causing or contributing to exceedances of applicable water quality standards or constituent specific concentrations limits, the Permittees shall prepare a Report of Water Quality Exceedance and identify potential sources of the problems, and recommend future monitoring and BMP implementation measures to identify and address the sources.

Raw data are required to be submitted in electronic format.

5. For each water quality program plan requirement (e.g., Pathogen Plan) the Annual Reports shall include the following results and information:
  - a. all physical, chemical and biological data collected in the assessment;
  - b. all graphs, charts, statistical analysis, modeling, and any other analytical analyses in support of the Permittees' evaluation of the data and conclusions derived from that analysis; and

- c. documentation of quality assurance and control procedures (QA/QC).
6. Effectiveness assessment for each program element, as defined in the SWMP, shall be conducted annually, shall be built upon each consecutive year, and shall identify any necessary modifications. The SWMP shall describe, in detail, the performance standards or goals to use to gauge the effectiveness of the storm water management program. The primary questions that must be assessed for each program element include the following:
  - a. Level 1 Outcome: Was the Program Element implemented in accordance with the Permit Provisions, SWMP Control Measures and Performance Standards?
  - b. Level 2 Outcome: Did the Program Element raise the target audience's awareness of an issue?
  - c. Level 3 Outcome: Did the Program Element change a target audience's behavior, resulting in the implementation of recommended BMPs?
  - d. Level 4 Outcome: Did the Program Element reduce the load of pollutants from the sources to the storm drain system?
  - e. Level 5 Outcome: Did the Program Element enhance or change the urban runoff and discharge quality?
  - f. Level 6 Outcome: Did the Program Element enhance or change receiving water quality?
7. A summary of any Reports of Water Quality Exceedance (RWQEs) that have been completed during the year, and a status update for those in progress. The summary shall include the conclusions and recommendations of completed RWQEs and the status of any additional BMP implementation pursuant to RWQEs;
8. Pursuant to 40 CFR 122.42(c)(7), the Permittees shall identify water quality improvements in, or degradation of, urban storm water;
9. An estimation of total annual pollutant loads due to storm water/urban runoff for each baseline monitoring sampling station.

10. For each monitoring component, photographs and maps of all monitoring station locations and descriptions of each location; and
  11. Recommendations to improve the monitoring program, BMPs, Performance Standards, and the SWMP to address potential receiving water quality exceedances and potential pollutant sources, and to meet the MEP standard.
  12. Provide operating data from all city pump stations as an appendix in electronic format only to assist in calculating flow volumes, as applicable.
- C. **Certification:** All work plans and reports submitted to the Regional Water Board shall be signed and certified pursuant to federal regulations at 40 CFR 122.41 (k). Each report shall contain the following completed declaration:

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

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

Executed on the \_\_\_ day of, 20\_\_, at \_\_\_\_\_.

(Signature) \_\_\_\_\_ (Title) \_\_\_\_\_";

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

CALIFORNIA REGIONAL WATER QUALITY  
CONTROL BOARD – CENTRAL VALLEY REGION  
11020 Sun Center Drive, #200  
Rancho Cordova, CA 95670

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/or biological impacts on receiving waters resulting from urban runoff;
- Characterization of urban runoff;
- Identifying sources of pollutants; and
- Assessing the overall health and evaluating long-term trends in receiving water quality.

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

In lieu of the Monitoring Program outlined in Section II of the MRP, the Permittees may elect to propose and implement an alternative Monitoring Program that achieves the objectives listed above and is approved by the Executive Officer. The proposed alternative monitoring plan may be submitted as part of their Annual Work Plan. The alternative Monitoring Program proposal should include information such as the monitoring approach, monitoring locations, constituents monitored, and frequency at which they will be monitored. If the Permittees propose an alternative Monitoring Program, they shall submit a proposal signed by an authorized representative informing the Central Valley Water Board that the Permittees would like to implement an alternative Monitoring Program, and the date on which the alternative Monitoring Program is proposed to commence. Written approval of the Permittees' request, by the Executive Officer, is required prior to discontinuing the Monitoring Program outlined in Section II of the MRP and initiating the proposed Monitoring Program.

### Regional Monitoring Program

~~In lieu of conducting~~ The Permittees may elect to participate in a RMP and may request a reduction in some or all of the local water quality monitoring specified in Monitoring and Reporting Program the MRP of this Order, the Permittees may elect to participate in a Regional Monitoring Program (RMP). Participation in a RMP by a Permittee shall consist of providing funds and/or in-kind services to the RMP at least equivalent to discontinued individual monitoring and study efforts

If the Permittees propose to ~~cease all or part of~~ reduce the local water quality monitoring and instead participate in a RMP, the Permittees shall submit a letter signed by an authorized representative informing the Regional Water Board that

the Permittees ~~would like to will~~ participate in a RMP, ~~and~~ the date on which local water quality monitoring required under ~~Monitoring and Reporting Program of the MRP for~~ this Order, would cease, or be modified, and specific monitoring locations and constituent combinations that would no longer be conducted individually. ~~Written~~ To ensure consistency with this Order and this MRP, reductions in local water quality monitoring require the Executive Officer's prior written approval of the Permittees' request, ~~by the Executive Officer, is required prior to discontinuing part or all of local water monitoring including related SWMP modification~~. Approval by the Executive Officer is not required prior to participating in the RMP.

If the Permittees are approved to participate in a RMP ~~in lieu of conducting and reduce some~~ local water quality monitoring, the Permittees shall continue to participate in a RMP until such time as the Permittees inform the Board that participation in a RMP will cease and all local water quality monitoring will be reinstated. ~~Local~~ As to the extent approved by the Executive Officer, some local water quality monitoring under the Monitoring and Reporting Program, and related monitoring identified in the SWMP, is will not be required under this Order so long as the Permittees adequately support a RMP. Data from the RMP may be utilized to characterize the receiving water in the permit renewal. Alternatively, the Permittees may conduct any site-specific receiving water monitoring deemed appropriate by the Permittees and submit that monitoring data with this characterization monitoring. If the Permittees fail to adequately support the RMP, as defined by the RMP Steering Committee, the Permittees shall reinstitute local water quality monitoring pursuant to the Monitoring and Reporting Program, upon written notice from the Executive Officer. During participation in the RMP, the Permittees may conduct and submit any or part of the monitoring included in this Monitoring and Reporting Program that is deemed appropriate by the Permittees, provided the modified monitoring program approved by the Executive Officer is conducted at a minimum.

RMP data is not intended to be used directly to represent receiving water quality for purposes of determining if a discharge is causing or contributing to an exceedance of any applicable water quality standards. RMP monitoring stations are established generally as "integrator sites" to evaluate the combined impacts on water quality of multiple discharges; RMP monitoring stations would not normally be able to identify the source of any specific constituent, but would be used to identify water quality issues needing further evaluation. RMP monitoring data, along with local Permittees data, may be used to help establish ambient receiving water quality for a water quality data analysis after evaluation of the applicability of the data for that purpose. RMP data, as with all environmental monitoring data, can provide an assessment of water quality at a specific location and time that can be used in conjunction with other information, such as other receiving water monitoring data, spatial and temporal distribution and trends of receiving water data, point and non-point source discharges, receiving water flowrate and velocity,

and to determine a potential source or sources of a constituent that contributed to an exceedance of any applicable water quality standards.

During the period of participation in the RMP, the Permittees shall continue to report any individually ~~local~~ conducted local water quality monitoring data in the Annual Report consistent with Provision I.B.4, Monitoring and Reporting Program. In addition, with each submitted Annual Report, the Permittees' shall include 1) a statement that the Permittees are participating in the RMP in lieu and have reduce some of ~~conducting~~ the local water quality monitoring program required by the permit, and 2) the Permittees shall continue to attach a copy of the letter originally submitted to the Regional Water Board describing the monitoring location(s) and constituents that will no longer be conducted individually.

The Monitoring Program consists of the following elements:

#### Local Water Quality Monitoring

- Baseline Monitoring
  - Urban Discharge Monitoring
  - Receiving Water Monitoring
  - Water Column Toxicity Monitoring
  - Dry Weather Field screening
- Sediment Toxicity
- Bioassessment
- Water Quality Based Programs
  - Pesticide Plan
  - Low Dissolved Oxygen Plan
  - Pathogen Plan
  - Mercury Plan

The Permittees shall implement the Monitoring Program as follows:

### **III. BASELINE MONITORING**

- A. The Permittees shall conduct water column monitoring in both receiving waters (see Section D – Receiving Water Monitoring) and urban discharge outfalls (see Section C – Urban Discharge Monitoring). Water monitoring will take place at each receiving water and urban discharge stations. The water column monitoring shall include all storm water pollutants of concern (POCs) identified during the 2008-2012 baseline monitoring as identified in Table 1 of

this Order. The frequency of monitoring shall be in accordance with Table B.

## **B. Sampling Protocol**

1. Samples from each receiving water and urban discharge station described below shall be analyzed for all constituents listed in Table 1. 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 1 in more than 75 percent of the 12 consecutive sampling events, it need not be further analyzed unless the observed occurrences show concentrations greater than receiving water quality standards. The Permittees shall conduct annual confirmation sampling for non-detected constituents during the first storm event monitored every year at each station. However, if confirmation sampling shows non-detect for a constituent for two successive years, the Permittees may propose to the Regional Water Board staff that the constituent be removed from Table 1. If the constituent is detected, it must continue to be monitored.
3. Grab samples shall be used for receiving water monitoring. For monitoring of urban discharge outfalls during wet weather, the Permittees shall use flow-composite sampling equipment when feasible and grab samples otherwise.
4. The Permittees shall collect flow data at the time of sampling for all monitoring stations sampled during a given year. Receiving water or urban discharge flow may be estimated using U.S. EPA methods<sup>1</sup> at sites where flow measurement devices are not in place.

## **C. Urban Discharge Monitoring**

Since 1992, the Permittees have been monitoring five drainage basins, shown in Attachment A. Beginning in 2002 one of the residential sites (MS-18) was eliminated and the remaining four sites were monitored through 2007. For this permit term, samples shall be taken from representative outfalls for the following drainage basins: CR-46, discharging to the Calaveras River; DC-65, discharging to Duck Creek; and MS-14, discharging to Mosher Slough. The locations of these basins are shown in Attachment A. Samples shall also be taken at a representative outfall for the urban area

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<sup>1</sup> NPDES Storm Water Sampling Guidance Document, U.S. EPA 833-B-92-001, July 1992

surrounding Smith Canal, and near the receiving water sampling location designated as SC-1R in Attachment A.

The proposed locations of urban discharge monitoring stations shall be presented in the revised SWMP. If additional monitoring stations are needed, they shall be established under the direction of Regional Water Board staff. A description of any additional stations shall be attached to this MRP. Urban discharge monitoring shall be consistent with Table 1. Each year<sup>2</sup>, samples shall be flow weighted and collected **during two storm events<sup>3</sup> and two dry weather monitoring events<sup>4</sup>**.

The Permittees shall target for monitoring the first storm event of the year<sup>2</sup> preceded by at least 30 days of dry weather.<sup>5</sup> The second storm event to be monitored shall be preceded by at least three dry weather days. The two monitoring events shall be separated by at least 20 days.

#### D. Receiving Water Monitoring

All receiving water samples shall be grab samples, collected at mid-depth, in mid-stream of the receiving water, and in a manner that measures the water quality impacts of corresponding urban discharge outfalls. Receiving water sampling may be postponed if hazardous weather and/or river flow conditions prevent safe access to sampling location. Receiving water monitoring shall be taken after discharges from MS-14, SC-1, CR-46, and DC-65 have occurred. Attachment A shows the approximate locations of the receiving water sampling stations. Each year, samples shall be collected **during two storm events and two monitoring events during the dry season**. Receiving water monitoring shall include at least the following:

<u>Station</u>	<u>Description/Location/Type of Basin</u>
MS-14R	Mosher Slough in the vicinity of Mariners Drive; Residential
MS-14RU	Upstream of Stockton Urban Area Boundary

<sup>2</sup> This refers to the permit year of July 1 to June 30.

<sup>3</sup> A qualifying storm event occurs when there is sufficient rainfall within a 24-hour period to monitor at least one drainage basin and one corresponding receiving water station; the Permittees shall target storm events with a predicted rainfall of at least 0.25 inches at a seventy percent probability of rainfall 72 hours prior to the event.

<sup>4</sup> Dry weather monitoring events shall be preceded by at least seven days of no rainfall; the two dry weather monitoring events shall be separated by at least 14 days of no rainfall.

<sup>5</sup> A day with a storm event too small to generate runoff (typically 0.1 inches or less) shall be considered a dry weather day.

SC-1R	Smith Canal in the vicinity of the Pershing Avenue over-crossing; Mixed Land Uses
CR-46R	Calaveras River in the vicinity of the El Dorado Street overpass; Commercial
CR-46RU	Upstream of Stockton Urban Area Boundary
DC-65R	Duck Creek in the vicinity of the El Dorado Street over crossing; Industrial
DC-65RU	Upstream of Stockton Urban Area Boundary

The upstream receiving locations shall be representative of what is entering each waterbody from upstream of the Stockton Urban Area Boundary as shown on **Attachment A**.

#### E. **Water Column Toxicity Monitoring**

The Permittees shall conduct short-term chronic toxicity testing at each receiving water monitoring station on an **annual** basis. Annual data collection allows for characterizing a range of hydrologic conditions that vary from year to year and to more fully characterize potential sources of contaminants and toxicity that may be contributing to the decline of fish populations in the Delta. Short-term chronic toxicity testing shall include (1) the analysis of samples from **two storm events, and two dry weather monitoring events** from each receiving water monitoring station; and (2) analysis of at least the following two freshwater test species for each storm event: Fathead minnow [*Pimephales promelas* (larval survival and growth test) and water flea [*Ceriodaphnia dubia* (survival and reproduction test)]. The testing shall be conducted in accordance with U.S. EPA's method (U.S. EPA 2002, 4<sup>th</sup> Edition). A minimum sample volume of 5 gallons for each test species shall be provided with a sample storage (holding time) not to exceed 36 hours.

If 100% mortality to *Pimephales promelas* or *Ceriodaphnia dubia* is detected within 24 hours of test initiation, then a dilution series shall be initiated (0.5x steps) ranging from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to less than or equal to 6.25 percent of the sample. Further, if statistically significant toxicity is detected and a greater than or equal to 50% increase in *Pimephales promelas* or *Ceriodaphnia dubia* mortality, or reduction in *Ceriodaphnia dubia* reproduction compared to the laboratory control is observed, then TIEs shall be conducted on the initial sample that caused toxicity.

1. Toxicity Identification Evaluations (TIE)

The Permittees shall begin a Phase I TIE immediately on all samples that cause statistically significant toxicity and greater than or equal to 50% increase in *Pimephales promelas* or *Ceriodaphnia dubia* mortality or decrease in *Ceriodaphnia dubia* reproduction compared to the laboratory control. If mortality of both test species exceeds the 50% trigger, then TIEs shall be conducted using both species. TIEs are required until the cause of toxicity is determined. The Permittees shall indicate the person who will conduct the TIE (in-house expert or outside contractor), which shall be identified in the SWMP and Annual Reports.

2. Toxicity Reduction Evaluations (TRE)

- a. BMPs shall be identified and implemented whenever a toxicant is successfully identified through the TIE process. 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 Permittees shall submit the TRE Corrective Action Plan as part of the Annual Report to the Executive Officer for approval. At a minimum, the TRE shall include a discussion of the following items:
  - i. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity;
  - ii. The potential sources of pollutant(s) causing toxicity;
  - iii. A list of Permittees having jurisdiction over sources of pollutant(s) causing toxicity;
  - iv. Recommended BMPs to reduce the pollutant(s) causing toxicity;
  - v. Proposed changes to the SWMP to reduce the pollutant(s) causing toxicity; and
  - vi. Suggested follow-up monitoring to demonstrate that toxicity has been removed.
- b. If TRE implementation for a specific pollutant coincides with Total Maximum Daily Load (TMDL) implementation for that pollutant, the efforts may be coordinated.

- c. Upon approval by the Executive Officer, the Permittees(s) having jurisdiction over sources causing or contributing to toxicity shall implement the recommended BMPs and take all reasonable steps necessary to eliminate toxicity.
- d. The Permittees shall develop a maximum of two TREs per year. If applicable, the Permittees 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 TMDL development and implementation to avoid overlap.

The Permittees have included a monitoring plan, which shall include a sampling and analysis plan, all data (electronic format), assessment of the data, conclusions, proposed BMPs to be implemented, program effectiveness, and an implementation schedule in the SWMP. Subsequent information shall be included in the Annual Reports as required in this Order.

**F. Dry Weather Field Screening**

The permittees shall conduct dry weather monitoring that screens 20% of the Permittees' outfalls a year so that during the Permit term all outfalls will be screened at least once. Sites with sufficient flow will be analyzed in the field for temperature, pH, phenols, chlorine, total copper, specific conductance (EC), methyl blue activated substances (MBAs, which are detergents/surfactants), and turbidity. The Permittees shall provide follow-up investigation to verify the presence of an illicit connection if the following action levels are exceeded:

Table A. Dry Weather Field Screening Action Levels

<b>Constituent</b>	<b>Units</b>	<b>Action Levels</b>
Phenols	mg/L	>0.017
Total copper	mg/L	>2
Electrical Conductivity	µmhos/cm	>700
Methyl Blue Activated Substances (MBAS)	mg/L	>0.275
Turbidity	NTU	>55

Sampling Schedule

The Baseline Monitoring Program shall implement the monitoring schedule shown in Table B:

Table B. 2015-2017 Schedule for Baseline Monitoring Program

Baseline Monitoring Program Element	2015/2016				2016/2017			
	E <sup>a</sup>	L <sup>b</sup>	D <sup>c</sup>	D <sup>c</sup>	E	L	D	D
Urban Discharge								
Water Quality Parameters (Table 1)	X	X	X	X	X	X	X	X
Receiving Water								
Water Quality Parameters (Table 1)	X	X	X	X	X	X	X	X
Water Column Toxicity	X	X	X	X	X	X	X	X
Dry Weather Field Screening <sup>d</sup>			X	X			X	X

Notes:

- a. Early season storm event
- b. Mid-to-late season storm event
- c. Dry weather event
- d. Field screening is conducted during two events per dry season. Approximately 20% of the City outfalls are monitored each Permit year

**G. Sediment Toxicity Monitoring**

The Permittees shall conduct short-term sediment toxicity testing, which shall include (1) the analysis of sediment samples from **one post first flush<sup>6</sup> storm event, and one dry weather monitoring event**; and (2) analysis of at least the following freshwater sediment test species: Amphipod [*Hyalella azteca* (10-day survival and growth test)]; and (3) analysis of sediment organic carbon and grain size. The testing shall be

<sup>6</sup> Post first flush timeframe is within two weeks of the qualifying storm event.

conducted in accordance with U.S. EPA's method (U.S. EPA 2000<sup>7</sup>). Sample sites for sediment toxicity testing shall be conducted on urban receiving water sites.

If toxicity is detected in a sediment sample, follow up actions shall be implemented and shall include sediment chemistry for chlorpyrifos and pyrethroids – including bifenthrin, cyfluthrin, deltamethrin, esfenvalerate, lambda cyhalothrin, permethrin, tralomethrin. Further, if toxicity is detected at a given monitoring station, the Permittees will continue conducting toxicity testing and sediment chemistry for chlorpyrifos and pyrethroids until the nature and cause(s) of the toxicity are defined.

#### H. **Bioassessment Monitoring**

The purpose of this requirement is to fully evaluate biological data collected under the previous MRP in order to assess the biological integrity of receiving waters, detect biological responses to pollution, and identify probable causes of impairment not detected by chemical and physical water quality analysis.

Further bioassessment monitoring activities will not be required under this permit until the evaluation with recommendations is complete, and the monitoring effort is adapted in consultation with SWAMP's bioassessment workgroup.

1. The following results and information were included in the 2007-08 Annual 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 DFG Aquatic Bioassessment Laboratory for inclusion in the Statewide Access Bioassessment Database; and
  - g. Copies of all QA/QC documents from laboratories.

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<sup>7</sup> U.S. EPA. 2000. Methods for measuring the toxicity and bioaccumulation of sediment-associated contaminants with freshwater invertebrates. EPA 600/R-99/064. Office of Research and Development. Washington, DC.

2. The Permittees shall participate in and coordinate with the SWAMP to identify the most appropriate locations for future bioassessment stations within the Stockton Urbanized Area and determine coordinated needs for the initial development of an Index of Biological Integrity for the region.

**I. Water Quality-Based Programs**

Monitoring and assessment for the water quality based programs (i.e., pesticides, dissolved oxygen, pathogens, and mercury/methylmercury) for the Stockton Urbanized Area will be addressed in a separate Order. Any City or County generated data obtained by other programs shall be incorporated, evaluated, and included in each annual report.

**IV. STANDARD MONITORING PROVISIONS**

All monitoring activities shall meet the following requirements:

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

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

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

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

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

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

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

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

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

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

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

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

H. The 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 Permittees 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 Permittees must submit documentation from the laboratory to the Regional Water Board Executive Officer for approval prior to raising the ML for any constituent.

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

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

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

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

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

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

1. By petition of the Permittees or by petition of interested parties after the submittal of the Annual Report. Such petition shall be filed not later than 60 days after the Annual Report submittal date, or
2. As deemed necessary by the Executive Officer following notice to the Permittees.

Ordered by \_\_\_\_\_

PAMELA C. CREEDON, Executive Officer

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Date

Attachment: Table 1 – List of Constituents and their Analytical Limits

**TABLE 1**  
**LIST OF CONSTITUENTS AND THEIR ANALYTICAL LIMITS**  
**ORDER R5-2015-XXXX**  
**CITY OF STOCKTON AND COUNTY OF SAN JOAQUIN**  
**MUNICIPAL SEPARATE STORM SEWER SYSTEM**

CONSTITUENTS	MLs <sup>1</sup>
<b>CONVENTIONAL POLLUTANTS</b>	<b>mg/L</b>
Oil and Grease	5
pH	0 - 14
Dissolved Oxygen	Sensitivity to 5 mg/L
<b>FIELD MEASUREMENTS</b>	
Date	mm/dd/yyyy
Sample Time	hr:min (regular time)
Weather	degrees F
Water Temperature	degrees C
<b>BACTERIA</b>	
Fecal coliform	<20mpn/100ml
E. coli (fresh waters)	<20mpn/100ml
<b>GENERAL</b>	<b>mg/L</b>
Turbidity	0.1 NTU
Total Suspended Solids	2
Total Dissolved Solids	2
Total Organic Carbon	1
Biochemical Oxygen Demand	2
Chemical Oxygen Demand	20-900
Total Kjeldahl Nitrogen	0.1
Alkalinity	2
Total Ammonia-Nitrogen	0.1
Nitrate-Nitrite	0.1
Total Phosphorus	0.05
Specific Conductance	1umho/cm
Total Hardness	2
Methylmercury	0.05 ng/L

<sup>1</sup> For Priority Pollutants, the MLs represent the lowest value listed in Appendix 4 of SIP. MDLs must be lower than or equal to the ML value. If 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 may be used instead.

Pyrethroids	5 ng/L
<b>METALS</b>	<b>µg/L</b>
Aluminum, Dissolved	50
Aluminum, Total	50
Copper, Dissolved	0.5
Copper, Total	0.5
Iron, Total	100
Lead, Dissolved	0.5
Lead, Total	0.5
Mercury	0.5 ng/L
Zinc	1
<b>ORGANOPHOSPHATE PESTICIDES</b>	<b>µg/L</b>
Chlorpyrifos	0.01
Diazinon	0.05
<b>PYRETHROID PESTICIDES IN SEDIMENT<sup>2</sup></b>	<b>Target Reporting Limit (ng/g)<sup>3</sup></b>
Bifenthrin	1
Cyfluthrin-1	3
Cyfluthrin-2	3
Cyfluthrin-3	3
Cyfluthrin-4	3
Cypermethrin-1	3
Cypermethrin-2	3
Cypermethrin-3	3
Cypermethrin-4	3
Deltamethrin	2
Esfenvalerate/Fenvalerate-1	2
Esfenvalerate/Fenvalerate-2	1
Lambda-cyhalothrin-1	1
Lambda-cyhalothrin-2	4
Permethrin-1	4
Permethrin-2	1

<sup>2</sup> Pyrethroid isomers are typically reported as totals instead of the individual isomers except where individual isomers may be obtained.

<sup>3</sup> US EPA 1660.