

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

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**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0079111
ORDER R5-2020-XXXX**

**WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF SACRAMENTO
COMBINED WASTEWATER COLLECTION AND TREATMENT SYSTEM
SACRAMENTO COUNTY**

The following Discharger is subject to waste discharge requirements (WDR's) set forth in this Order:

Table 1. Discharger Information

Discharger:	City of Sacramento
Name of Facility:	Combined Wastewater Collection and Treatment System
Facility Street Address:	1395 35 th Avenue
Facility City, State, Zip:	Sacramento, CA 95822
Facility County:	Sacramento County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
002	Combined Municipal and Industrial Wastewater and Stormwater	38° 31' 09"	121° 31' 26"	Sacramento River
003	Combined Municipal and Industrial Wastewater and Stormwater	38° 31' 23"	121° 31' 25"	Sacramento River
004	Combined Municipal and Industrial Wastewater and Stormwater	38° 32' 52"	121° 30' 37"	Sacramento River
005	Combined Municipal and Industrial Wastewater and Stormwater	38° 32' 51"	121° 30' 37"	Sacramento River
006	Combined Municipal and Industrial Wastewater and Stormwater	38° 34' 18"	121° 30' 48"	Sacramento River
007	Combined Municipal and Industrial Wastewater and Stormwater	38° 34' 19"	121° 30' 47"	Sacramento River

Table 3. Administrative Information

This Order was Adopted on:	XX August 2020
This Order shall become effective on:	1 October 2020
This Order shall expire on:	30 September 2025
The Discharger shall file a Report of Waste Discharge (ROWD) as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a NPDES permit no later than:	30 September 2024
The United States Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	Major discharge

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **XX August 2020**.

PATRICK PULUPA, Executive Officer

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I. FACILITY INFORMATION

Information describing the City of Sacramento (Discharger), Combined Wastewater Collection and Treatment System (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

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

- A. Legal Authorities.** This Order serves as waste discharge requirements (WDR's) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDR's in this Order.

On 11 April 1994, USEPA adopted the Combined Sewer Overflow (CSO) Control Policy (59 FR 18688-18698). The CSO Control Policy was incorporated into the federal CWA by the Wet Weather Water Quality Act of 2000 [House Resolution (H.R.) 828] which is part of H.R. 4577, an omnibus funding bill. The CWA at Section 402(q)(1) now states: "*...Each permit ...pursuant to this Act...for a discharge from a municipal combined storm and sanitary sewer shall conform to the CSO Control Policy...*" The CSO Control Policy establishes a consistent national approach for controlling discharges from CSOs to the nation's water through the NPDES permit program. CSOs are defined as the discharge from the combined sewer system at a point prior to the publicly owned treatment works (POTW) treatment plant (see Federal Register, Vol. 59 No. 75, Tuesday, 19 April 1994, Section LA.). The City's combined sewer system (CSS), including Pioneer Reservoir and the Combined Wastewater Treatment Plant (CWTP), is not a POTW and is not subject to requirements that apply only to POTWs. This Order implements the USEPA CSO Control Policy.

- B. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of Public Resources Code.
- C. Background and Rationale for Requirements.** The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and

constitutes Findings for this Order. Attachments A through E are also incorporated into this Order.

- D. Monitoring and Reporting.** 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports."

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

- E. Notification of Interested Persons.** The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.
- F. Consideration of Public Comment.** The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2015-0045 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this

Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.
- B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D). This Discharge Prohibition does not apply to discharges from Discharge Points 002, 003, 004, 005, 006, and 007 in accordance with Discharge Prohibitions III.D and III.E below.
- C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.
- D. Discharge of waste classified as 'hazardous', as defined in the California Code of Regulations, title 22, section 66261.1 et seq., is prohibited.
- E. The discharge to the Sacramento River is prohibited at the following discharge points unless the following specified conditions are met, or authorization has been granted. The Discharger must obtain prior written approval from the Executive Officer to discharge from the CWTP, Pioneer Reservoir, or the combined sewer system (CSS) for maintenance or equipment testing, when the discharges would not be required by wet weather conditions:
 - 1. **Sump 2 Bypass (Discharge Points 004 and 005), and Sump 1A Bypass (Discharge Point 007).** The treatment capacity of the Pioneer Reservoir (250 MGD) and the treatment capacity of the Combined Wastewater Treatment Plant (CWTP) (130 MGD) must be reached prior to discharge.
 - 2. **Pioneer Reservoir (Discharge Point 006).** No discharge in excess of 250 million gallons per day (MGD) unless available storage at the CWTP has been maximized.
- F. Unless approved by the Executive Officer, discharges from Discharge Points 002, 003, 004, 005, 006, and/or 007 to surface waters or surface water drainage courses is prohibited during non-storm events. The Discharger must obtain written approval from the Executive Officer to discharge from the CSS, including the CWTP and Pioneer Reservoir, for maintenance or equipment testing, when the discharges would not be required by wet weather conditions.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Points 002 (CWTP), 003 (CWTP-Sump 104), and 006 (Pioneer Reservoir)

1. Final Effluent Limitations – Discharge Points 002, 003, and 006

The Discharger shall maintain compliance with the following effluent limitations at Discharge Points 002, 003, and 006. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-002, EFF-003, and EFF-006, respectively, as described in the Monitoring and Reporting Program, Attachment E:

- a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 4. Effluent Limitations

Parameters	Units	Storm Year Average	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Suspended Solids (TSS)	mg/L	100	--	--	--
Settleable Solids	ml/L	--	1.0	--	--
Chlorine, Total Residual	mg/L	--	0.019	--	--
pH	standard units	--	--	6.0	8.5

Table 4 notes:

- i. **Storm Year Average.** A storm year is defined as 1 October through 30 September of the following year.
- ii. **Total Suspended Solids.** In addition to storm year average effluent limit, two consecutive samples shall not exceed 150 mg/L.
- iii. **Total Suspended Solids and Settleable Solids.** Effluent limits are applicable to Discharge Point 006 (Pioneer Reservoir) for flows of 250 MGD or less and for all flows from Discharge Points 002 and 003.
 - b. The Discharger shall eliminate or capture for treatment at least 85 percent, by volume, of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis. Combined sewage captured for treatment shall receive, at a minimum, primary clarification or equivalent, solids and floatables disposal, and disinfection at the CWTP, Pioneer Reservoir, and/or the Sacramento Regional Wastewater Treatment Plant (SRWTP).

- c. **Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20° Fahrenheit (°F).
- d. **Fecal Coliform Organisms.** Effluent fecal coliform organisms shall not exceed:
 - i. 1,000 most probable number per 100 milliliters (MPN/100 mL) in any three consecutive samples, and
 - ii. 200 MPN/100mL, as a storm year median (1 October through 30 September).
- e. **Chlorpyrifos and Diazinon.** Effluent chlorpyrifos and diazinon concentrations shall not exceed the sum of one as defined below:
 - i. Average Monthly Effluent Limitation (AMEL)
$$S(\text{AMEL}) = C_d (\text{M-avg})/0.08 + C_c (\text{M-avg})/0.012 \leq 1.0$$
Where:
 $C_d (\text{M-avg})$ = average monthly diazinon effluent concentration in $\mu\text{g/L}$
 $C_c (\text{M-avg})$ = average monthly chlorpyrifos effluent concentration in $\mu\text{g/L}$
 - ii. Maximum Daily Effluent Limitation (MDEL)
$$S(\text{MDEL}) = C_d (\text{D-max})/0.14 + C_c (\text{D-max})/0.021 \leq 1.0$$
Where:
 $C_d (\text{D-max})$ = maximum daily diazinon effluent concentration in $\mu\text{g/L}$
 $C_c (\text{D-max})$ = maximum daily chlorpyrifos effluent concentration in $\mu\text{g/L}$
- f. **Methylmercury.** Effective 31 December 2030, for a calendar year, the total combined methylmercury loading from Discharge Points 002, 003, and 006 shall not exceed 0.53 grams, in accordance with the Delta Mercury Control Program.

2. Interim Effluent Limitations

- a. **Mercury, Total.** Effective immediately, and until 31 December 2030, the storm-year total mercury loading from Discharge Points 002, 003, and 006 shall not exceed 341 grams. This interim effluent limitation shall apply in lieu of the final effluent limits for methylmercury (Section IV.A.1.f).

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharge shall not cause the following in the Sacramento River:

1. **Bacteria.**

The six-week rolling geometric mean of Escherichia coli (E. coli) shall not exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

3. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
4. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
5. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
6. **Dissolved Oxygen.** The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
7. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
8. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
9. **pH.** The pH to be depressed below 6.0 nor raised above 8.5.
10. **Pesticides:**
- a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer.

- d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR section 131.12.);
- e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
- f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCL's) set forth in CCR, Title 22, division 4, chapter 15; nor
- g. Thiobencarb to be present in excess of 1.0 µg/L.

11. **Radioactivity:**

- a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor 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.
- b. Radionuclides to be present in excess of the MCL's specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.

12. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

13. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

14. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

15. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

16. **Temperature.** The discharge shall not cause the following in the Sacramento River:

- a. The creation of a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of the river channel at any point.

- b. A surface water temperature rise greater than 4°F above the natural temperature of the receiving water at any time or place.
- 17. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
- 18. **Turbidity.**
 - a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;
 - b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;
 - c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;
 - d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor
 - e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

- 1. The Discharger shall comply with all Standard Provisions included in Attachment D.
- 2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:
 - a. If the Discharger’s wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, division 3, chapter 26.
 - b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
 - i. violation of any term or condition contained in this Order;

- ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
- iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
- iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- i. New regulations. New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- iii. Change in sludge use or disposal practice. Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

- c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

- d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and

307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

- i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
- ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

- e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.
- g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system. The CSS is not a POTW, therefore this section is not applicable.
- h. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- i. Safeguard to electric power failure:
 - i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.
 - ii. Upon written request by the Central Valley Water Board, the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past 5 years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Central Valley Water Board.

- iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Central Valley Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Central Valley Water Board that the existing safeguards are inadequate, provide to the Central Valley Water Board and U.S. EPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Central Valley Water Board, become a condition of this Order.

- j. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

- k. A publicly owned treatment works whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 3 years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in 4 years, the Discharger shall notify the Central Valley Water Board by 31 January. A copy of

the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Central Valley Water Board may extend the time for submitting the report. The CSS is not a POTW, therefore this section is not applicable.

- i. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
- m. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.
- n. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
- o. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

- p. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- q. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

- a. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including, but not limited to:
 - i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.
 - ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.
- b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s),

and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

- c. **Mercury.** The Basin Plan's Delta Mercury Control Program was designed to proceed in two phases. After Phase 1, the Central Valley Water Board will conduct a Phase 1 Delta Mercury Control Program Review that considers modification to the Delta Mercury Control Program. This Order may be reopened to address changes to the Delta Mercury Control Program.
- d. **Compliance with State-Wide Sanitary Sewer System General Order.** The Facility is not currently subject to Order No. 2006-0003-DWQ, a Statewide General WDR for Sanitary Sewer Systems. If the State Water Board revises or reissues Order No. 2006-0003-DWQ during the term of this Order to extend coverage to the Facility, this Order may be reopened and revised to ensure consistency with and eliminate duplication of any applicable provisions and/or requirements.
- e. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 31 May 2018, as part of the CV-SALTS initiative, the Central Valley Water Board Approved Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley. If approved by the State Water Board, the Office of Administrative Law, and U.S. EPA, the Amendments would impose certain new requirements on salt and nitrate discharges. More information regarding these Amendments can be found on the [Central Valley Salinity Alternatives for Long-Term Sustainability \(CV-SALTS\) web page](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/):
(https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

If the Amendments ultimately go into effect, this Order may be amended or modified to incorporate any newly-applicable requirements.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Water Quality Assessment (WQA).** The CSO Control Policy requires a WQA of the combined wastewater and stormwater to confirm that the presumptive approach results in compliance with water quality standards and protection of beneficial uses. The Discharger shall perform an updated WQA by the due date in the Technical Reports table.
 - i. **Work Plan.** The Discharger shall provide to the Central Valley Water Board for review and approval by the due date in the

Technical Reports table, a work plan for conducting the WQA, including proposed data, data sources, and methodology(ies) to be used for evaluating compliance with water quality objectives. The work plan shall describe the monitoring that will be conducted for use in the WQA, including:

- 1) Pollutant parameters (including individual pollutants of concern, indicator pollutants (e.g., E. coli, Giardia, and Cryptosporidium), and other indicator tests such as whole effluent toxicity.
- 2) Sampling locations.
- 3) Sampling frequencies.
- 4) Analytical methods.

Monitoring shall, at a minimum, include two full wet weather seasons. In developing the work plan, the Discharger may propose coordinating data collection with 1) the routine pollutant monitoring required as part of the Monitoring and Reporting Program (see Attachment E), and 2) the monitoring program required as part of the Discharger's municipal separate storm sewer system (MS4) program (as required in Order R5-2016-0040/NPDES Permit No. CAS0085324).

ii. **Final Report.** The Discharger shall complete the WQA and provide a final report to the Central Valley Water Board by the due date in the Technical Reports table. The CSO water quality assessment final report shall, at a minimum, include the following components:

- 1) An analysis of compliance with all applicable water quality objectives (e.g., Basin Plan and California Toxics Rule water quality objectives) to ensure protection of receiving water beneficial uses.
- 2) An evaluation of the effects of the CSO discharges (e.g., pathogens) on the municipal and domestic water supply beneficial use. The evaluation may include existing studies or other information, receiving water monitoring, and/or modeling to estimate the impacts.
- 3) If applicable water quality objectives cannot be achieved and/or beneficial uses cannot be adequately protected, the Discharger shall assess the need for coordination with the Central Valley Water Board for the review and revision of water quality

objectives and/or implementation procedures to ensure that CSS controls are sufficient to meet water quality objectives.

- 4) An evaluation of updates and/or revisions to the Nine Minimum Controls and/or Long-Term Control Plan if the assessment indicates that applicable water quality objectives are exceeded and/or that beneficial uses are impaired. The Discharger shall also provide proposed time frames for implementation of any proposed CSS program updates and/or revisions.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications

The Discharger must adhere to the following provisions to constitute compliance with the U.S. EPA Combined Sewer Overflow (CSO) Control Policy requirements for control of discharges from the Facility.

- a. **Combined Wastewater Control System Plan of Operations.** The Discharger shall revise and update as necessary their Combined Wastewater Control System Plan of Operations to ensure compliance with the Nine Minimum Controls and Long-Term Control Plan (LTCP) requirements specified in Sections VI.C.4.b and VI.C.4.c below. The Combined Wastewater Control System Plan of Operations shall specify the procedures to be used by the Discharger to manage the CSS. The Combined Wastewater Control System Plan of Operations shall clearly establish operation, maintenance, and inspection procedures to maximize the removal of pollutants during and after each precipitation event using all available facilities within the combined wastewater collection and treatment system, with the goal of achieving the maximum treatment possible and minimizing CSO's and CSS outflows.

The Discharger shall operate the Facility in conformance with the Combined Wastewater Control System Plan of Operations and shall report any variation from the Plan in the next annual monitoring report as required in Attachment E (Section X.B). Any significant modifications to the Combined Wastewater Control System Plan of Operations that could impact discharge quantity or discharge quality must be submitted for review and approval by the Executive Officer. If within 30 days the Discharger has not received a response from the Executive Officer, then the Discharger may implement the modifications as proposed. Minor modifications to the Plan of Operations will be included in the annual reports.

- b. **Nine Minimum Controls and CSS Outflow Controls.** The Discharger shall implement and comply with the following requirements:

i. **Conduct Proper Operations and Regular Maintenance Programs.**

The Discharger shall implement the Combined Wastewater Control System Plan of Operations that must include the elements listed in this section. The Discharger shall update the Combined Wastewater Control System Plan of Operations to include any changes to the system, or operation and maintenance procedures. The Discharger shall keep records to document the implementation of the Combined Wastewater Control System Plan of Operations and submit such documentation in accordance with the requirements specified in the Monitoring and Reporting Program (Attachment E) of this Order.

(a) **Organizational Structure for the Combined Sewer System.**

The Combined Wastewater Control System Plan of Operations shall include an organizational structure (shown with an organizational chart or other documents) that provides the names and telephone numbers of key personnel, the chain of command, and the relationships among various program components (e.g., operations, maintenance). In addition, the organizational structure should establish clear lines of communication, authority, and responsibility.

The Discharger shall designate the key personnel responsible for the combined wastewater collection and treatment system. These key personnel shall serve as the contacts for the CSO's and CSS outflows from the combined wastewater collection and treatment system. The Discharger shall notify the Central Valley Water Board within 90 days of new key personnel and update the organizational structure as necessary.

(b) **Inspection and Maintenance of the CSS.** The Discharger shall:

- (1) Describe in the Combined Wastewater Control System Plan of Operations, the combined wastewater collection and treatment system maintenance program to be implemented. The maintenance program shall list and address at a minimum, the most critical elements of the combined wastewater collection and treatment system. "Critical elements" are those facilities that affect the performance of the combined wastewater collection and treatment system, the number and extent of CSS outflows and CSO's, or CSS outflow and CSO pollutant levels. The list should include as appropriate, regulator structures, pumping stations, diversion structures, retention basins, sections of the CSS prone to sedimentation, all CSO discharge points, and the Pioneer Reservoir and CWTP

primary treatment facilities. The list should include a physical description of each facility and its location.

At a minimum, the inspection and maintenance program shall include:

- (i) A schedule for regular inspection and maintenance of all overflow structures, regulator, and pumping stations to ensure that they are in good working condition and adjusted to minimize overflows and outflows.
 - (ii) An inspection schedule for each potential overflow discharge point (i.e., Discharge Points 002, 003, 004, 005, 006, and 007) and critical combined wastewater collection and treatment system facilities. This schedule shall specify at least one inspection per month during the dry weather season (1 May to 30 September) and more frequent inspection during the wet season (1 October to 30 April). The inspections shall include, but are not limited to, entering regulator structures if accessible, determining the extent of debris and grit build-up, and removing any debris that may constrict flow, cause blockage, and result in dry weather overflows. For overflow discharge points that are inaccessible, the Discharger may perform a visual check.
 - (iii) Documentation of the presence of debris during inspections of these facilities, and removal of these wastes to avoid blockages during precipitation events.
- (2) Record the results of the inspections and routine maintenance activities in a maintenance log.
- (c) **Provision for Trained Staff.** The Discharger shall describe in the Combined Wastewater Control System Plan of Operations the number of full-time equivalents needed to operate, maintain, repair, and perform testing functions required to ensure compliance with the terms and conditions of this Order. The Combined Wastewater Control System Plan of Operations shall also describe the appropriate training required of each staff member to perform his/her responsibilities.
 - (d) **Allocation of Funds for Operation and Maintenance.** The Discharger shall document the funds available for combined

wastewater collection and treatment system operation and maintenance (O&M) activities and the procedures for budgeting.

- (e) **Untreated Discharges.** The Discharger shall provide in the Combined Wastewater Control System Plan of Operations, the procedures for when and under what circumstances Discharge Points 004, 005 and 007 are used, as well as the treatment (if any) that is provided prior to discharge to the Sacramento River.
 - (f) **Fats, Oil, and Grease (FOG) Control Program.** The Discharger shall continue to implement a FOG control program to minimize the discharge of FOG wastes from households, restaurants and other food establishments.
- ii. **Maximize Use of the Collection System for Storage**
- (a) The Discharger shall maximize the use of the collection system for storage. The Discharger shall balance the storage needs with the goal of preventing outflows of sewage from the collection system to City streets.
 - (b) The Discharger shall maximize the in-line and off-line storage capacity of the combined sewer system.
 - (c) The Discharger shall keep records to document implementation of this control measure and submit them as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.4).
- iii. **Review and Modify Pretreatment Program.** The Discharger shall continue implementation of pollution prevention programs and outreach initiatives to minimize the potential impact of non-domestic discharges on the CSO's. The pretreatment program for indirect users that discharge to the Discharger's CSS is implemented by the Sacramento Regional County Sanitation District.
- iv. **Maximize Flow to POTW Treatment Plant**
- (a) The Discharger shall operate the Facility at a maximum treatable flow during wet weather events. The Discharger shall report rainfall and flow data to the Central Valley Water Board as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.4).
 - (b) **Combined Wastewater Control System Plan of Operations.** The Discharger shall implement the Combined Wastewater Control System Plan of Operations consistent with the hydraulic capacities of the Discharger's storage, transport, treatment and disposal facilities to achieve the following objectives:

- (1) Maximize the volume of wastewater that is routed for treatment at the Sacramento Regional Wastewater Treatment Plant (SRWTP) during wet weather.
- (2) For CSO's, the Discharger shall maximize the volume of wastewater that is captured at Pioneer Reservoir and the CWTP and receives, at a minimum, primary clarification or equivalent, solids and floatables disposal, and disinfection prior to discharge to the Sacramento River.

The Discharger shall maintain records documenting the achievement of these objectives and provide them as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.4).

v. **Prohibit Combined Sewer Overflows During Dry Weather**

- (a) Dry weather overflows from Discharge Points 002 through 007 are prohibited. The Discharger shall inspect all CSS overflow points in accordance with the requirements in Section VI.C.4.b.i.(b) above. All dry weather overflows must be reported to the U.S. EPA and the Central Valley Water Board within 24 hours of the Discharger becoming aware of the dry weather overflow, consistent with the standard provision for 24-hour reporting in Attachment D, Section V.E.1. When the Discharger becomes aware of a dry weather overflow, the Discharger shall begin corrective actions immediately.
- (b) The Discharger shall inspect the dry weather overflow point each subsequent day after the overflow until the overflow has been eliminated. The Discharger shall record in the inspection log each dry weather overflow event, as well as the cause, the estimated volume of the dry weather overflow, the corrective action taken, and the dates on which the overflow began and ended.

vi. **Control Solid and Floatable Materials in CSOs**

- (a) The Discharger shall continue to implement measures to control solid and floatable materials in its CSOs.
- (b) The Discharger shall remove solid and floatable materials captured in the storage and transport facilities in an acceptable manner prior to discharge to the Sacramento River.

vii. **Develop and Implement Pollution Prevention Program**

- (a) The Discharger shall continue to implement a pollution prevention program focused on reducing to the greatest extent possible, the amount of contaminants that enter the CSS and the impacts of CSO's on the Sacramento River.
- (b) The Discharger shall keep records to document pollution prevention implementation activities and provide them as part of the Nine Minimum Controls Annual Report required in the Monitoring and Reporting Program (Attachment E, Section X.D.4).

viii. **Notify the Public of Outflows and CSOs**

- (a) The Discharger shall implement its "Standard Operating Procedures for Sewer Overflow/Outflow Emergency Response" for CSS outflow notifications and the "Combined Wastewater Collection and Treatment System Plan of Operations" for CSO notifications to ensure that the public is receiving adequate notification of CSS outflows and CSO's in accordance with the U.S. EPA's CSO Control Policy and the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order 2006-0003-DWQ), revised Monitoring and Reporting Program Order WQ 2013-0058-EXEC, or any revisions thereof.
- (b) The Discharger shall include as part of the public notification process, notification to downstream drinking water agencies whenever there is a CSS discharge to surface waters. At a minimum, the following agencies shall be notified via email or fax: the East Bay Municipal Utility District, Sacramento County Water Agency, the California Urban Water Agencies, the Contra Costa Water District, the Santa Clara Valley Water District, the Zone 7 Water Agency, the Alameda County Water District, and the Metropolitan Water District of Southern California. **Freeport Regional Water Authority/Sacramento County Water Agency shall be notified via a phone call within 2 hours upon initiating discharge to the Sacramento River.**

ix. **Monitor to Effectively Characterize CSO Impacts and the Efficacy of CSO Controls**

- (a) The Discharger shall regularly monitor CSO outfalls to effectively characterize overflow impacts and the efficacy of CSO controls. The specific monitoring requirements for CSO's are provided in Attachment E (Monitoring and Reporting Program).
- (b) The Discharger shall submit as part of its Nine Minimum Controls Annual Progress Report that is due on 30 January of each year (see Attachment E, Section X.D.4), a summary of

existing monitoring data and an evaluation of the efficacy of CSO controls (including pollution prevention efforts) to minimize and/or prevent impacts from CSO's. If necessary, the Discharger shall propose revisions to the LTCP (including the Nine Minimum Controls) to improve the efficiency and effectiveness of controls.

- (c) **CSS Outflow Volume Estimates.** The Discharger shall continue to provide accurate and reasonable estimates of outflows from the CSS. These methods shall be included in the Standard Operating Procedures for Sewer Overflow/Outflow Emergency Response.

c. **Long-Term Control Plan (LTCP)**

- i. The Discharger shall continue implementation of the LTCP with the following interim goals to be met as progress is made towards the final goal of minimizing street flooding during a 10-year storm event and to prevent structure flooding during the 100-year storm event:
 - (a) Obtaining protection from a 5-year storm in the six areas of worst flooding (including downtown, north of Capital park; U.C. Medical Center area; immediately south of Highway 80 between Riverside and Freeport; the area northeast of Highway 99 and Highway 80 interchange; the area northwest of Highway 99 and Highway 80 interchange; and the Land Park area);
 - (b) Obtaining protection from a 5-year storm throughout the CSS area;
 - (c) Obtaining protection from a 10-year storm in the six areas of worst flooding; and
 - (d) Obtaining the goal of protection from a 10-year storm event throughout the CSS.

As part of the Annual LTCP Progress Reports required in the Monitoring and Reporting Program (Attachment E, Section X.D.5), the Discharger shall report on the progress in achieving the interim goals listed above.

- ii. The Discharger shall continue to implement the LTCP to ensure that CSS discharges do not cause exceedance of applicable water quality objectives.
- iii. The Discharger shall continue to implement the LTCP to manage the flow capacity of the CSS to minimize CSO's and CSS outflows as new development and redevelopment projects are implemented throughout the CSS service area that have the potential to increase combined sewer system flows. The Discharger shall implement

measures to the maximum extent practicable to ensure that new flows from growth within the CSS service area do not result in an increase in CSO's or CSS outflows, or reduce the overall percentage of flow routed to the Sacramento Regional Wastewater Treatment Plant.

- iv. **LTCP Update.** The Discharger shall update the LTCP by the due date in the Technical Reports Table to:
- Estimate, at minimum, 30-year buildout flows for the CSS based on new development and redevelopment projects expected throughout the CSS service area. If flows are expected to increase that could result in an increase in CSO's and/or CSS outflows, an adaptive management strategy shall be developed to identify projects to mitigate increased flows to ensure CSO's and CSS outflows do not increase as a result of the growth.
 - Conduct a review on the LTCP's goal and timeline of achieving protection from CSS outflows during the 10 yr (6-hr) storm event. The review should consider potential impacts of CSS outflows to the public. The evaluation should consider these items and provide any recommended updates to the goals of the LTCP and timeline. In developing this update, the Discharger must consult with Department of Public Health staff and/or Sacramento County Public Health, as applicable.
 - The Discharger shall recalculate the 5-year, 10-year, and 100-year design storm return frequencies based on current climatic information and considering the effects of climate change, as appropriate. The updated design storms shall be incorporated into the LTCP and an evaluation on the progress of achieving the interim goals listed above shall be discussed in the Annual LTCP Progress Report.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable

6. Other Special Provisions

- a. Sludge/Biosolids Discharge Specifications
- i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste, as set forth in Title 27, CCR, division 2, subdivision 1, section 20005, et seq. Removal for further treatment, disposal, or reuse at

sites (e.g., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.

- ii. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.

7. Compliance Schedules

- a. **Compliance Schedule for Final Effluent Limitations for Methylmercury.** This Order requires compliance with the final effluent limitations for methylmercury by 31 December 2030. The Discharger shall comply with the time schedule shown in the Technical Reports Table to ensure compliance with the final effluent limitations. Additional information regarding the compliance schedule, including completed tasks during the previous permit term, is described in the Fact Sheet (Attachment F, Section VI.B.7).

VII. COMPLIANCE DETERMINATION

- A. Total Mercury Mass Loading Effluent Limitations (Section IV.A.2.a). The procedures for calculating mass loadings are as follows:
 1. For Discharge Points 002, 003, and 006, the total pollutant mass load for each individual calendar quarter shall be determined using an average of all concentration data collected that quarter and the corresponding total quarterly flow. All effluent monitoring data collected under the monitoring and reporting program, pretreatment program, and any special studies shall be used for these calculations. The total annual mass loading shall be the sum of the individual calendar quarters for Discharge Points 002, 003, and 006.
 2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.
- B. **Total Residual Chlorine Effluent Limitations (Section IV.A.1.a).** Monitoring for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination with the total residual chlorine effluent limitations. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in

accordance with the manufacturer's recommendations.

Any excursion above the maximum daily total residual chlorine effluent limitation is a violation. If the Discharger conducts monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive. Records supporting validation of false positives shall be maintained in accordance with Section IV Standard Provisions (Attachment D).

- C. Chlorpyrifos and Diazinon Effluent Limitations (Section IV.A.1.e).** Compliance shall be determined by calculating the sum (S), as provided in this Order, with analytical results that are reported as "non-detectable" concentrations to be considered to be zero.
- D. Temperature Effluent Limitation (Section IV.A.1.c).** Compliance with the final effluent limitations for temperature shall be ascertained as follows:
 - 1. For Discharge Point 002 or 003, using the effluent monitoring results at Monitoring Location EFF-002 or EFF-003 measured within one day of the receiving water monitoring results measured at Monitoring Location RSW-003.
 - 2. For Discharge Point 006, using the effluent monitoring results at Monitoring Location EFF-006 measured within one day of the receiving water monitoring results measured at Monitoring Location RSW-001.
- E. Use of Delta Regional Monitoring Program and Other Receiving Water Data to Determine Compliance with Receiving Water Limitations.** Delta Regional Monitoring Program data and other receiving water monitoring data that is not specifically required to be conducted by the Discharger under this permit will not be used directly to determine that the discharge is in violation of this Order. The Discharger may, however, conduct any site-specific receiving water monitoring deemed appropriate by the Discharger that is not conducted by the Delta Regional Monitoring Program and submit that monitoring data. As described in section VIII of Attachment E, such data may be used, if scientifically defensible, in conjunction with other receiving water data, effluent data, receiving water flow data, and other pertinent information to determine whether or not a discharge is in compliance with this Order.

ATTACHMENT A – DEFINITIONS

1Q10

The lowest one-day flow with an average reoccurrence frequency of once in ten years.

7Q10

The lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years

Arithmetic Mean (μ)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean} = \mu = \Sigma x / n$$

where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Bioaccumulative

Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic

Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Combined Sewer System (CSS)

The collection and conveyance system for wastewater and storm water in a single pipe to a treatment facility. The City of Sacramento's CSS includes the collection system, pump stations, storage facilities, the CWTP/Pioneer Reservoir treatment facilities, and other miscellaneous ancillary facilities. The CSS is not a Publicly Owned Treatment Works (POTW).

Combined Sewer Overflow (CSO)

A CSO is a discharge to the Sacramento River from the CSS in accordance with this Order at Discharge Point(s) 002, 003, 004, 005, 006, and/or 007.

Daily Discharge

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a

calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effect Concentration (EC)

A point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in a given percent of the test organisms, calculated from a continuous model (e.g. Probit Model). EC₂₅ is a point estimate of the toxicant concentration that would cause an observable adverse effect in 25 percent of the test organisms.

Effluent Concentration Allowance (ECA)

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Endpoint

An effect that is measured in a toxicity study. Endpoints in toxicity tests may include, but are not limited to survival, reproduction, and growth.

Estimated Chemical Concentration

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Geometric Mean (GM)

The geometric mean is a type of mean or average that indicates the central tendency or typical value of a set of numbers by using the product of their values (as opposed to the arithmetic mean which uses their sum). The geometric mean is defined as the n th root of the product of n numbers.

Inhibition Concentration

Inhibition Concentration (IC) is a point estimate of the toxicant concentration that would cause a given percent reduction in a non-lethal biological measurement (e.g., reproduction or growth), calculated from a continuous model (i.e., Interpolation Method). IC25 is a point estimate of the toxic concentration that would cause a 25-percent reduction in a non-lethal biological measurement.

Inland Surface Waters

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations

expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median

The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)

MDL is the minimum measured concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in in 40 C.F.R. Part 136, Attachment B.

Minimum Level (ML)

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

Mixing Zone

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

No-Observed-Effect-Concentration (NOEC)

The highest concentration of toxicant to which organisms are exposed in a full life-cycle or partial life-cycle (short-term) test, that causes no observable adverse effects on the test organisms (i.e., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls).

Not Detected (ND)

Sample results which are less than the laboratory's MDL.

Ocean Waters

The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Outflow

A release of untreated or partially treated combined wastewater and storm water from the CSS due to surcharge from wet weather or system blockage. CSS outflows do not include combined sewer overflow (CSO) discharges from discharge points authorized under this Order (including Discharge Points 002 through 007).

Percent Effect

The percent effect at the instream waste concentration (IWC) shall be calculated using untransformed data and the following equation:

$$\text{Percent Effect of the Sample} = \frac{\text{Mean Control Response} - \text{Mean Sample Response}}{\text{Mean Control Response}} \cdot 100$$

Persistent Pollutants

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Satellite Collection System

The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water

Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

Standard Deviation (σ)

Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum [(x - \mu)^2] / (n - 1))^{0.5}$$

where:

- x is the observed value;
- μ is the arithmetic mean of the observed values; and
- n is the number of samples.

Statistical Threshold Value (STV):

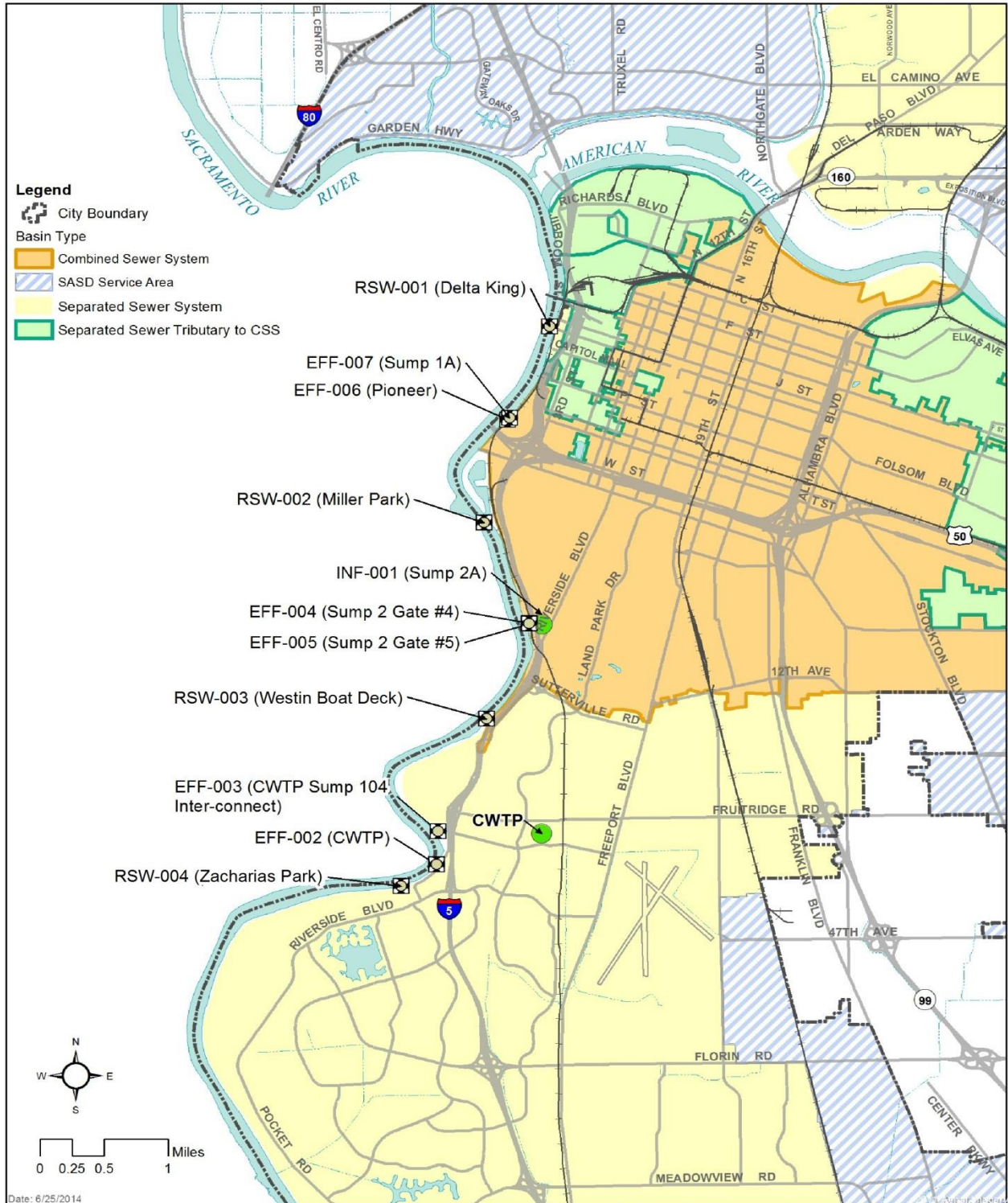
The STV for the bacteria receiving water limitation is a set value that approximates the 90th percentile of the water quality distribution of a bacterial population.

Toxicity Reduction Evaluation (TRE)

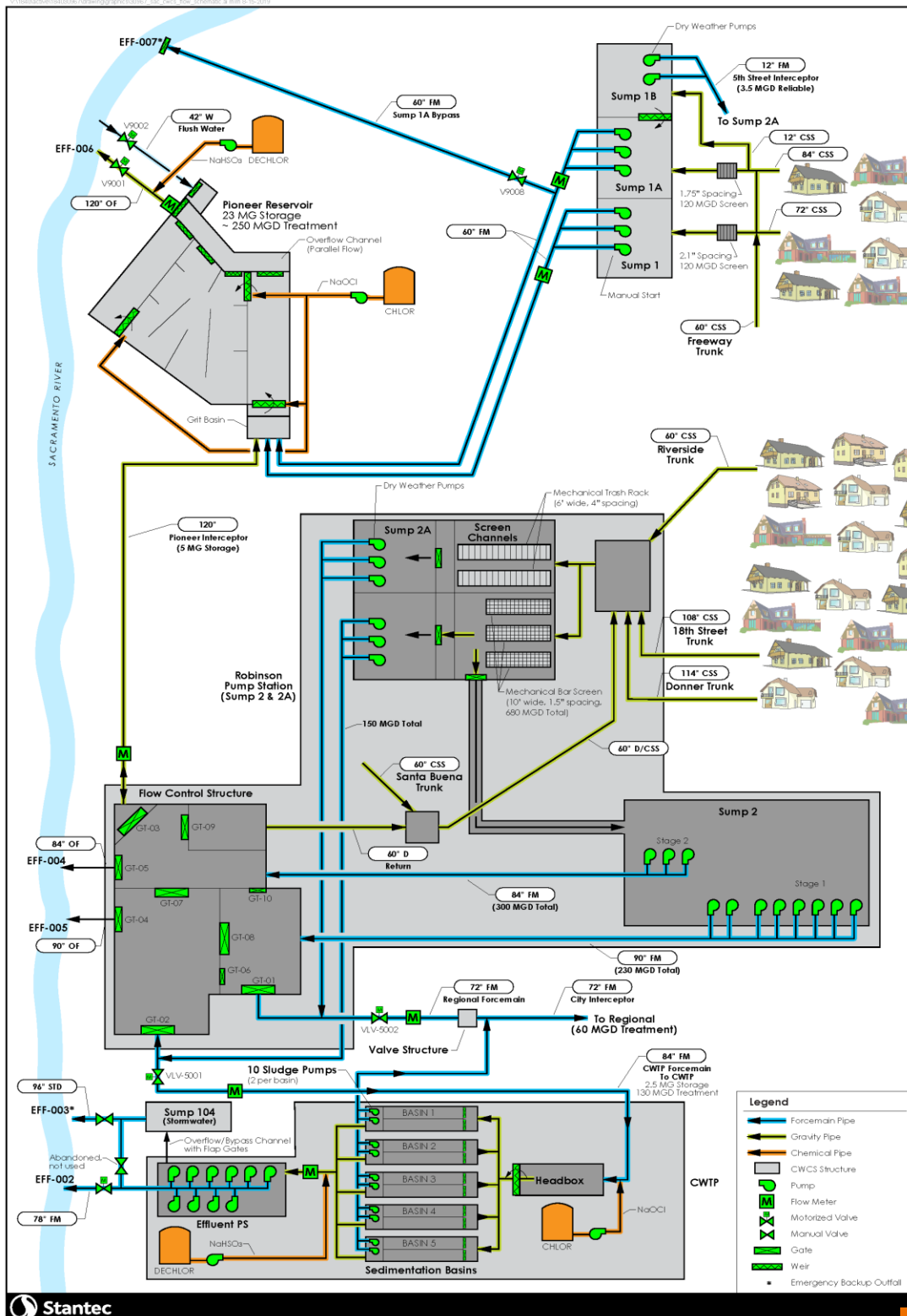
TRE is a study conducted in a stepwise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP

Outfall Location Map
 City of Sacramento Combined Sewer System



ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply:

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. section 122.41(a); Wat. Code, sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. section 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. section 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes having adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. section 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. section 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. section 1318(a)(4)(B); 40 C.F.R. section 122.41(i); Wat. Code, section 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(1); Wat. Code, sections 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(2); Wat. Code, sections 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C section 1318(a)(4)(B)(ii); 40 C.F.R. section 122.41(i)(3); Wat. Code, section 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C section 1318(a)(4)(B); 40 C.F.R. section 122.41(i)(4); Wat. Code, sections 13267, 13383.)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. section 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. section 122.41(m)(1)(ii).)

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. section 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. section 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. section 122.41(m)(4)(i)(A).);
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. section 122.41(m)(4)(i)(B).); and
 - c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. section 122.41(m)(4)(i)(C).)
4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. section 122.41(m)(4)(ii).)
5. **Notice**
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice if possible, at least 10 days before the date of the bypass. The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be submitted electronically to the initial recipient (State Water Board’s [California Integrated Water Quality System \(CIWQS\) Program website](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the Central Valley Water Board. As of 21 December 2023, all notices shall be

submitted electronically to the initial recipient (State Water Board's [California Integrated Water Quality System \(CIWQS\) Program website](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/), defined in Standard Provisions – Reporting V.J below. Notices shall comply with 40 C.F.R. Part 3, section 122.22, and 40 C.F.R. Part 127. (40 C.F.R. section 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. section 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. section 122.41(n)(2).)
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, thorough properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. section 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. section 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. section 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E. below (24-hour notice) (40 C.F.R. section 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. section 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. section 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. section 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. section 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. section 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. section 122.41(j)(1).)
- B.** Monitoring must be conducted according to test procedures approved under 40 C.F.R. Part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. Part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when the method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. chapter 1, subchapter N or O for the measured pollutant or pollutant parameter, or when:
 - 1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and:
 - a. The method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter, or;

- b. The method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge;

In the case of pollutants or pollutant parameters for which there are no approved methods under 40 C.F.R. Part 136 or otherwise required under 40 C.F.R. chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 C.F.R. sections 122.21(e)(3), 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. section 122.41(j)(2).)
- B. Records of monitoring information shall include:
 - 1. The date, exact place, and time of sampling or measurements (40 C.F.R. section 122.41(j)(3)(i));
 - 2. The individual(s) who performed the sampling or measurements (40 C.F.R. section 122.41(j)(3)(ii));
 - 3. The date(s) analyses were performed (40 C.F.R. section 122.41(j)(3)(iii));
 - 4. The individual(s) who performed the analyses (40 C.F.R. section 122.41(j)(3)(iv));
 - 5. The analytical techniques or methods used (40 C.F.R. section 122.41(j)(3)(v)); and
 - 6. The results of such analyses. (40 C.F.R. section 122.41(j)(3)(vi).)
- C. Claims of confidentiality for the following information will be denied (40 C.F.R. section 122.7(b)):
 - 1. The name and address of any permit applicant or Discharger (40 C.F.R. section 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data.
(40 C.F.R. section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. section 122.41(h); Wat. Code, sections 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 C.F.R. section 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA). (40 C.F.R. section 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. section 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. section 122.22(b)(2)); and

- c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. section 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. section 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“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 fine and imprisonment for knowing violations.” (40 C.F.R. section 122.22(d).)
6. Any person providing the electronic signature for such documents described in Standard Provision – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all of the relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R section 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. section 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of 21 December 2016, all reports and forms must be submitted electronically to the initial recipient, defined in Standard Provisions – Reporting V.J, and comply with 40 C.F.R. part 3, section 122.22, and 40 C.F.R. part 127. (40 C.F.R. section 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another

method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Valley Water Board. (40 C.F.R. section 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. section 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. section 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather.

As of 21 December 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient (State Water Board) defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 C.F.R. part 3. They may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. section 122.41(l)(6)(i).)

F. Planned Changes

The Discharger shall give notice to the Central Valley Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. section 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. section 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 C.F.R. part 127. The Central Valley Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 C.F.R. section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board, State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. section 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 C.F.R. part 127 to the appropriate initial recipient, as determined by U.S. EPA, and as defined in 40 C.F.R. section 127.2(b). U.S. EPA will identify and publish the list of initial recipients on its website and in the Federal Register, by state and by NPDES data group [see 40 C.F.R. section 127.2(c)]. U.S. EPA will update and maintain this listing. (40 C.F.R. section 122.41(l)(9).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

- A. **Publicly-Owned Treatment Works (POTW's) – Not Applicable. The CSS is not a POTW, thus this provision is not applicable to the CSS.**

All POTW's shall provide adequate notice to the Central Valley Water Board of the following (40 C.F.R. section 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 C.F.R. section 122.42(b)(1)); and
2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 C.F.R. section 122.42(b)(2).)
3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 C.F.R. section 122.42(b)(3).)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. section 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.
- B.** Final effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
- C.** Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory accredited for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW), in accordance with the provision of Water Code section 13176. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. Data generated from field measurements such as pH, dissolved oxygen (DO), electrical conductivity (EC), turbidity, temperature, and residual chlorine, are exempt pursuant to Water Code Section 13176. A manual containing the steps followed in this program for any field measurements such as pH, DO, EC, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.
- D.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

- E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.
- F. Laboratory analytical methods shall be sufficiently sensitive in accordance with the Sufficiently Sensitive Methods Rule (SSM Rule) specified under 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). A U.S. EPA-approved analytical method is sufficiently sensitive for a pollutant/parameter where:
 - 1. The method minimum level (ML) is at or below the applicable water quality objective for the receiving water, or;
 - 2. The method ML is above the applicable water quality objective for the receiving water but the amount of the pollutant/parameter in the discharge is high enough that the method detects and quantifies the level of the pollutant/parameter, or;
 - 3. The method ML is above the applicable water quality objective for the receiving water, but the ML is the lowest of the 40 C.F.R. 136 U.S. EPA-approved analytical methods for the pollutant/parameter.
- G. The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Resources Control Board at the following address:

State Water Resources Control Board
Quality Assurance Program Officer
Office of Information Management and Analysis
1001 I Street, Sacramento, CA 95814
- H. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.
- I. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	At a location that is representative of influent to the Pioneer Reservoir and Combined Wastewater Treatment Plant (CWTP) (Sump 2A) (Latitude 38° 32' 54" N, Longitude 121° 30' 29" W)
002	EFF-002	CWTP effluent at a point after chlorination downstream from last connection through which wastes can be admitted into the outfall (Latitude 38° 31' 09" N, Longitude 121° 31' 26" W)
003	EFF-003	CWTP (Storm Sump 104) effluent downstream from last connection through which wastes can be admitted into the outfall (Latitude 38° 31' 23" N, Longitude 121° 31' 25" W)
004	EFF-004	Sump 2/2A Gate #4 (Latitude 38° 32' 52" N, Longitude 121° 30' 37" W)
005	EFF-005	Sump 2/2A Gate #5 (Latitude 38° 32' 51" N, Longitude 121° 30' 37" W)
006	EFF-006	Pioneer Reservoir effluent at a point after chlorination downstream from last connection through which wastes can be admitted into outfall (Latitude 38° 34' 18" N, Longitude 121° 30' 48" W)
007	EFF-007	Pioneer Reservoir Combined Sump 1A Bypass (Latitude 38° 34' 19" N, Longitude 121° 30' 47" W)
--	RSW-001	Upstream of CSO Discharge Points 006 and 007, at the Delta King (Latitude 38° 34' 58" N, Longitude 121° 30' 26" W)
--	RSW-002	Downstream of Discharge Points 006 and 007, at Miller Park (Latitude 38° 33' 35" N, Longitude 121° 31' 01" W)
--	RSW-003	Downstream of Discharge Points 004 and 005, at Westin Boat Dock (Latitude 38° 32' 12" N, Longitude 121° 30' 60" W)
--	RSW-004	Downstream of Discharge Points 002 and 003, at Zacharias Park (Latitude 38° 31' 01" N, Longitude 121° 31' 45" W)

The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Pioneer Reservoir and CWTP at Monitoring Location INF-001 in accordance with Table E-2 and the testing requirements described in section III.A.2 below. Samples shall be collected at approximately the same time as effluent samples (i.e., the same storm event or river discharge event) and should be representative of the influent for the period sampled. If no discharge from the CWTP (Discharge Points 002 or 003) and/or Pioneer Reservoir (Discharge Point 006) is occurring, no influent monitoring is required (and the Discharger shall indicate that no discharge occurred thus no monitoring was required in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Total Suspended Solids	mg/L	Grab or flow-weighted composite	1/Discharge Event
Settleable Solids	ml/L	Grab or flow-weighted composite	1/Discharge Event

2. **Table E-2 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-2:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Flow.** Flow monitoring is required continuously during the storm event that resulted in a discharge from Discharge Points 002, 003, and/or 006.
 - c. **1/Discharge Event Sampling.** At least one grab sample aliquot is required during the first 4 hours of a discharge from Discharge Points 002, 003 and/or 006. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected. One or more grab or auto sampler aliquots should be composited based on the expected influent flow that is discharged when considering discharge duration and facility treatment. For the purpose of sample collection and reporting, an event is any discharge in a 24-hour period, including discharge interruptions. In cases where a discharge ceases for longer than six hours and begins again spanning more than one calendar day, a discharge event will be added.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-002 (CWTP), EFF-003 (CWTP – Sump 104), and EFF-006 (Pioneer Reservoir)

1. The Discharger shall monitor CWTP effluent at Monitoring Locations EFF-002, EFF-003, and Pioneer Reservoir effluent at Monitoring Location EFF-006 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below. If no discharge from the CWTP (Discharge Points 002 and 003) and/or Pioneer Reservoir (Discharge Point 006) is occurring, no effluent monitoring is required (and the Discharger shall indicate that “no discharge occurred” in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-3. Effluent Monitoring – Monitoring Locations EFF-002, EFF-003, and EFF-006

Pollutant Parameter	Units	Sample Type	Minimum Sampling Frequency
Maximum Event Flow Rate	MGD	Meter	Continuous
Total Discharge Event Flow	Million gallons	Meter	Continuous
Event Flow Duration	Hours	Calculate	Continuous
Total Suspended Solids (TSS)	mg/L	Grab or Flow-weighted Composite	1/Discharge Event
TSS	% removal	Calculate	1/Discharge Event
Settleable Solids	ml/L	Grab	1/Discharge Event
pH	standard units	Grab	1/Discharge Event
Dissolved Oxygen	mg/L	Grab	1/Discharge Event
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Discharge Event
Chlorine, Total Residual	mg/L	Grab	1/Discharge Event
Dechlorination Agent Residual	mg/L	Grab	1/Discharge Event
Mercury, Total Recoverable	µg/L	Grab	1/Discharge Event
Methylmercury	µg/L	Grab	1/Discharge Event
Chlorpyrifos	µg/L	Grab	1/Discharge Event
Diazinon	µg/L	Grab	1/Discharge Event
Temperature	°F	Grab	1/Discharge Event
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Discharge Event

2. **Table E-3 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-3:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be

modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

- b. **Parameters with “Continuous” Minimum Sampling Frequency.** Required continuously during the storm event that resulted in a discharge from Discharge Points 002, 003, and/or 006.
- c. **Parameters with “1/Discharge Event” Minimum Sampling Frequency.** At least one grab sample is required during the first 4 hours of a discharge. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected. Composite samples can consist of one or more grab samples combined based on a discharge flow weighting. For the purpose of sample collection and reporting, an event is any discharge in a 24-hour period, including discharge interruptions. In cases where a discharge ceases for longer than six hours and begins again spanning more than one calendar day, a discharge event will be added.
- d. **TSS Percent Removal.** Report removal efficiency (%) for each storm event using influent (Monitoring Location INF-001) and effluent values for Discharge Points 002, 003 and 006.
- e. **Mercury and Methylmercury.** Unfiltered methylmercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in U.S. EPA method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by U.S. EPA method 1630/1631 (Revision E) with a reporting limit of 0.05 ng/L for methylmercury and 0.5 ng/L for total mercury.
- f. **Chlorpyrifos and Diazinon.** Chlorpyrifos and diazinon shall be analyzed using U.S. EPA Method 8141A, U.S. EPA Method 625M or equivalent GC/MS method to reporting limits of 0.020 µg/L and 0.010 µg/L, respectively.
- g. **Total Residual Chlorine and Dechlorination Agent Residual.** Total residual chlorine and dechlorination agent residual must be sampled at the same time and must be monitored using an analytical method that is sufficiently sensitive to measure at the permitted level of 0.01 mg/L, or to show the presence of a positive residual dechlorination agent.

B. Monitoring Locations EFF-004, EFF-005, and EFF-007

- 1. The Discharger shall monitor effluent from Sumps 2/2A effluent at Monitoring Location EFF-004 and EFF-005, and untreated effluent Pioneer Reservoir Combined Sump 1A at Monitoring Location EFF-007, in accordance with Table E-4 and the testing requirements described in section IV.B.2 below. If no discharge from Discharge Points 004, 005 and/or 007 is occurring, no effluent

monitoring is required (and the Discharger shall indicate that “no discharge occurred” in the monthly self-monitoring reports required in Section X.B. of this Monitoring and Reporting Program).

Table E-4. Effluent Monitoring – Monitoring Locations EFF-004, EFF-005, and EFF-007

Parameter	Units	Sample Type	Minimum Sampling Frequency
Maximum Event Flow Rate	MGD	Meter	Continuous
Total Discharge Event Flow	Million gallons	Meter	Continuous
Event Flow Duration	Hours	Calculate	Continuous
pH	Standard Units	Grab	1/Discharge Event
Dissolved Oxygen	mg/L	Grab	1/Discharge Event
Temperature	°F	Grab	1/Discharge Event
Total Suspended Solids	mg/L	Grab or Flow-weighted Composite	1/Discharge Event
Settleable Solids	ml/L	Grab	1/Discharge Event
Fecal Coliform Organisms	MPN/100 mL	Grab	1/Discharge Event
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Discharge Event

2. **Table E-4 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-4:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.
 - b. **Parameters with “Continuous” Minimum Sampling Frequency.** Required continuously during the storm event that resulted in a discharge from Discharge Points 004, 005, and/or 007.
 - c. **Parameters with “1/Discharge Event” Minimum Sampling Frequency.** At least one grab sample is required during the first 4 hours of a discharge. If the duration of the discharge event is greater than 24 hours, daily samples shall be collected. Composite samples can consist of one or more grab samples combined based on a discharge flow weighting. For the purpose of sample collection and reporting, an event is any discharge in a 24-hour period, including discharge interruptions. In cases where a discharge ceases for longer than six hours and begins again spanning more than one calendar day, a discharge event will be added.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

- A. Acute Toxicity Testing.** Beginning with the 2020/2021 storm year, the Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the acute toxicity testing requirement:
- 1. Monitoring Frequency** – The Discharger shall perform acute toxicity testing 1/storm year, concurrent with effluent ammonia sampling. The acute toxicity testing should be targeted for the first discharge event of the storm year.
 - 2. Sample Types** – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Locations EFF-002, EFF-003, EFF-004, EFF-005, EFF-006 and EFF 007.
 - 3. Test Species** – Test species shall be fathead minnow (*Pimephales promelas*).
 - 4. Methods** – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
 - 5. Test Failure** – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, preferably the next discharge event at the same location as the failed test.
- B. WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory’s complete report provided to the Discharger and shall be in accordance with the appropriate “Report Preparation and Test Review” sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:
- 1. Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

The Discharger is required to participate in the Delta Regional Monitoring Program. Delta Regional Monitoring Program data is not intended to be used directly to represent either upstream or downstream water quality for purposes of determining compliance with this Permit. Delta Regional Monitoring Program monitoring stations are established generally as “integrator sites” to evaluate the combined impacts on water quality of multiple

discharges into the Delta; Delta Regional Monitoring Program 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. Delta Regional Monitoring Program monitoring data, along with individual Discharger data, may be used to help establish background receiving water quality for reasonable potential analyses in an NPDES permit after evaluation of the applicability of the data for that purpose. Delta Regional Monitoring Program data, as with all environmental monitoring data, can provide an assessment of water quality at a specific place 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, effluent data from the Discharger’s discharge and other point and non-point source discharges, receiving water flow volume, speed and direction, and other information to determine the likely source or sources of a constituent that resulted in exceedance of a receiving water quality objective.

A. Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004

1. When discharging to the Sacramento River, the Discharger shall monitor the Sacramento River at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004 in accordance with Table E-5 and the testing requirements described in section A.2 below. Samples shall be collected at Monitoring Locations RSW-001 and RSW-002 when discharge is occurring at Discharge Point(s) 006 and/or 007. Samples shall be collected at Monitoring Locations RSW-002 and RSW-003 when discharge is occurring at Discharge Point(s) 004 and/or 005. Samples shall be collected at Monitoring Locations RSW-003 and RSW-004 when discharge is occurring at Discharge Point(s) 002 and/or 003.

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Sampling Frequency
pH	Standard Units	Grab	2 discharge events per monitoring year as follows: One discharge event occurring 1 October – 31 December; and One discharge event occurring 1 January – 30 September; or An untreated discharge from EFF-004, EFF-005, or EFF-007
Temperature	°F (°C)	Grab	
Dissolved Oxygen	mg/L	Grab	
Turbidity	NTUs	Grab	
E. coli	cfu/100 mL	Grab	
Ammonia Nitrogen, Total (as N)	mg/L	Grab	

2. **Table E-5 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-5:
 - a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

Within the first 4 hours of beginning of storm causing discharge at any of the Discharge Points (002, 003, 004, 005, 006, and/or 007) should safety conditions be satisfied, and daily if the discharge event is greater than 24 hours. Consideration will be given for events lasting less than 2 hours in duration due to the difficulty involved in collecting receiving water samples during short discharge events. For events that last less than 2 hours the Discharger shall make an effort to collect samples. Receiving water monitoring is not required if hazardous conditions threaten the health and safety of the sampling crew's ability to collect samples utilizing the appropriate preventative measures. If this is the case, the monitoring report shall contain a complete description of the reason samples were not collected.

- b. If two discharge events have already been monitored for the monitoring year and then an untreated discharge occurs at either EFF-004, EFF-005, or EFF-007, the Discharger shall also monitor the receiving water upstream and downstream of that discharge point for one untreated discharge event per monitoring year.
3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-004 when discharging to the Sacramento River. Attention shall be given to the presence of:
- a. Floating or suspended matter;
 - b. Discoloration;
 - c. Bottom deposits;
 - d. Aquatic life;
 - e. Visible films, sheens, or coatings;
 - f. Fungi, slimes, or objectionable growths; and
 - g. Potential nuisance conditions.

Notes on receiving water conditions shall be summarized in the monitoring report.

IX. OTHER MONITORING REQUIREMENTS

A. Effluent Characterization

The Discharger is participating in the Delta Regional Monitoring Program as described in Attachment E, Section VIII; therefore, the receiving water portion of the Effluent and Receiving Water Characterization is not required.

1. **Annual Monitoring.** Annual samples shall be collected from the effluent (Monitoring Locations EFF-002, EFF-003, EFF-004, EFF-005, EFF-006, and EFF-007) and analyzed for the constituents listed in Table E-6, below. Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.D.2) using sufficiently sensitive analytical methods and Reporting Levels per the SSM Rule specified in 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). The "Reporting Level" is synonymous with the "Method Minimum Level" described in the SSM Rule. Annual monitoring shall be conducted, and the results of such monitoring be submitted to the Central Valley Water Board with the annual self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.
2. **Sample Type.** All effluent samples shall be taken as GRAB samples. However, the Discharger may collect effluent flow-weighted composite samples if effluent variability is high enough and a grab sample will not adequately characterize the effluent quality.
3. **Analytical Methods Report Certification.** Prior to beginning the Effluent Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent Characterization monitoring and confirming that samples will be collected and analyzed as described in the previously submitted Analytical Methods Report. If there are changes to the previously submitted Analytical Methods Report, the Discharger shall outline those changes. A one-page certification form will be provided by Central Valley Water Board staff with the permit's Notice of Adoption that the Discharger can use to satisfy this requirement. The certification form shall be submitted electronically via CIWQS submittal by the due date in the Technical Reports Table.
4. The Discharger shall conduct effluent characterization monitoring in accordance with Table E-6 and the testing requirements described in section IX.A.5 below.

Table E-6. Effluent Characterization Monitoring

CTR No.	Parameter	CAS Number	Units	Parameter Type
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Volatile Organic
17	Acrolein	107-02-8	µg/L	Volatile Organic
18	Acrylonitrile	107-13-1	µg/L	Volatile Organic
19	Benzene	71-43-2	µg/L	Volatile Organic
20	Bromoform	75-25-2	µg/L	Volatile Organic
21	Carbon Tetrachloride	56-23-5	µg/L	Volatile Organic
22	Chlorobenzene	108-90-7	µg/L	Volatile Organic
24	Chloroethane	75-00-3	µg/L	Volatile Organic
26	Chloroform	67-66-3	µg/L	Volatile Organic

CTR No.	Parameter	CAS Number	Units	Parameter Type
35	Methyl Chloride	74-87-3	µg/L	Volatile Organic
23	Dibromochloromethane	124-48-1	µg/L	Volatile Organic
27	Dichlorobromomethane	75-27-4	µg/L	Volatile Organic
36	Methylene Chloride	75-09-2	µg/L	Volatile Organic
33	Ethylbenzene	100-41-4	µg/L	Volatile Organic
89	Hexachlorobutadiene	87-68-3	µg/L	Volatile Organic
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Volatile Organic
94	Naphthalene	91-20-3	µg/L	Volatile Organic
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Volatile Organic
39	Toluene	108-88-3	µg/L	Volatile Organic
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Volatile Organic
43	Trichloroethylene (TCE)	79-01-6	µg/L	Volatile Organic
44	Vinyl Chloride	75-01-4	µg/L	Volatile Organic
21	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Volatile Organic
41	1,1,1-Trichloroethane	71-55-6	µg/L	Volatile Organic
42	1,1,2-Trichloroethane	79-00-5	µg/L	Volatile Organic
28	1,1-Dichloroethane	75-34-3	µg/L	Volatile Organic
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Volatile Organic
31	1,2-Dichloropropane	78-87-5	µg/L	Volatile Organic
32	1,3-Dichloropropylene	542-75-6	µg/L	Volatile Organic
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Volatile Organic
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Volatile Organic
29	1,2-Dichloroethane	107-06-2	µg/L	Volatile Organic
75	1,2-Dichlorobenzene	95-50-1	µg/L	Volatile Organic
76	1,3-Dichlorobenzene	541-73-1	µg/L	Volatile Organic
77	1,4-Dichlorobenzene	106-46-7	µg/L	Volatile Organic
60	Benzo(a)Anthracene	56-55-3	µg/L	Semi-Volatile Organic
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Semi-Volatile Organic
45	2-Chlorophenol	95-57-8	µg/L	Semi-Volatile Organic
46	2,4-Dichlorophenol	120-83-2	µg/L	Semi-Volatile Organic
47	2,4-Dimethylphenol	105-67-9	µg/L	Semi-Volatile Organic
49	2,4-Dinitrophenol	51-28-5	µg/L	Semi-Volatile Organic
82	2,4-Dinitrotoluene	121-14-2	µg/L	Semi-Volatile Organic
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Semi-Volatile Organic
83	2,6-Dinitrotoluene	606-20-2	µg/L	Semi-Volatile Organic
50	2-Nitrophenol	88-75-5	µg/L	Semi-Volatile Organic
71	2-Chloronaphthalene	91-58-7	µg/L	Semi-Volatile Organic
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Semi-Volatile Organic
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Semi-Volatile Organic
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Semi-Volatile Organic
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Semi-Volatile Organic
51	4-Nitrophenol	100-02-7	µg/L	Semi-Volatile Organic

CTR No.	Parameter	CAS Number	Units	Parameter Type
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Semi-Volatile Organic
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Semi-Volatile Organic
56	Acenaphthene	83-32-9	µg/L	Semi-Volatile Organic
57	Acenaphthylene	208-96-8	µg/L	Semi-Volatile Organic
58	Anthracene	120-12-7	µg/L	Semi-Volatile Organic
59	Benidine	92-87-5	µg/L	Semi-Volatile Organic
61	Benzo(a)Pyrene	50-32-8	µg/L	Semi-Volatile Organic
63	Benzo(ghi)Perylene	191-24-2	µg/L	Semi-Volatile Organic
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Semi-Volatile Organic
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Semi-Volatile Organic
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Semi-Volatile Organic
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Semi-Volatile Organic
68	Bis(2-Ethylhexyl) Phthalate	117-81-7	µg/L	Semi-Volatile Organic
70	Butylbenzyl Phthalate	85-68-7	µg/L	Semi-Volatile Organic
73	Chrysene	218-01-9	µg/L	Semi-Volatile Organic
81	Di-n-butyl Phthalate	84-74-2	µg/L	Semi-Volatile Organic
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Semi-Volatile Organic
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Semi-Volatile Organic
79	Diethyl Phthalate	84-66-2	µg/L	Semi-Volatile Organic
80	Dimethyl Phthalate	131-11-3	µg/L	Semi-Volatile Organic
86	Fluoranthene	206-44-0	µg/L	Semi-Volatile Organic
87	Fluorene	86-73-7	µg/L	Semi-Volatile Organic
88	Hexachlorobenzene	118-74-1	µg/L	Semi-Volatile Organic
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Semi-Volatile Organic
91	Hexachloroethane	67-72-1	µg/L	Semi-Volatile Organic
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Semi-Volatile Organic
93	Isophorone	78-59-1	µg/L	Semi-Volatile Organic
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Semi-Volatile Organic
96	N-Nitrosodimethylamine	62-75-9	µg/L	Semi-Volatile Organic
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Semi-Volatile Organic
95	Nitrobenzene	98-95-3	µg/L	Semi-Volatile Organic
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Semi-Volatile Organic
99	Phenanthrene	85-01-8	µg/L	Semi-Volatile Organic
54	Phenol	108-95-2	µg/L	Semi-Volatile Organic
100	Pyrene	129-00-0	µg/L	Semi-Volatile Organic
NL	Aluminum	7429-90-5	µg/L	Inorganic
1	Antimony, Total Recoverable	7440-36-0	µg/L	Inorganic
2	Arsenic, Total Recoverable	7440-38-2	µg/L	Inorganic
15	Asbestos	1332-21-4	µg/L	Inorganic
3	Beryllium, Total Recoverable	7440-41-7	µg/L	Inorganic
4	Cadmium, Total Recoverable	7440-43-9	µg/L	Inorganic
5a (III)	Chromium, Total	7440-47-3	µg/L	Inorganic

CTR No.	Parameter	CAS Number	Units	Parameter Type
6	Copper, Total Recoverable	7440-50-8	µg/L	Inorganic
14	Iron, Total Recoverable	7439-89-6	µg/L	Inorganic
7	Lead, Total Recoverable	7439-92-1	µg/L	Inorganic
8	Mercury, Total Recoverable	7439-97-6	µg/L	Inorganic
NL	Mercury, Methyl	22967-92-6	µg/L	Inorganic
NL	Manganese, Total Recoverable	7439-96-5	µg/L	Inorganic
9	Nickel, Total Recoverable	7440-02-0	µg/L	Inorganic
10	Selenium, Total Recoverable	7782-49-2	µg/L	Inorganic
11	Silver, Total Recoverable	7440-22-4	µg/L	Inorganic
12	Thallium, Total Recoverable	7440-28-0	µg/L	Inorganic
13	Zinc, Total Recoverable	7440-66-6	µg/L	Inorganic
NL	Boron	7440-42-8	µg/L	Non-Metal/Mineral
NL	Chloride	16887-00-6	mg/L	Non-Metal/Mineral
14	Cyanide, Total (as CN)	57-12-5	µg/L	Non-Metal/Mineral
NL	Phosphorus, Total (as P)	7723-14-0	mg/L	Non-Metal/Mineral
NL	Sulfate	14808-79-8	mg/L	Non-Metal/Mineral
NL	Sulfide (as S)	5651-88-7	mg/L	Non-Metal/Mineral
110	4,4-DDD	72-54-8	µg/L	Pesticide/PCB/Dioxin
109	4,4-DDE	72-55-9	µg/L	Pesticide/PCB/Dioxin
108	4,4-DDT	50-29-3	µg/L	Pesticide/PCB/Dioxin
112	alpha-Endosulfan	959-98-8	µg/L	Pesticide/PCB/Dioxin
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	Pesticide/PCB/Dioxin
102	Aldrin	309-00-2	µg/L	Pesticide/PCB/Dioxin
113	beta-Endosulfan	33213-65-9	µg/L	Pesticide/PCB/Dioxin
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	Pesticide/PCB/Dioxin
107	Chlordane	57-74-9	µg/L	Pesticide/PCB/Dioxin
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	Pesticide/PCB/Dioxin
111	Dieldrin	60-57-1	µg/L	Pesticide/PCB/Dioxin
114	Endosulfan Sulfate	1031-07-8	µg/L	Pesticide/PCB/Dioxin
115	Endrin	72-20-8	µg/L	Pesticide/PCB/Dioxin
116	Endrin Aldehyde	7421-93-4	µg/L	Pesticide/PCB/Dioxin
117	Heptachlor	76-44-8	µg/L	Pesticide/PCB/Dioxin
118	Heptachlor Epoxide	1024-57-3	µg/L	Pesticide/PCB/Dioxin
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	Pesticide/PCB/Dioxin
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	Pesticide/PCB/Dioxin
120	PCB 1221	11104-28-2	µg/L	Pesticide/PCB/Dioxin
121	PCB 1232	11141-16-5	µg/L	Pesticide/PCB/Dioxin
122	PCB 1242	53469-21-9	µg/L	Pesticide/PCB/Dioxin

CTR No.	Parameter	CAS Number	Units	Parameter Type
123	PCB 1248	12672-29-6	µg/L	Pesticide/PCB/Dioxin
124	PCB 1254	11097-69-1	µg/L	Pesticide/PCB/Dioxin
125	PCB 1260	11096-82-5	µg/L	Pesticide/PCB/Dioxin
126	Toxaphene	8001-35-2	µg/L	Pesticide/PCB/Dioxin
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	Pesticide/PCB/Dioxin
NL	pH	--	SU	Conventional
NL	Temperature	--	°C	Conventional
NL	Foaming Agents (MBAS)	MBAS	mg/L	Non-Conventional
NL	Hardness (as CaCO ₃)	471-34-1	mg/L	Non-Conventional
NL	Specific Conductance (Electrical Conductivity or EC)	EC	µmhos/cm	Non-Conventional
NL	Total Dissolved Solids (TDS)	TDS	mg/L	Non-Conventional
NL	Dissolved Organic Carbon (DOC)	DOC	mg/L	Non-Conventional
7	Ammonia (as N)	7664-41-7	mg/L	Nutrient
8	Nitrate (as N)	14797-55-8	mg/L	Nutrient
9	Nitrite (as N)	14797-65-0	mg/L	Nutrient
NL	1,2,3-Trichloropropane (TCP)	96-18-4	ug/L	Other
NL	Trichlorofluoromethane	75-69-4	µg/L	Other
NL	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Other
NL	Styrene	100-42-5	µg/L	Other
NL	Xylenes	1330-20-7	µg/L	Other
NL	Barium	7440-39-3	µg/L	Other
NL	Fluoride	16984-48-8	mg/L	Other
NL	Molybdenum	7439-98-7	µg/L	Other
NL	Tributyltin	688-73-3	µg/L	Other
NL	Alachlor	15972-60-8	µg/L	Other
NL	Atrazine	1912-24-9	µg/L	Other
NL	Bentazon	25057-89-0	µg/L	Other
NL	Carbofuran	1563-66-2	µg/L	Other
NL	2,4-D	94-75-7	µg/L	Other
NL	Dalapon	75-99-0	µg/L	Other
NL	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	Other
NL	Di(2-ethylhexyl)adipate	103-23-1	µg/L	Other
NL	Dinoseb	88-85-7	µg/L	Other
NL	Diquat	85-00-7	µg/L	Other
NL	Endothal	145-73-3	µg/L	Other
NL	Ethylene Dibromide (EDB)	106-93-4	µg/L	Other
NL	Methoxychlor	72-43-5	µg/L	Other
NL	Molinate (Ordram)	2212-67-1	µg/L	Other
NL	Oxamyl	23135-22-0	µg/L	Other

CTR No.	Parameter	CAS Number	Units	Parameter Type
NL	Picloram	1918-02-1	µg/L	Other
NL	Simazine (Princep)	122-34-9	µg/L	Other
NL	Thiobencarb	28249-77-6	µg/L	Other
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	Other
NL	Chlorpyrifos	2921-88-2	µg/L	Other
NL	Diazinon	333-41-5	µg/L	Other

5. **Table E-6 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-6.
 - a. **Bis (2-ethylhexyl) phthalate.** In order to verify if bis (2-ethylhexyl) phthalate is truly present, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).
3. Compliance Time Schedules. For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.
4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's [California Integrated Water Quality System \(CIWQS\) Program website](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/) (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR. Monthly SMRs are required even if there is no discharge. If no discharge occurs during the month, the monitoring report must be submitted stating that there has been no discharge.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	Submit with monthly SMR
1/Year	Permit effective date	1 October through 30 September	30 January
1/Discharge Event	Permit effective date	First day of calendar month through last day of calendar month	Submit with monthly SMR

Table E-7 Notes:

- a. For the purpose of sample collection and reporting, an event is any discharge in a 24-hour period, including discharge interruptions. In cases where a discharge ceases for longer than six hours and begins again spanning more than one calendar day, a discharge event will be added.
 - b. Monthly SMRs are due the first day of second calendar month following month of sampling.
4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory’s Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. **Multiple Sample Data.** When determining compliance with an AMEL or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
6. The Discharger shall submit SMRs in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
 - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

- c. The Discharger shall attach all final laboratory reports from all contracted commercial laboratories, including quality assurance/quality control information, with all its SMRs for which sample analyses were performed.
7. The Discharger shall submit in the SMRs calculations and reports in accordance with the following requirements:
 - a. **Turbidity Receiving Water Limitations.** The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.A.17.a-e. of the Waste Discharge Requirements.
 - b. **Temperature Effluent and Receiving Water Limitations.** To determine compliance with Effluent Limitation IV.A.1.c, the Discharger shall calculate and report the difference in the daily average effluent temperature at Monitoring Locations EFF-006 and RSW-001, Monitoring Locations EFF-003 and RSW-003, and Monitoring Locations EFF-002 and RSW-003 consistent with the Compliance Determination Language in Section VII.D of the Limitations and Discharge Requirements.

To determine compliance with Receiving Water Limitation V.A.15.b, the Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-002, Monitoring Locations RSW-002 and RSW-003, and RSW-003 and RSW-004.

- c. **Chlorpyrifos and Diazinon Effluent Limitations.** The Discharger shall calculate and report the value of formula sum AMEL and formula sum MDEL for the effluent, using the equation in Effluent Limitations IV.A.1.e and consistent with the Compliance Determination Language in Section VII.C of the Limitations and Discharge Requirements
- d. **Untreated Discharge Evaluation Report.** Following any discharges from Sump 2 Bypass (Discharge Points 004 and 005) and/or Sump 1A Bypass (Discharge Point 007), the Discharger shall prepare and submit a report to the Central Valley Water Board with the monthly SMR, that describes the circumstances under which the overflow(s) occurred. As part of this report, the Discharger shall evaluate whether the overflows could have been avoided with operational measures and infrastructure improvements and propose as necessary any modifications to the Combined Wastewater Control System Plan of Operations that minimize future untreated overflows.

C. Discharge Monitoring Reports (DMR's)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMR's together with SMR's using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal will be in addition to electronic SMR submittal. [Information about electronic DMR submittal](http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/) (http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/) is available on the Internet.

D. Other Reports

1. **Report of Waste Discharge (ROWD).** For the 5-year permit renewal, the Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing, at minimum, the following by the due date in the Technical Reports Table:
 - a. Report of Waste Discharge (Form 200);
 - b. NPDES Form 1;
 - c. NPDES Form 2A;
2. **Analytical Methods Report.** The Discharger shall complete and submit an Analytical Methods Report, electronically via CIWQS submittal, by the due date shown in the Technical Reports Table. The Analytical Methods Report shall include the following for each constituent to be monitored in accordance with this Order: 1) applicable water quality objective, 2) reporting level (RL), 3) method detection limit (MDL), and 4) analytical method. The analytical methods shall be sufficiently sensitive with RLs consistent with the SSM Rule per 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv), and with the Minimum Levels (MLs) in the SIP, Appendix 4. The "Reporting Level or RL" is synonymous with the "Method Minimum Level" described in the SSM Rule. If an RL is not less than or equal to the applicable water quality objective for a constituent, the Discharger shall explain how the proposed analytical method complies with the SSM Rule. Central Valley Water Board staff will provide a tool with the permit's Notice of Adoption to assist the Discharger in completing this requirement. The tool will include the constituents and associated applicable water quality objectives to be included in the Analytical Methods Report.
3. **Combined Sewer System Outflow Reporting.** The Discharger shall comply with reporting requirements for combined sewer system outflows in accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Order 2006-0003-DWQ), revised Monitoring and Reporting Program Order WQ 2013-0058-EXEC, or any revisions thereof.
4. **Nine Minimum Controls Annual Progress Report.** The Discharger shall submit documentation that demonstrates implementation of each of the nine

minimum controls that includes the elements contained in Sections X.D.4.a-i below. The report will include annual operational and maintenance data as well as summaries of updates that are made to operational plans for the reporting year. The Discharger shall submit this documentation to the Central Valley Water Board annually by the due date shown in the Technical Reports Table E-8.

- a. Proper operation and regular maintenance programs. The Discharger shall submit:
 - i. A list identifying critical combined wastewater collection and treatment system components requiring routine maintenance and operation.
 - ii. An evaluation of operation and maintenance procedures performed during the previous fiscal year.
 - iii. Estimated resources (manpower, equipment, and training) required for maintenance of the CSS and CSO structures during the previous fiscal year.
 - iv. An organizational chart or diagram detailing names and telephone numbers of key personnel to contact regarding the plant for emergency and routine situations, the chain of command, names and general responsibilities of all persons employed at the Facility, and the relationship among various program components.
 - v. A record of overflows that occurred during the previous storm year, including the date, location, duration, and volume of each overflow.
 - vi. A summary of completed inspections and maintenance performed.
 - vii. A status report on implementation of the Fats, Oils and Grease (FOG) control program.
 - viii. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
 - ix. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
- b. Maximization of the sewer collection system storage. The Discharger shall submit:

- i. A description of the actions taken to maximize collection system storage during the previous year.
- ii. Schedules for completing any construction necessary to implement storage projects the Discharger previously committed to implement, including the current status of projects underway, final completion dates, and dates by which interim steps will be completed.
- c. Review and modify the pretreatment program. The Discharger shall submit:
 - i. Any Discharger-initiated changes to the Sacramento Regional County Sanitation District pretreatment program.
- d. Maximize flow to the POTW Treatment Plant. The Discharger shall submit:
 - i. Rainfall and flow data associated with the discharge event resulting in any discharge from Discharge Points 002 through 007 during the previous storm year.
 - ii. Documentation that flows were maximized in accordance with the Combined Wastewater Control System Plan of Operations.
- e. Elimination of CSOs during dry weather. The Discharger shall submit:
 - i. A summary of dry weather overflows that have occurred since its last report.
 - ii. The cause of, the estimated volume of, and the corrective actions taken to eliminate, each dry weather overflow that occurred since the last report.
 - iii. Description of the procedures used to detect dry weather overflows and notify the U.S. EPA and the Central Valley Water Board within 24 hours of detecting a dry weather overflow.
- f. Control of solid and floatable materials in CSOs. The Discharger shall submit:
 - i. A description of control measures currently in place for limiting the volume of solid and floatable materials in the CSOs.
- g. Pollution prevention programs to reduce contaminants in CSOs. The Discharger shall submit:
 - i. Documentation of pollution prevention program actions taken since its last report.

- ii. Annual progress reports on the Sacramento County's Regional Sanitation District's and Sacramento Stormwater Quality Partnership's pollution prevention activities for mercury. The progress reports shall discuss the effectiveness of the pollution prevention activities that reduce mercury in the discharge, including a summary of mercury and methylmercury monitoring results..
 - h. **Public notification.** The Discharger shall submit:
 - i. Any updated procedures for notifying governmental entities of outflows and CSO's, including the names and titles of the specific officials to be notified, the names and titles of the persons responsible for making the notifications and the timeframes within which the notifications must be made.
 - ii. Documentation that Discharge Points 002 through 007 are posted with signs informing the public of potential health risks and adverse environmental impacts. If these discharge points are already posted, the Discharger shall submit the language that is on each sign.
 - iii. Any updates to the public notification procedures in the "Standard Operating Procedures for Sewer Overflow/Outflow Emergency Response" intended to provide the public with adequate notification of CSO's and CSS outflows, including appropriate warnings regarding potential exposure and public health hazards to be avoided.
 - i. Monitoring to characterize CSO impacts and efficacy of CSO controls. The Discharger shall submit:
 - i. A summary of CSO discharge occurrences during the previous storm year (total number of events and frequency, duration, volume and pollutant loadings of each event).
 - ii. Summary of water quality data collected during the previous storm year for impacted receiving water bodies.
 - iii. Summary of receiving water impacts during the previous storm year (e.g., beach closings, floatable material wash-ups, fish kills) as a result of any discharge from Discharge Points 002 through 007.
 - iv. If requested in writing by the Central Valley Regional Board, a summary of any violations that have occurred and the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements shall be included.
5. **Long-Term Control Plan Program Annual Progress Reports.** The Discharger shall prepare and submit annual LTCP progress reports by the due

date shown in the Technical Reports Table E-8. The annual LTCP report shall include, at a minimum, the following for the reporting year:

- a. Description of overall progress and proposed schedule for achieving each of the LTCP interim and final goals as described in Section VI.C.4.c. of this Order.
- b. Status of current on-going CSS improvement and rehabilitation projects initiated in the previous fiscal year or earlier. For each project provide:
 - i. Type of Project (Rehabilitation and Repair; Inflow and Infiltration Reduction; Storage; Green Pilot Projects)
 - ii. Date Budgeted/Approved
 - iii. Date Started (Design and Construction)
 - vi. Original Planned Completion Date
 - vii. Construction Completion Date (if applicable, include explanation for any delays from the original planned completion date)
 - viii. Description of Completed Projects (e.g., plant bar screens need modification due to additional wet weather flows and debris)
- c. Planned improvement and rehabilitation projects to be implemented in the upcoming fiscal year. For each project provide:
 - i. Type of Project (Rehabilitation and Repair; Inflow and Infiltration Reduction; Storage; Green Pilot Projects)
 - ii. Date Budgeted/Approved
 - iii. Planned Start Date (Design)
 - iv. Planned Completion Date
 - v. Comments
- d. **Growth.** The Discharger shall provide updates with each annual progress report addressing the management of additional drainage and sewer flows to the CSS from growth within the CSS service area (e.g., new development and redevelopment) to demonstrate compliance with VI.4.c.iii of the WDRs. The status of the Railyard and River District development projects shall be specifically discussed in the annual reports. The annual updates shall include estimates of the added volume of drainage and sewer flows from growth within the CSS service area and shall discuss how the CSS will be able to manage the

increased flows without increasing CSO’s and CSS outflows, or reduce the overall percentage of annual flow routed to the Sacramento Regional Wastewater Treatment Plant.

- 6 **Technical Report Submittals.** This Order includes requirements to submit a ROWD, special study technical reports, progress reports, and other reports identified in the MRP (hereafter referred to collectively as “technical reports”). The Technical Reports Table and subsequent table notes below summarize all technical reports required by this Order and the due dates for submittal. All technical reports shall be submitted electronically via CIWQS submittal. Technical reports should be uploaded as a PDF, Microsoft Word, or Microsoft Excel file attachment.

Table E-8. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
Standard Reporting Requirements			
1	Report of Waste Discharge	30 September 2024	MRP X.D.1
2	Analytical Methods Report	<WITHIN 60 DAYS OF PERMIT ADOPTION DATE>	MRP X.D.2
Compliance Schedule for Final Effluent Limitations for Methylmercury (WDR Section VI.C.7.a)			
Phase 1			
3	Phase 1 Methylmercury Control Study Work Plan	Complete	WDR VI.C.7.a
4	Implement Phase 1 Methylmercury Control Study Work Plan	Complete	WDR VI.C.7.a
5	Mercury Control Program Annual Progress Report	30 January 2021	WDR VI.C.7.a
6	Mercury Control Program Annual Progress Report	30 January 2022	WDR VI.C.7.a
7	Mercury Control Program Annual Progress Report	30 January 2023	WDR VI.C.7.a
8	Mercury Control Program Annual Progress Report	30 January 2024	WDR VI.C.7.a
9	Mercury Control Program Annual Progress Report	30 January 2025	WDR VI.C.7.a
10	Final Phase 1 Methylmercury Control Study	Complete	WDR VI.C.7.a
Phase 2			
11	Implement Methylmercury Control Programs	To Be Determined	WDR VI.C.7.a

Report #	Technical Report	Due Date	CIWQS Report Name
12	Notification of Full Compliance Signed by Legally Responsible Official (LRO)	31 December 2030	WDR VI.C.7.a
Other Reports			
13	Water Quality Assessment Work Plan	1 October 2021	WDR VI.C.2.a.i
14	Water Quality Assessment Final Report	30 September 2024	WDR VI.C.2.a.ii
15	Nine Minimum Controls Annual Progress Report	30 January 2021	MRP X.D.4
16	Nine Minimum Controls Annual Progress Report	30 January 2022	MRP X.D.4
17	Nine Minimum Controls Annual Progress Report	30 January 2023	MRP X.D.4
18	Nine Minimum Controls Annual Progress Report	30 January 2024	MRP X.D.4
19	Nine Minimum Controls Annual Progress Report	30 January 2025	MRP X.D.4
20	Long-Term Control Plan Annual Progress Report	30 January 2021	MRP X.D.5
21	Long-Term Control Plan Annual Progress Report	30 January 2022	MRP X.D.5
22	Long-Term Control Plan Annual Progress Report	30 January 2023	MRP X.D.5
23	Long-Term Control Plan Annual Progress Report	30 January 2024	MRP X.D.5
24	Long-Term Control Plan Annual Progress Report	30 January 2025	MRP X.D.5
25	Long-Term Control Plan Update	30 September 2024	WDR VI.C.4.c.iv

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings of the Central Valley Water Board supporting the issuance of this Order. This Fact Sheet discusses the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

Waste Discharge ID:	5A340114001
CIWQS Facility Place ID:	215236
Discharger:	City of Sacramento
Name of Facility:	Combined Wastewater Collection and Treatment System
Facility Address:	1395 35 th Avenue
Facility City, State Zip:	Sacramento, CA 95822
Facility County:	Sacramento County
Facility Contact, Title and Phone Number:	William O. Busath, Director of Utilities, 916-808-1434

Authorized Person to Sign and Submit Reports:	William O. Busath, Director of Utilities, 916-808-1434
Mailing Address:	Same as Facility Address
Billing Address:	Same as Facility Address
Type of Facility:	Combined Sewer System (CSS)
Major or Minor Facility:	Major
Threat to Water Quality:	1
Complexity:	A
Pretreatment Program:	Not Applicable (Note: The pretreatment program for indirect users that discharge to the City’s CSS is implemented by the Sacramento Regional County Sanitation District)
Recycling Requirements:	Not Applicable

Facility Permitted Flow:	380 million gallons per day (MGD) of treated flow
Facility Design Flow:	380 MGD of treated flow
Watershed:	Sacramento-San Joaquin Delta
Receiving Water:	Sacramento River
Receiving Water Type:	Inland Surface Water

- A. The City of Sacramento (hereinafter Discharger) is the owner and operator of the Combined Wastewater Collection and Treatment System (hereinafter Facility). The Facility includes a Combined Sewer System (CSS) that collects and treats domestic and industrial wastewater and storm runoff.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges treated and untreated combined wastewater and storm runoff to the Sacramento River, a water of the United States, and is currently regulated by Order R5-2015-0045 which was adopted on 17 April 2015 and expired on 31 May 2020. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.
- C. When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.
- D. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDR’s) and NPDES permit on **3 December 2019**. The application was deemed complete on **1 April 2020**. A site visit was conducted on **27 August 2019**, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- E. Regulations at 40 C.F.R. section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. Under 40 C.F.R. section 122.6(d), States authorized to administer the NPDES program may administratively continue State-issued permits beyond their expiration dates until the effective date of the new permits, if State law allows it. Pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically

continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The Discharger owns and operates a CSS that conveys domestic and commercial wastewater and storm water runoff from approximately 7,500 acres (approximately 270 miles of sewer pipe) in downtown Sacramento, East Sacramento, and Land Park areas. The Discharger also owns and operates a separate sanitary sewer system that conveys domestic and commercial wastewater. Approximately 3,800 acres (approximately 67 miles of sewer pipe) of the separated sanitary sewer system surrounding the CSS to the north, east, and south, contributes flows to the CSS. This portion of the separated system is regulated under separate State Water Board Order No. 2006-0003-DWQ, Statewide General WDRs for Sanitary Sewer Systems. The remainder flows by gravity or is pumped to the Regional Interceptors to the Sacramento Regional Wastewater Treatment Plant (SRWTP). The entire separated and combined sewer collection system serves approximately 276,000 people.

A. Description of Wastewater and Biosolids Treatment and Controls

1. Facility Overview

The Facility consists of four main complexes to manage the collected combined sewage: Sumps 1/1A, Sumps 2/2A, the Pioneer Reservoir Treatment Plant (Pioneer Reservoir), and the Combined Wastewater Treatment Plant (CWTP). The CSS conveys domestic and industrial wastewater and storm runoff to Sumps 2/2A, where up to 60 MGD of flow is pumped via the Regional Force Main and City Interceptor to the SRWTP for secondary treatment prior to discharge to the Sacramento River. When flow to Sumps 2/2A exceeds 60 MGD, in system storage begins and, depending on the storm intensity and duration, flows may be routed to the CWTP (7 million gallons of storage capacity in the CWTP and approximately 2.5 million gallons of storage in the CWTP Force Main) and/or Pioneer Reservoir (23 million gallons of storage capacity in the Pioneer Reservoir and 5 million gallons of storage capacity in the Pioneer Interceptor). When the CWTP has optimized storage, flows continue to be sent to the Pioneer Reservoir for primary treatment (including sedimentation and floatables removal, and disinfection using sodium hypochlorite) of up to 250 MGD and, after dechlorination (using sodium bisulfite), discharge to the Sacramento River at Discharge Point 006 and/or sent via the CWTP Force Main to the CWTP. In the CWTP, an additional 130 MGD of combined wastewater receives primary treatment (including sedimentation and floatables removal, and disinfection using sodium hypochlorite) and, after dechlorination (using sodium bisulfite), discharges to the Sacramento River at Discharge Points 002 or 003. The CWTP basins may also be used for storage of up to 9.5 million gallons (including the CWTP Force Main) of flow and diversion of flows back to the SRWTP. During major storms, Sumps 1/1A/1B can also pump up to 200 MGD of flow to Pioneer Reservoir. Collected sludge from the CWTP and Pioneer Reservoir is sent to the SRWTP.

During extreme high flow conditions after treatment has been maximized at the Pioneer Reservoir and the CWTP, discharges of untreated combined wastewater may occur at Sump 2/2A through Discharge Points 004 and 005 and at the Sump 1/1A Pioneer Bypass at Discharge Point 007. Each of the six permitted combined sewer overflow (CSO) Discharge Points (002 through 007) discharge directly to the Sacramento River.

The Facility also includes several remote storage facilities at strategic locations within the CSS to minimize the potential for localized flooding. The table below summarizes the Discharger’s remote storage facilities. In addition to these designated storage facilities, the collection system is oversized to provide in-line storage throughout the service area.

Table F-2. CSS Remote Storage Facilities

Remote Storage Facility	Location	Capacity (Million Gallons)
42 nd Street (Sump 77)	42 nd Street and R Street	1.5
Medical Center (Sump 78)	49 th Street and V Street	2.8
Tahoe Broadway (In-Line)	Broadway Blvd and Tahoe Park	1.5
Land Park (In-Line)	North of City Zoo	0.4
U&S Parallel Sewer	East of Sump 1 and 1A	0.4
Oak Park Regional Storage Facility	8 th Avenue and San Carlos Way	4
McKinley Water Vault (currently under construction)	McKinley Park	6

2. Long Term Control Plan (LTCP)

In the 1980s and early 1990s it was recognized that the combined stormwater and sewage system in downtown Sacramento posed health and safety problems beyond the periodic discharge of poorly treated or untreated sewage to the Sacramento River. Wet weather flooding was occurring within the City, either because combined system pipes were inadequate to drain away local runoff, or because those pipes were already filled to capacity by upstream runoff and there was nowhere for local runoff to go. Most seriously, at times upstream storm water and sewage would so overload the piping that the combined storm water and raw sewage would flow out of storm water inlets, flooding streets, yards, houses and commercial establishments with combined storm water and sewage.

The Central Valley Water Board initiated discussions with the Discharger and subsequently enforcement actions concerning the environmental and public health concerns associated with both the discharge to the Sacramento River and the outflow of sewage from the combined system pipes into the City. The initial discussions assumed that separate sewer and storm water systems would need to be constructed, but after considerable study, the City proposed enhancements to the combined system rather than construction of separate

systems. Costs to separate the system have been evaluated and found to be much greater than costs to enhance the system. The Central Valley Water Board, after careful consideration and hearings, accepted and approved the Discharger's proposal to enhance the combined system. The general areas of improvement were:

- Increased storage of combined system wastewater prior to discharge to the Sacramento River to capture the maximum volume of water feasible during wet weather events to optimize the pumping of combined system wastewater to the SRWTP.
- Improved pumping, piping and controls to allow maximum use of the increased wastewater storage.
- Improved treatment of combined system wastewater discharges to the Sacramento River.
- Selective replacement of bottlenecks in the combined system piping to provide adequate drainage for storm water and prevention of local flooding and sewage outflows.
- At locations where increased piping size alone would not eliminate flooding and outflows, storage volume was provided within the collection system to hold peak flows. This also increased the overall storage of the combined system, reducing discharges to the Sacramento River.
- Development of a hydraulic model of the combined system to allow identification of projects to optimize the system.
- Commitment of minimum annual expenditures for combined system improvements.

The advantages of enhancing the combined system over construction of separate systems included:

- Elimination of all dry weather discharges and most wet weather discharges of storm water to the Sacramento River from the combined system area. If a separate storm water system was constructed, the collected urban runoff and storm water would presumably be discharged untreated to the Sacramento River, rather than being treated at the SRWTP to secondary treatment standards.
- Reduction in flooding in the downtown area. The existing piping was not adequate to handle storm water flows, so would need to be replaced with larger piping and pumping facilities in many areas. The existing piping was also not well designed to handle only sewage, and would need significant improvement if the existing piping was to carry only sewage. It appeared that, in parts of the City, two new piping systems would need to be constructed.
- If a separated system was to be constructed, piping would need to be modified in essentially every street throughout the CSS service area,

causing major disruption of traffic and safety issues for years. Enhancement of the existing combined system required construction in more limited areas of the City.

The U.S. EPA CSO Control Policy requires implementation of a Long-Term Control Plan (LTCP) to comply with water quality-based requirements of the Clean Water Act. The ultimate goal of the LTCP is to alleviate outflows and flooding in the CSS area during a 10-year storm event and to prevent structure flooding during a 100-year storm event. In July 1995, the Discharger adopted the Combined Sewer System Improvement Plan (CSSIP) which constituted the Discharger's LTCP. The CSSIP is a legacy requirement from a 1990 Regional Water Board Cease and Desist Order (CDO) that required the City to cease and desist from discharging waste contrary to requirements and implement a plan to address outflows. The Discharger has made multiple updates to the original 1995 CSSIP and now implements the 2018 LTCP in compliance with the CSO Control Policy requirement. The interim goals established in the 1995 CSSIP were as follows:

- Obtaining protection from a 5-year storm in the six areas of worst flooding (including downtown, north of Capital park; U.C. Medical Center area; immediately south of Highway 80 between Riverside and Freeport; the area northeast of Highway 99 and Highway 80 interchange; the area northwest of Highway 99 and Highway 80 interchange, and the Land Park area),
- Obtaining protection from a 5-year storm throughout the combined sewer system area,
- Obtaining protection from a 10-year storm in the six areas of worst flooding, and then
- Obtaining the goal of protection from a 10-year storm event throughout the combined sewer system.

The Discharger's program is based on the presumption approach. This approach is defined in the U.S. EPA CSO Control Policy as a "...*program that meets any of the criteria listed below would be presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable in light of the data and analysis conducted in the characterization, monitoring, and modeling of the system and the consideration of sensitive areas described above. These criteria are provided because data and modeling of wet weather events often do not give a clear picture of the level of CSO controls necessary to protect WQS [Water Quality Standards]*".

This Order requires the Discharger maximize the elimination or capture of the combined sewage collected in the CSS for treatment at the Sacramento Regional Wastewater Treatment Plant to the maximum extent practicable. At minimum, the performance criteria for the presumption approach option selected by the Discharger is required by this Order, which specifies the

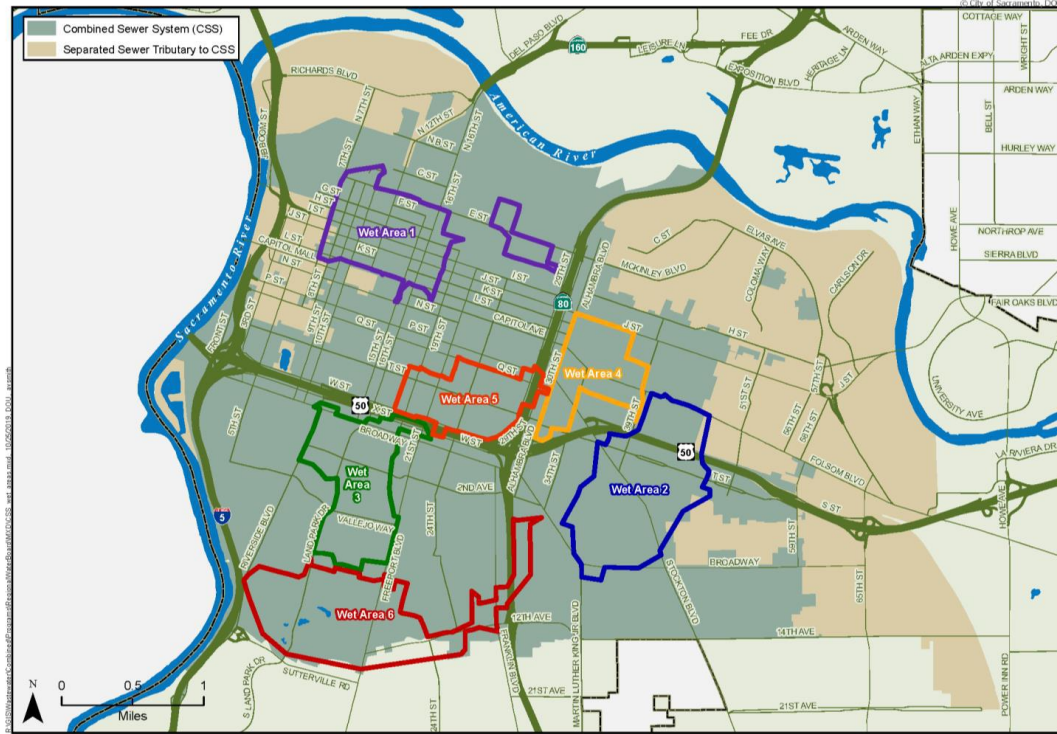
elimination or the capture for treatment of no less than 85 percent by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis. In addition, for CSO's discharged to the Sacramento River the Discharger shall implement the Nine Minimum Controls to maximize the volume of combined wastewater that is captured for treatment at Pioneer Reservoir and the CWTP and shall receive a minimum of:

- Primary clarification (removal of floatables and settleable solids may be achieved by any combination-of treatment technologies or methods that are shown to be equivalent to primary clarification);
- Solids and floatables disposal; and
- Disinfection of effluent, if necessary, to meet WQS, protect designated uses and protect human health, including removal of harmful disinfection chemical residuals, where necessary.

The first phase of the 1995 CSSIP concluded that increasing the pumping capacities of Sumps 1/1A and 2/2A concurrent with rehabilitation of the CSS and development of local storage projects, was the most cost-effective approach for reducing flooding and outflows from the CSS. Order R5-2015-0045 required the Discharger to update its CSSIP while continuing implementation. The updated CSSIP was submitted in 2018 and renamed as the Discharger's LTCP, and a revision was submitted in 2019 with the ROWD.

The 2014 CSSIP update identified 28 projects and three programs that were prioritized based on considerations such as flood-reduction benefits, cost effectiveness, ensuring no increase in untreated discharges, sewer condition/age, cost sharing opportunities, and City/community interests.

The 2018 LTCP update evaluated the CSS impacts on water quality per the CSO Control Policy and the 1995 LTCP Guidance Manual. The 2013 WQA concluded that the infrequent and short duration of CSS overflow discharges and pollutant loadings do not impact applicable receiving water beneficial uses; therefore, the recommended plan as presented in the LTCP targets reducing CSS outflows in specific flooding areas as described in the interim goals. The six areas of worst flooding (referred to as wet areas), as confirmed with the City's hydrologic and hydraulic (H&H) modeling, were identified in the 1995 CSSIP and are shown in the figure below. Model enhancements have been made to add physical network representation details within the six wet areas to improve the accuracy of the model and improve the understanding of outflows:



SACRAMENTO
 Department of Utilities

WET AREAS
 Combined Sewer System

The 2018 LTCP’s recommended plan is to implement the six top-ranked projects and three pilot programs, to be referred to as the LTCP Phase 1 Projects and Pilot Programs, listed below. It is estimated that the LTCP Phase 1 Projects and Pilot Programs will achieve an estimated 30 percent reduction in system-wide outflows for 5- to 10-year storms.

- 9th Street from G to L Streets Project (a part of the Downtown Sewer Upsizing Project)
- McKinley Water Vault
- Existing System Optimization Project
- Bidwell and Freeport Project
- W and 25th Street Project
- 24th Street Storage Project
- Water Conservation Program
- Rainfall Derived Infiltration and Inflow (RDI&I) Program
- Green Infrastructure Program

The LTCP also included the remaining 22 projects from the 2014 CSSIP update. H&H modeling estimated that the total volume of CSS outflows (metric used to measure flooding) would decrease 65 percent across the City as a result of implementing all projects and programs. The estimated cost to address the remaining 35 percent of flooding, based on currently used planning tools and cost estimates, would be substantial. Rather than developing more projects to move closer to the final LTCP flood reduction goal, the 2014 CSSIP update recommended an adaptive management strategy as part of CSSIP implementation.

The LTCP recommends adaptive management strategy starts with implementation of the LTCP Phase 1 Projects and Pilot Programs, additional refinement of the H&H model, and refinement of cost estimates. The adaptive management strategy is to continuously refine the accuracy and confidence of the tools and information and use the updated tools and information to further analyze, develop, and refine the LTCP once the Phase 1 Projects and Pilot Programs are completed.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 22, T8N, R4E, MDB&M, as shown in Attachment B, a part of this Order.
2. Domestic and industrial wastewater and storm runoff with primary treatment and disinfection is discharged from the CWTP at Discharge Point 002 (38° 31.164' N and 121° 31.440' W) or 003 (38° 31.397' N and 121° 31.424' W) to the Sacramento River, a water of the United States.
3. Untreated domestic and industrial wastewater and storm runoff from Sumps 2 and 2A is discharged at Discharge Points 004 (38° 32.869' N and 121° 30.622' W) or 005 (38° 32.864' N and 121° 31.623' W) to the Sacramento River, a water of the United States.
4. Domestic and industrial wastewater and storm runoff with primary treatment and disinfection is discharged from the Pioneer Reservoir at Discharge Point 006 (38° 34.308' N and 121° 30.800' W) to the Sacramento River, a water of the United States.
5. Untreated domestic and industrial wastewater and storm runoff from Sumps 1 and 1A is discharged at Discharge Point 007 (38° 34.322' N and 121° 30.786' W) to the Sacramento River, a water of the United States.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order R5-2015-0045 for discharges from Discharge Points 002 and 006 (Monitoring Locations EFF-002 and EFF-006, respectively) and representative monitoring data from the term of Order R5-2015-0045 are provided in

the tables below. It should be noted that no discharges from Discharge Point 003 occurred during the term of Order R5-2015-0045:

Table F-3. Historic Effluent Limitations and Monitoring Data – Discharge Point 002

Parameter	Units	Effluent Limitations			Monitoring Data (June 2016 – July 2019)		
		Storm Year Avg	Max Daily	Instant. Min/Max	Highest Storm Year Avg	Highest Max Daily	Instant. Min/Max
Total Suspended Solids	mg/L	100	--	--	50	--	--
Settleable Solids	ml/L	--	1.0	--	--	0.3	--
Chlorine Residual	mg/L	--	0.019	--	--	See table note 3	--
pH	Standard units	--	--	6.0/8.5	--	--	5.0/6.8
Fecal Coliform	MPN/100 mL	200	1,000	--	15	92,000	--
Temperature	°F	--	--	20	--	--	18.86
Chlorpyrifos	µg/L	See table note 10	See table note 10	See table note 10	ND	ND	ND
Diazinon	µg/L	See table note 10	See table note 10	See table note 10	ND	ND	ND
Mercury, Total	grams/yr	341	--	--	66.8	--	--
Methylmercury	grams/yr	0.53	--	--	0.56	--	--

Table F-4. Historic Effluent Limitations and Monitoring Data – Discharge Point 006

Parameter	Units	Effluent Limitations			Monitoring Data (June 2016 – July 2019)		
		Storm Year Avg	Max Daily	Instant. Min/Max	Highest Storm Year Avg	Highest Max Daily	Instant. Min/Max
Total Suspended Solids	mg/L	100	--	--	65	--	--
Settleable Solids	ml/L	--	1.0	--	--	1.0	--
Chlorine Residual	mg/L	--	0.019	--	--	See table note 3	--
pH	Standard units	--	--	6.0/8.5	--	--	6.0/6.6

Parameter	Units	Effluent Limitations			Monitoring Data (June 2016 – July 2019)		
		Storm Year Avg	Max Daily	Instant. Min/Max	Highest Storm Year Avg	Highest Max Daily	Instant. Min/Max
Fecal Coliform	MPN/100 mL	200	1,000	--	110	2,400	
Temperature	°F	--	--	20	--	--	13.68
Chlorpyrifos	µg/L	See table note 10	See table note 10	See table note 10	ND	ND	ND
Diazinon	µg/L	See table note 10	See table note 10	See table note 10	ND	ND	ND
Mercury, Total	grams/yr	341	--	--	69	--	--
Methylmercury	grams/yr	0.53	--	--	0.7	--	--

Tables F-3 and F-4 Notes:

- Storm Year.** A storm year is defined as 1 October through 30 September.
- Total Suspended Solids.** Applicable to Pioneer Reservoir flows of 250 MGD or less and for all flows from Discharge Points 002 and 003. In addition to storm year average effluent limit of 100 mg/L, two consecutive samples shall not exceed 150 mg/L.
- Chlorine Residual.** Presence of dechlorination agent is sufficient to show compliance with effluent limits. Dechlorination agent was present for all monitoring results.
- Fecal Coliform.** Effluent fecal coliform organisms shall not exceed 200 MPN/100 mL, as a storm year median and shall not exceed 1,000 MPN/100 mL in any three consecutive samples. Value under column “Highest Storm Year Avg” represents the maximum observed storm year median.
- Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F. The monitoring data shown represents the maximum temperature difference between upstream receiving water temperature and effluent temperature.
- Mercury.** Interim effluent limit expressed as a storm year total for Discharge Points 002, 003, and 006. Monitoring data is highest storm year total.
- Methylmercury.** Effluent limit (effective 31 December 2030) expressed as a calendar year total for Discharge Points 002, 003, and 006.
- Settleable Solids.** Applicable to Pioneer Reservoir flows of 250 MGD or less and for all flows from Discharge Points 002 and 003.
- Chlorpyrifos and Diazinon.** Results for all discharge events were non-detect.

Average Monthly Effluent Limitation (AMEL)
 $S(AMEL) = Cd (M\text{-avg})/0.08 + Cc (M\text{-avg})/0.012 \leq 1.0$

Where:

$Cd(M\text{-avg})$ = average monthly diazinon effluent concentration in µg/L

$Cc (M\text{-avg})$ = average monthly chlorpyrifos effluent concentration in µg/L

Maximum Daily Effluent Limitation (MDEL)

$$S(MDEL) = Cd (W\text{-avg})/0.014 + Cc (W\text{-avg})/0.021 \leq 1.0$$

Where:

Cd(D-avg) = maximum daily diazinon effluent concentration in µg/L
Cc (D-avg) = maximum daily chlorpyrifos effluent concentration in µg/L

D. Compliance Summary

The Central Valley Water Board issued Administrative Civil Liability (ACL) Complaint R5-2015-0534 on 14 September 2015 which proposed to assess a civil liability of \$3,000 against the Discharger for six non-serious effluent violations of pH below the minimum limit that occurred between 1 May 2013 and 30 June 2015. The Discharger paid the mandatory minimum penalty of \$3,000.

E. Planned Changes

The City is currently constructing the McKinley Water Vault, a 6 MG combined wastewater and stormwater storage facility that will be installed underneath McKinley Park, with an expected completion date of 2021. This additional temporary storage will help alleviate neighborhood street flooding and backups in the combined collection system.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.
 - a. **Basin Plan.** The Central Valley Water Board adopted a Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fifth Edition, May 2018 (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains

implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Sacramento River are as follows:

Table F-5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
002, 003, 004, 005, 006, and 007	Sacramento River	<p style="text-align: center;"><u>Existing:</u></p> Municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); industrial process supply (PROC); industrial service supply (IND); water contact recreation (REC-1); non-contact water recreation (REC-2); warm freshwater aquatic habitat (WARM); cold freshwater aquatic habitat (COLD); warm migration, cold migration of aquatic organisms (MIGR); warm spawning, reproduction, and/or early development (SPWN); wildlife habitat (WILD); and navigation (NAV)

- b. **Bay-Delta Plan.** The Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) was adopted in May 1995 by the State Water Board superseding the 1991 Bay-Delta Plan. The Bay-Delta Plan identifies the beneficial uses of the estuary and includes objectives for flow, salinity, and endangered species protection.

The State Water Board adopted Decision 1641 (D-1641) on 29 December 1999 and revised on 15 March 2000. D-1641 implements flow objectives for the Bay-Delta Estuary, approves a petition to change points of diversion of the Central Valley Project and the State Water Project in the Southern Delta, and approves a petition to change places of use and purposes of use of the Central Valley Project. The water quality objectives of the Bay-Delta Plan are implemented as part of this Order.

- c. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on 7 January 1971 and amended this plan on 18 September 1975. This plan contains temperature objectives for surface waters. The Thermal Plan is applicable to the discharges from the Facility. For the purposes of the Thermal Plan, the discharges are considered to be an

Existing Discharge of Elevated Temperature Waste to an Estuary, as defined in the Thermal Plan. Therefore, the Discharger must meet the water quality objective at Section 5.A(1) of the Thermal Plan, which requires compliance with the following:

- i. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.
- ii. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.
- iii. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.
- iv. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

Requirements of this Order implement the Thermal Plan.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.
3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. The SIP states that it “...*does not apply to discharges of toxic pollutants from combined sewer overflow. These discharges will continue to be regulated in accordance with the federal “Combined Sewer Overflow (CSO) Control Policy,” published April 19, 1994 (59 FR 18688-18698).*”

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California") (State Anti-Degradation Policy). The State Anti-Degradation Policy is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. The State Anti-Degradation Policy requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. The Board finds this order is consistent with the Federal and State Water Board antidegradation regulations and policy.
5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.
6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.
7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.
8. **U.S. EPA Combined Sewer Overflow (CSO) Control Policy.** On 11 April 1994, U.S. EPA adopted the Combined Sewer Overflow (CSO) Control Policy (59 FR 18688-18698). The CSO Control Policy was incorporated into the federal CWA by the Wet Weather Water Quality Act of 2000 [House Resolution (H.R.) 828] which is part of H.R. 4577, an omnibus funding bill. The CWA at Section 402(q)(1) states: "...Each permit...pursuant to this Act...for a discharge from a municipal combined storm and sanitary sewer shall conform to the CSO Control Policy..." The CSO Control Policy establishes a consistent national

approach for controlling discharges from CSO's to the nation's water through the NPDES permit program. CSO's, for the purposes of this Order, are defined as authorized discharges to the Sacramento River from the CSS in accordance with this Order at Discharge Point(s) 002, 003, 004, 005, 006, and/or 007. A discharger's long-term CSO control plan includes the design and construction of additional facilities which constitute the CSO controls envisioned by the CSO Control Policy.

The CSO Control Policy initiates a two-phased process with higher priority given to more environmentally sensitive areas. During the first phase, the Discharger is required to implement the nine minimum controls (NMC's) and develop a long-term control plan. NMC's constitute the technology-based requirements of the CWA as applied to combined sewer facilities: best practicable control technology currently available (BPT), best conventional pollutant control technology, (BCT), and best available technology economically achievable (BAT) based on the permit writer's best professional judgment (BPJ). These NMC's can reduce the frequency of CSO's and reduce their effects on receiving water quality. During the second phase, the Discharger is required to implement a long-term CSO control plan and continue implementation of the NMC's. The long-term CSO control plan includes the design and construction of additional facilities which constitute the CSO controls envisioned by the CSO Control Policy. In addition, the Discharger is required to continue the implementation of the NMC's, properly operate and maintain the completed CSO controls in accordance with the operational plan and continue to implement the post-construction monitoring program (e.g., CSO monitoring).

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 6 April 2018 U.S. EPA gave final approval to California's 2014-2016 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment." The listing for the Sacramento River (Delta Waterways, northern portion) includes chlordane, chlorpyrifos, DDT, diazinon, dieldrin, Group A pesticides, invasive species, mercury, PCB's (polychlorinated biphenyls), and unknown

toxicity. Of these parameters, only chlorpyrifos and diazinon are listed based on urban runoff/storm sewer sources.

- Total Maximum Daily Loads (TMDL's).** Table F-6, below, identifies the 303(d) listings and any applicable TMDLs. This permit includes WQBELs that are consistent with the assumptions and considerations of the applicable WLAs in the chlorpyrifos, diazinon, and mercury TMDLs.

Table F-6. 303(d) List for Sacramento River Delta Waterways, Northern Portion

Pollutant	Potential Sources	TMDL Status
Chlordane	Agriculture	Not Completed
Chlorpyrifos	Agriculture and Urban Runoff/Storm Sewers	Adopted and Effective
DDT	Agriculture	Not Completed
Diazinon	Agriculture and Urban Runoff/Storm Sewers	Adopted and Effective
Dieldrin	Agriculture	Not Completed
Group A Pesticides	Agriculture	Not Completed
Invasive Species	Unknown	Not Completed
Mercury	Resource Extraction	Adopted and Effective
PCBs	Unknown	Not Completed
Unknown Toxicity	Unknown	Not Completed

- The 303(d) listings and TMDL's have been considered in the development of the Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in Section IV.C.3 of this Fact Sheet.

E. Other Plans, Polices and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., section 1311(b)(1)(C); 40 C.F.R. section 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.” Federal regulations, 40 C.F.R. section 122.44(d)(1)(vi), further provide that “[w]here a state has not established a water quality criterion for a

specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBEL’s to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page 4-27, contains an implementation policy, “Policy for Application of Water Quality Objectives”, that specifies that the Central Valley Water Board “will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.” This Policy complies with 40 C.F.R. section 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) U.S. EPA’s published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board’s “Policy for Application of Water Quality Objectives”)(40 C.F.R. section 122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at section 3.1.20) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents’ objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, “...water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)” in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCLs. The narrative tastes and odors objective states: “Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.”

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.
2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at CFR section 122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define “bypass” as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board’s prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation. The exception to this Discharge Prohibition is discharges from Discharge Points 002, 003, 004, 005, 006, and 007 in accordance with Discharge Prohibitions III.D and III.E (as described in IV.A.4 and IV.A.5 below).
3. **Prohibition III.C (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance
4. **Prohibition III.D (No discharge of hazardous waste).** This prohibition is based on California Code of Regulations, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.
5. **Prohibition III.E (Specified conditions that must be met for discharge from the combined sewer system).** This prohibition is continued from Order R5-2015-0045 and requires (1) full use of the treatment capacity of the Pioneer Reservoir (250 MGD) and the CWTP (130 MGD) prior to discharge from the Sump 2 Bypass (Discharge Points 004 and 005) and/or Sump 1A Bypass (Discharge Point 007); and (2) full use of the storage capacity of the CWTP prior to discharge in excess of the Pioneer Reservoir treatment capacity of 250 MGD from Discharge Point 006.
6. **Prohibition III.F (No discharges except as a result of wet weather unless authorized by the Executive Officer).** This prohibition is continued from Order R5-2015-0045 and prohibits the discharge from Discharge Points 002 through 007 other than as a result of a storm event, or if needed for maintenance or equipment testing after approval by the Executive Officer.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.
- d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the

Central Valley Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. **Applicable Technology-Based Effluent Limitations**

U.S. EPA establishes some technology-based requirements by issuing industry-wide effluent guidelines. For CSO's, no effluent guidelines have been promulgated for BPT, BCT, or BAT. In the absence of effluent guidelines, the permit writer must use BPJ to determine the level of treatment that BPT, BCT, and BAT represent.

- a. **Nine Minimum Controls (NMC's).** According to the U.S. EPA CSO Control Policy, all permits for CSO's should require implementation of the NMC's as a minimum BAT/BCT, established on a BPJ basis. Implementation of the NMC's are required as special provisions in this Order. A discussion of implementation of NMC's by the Discharger to date, as well as the proposed NMC requirements contained in this Order, is provided in Section VI.B.4.b of this Fact Sheet.
- b. **Effluent Limits to Monitor Facility Performance.** As described in Section II.A of this Fact Sheet, the Facility provides primary treatment (including sedimentation and floatables removal, and disinfection using sodium hypochlorite) for flows up to 250 MGD in the Pioneer Reservoir and up to 130 MGD in the CWTP. Compliance with technology-based effluent limitations are being used to monitor the treatment performance of the Facility and the effectiveness of the implementation of the U.S. EPA CSO Control Policy NMC's.
 - i. Order R5-2015-0045 contained effluent limitations for TSS that represent reasonable performance of the sedimentation and floatables treatment processes at the Pioneer Reservoir and CWTP. This Order retains the TSS effluent limitations (100 mg/L storm year average and no two consecutive samples shall exceed 150 mg/L) to monitor the performance of the Pioneer Reservoir and CWTP in removing solids prior to discharge to the Sacramento River.
 - ii. Order R5-2015-0045 contained effluent limitations for fecal coliform organisms that represent reasonable performance of the Facility disinfection treatment process. This Order retains the fecal coliform organisms effluent limitations (not to exceed 1,000 MPN/100 mL in any three consecutive samples and 200 MPN/100 mL as a storm year median) to monitor the performance of the Pioneer Reservoir and CWTP in reducing pathogens prior to discharge to the Sacramento River.
 - iii. Order R5-2015-0045 contained technology-based effluent limitations for pH (within the range of 6.0 to 8.5 standard units). This Order retains the pH effluent limitations to monitor the performance of the

Pioneer Reservoir and CWTP in controlling pH prior to discharge to the Sacramento River.

C. Water Quality-Based Effluent Limitations (WQBEL's)

1. Scope and Authority

CWA section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBEL's must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBEL's when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

Finally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any available waste load allocations developed and approved for the discharge.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page 2-1 states: "Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning..." and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses."

The federal CWA section 101(a)(2), states: "it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983." Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. 40 C.F.R. section 131.3(e) defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

- a. **Receiving Water and Beneficial Uses.** Refer to III.C.1. above for a complete description of the receiving water and beneficial uses.
- b. **Effluent and Ambient Background Data.** The 2013 WQA was used as the basis for the data evaluation and analysis of effluent discharge impacts to receiving water quality for this permit term. Data submitted by the Discharger was evaluated for the period of June 2016 through July 2019, which includes effluent and ambient background data submitted in SMRs, the Report of Waste Discharge (ROWD), and the Effluent and Receiving Water Characterization monitoring. Additional data outside of this range was also analyzed where there was inadequate data to perform an analysis. Additional data from storm years 2014-2015 and 2015-2016 was analyzed for mercury and methylmercury to evaluate trends in mass loading in the discharge.

3. Determining the Need for WQBEL's

a. Federal and State Requirements for Discharges from CSOs

The State Implementation Policy (SIP) explicitly states that it is not applicable to CSO's. Therefore, the SIP reasonable potential analysis (RPA) procedures are not applicable to this discharge. However, as described further below, the U.S. EPA CSO Control Policy and related guidance suggests the eventual establishment of numeric effluent limitations would be necessary to ensure that CSO's achieve applicable water quality objectives.

Specifically, U.S. EPA's CSO Control Policy (59 FR 18688, 19 April 1994) states that "*CSO permittees ... develop long-term CSO control plans which evaluate alternatives for attaining compliance with the CWA, including compliance with water quality standards and protection of*

designated uses.” It further states that, once LTCP’s are completed, permittees will be responsible for implementing the plan’s recommendations as soon as practicable. The U.S. EPA CSO Control Policy also provides that “...[d]evelopment of the long-term plan should be coordinated with the review and appropriate revision of water quality standards (WQS) and implementation procedures on CSO-impacted receiving waters to ensure that the long-term controls will be sufficient to meet water quality standards” (59 FR 18694).

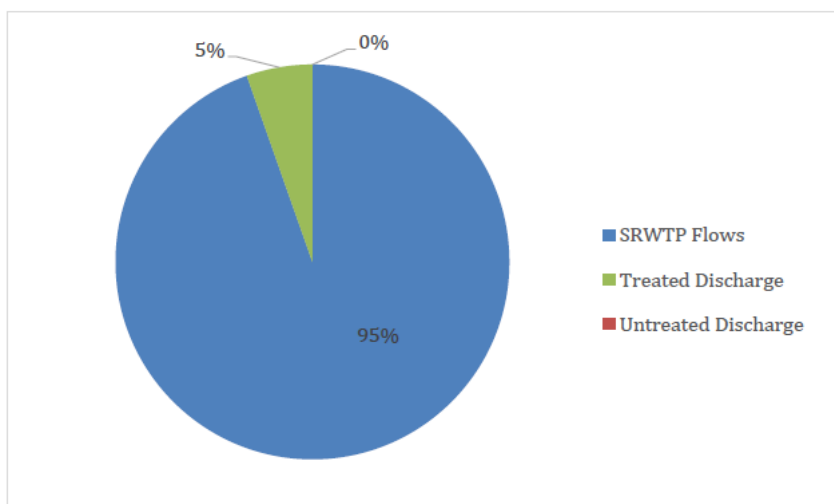
b. Status of Long-Term Control Plan (LTCP) Implementation

During the 2015/2016 through 2018/2019 storm years, approximately 95% of the total CSS flow was eliminated by diversion to a POTW (Sac Regional Wastewater Treatment Plant) which provides secondary treatment, and the remaining 5% of CSS flow received primary treatment at Pioneer Reservoir Treatment Plant or Combined Water Treatment Plant. There have been no untreated discharges since 2013.

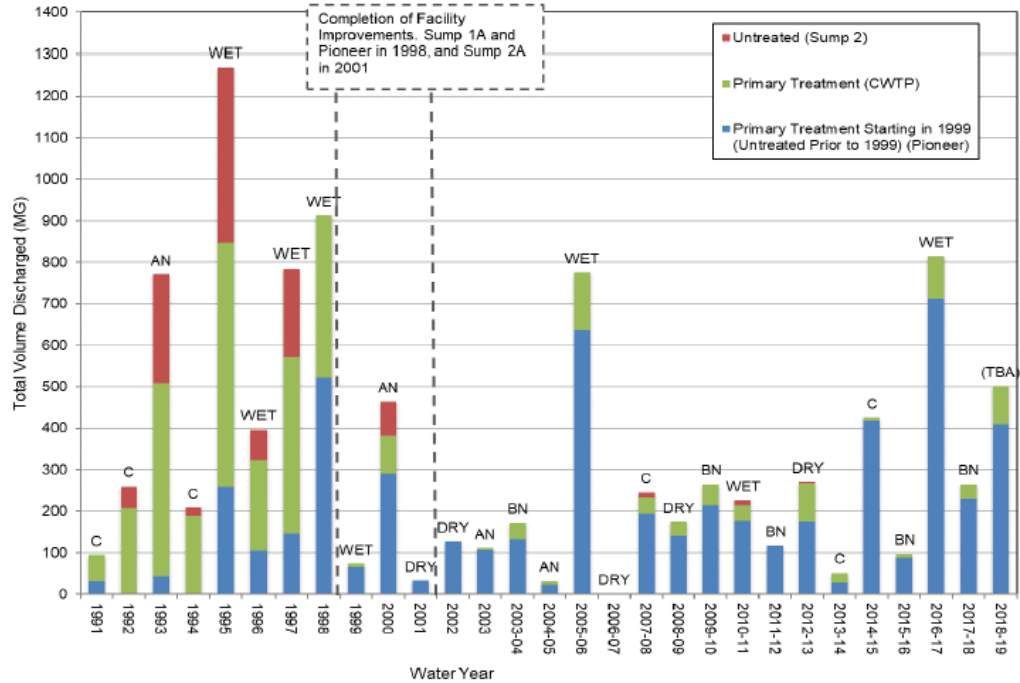
The following table summarizes the 22 treated CSO discharges that occurred during the term of Order R5-2015-0045:

Storm Year	Total No. System Events (Treated)
2015/2016	3
2016/2017	10
2017/2018	2
2018/2019	7

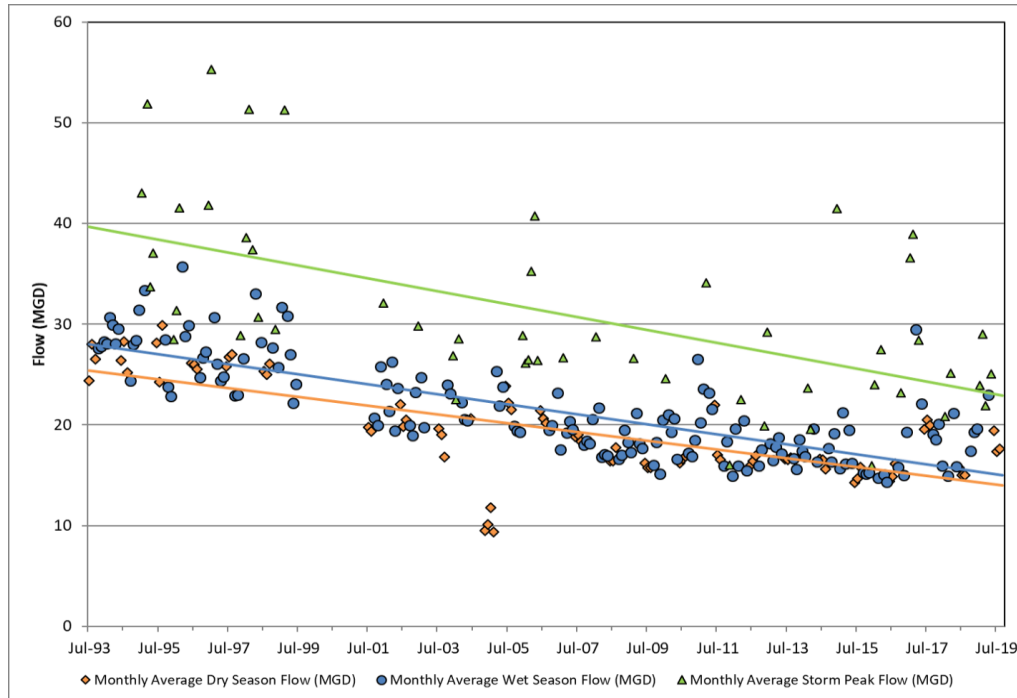
The figure below shows the treatment of CSS flows by storm year from 2015 through 2019:



The figure below shows the total discharged volume of CSOs by storm year. The Department of Water Resources uses the following water year classifications: Wet, Above Normal (AN), Dry, Below Normal (BN), and Critical (C). TBA is To Be Announced.



The Discharger's efforts have resulted in consistent and significant reductions in dry weather and wet weather flows over the last 10 years. The figure below shows the consistent downward trend and demonstrates that the CSS service area is not generating new flows. Water conservation, new plumbing codes for redevelopment, and ongoing collection system improvements as implemented under the LTCP are all factors in this decrease in dry weather flows.



c. CSS Rehabilitation and Replacement Efforts

With respect to achievement of the original 1995 interim goals for reduction of CSS outflows and flooding, and consistent with the 1995 CSSIP and subsequent LTCP updates, the Discharger continues to focus on providing peak flow storage and relief for six priority locations throughout the CSS that were prone to flooding and outflows. During the term of Order R5-2015-0045, the Discharger completed 19 capital improvement projects totaling over \$23.5 million. Additionally, at least nine CIP projects are in progress and under various stages of design, development and/or construction. Examples of select major projects that have been completed or in process over the previous permit cycle are provided in the table below.

Table F-7. Example Capital Improvement Projects

Project Name	Scope	Completion Date	Project Cost
7th Street CSS Replacement P to K	Replace combined system main, service laterals, manholes, drain inlets, drain leads and associated work.	1/5/2016	\$ 7,600,000
Freeport Blvd Sewer Replacement, 7th to Bidwell	Replace 24-inch combined system main, service laterals, manholes, drain inlets, drain leads and associated work. 24-inch main was upsized to 36 inches.	10/16/2015	\$ 980,000

CWTP Launder Replacement	Replace Launderers (linear weirs) in CWTP sedimentation basins.	12/2/2016	\$ 1,100,000
9th Street Sewer Replacement G to L Street	Replace 5 blocks of combined sewer pipeline along 9th Street from G to L Street to relieve flooding and increase conveyance in the downtown area.	1/31/2020	\$ 10,100,000
McKinley Park CS Storage Facility	Install approximately 6 million-gallon storage facility underneath McKinley Park	Planned for FY21/22	\$ 27,000,000
3rd Street Sewer Replacement I to U St	Replace combined system main, service laterals, manholes, drain inlets, drain leads and associated work.	Planned for FY20/21	\$ 14,000,000
Combined Sewer System (CSS) Sewer Main Replacement Block 1-3	Replacement of multiple combined sewer mains with new pipe, and improvements to associated infrastructure. Up to four locations will be grouped into each Block.	Planned for FY21/22	\$ 3,600,000
Freeport Sewer Improvement - Bidwell and Freeport	Investigate outlet controlled gravity drain connection to Donner trunk to get early relief in Land/Park/Curtis Park combined sewer system.	Planned for FY21/22	\$ 1,500,000

d. Water Quality Assessment (WQA)

The U.S. EPA CSO Control Policy presumes that compliance with performance criteria generally will be sufficient to meet applicable water quality objectives. As described above, the Discharger has selected the presumption approach, and the Discharger's LTCP exceeds the performance specifications. The selected CSO controls should include a post-construction water quality monitoring program adequate to verify compliance with water quality standards and protection of designated uses as well as to ascertain the effectiveness of CSO controls (59 Federal Register 18694). The planned control program is designed to allow cost-effective expansion or cost-effective retrofitting if additional controls are subsequently determined to be necessary to meet water quality standards or designated uses (59 Federal Register 18693).

The Discharger completed a WQA in 1995 (Effluent and Receiving Water Quality and Toxicity Summary) that demonstrated compliance with water quality-based objectives. However, due to the limited number of parameters assessed, Order R5-2010-0004 required the Discharger to complete another WQA to evaluate whether implementation of their LTCP under the U.S. EPA CSO Control Policy

presumption approach is ensuring continued compliance with applicable water quality standards and are adequately protecting beneficial uses.

The Discharger submitted the updated WQA in June 2013 (City of Sacramento Combined Sewer System Water Quality Assessment, prepared by Larry Walker Associates). As part of this assessment, the Discharger performed effluent and receiving water monitoring during periods of overflow discharge to the Sacramento River during the 2010/2011, 2011/2012, and 2012/2013 storm years. The approach used by the Discharger to assess potential water quality impacts based on the monitoring data collected is summarized below:

- An initial screening was performed on the pollutant parameters that were detected to determine which parameters would be evaluated further. Further evaluation was performed of the pollutant parameter:
 - Had a water quality objective (Basin Plan) or CTR criterion applicable to the receiving water;
 - Had an effluent limitation in Order R5-2010-0004;
 - Was included on the 2010 303(d) list of impaired waters or was covered under an existing applicable TMDL; and
 - Was listed as a “Specific Parameter of Concern” in Order R5-2010-0004.
- For the pollutant parameters that met the screening criteria for further evaluation, median concentrations were calculated to represent the CSS effluent concentrations. Effluent mass loadings of the pollutant parameters were then estimated using CSS discharge event volumes and the median effluent concentrations.
- Upstream receiving water mass loadings were calculated using median receiving water concentrations and upstream flow volumes that represented the averaging period for the applicable objective or criterion. In the absence of actual upstream receiving water data, surrogate values were derived and used.
- Mass loadings that represent assimilative capacity of the receiving water were calculated using the water quality objective or criterion and upstream flow volumes that represented the averaging period for the applicable objective or criterion (e.g., annual averages for human carcinogen criteria, monthly average for nitrate plus nitrite, and 1-hour average for acute aquatic life criteria).
- CSS effluent mass discharge loadings were combined with the upstream receiving water mass loadings and then compared to the mass loadings if the receiving water reached full assimilative capacity. This comparison was designed to place the CSS effluent mass

loadings in the context with the total receiving water load observed at the time of a discharge event, as well as with the available assimilative capacity in the receiving water.

In summary, review of the data from the current permit term indicates the effluent quality has not changed since the 2013 WQA was conducted; therefore, the findings and results of the 2013 WQA remain valid. A new WQA will be required in the next permit term, as described in Section VI.C.2.a.

e. Other Constituents of Concern

i. **Chlorine Residual**

U.S. EPA developed National Ambient Water Quality Criteria (NAWQC) for protection of freshwater aquatic life for chlorine residual. The recommended 4-day average (chronic) and 1-hour average (acute) criteria for chlorine residual are 0.011 mg/L and 0.019 mg/L, respectively. These criteria are protective of the Basin Plan's narrative toxicity objective.

The Discharger uses chlorine (sodium hypochlorite) for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses a sodium bisulfite process to dechlorinate the effluent prior to discharge to the Sacramento River.

Consistent with Order R5-2015-0045, and due to the infrequent and short-term nature of CSO discharges from the Facility, the chlorine residual maximum daily effluent limit (0.019 mg/L) will be carried over to this Order. The effluent limitation is based on the NAWQC for protection of freshwater aquatic life for chlorine residual, which implements the Basin Plan's narrative toxicity objective for protection of aquatic life. This effluent limitation will apply to discharge from Discharge Points 002 (CWTP), 003 (CWTP Sump 104) and 006 (Pioneer Reservoir).

As carried over from Order R5-2015-0045, positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. Analysis of the effluent data for this permit term shows a positive residual dichlorination agent for all discharge events from Discharge Points 002 and 006.

ii. **Pathogens**

The applicable water quality objective that applies to surface waters is the bacteria objective in the statewide Bacteria Provisions, specifically titled "Part 3 of the Water Quality Control Plan for Inland

Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and a Water Quality Standards Variance Policy”, which requires the six-week rolling geometric mean of *Escherichia coli* (*E. coli*) shall not exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner. The Bacteria Water Quality Objectives correspond with the risk protection level of 32 illnesses per 1,000 recreators and use *E. coli* as the indicator of pathogens in freshwaters.

In an effort to control the discharge of pathogens in CSO discharges, Order R5-2015-0045 included technology-based effluent limitations for fecal coliform bacteria at 200 MPN/100 mL for a storm year median, and no higher than 1,000 MPN/100 mL in three consecutive samples. Order R5-2015-0045 also required that the Discharger continuously operate the chlorination equipment when discharging to the Sacramento River. As was shown in Tables F-2 and F-3, the storm year maximum reported fecal coliform concentrations during the previous permit term was 92,000 MPN/100 mL for Discharge Point 002 (CWTP) and 2,400 MPN/100 mL for Discharge Point 006 (Pioneer Reservoir).

The 2013 WQA evaluated pathogens and recommended that the City participate in the source, fate and transport, and municipal water intake study referenced in the Central Valley Drinking Water Policy Basin Plan Amendment (July 2013) to better evaluate the protection of the municipal water supply beneficial use. The study was implemented through the Delta RMP. The City and its consultants led a Pathogen Workgroup to develop a workplan and study elements for the *Cryptosporidium* special study. The City continued its involvement in the Pathogen Study and Delta RMP during the 2015 permit term. The Pathogen Study was conducted from April 2015 through March 2017 and the City funded the coordination of sample collection, data interpretation and led study planning. The Delta RMP Pathogen Study Final Report was approved by the Delta RMP Steering Committee in October 2018. The Pathogen Study concluded that drinking water beneficial uses were protected in the Delta. As discussed further in Section IV.B.2 of this Fact Sheet, the existing technology-based effluent limitations for fecal coliform are retained in this Order to maximize continued control of the discharge of pathogens from the CWTP and Pioneer Reservoir. A new WQA is required in the next permit term, as described in Section VI.C.2.a. The updated WQA will require an evaluation of compliance with the new Statewide Bacteria Objectives for *E. coli* in the receiving water. Furthermore, an evaluation of the effects of the CSO discharges with

respect to pathogens on the municipal and domestic water supply beneficial use is required for the WQA.

iii. **pH**

The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the “...pH shall not be depressed below 6.5 nor raised above 8.5.” However, Order R5-2015-0045 included effluent limitations for pH of 6.0 as an instantaneous minimum and 8.5 as an instantaneous maximum which have been retained in this Order.

According to the Discharger, low pH values may be due in part to the addition of chemicals to ensure proper chlorination and dichlorination. In addition, the Discharger previously provided as part of e-SMR submittals, pH data for the influent to the Facility at levels consistently below 6.5 standard units that may also contribute to the low pH values in the effluent. Finally, as part of their June 2013 WQA, the Discharger performed receiving water monitoring for pH using continuous sensor monitoring. This monitoring was upstream and downstream of Discharge Point 006 (Pioneer Reservoir) during 12 discharge events from 2010 through 2013. The results of the continuous monitoring indicate that the observed impact of discharges from Discharge Point 006 (Pioneer Reservoir) is relatively consistent at approximately -0.1 standard units (i.e., the pH of the receiving water was lowered by an average of 0.1 standard units downstream of the discharge from Pioneer Reservoir). However, the downstream pH was always in compliance with the applicable Basin Plan objectives (i.e., within the range of 6.5 – 8.5).

Based on the data and information previously provided by the Discharger, excursions below the Basin Plan’s pH water quality objective of 6.5 do not have the reasonable potential to cause exceedances of downstream receiving water quality objectives. Therefore, technology-based effluent limits for pH of 6.0 as an instantaneous minimum and 8.5 as an instantaneous maximum have been retained from the previous Order to ensure the Facility is operated properly.

iv. **Settleable Solids**

For inland surface waters, the Basin Plan states that “...[w]ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.” This Order retains from Order R5-2015-0045 the MDEL for settleable solids (1.0 ml/L) to ensure that the Pioneer Reservoir and CWTP treatment works operate in accordance with design capabilities. Because the amount of settleable solids is measured in

terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order.

As described in Tables F-2 and F-3, reported settleable solids concentrations representing Discharge Points 002 and 006 during the term of Order R5-2015-0045 are within the applicable water quality objectives. Therefore, immediate compliance with these effluent limitations is considered feasible.

v. **Temperature**

The Thermal Plan requires that, "*The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.*" CSO discharges are considered an existing elevated temperature waste, as the temperature of the discharge is higher than the natural temperature of the Sacramento River. To ensure compliance with the Thermal Plan, the effluent limitation for temperature from Order R5-2015-0045 (the maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F) is retained in this Order.

As shown in Tables F-2 and F-3, reported effluent data shows that the temperature levels of discharges during the term of Order R5-2015-0045 are within the applicable water quality objectives. Therefore, immediate compliance with these effluent limitations is feasible.

vi. **Diazinon and Chlorpyrifos**

The Central Valley Water Board completed a TMDL for diazinon and chlorpyrifos in the Sacramento – San Joaquin Delta Waterways and amended the Basin Plan to include diazinon and chlorpyrifos waste load allocations and water quality objectives. The Basin Plan Amendment for the Control of Diazinon and Chlorpyrifos Runoff into the Sacramento – San Joaquin Delta was adopted by the Central Valley Water Board on 23 June 2006 and became effective on 10 October 2007.

The amendment "*...modifies Basin Plan Chapter III (Water Quality Objectives) to establish site specific number objectives for diazinon and chlorpyrifos in the Delta Waterways.*" The amendment also "*...identifies the requirements to meet the additive formula already in Basin Plan Chapter IV (Implementation), for the additive toxicity of diazinon and chlorpyrifos.*"

The amendment states that "*The waste load allocations for all NPDES-permitted dischargers...shall not exceed the sum (S) of one (1) as defined below.*"

$$S = \frac{C_d}{WQO_d} + \frac{C_c}{WQO_c} \leq 1.0$$

Where:

C_d = diazinon concentration in $\mu\text{g/L}$ of point source discharge

C_c = chlorpyrifos concentration in $\mu\text{g/L}$ of point source discharge

WQO_d = acute or chronic diazinon water quality objective in $\mu\text{g/L}$

WQO_c = acute or chronic chlorpyrifos water quality objective in $\mu\text{g/L}$

Available samples collected within the applicable averaging period for the water quality objective will be used to determine compliance with the allocations and loading capacity. For purposes of calculating the sum (S) above, analytical results that are reported as 'non-detectable' concentrations are considered to be zero.

Appendix A of the Diazinon and Chlorpyrifos TMDL lists waterways subject to the TMDL and includes the Sacramento River.

Diazinon was not detected in the effluent for the period June 2016 through July 2019 from Discharge Points 002 (10 samples) and 006 (20 samples). Upstream receiving water data for diazinon is not available.

Chlorpyrifos was not detected in the effluent for the period June 2016 through July 2019 from Discharge Points 002 (10 samples) and 006 (20 samples). Upstream receiving water data for chlorpyrifos is not available.

Although there were no detections of either diazinon or chlorpyrifos during the term of Order R5-2015-0045, due to the TMDL for diazinon and chlorpyrifos in the Delta, WQBEL's for these constituents are required. The TMDL waste load allocation applies to all NPDES dischargers to Delta waterways and will serve as the basis for WQBEL's for this Facility. Therefore, this Order includes effluent limits calculated based on the waste load allocations contained in the TMDL, as follows:

Average Monthly Effluent Limitation (AMEL)

$$S_{AMEL} = \frac{C_{D\ M-AVG}}{0.08} + \frac{C_{C\ M-AVG}}{0.012} \leq 1.0$$

$C_{D\ M-avg}$ = average monthly diazinon effluent concentration in $\mu\text{g/L}$.

$C_{C\ M-avg}$ = average monthly chlorpyrifos effluent concentration in $\mu\text{g/L}$.

Maximum Daily Effluent Limitation (MDEL)

$$S_{MDEL} = \frac{C_{D \text{ D-MAX}}}{0.14} + \frac{C_{C \text{ D-MAX}}}{0.021} \leq 1.0$$

$C_{D \text{ D-max}}$ = maximum daily diazinon effluent concentration in $\mu\text{g/L}$.

$C_{C \text{ D-maxg}}$ = maximum daily chlorpyrifos effluent concentration in $\mu\text{g/L}$

Diazinon and chlorpyrifos were not detected in the effluent from Discharge Points 002 and 006. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

The Discharger, as part of their Public Outreach Program component of their Stormwater Quality Improvement Plan (as required under Municipal Separate Storm Sewer System Order R5-2016-0040), implements a variety of educational stormwater and urban runoff outreach programs. These programs are designed in part to reduce to the maximum extent practicable, pollutants in stormwater discharges associated with the application of pesticides, herbicides, and fertilizer. As these programs are implemented City-wide, the programs should also assist in reducing the likely presence of diazinon and chlorpyrifos when CSO discharges occur.

vii. **Mercury**

The Basin Plan contains fish tissue objectives for all Delta waterways listed in Appendix 43 of the Basin Plan that states “... *the average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150 - 500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length.*” The Delta Mercury Control Program contains aqueous methylmercury waste load allocations that are calculated to achieve these fish tissue objectives. Methylmercury reductions are assigned to dischargers with concentrations of methylmercury greater than 0.06 ng/L (the concentration of methylmercury in water to meet the fish tissue objective). The Facility is allocated 0.53 g/year of methylmercury, as listed in Table IV-7B of the Basin Plan. This Order contains a final mass-based WQBEL for methylmercury based on the waste load allocation.

Although effluent and receiving water methylmercury data were collected during the term of Order R5-2015-0045, it is uncertain whether the Discharger can immediately comply with the final WQBEL for methylmercury as the mass loading from the Facility is dependent on the number and extent of storm events that trigger discharges. Therefore, a compliance schedule in accordance with the

State Water Board’s Compliance Schedule Policy and the Delta Mercury Control Program has been established in this Order.

- viii. **Salinity.** On 31 May 2018, as part of the CV-SALTS initiative, the Central Valley Water Board Approved Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley. If approved by U.S. EPA, the Amendments would impose certain new requirements on salt and nitrate discharges. This Order may be amended or modified to incorporate any newly-applicable requirements when the Amendments go into effect.

Although salinity monitoring was not required by the MRP for Order R5-2015-0045, the Discharger collected electrical conductivity (EC) samples during discharge events from 2016 through 2019. Effluent EC from discharge points EFF-002 and EFF-006 ranged from 76 to 439 µmhos/cm. Receiving water EC ranged from 40 to 302 µmhos/cm. Although effluent EC concentrations are slightly elevated above receiving water EC concentrations, approximately 95 percent of the CSS flows are sent to SRWTP for treatment, and discharges to the Sacramento River are infrequent and short in duration. Therefore, salinity from such discharges is not impacting receiving water salinity concentrations.

4. WQBEL Calculations

- a. This Order includes WQBEL’s for chlorine residual, settleable solids, temperature, diazinon, chlorpyrifos, and methylmercury. The general methodology for calculating WQBEL’s are based on the different criteria/objectives.

**Summary of Water Quality-Based Effluent Limitations
 Discharge Points 002, 003, and 006**

Table F-8. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Chlorine, Total Residual	mg/L	--	0.019
Settleable Solids	ml/L	--	1.0
Temperature	F	--	See table note 2
Diazinon and Chlorpyrifos	µg/L	See table note 3	See table note 3
Methylmercury	g/year	--	See table note 4

Table F-7 Notes:

1. **Settleable solids.** Effluent limit applicable to Discharge Point 006 for flows of 250 MGD or less and for all flows from Discharge Points 002 and 003.
2. **Temperature.** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20°F.
3. **Chlorpyrifos and Diazinon.** Results for all discharge events during the permit term were non-detect.
 Average Monthly Effluent Limitation (AMEL)
 $S(AMEL) = Cd (M-avg)/0.08 + Cc (M-avg)/0.012 \leq 1.0$
 Where:
 Cd(M-avg) = average monthly diazinon effluent concentration in µg/L
 Cc (M-avg) = average monthly chlorpyrifos effluent concentration in µg/L
 Maximum Daily Effluent Limitation (MDEL)
 $S(MDEL) = Cd (W-avg)/0.14 + Cc (W-avg)/0.021 \leq 1.0$
 Where:
 Cd(D-max) = maximum daily diazinon effluent concentration in µg/L
 Cc (D-max) = maximum daily chlorpyrifos effluent concentration in µg/L
4. **Methylmercury.** The calendar year methylmercury combined loading from Discharge Points 002, 003, and 006 shall not exceed 0.53 grams/year.

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute toxicity, as specified in the Monitoring and Reporting Program (Attachment E section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

- a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at section 3.1.20) The Basin Plan also states that, “...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...”. The previous permit required the Discharger conduct acute bioassays 1/storm year to determine if the effluent is contributing to acute toxicity in the receiving water.

The following table presents the acute toxicity testing results reported by the Discharger during the term of Order R5-2015-0045.

Table F-8. Reported Acute Whole Effluent Toxicity Data

Discharge Point	Date	Test Type	Species	Survival (%)
EFF-002	1/05/2016	Survival	Pimephales promelas	0
EFF-002	12/15/2016	Survival	Pimephales promelas	100

Discharge Point	Date	Test Type	Species	Survival (%)
EFF-002	1/08/2018	Survival	Pimephales promelas	100
EFF-002	1/16/2019	Survival	Pimephales promelas	100
EFF-006	1/05/2016	Survival	Pimephales promelas	90
EFF-006	10/16/2016	Survival	Pimephales promelas	100
EFF-006	1/08/2018	Survival	Pimephales promelas	97.5
EFF-006	11/29/2018	Survival	Pimephales promelas	97.5

As shown above, there was only one acute toxicity testing result that did not meet acute toxicity effluent limits during the permit term of Order R5-2015-0045 (EFF-002, 0 percent survival on 5 January 2016). The Discharger noted that a pH drift in this sample occurred in the laboratory during the 96-hour bioassay. The Discharger directed the lab to conduct follow-up testing and a Toxicity Identification Evaluation, including a dilution series, which confirmed the presence of toxicity in the 100 percent effluent sample, but the magnitude of toxicity was reduced when diluted. The results of the follow-up testing indicated that the cause of toxicity was pH drift during the bioassay period in the lab, and the results are not indicative of discharge impacts in the receiving water. Given the infrequent and short duration of effluent discharges, and large dilution available in the Sacramento River, acute toxicity data representing discharges from the Facility do not indicate the potential to cause acute toxicity in the receiving water. Therefore, whole effluent toxicity effluent limitations are not justified at this time. However, due to the operations at the Facility (i.e., chlorination and dechlorination of discharges from the CWTP and Pioneer Reservoir, and the possibility for the discharge of untreated combined sewage during extreme wet weather events), this Order will retain the annual acute toxicity testing requirements when discharges from the Facility do occur.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

40 C.F.R. section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. Pursuant to the exceptions to mass limitations provided in 40 C.F.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as temperature, and when the applicable standards are expressed in terms of concentration (e.g., NAWQC for chlorine residual, and concentration-based waste load allocations for diazinon and chlorpyrifos) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires maximum daily and average monthly discharge limitations for all dischargers other than POTW's unless impracticable. Due to the periodic and short-term nature of CSO discharges from the CSS, the application of average monthly effluent limitations is not considered necessary for chlorine residual and TSS.

The annual mass loading effluent limitation for methylmercury is based on direct application of the applicable TMDL waste load allocation. Since it is necessary to determine compliance with the TMDL waste load allocation on an annual basis, it is impracticable to calculate average weekly and average monthly effluent limitations.

The effluent limitations for settleable solids and temperature are based on the averaging periods specified in the Basin Plan.

3. Satisfaction of Anti-Backsliding Requirements

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

4. Antidegradation Policies

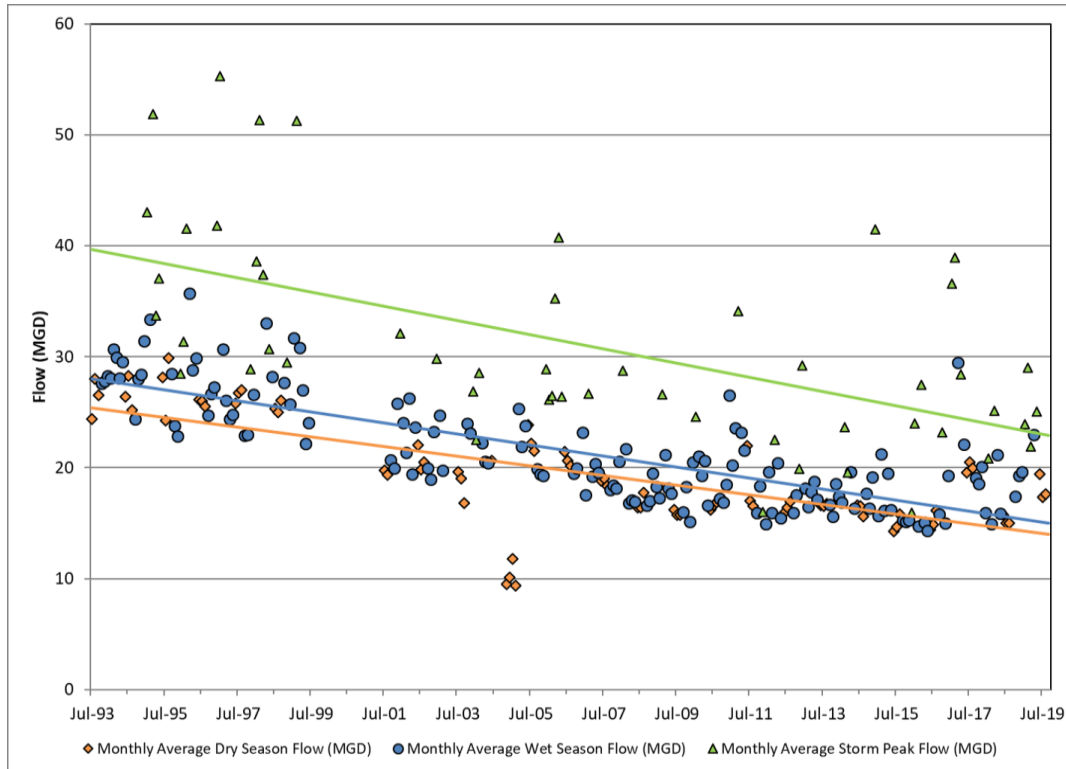
This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBEL's where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

The CSO Control Policy requires implementation of a long-term control plan (LTCP) to comply with water quality-based requirements of the CWA. The Discharger submitted an updated LTCP in 2018. The Discharger's LTCP is based on the CSO Control Policy's presumption approach. This approach means that if the program meets certain performance criteria it is presumed that the discharge meets water quality standards. The selected CSO controls should include a post-construction water quality monitoring program adequate to verify compliance with water quality standards and protection of designated

uses as well as to ascertain the effectiveness of CSO controls (59 Federal Register 18694). The planned control program is designed to allow cost-effective expansion or cost-effective retrofitting if additional controls are subsequently determined to be necessary to meet water quality standards or designated uses (59 Federal Register 18693). The performance criteria for the presumption approach option selected by the Discharger specifies the elimination or the capture for treatment of no less than 85 percent by volume of the combined sewage collected in the CSS during precipitation events on a system-wide annual average basis. In addition, CSOs remaining after implementation of the Nine Minimum Controls and that are captured for treatment should receive a minimum of primary clarification, solids and floatables disposal, and disinfection

The majority of the time the Discharger captures and provides treatment for up to 100 percent of the combined sewer flows, compared to minimum the 85 percent requirement (there have been infrequent instances where small volumes of untreated overflows have occurred from Discharge Points 004, 005, and 007). Therefore, almost all CSO's that occur from the Facility receive treatment (within the storage/transport) consisting of removal of floatable and settleable solids. The Discharger's water conservation efforts have resulted in consistent and significant reductions in dry weather and dry season flows over the last 20 years. The figure below shows the consistent downward trend and demonstrates that the CSS service area is not generating new flows. The overall annual average CSO discharge volume decreased by over 42 percent over the past 26 years. Water conservation, new plumbing codes for redevelopment, and ongoing collection system improvements are all factors in the gradual decrease in dry and wet weather flows over time.

The average number of days that untreated CSO's were discharged per year has also decreased from seven per year in the early 90's, prior to implementation of the LTCP, to less than once per year in the past 10 years. The treated CSO discharges have also decreased from 15 times per year on average to an average of five times per year during the same time period.



Continued implementation of the current LTCP will ensure the permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBEL’s for individual pollutants. The technology-based effluent limitations consist of restrictions on TSS, pH, and fecal coliform organisms. Restrictions on TSS, pH, and fecal coliform organisms are discussed in Section IV.B.2 of this Fact Sheet. This Order’s technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBEL’s have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. This Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

**Summary of Final Effluent Limitations
Discharge Points 002, 003, and 006**

Table F-9. Summary of Final Effluent Limitations – Discharge Points 002, 003, and 006

Parameter	Units	Effluent Limitations				Basis
		Storm Year Average	Storm Year Median	Average Monthly	Maximum Daily	
Total Suspended Solids	mg/L	100	--	--	--	BPJ
Settleable Solids	ml/L	--	--	--	1.0	BP
Chlorine, Total Residual	mg/L	--	--	--	0.019	NAWQC
Fecal Coliform Organisms	MPN/100 mL	--	200	--	--	BPJ
pH	standard units	--	--	--	6.0-8.5	BPJ
Temperature	°F	--	--	--	See note #6	TP
Diazinon and Chlorpyrifos	µg/L	--	--	See note #7	See note #7	TMDL
Methylmercury	g/year	--	--	--	See note #8	TMDL

Table F-9 Notes:

- Basis:**
 BP – Based on water quality objectives contained in the Basin Plan.
 BPJ – Based on best professional judgment.
 NAWQC – Based on U.S. EPA’s National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
 TP – Based on water quality objectives contained in the Thermal Plan.
 TMDL – Based on applicable TMDLs for the Sacramento River.
- Storm Year Average:** 1 October through 30 September
- Total Suspended Solids:** Applicable to Pioneer Reservoir flows of 250 MGD or less and all flows from the CWTP. In addition to storm year average effluent limit of 100 mg/L, two consecutive samples shall not exceed 150 mg/L.
- Total Residual Chlorine:** The Discharger shall continuously operate the chlorination equipment when discharging to the Sacramento River.
- Fecal Coliform Organisms:** In addition, no three consecutive samples shall exceed 1,000 MPN/100 mL.
- Temperature:** The maximum temperature of the discharge shall not exceed the natural receiving water temperature by more than 20 degrees F.
- Diazinon and Chlorpyrifos Effluent Limitation:**
 Average Monthly Effluent Limitation (AMEL)
 $S(\text{AMEL}) = C_d (\text{M-avg})/0.08 + C_c (\text{M-avg})/0.012 \leq 1.0$
 Where:
 $C_d(\text{M-avg})$ = average monthly diazinon effluent concentration in µg/L

Cc (M-avg) = average monthly chlorpyrifos effluent concentration in µg/L

Maximum Daily Effluent Limitation (MDEL)

$S(\text{ADEL}) = C_d (\text{W-avg})/0.14 + C_c (\text{W-avg})/0.021 \leq 1.0$

Where:

Cd(D-max) = maximum daily diazinon effluent concentration in µg/L

Cc (D-max) = maximum daily chlorpyrifos effluent concentration in µg/L

8. **Methylmercury.** The calendar year methylmercury combined loading from Discharge Points 002, 003, and 006 shall not exceed 0.53 grams.

E. Interim Effluent Limitations

The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) requires the Central Valley Water Board to establish interim numeric effluent limitations in this Order for compliance schedules longer than 1 year. As discussed in Section VI.B.7 of this Fact Sheet, the Central Valley Water Board is approving a compliance schedule longer than 1 year for methylmercury. The Compliance Schedule Policy requires that interim effluent limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. Consistent with the Delta Mercury Control Program, this Order includes interim effluent limitations for total mercury based on Facility performance.

1. Methylmercury

- a. **Compliance Schedule.** This Order contains a final effluent limitation for methylmercury based on the objective that became effective on 20 October 2011. The Discharger has complied with the application requirements in paragraph 4 of the State Water Board's Compliance Schedule Policy, and the Discharger's application demonstrates the need for additional time to implement actions to comply with the new limitations, as described below. Therefore, a compliance schedule for compliance with the effluent limitations for methylmercury is established in the Order.

In October 2013, the Discharger submitted to the Central Valley Water Board their Delta Methylmercury Total Maximum Daily Load Control Program Implementation Phase I Control Study Work Plan that laid out their proposed approach for evaluating potential methylmercury discharge control measures. A compliance schedule is necessary to allow the Discharger the time needed to evaluate and implement their proposed actions to comply with the final effluent limitations.

The Discharger has made diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream. The Discharger conducted monitoring once per discharge event for mercury and methylmercury during the term of Order R5-2015-0045. In coordination with the Sacramento Stormwater Quality Partnership, the

Discharger continues to implement a number of source control activities aimed at minimizing the potential for the discharge of mercury (e.g., sediment removal, household hazardous waste program). The Discharger also participates in the Central Valley Clean Water Association (CVCWA) Delta Methylmercury TMDL Control Study Workgroup, which is evaluating methylmercury control opportunities.

The compliance schedule is as short as possible. The Central Valley Water Board will use the Phase 1 Control Studies' results and other information to consider amendments to the Delta Mercury Control Program during the Phase 1 Delta Mercury Control Program Review. Therefore, at this time it is uncertain what measures must be taken to consistently comply with the waste load allocation for methylmercury. The interim effluent limits and final compliance date may be modified at the completion of Phase 1.

Interim performance-based limitations were established in a previous Order. The interim limitations were determined as described in section IV.E.1.b. below and are in effect until the final limitations take effect. The interim numeric effluent limitations and on-going source control measures will result in the highest discharge quality that can reasonably be achieved until final compliance is attained.

- b. **Interim Limits.** The Compliance Schedule Policy requires the Central Valley Water Board to establish interim requirements and dates for their achievement in the NPDES permit. Interim numeric effluent limitations are required for compliance schedules longer than 1 year. Interim effluent limitations must be based on treatment plant performance or previous final permit limitations, whichever is more stringent. When feasible, interim limitations must correspond with final permit effluent limitations with respect to averaging bases (e.g., AMEL, MDEL) for effluent limitations for which compliance protection is intended.

For mercury, the Delta Mercury Control Program requires point source discharges limit their discharges of inorganic (total) mercury to Facility performance-based levels during Phase 1 and for intermittent dischargers such as the CSS, the interim inorganic (total) mercury effluent mass limit shall consider site-specific discharge conditions. At the end of Phase 1, the interim inorganic (total) mercury mass limit will be re-evaluated and modified as appropriate. The Delta Mercury Control Program also requires interim limits established during Phase 1 and allocations will not be reduced as a result of early actions that result in reduced inorganic (total) mercury and/or methylmercury in discharges.

The following table summarizes the storm year total mercury loadings based on the Facility’s current performance (January 2015 thru December 2019). The interim limitations for total mercury in this Order are based on the estimated mercury loadings from the CSS described in the April 2010 Sacramento – San Joaquin Delta Estuary TMDL for Methylmercury Staff Report (see specifically Table G.2b, City of Sacramento Combined Stormwater/Sewer System Annual Water Volumes & Total Mercury Load Estimates). The April 2010 Staff Report estimated the maximum annual total mercury loading from the CSS discharges to be 341 grams/year. Establishing the interim limitations for total mercury at 341 grams/year is consistent with the intent of the TMDL to not penalize dischargers for early actions to reduce mercury. Effective immediately, and until 31 December 2030, the effluent storm year total mercury load shall not exceed 341 grams/year. These interim effluent limitations shall apply in lieu of the final effluent limits for methylmercury. The Discharger is in compliance with the interim storm-year limitations for mercury.

Table F-10. Summary of Facility Performance for Total Mercury

Storm Year (1 October – 30 September)	Total Mercury Loading for Discharges from Discharge Points 002 and 006 (grams/storm year)
2015/2016	11.4
2016/2017	69.1
2017/2018	29.4
2018/2019	40.7

The Central Valley Water Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with final effluent limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the effluent limitation can be achieved.

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.
 - a. **Temperature.** The Thermal Plan is applicable to the discharge from the Facility. For the purposes of the Thermal Plan, the discharge is considered to be an Existing Discharge of Elevated Temperature Waste to an Estuary, as defined in the Thermal Plan. Therefore, the Discharger must meet the water quality objective at section 5.A.(1) of the Thermal Plan, which requires compliance with the following:
 - i. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.
 - ii. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.
 - iii. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.
 - iv. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

This Order contains receiving water limitation for temperature based on the Thermal Plan.

- b. **Bacteria.** On 7 August 2018 the State Water Board adopted Resolution No. 2018-0038 establishing Bacteria Provisions, which are specifically titled “Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Bacteria Provisions and a Water Quality Standards Variance Policy” and “Amendment to the Water Quality Control Plan for Ocean Waters of California—Bacteria Provisions and a Water Quality Standards Variance Policy.” The Bacteria Water Quality Objectives established in the Bacteria Provisions supersede any numeric water quality objective for bacteria for the REC-1 beneficial use contained in a water quality control plan before the effective date of the Bacteria Provisions.

The Bacteria Water Quality Objectives correspond with the risk protection level of 32 illnesses per 1,000 recreators and use *E. coli* as the indicator of pathogens in freshwaters and enterococci as the indicator of pathogens in estuarine waters and ocean waters.

The Bacteria Provisions provide that where a permit, waste discharge requirement (WDR), or waiver of WDR includes an effluent limitation or discharge requirement that is derived from a water quality objective or other guidance to control bacteria (for any beneficial use) that is more stringent than an applicable Bacteria Water Quality Objective, the Bacteria Water Quality Objective would not be implemented in the permit, WDR, or waiver of WDR. This standard has not been met in this Order, therefore, the Bacteria Water Quality Objective has been implemented as a receiving water limitations.

The bacteria receiving water limitation in this Order has been established based on the Bacterial Water Quality Objective for inland surface waters, which requires the six-week rolling geometric mean of *Escherichia coli* (*E. coli*) shall not exceed 100 colony forming units (cfu) per 100 milliliters (mL), calculated weekly, and a statistical threshold value (STV) of 320 cfu/100 mL not to be exceeded by more than 10 percent of the samples collected in a calendar month, calculated in a static manner.

B. Groundwater – Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in

Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

- a. **Mercury.** The Delta Mercury Control Program was designed to proceed in two phases. Phase 1 is currently underway. Phase 2 begins after the Phase 1 Delta Mercury Control Program Review and Board approval. As a result of the Phase 1 Delta Mercury Control Program Review, changes may be needed to final allocations, implementation and monitoring requirements, and compliance schedules. Therefore, this Order may be reopened to address changes to the Delta Mercury Control Program.
- b. **Compliance with State-Wide Sanitary Sewer System General Order.** The CSS is not currently subject to Order 2006-0003-DWQ, a Statewide General WDR for Sanitary Sewer Systems. If the State Water Board revises or reissues Order 2006-0003-DWQ during the term of this Order to extend coverage to the CSS, this Order may be reopened and revised to ensure consistency with and eliminate duplication of any applicable provisions and/or requirements.
- c. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 31 May 2018, as part of the CV-SALTS initiative, the Central Valley Water Board approved Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley. If approved by the State Water Board, the Office of Administrative Law, and U.S. EPA, the Amendments would impose certain new requirements on salt and nitrate discharges. More information regarding these Amendments can be found on the [Central Valley Salinity Alternatives for Long-Term Sustainability \(CV-SALTS\) web page](https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/):
(https://www.waterboards.ca.gov/centralvalley/water_issues/salinity/)

If the Amendments ultimately go into effect, this Order may be amended or modified to incorporate any newly-applicable requirements.

2. Special Studies and Additional Monitoring Requirements

- a. **Water Quality Assessment (WQA).** The CSO Control Policy requires a WQA of the combined wastewater and stormwater to confirm that the presumptive approach results in compliance with the Clean Water Act. To confirm this, the Discharger first completed a WQA in 1995 that demonstrated compliance with water quality-based objectives in the receiving water. In 2013, the Discharger completed another WQA to evaluate whether its implemented LTCP projects are ensuring continued compliance with water quality standards and are adequately protecting beneficial uses. The 2013 WQA confirmed the 1995 WQA finding that there are no significant impacts to Sacramento River beneficial uses downstream of the CSS discharge during the infrequent and short duration of CSS overflow discharges.

To evaluate any changes to the effluent or receiving water quality since the completion of some of the Discharger’s major storage or system optimization projects, this Order requires the Discharger to perform an updated WQA by the due date in the Technical Reports table to confirm that the discharge continues to meet water quality standards. In addition, due to concerns of potential effects of the CSO discharges on downstream drinking water systems, which currently must act expeditiously to protect its drinking water intakes in response to CSO discharges, the WQA shall evaluate the effects of the CSO discharges on the municipal and domestic water supply beneficial use of the Sacramento River. The evaluation may include existing studies or other information, receiving water monitoring, and/or modeling to estimate the impacts.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications

- a. **Combined Wastewater Control System Plan of Operations.** The Combined Wastewater Control System Plan of Operations includes the elements of a Sewer System Management Plan (SSMP) that is required of separate sanitary sewer collection systems under State Water Board Order 2006-0003-DWQ, Statewide General WDR’s for Sanitary Sewer Systems. The Discharger will be required to revise and update, as necessary, their Combined Wastewater Control System Plan of Operations to ensure compliance with the NMC’s and/or LTCP requirements in this Order. The Combined Wastewater Control System Plan of Operations was updated in 2013 and 2018 to specify the procedures that will be used to manage the CSS and establish

operation, maintenance, and inspection procedures to maximize the removal of pollutants during and after each precipitation event using all available facilities within the combined wastewater collection and treatment system, with the goal of achieving the highest treatment possible and minimizing CSO's and CSS outflows.

The Discharger is required to operate the combined wastewater collection and treatment system in conformance with the approved Combined Wastewater Control System Plan of Operations and shall report any variation from the Plan in the monthly monitoring reports provided to the Central Valley Water Board. Further modifications to the Combined Wastewater Control System Plan of Operations must be submitted for review and approval by the Executive Officer before they may become effective.

Also, due to the potential impact to the Sacramento River related to the discharge of untreated wastewater from Sump 2 Bypass (Discharge Points 004 and 005), and Sump 1A Bypass (Discharge Point 007), the Discharger is required to prepare and submit a report to the Central Valley Water Board that describes the circumstances under which the overflow(s) occurred. As part of this report, the Discharger shall evaluate whether the overflows could have been avoided with operational measures and infrastructure improvements and propose as necessary any modifications necessary to the Combined Wastewater Control System Plan of Operations.

- b. **Implementation of the NMCs.** The NMC's are technology-based requirements for CSO's. Order R5-2015-0045 required implementation of the NMC's by the Discharger, as well as annual progress reports that document implementation of each of the NMC's. This Order carries forward the requirements from Order R5-2015-0045 to continue implementation of the Discharger's current measures to comply with the NMCs described in Section VI.C.4.b, and annual progress reports as described in Attachment E, Section X.D.4.
- c. **Implementation of the LTCP.** The Discharger's LTCP is designed to achieve the following interim goals as progress is made towards the final goal of minimizing street flooding during a 10-year storm event and to prevent structure flooding during the 100-year storm event:
 - i. Obtaining protection from a 5-year storm in the six areas of worst flooding (including downtown, north of Capital park; U.C. Medical Center area; immediately south of Highway 80 between Riverside and Freeport; the area northeast of Highway 99 and Highway 80 interchange; the area northwest of Highway 99 and Highway 80 interchange, and the Land Park area),

- ii. Obtaining protection from a 5-year storm throughout the combined sewer system area,
- iii. Obtaining protection from a 10-year storm in the six areas of worst flooding, and then
- iv. Obtaining the goal of protection from a 10-year storm event throughout the combined sewer system.

The Discharger's 2014 Combined Sewer System LTCP Update Work Plan and Schedule evaluated storage and conveyance projects and developed a full prioritized list of projects based on updated model results. Order R5-2015-0045 required the Discharger to update its LTCP and continue implementation of the previous CSSIP. The Discharger's May 2018 Combined Sewer System LTCP Update provided an implementation schedule for the top prioritized projects going out to 2029. This Order requires the continued implementation of the LTCP.

In addition, due to concerns of growth from new development and redevelopment within the CSS service area, such as the Railyard and River District, this Order includes a new provision (Section VI.4.c.iii of the WDRs) that specifically requires the Discharger continue to implement the LTCP to manage the flow capacity of the CSS to minimize CSO's and CSS outflows, and maintain the overall annual percentage of flow routed to the Sacramento Regional Wastewater Treatment Plant as new development and redevelopment projects are implemented throughout the CSS service area that have the potential to increase combined sewer system flows. The Discharger shall implement measures to the maximum extent practicable to ensure that new flows from growth within the CSS service area do not result in an increase in CSO's or CSS outflows, or reduce the overall percentage of annual flow routed to the Sacramento Regional Wastewater Treatment Plant. Annual progress reports are required that include estimates of the added volume of drainage and sewer flows from growth within the CSS service area and a discussion of how the CSS will be able to manage the increased flows to maintain compliance with this new provision.

This Order also requires the Discharge to update the LTCP to estimate, at minimum, 30-year buildout CSS flows and identify projects, as needed, to ensure the City is proactively managing the growth so CSO's and outflows do not increase. The Discharger's Combined Sewer System Development Policy requires mitigation of sewer and drainage flows to the CSS from new development and redevelopment projects. However, in instances where a developer cannot mitigate flows the City requires the payment of fees to share in the cost of City sponsored projects within the CSS. Projects to address buildout flows can be implemented, as needed, to ensure

there are no increases in CSO's and outflows. It is expected that a proactive adaptive management approach will be used to adjust the plan periodically (e.g., every permit term). If the LTCP Update indicates that CSO's and CSS outflows are increasing, the Discharger must re-consider new development strategies and propose practices for Central Valley Water Board Executive Officer approval.

This Order also requires the Discharger to update the LTCP to conduct a review on the LTCP's goal and timeline of providing protection from CSS outflows during the 10 year storm event. The review should consider potential impacts of outflows to the public, such as residents and homeless. The updated LTCP may also consider impacts to businesses, costs, and environmental effects. The evaluation should consider these items and provide any recommended updates to the goals of the LTCP and timeline. In developing this update, the Discharger must at a minimum consult with Department of Public Health staff and other agencies as applicable. Furthermore, the design storm return frequencies the City uses to model the CSS are based on information from the early 1900's up to 1990. This Order requires the Discharger recalculate the 5-year, 10-year, and 100-year design storm return frequencies based on current climatic information and considering the effects of climate change, as appropriate. The updated design storms are to be incorporated into the LTCP and an evaluation on the progress of achieving the interim goals listed above shall be discussed in the Annual LTCP Progress Report.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable

6. Other Special Provisions

- a. Requirements are included in the Order to ensure that the Discharger complies with applicable regulations for the disposal of collected screenings, sludge, and other solids removed from the CSS treatment systems.

7. Compliance Schedules

In general, an NPDES permit must include final effluent limitations that are consistent with CWA section 301 and with 40 C.F.R. section 122.44(d). There are exceptions to this general rule. The State Water Board's Resolution 2008-0025 "Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits" (Compliance Schedule Policy) allows compliance schedules for new, revised, or newly interpreted water quality objectives or criteria, or in accordance with a Total Maximum Daily Load (TMDL). All compliance schedules must be as short as possible and may not exceed ten

years from the effective date of the adoption, revision, or new interpretation of the applicable water quality objective or criterion, unless a TMDL allows a longer schedule. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric effluent limitations for that constituent or parameter, interim requirements and dates toward achieving compliance, and compliance reporting within 14 days after each interim date. The Order may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures.

In accordance with the Compliance Schedule Policy and 40 C.F.R. section 122.47, a discharger who seeks a compliance schedule must demonstrate additional time is necessary to implement actions to comply with a more stringent permit limitation. The Discharger must provide the following documentation as part of the application requirements:

- a. Diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream, and the results of those efforts;
- b. Source control efforts are currently underway or completed, including compliance with any pollution prevention programs that have been established;
- c. A proposed schedule for additional source control measures or waste treatment;
- d. Data demonstrating current Facility performance to compare against existing permit effluent limits, as necessary to determine which is the more stringent interim, permit effluent limit to apply if a schedule of compliance is granted;
- e. The highest discharge quality that can reasonably be achieved until final compliance is attained;
- f. The proposed compliance schedule is as short as possible, given the type of facilities being constructed or programs being implemented, and industry experience with the time typically required to construct similar facilities or implement similar programs; and
- g. Additional information and analyses to be determined by the Regional Water Board on a case-by-case basis.

Based on information submitted with the ROWD, SMR's, and other miscellaneous submittals, it has been demonstrated to the satisfaction of the Central Valley Water Board that the Discharger needs time to implement actions to comply with the final effluent limitations for methylmercury.

The Delta Mercury Control Program is composed of two phases. Phase 1 is currently underway and continues through the Phase 1 Delta Mercury Control Program Review. Phase 1 emphasizes studies and pilot projects to develop and evaluate management practices to control methylmercury. Phase 1 includes provisions for: implementing pollution minimization programs and interim mass limits for inorganic (total) mercury point sources in the Delta and Yolo Bypass; controlling sediment-bound mercury in the Delta and Yolo Bypass that may become methylated in agricultural lands, wetlands, and open-water habitats; and reducing total mercury loading to the San Francisco Bay, as required by the *Water Quality Control Plan for the San Francisco Bay*. As part of Phase 1, the CVCWA Coordinated Methylmercury Control Study Work Plan was approved by the Executive Officer on 7 November 2013. The final CVCWA Methylmercury Control Study was submitted to the Central Valley Water Board on 19 October 2018 and revised on 26 October 2018. Additionally, the Discharger submitted a *City of Sacramento Combined Sewer System Methylmercury Control Study Final Report* dated 19 October 2018.

As part of Phase 1, the Delta Mercury Control Program also required dischargers to participate in a Mercury Exposure Reduction Program (MERP). The objective of the MERP is to reduce mercury exposure of Delta fish consumers most likely affected by mercury. The Discharger elected to provide financial support in a collective MERP with other Delta dischargers, rather than be individually responsible for any MERP activities. An exposure reduction work plan for Executive Officer approval was submitted on 20 October 2013, which addressed the MERP objective, elements, and the Discharger's coordination with other stakeholders.

The Central Valley Water Board has started conducting a Phase 1 Delta Mercury Control Program Review that considers: modification of methylmercury goals, objectives, allocations and/or the final compliance date; implementation of management practices and schedules for methylmercury controls; and adoption of a mercury offset program for dischargers who cannot meet their load and WLA's after implementing all reasonable load reduction strategies. The review will also consider other potential public and environmental benefits and negative impacts (e.g., habitat restoration, flood protection, water supply, and fish consumption) of attaining the allocations. The fish tissue objectives, linkage analysis between objectives and sources, and the attainability of the allocations will be re-evaluated based on the findings of Phase 1 control studies and other information. The linkage analysis, fish tissue objectives, allocations, and time schedules shall be adjusted at the end of Phase 1, or subsequent program reviews, if appropriate.

Phase 2 begins after the Phase 1 Delta Mercury Control Program Review. During Phase 2, dischargers shall implement methylmercury control programs and continue inorganic (total) mercury reduction programs. Compliance monitoring and implementation of upstream control programs also shall occur in Phase 2. Any compliance schedule contained in an NPDES permit must be

“...an enforceable sequence of actions or operations leading to compliance with an effluent limitation...” per the definition of a compliance schedule in CWA section 502(17). See also 40 C.F.R. section 122.2 (definition of schedule of compliance). The compliance schedule for methylmercury meets these requirements.

Federal regulations at 40 C.F.R. section 122.47(a)(1) require that, “Any schedules of compliance under this section shall require compliance as soon as possible...” The Compliance Schedule Policy also requires that compliance schedules are as short as possible and may not exceed 10 years, except when “...a permit limitation that implements or is consistent with the waste load allocations specified in a TMDL that is established through a Basin Plan amendment, provided that the TMDL implementation plan contains a compliance schedule or implementation schedule.” As discussed above, the Basin Plan’s Delta Mercury Control Program includes compliance schedule provisions and allows compliance with the WLA’s for methylmercury by 2030. Until the Phase 1 Control Studies are complete and the Central Valley Water Board conducts the Phase 1 Delta Mercury Control Program Review, it is not possible to determine the appropriate compliance date for the Discharger that is as soon as possible. Therefore, this Order establishes a compliance schedule for the final WQBEL’s for methylmercury with full compliance required by 31 December 2030, which is consistent with the Final Compliance Date of the TMDL. At completion of the Phase 1 Delta Mercury Control Program Review, the final compliance date for this compliance schedule will be re-evaluated to ensure compliance is required as soon as possible. Considering the available information, the compliance schedule is as short as possible in accordance with federal regulations and the Compliance Schedule Policy.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements.

Water Code section 13176, subdivision (a)(1) requires that laboratory analyses shall be performed by laboratories accredited by the State Water Resources Control Board, Division of Drinking Water, which accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP). Data generated using field tests are exempt from this requirement pursuant to Water Code Section 13176, subdivision (a)(2).

The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess the performance of the Pioneer Reservoir and CWTP treatment systems. The monitoring frequencies for flow, TSS and settleable solids (once per discharge event) have been retained from Order R5-2015-0045.

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.
2. Effluent monitoring for those pollutants expected to be present in discharges from Discharge Point 002 (Monitoring Location EFF-002), 003 (Monitoring Location EFF-003), and 006 (Monitoring Location EFF-006) are required as shown in the MRP (Attachment E). To determine compliance with effluent limitations, this Order retains the monitoring requirements for TSS, settleable solids, pH, dissolved oxygen, fecal coliform organisms, chlorine residual, temperature, methylmercury, diazinon, and chlorpyrifos from Order R5-2015-0045. This Order also retains monitoring for mercury to determine compliance with interim effluent limits. Also, consistent with Order R5-2015-0045, flow is required to be monitored continuously. Due to continuing concerns related to ammonia toxicity in CSO discharges, monitoring for ammonia nitrogen also continues to be required (grab samples during each discharge event).
3. In the previous permit term, the Discharger raised concerns related to potential analytical method interference at low concentrations associated with monitoring chlorine residual in accordance with EPA approved methods. These interferences may result in false positives. As described in Section II.A of this Fact Sheet, the Discharger uses sodium bisulfite to dechlorinate discharges from Discharge Points 002, 003 and 006 prior to discharge, and requested that the Order allow compliance with the chlorine residual effluent limitations to be demonstrated through the detection of the dechlorination agents used. Monitoring for dechlorination agent residual has been retained from Order R5-2015-0045 and the compliance determination language included in Section VII.G of the Limitations and Discharge Requirements of this Order allow compliance to be determined based on data representing the presence of dechlorination agents in discharges.
4. Although discharges from Discharge Points 004, 005 and 007 rarely occur, this Order continues to require monitoring when a discharge does occur for several indicator parameters (flow, pH, dissolved oxygen, temperature, total suspended solids, settleable solids, fecal coliform, and ammonia). This data will be used to

assess the potential impact(s) to the receiving water when a CSO discharge does occur from any of these discharge points.

5. Water Code section 13176, subdivision (a), states: “The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code.” The DDW certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for chlorine residual, dissolved oxygen, and pH, and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II).

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Due to the continued concerns over the potential short-term toxicity that may result from CSO discharges, the annual acute whole effluent toxicity testing requirements contained in Order R5-2015-0045 are retained in this Order.

D. Receiving Water Monitoring

1. Surface Water

- a. **Delta Regional Monitoring Program.** The Central Valley Water Board requires individual dischargers and discharger groups to conduct monitoring of Delta waters and Delta tributary waters in the vicinity of their discharge, known as ambient (or receiving) water quality monitoring. This monitoring provides information on the impacts of waste discharges on Delta waters, and on the extant condition of the Delta waters. However, the equivalent funds spent on current monitoring efforts could be used more efficiently and productively and provide a better understanding of geographic and temporal distributions of contaminants and physical conditions in the Delta, and of other Delta water quality issues, if those funds were used for a coordinated ambient monitoring effort, rather than continue to be used in individual, uncoordinated ambient water quality monitoring programs. The Delta Regional Monitoring Program will provide data to better inform management and policy decisions regarding the Delta.

The Discharger is required to participate in the Delta Regional Monitoring Program. Delta Regional Monitoring Program data is not intended to be used directly to represent either upstream or downstream water quality for

purposes of determining compliance with this Order. Delta Regional Monitoring Program monitoring stations are established generally as “integrator sites” to evaluate the combined impacts on water quality of multiple discharges into the Delta; Delta Regional Monitoring Program 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. Delta Regional Monitoring Program monitoring data may be used to help establish background receiving water quality for an RPA in an NPDES permit after evaluation of the applicability of the data for that purpose. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Delta Regional Monitoring Program data, as with all environmental monitoring data, can provide an assessment of water quality at a specific place 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, effluent data from the Discharger’s discharge and other point and non-point source discharges, receiving water flow volume, speed and direction, and other information to determine the likely source or sources of a constituent that resulted in exceedance of a receiving water quality objective.

Participation in the Delta Regional Monitoring Program by a Discharger shall consist of providing funds and/or in-kind services to the Delta Regional Monitoring Program.

Since the Discharger is participating in the Delta Regional Monitoring Program, this Order does not require receiving water characterization monitoring for purposes of conducting the RPA. Data from the Delta Regional Monitoring Program may be utilized to characterize the receiving water in the permit renewal. Alternatively, the Discharger may conduct any site-specific receiving water monitoring deemed appropriate by the Discharger and submit that monitoring data with the ROWD. In general, monitoring data from samples collected in the immediate vicinity of the discharge will be given greater weight in permitting decisions than receiving water monitoring data collected at greater distances from the discharge point. Historic receiving water monitoring data taken by the Discharger and from other sources may also be evaluated to determine whether or not that data is representative of current receiving water conditions. If found to be representative of current conditions, then that historic data may be used in characterizing receiving water quality for the purposes of the RPA.

- b. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

- c. Receiving water monitoring sample types for pH, temperature, dissolved oxygen, turbidity, and total ammonia nitrogen at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004 (as outlined in Table E-5) have been retained from Order R5-2015-0045 to determine compliance with the applicable receiving water limitations and characterize the receiving water for these parameters. Monitoring frequencies have been updated to reflect those approved in the Discharger's Delta RMP approval letter dated 30 September 2015, with the exception of E. coli, which has been added to receiving water monitoring at Monitoring Locations RSW-001, RSW-002, RSW-003, and RSW-004 to determine compliance with the new applicable receiving water limitations.

E. Other Monitoring Requirements

1. Effluent Characterization

Routine monitoring for priority pollutants will allow for the characterization of any CSO discharges that occur to the Sacramento River during the permit term. This Order continues to require annual monitoring for priority pollutants and several other constituents of concern. See Section IX.A of the MRP for more detailed requirements related to performing priority pollutant monitoring.

2. Discharge Monitoring Report-Quality Assurance (DMR-QA) Study Program

Under the authority of section 308 of the CWA (33 U.S.C. section 1318), U.S. EPA requires all dischargers under the NPDES Program to participate in the annual DMR-QA Study Program. The DMR-QA Study evaluates the analytical ability of laboratories that routinely perform or support self-monitoring analyses required by NPDES permits. There are two options to satisfy the requirements of the DMR-QA Study Program: (1) The Discharger can obtain and analyze a DMR-QA sample as part of the DMR-QA Study; or (2) Per the waiver issued by U.S.EPA to the State Water Board, the Discharger can submit the results of the most recent Water Pollution Performance Evaluation Study from their own laboratories or their contract laboratories. A Water Pollution Performance Evaluation Study is similar to the DMR-QA Study. Thus, it also evaluates a laboratory's ability to analyze wastewater samples to produce quality data that ensure the integrity of the NPDES Program. The Discharger shall submit annually the results of the DMR-QA Study or the results of the most recent Water Pollution Performance Evaluation Study to the State Water Board. The State Water Board's Quality Assurance Program Officer will send the DMR-QA Study results or the results of the most recent Water Pollution Performance Evaluation Study to U.S. EPA's DMR-QA Coordinator and Quality Assurance Manager.

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR’s that will serve as an NPDES permit for the City of Sacramento, Combined Wastewater Collection and Treatment System. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR’s and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Persons

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR’s for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following posting of a notice of public hearing at the Facility and City Hall and posting on the Central Valley Water Board’s website.

The public had access to the agenda and any changes in dates and locations through the [Central Valley Water Board’s website](http://www.waterboards.ca.gov/centralvalley/board_info/meetings/) (http://www.waterboards.ca.gov/centralvalley/board_info/meetings/)

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR’s as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on 25 May 2020.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR’s during its regular Board meeting on the following date and time and at the following location:

Date: 13/14 August 2020
Time: 9:00 a.m.
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR’s, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 calendar days of the date of adoption of this Order at the following address, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

Or by email at waterqualitypetitions@waterboards.ca.gov

[Instructions on how to file a petition for review](http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instructions.shtml)

(http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instructions.shtml) are available on the Internet.

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (916) 464-3291.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Central Valley Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Danielle Goode at (916) 464-4843.