CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

11020 Sun Center Drive, #200 Rancho Cordova, California 95670-6114
Phone (916) 464-3291 ○ Fax (916) 464-4645
Central Valley Home Page (http://www.waterboards.ca.gov/centralvalley)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0077950
ORDER R5-2025-XXXX

TENTATIVE WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF WOODLAND, WATER POLLUTION CONTROL FACILITY YOLO COUNTY

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

Table 1. Discharger Information

Discharger:	City of Woodland
Name of Facility:	Water Pollution Control Facility
Facility Street Address:	42929 County Road 24
Facility City, State Zip:	Woodland, CA 95776
Facility County:	Yolo

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Tertiary treated municipal wastewater	38° 40’ 51” N	121° 38’ 38” W	Tule Canal
002	Primary and/or secondary treated municipal wastewater, waste activated sludge stabilization process	--	--	Groundwater

Table 3. Administrative Information

This Order was Adopted on:	**26/27 February 2026**
This Order shall become effective on:	**1 April 2026**
This Order shall expire on:	**31 March 2031**
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 an NPDES permit no later than:	**31 March 2030**
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 **26/27 February 2026**.

_____
PATRICK PULUPA, Executive Officer

WASTE DISCHARGE REQUIREMENTS
TABLE OF CONTENTS

TABLES

ATTACHMENTS

I. FACILITY INFORMATION

Information describing the Water Pollution Control Facility (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 (WDRs) 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 WDRs in this Order.

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. Adoption of land discharge and Title 22 water reclamation requirements in this Order constituents permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to CCR, title 14, section 15301.

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 H are also incorporated into this Order.

D. Provisions and Requirements Implementing State Law. Provisions/requirements in subsections IV.B, IV.C, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

E. 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 establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This Order and the Monitoring and Reporting Program, provided in Attachment E, establish monitoring and reporting requirements to implement federal and State requirements. The burden, including costs, of these monitoring and reporting requirements bears a reasonable relationship to the need for these reports and the benefits to be obtained therefrom. The Discharger, as owner and operator of the Facility, is responsible for these requirements, which are necessary to determine compliance with this Order. The need for these requirements is further discussed in the Fact Sheet, Attachment F.

F. Notification of Interested Persons. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs 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.

G. 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 this Order supersedes Order R5-2020-0015 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).

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 CCR, title 22, section 66261.1 et seq., is prohibited.

E. **Average Dry Weather Flow.** Discharges exceeding an average dry weather flow of 10.4 million gallons per day (MGD) are prohibited.

F. **Sludge.** Sewage sludge (the placement of sewage sludge on land on which the sewage sludge remains) shall not be stored for more than two years. This does not include the placement of sewage sludge on land for treatment, defined as *the treatment of sewage sludge for final use or disposal, including, but not limited to, thickening, stabilization, and dewatering of sewage sludge.*

G. Discharge of screened influent and secondary effluent that is not nitrified or denitrified to ponds other than the Emergency Detention Basin is prohibited once the Emergency Detention Basin is constructed and operational.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001. Unless otherwise specified compliance shall be measured at Monitoring Location EFF-001, as described in the Monitoring and Reporting Program (MRP), Attachment E:

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

Table 4. Effluent Limitations

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily
Biochemical Oxygen Demand, 5-day @ 20°Celcius (BOD_5)	milligrams per liter (mg/L)	10	15	
Total Suspended Solids (TSS)	mg/L	10	15	
Ammonia, Total as Nitrogen	mg/L	1.1	3.9	
Total Selenium	micrograms per liter (µg/L)	2.3	--	5.6

b. **pH:**
   i. 6.5 Standard Units (SU) as an instantaneous minimum.
   ii. 8.5 SU as an instantaneous maximum.

c. **Percent Removal.** The average monthly percent removal of BOD_5 and TSS shall not be less than 85 percent.

d. **Chronic Whole Effluent Toxicity (WET)**

   i. **Chronic WET Maximum Daily Effluent Limitation (MDEL).** No fathead minnow (*Pimephales promelas*), chronic aquatic toxicity test shall result in a "Fail" at the Instream Waste Concentration (IWC) for the sub-lethal endpoint measured in the test AND a percent effect for the survival endpoint greater than or equal to 50 percent.

   ii. **Chronic WET Monthly Median Effluent Limitation (MMEL).** For fathead minnow (*Pimephales promelas*), no more than one chronic aquatic toxicity test initiated in a calendar month shall result in a "Fail" at the IWC for any endpoint.

e. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed the following with compliance measured at Monitoring Location UVS-002 as described in the MRP, Attachment E:

   i. 2.2 most probable number per 100 milliliters (MPN/100 mL), as a 7-day median;
   ii. 23 MPN/100 mL, more than once in any 30-day period; and
   iii. 240 MPN/100 mL, at any time.

f. **Methylmercury. Effective 31 December 2030.** The effluent calendar year annual combined flow-weighted methylmercury load shall not exceed 0.43 grams, in accordance with Delta Mercury Control Program.

g. **Diazinon and Chlorpyrifos.** Effluent diazinon and chlorpyrifos concentrations shall not exceed the sum of one (1.0) as identified below:

   i. ***Average Monthly Effluent Limitation (AMEL)***

   $S_{AMEL} = C_{D\ M\text{-}avg}/0.079 + C_{C\ M\text{-}avg}/0.012 \leq 1.0$

   $C_{D\ M\text{-}AVG}$ = average monthly diazinon effluent concentration (µg/L).

   $C_{C\ M\text{-}AVG}$ = average monthly chlorpyrifos effluent concentration (µg/L)

ii. ***Average Weekly Effluent Limitation (AWEL)***

$S_{AWEL} = C_{D\ W\text{-}avg}/0.14 + C_{C\ W\text{-}avg}/0.021 \leq 1.0$

$C_{D\ W\text{-}AVG}$ = average weekly diazinon effluent concentration (µg/L).

$C_{C\ W\text{-}AVG}$ = average weekly chlorpyrifos effluent concentration (µg/L).

2. Interim Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following interim limitation at Discharge Point 001 with compliance measured at Monitoring Location EFF-001 as described in the MRP, Attachment E:

a. **Mercury, Total. Effective immediately and until 30 December 2030.** The effluent calendar year annual total mercury load shall not exceed 481 grams/year. This interim effluent limitation shall apply in lieu of the final effluent limitation 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 – Not Applicable

B. Groundwater Limitations.

Effective 1 April 2026. Release of waste constituents from any treatment, delivery system, reclamation, or storage component associated with the Facility shall not cause or contribute to groundwater containing constituent concentrations in excess of the concentrations specified below or in excess of natural background quality, whichever is greater:

1. Total coliform organism level of 2.2 MPN/100 mL over any seven-day period.
2. Constituents in concentrations that exceed either the Primary or Secondary MCLs established in Title 22 of the California Code of Regulations excluding salinity, provided the Discharger complies with Provision VI.C.3.b.
3. Contain taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses, (e.g., by creating off-tastes and/or odor, producing detrimental physiological responses in human, plant, animal, or aquatic life [i.e., toxicity]).

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:

   (a) **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.

   (b) **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.

   (c) **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.

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.

l. 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. This Order may be reopened to transfer ownership of control of this Order. The succeeding owner or operator must apply in writing 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.

p. If the Discharger submits a timely and complete ROWD for permit reissuance, this permit shall continue in force and effect until the permit is reissued or the Regional Water Board rescinds the permit.

q. 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.

r. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or effluent 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.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened, and the mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Central Valley Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.

d. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Ultraviolet (UV) Disinfection Operating Specifications.** The UV operating specifications in this Order are based on the UV guidelines developed by the National Water Research Institute and American Water Works Association Research Foundation titled, “Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse.” If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation equivalent to Title 22 disinfected tertiary recycled water, this Order may be reopened to modify the UV operating specifications.

f. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. As the Central Valley Water Board moves forward to implement those provisions that are now in effect, this Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. 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/)

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Ponds and Groundwater Information Report.** The Discharger shall submit the Ponds and Groundwater Information Report by the date on Table E-12 of the MRP (Technical Reports Table) and shall include, at minimum:

i. Information for Ponds 1 through 13 including but not limited to: Pond area, pond working liquid depth, pond invert and berm elevations, pond bottom soil stratigraphy and infiltration rates, and assessor parcel number(s), sludge depth at applicable ponds;

ii. Information for Ponds 1 through 13 including at least the previous 5 years of data and, at minimum:

(a) Influent and inflow and infiltration flows at current conditions and projected conditions after scheduled improvements (if applicable) (monthly average values);

(b) Discharge flows to the pond system including, but not limited to: The Erskine Pond, Sludge Stabilization Ponds, and Algae Production Ponds (monthly average values);

(c) The local 100-year precipitation total, distributed by mean monthly precipitation patterns;

(d) Historical local evapotranspiration, pan evaporation, and pond evaporation data (monthly average values);

(e) Projected long-term percolation rates (including consideration of percolation from unlined ponds and the effects of solids plugging) and;

(f) Estimate annual seepage losses;

iii. Information for groundwater monitoring wells including, but not limited to: construction dates, reference elevations, screened intervals, boring logs, groundwater depths, and vertical separation between pond inverts and the highest anticipated groundwater;

iv. An evaluation of the ponds and groundwater monitoring wells in the MRP and other groundwater monitoring wells in the vicinity of the Facility that includes, at minimum:

(a) A summary and list of upgradient/background and downgradient wells;

(b) A summary of at least the previous 5 years of pond and groundwater data with a comparison of the upgradient/background and downgradient wells and applicable groundwater limitations and/or Basin Plan groundwater water quality objectives;

(c) A summary of any past exceedance of applicable groundwater limitations and/or Basin Plan groundwater water quality objectives at the ponds and/or downgradient groundwater monitoring wells;

(d) An evaluation of current and future Best Practicable Treatment or Control (BPTC) methods used to minimize organic overloading and degradation to groundwater.

v. Subsurface cross-section(s) using boring logs from wells and other available information specifying soil layer(s) and depths;

vi. A scaled facility map that shows the Discharger's property line, current and historic prevalent groundwater gradient and flow direction, the receiving waters and any nearby tributaries, and all monitoring locations specified in this Order.

b. **Groundwater Monitoring Well Installation Reports.** If the Discharger determines that new or replacement groundwater monitoring wells are not needed, they must submit a transmittal stating this; otherwise, the Discharger shall submit the following by the dates on the Technical Reports Table:

i. **Groundwater Monitoring Well Installation Work Plan.** The Discharger shall follow the requirements of Attachment I and submit a Groundwater Monitoring Well Installation Work Plan if the Discharger determines there is a need to install new, or replace existing, groundwater monitoring wells.

ii. **Groundwater Monitoring Well Installation Report.** The Discharger shall follow the requirements of Attachment I and provide a Groundwater Monitoring Well Installation Report if the Discharger determines there is a need to install new, or replace existing, groundwater monitoring wells.

c. **Emergency Detention Basin Installation**

i. **Final Emergency Detention Basin Installation Report.** The Discharger shall submit an Emergency Detention Basin Installation Report by the date specified in the Technical Reports Table. The engineered surface shall meet a hydraulic conductivity standard of 1×10^{-6} centimeters per second or less using one of the following:

- Compacted clay liner, with a minimum clay thickness of two feet.
- Portland cement concrete liner, designed to minimize cracking and infiltration.
- Synthetic liner, consisting of a 40 thousandths of an inch (mil) synthetic geomembrane or a 60-mil high-density polyethylene liner installed over a prepared base or a secondary clay or concrete liner.
- Equivalent engineered alternative approved by the Executive Officer.

The Final Emergency Detention Basin Installation Report shall detail the completed installation of a liner with a hydraulic conductivity of no more than 1×10^{-6} centimeters per second and shall include as-built drawings, liner specifications, documentation of the quality assurance testing results and observations, certification that the liner(s) were constructed as designed, and an Operation and Maintenance Plan detailing how the Discharger shall perform pond clean-out activities, monitor the liner's integrity, and conduct necessary repairs.

ii. **Emergency Detention Basin Installation Annual Reports.** The Discharger shall submit an Emergency Detention Basin Installation Annual Reports to the Central Valley Water Board the by the dates on the Technical Reports Table and shall document progress on the implementation of the Emergency Detention Basin Installation Work Plan. The annual reports shall include a summary of work completed during the reporting period, a description of any deviations from the Emergency Detention Basin Installation Work Plan and the reasons for those

deviations, a schedule of pending tasks and expected completion dates, and supporting documentation demonstrating progress.

d. **Sludge Stabilization Ponds Liner Maintenance Report.** The Sludge Stabilization Ponds Liner Maintenance Report shall be submitted on the date specified in the Technical Reports Table and shall include, at minimum:

   i. Liner characteristics and conditions for each Sludge Stabilization Pond including, but not limited to: liner thickness, hydraulic conductivity in terms of centimeter per second, and leakage rate in terms of gallons per acre per day, and any other technical information that pertains to the integrity of the liner to potentially compromise the infiltration of wastewater into soil and underlying groundwater;

   ii. A performance test for each Sludge Stabilization Pond (e.g., seepage/leak test, results from the water balance, liner leak detection testing, hydraulic conductivity testing of soil cores, or other geologic evaluation) during the permit term that evaluates if the respective pond is operating with minimal leaking.

   iii. A description of the performance test methodology and/or instrumentation used;

   iv. If liner modifications or repairs are needed to continue Sludge Stabilization Ponds operations;

   v. A summary of all future improvement projects;

   vi. A summary of maintenance performed during the permit term;

   vii. Any required repairs including a schedule to complete the repair or a date the repairs were completed as well as current Operations and Maintenance projects (including but not limited to liner repairs) of the liners for Sludge Stabilization Ponds; and,

   viii. Test results and conclusions.

e. **Toxicity Reduction Evaluation (TRE) Requirements.** The Discharger shall initiate a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more trigger exceedances occur within a single toxicity calendar month or within two successive toxicity calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test or compliance test, the Executive Officer may require a TRE.

3. Best Management Practices and Pollution Prevention

a. **Mercury Pollution Prevention Plan Progress Reports.** The Discharger submitted a Pollution Prevention Plan for Mercury, on 25 July 2015 in accordance with Water Code section 13263.3(d)(3). Progress Reports are submitted annually per the Technical Reports Table in the MRP.

b. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall continue to implement a SEMP to identify and address sources of salinity discharged from the Facility. The Discharger submitted a Notice of Intent to comply with the Salt Control Program and selected the Alternative Permitting

Approach. Accordingly, the Discharger shall participate in the CV-SALTS Prioritization and Optimization (P&O) Study. Furthermore, an evaluation of the effectiveness of the SEMP shall be submitted with the ROWD. The evaluation shall include, at minimum, the calendar annual average concentrations of effluent electrical conductivity during the term of the Order. If the average electrical conductivity concentration for any calendar year exceeds a performance-based **trigger of 1,250 µmhos/**cm at Monitoring Locations EFF-001 and LND-003, the Discharger shall evaluate possible sources of salinity contributing to the exceedance of the trigger and update the SEMP to include a plan of action to control salinity.

If the average electrical conductivity concentration for any calendar year exceeds a performance-based **trigger of 2,100 µmhos/**cm at Monitoring Location LND-002, the Discharger shall evaluate possible sources of salinity contributing to the exceedance of the trigger and update the SEMP to include a plan of action to control salinity.

4. Construction, Operation and Maintenance Specifications

a. **Filtration System Operating Specifications.** When producing Title 22 disinfected tertiary recycled water for use under Order WQ 2016-0068-DDW, the Discharger shall meet the Filtration System Operating Specifications in this section. To ensure the filtration system is operating properly to provide adequate disinfection of the wastewater, the turbidity of the filter effluent measured at Monitoring Location FIL-001 shall not exceed:

i. 2 NTU as a daily average;

ii. 5 NTU more than 5 percent of the time within a 24-hour period; and

iii. 10 NTU, at any time.

b. **UV Disinfection System Operating Specifications.** When producing Title 22 disinfected tertiary recycled water for use under Order WQ 2016-0068-DDW, the Discharger shall meet the UV Disinfection System Operating Specifications in this section. The UV disinfection system must be operated in accordance with the Discharger's Title 22 Engineering Report, approved by the State Water Resources Control Board, Division of Drinking Water in a letter dated 25 June 2015, which includes an operations and maintenance program that assures adequate disinfection to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water. The following UV disinfection operating specifications will be evaluated to determine compliance with this requirement:

i. **UV Dose.** The minimum hourly average UV dose in the UV reactor shall be 160 millijoules per square centimeter (mJ/cm^2).

ii. **UV Transmittance.** The minimum hourly average UV transmittance (at 254 nanometers) in the wastewater measured at UVS-001 shall not fall below 55 percent.

iii. The lamp sleeves and cleaning system components must be visually inspected per the manufacturer's operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.

iv. The lamp sleeves must be cleaned periodically as necessary to meet the UV dose requirements.

v. Lamps must be replaced per the manufacturer's operations manual, or sooner, if there are indications the lamps are failing to provide adequate disinfection. Lamp age and lamp replacement records must be maintained.

c. **Pond Operating Requirements.** This section shall apply to the Erskine Pond, Algae Production Ponds, Sludge Stabilization Ponds, and Emergency Detention Basin.

i. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.

ii. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

(a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.

(b) Weeds shall be minimized.

(c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

iii. Freeboard shall never be less than 2 feet (measured vertically to the lowest point of overflow), except if lesser freeboard does not threaten the integrity of the pond, no overflow of the pond occurs, and lesser freeboard is due to direct precipitation or storm water runoff occurring as a result of annual precipitation with greater than a 100-year recurrence interval, or a storm event with an intensity greater than a 25-year, 24-hour storm event.

iv. Erskine Pond (prior to replacement with the Emergency Detention Basin) and subsequently the new Emergency Detention Basin shall have sufficient capacity to accommodate highest anticipated emergency and/or maintenance wastewater flow and design seasonal precipitation and ancillary inflow and infiltration. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

v. Prior to the onset of the wet season of each year, Erskine Pond (prior to replacement with the Emergency Detention Basin) and subsequently the new Emergency Detention Basin storage capacity shall at least equal the volume necessary to comply with section VI.C.4.c.iv, above.

vi. The Discharger shall ensure the Emergency Detention Basin is maintained to meet a hydraulic conductivity standard of $1x10^{-6}$ cm/s or less and to minimize cracking and infiltration.

d. **Water Recycling Requirements.** Not Applicable to this Order. See State Board Order WQ-2016-0068-DDW.

e. **Flood Protection.** All treatment facilities, including ponds, shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

5. Special Provisions for Publicly-Owned Treatment Works (POTWs)

a. **Pretreatment Requirements**

i. The Discharger shall be responsible and liable for the performance of all Control Authority pretreatment requirements contained in 40 C.F.R. Part 403, including any subsequent regulatory revisions to 40 C.F.R. Part 403. Where 40 C.F.R. Part 403 or subsequent revision places mandatory actions upon the Discharger as Control Authority but does not specify a timetable for completion of the actions, the Discharger shall complete the required actions within 6 months from the issuance date of this permit or the effective date of the 40 CFR Part 403 revisions, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies by U.S. EPA or other appropriate parties, as provided in the CWA. U.S. EPA may initiate enforcement action against a nondomestic user for noncompliance with applicable standards and requirements as provided in the CWA.

ii. The Discharger shall enforce the requirements promulgated under sections 307(b), 307(c), 307(d), and 402(b) of the CWA with timely, appropriate and effective enforcement actions. The Discharger shall cause all nondomestic users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new nondomestic user, upon commencement of the discharge.

iii. The Discharger shall perform the pretreatment functions as required in 40 C.F.R. Part 403 including, but not limited to:

(a) Implement the necessary legal authorities as provided in 40 CFR Part 403.8(f)(1);

(b) Enforce the pretreatment requirements under 40 C.F.R. sections 403.5 and 403.6;

(c) Implement the programmatic functions as provided in 40 C.F.R. section 403.8(f)(2); and

(d) Provide the requisite funding and personnel to implement the pretreatment program as provided in 40 C.F.R. section 403.8(f)(3).

iv. **Pretreatment Reporting Requirements.** Pretreatment reporting requirements are included in the Monitoring and Reporting Program, section X.D.5 of Attachment E.

v. **Local Limits Evaluation.** In accordance with 40 C.F.R. section 122.44(j)(2)(ii) the Discharger shall provide a written technical evaluation of the need to revise the local limits under 40 C.F.R. section 403.5(c)(1), by the due date in the Technical Reports Table E-12 of this Order.

b. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further

treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. Part 503.

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner 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, storage, 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.

   Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance. The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations in section V.B. of this Order. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations included in section V.B. of this Order.

ii. The use, disposal, storage, and transportation of biosolids shall comply with existing federal and state laws and regulations, including permitting requirements and technical standards included in 40 C.F.R. Part 503. If the State Water Board and the Central Valley Water Board are given the authority to implement regulations contained in 40 C.F.R. Part 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 C.F.R. Part 503 whether or not they have been incorporated into this Order.

iii. The Discharger shall comply with section IX.A. Biosolids of the Monitoring and Reporting Program, Attachment E.

iv. The Discharger shall implement onsite sludge/biosolids treatment, processing, and storage for the Facility as described in the Fact Sheet (Attachment F, section II.A). This Order may be reopened to address any proposed change in the onsite treatment, processing, or storage of sludge/biosolids.

6. Other Special Provisions

a. **Disinfection Requirements.** Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected consistent with the State Water Board, Division of Drinking Water (DDW) reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent.

b. **CV-SALTS.** The Discharger shall comply with the applicable provisions of the Salt and Nitrate Control Programs adopted in Resolution R5-2018-0034 (as revised per Resolution R5-2020-0057) to address ongoing salt and nitrate accumulation in the Central Valley developed as part of the CV-SALTS initiative.

7. Compliance Schedules

a. **Compliance Schedule for Final Effluent Limitation for Methylmercury at Discharge Point 001.** This Order requires compliance with the final effluent limitations for methylmercury in Section IV.A.1.f of this Order. The Discharger shall comply with the time schedule shown in the Technical Reports Table to ensure compliance with the final effluent limitations. Notification of Full Compliance must be signed by a Legally Responsible Official (LRO).

VII. COMPLIANCE DETERMINATION

A. BOD_5 and TSS Effluent Limitations (sections IV.A.1.a and IV.A.1.c). Compliance with the final effluent limitations for BOD_5 and TSS required in Waste Discharge Requirements section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in Waste Discharge Requirements section IV.A.1.c for percent removal shall be calculated using the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. Methylmercury and Total Mercury Mass Loading Effluent Limitations (section IV.A.1.f and IV.A.2.a). The procedures for calculating mass loadings are as follows:

1. 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.
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.

C. Average Dry Weather Flow Prohibition (section III.E). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow discharge prohibition will be determined annually based on the average daily flow over three consecutive dry weather months (e.g., July, August, and September).

D. Total Coliform Organisms Effluent Limitations (section IV.A.1.e). For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last 7 days. For

example, if a sample is collected on a Wednesday, the result from that sampling event and all results from the previous 6 days (i.e., Tuesday, Monday, Sunday, Saturday, Friday, and Thursday) are used to calculate the 7-day median. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of <2.2 per 100 milliliters, the Discharger will be considered out of compliance.

E. Effluent Limitations. Compliance with effluent limitations shall be determined in accordance with section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:
   a. Sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or
   b. Sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).
3. When determining compliance with an AMEL, AWEL, or MDEL and more than one sample result is available in a month, week, or day, respectively, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or 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, 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.
4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall **not** be deemed out of compliance.

F. Whole Effluent Toxicity Effluent Limitations. The discharge is subject to determination of “Pass” or “Fail” from chronic whole effluent toxicity tests using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1. The null hypothesis (Ho) for the TST statistical approach is:

Mean discharge Instream Waste Concentration (IWC) response ≤ Regulatory Management Decision (RMD) x Mean control response, where the chronic RMD = 0.75.

A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail."

The relative "Percent Effect" at the discharge IWC is defined and reported as:

Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

This is a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC differs from the control, the test result is "Fail"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

1. **Chronic Whole Effluent Toxicity MDEL (section IV.A.1.d.i).** If the result of a routine fathead minnow (*Pimephales promelas*) chronic whole effluent toxicity test, using the TST statistical approach, is a "Fail" at the IWC for the sublethal endpoint measured in the test and the percent effect for the survival endpoint is greater than or equal to 50 percent, the Discharger will be deemed out of compliance with the MDEL.

2 **Chronic Whole Effluent Toxicity MMEL (section IV.A.1.d.ii).** If a routine fathead minnow (*Pimephales promelas*) chronic whole effluent toxicity test and at least one fathead minnow (*Pimephales promelas*) chronic toxicity MMEL compliance test conducted within the same toxicity calendar month result in a "Fail" at the IWC, using the TST statistical approach, the Discharger will be deemed out of compliance with the MMEL.

G. Use of Delta Regional Monitoring Program (RMP) and Other Receiving Water Data to Determine Compliance with Receiving Water Limitations. Delta RMP data and other receiving water monitoring data that is not specifically required to be conducted by the Discharger under this Order 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 RMP and submit that monitoring data. As described in section VII 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.

Acute Aquatic Toxicity Test
A test to determine an adverse effect (usually lethality) on a group of aquatic test organisms during a short-term exposure (e.g., 24, 48, or 96 hours).

Alternative Hypothesis
A statement used to propose a statistically significant relationship in a set of given observations. Under the TST approach, when the Null Hypothesis is rejected, the Alternative Hypothesis is accepted in its place, indicating a relationship between variables and an acceptable level of toxicity.

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:

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.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

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.

Calendar Month

A period of time from of the first of a month to the last day of the month (e.g., from January 1 to January 31, from April 1 to April 30, or from December 1 to December 31).

Calendar Quarter
A period of time defined as three consecutive calendar months (e.g., from January 1 to March 31, from April 1 to June 30, or from October 1 to December 31).

Calendar Year
A period of time defined as twelve consecutive calendar months (i.e., January 1 to December 31).

Chronic Aquatic Toxicity Test
A test to determine an adverse effect (sub-lethal or lethal) on a group of aquatic test organisms during an exposure of duration long enough to assess sub-lethal effects.

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.

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.

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. A measured response of a receptor to a stressor. An endpoint can be measured in a toxicity test or field survey.

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.

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).

Instream Waste Concentration (IWC)
The concentration of effluent in the receiving water after mixing.

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.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Null Hypothesis
A statement used in statistical testing that has been put forward either because it is believed to be true or because it is to be used as a basis for argument, but has not been proved.

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.

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.

Regulatory Management Decision (RMD)
The decision that represents the maximum allowable error rates and thresholds for toxicity and non-toxicity that would result in an acceptable risk to aquatic life.

Response
A measured biological effect (e.g., survival, reproduction, growth) as a result of exposure to a stimulus.

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.

Species Sensitivity Screening
An analysis to determine the single most sensitive species from an array of test species to be used in a single species laboratory test series.

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.

Statewide Toxicity Provisions
The Statewide Toxicity Provisions became effective on 25 April 2022 and include statewide numeric water quality objectives for both acute and chronic toxicity and a program of implementation to control toxicity.

Test of Significant Toxicity (TST)
A statistical approach used to analyze aquatic toxicity test data, as described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

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.).

WET Maximum Daily Effluent Limitation (MDEL)
For the purposes of chronic and acute aquatic toxicity, an MDEL is an effluent limitation based on the outcome of the TST approach and the resulting percent effect at the IWC.

WET Median Monthly Effluent Limit (MMEL)
For the purposes of chronic and acute aquatic toxicity, an MMEL is an effluent limitation based on a maximum of three independent toxicity tests analyzed using the TST approach during a calendar month.

WET Maximum Daily Effluent Target (MDET)
For the purposes of chronic aquatic toxicity, an MDET is a target used to determine whether a Toxicity Reduction Evaluation (TRE) should be conducted. Not meeting the MDET is not a violation of an effluent limitation.

WET Median Monthly Effluent Target (MMET)
For the purposes of chronic aquatic toxicity, an MMET is a target based on a maximum of three independent toxicity tests used to determine whether a TRE should be conducted. Not meeting the MMET is not a violation of an effluent limitation.

WET MMEL Compliance Tests
For the purposes of chronic and acute aquatic toxicity, a maximum of two tests that are used in addition to the routine monitoring test to determine compliance with the chronic and acute aquatic toxicity MMEL.

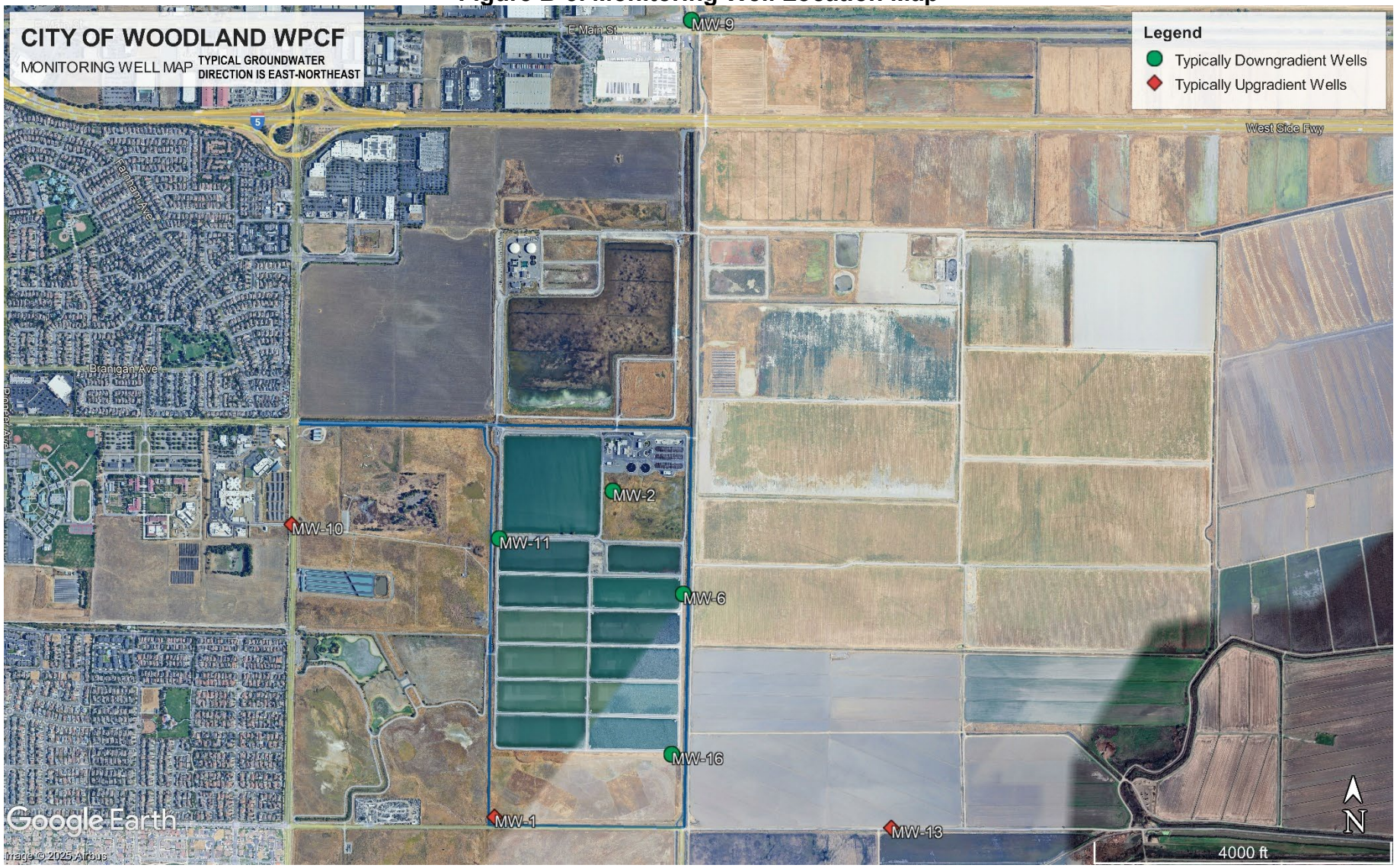
WET MMET Tests
For the purposes of chronic aquatic toxicity, for dischargers not required to comply with numeric chronic toxicity effluent limitations, MMET Tests are a maximum of two tests that are used in addition to the routine monitoring test to determine whether a TRE should be conducted.

ATTACHMENT B – FACILITY MAPS

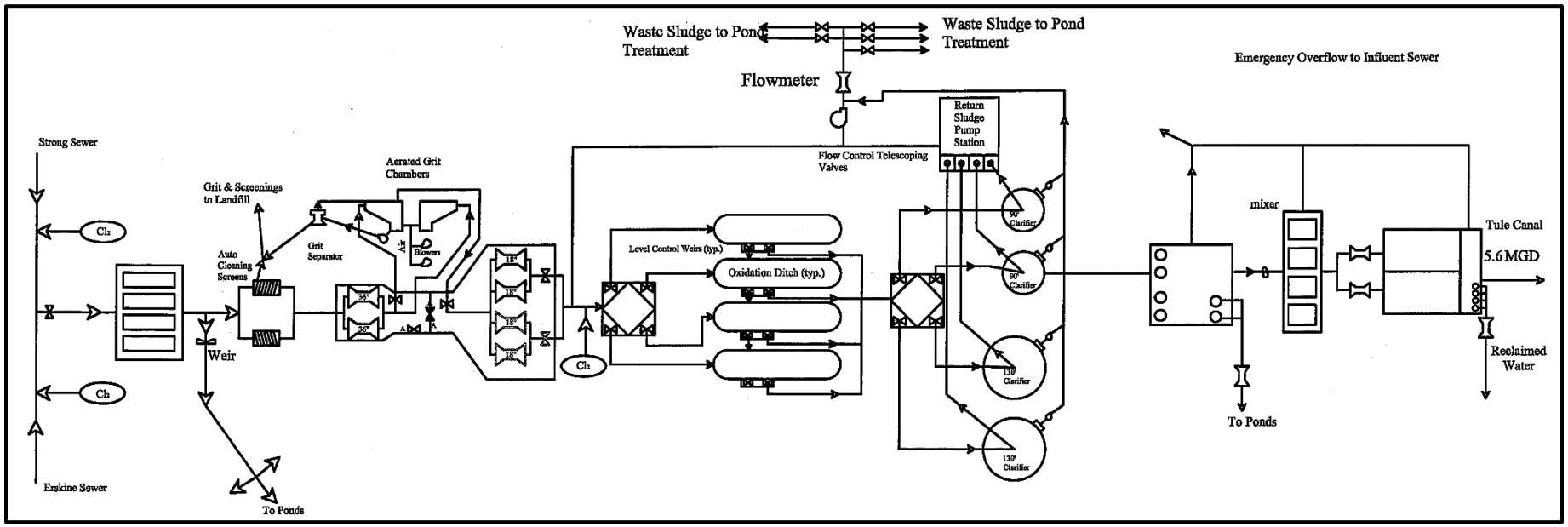
Figure B-1. Location Map

Figure B-2. Pond System Layout

Figure B-3. Monitoring Well Location Map



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/), 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/), 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, through 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.2.b 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 13350, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs). All POTWs 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).).

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Tables

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 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring and reporting requirements that implement federal and California requirements.

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; formerly the Department of Public Health), 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. In the event an accredited laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a non-accredited laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, 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 or electronically via email to the DMR-QA Coordinator:

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.

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	Location where a representative sample of the influent into the Facility can be collected after screening and prior to entering the treatment process.
--	SPL-001	Location where a representative sample of the municipal supply water can be obtained.
--	FIL-001	Monitoring of the filter effluent to be measured immediately downstream of the filters prior to the UV disinfection system
--	UVS-001	Location where a representative sample of wastewater can be collected immediately upstream of the ultraviolet light (UV) disinfection system

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	UVS-002	Location where a representative sample of wastewater can be collected immediately downstream of the ultraviolet light (UV) disinfection system
001	EFF-001	Location where a representative sample of the effluent can be collected after all treatment processes and prior to commingling with other waste streams or being discharged to Tule Canal. Latitude: 38° 40' 51" N Longitude: 121° 38' 38" W
002	LND-002	Location where a representative sample of the secondary treated and screened influent can be collected prior to discharge to the Erskine Pond/Emergency Detention Basin.
002	LND-003	Location where a representative sample of the wastewater can be collected, prior to discharge to the south ponds.
--	INT-001	Location where a representative sample of the screened influent can be collected prior to either the Erskine Pond/Emergency Detention Basin or pond pump station.
--	RSW-001	Approximately 800 feet upstream of Discharge Point 001 in Tule Canal.
--	RSW-002	Approximately 1,800 feet downstream of Discharge Point 001 in Tule Canal
--	RSW-003	In Tule Canal between Monitoring Locations RSW-001 and RSW-002.
--	PND-001	Location where a representative sample of wastewater can be collected from South Pond 1 (Algae Production Pond)
--	PND-002	Location where a representative sample of wastewater can be collected from South Pond 2 (Algae Production Pond)
--	PND-003	Location where a representative sample of wastewater can be collected from South Pond 3 (Algae Production Pond)
--	PND-004	Location where a representative sample of wastewater can be collected from South Pond 4 (Algae Production Pond)
--	PND-005	Location where a representative sample of wastewater can be collected from South Pond 5 (Algae Production Pond)
--	PND-006	Location where a representative sample of wastewater can be collected from South Pond 6 (Algae Production Pond)
--	PND-007	Location where a representative sample of wastewater can be collected from South Pond 7 (Algae Production Pond)
--	PND-008	Location where a representative sample of wastewater can be collected from South Pond 8 (Algae Production Pond)
--	PND-009	Location where a representative sample of wastewater can be collected from South Pond 9 (Algae Production Pond)
--	PND-010	Location where a representative sample of wastewater can be collected from South Pond 10 (Algae Production Pond)

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	PND-011	Location where a representative sample of wastewater can be collected from South Pond 11 (Algae Production Pond)
--	PND-012	Location where a representative sample of wastewater can be collected from South Pond 12 (Algae Production Pond)
--	PND-013	Location where a representative sample of wastewater can be collected from South Pond 13 (Erskine Pond)/Emergency Detention Basin
--	PND-014	Location where a representative sample of wastewater can be collected from the lined Emergency Detention Basin
--	ALG-001	Location where a representative sample of wastewater in Pond 1, Pond 2, and Pond 3 can be collected
--	ALG-002	Location where a representative sample of wastewater in Pond 4, Pond 5, and Pond 6 can be collected
--	MW-01	Groundwater monitoring well (identified as MW-1 in groundwater monitoring reports)
--	MW-02	Groundwater monitoring well (identified as MW-2 in groundwater monitoring reports)
--	MW-06	Groundwater monitoring well (identified as MW-6 in groundwater monitoring reports)
--	MW-09	Groundwater monitoring well (identified as MW-9 in groundwater monitoring reports)
--	MW-10	Groundwater monitoring well (identified as MW-10 in groundwater monitoring reports)
--	MW-11	Groundwater monitoring well (identified as MW-11 in groundwater monitoring reports)
--	MW-12	Groundwater monitoring well (identified as MW-12 in groundwater monitoring reports)
--	MW-13	Groundwater monitoring well (identified as MW-13 in groundwater monitoring reports)
--	MW-16	Groundwater monitoring well (identified as MW-16 in groundwater monitoring reports)
--	BIO-001	Location where a representative sample of biosolids can be obtained from Ponds 9, 10, and/or 11 (Sludge Drying Beds/Sludge Stabilization Ponds).

Table E-1 Note:

1. 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 Facility at INF-001 in accordance with Table E-2 and the testing requirements described in section III.A.2 below:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	Million Gallons per Day (MGD)	Meter	Continuous
Biochemical Oxygen Demand (5-day @ 20°Celsius) (BOD_5)	Milligrams per Liter (mg/L)	24-Hour Composite	1/Week
Total Suspended Solids (TSS)	mg/L	24-Hour Composite	1/Week

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. **24-Hour Composite Samples.** All composite samples shall be collected from a 24-hour flow proportional composite.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor tertiary effluent at EFF-001 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
BOD_5	mg/L	24-hour Composite	1/Week
BOD_5	Percent Removal	Calculate	1/Month
TSS	mg/L	24-hour Composite	1/Week
TSS	Percent Removal	Calculate	1/Month
pH	Standard Units	Grab	1/Week
Temperature	°Fahrenheit (°F)	Grab	1/Week
Ammonia, Total as Nitrogen	mg/L	Grab	1/Week
Nitrate, Total as Nitrogen	mg/L	Grab	1/Month
Selenium, Total	µg/L	Grab	1/Month
Electrical Conductivity @ 25° Celsius (Electrical Conductivity)	µmhos/cm	Grab	1/Month
Total Dissolved Solids	mg/L	Grab	1/Month

Parameter	Units	Sample Type	Minimum Sampling Frequency
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter
Methylmercury	µg/L	Grab	1/Quarter
Mercury, Total	µg/L	Grab	1/Quarter
Mercury, Total	grams/year	Calculate	1/Year
Chlorpyrifos	µg/L	Grab	1/Year
Diazinon	µg/L	Grab	1/Year

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. **24-hour composite samples** shall be collected from a 24-hour flow proportional composite.

   c. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

   d. **Handheld Field Meter.** A handheld field meter may be used for **temperature, dissolved oxygen, electrical conductivity** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

   e. **Temperature** and **pH** shall be recorded at the time of **ammonia** sample collection.

   f. **Ammonia.** Ammonia samples shall be collected concurrently with whole effluent toxicity monitoring.

   g. **Total 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 U.S. EPA Water Quality Criteria Levels, for collection of equipment blanks (section 9.4.4.2). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a **maximum reporting limit of 0.05 ng/L for methylmercury and 0.5 ng/L for total mercury**.

   h. **Priority Pollutants.** For all priority pollutant constituents listed in Table E-3 (selenium) the RL shall be consistent with sections 2.4.2 and 2.4.3 of the Policy for Implementation of Toxics Standards for Inland Surface Waters,

Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) and the SSM Rule specified under 40 C.F.R. sections 122.21(e)(3) and 122.44(i)(1)(iv).

i. **Chlorpyrifos and Diazinon** shall be sampled using U.S. EPA Method 625M, Method 8141, or equivalent GC/MS method with a lower Reporting Limit than the Basin Plan Water Quality Objectives of 0.015 µg/L and 0.1 µg/L for chlorpyrifos and diazinon, respectively.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Calendar Month, Quarter and Year

1. **Toxicity Calendar Month.** The toxicity calendar month is defined as the period of time beginning on the day of the initiation of the routine toxicity monitoring to the day before the corresponding day of the next month if the corresponding day exists, or if not to the last day of the next month.
2. **Toxicity Calendar Quarter.** The toxicity calendar quarters **begin on 1 January, 1 April, 1 July, and 1 October** (i.e., from 1 January to 31 March, from 1 April to 30 June, from 1 July to 30 September, and 1 October to 31 December).
3. **Toxicity Calendar Year.** The toxicity calendar year **begins on 1 January** (1 January to 31 December), in years in which there are at least 15 days of discharge in at least one calendar quarter.

B. Chronic Toxicity Testing

The Discharger shall meet the following chronic toxicity testing requirements:

1. **Instream Waste Concentration (IWC) for Chronic Toxicity.** The chronic toxicity IWC is 100 percent effluent.
2. **Routine Monitoring Frequency.** The Discharger shall perform routine chronic toxicity testing **once per toxicity calendar quarter** in quarters in which there are at least 15 days of discharge, concurrent with effluent ammonia sampling. While the Discharger is conducting a Toxicity Reduction Evaluation the routine monitoring may be reduced to two (2) tests per calendar year. When there is no effluent available to complete a routine monitoring test or MMEL test, the test shall not be required, and subsequent routine monitoring continues at the frequency specified in the permit.
3. **Sample Types.** Effluent samples shall be 24-hour composite samples when discharging to Discharge Point 001 and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001.
4. **Chronic Toxicity MMEL Testing.** If a routine chronic toxicity monitoring test results in a “fail” at the IWC, then a maximum of two chronic toxicity MMEL tests shall be completed. The chronic toxicity MMEL tests shall be initiated within the same calendar month that the routine chronic toxicity monitoring test was initiated that resulted in the “fail” at the IWC. If the first chronic toxicity MMEL test results in a “fail” at the IWC, then the second chronic toxicity MMEL test is unnecessary and is waived.
5. **Additional Routine Monitoring Tests for TRE Determination.** A TRE is required when there is any combination of two or more MDEL or MMEL violations

within a single toxicity calendar month or within two successive toxicity calendar months. In order to determine if a TRE is necessary when there is only one MDEL or MMEL violation in a single toxicity month, an additional routine monitoring test is required in the successive toxicity month. This additional routine monitoring test is not required if the Discharger is already conducting a TRE. This additional routine monitoring test could result in a violation of the MDEL and/or the need to conduct additional MMEL compliance tests per section V.B.4 above.

6. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
7. **Test Species.** The testing shall be conducted using the most sensitive species, which is **fathead minnow (*Pimephales promelas*)**. The Discharger shall conduct chronic toxicity tests with **fathead minnow (*Pimephales promelas*)**, unless otherwise specified in writing by the Executive Officer. (see Section V.F.2 for more information on the determination of the most sensitive species).
8. **Test Methods.** Discharger shall conduct the chronic toxicity tests on effluent samples at the instream waste concentration for the discharge in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA/821/R02/013, 2002; Table IA, 40 C.F.R. part 136).
9. **Dilution and Control Water.** Dilution water and control water shall be prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.
10. **Test Failure.** If the effluent chronic toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method in EPA/821-R-02-013, the Discharger must conduct a Replacement Test as soon as possible, as specified in subsection B.10, below.
11. **Replacement Test.** When a required toxicity test for routine monitoring or MMEL compliance tests is not completed, a new toxicity test to replace the toxicity test that was not completed shall be initiated as soon as possible. The new toxicity test shall replace the routine monitoring or MMEL compliance tests, as applicable, for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated, even if the new toxicity test is initiated in a subsequent month. The new toxicity test for routine monitoring or MMEL compliance tests, as applicable, and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall be used to determine compliance with the effluent limitations for the toxicity calendar month in which the toxicity test that was not completed was required to be initiated. The new toxicity test and any MMEL compliance tests required to be conducted due to the results of the new toxicity test shall not be used to substitute for any other required toxicity tests. Scenarios could occur in which a test is not initiated by a Discharger within the required time period. When this is caused by circumstances outside of the Discharger's control, that were not preventable with the reasonable exercise of care, the Central Valley Water Board will not require

the test to be initiated within the originally required time period, provided that the Discharger promptly initiates, and ultimately completes, a replacement test. In such cases, the Central Valley Water Board must determine that the circumstances were not preventable with the reasonable exercise of care.

C. Quality Assurance and Additional Requirements.

The Discharger shall notify the Central Valley Water Board of test results exceeding the acute and/or chronic toxicity effluent limitation (final and/or interim) within 2 business days after receipt of final laboratory report.

1. The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.
2. The null hypothesis (Ho) for the TST statistical approach is:

   Mean discharge IWC response ≤ RMD x Mean control response, where the chronic RMD = 0.75.

   A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail."
3. The relative "Percent Effect" at the discharge IWC is defined and reported as:

   Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

   This is a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC differs from the control, the test result is "Fail"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

D. WET Testing Notification Requirements.

The Discharger shall notify the Central Valley Water Board of test results exceeding the chronic toxicity effluent limitation (final and/or interim) within 2 business days after receipt of final laboratory report.

E. WET Testing Reporting Requirements.

The Discharger shall submit the full laboratory report for all toxicity testing as an attachment to CIWQS for the reporting period (e.g., quarterly) and provide the data (i.e., Pass/Fail) in the PET tool for uploading into CIWQS. The laboratory report shall include:

1. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the IWC for the discharge, the dates of sample collection and initiation of each toxicity test, all results for effluent parameters monitored concurrently by the lab conducting the toxicity test(s).

2. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.
3. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

F. Most Sensitive Species Screening.

The Discharger conducted its initial species sensitivity screening resulting in **fathead minnow (*Pimephales promelas*) as the most sensitive species.** The species sensitivity screening shall be conducted at least once every fifteen years, or if the effluent samples used in the last Species Sensitivity Screening is no longer representative of the effluent as follows and the results of the most recent species sensitivity screening shall be submitted with the Report of Waste Discharge. The Discharger performed a re-screening of the most sensitive chronic toxicity test species test results were submitted with the 31 May 2024 ROWD. Four consecutive quarters of chronic toxicity testing with all three freshwater test species was conducted during the second quarter of 2023 through the first quarter of 2024. The species exhibiting the highest percent effect during the screening tests was *Pimephales promelas* in the 19 June 2023 test (13% effect to the growth end-point).

1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green alga (*Pseudokirchneriella subcapitata, also known as Selenastrum capricornutum*), performed at an IWC of no less than 100 percent effluent.
2. **Determination of Most Sensitive Species.** If a single test in the species sensitivity screening testing results in a “Fail” using the TST statistical approach, then the species used in that test shall be established as the most sensitive species. If there is more than a single test that results in a “Fail”, then of the species with results of a “Fail”, the species that exhibits the highest percent effect shall be established as the most sensitive species. If none of the tests in the species sensitivity screening results in a “Fail”, but at least one of the species exhibits a percent effect greater than 10 percent, then the single species that exhibits the highest percent effect shall be established as the most sensitive species. In all other circumstances, the Executive Officer shall have discretion to determine which single species is the most sensitive considering the test results from the species sensitivity screening. For subsequent species sensitivity screening, if the first two subsequent screening events result in no change in the most sensitive species, the subsequent species sensitive screening testing may cease and the most sensitive species will remain unchanged.

   The Executive Officer shall have discretion to allow the temporary use of the next appropriate species as the most sensitive species when the Discharger submits documentation and the Executive Officer determines that the Discharger has encountered unresolvable test interference or cannot secure a reliable supply of test organisms. The “next appropriate species” is a species in Table 1 of the Statewide Toxicity Provisions in the same test method classification (e.g., chronic aquatic toxicity test methods, acute aquatic toxicity test method), in the same

salinity classification (e.g., freshwater or marine), and in the same taxon as the most sensitive species. When there are no other species in Table 1 in the same taxon as the most sensitive species (e.g., freshwater chronic toxicity tests), the "next appropriate species" is the species exhibiting the highest percent effect at the IWC tested in the species sensitivity screening other than the most sensitive species.

G. Toxicity Reduction Evaluations (TRE)

1. **TRE Implementation.** The Discharger is required to conduct a TRE when there is any combination of two or more MDEL or MMEL exceedances within a single toxicity calendar month or within two successive toxicity calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test or MMEL compliance test.
   a. **Preparation and Implementation of Detailed TRE Action Plan.** The Discharger shall conduct TREs in accordance with an updated TRE Work Plan. Within 30 days of receiving the final laboratory test result that triggered the TRE, the Discharger shall submit to the Executive Officer a TRE Action Plan, prepared per the Discharger's updated TRE Work Plan. The TRE Action Plan shall include the following information, and comply with additional conditions set by the Executive Officer:
      i. Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;
      ii. Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
      iii. A schedule for these actions, progress reports, and the final report.
   b. The Central Valley Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

VI. LAND DISCHARGE MONITORING REQUIREMENTS

A. Land Discharge Monitoring Location LND-002, LND-003, and INT-001

1. The Discharger shall monitor discharges of wastewater at LND-002, LND-003, and INT-001 in accordance with Table E-4 and the testing requirements described in section VI.A.2 below:

Table E-4. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous while discharging to ponds
Electrical Conductivity	µmhos/cm	Grab	Upon startup and 1/Month while discharging to ponds

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. **General.** For Monitoring Location INT-001, the only parameter monitored at this location shall be flow; Monitoring Locations LND-002, and LND-003 shall be monitored for all parameters in Table E-4 at the minimum sampling frequency specified. The Discharger can cease monitoring in accordance with Table E-4 at Monitoring Locations LND-002 and INT-001 once the construction of the lined Emergency Detention Basin is complete.
   b. **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.
   c. **Handheld Field Meter.** A handheld field meter may be used for **electrical conductivity**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
   d. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.
   e. **CIWQS Data Entry.** The Discharger shall provide the data in the PET tool for uploading into CIWQS.

B. Pond Monitoring Locations PND-001 through PND-014

1. The Discharger shall monitor all nine Algae Production Ponds at Monitoring Locations PND-001 through PND-008, and PND-012), the Sludge Stabilization Ponds at Monitoring Locations PND-009 through PND-011, the Erskine Pond at Monitoring Location PND-013, and the lined Emergency Detention Basin at Monitoring Location PND-014 once constructed, when 1 foot or more of any water (e.g. wastewater, groundwater, rainwater, etc.) is present in the ponds in accordance with Table E-5 and the testing requirements described in section VI.B.3 below:

Table E-5. Pond Conditions

Parameter	Units	Sample Type	Minimum Sampling Frequency
Pond Volume	Million Gallons	Estimate	1/Month
Freeboard	Feet	Measure	1/Month
Observations	--	Observation	1/Month
Solids Depth	Feet	Measure	1/Year

2. The Discharger shall take representative samples of Pond 1, Pond 2, and Pond 3 at Monitoring Location ALG-001, representative samples of Pond 4, Pond 5, and Pond 6 at Monitoring Location ALG-002, and samples at Pond 7 through Pond

13 at Monitoring Locations PND-007 through PND-013, when 1 foot or more of any water (e.g. wastewater, groundwater, rainwater, etc.) is present in the ponds in accordance with Table E-6 and the testing requirements described in section VI.B.3 below:

Table E-6. Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
BOD_5	mg/L	Grab	1/Month
Dissolved Oxygen	mg/L	Grab	1/Month
Electrical Conductivity	µmhos/cm	Grab	1/Month
pH	standard units	Grab	1/Month
Total Kjeldahl Nitrogen	mg/L	Grab	1/Month
Nitrate, Total as Nitrogen	mg/L	Grab	1/Month
Standard Minerals	mg/L	Grab	1/Quarter

3. **Tables E-5 and E-6 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-6:
   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. **Dissolved Oxygen.** Samples shall be collected at a depth of one foot from each pond in use, between 7:00 a.m. and 12:00 p.m. (when dissolved oxygen concentrations are typically lowest). If there is insufficient pond depth to accurately measure the dissolved oxygen concentration, the Discharger shall include in its eSMR the pond depth and an explanation why dissolved oxygen monitoring was not performed.
   c. **Freeboard.** Freeboard, as defined in Provision VI.C.4.b.v, shall be monitored to the nearest tenth of a foot.
   d. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen, electrical conductivity,** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
   e. **Standard minerals** shall include the following: boron, calcium, iron (total and dissolved), magnesium, potassium, sodium, chloride, manganese (total and dissolved), phosphorus, total alkalinity (including alkalinity series), sulfate, and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).
   f. **Standard minerals** shall be sampled quarterly for the first two years after the effective date of this Order but can be reduced to an annual monitoring frequency after the two-year period.

g. **Observations.** Pond-condition observations shall be kept in a logbook at the Facility. Attention shall be given to presence or absence of odors, dead algae, vegetation, weeds, debris, erosion, liner condition, and erosion or other structural failures and levee conditions. Notes regarding these listed pond conditions shall be summarized in the self-monitoring report.

h. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

i. **Solids Depth.** Shall only be required for the Algae Production Ponds at Monitoring Locations PND-001 through PND-08 and PND-012.

j. **CIWQS Data Entry.** The Discharger shall provide the data in the PET tool for uploading into CIWQS , except for observation data (water present, discharge to pond, levee condition, odors, and visual observations).

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Delta Regional Monitoring Program (RMP)

1. The Discharger is required to participate in the Delta RMP. Delta RMP 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 RMP monitoring stations are established generally as “integrator sites” to evaluate the combined impacts on water quality of multiple discharges into the Delta; Delta RMP monitoring stations would not normally be able to identify the source of any specific constituent but would be used to identify water quality issues needing further evaluation. Delta RMP monitoring data, along with the individual Discharger data, may be used to help establish background receiving water quality for reasonable potential analyses (RPAs) in an NPDES permit after evaluation of the applicability of the data for that purpose. Delta RMP 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 the exceedance of a water quality objective.

B. Surface Water Monitoring Location RSW-003

1. A weekly log shall be kept of the receiving water conditions at RSW-003, when discharging to Tule Canal. 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.

C. Groundwater Monitoring

1. **Monitoring Wells: MW-01, MW-02, MW-06, MW-09, MW-10, MW-11, MW-12, MW-13, and MW-16.** The Discharger shall monitor the groundwater at monitoring wells MW-01, MW-02, MW-06, MW-09, MW-10, MW-11, MW-12, MW-13, and MW-16 in accordance with Table E-7 and the testing requirements described in section VIII.C.2 below:

Table E-7. Groundwater Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Depth to Groundwater	± 0.01 Feet	Measurement	1/Quarter
Groundwater Elevation	± 0.01 Feet	Calculated	1/Quarter
Gradient	feet/feet	Calculated	1/Quarter
Gradient Direction	Degrees	Calculated	1/Quarter
pH	Standard Units	Grab	1/Quarter
Dissolved Oxygen	mg/L	Grab	1/Quarter
Electrical Conductivity	µmhos/cm	Grab	1/Quarter
Total Coliform Organisms	mg/L	Grab	1/Quarter
Total Dissolved Solids	mg/L	Grab	1/Quarter
Total Kjeldahl Nitrogen	mg/L	Grab	1/Quarter
Nitrate, Total as Nitrogen	mg/L	Grab	1/Quarter
Total Organic Carbon	mg/L	Grab	1/Quarter
Dissolved Arsenic	µg/L	Grab	1/Quarter
Standard Minerals	mg/L	Grab	1/Quarter

2. **Table E-7 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-7:

   a. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

   b. **Prior to construction and/or beginning a sampling program** of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Central Valley Water Board for approval. Once installed, all new wells shall be added to the monitoring network and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved U.S. EPA methods.

   c. **Prior to sampling**, the groundwater elevations shall be measured, and the wells shall be purged of at least three well volumes or by using the low-flow method until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet.

d. **Groundwater gradient/gradient direction.** The groundwater gradient and gradient direction shall be determined from all monitoring wells combined. The groundwater gradient and gradient direction shall be reported with the quarterly self-monitoring report.

e. **Groundwater elevation** shall be determined based on depth-to-water measurements from a surveyed measuring point elevation on the well. The groundwater elevation shall be used to calculate the direction and gradient of groundwater flow, which must be reported.

f. **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.

g. **Handheld Field Meter.** A handheld field meter may be used for **dissolved oxygen, electrical conductivity,** and **pH**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

h. **Standard minerals** shall include the following: boron, calcium, iron (total and dissolved), magnesium, potassium, sodium, chloride, manganese (total and dissolved), phosphorus, total alkalinity (including alkalinity series), sulfate, and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

i. **Duration Between Routine Monitoring.** For quarterly (1/Quarter) routine monitoring, samples shall not be conducted within 45 days from the previous sampling event for the same parameter at the same monitoring location.

j. **CIWQS Data Entry.** The Discharger shall provide the data in the PET tool for uploading into CIWQS, except for gradient and gradient direction.

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. In conformance with the Discharger’s Pretreatment Program, when in use for biosolids treatment and/or storage a composite sample of sludge shall be collected annually at Monitoring Location BIO-001 (a combination of samples from any and all Ponds 9, 10, and 11, whichever are in use) in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for priority pollutants (excluding asbestos).

b. Biosolids monitoring shall be conducted using the methods in Test Methods for Evaluating Solid Waste, Physical/Chemical methods (EPA publication SW-846), as required in 40 C.F.R. section 503.8(b)(4). All results must be reported on a 100% dry weight basis. Records of all analyses must state on each page of the laboratory report whether the results are expressed in “100% dry weight” or “as is.”

B. Municipal Water Supply

1. **Monitoring Location SPL-001**. The Discharger shall monitor the municipal water supply at SPL-001 in accordance with Table E-8 and the testing requirements described in section IX.B.2. below:

Table E-8. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Electrical Conductivity	µmhos/cm	Grab	1/Year

2. **Table E-8 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-8:
   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. **Handheld Field Meter.** A handheld field meter may be used for **electrical conductivity**, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.
   c. **Grab Sample.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.
   d. If the water supply is from more than one source, the electrical conductivity shall be reported as a weighted average and include copies of supporting calculations.

C. Filtration System and Ultraviolet Light (UV) Disinfection System

1. **Monitoring Locations UVS-001, UVS-002, and FIL-001.** The Discharger shall monitor the filtration system at Monitoring Location FIL-001 and the UV disinfection system at Monitoring Locations UVS-001 and UVS-002 in accordance with Table E-9 and the testing requirements described in section IX.B.2 below:

Table E-9. Filtration System and UV Disinfection System Monitoring Requirements

Parameter	Units	Sample Type	Monitoring Location	Minimum Sampling Frequency
Flow	MGD	Meter	UVS-001	Continuous
Turbidity	NTU	Meter	FIL-001	Continuous
UV Banks in Operation	Number	Observation	N/A	Continuous
UV Transmittance	Percent (%)	Meter	UVS-001	Continuous
UV Dose	mJ/cm2	Calculated	N/A	Continuous
Total Coliform Organisms	MPN/100mL	Grab	UVS-002	1/Day

2. **Table E-9 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-9:

   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. **Continuous analyzers.** The Discharger shall report documented routine meter maintenance activities including date, time of day, and duration, in which the analyzer(s) is not in operation for more than 30 minutes. If analyzer(s) fail to provide continuous monitoring for more than two hours and influent and/or effluent from the disinfection process is not diverted for retreatment, the Discharger shall obtain and report hourly manual and/or grab sample results.

   c. **Turbidity.** Report daily average and maximum turbidity.

   d. **UV Dose.** Report daily minimum hourly average UV dose and daily average UV dose. The minimum hourly average dose shall consist of lowest hourly average dose provided in any channel that had at least one bank of lamps operating during the hour interval. For channels that did not operate for the entire hour interval, the dose will be averaged based on the actual operation time.

   e. **CIWQS Data Entry.** The Discharger shall provide the data in the PET tool for uploading into CIWQS.

   f. **Total Coliform Organisms.** Sampling frequency shall be once per day which may be reduced to three (3) times per week when the effluent is not being used for recycled water.

D. Pyrethroid Pesticides Monitoring – Not Applicable

1. The Discharger performed pyrethroid pesticide monitoring between March 2024 and October 2024 and Central Valley Water Board staff determined the sampling satisfied the pyrethroid pesticide monitoring requirements for this permit term.

E. Effluent and Receiving Water Characterization

1. Monitoring Frequency

   a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) **quarterly beginning 1 April 2027 through 31 March 2028**. The Discharger shall conduct effluent characterization monitoring in accordance with Table E-10 and the testing requirements described in section IX.E.4 below

   b. **Receiving Water Sampling.** While the Discharger is participating in the Delta RMP, as described in Attachment E, section VIII, this section only requires effluent characterization monitoring. However, the Report of Waste Discharge for the next permit renewal shall include, at minimum,

i. One sample collected at the upstream receiving water Monitoring Location, RSW-001, **between 1 April 2027 through 31 March 2028**. The Discharger shall conduct upstream receiving water characterization monitoring in accordance with Table E-10 and the testing requirements described in section IX.E.4.

ii. Quarterly samples for pH, temperature, and dissolved organic carbon shall be collected from the upstream and downstream receiving water Monitoring Locations, RSW-001 and RSW-002 respectively, **between 1 April 2027 through 31 March 2028**.

2. **Analytical Methods.** 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 (RLs) 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. **Results of the monitoring shall be submitted to the Central Valley Water Board with the quarterly self-monitoring reports.** Each individual monitoring event shall provide representative sample results for the effluent and upstream receiving water.

3. **Analytical Methods Report Certification.** Prior to beginning the Effluent and Receiving Water Characterization monitoring, the Discharger shall provide a certification acknowledging the scheduled start date of the Effluent and Receiving Water 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.

Table E-10. Effluent and Receiving Water Characterization Monitoring

VOLATILE ORGANICS

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
25	2-Chloroethyl vinyl Ether	110-75-8	µg/L	Grab
17	Acrolein	107-02-8	µg/L	Grab
18	Acrylonitrile	107-13-1	µg/L	Grab
19	Benzene	71-43-2	µg/L	Grab
20	Bromoform	75-25-2	µg/L	Grab
21	Carbon Tetrachloride	56-23-5	µg/L	Grab
22	Chlorobenzene	108-90-7	µg/L	Grab
24	Chloroethane	75-00-3	µg/L	Grab
26	Chloroform	67-66-3	µg/L	Grab
35	Methyl Chloride	74-87-3	µg/L	Grab
23	Dibromochloromethane	124-48-1	µg/L	Grab
27	Dichlorobromomethane	75-27-4	µg/L	Grab

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
36	Methylene Chloride	75-09-2	µg/L	Grab
33	Ethylbenzene	100-41-4	µg/L	Grab
89	Hexachlorobutadiene	87-68-3	µg/L	Grab
34	Methyl Bromide (Bromomethane)	74-83-9	µg/L	Grab
94	Naphthalene	91-20-3	µg/L	Grab
38	Tetrachloroethylene (PCE)	127-18-4	µg/L	Grab
39	Toluene	108-88-3	µg/L	Grab
40	trans-1,2-Dichloroethylene	156-60-5	µg/L	Grab
43	Trichloroethylene (TCE)	79-01-6	µg/L	Grab
44	Vinyl Chloride	75-01-4	µg/L	Grab
21	Methyl-tert-butyl ether (MTBE)	1634-04-4	µg/L	Grab
41	1,1,1-Trichloroethane	71-55-6	µg/L	Grab
42	1,1,2-Trichloroethane	79-00-5	µg/L	Grab
28	1,1-Dichloroethane	75-34-3	µg/L	Grab
30	1,1-Dichloroethylene (DCE)	75-35-4	µg/L	Grab
31	1,2-Dichloropropane	78-87-5	µg/L	Grab
32	1,3-Dichloropropylene	542-75-6	µg/L	Grab
37	1,1,2,2-Tetrachloroethane	79-34-5	µg/L	Grab
101	1,2,4-Trichlorobenzene	120-82-1	µg/L	Grab
29	1,2-Dichloroethane	107-06-2	µg/L	Grab
75	1,2-Dichlorobenzene	95-50-1	µg/L	Grab
76	1,3-Dichlorobenzene	541-73-1	µg/L	Grab
77	1,4-Dichlorobenzene	106-46-7	µg/L	Grab

SEMI-VOLATILE ORGANICS

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
60	Benzo(a)Anthracene	56-55-3	µg/L	Grab
85	1,2-Diphenylhydrazine	122-66-7	µg/L	Grab
45	2-Chlorophenol	95-57-8	µg/L	Grab
46	2,4-Dichlorophenol	120-83-2	µg/L	Grab
47	2,4-Dimethylphenol	105-67-9	µg/L	Grab
49	2,4-Dinitrophenol	51-28-5	µg/L	Grab
82	2,4-Dinitrotoluene	121-14-2	µg/L	Grab
55	2,4,6-Trichlorophenol	88-06-2	µg/L	Grab
83	2,6-Dinitrotoluene	606-20-2	µg/L	Grab
50	2-Nitrophenol	88-75-5	µg/L	Grab
71	2-Chloronaphthalene	91-58-7	µg/L	Grab
78	3,3-Dichlorobenzidine	91-94-1	µg/L	Grab
62	Benzo(b)Fluoranthene	205-99-2	µg/L	Grab
52	4-Chloro-3-methylphenol	59-50-7	µg/L	Grab
48	2-Methyl-4,6-Dinitrophenol	534-52-1	µg/L	Grab
51	4-Nitrophenol	100-02-7	µg/L	Grab

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
69	4-Bromophenyl Phenyl Ether	101-55-3	µg/L	Grab
72	4-Chlorophenyl Phenyl Ether	7005-72-3	µg/L	Grab
56	Acenaphthene	83-32-9	µg/L	Grab
57	Acenaphthylene	208-96-8	µg/L	Grab
58	Anthracene	120-12-7	µg/L	Grab
59	Benzidine	92-87-5	µg/L	Grab
61	Benzo(a)Pyrene	50-32-8	µg/L	Grab
63	Benzo(ghi)Perylene	191-24-2	µg/L	Grab
64	Benzo(k)Fluoranthene	207-08-9	µg/L	Grab
65	Bis (2-Chloroethoxy) Methane	111-91-1	µg/L	Grab
66	Bis (2-Chloroethyl) Ether	111-44-4	µg/L	Grab
67	Bis (2-Chloroisopropyl) Ether	108-60-1	µg/L	Grab
68	Bis(2-Ethylhexyl) Phthalate	117-81-7	µg/L	Grab
70	Butylbenzyl Phthalate	85-68-7	µg/L	Grab
73	Chrysene	218-01-9	µg/L	Grab
81	Di-n-butyl Phthalate	84-74-2	µg/L	Grab
84	Di-n-Octyl Phthalate	117-84-0	µg/L	Grab
74	Dibenzo(a,h)anthracene	53-70-3	µg/L	Grab
79	Diethyl Phthalate	84-66-2	µg/L	Grab
80	Dimethyl Phthalate	131-11-3	µg/L	Grab
86	Fluoranthene	206-44-0	µg/L	Grab
87	Fluorene	86-73-7	µg/L	Grab
88	Hexachlorobenzene	118-74-1	µg/L	Grab
90	Hexachlorocyclopentadiene	77-47-4	µg/L	Grab
91	Hexachloroethane	67-72-1	µg/L	Grab
92	Indeno(1,2,3-cd) Pyrene	193-39-5	µg/L	Grab
93	Isophorone	78-59-1	µg/L	Grab
98	N-Nitrosodiphenylamine	86-30-6	µg/L	Grab
96	N-Nitrosodimethylamine	62-75-9	µg/L	Grab
97	N-Nitrosodi-n-Propylamine	621-64-7	µg/L	Grab
95	Nitrobenzene	98-95-3	µg/L	Grab
53	Pentachlorophenol (PCP)	87-86-5	µg/L	Grab
99	Phenanthrene	85-01-8	µg/L	Grab
54	Phenol	108-95-2	µg/L	Grab
100	Pyrene	129-00-0	µg/L	Grab

INORGANICS

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
NL	Aluminum	7429-90-5	µg/L	24-hour Composite
1	Antimony, Total	7440-36-0	µg/L	24-hour Composite
2	Arsenic, Total	7440-38-2	µg/L	24-hour Composite
15	Asbestos	1332-21-4	µg/L	24-hour Composite

CTR Number	Inorganic Parameters	CAS Number	Units	Effluent Sample Type
3	Beryllium, Total	7440-41-7	µg/L	24-hour Composite
4	Cadmium, Total	7440-43-9	µg/L	24-hour Composite
5a	Chromium, Total	7440-47-3	µg/L	24-hour Composite
6	Copper, Total	7440-50-8	µg/L	24-hour Composite
14	Iron, Total	7439-89-6	µg/L	24-hour Composite
7	Lead, Total	7439-92-1	µg/L	24-hour Composite
8	Mercury, Total	7439-97-6	µg/L	Grab
NL	Mercury, Methyl	22967-92-6	µg/L	Grab
NL	Manganese, Total	7439-96-5	µg/L	24-hour Composite
9	Nickel, Total	7440-02-0	µg/L	24-hour Composite
10	Selenium, Total	7782-49-2	µg/L	24-hour Composite
11	Silver, Total	7440-22-4	µg/L	24-hour Composite
12	Thallium, Total	7440-28-0	µg/L	24-hour Composite
13	Zinc, Total	7440-66-6	µg/L	24-hour Composite

NON-METALS/MINERALS

CTR Number	Non-Metal/Mineral Parameters	CAS Number	Units	Effluent Sample Type
NL	Boron	7440-42-8	µg/L	24-hour Composite
NL	Chloride	16887-00-6	mg/L	24-hour Composite
14	Cyanide, Total (as CN)	57-12-5	µg/L	Grab
NL	Sulfate	14808-79-8	mg/L	24-hour Composite
NL	Sulfide (as S)	5651-88-7	mg/L	Grab

PESTICIDES/PCBs/DIOXINS

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
110	4,4-DDD	72-54-8	µg/L	24-hour Composite
109	4,4-DDE	72-55-9	µg/L	24-hour Composite
108	4,4-DDT	50-29-3	µg/L	24-hour Composite
112	alpha-Endosulfan	959-98-8	µg/L	24-hour Composite
103	alpha-BHC (Benzene hexachloride)	319-84-6	µg/L	24-hour Composite
102	Aldrin	309-00-2	µg/L	24-hour Composite
113	beta-Endosulfan	33213-65-9	µg/L	24-hour Composite
104	beta-BHC (Benzene hexachloride)	319-85-7	µg/L	24-hour Composite
107	Chlordane	57-74-9	µg/L	24-hour Composite
106	delta-BHC (Benzene hexachloride)	319-86-8	µg/L	24-hour Composite
111	Dieldrin	60-57-1	µg/L	24-hour Composite
114	Endosulfan Sulfate	1031-07-8	µg/L	24-hour Composite
115	Endrin	72-20-8	µg/L	24-hour Composite
116	Endrin Aldehyde	7421-93-4	µg/L	24-hour Composite
117	Heptachlor	76-44-8	µg/L	24-hour Composite
118	Heptachlor Epoxide	1024-57-3	µg/L	24-hour Composite

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
105	gamma-BHC (Benzene hexachloride or Lindane)	58-89-9	µg/L	24-hour Composite
119	Polychlorinated Biphenyl (PCB) 1016	12674-11-2	µg/L	24-hour Composite
120	PCB 1221	11104-28-2	µg/L	24-hour Composite
121	PCB 1232	11141-16-5	µg/L	24-hour Composite
122	PCB 1242	53469-21-9	µg/L	24-hour Composite
123	PCB 1248	12672-29-6	µg/L	24-hour Composite
124	PCB 1254	11097-69-1	µg/L	24-hour Composite
125	PCB 1260	11096-82-5	µg/L	24-hour Composite
126	Toxaphene	8001-35-2	µg/L	24-hour Composite
16	2,3,7,8-TCDD (Dioxin)	1746-01-6	mg/L	24-hour Composite

CONVENTIONAL PARAMETERS

CTR Number	Conventional Parameters	CAS Number	Units	Effluent Sample Type
NL	pH	--	SU	Grab
NL	Temperature	--	ºF	Grab

NON-CONVENTIONAL PARAMETERS

CTR Number	Nonconventional Parameters	CAS Number	Units	Effluent Sample Type
NL	Foaming Agents (MBAS)	MBAS	mg/L	Grab
NL	Hardness (as CaCO3)	471-34-1	mg/L	24-hour Composite
NL	Specific Conductance (Electrical Conductivity or EC)	EC	µmhos /cm	24-hour Composite
NL	Total Dissolved Solids (TDS)	TDS	mg/L	24-hour Composite
NL	Dissolved Organic Carbon (DOC)	DOC	mg/L	Grab

NUTRIENTS

CTR Number	Nutrient Parameters	CAS Number	Units	Effluent Sample Type
NL	Ammonia, Total as Nitrogen	7664-41-7	mg/L	Grab
NL	Nitrate, Total as Nitrogen	14797-55-8	mg/L	Grab
NL	Nitrite, Total as Nitrogen	14797-65-0	mg/L	Grab
NL	Phosphorus, Total (as P)	7723-14-0	mg/L	24-hour Composite

OTHER CONSTITUENTS OF CONCERN

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	1,2,3-Trichloropropane (TCP)	96-18-4	µg/L	Grab
NL	Trichlorofluoromethane	75-69-4	µg/L	Grab
NL	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	µg/L	Grab
NL	Styrene	100-42-5	µg/L	Grab
NL	Xylenes	1330-20-7	µg/L	Grab
NL	Barium	7440-39-3	µg/L	24-hour Composite

CTR Number	Other Constituents of Concern	CAS Number	Units	Effluent Sample Type
NL	Fluoride	16984-48-8	mg/L	24-hour Composite
NL	Molybdenum	7439-98-7	µg/L	24-hour Composite
NL	Tributyltin	688-73-3	µg/L	24-hour Composite
NL	Alachlor	15972-60-8	µg/L	24-hour Composite
NL	Atrazine	1912-24-9	µg/L	24-hour Composite
NL	Bentazon	25057-89-0	µg/L	24-hour Composite
NL	Carbofuran	1563-66-2	µg/L	24-hour Composite
NL	2,4-D	94-75-7	µg/L	24-hour Composite
NL	Dalapon	75-99-0	µg/L	24-hour Composite
NL	1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	µg/L	24-hour Composite
NL	Di(2-ethylhexyl)adipate	103-23-1	µg/L	24-hour Composite
NL	Dinoseb	88-85-7	µg/L	24-hour Composite
NL	Diquat	85-00-7	µg/L	24-hour Composite
NL	Endothal	145-73-3	µg/L	24-hour Composite
NL	Ethylene Dibromide (EDB)	106-93-4	µg/L	24-hour Composite
NL	Methoxychlor	72-43-5	µg/L	24-hour Composite
NL	Molinate (Ordram)	2212-67-1	µg/L	Grab
NL	Oxamyl	23135-22-0	µg/L	Grab
NL	Picloram	1918-02-1	µg/L	Grab
NL	Simazine (Princep)	122-34-9	µg/L	Grab
NL	Thiobencarb	28249-77-6	µg/L	Grab
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	Grab
NL	Chlorpyrifos	2921-88-2	µg/L	24-hour Composite
NL	Diazinon	333-41-5	µg/L	24-hour Composite

4. **Table E-10 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-10:

   a. **Applicable to All Parameters.** Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

   b. **Grab Samples.** A grab sample is defined as an individual discrete sample collected over a period of time not exceeding 15 minutes. It can be taken manually, using a pump, scoop, vacuum, or other suitable device.

   c. **24-hour Composite Samples.** All 24-hour composite samples shall be collected from a 24-hour flow proportional composite.

   d. **Redundant Sampling.** The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given month, as required in Table E-3, with the exception of hardness which shall be sampled concurrently with the hardness-dependent metals (cadmium, chromium III, lead, nickel, silver, and zinc).

e. **Concurrent Sampling.** Effluent and receiving water sampling shall be performed at approximately the same time, on the same date.

f. **Sample Type.** All receiving water samples shall be taken as grab samples. Effluent samples shall be taken as described in Table E-10.

g. **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.

h. **Total Mercury and Methylmercury.** Unfiltered methyl mercury 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). The analysis of methyl mercury and total mercury shall be by U.S. EPA method 1630 and1631 (Revision E), respectively, with a reporting limit of 0.05 ng/L for methyl mercury and 0.5 ng/L for total mercury.

i. **Ammonia (as N).** Sampling is only required in the upstream receiving water.

j. **Chlorpyrifos and Diazinon** shall be sampled using U.S. EPA Method 625M, Method 8141, or equivalent GC/MS method with a lower Reporting Limit than the Basin Plan Water Quality Objectives of 0.015 µg/L and 0.1 µg/L for chlorpyrifos and diazinon, respectively.

k. **CIWQS Data Entry.** The Discharger shall provide the data in the PET tool for uploading into CIWQS.

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/). 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, quarterly, and, annual 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-11. 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/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
2/Year	Permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year

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 (± 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, AWEL, 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. For the monitoring conducted per MRP section IX.D 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. **Calendar Annual Average Limitations.** For constituents with effluent limitations specified as “calendar annual average” (electrical conductivity) the Discharger shall report the calendar annual average in the December SMR. The annual average shall be calculated as the average of the samples gathered for the calendar year.

b. **Removal Efficiency (BOD_5 and TSS).** The Discharger shall calculate and report the percent removal of BOD_5 and TSS in the SMRs. The percent removal shall be calculated as specified in section VII.A of the Waste Discharge Requirements.

c. **Total Calendar Year Annual Mass Loading Mercury Effluent Limitation**. The Discharger shall calculate monthly and report the total calendar year annual mercury mass loading for the effluent in the annual SMR. The total calendar year annual mass loading shall be calculated as specified in Section VII.B of the Waste Discharge Requirements.

d. **Total Coliform Organisms Effluent Limitations.** The Discharger shall calculate and report the 7-day median of total coliform organisms for the effluent. The 7-day median of total coliform organisms shall be calculated as specified in section VII.D of the Waste Discharge Requirements.

C. Discharge Monitoring Reports (DMRs)

1. DMRs are U.S. EPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs 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/) is available on the Internet.

D. Other Reports

1. **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 as outlined above in Attachment E, section I.F. 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.
2. **Annual Operations Report.** The Discharger shall submit a written report to the Central Valley Water Board, electronically via CIWQS submittal, containing the following by the due date in the Technical Reports Table:
   a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.
   b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
   c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
   d. 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.
   e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.
3. **Recycled Water Policy Annual Reports.** In accordance with section 3 of the Water Quality Control Policy for Recycled Water (Recycled Water Policy), the Discharger shall electronically submit an annual report of monthly data to the State Water Board by 30 April annually covering the previous calendar year

using the State Water Board's GeoTracker website (https://geotracker.waterboards.ca.gov/). Information for setting up and using the GeoTracker system can be found in the *ESI Guide for Responsible Parties* document on the State Water Board's website for Electronic Submittal of Information (https://www.waterboards.ca.gov/ust/electronic_submittal/index.html). The annual report to GeoTracker must include volumetric reporting of the items listed in section 3.2 of the Recycled Water Policy (https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/121118_7_final_amendment_oal.pdf). A pdf of the upload confirmation from GeoTracker for the Recycled Water Policy Annual Report shall be uploaded into CIWQS annually as a technical report per Table E-12, to demonstrate compliance with this reporting requirement.

4. **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 2A;
   c. NPDES Form 2S;
   d. **Sludge Stabilization Ponds Liner Maintenance Report.** The Discharger shall evaluate the effectiveness of the sludge stabilization ponds liner, as specified in Order section VI.C.2.d.
   e. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall evaluate the effectiveness of the SEMP, as specified in Order section VI.C.3.b.

5. **Annual Pretreatment Reporting Requirements.** The Discharger shall submit annually a report to the Central Valley Water Board, with copies to U.S. EPA Region 9 and the State Water Board, describing the Discharger's pretreatment activities over the previous 12 months (1 January through 31 December). In the event that the Discharger is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Discharger shall also include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements.

   An annual report shall be submitted by the due date shown in the Technical Reports Table and include at least the following items:

   a. A summary of analytical results from representative sampling of the POTW's influent and effluent for those pollutants U.S. EPA has identified under section 307(a) of the CWA which are known or suspected to be discharged by nondomestic users. This will consist of an annual full priority pollutant scan. The sample types for each priority pollutant constituent shall be consistent with the sample types specified in Table E-10 (Effluent and Receiving Water Characterization Monitoring). The Discharger is not required to sample and analyze for asbestos. The Discharger shall submit the results of the annual

priority pollutant scan electronically to the Central Valley Water Board using the State Water Board's CIWQS Program Website.

Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The Discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority pollutants which may be causing or contributing to Interference, Pass-Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 C.F.R. part 136 and amendments thereto;

b. A discussion of Upset, Interference, or Pass-Through incidents, if any, at the treatment plant, which the Discharger knows, or suspects were caused by nondomestic users of the POTW. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of, the nondomestic user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Pass-Through, Interference, or noncompliance with sludge disposal requirements;

c. The cumulative number of nondomestic users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of nondomestic user responses;

d. An updated list of the Discharger's significant industrial users (SIUs) including their names and addresses, or a list of deletions, additions and SIU name changes keyed to a previously submitted list. The Discharger shall provide a brief explanation for each change. The list shall identify the SIUs subject to federal categorical standards by specifying which set(s) of standards are applicable to each SIU. The list shall indicate which SIUs, or specific pollutants from each industry, are subject to local limitations. Local limitations that are more stringent than the federal categorical standards shall also be identified;

e. The Discharger shall characterize the compliance status through the year of record of each SIU by employing the following descriptions:

   i. complied with baseline monitoring report requirements (where applicable);
   ii. consistently achieved compliance;
   iii. inconsistently achieved compliance;
   iv. significantly violated applicable pretreatment requirements as defined by 40 C.F.R. section 403.8(f)(2)(vii);
   v. complied with schedule to achieve compliance (include the date final compliance is required);
   vi. did not achieve compliance and not on a compliance schedule; and

vii. compliance status unknown.

f. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the SIUs. The summary shall include:

   i. The names and addresses of the SIUs subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and

   ii. The conclusions or results from the inspection or sampling of each industrial user.

g. The Discharger shall characterize the compliance status of each SIU by providing a list or table which includes the following information:

   i. Name of SIU;

   ii. Category, if subject to federal categorical standards;

   iii. The type of wastewater treatment or control processes in place;

   iv. The number of samples taken by the POTW during the year;

   v. The number of samples taken by the SIU during the year;

   vi. For a SIU subject to discharge requirements for total toxic organics, whether all required certifications were provided;

   vii. A list of the standards violated during the year. Identify whether the violations were for categorical standards or local limits;

   viii. Whether the facility is in significant noncompliance (SNC) as defined at 40 C.F.R. section 403.8(f)(2)(viii) at any time during the year;

   ix. A summary of enforcement or other actions taken during the year to return the SIU to compliance. Describe the type of action (e.g., warning letters or notices of violation, administrative orders, civil actions, and criminal actions), final compliance date, and the amount of fines and penalties collected, if any. Describe any proposed actions for bringing the SIU into compliance;

   x. Restriction of flow to the POTW; and

   xi. Disconnection from discharge to the POTW.

h. A brief description of any programs the POTW implements to reduce pollutants from nondomestic users that are not classified as SIUs;

i. A brief description of any significant changes in operating the pretreatment program which differ from the previous year including, but not limited to, changes concerning: the program's administrative structure, local limits, monitoring program or monitoring frequencies, legal-authority, enforcement policy, funding levels, or staffing levels;

j. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases; and

k. A summary of activities to involve and inform the public of the program including a copy of the newspaper notice, if any, required under 40 C.F.R. section 403.8(f)(2)(viii).

Pretreatment Program reports shall be submitted electronically to the Central Valley Water Board via CIWQS submittal and the:

State Water Resources Control Board
NPDES Wastewater@waterboards.ca.gov
and the
U.S. EPA Region 9 Pretreatment Coordinator
R9Pretreatment@epa.gov

7. **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-12. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
1	Report of Waste Discharge	31 March 2030	ROWD
2	Pond and Groundwater Information Report	31 March 2030	WDR VI.C.2.a
3	Groundwater Well Installation Work Plan	31 March 2030	WDR VI.C.2.b.i
4	Groundwater Well Installation Report	1 October 2027	WDR VI.C.2.b.ii
5	Final Emergency Detention Basin Installation Report.	30 March 2030	WDR VI.C.2.c.i
6	Emergency Detention Basin Installation Annual Report	1 July 2026	WDR VI.C.2.c.ii
7	Emergency Detention Basin Installation Annual Report	1 July 2027	WDR VI.C.2.c.ii
8	Emergency Detention Basin Installation Annual Report	1 July 2028	WDR VI.C.2.c.ii
9	Emergency Detention Basin Installation Annual Report	1 July 2029	WDR VI.C.2.c.ii
10	Emergency Detention Basin Installation Annual Report	1 July 2030	WDR VI.C.2.c.ii
11	Sludge Stabilization Ponds Liner Maintenance Report	31 March 2030	WDR VI.C.2.d
12	Pollution Prevention Plan for Mercury and Methylmercury Annual Progress Reports	1 February 2027	WDR VI.C.3.a
13	Pollution Prevention Plan for Mercury and Methylmercury Annual Progress Reports	1 February 2028	WDR VI.C.3.a
14	Pollution Prevention Plan for Mercury and Methylmercury Annual Progress Reports	1 February 2029	WDR VI.C.3.a

Report #	Technical Report	Due Date	CIWQS Report Name
15	Pollution Prevention Plan for Mercury and Methylmercury Annual Progress Reports	1 February 2030	WDR VI.C.3.a
16	Pollution Prevention Plan for Mercury and Methylmercury Annual Progress Reports	1 February 2031	WDR VI.C.3.a
17	Analytical Methods Report	1 June 2026	MRP X.D.2
18	Analytical Methods Report Certification	2 January 2027	MRP IX.E.2.
19	Annual Operations Report	1 February 2027	MRP X.D.2
20	Annual Operations Report	1 February 2028	MRP X.D.2
21	Annual Operations Report	1 February 2029	MRP X.D.2
22	Annual Operations Report	1 February 2030	MRP X.D.2
23	Annual Operations Report	1 February 2031	MRP X.D.2
24	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2026	MRP X.D.4
25	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2027	MRP X.D.4
26	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2028	MRP X.D.4
27	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2029	MRP X.D.4
28	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2030	MRP X.D.4
29	Annual Pretreatment Reports	28 February 2027	MRP X.D.6
30	Annual Pretreatment Reports	28 February 2028	MRP X.D.6
31	Annual Pretreatment Reports	28 February 2029	MRP X.D.6
32	Annual Pretreatment Reports	28 February 2030	MRP X.D.6
33	Annual Pretreatment Reports	28 February 2031	MRP X.D.6

Table E-12 Note:

1. Beginning 1 February 2027 and annually thereafter until the Facility achieves compliance with the final effluent limitations for methylmercury, the Discharger shall submit annual progress reports on the previously-submitted pollution prevention plan for mercury. The progress reports shall discuss the effectiveness of the pollution prevention plan in the reduction of mercury in the discharge, include a summary of mercury and methylmercury monitoring results, and discuss updates to the pollution prevention plan.

ATTACHMENT F – FACT SHEET

Table of Contents

Tables

ATTACHMENT F – FACT SHEET

As described in section II.C 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:	5A570105001
CIWQS Facility Place ID:	272960
Discharger	City of Woodland
Name of Facility:	Water Pollution Control Facility
Facility Address:	42929 County Road 24
Facility City, State Zip:	Woodland, CA 95776
Facility County:	Yolo
Facility Contact, Title and Phone Number:	Shane Carsen, Chief Plant Operator (530) 661-2054
Authorized Person to Sign and Submit Reports:	Craig Locke, Director of Public Works (530) 661-5899
Mailing Address:	655 North Pioneer Way Woodland, CA 95776
Billing Address:	Same as Mailing Address
Type of Facility:	Publicly Owned Treatment Works
Major or Minor Facility:	Major
Threat to Water Quality:	1
Complexity:	A
Pretreatment Program:	Yes
Recycling Requirements:	State Water Board WQ 2016-0068-DDW
Facility Permitted Flow:	10.4 Million Gallons per Day (MGD)
Facility Design Flow:	10.4 MGD
Watershed:	Lower Sacramento
Receiving Water:	Tule Canal, Groundwater
Receiving Water Type:	Inland Surface Water (in Yolo Bypass), Groundwater

A. City of Woodland (Discharger) is the owner and operator of the Water Pollution Control Facility (Facility), a Publicly-Owned Treatment Works (POTW). 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 wastewater to an unnamed irrigation channel that discharges to Tule Canal a water of the United States, and tributary to the Yolo Bypass within the Sacramento San Joaquin Delta. The Discharger was previously regulated by Order R5-2020-0015 and National Pollutant Discharge Elimination System (NPDES) Permit CA0077950, adopted on 16 April 2020, amended on 18February 2016, and expired on 31 May 2025. Attachment B provides maps and photographs 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 (WDRs) and NPDES permit on 31 May 2024. The application is deemed complete.

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 (CCR), 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 provides sewerage service for the City of Woodland and serves a population of approximately 59,000. The design daily average flow capacity of the Facility is 10.4 million gallons per day (MGD). The Facility receives wastewater from domestic sources and one permitted non-domestic discharger. From August 2021 through July 2024, the average flow at EFF-001 was 3.5 MGD.

A. Description of Wastewater and Biosolids Treatment and Controls.

1. **Treatment System.** The headworks include four screw pumps, two 6mm punched plate screens, and two aerated grit chambers, along with a magnesium hydroxide alkalinity control system. The biological/secondary treatment consists of four 2 MG oxidation ditches using fine bubble diffusers, each with an anoxic zone for denitrification. There are two 92-foot and two 130-foot secondary clarifiers. Tertiary filtration is performed by four cloth media filters with 5 nanometer precision. Disinfection is achieved through two ultraviolet light channels.

2. **Pond System Description and Operation**

   a. **Pond System General Information.** The depth of water in the ponds ranges between 1 foot to 6 feet and the depth to groundwater is, at times, less than 10 feet. The CV-SALTS Nitrate Control Program Notice (Nitrate Control Program NOI) of Intent included results from a December 2022 water balance

study conducted by Luhdorff & Scalmanini Consulting Engineers (LSCE) on Ponds 8 and 11 (Water Balance Study) to determine seepage rates for each pond. These ponds were chosen to include one lined pond (compacted, lime/concrete-treated soil) and one unlined pond (compacted native soil).

The Water Balance Study was conducted over a two-week period from 12 December 2022 to 20 December 2022 for Pond 11 and 20 December 2022 through 26 December 2022 for Pond 8. The Water Balance Study was conducted during times of no precipitation and both ponds were hydraulically isolated, conditions that ensured that any water level changes in these ponds could be attributed to seepage or evaporation only. The Water Balance Study utilized meteorological equipment and transducers to track evaporation and water level changes within Pond 8 and Pond 11.

Evaporation was subtracted from the water level changes to determine the total amount of water level changes that could be attributed to seepage. Pond 8 was determined to have a seepage rate of 0.18 in/d (5.3×10^{-6} cm/s) and Pond 11 had a seepage rate of 0.07 in/d (2.1×10^{-6} cm/s). All lined ponds were assigned the seepage rate for Pond 11 and all unlined ponds were assigned the seepage rate for Pond 8.

b. **Pond 13.** Pond 13 is also referred to as the Erskine Pond and both terms will be used interchangeably throughout this Fact Sheet. The Erskine Pond is a 40-acre pond with a native clay pond bottom but is not equipped with an engineered liner or soil treatment. The Erskine Pond provides peak and emergency overflow protection, onsite discharge containment during plant shutdowns, and functions as an algae production pond to assist with onsite sludge stabilization. A portion of the facility's secondary effluent is directed to the pond to maintain a water cap conducive to algae production. The pond contains screened influent and secondary effluent along with rainwater but may also include screened influent. Wastewater in the Erskine Pond is not returned to the headworks, and the pond level and odors are maintained with secondary effluent year-round. Wastewater from the Erskine Pond is further distributed to the south ponds.

c. **Pond 1 through Pond 8 and Pond 12.** Pond 1 through Pond 8 and Pond 12 are also referred to as the Algae Production Ponds and both terms will be used interchangeably throughout this Fact Sheet. Ponds 1 through 8 and 12 are approximately 10 acres each (total acreage of the unlined ponds is approximately 139.5 acres) and have native clay bottoms but are not equipped with engineered liners or soil treatment. Percolation rates for these unlined ponds are approximately 5.3×10^{-6} centimeters per second, which are derived from the Seepage Studies. Along with the Erskine Pond, the Algae Production Ponds serve multiple purposes, including peak and emergency overflow protection, onsite discharge containment during plant shutdowns, and primarily algae production to assist with onsite sludge stabilization. As discussed in section II.A.4 of this Fact Sheet, algae produced in Ponds 1-8 (and WAS) is discharged into the three lined Sludge Stabilization Ponds to convert the WAS to biosolids.

Wastewater is distributed to these ponds via the pond pump station which may contain wastewater from the Erskine Pond and/or other points in the treatment process. The system allows wastewater to circulate among the ponds to maintain the water cap. Generally, water is directed into the Erskine Pond and then pumped into Ponds 1, 2, and/or 3, subsequently moving into Ponds 4, 5, and/or 6, followed by Ponds 7, 8, and 12 if necessary. Individual ponds can be taken out of service using valves and gates to enable bypassing specific ponds when needed. After reaching Pond 12, water is redirected to the pump station for recirculation and cannot be returned to headworks or any other portion of the wastewater treatment system. Instead, a shallow water cap consisting of wastewater and rainwater is maintained to promote aerobic algae production. Water is lost through evaporation and percolation and replaced with wastewater. Oxygenated, algae-laden water is distributed to the Sludge Stabilization Ponds (Ponds 9, 10, and 11) to sustain the aerobic layer required for sludge stabilization.

The Algae Production Ponds may contain water year-round, have low water levels, or be dry. Due to evaporation and operational processes, salt concentrations tend to increase starting in Pond 1 and increasing in each subsequent pond, typically reaching a maximum concentration in Pond 8.

d. **Ponds 9, 10, and 11.** Ponds 9, 10 and 11 are also referred to as the Sludge Stabilization Ponds and both terms will be used interchangeably throughout this Fact Sheet. Each sludge stabilization pond is approximately 10 acres (approximately 34.2 acres in total for all three Sludge Stabilization Ponds) and are soil-cement lined with a combination of native clay, lime, and cement to reduce percolation rates beyond the natural percolation rates. In summer of 2012, Pond 9 was soil-cement lined which was the first of the three to be soil-cement lined. Ponds 10 and 11 were lined sometime after Pond 9. Percolation rates for these ponds are approximately 2.06×10^{-6} centimeters per second which are derived from the Seepage Studies.

   The Sludge Stabilization Ponds function as sludge drying beds or facultative lagoons. The three ponds are used in rotation so that one of the ponds is in use as a facultative sludge lagoon receiving sludge and water while the other two ponds are in various stages of drying and sludge removal. Facultative lagoons allow solids to separate by density, with anaerobic digestion occurring in the sludge layer and aerobic activity near the surface. Intermediate zones support facultative organisms that oxidize organics and anaerobic byproducts. The Discharger has adopted a system of loading one Sludge Stabilization Pond with sludge for 2 to 3 years, allowing that pond to rest/digest for two years, and hiring a contractor the following summer to dry the material in place, test for compliance with the EPA 503 sludge disposal regulations (to determine future suitability for land application and for landfill regulations), and landfill disposal off site.

e. **Emergency Detention Basin.** The Discharger is preparing to assess alternatives, design, secure funding, permit and construct improvements to the Erskine Pond that will convert it or portions of it into an emergency detention basin and pump station located adjacent to the plant headworks. The emergency detention basin is expected to be in operation by 2036 and will receive excess sewage flows occurring during larger rain events and bypasses during finite emergency events. The wastewater would be pumped back to the headworks after the event concludes. Secondary effluent would continue to be directed into the South Ponds and would be in full compliance with groundwater limitations.

f. **Former North Ponds.** The former City of Woodland North Ponds (North Ponds) contained nine ponds that were used for sludge stabilization. In the summer of 2012, the North Ponds were further dewatered, and pond bottoms were scrapped to construct a pad for the Woodland-Davis Clean Water Agency Regional Water Treatment Facility, in the area formerly occupied by North Ponds 1 and 2.

The Discharger submitted closure notification of the North Ponds to the Central Valley Water Board on 30 January 2012. Central Valley Water Board staff reviewed the 30 January 2012 closure notification and the groundwater data applicable to the North Ponds system and determined the pond closure clean-up activities were acceptable and the monitoring data indicated no degradation to the underlying groundwater. The Central Valley Water Board determined that the North Ponds were properly closed in a 12 April 2012 Approval of Closure Letter (April 2012 Approval Letter) to the Discharger. The April 2012 Approval Letter also indicated that further changes to the North Ponds site do not require notification of the Central Valley Water Board since the NPDES permits for the Facility no longer include the use of the North Ponds.

3. **Groundwater Monitoring Wells.** The groundwater monitoring network consists of 9 active groundwater monitoring wells. The depth to groundwater ranges from 5.6 to 16 feet below ground surface (bgs), with the direction of flow generally east-northeast depending on seasonal changes, irrigation, and groundwater pumping. The table below shows the wells in the groundwater monitoring network in addition to former wells in the groundwater monitoring network. The Discharger's July 2008 technical report titled "Hydrogeologic Evaluation Report", prepared by Eco:Logic (now Stantec) identified that first-encountered shallow groundwater near the Facility occurs as a continuously perched aquifer. This was indicated by the presence of non-saturated conditions below the perched aquifer at depths up to more than 115 feet bgs.

Table F-2 Facility Groundwater Well Information

Well Name	Status	Depth of Screened Interval, ft bgs	Top of Casing Elevations, ft above MSL	Well Diameter, Inches	Well Depth, ft above MSL	Depth to Groundwater, feet bgs
MW-1	Active	NR	36.07	4	28.5	12
MW-2	Active	NR	32.66	4	34.6	8.1
MW-3	Inactive, destroyed	--	--	--	--	--
MW-4	Inactive, inaccessible	--	--	--	--	--
MW-5	Inactive, destroyed	--	--	--	--	--
MW-6	Active	NR	37.09	4	35.1	12
MW-7	Inactive, destroyed	--	--	--	--	--
MW-8	Limited Usefulness	--	--	--	--	--
MW-9	Active	15.7-30.7	35.49	2	30.7	16
MW-10	Active	14-24	37.53	2	24	13
MW-11	Active	24-39	39.14	2	55	14
MW-12	Active	12-27	39.68	2	45	15
MW-13	Active	24-44	31.35	2	45	5.6
MW-14	Inactive, inaccessible	--	--	--	--	--
MW-15	Inactive, inaccessible	--	--	--	--	--
MW-16	Active	25-35	--	8	35	--

4. **Biosolids.** Sludge that has settled in the secondary clarifiers is siphoned to the return sludge pump station (RSPS). At the RSPS, the sludge is either recycled within the system as return activated sludge (RAS) or wasted from the system as waste activated sludge (WAS). Algae produced in Ponds 1 through 8, along with WAS, is discharged into either of the three soil-cement lined Sludge Stabilization Ponds to convert the WAS into biosolids. Because the Discharger does not mechanically aerate the Sludge Stabilization Ponds, oxygen is supplied through the algae's photosynthetic activity. During the day, sunlight and shallow pond depths create conditions for algae growth and photosynthesis of the existing algae. The algae discharged into the Sludge Stabilization Ponds also undergo photosynthesis, further stabilizing and digesting the sludge and facilitating the conversion of WAS into biosolids. The Sludge Stabilization Ponds undergo a process of loading for 2-3 years, digesting for 2 years, and drying in place. The dried biosolids are then transported to a landfill for disposal or are land applied. Transportation and disposal/reuse of the biosolids is regulated by U.S. EPA

under 40 C.F.R. part 503. The three Sludge Stabilization Ponds are alternately operated as facultative sludge lagoons or sludge drying beds.

5. **Delta Regional Monitoring Program (RMP).** As of 20 April 2015, the Discharger is participating in the Delta RMP therefore, routine receiving water monitoring conducted by the Discharger is not available. The effluent and receiving water characterization study contains quarterly samples from the third quarter in 2021 through the second quarter of 2022.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 2, T9N, R2E, MDB&M, and is shown in Attachment B, a part of this Order.
2. Tertiary-treated municipal wastewater is discharged at Discharge Point 001 to Tule Canal, a water of the United States within the Yolo Bypass at a point latitude 38° 40' 51" N and longitude 121° 38' 38" W.
3. Tule Canal is in eastern Yolo County. The Facility effluent is discharged into an unnamed channel that travels approximately 5 miles north and east before flowing into Tule Canal. Tule Canal is a man-made water body within the Yolo Bypass. The canal generally flows from north to south, though flow reversals can occur due to wind or tidal forces, or due to local agricultural pumping.
4. When flooded, the entire Yolo Bypass is a Delta Waterway. Tule Canal is a part of the Yolo Bypass. Therefore, when the Yolo Bypass is flooded, Tule Canal is a Delta Waterway.
5. **Discharge to Land.** Wastewater in the Erskine Pond, Algae Production Ponds, and Sludge Stabilization Ponds cannot be returned to the headworks and the hydraulic conductivity in the soil beneath all ponds is greater than $1x10^{-6}$ cm/s; therefore discharge to these ponds is considered a discharge to groundwater via Discharge Point 002. The discharges to land are detailed below:
   a. **Discharge of Screened Influent to Land.** Periodically, screened influent, which contains elevated concentrations of BOD_5, total coliform organisms, and ammonia (oxidizes to nitrite then to nitrate), is discharged to the unlined Erskine Pond. Wastewater in the Erskine Pond can be discharged to the ten unlined Algae Production Ponds and cannot be returned to the Facility headworks. Groundwater gradients and movement in this zone is known to be slow due to clay-dominated soils in the area that retard downward movement of groundwater into the deeper production aquifer (e.g., rice is grown in flooded paddies on the southeast border of the Facility). The soil beneath the ponds provides little filtration to the shallow, perched, groundwater/aquitard.

      A portion of the Erskine Pond will be converted to an engineered emergency detention basin which will be able to receive peak flows and return the flows back to the Facility headworks for treatment. The threat to groundwater will be significantly reduced once the engineered emergency detention basin is in operation. This Order requires the engineered emergency detention basin be constructed and maintained to meet a hydraulic conductivity of 1×10^{-6} cm/s or better. The engineered emergency detention basin will be able to return screened influent (and other non-compliant wastewater) back to the Facility

headworks for treatment rather than allowing the screened influent to percolate into the groundwater.

b. **Discharge of Secondary Treated Wastewater to Land.** Year-round, Ponds 1 through 8 (Algae Production Ponds) receive nitrified secondary effluent to maintain the water level and promote algae production for use in the Sludge Stabilization Ponds (Ponds 9 through 11) and denitrified secondary effluent used as a water cap to support algal respiration, in lieu of mechanical aeration. Secondary effluent is used to dilute the raw wastewater and control odors of the screened influent in the Erskine Pond. Historically, the Discharger minimizes secondary wastewater diverted to the Algae Production Ponds to sufficiently maintain the ponds for algae production, not for wastewater disposal. Most influent is tertiary treated and discharged to surface water or used as recycled water. The Algae Production Ponds operate to facilitate digestion of waste activated sludge and typically contain commingled wastewater and rainwater year-round (depth of water in the ponds ranges between 1 to 7 feet).

c. **Discharge of Waste Activated Sludge to Land.** Waste activated sludge and water from the Algae Production Ponds is discharged to ponds 9, 10, and 11 (Sludge Stabilization Ponds). These ponds were engineered with a cement-lime, compacted clay liner but with a seepage rate (a function of hydraulic head, material thickness, and hydraulic conductivity) greater than $1x10^{-6}$ cm/s.

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

Effluent limitations contained in Order R5-2020-0015 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of Order R5-2020-0015 are as follows:

Table F-3 Historic Effluent Limitations

Parameter	Units	Historic Effluent Limitations	Maximum Effluent Concentrations
Biochemical Oxygen Demand (5-day @ 20°Celsius) (BOD_5)	Milligrams per Liter (mg/L)	AMEL 10 AWEL 15	Monthly Average: 6.1 Weekly Average: 15.9
Total Suspended Solids (TSS)	mg/L	AMEL 10 AWEL 15	Monthly Average: 5.3 Weekly Average: 13.9
Ammonia, Total as Nitrogen	mg/L	AMEL: 1.1 AWEL: 1.9	Monthly Average: 0.18 Weekly Average: 0.67
Selenium, Total	Micrograms per Liter (µg/L)	AMEL: 4.0 Maximum Daily Effluent Limitation (MDEL): 8.0	Monthly Average: 4.1 Maximum Daily: 7.1
pH	Standard Units	Instantaneous Max: 8.5 Instantaneous Min: 6.5	Instantaneous Max: 7.9 Instantaneous Min: 6.6
Total Coliform Organisms	most probable number per 100 milliliter (MPN/100 mL),	7-Day Median:2.2 More than once in a 30-Day Period: 23 Anytime: 240	7-Day Median: 2 More than once in a 30-Day Period: 0 Anytime: 240

Parameter	Units	Historic Effluent Limitations	Maximum Effluent Concentrations
Acute Toxicity	Percent Survival	Any One Bioassay: 70% Median of Three Consecutive Tests: 90%	Any One Bioassay:98% Median of Three Consecutive Tests:100
Chlorpyrifos and Diazinon.	µg/L	AMEL: Less than 1 AWEL: Less than 1	Non-Detect
Mercury, Total.	Grams per year	Annual Total Mercury Load: 481	Annual Total Mercury Load: 9.5

D. Compliance Summary

1. The Central Valley Water Board issued two Expedited Payment Program Letters (EPLs). The 10 September 2021 and another on 1 November 2021 for $15,000 and $45,000 respectively.
2. A compliance inspection of the Facility was conducted on 16 May 2024. Central Valley Board Staff noted that the Facility was well-operated and maintained. No violations or areas of concern were identified during the inspection.

E. Planned Changes

The Discharger is planning to construct an emergency detention basin that will meet a hydraulic conductivity of 1×10^{-6} centimeters per second. The emergency detention basin will enable the Discharger to store peak flows during storm events, as well as during maintenance or construction activities. The project also includes upgrading the headworks by adding a new pump station. These projects are currently planned to be completed by 1 April 2036. Additionally, the Discharger is exploring the potential for land application of treated sludge on nearby City-owned property.

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 WDRs 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. Additionally, the adoption of land discharge requirements for the Facility constitutes permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to CCR, title 14, section 15301.

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, February 2019 (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. The Basin Plan in Table 2-1, Section 2, identifies present and potential uses for the Yolo Bypass, which includes Tule Canal and the unnamed tributary to Tule Canal. The Basin Plan does not specifically assign municipal and domestic supply as a beneficial use to the Yolo Bypass. Therefore, this Order does not apply the municipal and domestic water supply beneficial use to discharges to Tule Canal or the unnamed tributary. Thus, beneficial uses applicable to Tule Canal and the unnamed tributary of Tule Canal are as follows:

Table F-4 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Tule Canal and unnamed tributary of Tule Canal	**Existing:** Agricultural supply, including irrigation and stock watering (AGR); Water contact recreation (REC-1); Non-contact water recreation (REC-2); Warm freshwater habitat (WARM); Warm and cold migration of aquatic organisms (MIGR); Warm spawning, reproduction, and/or early development (SPWN); and Wildlife habitat (WILD). **Potential:** Cold freshwater habitat (COLD).
002	Groundwater	**Existing:** Municipal and domestic water supply (MUN); agricultural supply (AGR); industrial service supply (IND); and industrial process supply (PRO).

   b. **Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California.** The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) was adopted by the State Water Resources Control Board (State Water Board) on 1 December 2020, under authority provided by Water Code sections 13140 and 13170. Except as otherwise indicated, this ISWEBE Plan establishes provisions for water quality and sediment quality that apply to all

inland surface waters, enclosed bays, and estuaries and coastal lagoons of the state, including both waters of the United States and surface waters of the state. The State Water Board rescinded the ISWEBE Plan on 5 October 2021 in Resolution No. 2021- 0044. The portions of the ISWEBE Plan, including the Toxicity Provisions, remain in effect as state policy for water quality control.

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. Requirements of this Order implement the SIP.
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 (MCLs) 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 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. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a) of the Water Code, requires that "the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective". The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this Facility. Therefore, a reasonable potential analysis based on information from EPCRA cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to Water Code section 13263.6(a). However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.
9. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the storm water program and are obligated to comply with the federal regulations. The Discharger has submitted a Notice of Intent (NOI) and been approved for coverage under the State Water Board's Industrial Storm Water General Order. Therefore, this Order does not regulate storm water.
10. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.** The State Water Board issued General Waste Discharge

Requirements for Sanitary Sewer Systems, Water Quality Order 2006-0003-DWQ (General Order) on 2 May 2006. The State Water Board amended the MRP for the General Order through Order WQ 2013-0058-EXEC on 6 August 2013. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions. The Discharger is subject to the requirements of, and must comply with, State Water Board Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, as amended by State Water Board Order WQ 2013-0058-EXEC and any subsequent order.

11. **Sewage Sludge and Biosolids.** This Order does not authorize any act that results in violation of requirements administered by U.S. EPA to implement 40 C.F.R. Part 503, Standards for the Use or Disposal of Sewage Sludge. These standards regulate the final use or disposal of sewage sludge that is generated during the treatment of domestic sewage in a municipal wastewater treatment facility. The Discharger is responsible for meeting all applicable requirements of 40 C.F.R. Part 503 that are under U.S. EPA's enforcement authority.

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 Tule Canal includes boron, fecal indicator bacteria, and salinity. In addition, the Sacramento and San Joaquin Delta Waterways are listed for chlorpyrifos and diazinon, and mercury.
2. **Total Maximum Daily Loads (TMDLs).** Table F-5, below, identifies the 303(d) listings and any applicable TMDLs for Sacramento and San Joaquin Delta Waterways with impacts to Tule Canal and the Facility. This Order includes WQBELs that are consistent with the assumptions and considerations of the applicable WLAs in the chlorpyrifos and diazinon and the mercury TMDLs.

Table F-5 Applicable 303 (d) List

Pollutant	Potential Sources	TMDL Status
Chlorpyrifos and Diazinon	Agriculture, Urban Runoff	Effective 10 October 2007
Mercury	Resource Extraction	Effective 20 October 2011

3. The 303(d) listings and TMDLs have been considered in the development of this Order. A pollutant-by-pollutant evaluation of each pollutant of concern is described in section VI.C.3 of this Fact Sheet.

E. Other Plans, Polices, and Regulations

1. **Title 27.** Discharges of wastewater to land, including but not limited to wastewater treatment ponds, are exempt from the requirements of Title 27, CCR, based on section 20090 et seq. These facilities include the Algae Production Ponds, the Erskine Pond, and the Sludge Stabilization Ponds. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 et seq (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:

   a. The waste consists primarily of domestic sewage and treated effluent;
   b. The waste discharge requirements are consistent with water quality objectives; and
   c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

   In order to qualify for an exemption from Title 27 under section 20090(b), the Discharger must demonstrate compliance with the Basin Plan, which requires that constituent concentrations in the groundwater do not exceed the higher of the Basin Plan's groundwater water quality objectives or background groundwater concentrations.

   This Order requires pond and groundwater water quality monitoring to gather data to continue to determine the exemption status for the Facility. This Order also requires a Ponds and Groundwater Information Report that will summarize pond and groundwater monitoring well information as well as pond and groundwater water quality information. Fact Sheet section II.A.2 provides a description of the operations of the ponds, Fact Sheet section II.B.5 provides a description of the types of discharge to land, and Fact Sheet section V.B provides a summary of the groundwater data for nitrate (total as nitrogen), electrical conductivity, and dissolved manganese for groundwater wells in the vicinity of the Facility.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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 water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

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 section122.41(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.
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 CCR, title 22, section 66261.1 et seq, that prohibits discharge of hazardous waste.
5. **Prohibition III.E (Average Dry Weather Flow)**. This prohibition is based on the design average dry weather flow treatment capacity rating for the Facility and ensures the Facility is operated within its treatment capacity.
6. **Prohibition III.F (Sludge).** Sewage sludge (the placement of sewage sludge on land on which the sewage sludge remains) shall not be stored for more than two years. This does not including placement of sewage sludge on land for treatment, as defined in 40 C.F.R. part 503.9 as *the treatment of sewage sludge for final use or disposal, including, but not limited to, thickening, stabilization, and dewatering of sewage sludge.*
7. **Prohibition III.G (Screened Influent).** Discharge of screened influent to ponds other than the Emergency Detention Basin is prohibited once the Emergency Detention Basin is completed and operational.

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 Secondary Treatment Standards at 40 C.F.R. part 133. Regulations promulgated in 40 C.F.R. section 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the U.S. EPA Administrator. Based on this statutory requirement, U.S. EPA developed secondary treatment regulations, which are specified in 40 C.F.R. part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of BOD_5, TSS, and pH.

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal regulations at 40 C.F.R. part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. A daily maximum effluent limitation for BOD_5 and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. In addition, 40 C.F.R. section 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of BOD_5 and TSS over each calendar month. This Order requires Water Quality Based Effluent Limitations (WQBELs) that are equal to or more stringent than the secondary technology-based treatment described in 40 CFR part 133 (See section IV.C.3 of the Fact Sheet for a discussion on Pathogens which includes WQBELs for BOD_5 and TSS.

b. **Flow.** The Facility was designed to provide a tertiary level of treatment for up to a design flow of 10.4 MGD. Therefore, this Order contains an average dry weather discharge flow effluent prohibition of 10.4 MGD.

c. **pH.** The secondary treatment regulations at 40 C.F.R. part 133 also require that pH be maintained between 6.0 and 9.0 standard units. This Order, however, requires more stringent WQBELs for pH to comply with the Basin Plan’s water quality objectives for pH.

Summary of Technology-based Effluent Limitations
Discharge Point 001

Table F-6 Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
BOD_5	mg/L	AMEL: 30; AWEL: 45
TSS	mg/L	AMEL: 30; AWEL: 45
pH	Standard Units	Instantaneous Maximum 6.0 Instantaneous Minimum 9.0

Table F-6 Notes:

1. More stringent WQBELs for BOD_5, TSS, and pH are applicable and are established as final effluent limitations in this Order as described in section IV.C.3 of this Fact Sheet.

C. Water Quality-Based Effluent Limitations (WQBELs)

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. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary is discussed in section IV.C.3 of this Fact Sheet.

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, WQBELs 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 WQBELs when necessary is intended to protect the designated beneficial 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 WLAs 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 reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on data from August 2021 through July 2024, which includes effluent data submitted in SMRs.
c. **Assimilative Capacity/Mixing Zone – Not Applicable**
d. **Conversion Factors.** The default U.S. EPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total criteria when developing effluent limitations for CTR metals, including arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc. Furthermore, a conservative dissolved-to-total metal translator of 1 has been used when developing effluent limitations for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc. Per the Reopener Provisions of this Order, if the Discharger performs studies to determine site-specific dissolved-to-total metal translators this Order may be reopened to modify the effluent
e. **Hardness-Dependent CTR Metals Criteria.** The CTR and the NTR contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc. This Order has established the criteria for hardness-

dependent metals based on the hardness of the receiving water (actual ambient hardness) as required by the SIP and the CTR.

Effluent hardness was used for the ambient hardness and ranged from 130 mg/L to 230 mg/L based on collected ambient data from August 2021 through July 2024, given the high variability in ambient hardness values, there is no single hardness value that describes the ambient receiving water for all possible scenarios (e.g., minimum, maximum). Because of this variability, staff has determined that based on the ambient hardness concentrations measured in the receiving water, the Central Valley Water Board has discretion to select ambient hardness values within the range of 130 mg/L (minimum) up to 230 mg/L (maximum). The Central Valley Water Board finds that the use of the ambient hardness values and associated acute and chronic criteria shown in Table F-7 to conduct the RPA and calculate WQBELs, protect beneficial uses under all ambient receiving water conditions and comply with the SIP, CTR, and Basin Plan.

Table F-7. Summary of Criteria for CTR Hardness-dependent Metals

CTR Metals	Ambient Hardness (mg/L)	Acute Criteria (µg/L, total)	Chronic Criteria (µg/L, total)
Copper	130	18	12
Chromium III	130	2,153	257
Cadmium	130 (acute) 130 (chronic)	6.1	3.0
Lead	130	114	4.4
Nickel	130	586	65
Silver	130	6.4	--
Zinc	130	150	150

Table F-7 Notes:

1. **Criteria (µg/L total).** Acute and chronic criteria were rounded to two significant figures in accordance with the CTR (40 C.F.R. section 131.38(b)(2)).
2. **Ambient hardness (mg/L).** Values in Table F-7 represent actual observed receiving water hardness measurements.

3. Determining the Need for WQBELs

Clean Water Act section 301(b)(1)(C) requires effluent limitations necessary to meet water quality standards, and 40 C.F.R. section 122.44(d) requires NPDES permits to include conditions that are necessary to achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality. Federal regulations at 40 C.F.R 122.44(d)(1)(i) state, “Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that 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.” Additionally, 40 C.F.R. section 122(d)(1)(vii) requires effluent limits to be developed consistent with any

available WLAs developed and approved for the discharge. The process to determine whether a WQBEL is required as described in 40 C.F.R. section 122.44(d)(1)(i) is referred to as a reasonable potential analysis or RPA. Central Valley Water Board staff conducted RPAs for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. This section includes details of the RPAs for constituents of concern for the Facility. The entire RPA is included in the administrative record and a summary of the constituents of concern is provided in Attachment G.

For priority pollutants, the SIP dictates the procedures for conducting the RPA. For non-priority pollutants the Central Valley Water Board is not restricted to one particular RPA method; therefore, the RPAs have been conducted based on U.S. EPA guidance considering multiple lines of evidence and the site-specific conditions of the discharge. Ammonia (total as nitrogen), acute toxicity, nitrate plus nitrite, pH, pathogens, and temperature are not priority pollutants. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA for these non-priority pollutant parameters based on a qualitative assessment as recommended by U.S. EPA guidance.

U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*". U.S. EPA's TSD also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility-specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data." With regard to POTWs, U.S. EPA recommends that, "POTWs should also be characterized for the possibility of chlorine and ammonia problems.*" (TSD, p. 50).

a. **Constituents with Total Maximum Daily Load (TMDL).**
40 C.F.R. section 122.44(d)(1)(vii) provides: "When developing water quality-based effluent limits under [section 122.44(d)(1)], the permitting authority shall ensure that: (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available WLA for the discharge prepared by the State and approved by U.S. EPA pursuant to [Total Maximum Daily Loads regulations]." U.S. EPA construes 40 C.F.R. section 122.44(d)(1)(vii)(B) to mean that "when WLAs are available,

they must be used to translate water quality standards into NPDES permit limits." 54 Fed. Reg. 23868, 23879 (June 2, 1989).

Tule Canal is subject to TMDLs for boron, fecal indicator bacteria, and salinity; however, wasteload allocations under those TMDLs are not yet available. The Sacramento and San Joaquin Delta waterways are listed for chlorpyrifos and diazinon and for mercury. Wasteload allocations under those TMDLs are available and the Central Valley Water Board developed WQBELs for these pollutants pursuant to 40 C.F.R. section 122.44(d)(1)(vii), which does not require or contemplate a reasonable potential analysis.

i. **Diazinon and Chlorpyrifos.**

(a) **WQO.** 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 WLAs 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 modified Basin Plan Chapter 3 (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos in the Delta waterways and identified the requirements to meet the additive formula already in Basin Plan Chapter 4 (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:

$$S = Cd/WQOd + Cc/WQOc \leq 1.0$$

Where:

Cd = diazinon concentration in µg/L of point source discharge

Cc = chlorpyrifos concentration in µg/L of point source discharge

WQOd = acute or chronic diazinon water quality objective in µg/L

WQOc = acute or chronic chlorpyrifos water quality objective in µg/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 42 of the Diazinon and Chlorpyrifos TMDL lists waterways subject to the TMDL and includes the Tule Canal.

(b) **WQBELs.** WQBELs for diazinon and chlorpyrifos are required per the TMDL. This Order includes effluent limits calculated based on the WLAs contained in the TMDL, as follows:

Average Monthly Effluent Limitation (AMEL)

$S(AMEL) = C_d\ (M\text{-}avg)/0.079 + C_c\ (M\text{-}avg)/0.012 \leq 1.0$

Where:

C_d(M-avg) = average monthly diazinon effluent concentration in µg/L

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

Average Weekly Effluent Limitation (AWEL)

$S(AWEL) = Cd\ (W\text{-}avg)/0.14 + Cc\ (W\text{-}avg)/0.021 \leq 1.0$

Where:

C_d(W-avg) = average weekly diazinon effluent concentration in µg/L

C_c (W-avg) = average weekly chlorpyrifos effluent concentration in µg/L

(c) **Plant Performance and Attainability.** Chlorpyrifos and diazinon were not detected in the effluent 3 sampling events conducted between October 2021 and May 2022. Furthermore, since these pesticides have been banned for public use, they are not expected to be present in the influent to the Facility. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

ii. **Mercury.**

(a) WQO. In Section 3, Water Quality Objectives, the Basin Plan 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 Basin Plan contains fish tissue objectives for all Delta waterways listed in Appendix 43 of the Basin Plan. Tule Canal is listed as waterway #150 in Table A43-1. 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 0.43 g/year of methylmercury, as listed in Table 4-16 of the Basin Plan.

The CTR contains a human health criterion of 51 ng/L for total mercury for waters from which aquatic organisms are consumed. However, in 40 CFR Part 131, U.S. EPA acknowledges that the human health criteria may not be protective of some aquatic or endangered species and that "*…more stringent mercury limits may be determined and implemented through use of the State's narrative criterion.*" In the CTR,

U.S. EPA reserved the mercury criteria for freshwater and aquatic life and may adopt new criteria at a later date.

(b) **RPA Results.** Section 1.3 of the SIP states, "*The RWQCB shall conduct the analysis in this section for each priority pollutant with an applicable criterion or objective, excluding priority pollutants for which a TMDL has been developed, to determine if a water quality-based effluent limitation is required in the discharger's permit*." (emphasis added). An RPA is not required because a TMDL was developed for methylmercury. Effluent and receiving water data were analyzed using data collected during the term or Order R5-2020-0015.

Effluent monitoring data for methylmercury and total mercury are available from monthly monitoring reports and the Effluent and Receiving Water Characterization Study. Receiving water monitoring data for methylmercury and total mercury are available from the Effluent and Receiving Water Characterization Study.

Between October 2021 and June 2024, the maximum effluent concentration (MEC) for total mercury at Discharge Point 001 was 0.089 ng/L with a maximum annual load of 9.5 grams per year. Within this same period, the MEC for methylmercury was 0.089 ng/L and the maximum annual load was 0.15 grams in 2023.

(c) **WQBELs.** The Basin Plan's Delta Mercury Control Program includes wasteload allocations for POTWs in the Delta and Yolo Bypass, including for the Discharger. This Order contains a final WQBEL for methylmercury based on the wasteload allocation; the total calendar year annual methylmercury load shall not exceed 0.43 grams, effective 31 December 2030.

This Order also contains an interim total mercury effluent limitation, Effective immediately and until 30 December 2030, the effluent calendar year annual total mercury load shall not exceed 481 grams/year. This interim effluent limitation shall apply in lieu of the final effluent limitation of 0.43. grams per year for methylmercury.

For mercury, the Delta Mercury Control Program requires POTWs to limit their discharges of inorganic (total) mercury to Facility performance-based levels during Phase 1. The interim inorganic (total) mercury effluent mass limit is to be derived using current, representative data and shall not exceed the 99.9th percentile of the 12-month running effluent inorganic (total) mercury mass loads. 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. Interim limitations for total recoverable mercury were calculated in previous Orders R5-2014-0120-01 and R5-2020-0015 and continued in

this Order. This Order includes a performance-based limit of 481 grams/year.

(d) **Plant Performance and Attainability.** Based on the available information, the Central Valley Water Board finds the Discharger is unable to immediately comply with the final WQBELs for methylmercury. 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.

b. **Constituents with No Reasonable Potential.** Central Valley Water Board staff conducted reasonable potential analyses for nearly 200 constituents, including the 126 U.S. EPA priority toxic pollutants. All reasonable potential analyses are included in the administrative record and a summary of the constituents of concern is provided in Attachment G. WQBELs are not included in this Order for constituents that do not demonstrate reasonable potential to cause or contribute to an instream excursion of an applicable water quality objective; however, monitoring for those pollutants is established in this Order as required by the SIP. If the results of effluent monitoring demonstrate reasonable potential, this Order may be reopened and modified by adding an appropriate effluent limitation. Most constituents with no reasonable potential are not discussed in this Order. This section only provides the rationale for the reasonable potential analyses for the following constituents of concern that were found to have no reasonable potential after assessment of the data:

i. **Aluminum**

(a) **WQO.** The State Water Board Division of Drinking Water (DDW) has established Secondary Maximum Contaminant Levels (MCLs) to assist public drinking water systems in managing their drinking water for public welfare considerations, such as taste, color, and odor. The Secondary MCL for aluminum is 200 µg/L for protection of the MUN beneficial use. The Basin Plan requires compliance with Secondary MCLs on an annual average basis.

The 2018 U.S. EPA NAWQC for protection of freshwater aquatic life for aluminum recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (4-day average; criteria continuous concentration or CCC) standards based upon Multiple Linear Regression (MLR) models for vertebrate and invertebrate species that use pH, dissolved organic carbon (DOC), and total hardness to quantify the effects of these water chemistry parameters on the bioavailability and resultant toxicity of aluminum to aquatic organisms. The U.S. EPA aluminum criteria have been used to implement the Basin Plan's narrative toxicity objective.

A CMC of 1,400 µg/L and CCC of 515 µg/L were calculated considering pH, hardness, and DOC representative of the receiving water and effluent conditions. Effluent sampling results for pH and hardness from January 2020 to December 2023 were used in the

evaluation. For the receiving water, pH and hardness from January 2013 to June 2015, with one sample in April 2019. In the absence of DOC data, the criteria were calculated considering a conservative assumption of DOC for the receiving water and effluent of 1 mg/L and 5 mg/L, respectively.

(b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Aluminum is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board used professional judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The Secondary MCL is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCLs are drinking water standards contained in the Basin Plan and requires compliance with these standards on an annual average basis with samples that have been passed through a 1.5-micron filter. To be consistent with how compliance with the standards is determined, for the Secondary MCL the RPA was conducted based on the calendar annual average effluent aluminum concentrations. Calculating a maximum annual average concentration considers variability in the data, per 40 C.F.R. § 122.44(d)(1)(ii).

The maximum annual average effluent concentration for aluminum was 8.5 µg/L but all five samples used to conduct the annual average were detected but not quantifiable (samples taken February 2020 through November 2020). Effluent aluminum is consistently less than the concentrations in the receiving water and below the Secondary MCL. Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance in the receiving water and the Facility is adequately controlling the discharge of aluminum.

For the 2018 U.S. EPA NAWQC the RPA was conducted considering the maximum effluent concentration (MEC) for aluminum, which was detected but not quantifiable for the five samples taken February 2020 through November 2020. Effluent aluminum is consistently less than the concentrations in the receiving water and below the NAWQC. Therefore, the Central Valley Water Board finds the discharge does not have reasonable potential to cause or contribute to an exceedance of the narrative toxicity objective in the receiving water and the Facility is adequately controlling the discharge of aluminum.

ii. **Salinity**

(a) **WQO.** The Basin Plan contains a chemical constituent objective that contains a narrative objective and numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA NAWQC for Chloride recommends acute and chronic criteria for the protection of aquatic life.

There are no U.S. EPA water quality criteria for the protection of aquatic life for electrical conductivity, total dissolved solids, and sulfate. Additionally, there are no U.S. EPA numeric water quality criteria for the protection of agricultural, livestock, and industrial uses. Numeric values for the protection of these uses are typically based on site-specific conditions and evaluations to determine the appropriate constituent threshold necessary to interpret the narrative chemical constituent Basin Plan objective.

The City of Woodland's site-specific electrical conductivity study developed site-specific criteria for electrical conductivity, boron, and fluoride for irrigated agriculture both inside and outside the Yolo Bypass. These site-specific criteria were developed to protect the agricultural beneficial use by taking into account soil type, irrigation management practices, water quality, crop evapotranspiration, and inputs from irrigation and rainfall, while protecting the most sensitive crops in that area. The study found that a maximum electrical conductivity concentration of 1,400 µmhos/cm was protective of the dominant crops both inside and outside the Yolo Bypass, and therefore protective of agricultural beneficial uses. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Basin Plan amendment included the site-specific electrical conductivity annual average effluent concentration of 1,400 µmhos/cm.

(b) **RPA Results.**

(1) **Chloride.** Chloride concentrations in the effluent ranged from 99 mg/L to 120 mg/L, with an average of 113 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in Tule Canal at Monitoring Location RSW-001 ranged from 35 mg/L to 100 mg/L, with an average of 58 mg/L, for three samples collected by the Discharger from September 2021 through May 2022.

(2) **Electrical Conductivity.** A review of the Discharger's monitoring reports shows an average effluent electrical conductivity of 872 µmhos/cm, with a range from 652 µmhos/cm to 1,450 µmhos/cm. The maximum annual average between 2021-2023 was 940 µmhos/cm. These levels do not exceed the site-specific objective of 1,400 µmhos/cm. Background concentrations in Tule Canal at Monitoring Location RSW-001 ranged from 720 µmhos/cm to 820 µmhos/cm, with an average of 773 µmhos/cm, for three samples collected by the Discharger from September 2021 through May 2022.

(3) **Sulfate.** Sulfate concentrations in the effluent ranged from 34 mg/L to 80 mg/L, with an average of 62 mg/L. These levels do not exceed the Secondary MCL. Background concentrations in Tule Canal at Monitoring Location RSW-001 ranged from 21 mg/L to 120 mg/L, with an average of 100 mg/L, for three samples collected by the Discharger from September 2021 through May 2022.

(c) **WQBELs.** As discussed above, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity. On 17 January 2020, certain amendments to the Basin Plan incorporating a Program to Control and Permit Salt Discharges to Surface and Groundwater (Salt Control Program) became effective. Other amendments became effective on 2 November 2020 when approved by the U.S. EPA. The Salt Control Program is a three-phased program, with each phase lasting 10 to 15 years. The Basin Plan requires all salt dischargers to comply with the provisions of the program. Two compliance pathways are available for salt dischargers during Phase 1.

The Phase 1 Compliance pathways are: 1) Conservative Salinity Permitting Approach, which utilizes the existing regulatory structure and focuses on source control, conservative salinity limits on the discharge, and limits the use of assimilative capacity and compliance time schedules; and, 2) Alternative Salinity Permitting Approach, which is an alternative approach to compliance through implementation of specific requirements such as participating in the Salinity Prioritization and Optimization Study (P&O) rather than the application of conservative discharge limits. The Discharger submitted a Notice of Intent for the Salinity Control Program indicating its intent to meet the Alternative Salinity Permitting Approach. This Order requires implementation of a Salinity Evaluation and Minimization Plan, participation in the Salinity P&O Study, and includes a performance-based trigger for EC of 1,250 µmhos/cm for surface water, which is consistent with the Alternative Salinity Permitting Approach.

(d) **Plant Performance and Attainability.** The Central Valley Water Board concludes that the Facility would regularly be under the performance-based trigger.

c. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an instream excursion above a water quality standard for ammonia (total as nitrogen), pathogens, pH, and total selenium. WQBELs for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Ammonia**

(a) **WQO.** The 2013 U.S. EPA National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for total ammonia (2013 Criteria), recommends acute (1-hour average; criteria maximum concentration or CMC) and chronic (30-day average; criteria continuous concentration or CCC) standards based on pH and temperature. U.S. EPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. The 2013 Criteria reflects the latest scientific knowledge on the toxicity of

ammonia to certain freshwater aquatic life, including toxicity data on sensitive freshwater unionid mussels, non-pulmonary snails, and other freshwater organisms.

The Central Valley Clean Water Association (CVCWA) organized a coordinated effort for POTWs within the Central Valley Region, the Freshwater Mussel Collaborative Study for Wastewater Treatment Plants, to determine how the latest scientific knowledge on the toxicity of ammonia reflected in the 2013 Criteria could be implemented in the Central Valley Region. Through this effort a Criteria Recalculation Report was developed in January 2020 using toxicity studies for the freshwater mussel species present in Central Valley Region waters.

The Criteria Recalculation Report implemented U.S. EPA's Recalculation Procedure utilizing toxicity bioassays conducted on resident mussel species to replace the toxicity data for the eastern mussel species in the national dataset to develop site-specific ammonia criteria for waters within the Central Valley Region, including all surface waters in the Sacramento River, San Joaquin River, and Tulare Lake Basin Plans.

U.S. EPA Office of Science and Technology reviewed and approved the Criteria Recalculation Report with a more conservative approach for utilizing the acute-to-chronic ratio procedure for developing the site-specific chronic criterion. The Central Valley Water Board finds that the site-specific ammonia criteria provided in the January 2020 Criteria Recalculation Report implements the Basin Plan's narrative toxicity objective to protect aquatic life beneficial uses of the receiving water.

Site-specific Criteria for Tule Canal. The recalculated site-specific criteria developed in the Criteria Recalculation Report for the acute and chronic criteria are presented based on equations that vary according to pH and temperature for situations where freshwater mussels are present and where they are absent. In this case, for Tule Canal freshwater mussels have been assumed to be present. In addition, the recalculated criteria include equations that provide enhanced protection for important salmonid species in the genus Oncorhynchus, that can be implemented for receiving waters where salmonid species are present. Because Tule Canal has a potential beneficial use of cold freshwater habitat the criteria equations for waters where salmonids are present were used.

The acute 1-hour average criterion (CMC) was calculated using paired effluent pH and temperature data collected during the period from August 2021 through July 2024. The most stringent CMC of 6.6 mg/L (ammonia as N) calculated has been implemented in this Order. The chronic (30-day average) criterion (CCC) was calculated using paired effluent pH and temperature data collected during the period from August 2021 through July 2024. The most stringent 30-day rolling average CCC of 1.4 mg/L has been implemented in this Order. The

chronic (4-day average) concentration is derived in accordance with the U.S. EPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 1.4 mg/L, the 4-day average ammonia, total as nitrogen, concentration that should not be exceeded is 3.5 mg/L.

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that is harmful to aquatic life and exceed the Basin Plan narrative toxicity objective. The Discharger currently uses a biological nutrient removal treatment system to remove ammonia from the waste stream. Inadequate or incomplete treatment may result in the discharge of ammonia to the receiving stream, which creates the basis for the discharge to have a reasonable potential to cause or contribute to an instream excursion above the site-specific acute and chronic criteria for ammonia provided by the January 2020 Criteria Recalculation Report. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for ammonia and WQBELs are required.

(c) **WQBELs.** The Central Valley Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, U.S. EPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day CCC. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day CCC was calculated assuming a 30-day averaging period. This Order contains a final average monthly effluent limitation (AMEL) and average weekly effluent limitation (AWEL) for ammonia of 1.1 mg/L and 3.9 mg/L, respectively, based on the site-specific ammonia criteria.

(d) **Plant Performance and Attainability.** From August 2021 through July 2024, the effluent would not have exceeded the AMEL of 1.1 mg/L nor the AWEL of 3.9 mg/L. The Central Valley Water Board concludes that immediate compliance with the ammonia, total as nitrogen, effluent limitations is feasible.

ii. **Pathogens**

(a) **WQO.** DDW has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL, at any time.

Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds the stringent disinfection criteria are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens.

(b) **RPA Results.** Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC section 13050 if discharged untreated to the receiving water. The beneficial uses of Tule Canal include water contact recreation and agricultural irrigation supply, and there is, at times, less than 20:1 dilution. To protect these beneficial uses, the Central Valley Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. Although the Discharger provides disinfection, inadequate or incomplete disinfection creates the potential for pathogens to be discharged. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for pathogens and WQBELs are required.

(c) **WQBELs.** Special Provisions VI.C.6.a of this Order requires, "Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the State Water Board, DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent." In accordance with the requirements of Title 22, this Order includes effluent limitations for total coliform organisms of 2.2 MPN/100 mL as a 7-day median; 23 MPN/100 mL, not to be exceeded more than once in a 30-day period; and 240 MPN/100 mL as an instantaneous maximum.

The tertiary treatment process, or equivalent, is capable of reliably treating wastewater to a turbidity level of 2 nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, in addition to total coliform organisms effluent limitations, this Order includes operational specifications for turbidity of 2 NTU as a daily average; 5 NTU, not to be exceeded more than 5 percent of the time within a 24-hour period; and 10 NTU as an instantaneous maximum.

Final WQBELs for BOD_5 and TSS are also required based on the technical capability of the tertiary process. The tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates

and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the technology-based secondary standards. This Order requires AMELs for BOD_5 and TSS of 10 mg/L, which is technically based on the capability of a tertiary system.

This Order contains effluent limitations for BOD_5, total coliform organisms, and TSS and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Central Valley Water Board has previously considered the factors in Water Code section 13241 in establishing these requirements.

Final WQBELs for BOD_5 and TSS are based on the technical capability of the tertiary process, which is necessary to protect the beneficial uses of the receiving water. BOD_5 is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The tertiary treatment standards for BOD_5 and TSS are indicators of the effectiveness of the tertiary treatment process. The principal design parameter for wastewater treatment plants is the daily BOD_5 and TSS loading rates and the corresponding removal rate of the system. The application of tertiary treatment processes results in the ability to achieve lower levels for BOD_5 and TSS than the secondary standards currently prescribed. Therefore, this Order requires AMELs for BOD_5 and TSS of 10 mg/L, which is technically based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD_5 and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities.

(d) **Plant Performance and Attainability.** The Facility possesses a filtration and UV disinfection system which was designed to achieve Title 22 criteria. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **pH**

(a) **WQO.** 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.”

(b) **RPA Results.** Raw domestic wastewater inherently has variable pH. Additionally, some wastewater treatment processes can increase or decrease wastewater pH which if not properly controlled, would violate the Basin Plan’s numeric objective for pH in the receiving water. Therefore, reasonable potential exists for pH and WQBELs are required.

(c) **WQBELs.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** The effluent pH did not exceed nor fall below instantaneous effluent limitations. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. **Selenium**

(a) **WQO.** The California Division of Drinking Water and US EPA have a Primary MCL of 50 µg/L for selenium. The CTR has criteria for freshwater aquatic life protection of 5.0 µg/L as a 4-day average and 20 µg/L as a 1-hour average. The 2024 U.S. EPA National Ambient Water Quality Criteria (NAWQC) for the protection of freshwater aquatic life for selenium (2024 Criteria), recommends a chronic (30-day average; criteria continuous concentration or CCC) standard of 1.5 µg/L for lentic (nonflowing/still, ponds/lakes) waters and 3.1 µg/L for lotic (flowing) waters. Tule Canal is considered a lotic water and the 30-day NAWQC CCC of 3.1 µg/L is applicable.

(b) **RPA Results.** From October 2021 through June 2024, the MEC for total selenium was 7.1 µg/L which exceeds the CTR and NAWQC chronic criterion. Therefore, the SIP requires effluent limits for selenium.

(c) **WQBELs.** Effluent sampling from October 2021 through June 2024 April 2019 results in the following effluent limitations for selenium: MDEL = 5.6 µg/L and AMEL = 2.3 µg/L, based on the NAWQC chronic criterion for the protection of freshwater aquatic life.

(d) **Plant Performance and Attainability.** From October 2021 through June 2024, the effluent exceeded the AMEL of 2.3 µg/L and MDEL of 5.6 µg/L one time. The Central Valley Water Board concludes that immediate compliance with the selenium effluent limitations is feasible.

4. WQBEL Calculations

a. This Order includes WQBELs for ammonia, total as nitrogen and total selenium. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.5.b through e, below. See Attachment H for the WQBEL calculations.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from section 1.4 of the SIP:

ECA = C + D(C – B) where C>B, and
ECA = C where C≤B

where:

ECA = effluent concentration allowance
D = dilution credit

C= the priority pollutant criterion/objective
B= the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples.

c. **Primary and Secondary MCLs.** For non-priority pollutants with primary MCLs to protect human health (e.g., nitrate plus nitrite), the AMEL is set equal to the primary MCL and the AWEL is calculated using the AWEL/AMEL multiplier, where the AWEL multiplier is based on a 98th percentile occurrence probability and the AMEL multiplier is from Table 2 of the SIP. For non-priority pollutants with secondary MCLs that protect public welfare (e.g., taste, odor, and staining), WQBELs were calculated by setting the LTA equal to the secondary MCL and using the AMEL multiplier to set the AMEL. The AWEL was calculated using the MDEL/AMEL multiplier from Table 2 of the SIP.

d. **Aquatic Toxicity Criteria.** For priority pollutants with acute and chronic aquatic toxicity criteria, the WQBELs are calculated in accordance with section 1.4 of the SIP. The ECAs are converted to equivalent long-term averages (i.e. LTA_{acute} and $LTA_{chronic}$) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers. For non-priority pollutants, WQBELs are calculated using similar procedures, except that an AWEL is determined utilizing multipliers based on a 98th percentile occurrence probability.

e. **Human Health Criteria.** For priority pollutants with human health criteria, the WQBELs are calculated in accordance with section 1.4 of the SIP. The AMEL is set equal to the ECA and the MDEL is calculated using the MDEL/AMEL multiplier from Table 2 of the SIP. For non-priority pollutants with human health criteria, WQBELs are calculated using similar procedures, except that an AWEL is established using the MDEL/AMEL multiplier from Table 2 of the SIP.

$$AMEL = mult_{AMEL}[\min(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic})]$$

$$MDEL = mult_{MDEL}[\min(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}})]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:

$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Point 001

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

Parameter	Units	AMEL	AWEL	MDEL
Ammonia, Total (as Nitrogen)	mg/L	1.1	3.9	--
Total Selenium	µg/L	3.5	--	9.2
Diazinon and Chlorpyrifos	µg/L	Note 2	Note 3	--
Total Mercury	Grams per year	Note 5	--	--
pH	Standard Units	Instantaneous Minimum 6.5 Instantaneous Maximum 8.5	--	--
Total Coliform Organisms	MPN/100mL	Note 4	--	--

Table F-8 Notes:

1. **pH.** Compliance with the instantaneous minimum and maximum effluent limitations is determined by monitoring indicated in the Monitoring and Reporting Program, Table E-3.
2. **Diazinon and Chlorpyrifos AMEL**
   $S_{AMEL} = C_{D\ M\text{-}avg} /0.079 + C_{C\ M\text{-}avg} /0.012 \leq 1.0$
   $C_{D\ M\text{-}AVG}$ = average monthly diazinon effluent concentration (µg/L).
   $C_{C\ M\text{-}AVG}$ = average monthly chlorpyrifos effluent concentration (µg/L)
3. **Diazinon and Chlorpyrifos AWEL**
   $S_{AWEL} = C_{D\ W\text{-}avg} /0.14 + C_{C\ W\text{-}avg} /0.021 \leq 1.0$
   $C_{D\ W\text{-}AVG}$ = average weekly diazinon effluent concentration (µg/L).
   $C_{C\ W\text{-}AVG}$ = average weekly chlorpyrifos effluent concentration (µg/L).
4. **Total Coliform Organisms.** AWEL is applied as a 7-day median. MDEL cannot be exceeded more than once in any 30-day period.
5. **Mercury, Total (Discharge Point 001).** The total annual mass discharge of total mercury shall not exceed 481 grams per year.

5. Whole Effluent Toxicity (WET)

The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan) contains toxicity provisions, including numeric objectives for acute and chronic aquatic toxicity, that are applicable to this discharge and are hereafter referred to as the Toxicity Provisions.

a. **Chronic Toxicity Water Quality Objective.** The chronic aquatic toxicity water quality objective is expressed as a null hypothesis and an alternative hypothesis with a regulatory management decision (RMD) of 0.75, where the following null hypothesis, Ho, shall be used

Ho: Mean response (ambient water) ≤ 0.75 • mean response (control)

And where the following alternative hypothesis, Ha, shall be used:

Ha: Mean response (ambient water) > 0.75 • mean response (control)

Attainment of the water quality objective is demonstrated by conducting chronic aquatic toxicity testing and rejecting this null hypothesis in accordance with the Test of Significant Toxicity (TST) statistical approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1. When the null hypothesis is rejected, the alternative hypothesis is accepted in its place, and there is no exceedance of the chronic aquatic toxicity water quality objective. Failing to reject the null hypothesis (referred to as a "fail") is equivalent to an exceedance of the chronic aquatic toxicity water quality objective.

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 page section 3.1.20) To evaluate compliance with the Statewide Toxicity Provisions aquatic toxicity numeric objectives and Basin Plan's narrative toxicity objective, acute and chronic whole effluent toxicity testing data has been evaluated in the development of this Order.

b. **Chronic Toxicity RPA.** The tables below are chronic WET testing (at an IWC of 100 percent effluent) performed by the Discharger from June 2023 through February 2024 for *Pimephales promelas and Selenastrum capricornutum* since those species were only monitored during the species sensitivity screening. *Ceriodaphnia dubia* results are shown from August 2021 through February 2024. *Ceriodaphnia dubia* was used as the most sensitive species during the R5-2020-0015 permit cycle.

Table F-9 Chronic WET Testing Results – *Pimephales promelas*

Date	***Pimephales promelas* Survival TST (Pass/Fail)**	***Pimephales promelas* Survival Percent Effect**	***Pimephales promelas* Growth TST (Pass/Fail)**	***Pimephales promelas* Growth Percent Effect**
6/19/2023	N/A	3%	PASS	13%
8/21/2023	N/A	0%	PASS	-8%
10/16/2023	N/A	0%	PASS	-4%
2/26/2024	N/A	-3%	PASS	0%

Table F-10 Chronic WET Testing Results – *Selenastrum capricornutum*

Date	***Selenastrum capricornutum* Growth TST (Pass/Fail)**	***Selenastrum capricornutum* Growth Percent *Effect***
6/19/2023	PASS	-18%
8/21/2023	PASS	-38%
10/16/2023	PASS	-115%
2/26/2024	PASS	-50%

Table F-11 Chronic WET Testing Results – *Ceriodaphnia dubia (C. dubia)*

Date	*C.dubia* Survival TST (Pass/Fail)	*C.dubia* Survival Percent Effect	*C.dubia* Reproduction TST (Pass/Fail)	*C.dubia* Reproduction Percent Effect	Notes
8/9/2021	N/A	0%	FAIL	84%	Note 1
8/31/2021	N/A	0%	PASS	16%	Note 1
10/11/2021	N/A	30%	FAIL	28%	Note 1
10/25/2021	N/A	0%	PASS	12%	Note 1
11/8/2021	N/A	0%	FAIL	25%	Note 1
12/13/2021	N/A	0%	PASS	-23%	--
1/24/2022	N/A	0%	PASS	-40%	--
6/6/2022	N/A	20%	FAIL	26%	Note 1
7/18/2022	N/A	10%	PASS	18%	Note 1
8/29/2022	N/A	80%	FAIL	97%	Note 1
10/17/2022	N/A	0%	PASS	18%	Note 1
2/13/2023	N/A	-25%	PASS	-38%	--
6/19/2023	N/A	0%	PASS	-7%	--
7/17/2023	N/A	0%	PASS	-2%	--
8/21/2023	N/A	10%	PASS	6%	Note 1
10/16/2023	N/A	0%	PASS	-7%	
2/26/2024	N/A	0%	PASS	0%[a]	--

Table F-11 Notes:

1. Tests not representative of the effluent are designated with "Note 1" in the *Notes* column above. Interfering microorganisms were found to be growing on the organisms and interfering with the *C. dubia* test, as communicated in the Discharger's *Ceriodaphnia dubia Toxicity Reduction Evaluation Final Report* (RBI, 2024) and Report of Waste Discharge. A method for preventing this interference has been identified and used in the Discharger's *C. dubia* tests since June 2023.

i. **RPA.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Chronic toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might also determine that WQBELs are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBELs for pathogens in all permits for POTWs discharging to contact recreational waters).*" The Facility is a POTW with a permitted ADWF of greater than or equal to 5 MGD that treats domestic wastewater containing ammonia and

other toxic pollutants and is required to have a pretreatment program by the terms of 40 C.F.R. § 403.8(a). Therefore, the discharge has a reasonable potential to cause or contribute to an instream exceedance of the Basin Plan's narrative toxicity objective and water quality-based effluent limits for chronic toxicity are included in this Order.

ii. **WQBELs.** The following effluent limitations have been established for chronic whole effluent toxicity:

Chronic Whole Effluent Toxicity Median Monthly Effluent Limitation (MMEL). No more than one chronic aquatic toxicity test initiated in a calendar month shall result in a "Fail" at the IWC for any endpoint.

Chronic Whole Effluent Toxicity Maximum Daily Effluent Limitation (MDEL). No chronic aquatic toxicity test shall result in a "Fail" at the Instream Waste Concentration (IWC) for the sub-lethal endpoint measured in the test and a percent effect for the survival endpoint greater than or equal to 50 percent.

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 pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) 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 average weekly and average monthly discharge limitations for POTWs unless impracticable. For total selenium, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP. Furthermore, for total selenium, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in section IV.C.3 of this Fact Sheet.

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). The effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order, with the exception of average weekly effluent limitation for ammonia (total as nitrogen) and maximum daily effluent limitation total selenium. The effluent limitations for these pollutants are less stringent than

those in Order R5-2020-0015. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. **CWA section 402(o)(1) and 303(d)(4).** CWA section 402(o)(1) prohibits the establishment of less stringent water quality-based effluent limits "except in compliance with section 303(d)(4)." CWA section 303(d)(4) has two parts: paragraph (A) which applies to nonattainment waters and paragraph (B) which applies to attainment waters.

   i. For waters where standards are not attained, CWA section 303(d)(4)(A) specifies that any effluent limit based on a TMDL or other WLA may be revised only if the cumulative effect of all such revised effluent limits based on such TMDLs or WLAs will assure the attainment of such water quality standards.

   ii. For attainment waters, CWA section 303(d)(4)(B) specifies that a limitation based on a water quality standard may be relaxed where the action is consistent with the antidegradation policy.

   Tule Canal is considered an attainment water for ammonia (total as nitrogen) and total selenium because the receiving water is not listed as impaired on the 303(d) list for these constituents. The exceptions in section 303(d)(4) address both waters in attainment with water quality standards and those not in attainment, i.e. waters on the section 303(d) impaired waters list. As discussed in section IV.D.4, below, relaxation or removal of the effluent limits complies with federal and state antidegradation requirements. Thus, relaxation of the average weekly effluent limitation for ammonia (total as nitrogen) and maximum daily effluent limitations for total selenium from Order R5-2020-0015 meets the exception in CWA section 303(d)(4)(B).

b. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

   i. **Ammonia, Total as Nitrogen.** Effluent monitoring data collected between August 2021 and July 2024 resulted in an average weekly effluent limitation (AWEL) that is less stringent than the AWEL in Order R5-2020-0015. The ammonia, total as nitrogen AWEL is based on the current dataset for ammonia total as nitrogen, pH, and temperature, and updated ammonia total as nitrogen criteria. Calculation of the ammonia limits are detailed in section IV.C.3 of this Fact Sheet.

   ii. **Selenium.** Effluent monitoring data collected between August 2021 and July 2024 resulted in a maximum daily effluent limitation (MDEL) that is less stringent than the MDEL in Order R5-2020-0015. The total selenium MDEL is based on the current dataset as detailed in section IV.C.3 of this Fact Sheet.

Thus, relaxation of the AWEL for ammonia, total as nitrogen and MDEL for total selenium from Order R5-2020-0015 is in accordance with CWA section 402(o)(2)(B)(i), which allows for less stringent effluent limitations based on information that was not available at the time of permit issuance.

4. Antidegradation Policies

This Order does not authorize lowering water quality as compared to the level of discharge authorized in the previous order, which is the baseline by which to measure whether degradation will occur. This Order does not allow for an increase in flow or mass of pollutants to the receiving water. The Order requires compliance with applicable federal technology-based standards and with WQBELs where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. Accordingly, the permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy.

This Order relaxes the MDEL for total selenium based on updated monitoring data. This Order relaxes the AWEL for ammonia (total as nitrogen) based on the current dataset for ammonia, pH, and temperature, and updated ammonia criteria. The removal and relaxation of WQBELs for these parameters will not result in an increase in pollutant concentration or loading, a decrease in the level of treatment or control, or a reduction of water quality. Therefore, the Central Valley Water Board finds that the removal and relaxation of the effluent limitations does not result in an increase in pollutants or any additional degradation of the receiving water. Thus, the removal and relaxation of effluent limitations is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy.

a. **Surface Water.** The permitted surface water 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 BPTC of the discharge. The impact on existing water quality will be insignificant.

b. **Groundwater.** The Discharger uses one unlined emergency storage pond (a portion of this pond will be converted to a lined emergency detention basin) and nine unlined Algae Production Ponds to contain untreated and secondary treated wastewater, and three clay soil, cement-treated, sludge stabilization ponds. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the ponds may result in an increase in the concentration of these constituents in groundwater. The State Anti-Degradation Policy generally prohibits the Central Valley Water Board from authorizing activities that will result in the degradation of high-quality waters unless it has been shown that:

   i. The degradation will not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives;

   ii. The degradation will not unreasonably affect present and anticipated future beneficial uses;

iii. The discharger will employ Best Practicable Treatment or Control (BPTC) to minimize degradation; and

iv. The degradation is consistent with the maximum benefit to the people of the state.

Groundwater at concentrations below the water quality objective for nitrate is considered high-quality water for nitrate. Groundwater water quality data at is presented in section V.B of this Fact Sheet. Background groundwater quality for nitrate, total as nitrogen, is generally below the water quality objective of 10 mg/L. From April 2020 through May 2024, background groundwater quality has averaged less than 10 mg/L. Groundwater monitoring wells at the Facility, or that are generally downgradient of the Facility have not exceeded the nitrate (total as nitrogen) water quality objective of 10 mg/L and have averaged lower concentrations than background groundwater quality, thus indicating the facility is not degrading groundwater in terms of nitrate. The Discharger has elected to participate in Pathway A of the Nitrate Control Program. Central Valley Water Board staff are in the process of determining if the Discharger meets the requirements of Pathway A. This Order requires the continued monitoring of nitrate in the groundwater and implementation of groundwater nitrate limitations.

Groundwater in MW-6 and MW-11 was consistently above the manganese taste and odor secondary MCL of 50 µg/L. Manganese in wells MW-6 and MW-11 exceeded the manganese water quality objective in all samples, while manganese in well MW-2 was almost always less than the MCL. Monitoring Wells MW-2, MW-6, and MW-11 are typically downgradient of the pond system. The Discharger has not monitored for total or dissolved manganese since 2014; therefore, this Order requires the Discharger to resume manganese monitoring to determine current manganese groundwater concentrations. Furthermore, electrical conductivity issues still only occur at MW-6 compared to other wells at or typically downgradient of the Facility.

The Cannery WDR, Order R5-2018-0051 regulates the discharge of treated process water from the Woodland Tomato Cannery to land via sprinkler systems. The sprinkler systems are approximately 1 mile northwest from the Sludge Stabilization Ponds. Order R5-2018-0051 requires monitoring at upgradient and downgradient wells relative to their land discharge. Monitoring Well IMW6A is located approximately 300 feet east of the Sludge Stabilization Ponds (Pond 10), downgradient of Ponds 9, 10 and 11.

WDR Order R5-2018-0051 requires annual monitoring for dissolved manganese at Well IMW6A. From 2018 through 2024 the maximum dissolved manganese concentration at Well IMW6A was 5 µg/L. The Sludge Stabilization Ponds were cement/lime treated and compacted in the summer of 2012. Since monitoring for dissolved manganese has not been conducted at the MW-6 since 2014 and the samples at the Cannery's well IIMW6A, which is listed as "… *upgradient of the Cannery's Land Application Area but downgradient to the City of Woodland's Water Pollution Control Facility"* (WDR Order R5-2018-0051, Finding 44, page 11) it cannot be determined if

the groundwater continues to be degraded as shown in the February 2007 through third quarter 2014 sample results.

As discussed in section V.B of the Fact Sheet, groundwater monitoring results do not indicate degradation of groundwater quality when compared to background for electrical conductivity and nitrate (total as nitrogen). Furthermore, the municipal water supply for the Discharger was converted to surface water which reduced the salinity from the source water. It is currently inconclusive if dissolved manganese is in compliance with the State Antidegradation Policy. The Ponds and Groundwater Information Report in section VI.C.2.a requires an evaluation of all the pond and groundwater parameters monitored in the Attachment E of this Order. The Ponds and Groundwater Information Report requires a summary and list of upgradient/background and downgradient wells, a summary of at least the previous 5 years of pond and groundwater data with a comparison of the upgradient/background and downgradient wells and applicable groundwater limitations and/or Basin Plan groundwater water quality objectives, a summary of any past exceedance of applicable groundwater limitations and/or Basin Plan groundwater water quality objectives at the ponds and/or downgradient groundwater monitoring wells, and an evaluation of current and future Best Practicable Treatment or Control (BPTC) methods used to minimize organic overloading and degradation to groundwater.

The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. The degradation will not unreasonably affect present and anticipated beneficial uses of groundwater or result in water quality less than water quality objectives. The Discharger selected to participate in the Prioritization and Optimization Study for the Salt Control Program. To help ensure that the Discharger continues to implement salinity reduction measures, this Order includes an electrical conductivity annual average performance-based trigger of 1,250 µmhos/cm at Monitoring Locations EFF-001 and LND-003 and an electrical conductivity annual average performance-based trigger of 2,100 µmhos/cm at monitoring location LND-002. Furthermore, this Order requires the Discharger to comply with the new Salt Control Program (i.e., to participate in the P&O Study and implement the SEMP) and the new Nitrate Control Program. This Order also requires that the Discharger comply with groundwater limitations, monitor the groundwater, and submit a Ponds and Groundwater Information Report.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBELs for individual pollutants. The technology-based effluent limitations consist of restrictions on BOD_5, TSS, flow, and pH. Technology-based restrictions on BOD_5, TSS, flow, and pH are discussed in sections IV.B.2.a and c of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this

Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. For BOD_5, TSS, and pH, both technology-based effluent limitations and water quality-based effluent limitations are applicable. The more stringent of these effluent limitations are implemented by this Order. These limitations are not more stringent than required by the CWA. Water quality-based effluent limitations for BOD_5, TSS, and pH are discussed in sections IV.C.3.d.ii and iii.

This Order also contains land discharge effluent limitations for nitrate. These limitations are discussed below in sections IV.F and V.B of this Fact Sheet.

WQBELs 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. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May 2000. Collectively, 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 Point 001

Table F-12 Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations	Basis
BOD_5	mg/L	AMEL: 10 AWEL: 15	TTC
TSS	mg/L	AMEL: 10 AWEL: 15	TTC
pH	Standard Units	Instantaneous Minimum: 6.5 Instantaneous Maximum: 8.5	BP
Ammonia, Total as Nitrogen	mg/L	AMEL: 1.1 AWEL: 3.9	NAWQC
Selenium, Total	µg/L	AMEL: 3.5 MDEL: 9.2	NAWQC
Total Coliform Organisms	MPN/ 100mL	7-Day Median:2.2 More than once in a 30-Day Period: 23 Anytime: 240	Title 22
Diazinon and Chlorpyrifos	µg/L	AMEL 1 AWEL 1	BP
Methylmercury	Grams	Grams per Year: 0.43	TMDL

Table F-12 Notes:

1. **TTC** – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.

BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
NAWQC – Based on U.S. EPA's National Ambient Water Quality Criteria for the protection of freshwater aquatic life.
SEC MCL – Based on the Secondary Maximum Contaminant Level.
TMDL – Based on the TMDL for salinity and boron in the lower San Joaquin River.
Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

2. **Methylmercury.** Effective 31 December 2030

E. Interim Effluent Limitations

1. **Interim Limits for Total Mercury.** 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 one year. Interim effluent limitations must be based on current treatment plant performance or previous final permit limitations, whichever is more stringent.

   The interim effluent limitations for total mercury are based on Facility performance. The Delta Mercury Control Program requires POTWs to limit their discharges of inorganic (total) mercury to Facility performance-based levels during Phase 1. The interim inorganic (total) mercury effluent mass limit is to be derived using current, representative data and shall not exceed the 99.9th percentile of the 12-month running effluent inorganic (total) mercury mass loads. 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.

   This Order retains the interim performance-based effluent limitation for total mercury from Order R5-2014-0120-01 (481 grams/year), which is consistent with the intent of the TMDL to not penalize dischargers for early actions to reduce mercury. Based on the available total mercury data collected between 2012 and 2014, which used clean hands/dirty hands techniques and analytical methods approved under 40 CFR Part 136, a performance-based interim mass effluent limit was included in Order R5-2014-0120-01. The interim effluent limitation for total mercury shall apply during the compliance schedule in lieu of the final effluent limitation for methylmercury.

   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.

a. **Interim Effluent Limitation for Total Mercury.** For mercury, the Delta Mercury Control Program requires POTWs to limit their discharges of inorganic (total) mercury to Facility performance-based levels during Phase 1. The interim inorganic (total) mercury effluent mass limit is to be derived using current, representative data and shall not exceed the 99.9th percentile of the 12-month running effluent inorganic (total) mercury mass loads. 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. Interim limitations for total recoverable mercury were calculated in previous Order R5-2014-0120-01 and have been continued in this Order. This Order includes a performance-based limit of 481 grams/year, derived from the existing mass loading limitation in previous Order R5-2009-0010 (0.88 lbs/month), as follows:

   0.088 lbs/month x 12 months/year x 454 grams/lb = 481 grams/year

F. Land Discharge Specifications

Wastewater discharged to the Erskine Pond and Algae Production Ponds cannot be returned back to the Facility headworks for treatment. This Order considers the discharges from the Facility to the Erskine Pond and the Algae Production Ponds as discharges to land. This Order requires the discharges to land to be monitored at the ponds rather than the point of discharge into the ponds. The water in the ponds is most representative of what is being percolated to groundwater. See Fact Sheet section II.B.5 for a description of the discharges to land.

G. Recycling Specifications

Treated wastewater discharged for reclamation is regulated under separate waste discharge requirements and must meet the requirements of CCR, Title 22. See State Board Order WQ 2016-0068-DDW, Waste Discharge Identification (WDID) Number 5A57NC00046.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

On 4 March 2025, the U.S. Supreme Court issued a decision in the case of the City and County of San Francisco vs. U.S. Environmental Protection Agency (2025) 145 U.S. 704, which challenged some of the limits in NPDES permits. The Court ruled that “end result” provisions (e.g. receiving water limitations) are not allowed by the federal Clean Water Act and that NPDES permits must have specific requirements to meet water quality objectives and protect beneficial uses. Based on this ruling, no receiving water limitations are included in this Order. The Clean Water Act and implementing regulations specify that effluent limitations are required when there is reasonable potential for a discharge to cause or contribute to an exceedance of any applicable water quality standard. A Reasonable Potential Analysis (RPA) is a key

step taken by permit writers to determine if a discharge has the potential to violate water quality standards. An RPA includes characterization of the effluent and receiving waters and an assessment of the water quality standards to see if projected concentrations in the receiving water after mixing with the effluent have the "reasonable potential" (RP) to exceed the water quality criteria. Effluent limitations and other permit conditions are prescribed based on an evaluation of this information. RPAs and effluent limitation calculations follow established NPDES program procedures and requirements (State Water Resources Control Board, 2005 and U.S. Environmental Protection Agency, 1991). This Order also requires regular effluent and receiving water sampling to document any potential effects to the receiving water. In addition, this Order requires characterization monitoring of priority pollutants in the upstream receiving water and effluent during the permit term. All Central Valley NPDES permits contain a general re-opener provision that allows the Central Valley Water Board to amend the permit and include conditions, effluent limitations, provisions, or prohibitions. This would include scenarios where monitoring data indicate the need for new effluent limitations to ensure receiving water quality objectives are met. As an additional assurance, this Order prohibits operational changes that would significantly impact the character of the waste discharge. Nonetheless, the question remains as to whether an NPDES permit is adequately protective of water quality when the receiving water limitations are removed; or alternatively, whether additional conditions should be considered when removing receiving water limitations.

1. **Summary of the specific considerations for the removal of receiving water limitations.** These considerations include associated effluent limitations, best management practices (BMPs) and/or water quality monitoring requirements.

    a. **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 Provision. However, the Statewide 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 the Bacteria Water Quality Objective, the Bacteria Water Quality Objective would not be implemented in the permit, WDR, or waiver of WDR. Since this Order includes effluent limitations and discharge requirements equivalent to the DDW Title 22 disinfected tertiary reclamation criteria that are more stringent than the Statewide Bacteria Objectives, the Statewide Bacteria Objectives have not been implemented in this Order. The Facility is a POTW that treats its water to tertiary standards and has strict total coliform limitations that meet Title 22 disinfection or equivalent standards. This Order contains

total coliform effluent limitations based on the Title 22 disinfection or equivalent reclamation criteria, which are more stringent than the Statewide Bacteria Objectives described below.

b. **Biostimulatory Substances and Dissolved Oxygen.** The Basin Plan contains a biostimulatory narrative water quality objective (WQO) and dissolved oxygen numeric water quality objectives that have been incorporated into previous permits as receiving water limitations. Biostimulatory substances and low dissolved oxygen can cause eutrophication and excessive algal growth in the receiving water along with other water quality issues related to taste, odor, color and toxicity. Discharges with high Biochemical Oxygen Demand (BOD) and/or Chemical Oxygen Demand (COD) may contribute to dissolved oxygen problems downstream. There is no RP for dissolved oxygen, but the permit requires frequent monitoring of dissolved oxygen in the receiving water as well as visual monitoring of the receiving water for fungi, slimes, or objectionable growths. This Order includes effluent limitations for BOD_5 and percent removal of BOD_5 and TSS along with regular monitoring of Dissolved Organic Carbon (DOC) in the receiving water.

c. **Chemicals, Pesticides, and Radioactive.** The Basin Plan has narrative and numeric water quality objectives for chemicals, pesticides, and radionuclides that are typically used as receiving water limitations in NPDES permits. As with other water quality constituents, NPDES regulations require effluent limitations where existing data indicate reasonable potential to cause or contribute to an exceedance in the receiving water. Attachments G and H provide details regarding the specific chemical constituents with reasonable potential and associated effluent limitations. These effluent limitations ensure the protection of beneficial uses in the receiving water. There is no RP based on existing data for any radioactive constituents or pesticides on the characterization monitoring list. There is RP for total selenium in the effluent. This Order includes effluent limitations and effluent monitoring for total selenium.

d. **Color, Taste, and Odors.** The Basin plan has a narrative water quality objective for color as well as one for taste and odors. These have been incorporated into previous permits as receiving water limitations. Color, taste, and odors are rarely concerns for tertiary treated wastewater discharges in the Central Valley, and no effluent limitations are included in this permit. However, frequent visual monitoring of the receiving water for discoloration and other potential nuisance conditions is required.

e. **pH.** The Basin Plan has narrative water quality objectives for pH that have been used as receiving water limitations in previous permits. A pH that is too high or too low can influence the solubility of metals and nutrients in the receiving water and impact the overall health of aquatic life. The discharge does not have RP for pH based on existing data. However, the permit does include pH effluent limitations and requires frequent monitoring of pH in the receiving water.

f. **Temperature.** There is no RP for temperature based on existing data. This Order does include frequent monitoring of temperature in the receiving water.

g. **Toxicity.** The Basin Plan contains a narrative water quality objective for toxicity that has been incorporated into previous permits as a receiving water limitation. However, with the adoption of the Statewide Toxicity Provisions (State Water Resources Control Board, 2021) in 2023, numeric aquatic toxicity water quality objectives were established along with required effluent limitations and/or targets for non-stormwater NPDES permits to ensure the protection of aquatic life beneficial uses in receiving waters. This Order includes chronic whole effluent toxicity effluent limitations and requires frequent monitoring of chronic whole effluent toxicity. This Order also has effluent limitations for Ammonia Nitrogen, Total (as N). Elevated levels of ammonia are known to be toxic to aquatic organisms, so effluent limitations ensure that the aquatic life beneficial use is protected in the receiving water body.

h. **Turbidity.** The Basin Plan includes numeric turbidity water quality objectives that are based on existing turbidity in the receiving waters. These have been incorporated into previous permits as receiving water limitations. The discharge does not have reasonable potential or effluent limitations for turbidity; however the permit requires frequent monitoring of turbidity in the receiving waters. The Facility is a POTW that treats their water to tertiary standards. The permit includes filtration system operating specifications with strict turbidity requirements to ensure disinfection systems are effective. These limitations are low enough to ensure protection of beneficial uses in the receiving water.

i. **Floating Material, Oil and Grease, Suspended Sediments, Suspended Material, and Settleable Substances.** The previous permit contained receiving water limitations relative to narrative water quality objectives in the Basin Plan for Floating Material, Oil and Grease, Suspended Sediments, Suspended Material and Settleable Substances. These constituents can affect water quality by reducing water clarity and light penetration which can ultimately lead to increased water temperatures, decreased dissolved oxygen levels, and eutrophication. Contamination from these substances can impact both aquatic and human health. This Order requires frequent visual monitoring in the receiving waters for floating material, visible films, sheens or coating, suspended matter, and bottom deposits. This Order also includes numeric effluent limitations for Total Suspended Solids.

2. Review of Other Relevant Factors. In addition to the considerations listed in Section V.A.1 above, Central Valley Water Board staff also considered the other relevant factors below in the review of receiving water limitations.

a. **Synergistic effects.** *Is there a known concern that the discharge will combine with the receiving water and produce adverse synergistic effects? For example, surface water discharges may be fully compliant with dissolved oxygen and narrative objectives, but may combine with poor conditions in the receiving water to cause harmful algal blooms (HABs), eutrophication, dissolved oxygen sag, toxic effects, taste and odor, and other harmful*

conditions. Is there the concern that the discharge when combined with the receiving water would have color concerns (e.g., mine discharge, floc due to pH change, etc.)? There are no known concerns for adverse synergistic effects in the receiving water.

b. **Limitations enforced within the receiving water.** *Are there specific chemicals or pesticides that have Basin Plan objectives that are not enforced through effluent limitations? For example, certain organochlorine pesticides effluent limitations are based on numeric water quality objectives consistent with applicable regulations. However, more stringent Basin Plan objectives require the receiving water to be "non-detect" for these materials. In these circumstances, removing the receiving water limitation would result in reduced protections that are required under federal and state regulations.* The discharge does not demonstrate exceedances of the Basin Plan's receiving water quality objectives for this category of chemicals and/or pesticides.

c. **Other site-specific information.** *Are there any special studies that have been conducted in the receiving water body/watershed or impairments that relate to existing receiving water limitations?* This Order considers the Clean Water Act 303(d) List of Impaired Water Bodies when they are developed. The receiving water has no Total Maximum Daily Load (TMDL) requirements. The Central Valley Water Board's Pyrethroid Control Program, adopted in 2017, requires larger POTWs (> 1 million gallons a day of discharge) to monitor for pyrethroids to determine if they have RP. The Discharger conducted pyrethroid monitoring from March through October 2024 and submitted the results to the Central Valey Water Board. Staff reviewed the results and determined that they satisfy the pyrethroid monitoring requirements. Salinity constituents are also a concern in Central Valley water bodies. The permit requires continued implementation of a Salinity Evaluation and Minimization Plan (SEMP) to identify salinity sources and reduce salinity in discharges, consistent with the requirements of the Salt Control Program.

d. **Data Characterization.** *Have the effluent and receiving water been fully characterized?* This Order requires characterization monitoring in the effluent and receiving water every permit term. A full scan of priority pollutant and other constituents of concern is required.

e. **Compliance History.** *Has the facility had any compliance issues meeting receiving water limitations during the most recent permit term (e.g., received a Notice of Violation for exceeding a receiving water limitation)? Overall, does the facility have any ongoing compliance issues (e.g., frequent operational upsets).* The Facility does not have ongoing compliance issues.

3. **Review of Receiving Water Limitations.** Based on Central Valley Water Board staff review of the considerations presented above, existing permit provisions are adequate to ensure the Facility discharge consistently meets federal and state regulations for the protection of beneficial uses in the receiving water. The effluent limitations and receiving water monitoring in this Order along with the permit prohibitions and reopener provisions provide a multi-pronged approach to ensuring water quality standards are met. As such, receiving water limitations

from the previous permit can be removed without the inclusion of additional conditions. This Order requires quarterly priority pollutant characterization monitoring of the effluent and upstream receiving water and implementation of the Salinity Evaluation and Minimization Plan (including a summary of its effectiveness) Table F-13 below provides a summary of the considerations in removing the receiving water limitations.

Table F-13. Receiving Water (RW) Limitations Review

Parameter	Objective	Effluent Limitations and/or Monitoring
Bacteria	Numeric	No reasonable potential (RP), and receiving water limitation is not needed due to tertiary treatment standards. Total coliform effluent limitations are included.
Biostimulatory Substances	Narrative	No RP based on effluent data, but Biochemical Oxygen Demand (BOD), BOD percent removal effluent limitations are included. Dissolved Organic Carbon monitoring (quarterly) is required in RW.
Chemical Constituents	Narrative	Electrical conductivity effluent monitoring trigger
Color	Narrative	No RP due to tertiary treatment standards. Visual monitoring (monthly) for discoloration is required in RW.
Dissolved Oxygen	Numeric	No RP, tertiary treatment results in minimal DO impacts.
Floating Material	Narrative	Monitoring (weekly) is required in RW.
Oil and Grease	Narrative	No RP due to tertiary treatment standards. Visual monitoring (monthly) is required in RW.
pH	Numeric	No RP due to tertiary treatment standards. Visual monitoring (monthly) of visible films, sheens, or coatings is required in the RW.
Pesticides	Narrative/ Numeric	No RP, but pH effluent limitations are included. Monitoring (weekly) is required in the RW. Pyrethroid monitoring conducted in 2024, no RP.
Radioactivity	Narrative/ Numeric	No RP. With tertiary treatment standards, no adverse impacts to beneficial uses are expected in the RW.
Suspended Sediments	Narrative	No RP based on effluent data, but Total Suspended Solids effluent limitation is included. Visual monitoring (monthly) of suspended matter is required in the RW.
Settleable Substances	Narrative	No RP based on effluent data, but Total Suspended Solids effluent limitation is included. Visual monitoring (monthly) for bottom deposits is required in the RW.
Suspended Material	Narrative	No RP based on effluent data, but Total Suspended Solids effluent limitation is included. Visual monitoring (monthly) of suspended matter is required in the RW.
Taste and Odors	Narrative	No RP due to tertiary treatment standards. Monitoring (monthly) of potential nuisance conditions is required in the RW.
Temperature	Numeric	No RP. Monitoring (weekly) for temperature is required in the RW.

Parameter	Objective	Effluent Limitations and/or Monitoring
Toxicity	Narrative	Ammonia Nitrogen, Total (as N) effluent limitations. Chronic Whole Effluent Toxicity effluent limitations.
Turbidity	Numeric	No effluent limitation due to Filtration System Operating Specifications. Monitoring (weekly) for turbidity is required in the RW.

B. Groundwater

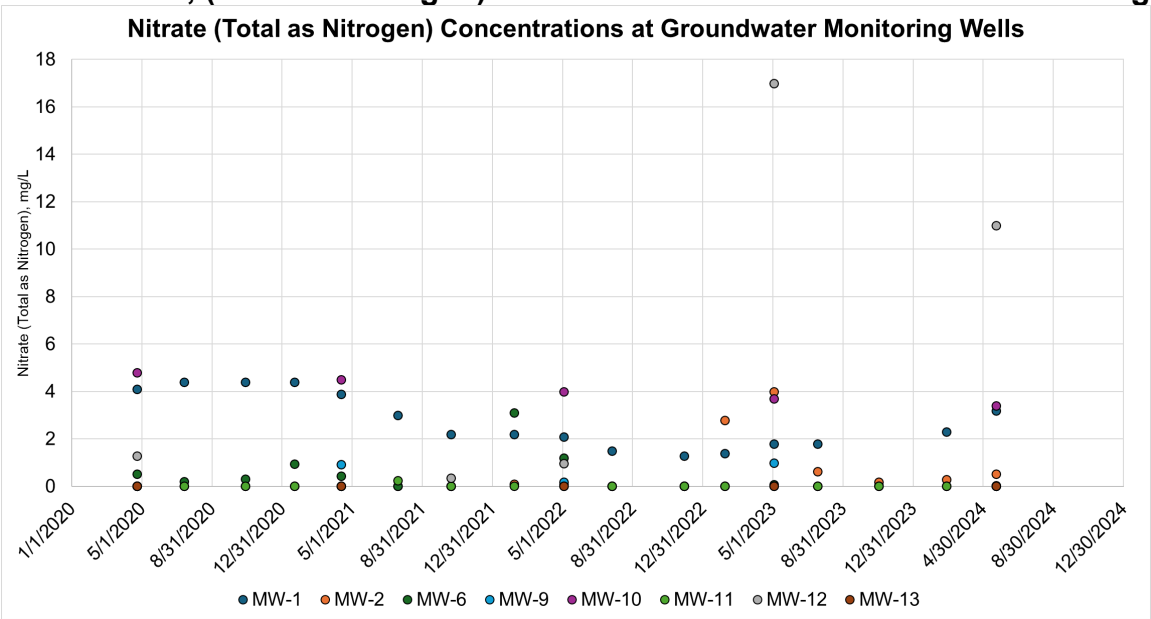
This Order requires continued groundwater monitoring and contains groundwater limitations. The pond bottoms are approximately 10 feet below grade; groundwater is generally encountered at approximately 3 feet to 20 feet below the ground surface but has not been observed in the ponds. Groundwater generally flows northeast around the Facility. Approximate locations for the monitoring wells are shown in Figure C-2 of Attachment C. The Discharger is electing to convert a portion of the Erskine Pond to an engineered emergency detention basin to mitigate impacts from screened influent to groundwater. See section II.B.5 of this Fact Sheet for a detailed description of the pond operations and wastewater discharged to these ponds. Monitoring wells around the pond system provide data to evaluate compliance with groundwater quality limitations.

1. **Nitrate Total as Nitrogen.** The Discharger has elected to participate in Pathway A of the Nitrate Control Program. Central Valley Water Board staff is in the process of determining if the Discharger meets the requirements of Pathway A. This Order requires the continued monitoring of nitrate in the groundwater and groundwater limitations. Table F-14 below shows the sampling summaries for nitrate (total as nitrogen) at groundwater monitoring wells from April 2020 through May 2024. Figure F-1 shows the individual sampling events for April 2020 through May 2024 at these monitoring wells. There were no exceedances of 10 mg/L at any of the groundwater monitoring wells.

Table F-14. Groundwater Nitrate Total as Nitrogen Summary

Well	Minimum, mg/L	Average, mg/L	Maximum, mg/L
MW-1	0.043	2.6	4.4
MW-2	0.012	0.51	4.0
MW-6	0.012	0.41	3.1
MW-9	0.012	0.44	1.0
MW-10	3.4	4.1	4.8
MW-11	0.012	0.027	0.26
MW-12	0.35	6.1	17
MW-13	0.012	0.012	0.012

Figure F-1: Nitrate, (Total as Nitrogen) Concentrations at Groundwater Monitoring Wells

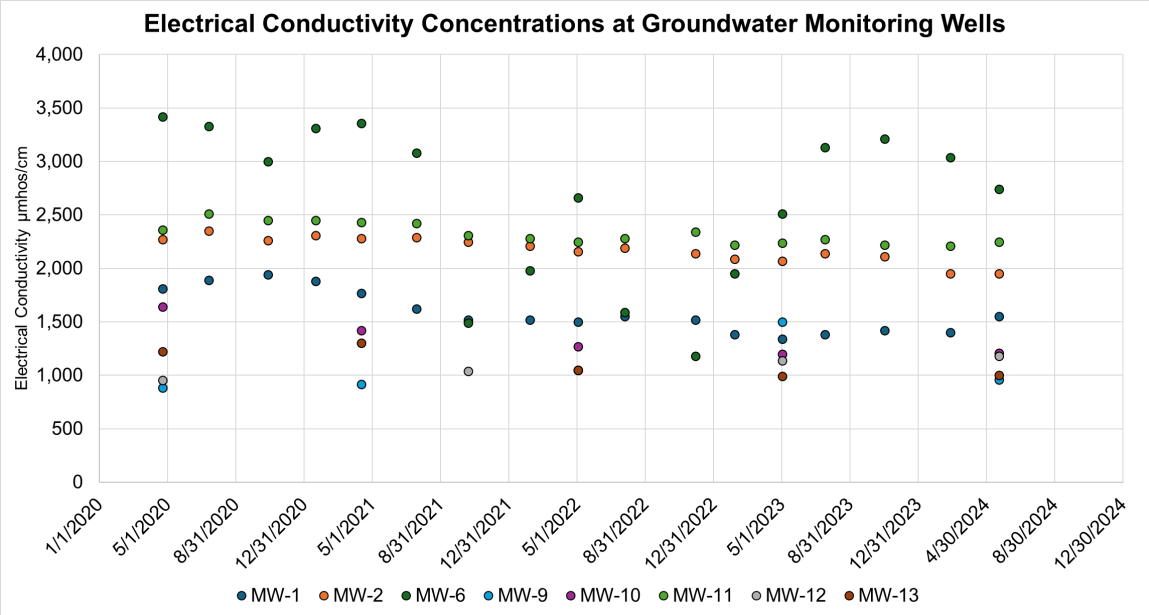


2. **Electrical Conductivity.** The Discharger selected to participate in the Prioritization and Optimization Study for the Salt Control Program. To help ensure continued salinity reduction measures, this Order includes an electrical conductivity effluent performance-based annual average trigger of 1,250 µmhos/cm at Monitoring Locations EFF-001 and LND-003 (value retained from Order R5-2020-0015) and an effluent performance-based annual average trigger of 2,100 µmhos/cm at Monitoring Location LND-002 (calculated using a safety factor and the maximum annual average influent electrical conductivity concentrations from 2017-2019). If any of these triggers is exceeded, the Discharger is required to update the Salinity Evaluation and Minimization Plan. Furthermore, this Order requires the Discharger to comply with the new Salinity Control Program (i.e., to participate in the P&O Study). To continue to determine the influence the pond discharges have on groundwater, an evaluation of the ponds and groundwater is required in this Order. Table F-15 below shows the sampling summaries for electrical conductivity at groundwater monitoring wells from April 2020 through May 2024. Figure F-2 shows the individual sampling events for April 2020 through May 2024 at these monitoring wells. All groundwater monitoring wells were above the electrical conductivity water quality objective recommended MCL of 900 µmhos/cm. Monitoring Wells MW-2, MW-6, and MW-11, which are normally downgradient, had higher electrical conductivity averages and maximum concentrations than background water quality, indicating groundwater degradation.

Table F-15. Electrical Conductivity Summary at Groundwater Monitoring Wells

Well	Minimum, µmhos/cm	Average, µmhos/cm	Maximum, µmhos/cm
MW-1	1,340	1,588	1,940
MW-2	1,950	2,178	2,350
MW-6	1,180	2,646	3,420
MW-9	886	1,063	1,500
MW-10	1,200	1,348	1,640
MW-11	2,210	2,323	2,510
MW-12	956	1,073	1,180
MW-13	991	1,112	1,300

Figure F-2: Electrical Conductivity Concentrations at Groundwater Monitoring Wells



The Discharger's pond monitoring data submitted with monthly SMRs indicate that salt is concentrated in the Algae Production Ponds. The Discharger's July 2008 technical report titled "*Hydrogeologic Evaluation Report*", prepared by Eco:Logic (now Stantec) states the following:

> *"Average concentrations of salts in WWTF [Facility] pond samples were generally higher than at background groundwater monitoring locations, providing an indication that the percolation of pond water may impact groundwater quality above background conditions, with regards to salt. Similarly, groundwater monitoring locations adjacent to or downgradient of the WWTF [Facility] generally had salts reported at higher concentration than background observation locations."*

3. **Dissolved Manganese.** Table F-16 shows the sampling summaries for dissolved manganese at groundwater monitoring wells from February 2011 through the third quarter of 2014, Figure F-3 shows the individual sampling events for this date range at these wells.

As stated above, the groundwater gradient is generally north-northeast. Average and maximum concentrations in groundwater monitoring wells MW-6 (located on the eastern edge of Pond 11), MW-9, (located approximately 1 mile north of the most northern edge of the Erskine Pond, usually cross/downgradient from the Facility.), and MW-11 (located on the north-west quadrant of Pond 1) were greater the taste and odor secondary MCL of 50 µg/L for dissolved manganese. Groundwater monitoring wells MW-6 and MW-11 are located at the Facility's Pond system and well MW-9 is located approximately 1 mile north of the Facility. Groundwater monitoring well MW-14, located approximately 2.3 miles south of the Facility, averaged from 466 µg/L from February 2007 through the third quarter of 2014. It is not clear that manganese at well MW-9 is representative of degradation from the facility since MW-2 is located in between the ponds and MW-9, manganese levels at well MW-2 are lower than MW-9, and non-WPCF ponds are located in between the facility and MW-9. From February 2007 through June 2013, MW-14, generally upgradient located approximately 2.3 miles south of Pond 6, had dissolved manganese concentrations consistently above the water quality objective.

Manganese in the soil has the potential to mobilize if oxygen demanding wastewater reaches groundwater. There was significant degradation for dissolved manganese at wells MW-6, MW-9, and MW-11 from February 2007 through the third quarter of 2014. The Discharger has not been required to sample dissolved manganese in the groundwater since 2014. However, this Order requires the Discharger to resume groundwater monitoring for manganese.

WDR Order R5-2018-0051 for Pacific Coast Producers and City of Woodland Tomato Cannery (Cannery) regulates the discharge via sprinkler systems of treated Cannery process water to land just to the west of the Facility. Three clay-lined stormwater/emergency equalization ponds and an 80-mil single high-density polyethylene (HDPE) liner over compacted clay equalization pond are approximately 1 mile northwest from the Sludge Stabilization Ponds. Land application areas are adjacent (east) of the Sludge Stabilization Ponds. Order R5-2018-0051 requires monitoring at upgradient and downgradient wells relative to their land discharge. Monitoring Well IMW6A is located at an area adjacent to the Sludge Stabilization Ponds. WDR Order R5-2018-0051 requires annual monitoring for dissolved manganese at IMW6A and, from 2018 through 2024, has had a maximum concentration of 5 µg/L. The Sludge Stabilization Ponds were cement/lime treated and compacted in the summer of 2012.

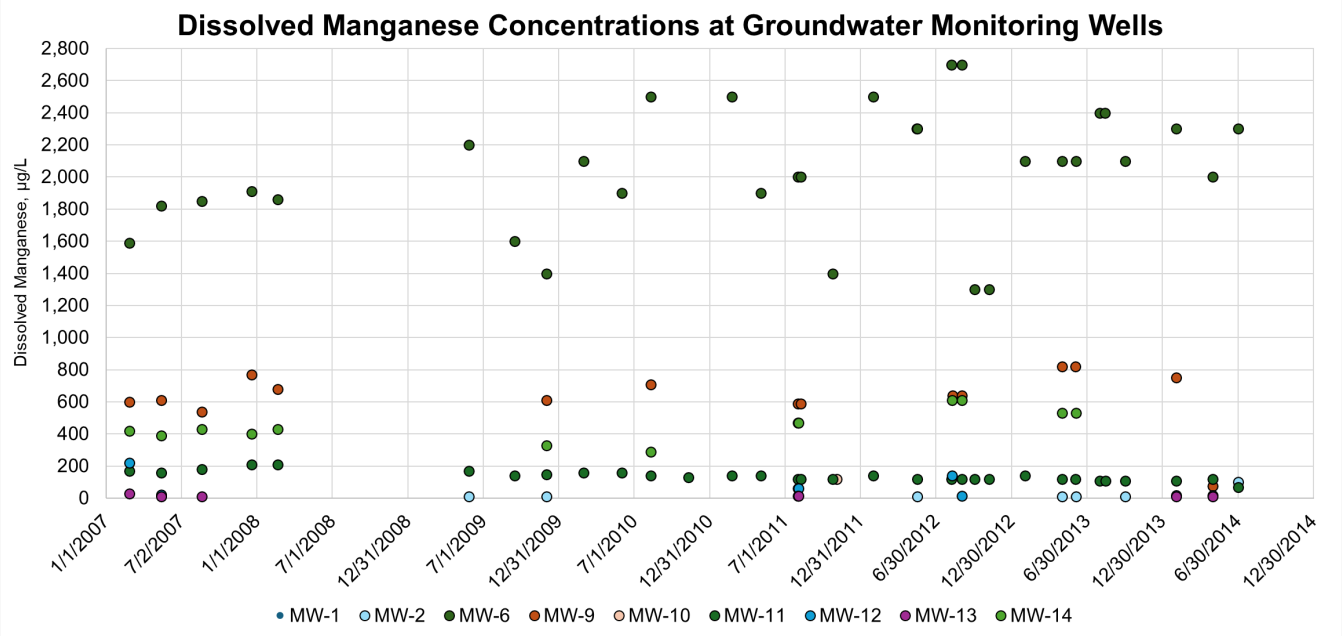
Since monitoring for dissolved manganese has not been conducted at the groundwater monitoring wells since 2014 and the more recent samples at the Cannery's well IIMW6A, which is listed as *upgradient of the Cannery's Land Application Area but downgradient to the City of Woodland's Water Pollution Control Facility* (WDR Order R5-2018-0051 , Finding 44, page 11) are below 50 µg/L, it cannot currently be determined if the groundwater continues to be degraded as shown in the February 2007 through third quarter 2014 sampling results in MW-6 or the other groundwater wells. Therefore, this Order requires the discharger to initiate manganese sampling at the groundwater monitoring wells listed in the MRP to determine if the elevated manganese concentrations

remain and how localized they are. This Order also requires sampling for iron and arsenic, which can also be disassociated from the soil similarly to how manganese is released into groundwater.

Table F-16. Dissolved Manganese Summary at Groundwater Monitoring Wells

Well	Minimum, µg/L	Average, µg/L	Maximum, µg/L
MW-1	ND	4.1	5
MW-2	ND	8.0	100
MW-6	1,300	2080	2,700
MW-9	75	630	820
MW-10	ND	12	120
MW-11	70	135	210
MW-12	5	38	220
MW-13	ND	8.9	30
MW-14	290	455	610

Figure F-3: Dissolved Manganese Concentrations at Groundwater Monitoring Wells



4. This Order requires the Discharger to continue groundwater monitoring to evaluate impacts to groundwater and assure protection of beneficial uses and to assess current and potential impacts at and around the vicinity of the pond system and if the discharges from the pond system to groundwater complies with the Basin Plan. This Order increases the number of constituents sampled and sets the frequency of groundwater monitoring to quarterly for select monitoring wells and parameters. Pond monitoring has also been included in this Order to better evaluate impacts to groundwater and protection of beneficial uses.

5. The beneficial uses of the underlying groundwater are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.

6. Basin Plan water quality objectives include narrative objectives for toxicity of groundwater, chemical constituents, and tastes and odors. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

7. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 mL. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use.

8. This Order requires continued groundwater monitoring and contains groundwater limitations for total coliform organisms. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater, including municipal, domestic, and agricultural uses. Raw domestic wastewater inherently contains human pathogens that threaten human health and life, and constitute a threatened pollution and nuisance under CWC section 13050 if discharged untreated to the receiving water. Total Coliform Organisms have the ability to degrade groundwater quality at this site because of the shallow groundwater in the vicinity of the Algae Production Ponds. The Basin Plan water quality objective for water designated for municipal usage is less than 2.2 MPN/100mL.

   It is therefore appropriate to adopt a numerical groundwater limitation of less than 2.2 MPN/100mL for total coliform organisms to implement the Basin Plan water quality objective to protect the municipal and domestic use of groundwater. To date, total coliform organisms have not been elevated in groundwater monitoring wells at or downgradient to the Facility relative to background groundwater quality, nor do these wells show increasing trends.

9. Groundwater limitations establish that the release of waste constituents from any portion of the Facility shall not cause or contribute to the exceedance of water quality objectives in the receiving water, or an exceedance of background groundwater quality, whichever is greater.

   If the Facility's discharge contains waste at a level greater than a water quality objective but the groundwater receiving the waste remains below the water quality objective, the limitation would not be violated. However, if the same discharge causes the receiving water to exceed a water quality objective, the groundwater limitation would be violated. Similarly, if the same discharge is above the water quality objective and the receiving water is above the objective,

the Facility's discharge would be contributing to an exceedance of the water quality objective and would be violating the receiving water limitation.

In the scenario where the level of waste in the Facility's discharge is below the water quality objective and the receiving water exceeds the water quality objective, the limitation would not be violated. Where natural background conditions exceed the water quality objective, compliance would be evaluated considering the established natural background concentration instead of the water quality objective. Only discharges causing or contributing to the exceedance of the water quality objective or natural background concentration (if background is greater than the water quality objective) in the groundwater would be in violation of the limitation.

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.** This provision allows the Central Valley Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Central Valley Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.

b. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total when developing effluent limitations for total cadmium, chromium (III), total copper, total lead, total nickel, total silver , and total zinc. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

c. **Ultraviolet Light (UV) Disinfection Operating Specifications.** UV system operating specifications are required to ensure that the UV system is operated to achieve the required pathogen removal. UV disinfection system specifications and monitoring and reporting requirements are required to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, wastewater turbidity, and wastewater flow through the UV disinfection system. The UV specifications in this Order are based on the National Water Research Institute (NWRI) and American Water Works Association Research Foundation (AWWRF) "Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse" first published in December 2000 and revised as a Third Edition dated August 2012 (NWRI guidelines). If the Discharger conducts a site-specific UV engineering study that identifies site-specific UV operating specifications that will achieve the virus inactivation required by Title 22 for disinfected tertiary recycled water, this Order may be reopened to modify the UV specifications, in accordance with Reopener Provision VI.C.1.e.

d. **Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).** On 17 January 2020, certain Basin Plan Amendments to incorporate new strategies for addressing ongoing salt and nitrate accumulation in the Central Valley became effective. Other provisions subject to U.S. EPA approval became effective on 2 November 2020, when approved by U.S. EPA. This Order may be amended or modified to incorporate new or modified requirements necessary for implementation of the Basin Plan Amendments. 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/)

2. Special Studies and Additional Monitoring Requirements

a. **Ponds and Groundwater Information Report.** The Discharger submitted the *City of Woodland Antidegradation Analysis and BPTC Evaluation for Groundwater Protection* on 30 November 2021 (November 2021 Antidegradation Report) which evaluated background/upgradient and downgradient groundwater monitoring wells for compliance with the State Antidegradation Policy. The November 2021 Antidegradation Report provided alternatives to the current waste solids handling at the Sludge Stabilization Ponds. The alternatives included modification of the existing pond system to include dissolved air flotation thickeners (DAFT), construction of a centrifuge dewatering system to concentrate solids and allow transport to a nearby Lystek facility for further processing to Class A biosolids, and construction a new anaerobic digester with primary clarifiers, a rotary drum thickener, and a belt filter press to process solids to Class B standards.

The November 2021 Antidegradation Report concluded that overall, the existing pond system is a viable BPTC approach for the Discharger. Compliance with groundwater water quality objectives for electrical conductivity, nitrate (total as nitrogen), and total coliform organisms was mentioned as an important factor in the decision to retain or modify the pond

system as a viable BPTC option. The Discharger listed other factors related to Discharger's growth, other crucial needs at the Facility, and sustainability goals that will determine the future of the ponds.

The Ponds and Groundwater Information Report requires detailed information not provided in the November 2021 Antidegradation Report. The Ponds and Groundwater Information Report requires information on the Facility's ponds, groundwater wells at and near the Facility, a summary and evaluation of Facility pond and groundwater water quality in the vicinity of the Facility, and a water balance study to be conducted on the pond system. Furthermore, the groundwater evaluation in November 2021 Antidegradation Report was limited to electrical conductivity, nitrate (total as nitrogen) and total coliform organisms. The discharge of water with high BOD to ponds with a pond bottom of greater than $1x10^{-6}$ can create low oxygen conditions in the groundwater and mobilize the arsenic, manganese, and iron in the soil, therefore the Ponds and Groundwater Information Report requires an evaluation of all the pond and groundwater parameters required to be monitored in the Attachment E of this Order.

b. **Groundwater Monitoring Well Installation Report.** The report shall include a work plan and installation report for installation of new or replacement of existing groundwater monitoring wells, if the Discharger determines there is a need to install new or replace existing groundwater monitoring wells.

c. **Emergency Detention Basin Installation.** The Emergency Detention Basin Installation special reports are designed to protect shallow groundwater from impacts by the Emergency Detention Basin. The Work Plan includes requirements to provide a detailed schedule required to design and construct an emergency detention basin with a hydraulic conductivity of no more than 1×10^{-6} centimeters per second. Annual reports track progress, document any changes, and outline remaining tasks. A Final Report certifies that the liner(s) were installed as designed, supported by quality assurance tests and an Operation and Maintenance Plan.

d. **Sludge Stabilization Ponds Liner Maintenance Report.** The Sludge Stabilization Ponds Liner Maintenance Report provides information on performance tests each Sludge Stabilization Pond, assesses seepage rates and verifies that lined ponds meet the required hydraulic conductivity standards. Detailed reporting on leakage rates and liner structural integrity helps identify potential vulnerabilities and proactively address them through maintenance or repair activities. Additionally, the report summarizes future improvement projects and maintenance activities, ensuring the continued compliance, reliability, and sustainability of the pond system.

e. **Toxicity Reduction Evaluation (TRE) Requirements.** Pursuant to the Toxicity Provisions, the Discharger is required to initiate a TRE when any combination of two or more trigger exceedances occur within a single toxicity calendar month or within two successive toxicity calendar months. In addition, if other information indicates toxicity (e.g., results of additional monitoring, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent

available to complete a routine monitoring test or compliance test. MRP Section V.F. provides additional details regarding the TRE.

3. Best Management Practices and Pollution Prevention

a. **Pollution Prevention Plan for Mercury.** The Discharger submitted a Pollution Prevention Plan for Mercury, on 25 July 2015 in accordance with Water Code section 13263.3(d)(3). Progress Reports are submitted annually per the Technical Reports Table in the MRP.

b. **Salinity Evaluation and Minimization Plan (SEMP).** The Basin Plan includes a Salt Control Program for discharges to groundwater and surface water. The Salt Control Program is a phased approach to address salinity in the Central Valley Region. During Phase I the focus will be on conducting a Prioritization and Optimization (P&O) Study to provide information for subsequent phases of the Salt Control Program. During Phase I, the Salt Control Program includes two compliance pathways for dischargers to choose; a Conservative Salinity Permitting Approach and an Alternative Salinity Permitting Approach. The Discharger submitted a notice to intent for the Salt Control Program on 18 August 2021 indicating its intent to meet the Alternative Salinity Permitting Approach. Under the Alternative Permitting Approach, the Basin Plan requires dischargers implement salinity minimization measures to maintain existing salinity levels and participate in the P&O Study. The Discharger's NOI demonstrated adequate participation in the P&O and this Order requires continued participation to meeting the requirements of the Alternative Salinity Permitting Approach. This Order also requires continued implementation of the Discharger's SEMP and includes a performance-based salinity trigger to ensure salinity levels do not increase at EFF-001, LND-002, or LND-003. In accordance with the Basin Plan, these salinity triggers were developed based on facility performance and considers possible temporary increases that may occur due to water conservation and/or drought.

The Discharger requested that the effluent salinity trigger of 1,250 µmhos/cm from Order R5-2020-0015 be retained to better accommodate higher effluent EC in drought years in which low flows in the Sacramento River will require the Discharger to utilize groundwater (from the deeper production aquifer) to supply its drinking water system. This Order retains the EC salinity trigger of 1,250 µmhos/cm from Order R5-2020-0015, applied to monitoring locations EFF-001 and LND-003.

The Discharger requested the influent be taken into account when developing a salinity trigger for the discharge to the Erskine Pond and Algae Production Ponds. The Discharger switched the drinking water source from groundwater to surface water in 2016, reducing the electrical conductivity in the influent from an average of 2,740 µmhos/cm from January 2015 through December 2015 to an average of 1,600 µmhos/cm from January 2017 through July 2020. Influent electrical conductivity samples from 2016 were not used due to the switch in groundwater sources and the water distribution piping adjusting to the new water source. Influent data for electrical conductivity is available until July 2020. To utilize entire calendar years of data, annual averages from

2017 through 2019 were used to calculate the salinity trigger of 2,100 µmhos/cm, applied at monitoring location LND-002.

4. **Construction, Operation, and Maintenance Specifications**

   a. **Filtration System Operating Specifications.** Turbidity is included as an operational specification as an indicator of the effectiveness of the filtration system for providing adequate disinfection. The tertiary treatment process utilized at this Facility is capable of reliably meeting a turbidity limitation of 2 NTU as a daily average. Failure of the treatment system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity and could impact UV dosage. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. The operational specification requires that turbidity prior to disinfection shall not exceed 2 NTU as a daily average; 5 NTU, more than 5 percent of the time within a 24-hour period, and an instantaneous maximum of 10 NTU.

   b. **UV Disinfection System Operating Specifications.** This Order requires that wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DDW reclamation criteria, CCR, Title 22, division 4, chapter 3, (Title 22), or equivalent. To ensure that the UV disinfection system is operated to achieve the required pathogen removal, this Order includes effluent limits for total coliform organisms, filtration system operating specifications, and UV disinfection system operating specifications. Compliance with total coliform effluent limits alone does not ensure that pathogens in the municipal wastewater have been deactivated by the UV disinfection system. Compliance with the effluent limits and the filtration system and UV disinfection operating specifications demonstrates compliance with the equivalency to Title 22 disinfection requirement. The total coliform organism monitoring location is UVS-002. This Order requires that the UV disinfection system be operated in accordance with an operations and maintenance program that assures adequate disinfection, and shall meet the specifications to provide virus inactivation equivalent to Title 22 Disinfected Tertiary Recycled Water. In addition, the UV disinfection system must be operated as specified in the Discharger's June 2015 site-specific Title 22 Engineering Report including the specifications in Appendix P of the Title 22 Engineering Report.

   c. **Pond Operating Requirements.** This Order requires the operation and maintenance of the ponds to be conducted in a manner that prevents flooding and reduces nuisances.

   d. **Flood Protection.** This Order requires that all treatment facilities, including ponds, shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

5. **Special Provisions for POTWs**

   a. **Pretreatment Requirements**

      i. The federal CWA section 307(b), and federal regulations, 40 C.F.R. part 403, require publicly owned treatment works to develop an acceptable

industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 C.F.R. part 403.

ii. The Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Central Valley Water Board, the State Water Board or U.S. EPA may take enforcement actions against the Discharger as authorized by the CWA.

b. **Sludge/Biosolids Treatment or Discharge Specifications.** Sludge in this Order means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the wastewater treatment plant. Biosolids refer to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agricultural, silvicultural, horticultural, and land reclamation activities as specified under 40 C.F.R. part 503. This Order does not regulate offsite use or disposal of biosolids, which are regulated instead under 40 C.F.R. part 503; administered by U.S. EPA. The Sludge/Biosolids Treatment or Discharge Specifications in this Order implement the California Water Code to ensure sludge/biosolids are properly handled onsite to prevent nuisance, protect public health, and protect groundwater quality.

6. Other Special Provisions

a. **Disinfection Requirements.** Consistent with previous Order R5-2020-0015, this Order requires wastewater to be oxidized, coagulated, filtered, and adequately disinfected consistent with DDW reclamation criteria, CCR, Title 22, division 4, chapter 3 (Title 22), or equivalent. The disinfection requirements are discussed in detail above in section IV.C.3, Determining the Need for WQBELs (see Pathogens).

b. **CV-SALTS.** The Discharger shall comply with the applicable provisions of the Salt and Nitrate Control Programs adopted in Resolution R5-2018-0034 (as revised per Resolution R5-2020-0057) to address ongoing salt and nitrate accumulation in the Central Valley developed as part of the CV-SALTS initiative.

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.

a. **Compliance Schedule for Final Effluent Limitation for Methylmercury at Discharge Point 001.** 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.

   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.

   At the end of Phase 1, the Central Valley Water Board will conduct 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 WQBELs 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 reevaluated 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. The Discharger submitted a Pollution Prevention Plan for Mercury, on 25 July 2015 in accordance with Water Code section 13263.3(d)(3). Progress Reports are submitted annually per the Technical Reports Table in the MRP. The Discharger shall maintain compliance with an interim limitation for total mercury at Discharge Point 001 with compliance measured at Monitoring Location EFF-001. The effluent calendar year annual total mercury load shall not exceed 481 grams/year. This interim effluent limitation shall apply in lieu of the final effluent limitation for methylmercury (Section IV.A.2.a) until 30 December 2030.

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 authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring

and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The burden, including costs, of these monitoring and reporting requirements bears a reasonable relationship to the need for the reports and the benefits to be obtained therefrom. The Discharger, as owner and operator of the Facility, is required to comply with these requirements, which are necessary to determine compliance with this Order. The following provides additional rationale for the monitoring and reporting requirements contained in the MRP for this facility.

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 accredits 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 sections 13370, subd. (c), 13372, 13377.). Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code section 13372, subd. (a).) Lab accreditation is not required for field tests such as tests for color, odor, turbidity, pH, temperature, dissolved oxygen, electrical conductivity, and disinfectant residual. The holding time requirements are 15 minutes for chlorine, total residual, dissolved oxygen, and temperature, (40 C.F.R. section 136.3(e), Table II). The Discharger maintains an ELAP accredited laboratory that can conduct analysis within the required hold times.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD_5 and TSS reduction requirements). The monitoring frequencies and sample types have been retained from Order R5-2020-0015.

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 frequencies and sample types have been retained from Order R5-2020-0015, except as noted in Table F-17, below:

Table F-17: Revised Effluent Monitoring

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency
BOD_5	mg/L	3/Week	1/Week
TSS	mg/L	3/Week	1/Week
Ammonia (Total as Nitrogen)	mg/L	3/Week	1/Week
Dissolved Organic Carbon	mg/L	1/Month	1/Quarter
Hardness, Total (as $CaCO_3$)	mg/L	1/Month	1/Quarter
Electrical Conductivity	µmhos/cm	1/Week	1/Month
Acute Toxicity	--	1/Quarter	Discontinue

Table F-17 Notes:

1. **BOD_5 and TSS.** Percent removal for BOD_5 and TSS is near 100%. Weekly monitoring is sufficient to calculate the average weekly and average monthly effluent limitations and to calculate percent removal for BOD_5 and TSS in this Order.
2. **Ammonia (Total as Nitrogen).** The Facility provides nitrification and denitrification to the wastewater. Weekly monitoring is sufficient to calculate the average weekly and average monthly effluent limitations for ammonia (total as nitrogen) in this Order.
3. **Dissolved Organic Carbon and Hardness, Total (as $CaCO_3$).** Quarterly dissolved organic carbon monitoring is sufficient to calculate the site-specific objective of aluminum. Quarterly hardness monitoring is sufficient to characterize the effluent to use in hardness metal calculations.
4. **Electrical Conductivity.** Monthly monitoring is sufficient to calculate the annual average effluent trigger for electrical conductivity in this Order.
5. **Acute Toxicity.** A chronic toxicity test is generally protective of both chronic and acute toxicity and there were no acute toxicity failures in previous Order R5-2020-0015, therefore acute toxicity testing has been discontinued in this Order.

3. **Pyrethroid Pesticides Monitoring.** The Discharger conducted all pyrethroid testing in 2024. Central Valley Water Board staff accepted the sampling and toxicity testing; therefore, this Order does not require pyrethroid pesticides monitoring.

C. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess impacts of the discharge on the receiving stream. Receiving surface water monitoring frequencies and sample types have been retained from Order R5-2020-0015.

2. Groundwater

a. Water Code section 13267 states, in part, “(a) A Regional Water Board, in establishing waste discharge requirements may investigate the quality of any waters of the state within its region” and “(b)(1) In conducting an investigation, the Regional Water Board may require that any person who discharges waste that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water 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.” 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, a Regional Water 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 Monitoring and Reporting Program is issued pursuant to Water Code section 13267. The groundwater monitoring and reporting program required by this Order and the Monitoring and

Reporting Program are necessary to assure compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order.

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide BPTC to comply with the State Anti-Degradation Policy. Economic analysis is only one of many factors considered in determining BPTC. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened, and specific numeric limitations established consistent with the State Anti-Degradation Policy and the Basin Plan.

c. This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Central Valley Water Board plans and policies, including the State Anti-Degradation Policy. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

d. Groundwater monitoring at monitoring well MW-8 was not retained from Order R5-2020-0015. MW-8 is a far distance from the Facility and wells closer to the Facility can be used. The Discharger requested MW-16 be added as a downgradient well to replace MW-6, which the Discharger stated is better used as an upgradient/background well. Staff do not concur with including MW-6 as a background well, being that is adjacent to the Sludge Stabilization Ponds, can be used to monitor the groundwater below these ponds, and has shown groundwater impacts from the ponds. Groundwater at MW-6 was retained to monitor groundwater adjacent to the Sludge Stabilization Ponds and MW-16 was added to the well network.

e. Groundwater monitoring frequencies and parameters have been retained from Order R5-2020-0015, except as noted in Table F-18, below:

Table F-18 Summary of Monitoring Changes at Groundwater Monitoring Wells

Parameter	Units	Previous Sample Frequency	Revised Sample Frequency
Electrical Conductivity	µmhos/cm	1/Year	1/Quarter
Total Coliform Organisms	MPN/100 mL	1/Year	1/Quarter
TDS	mg/L	1/Year	1/Quarter
Total Kjeldahl Nitrogen	mg/L	1/Year	1/Quarter
Nitrate, Total as Nitrogen	mg/L	1/Year	1/Quarter
pH	standard units	--	1/Quarter
Dissolved Oxygen	mg/L	--	1/Quarter
Total Organic Carbon	mg/L	--	1/Quarter
Arsenic, Dissolved	µg/L	--	1/Quarter
Standard Minerals	µg/L	--	1/Quarter

Table F-18 Notes:

1. Quarterly monitoring necessary to collect sufficient data to characterize groundwater quality.
2. Nitrate groundwater monitoring is required to continue to evaluate whether the groundwater quality downgradient of the Facility is maintained below the nitrate water quality objective and background groundwater concentrations.
3. TKN monitoring is a measure the total concentration of organic nitrogen and ammonia. High TKN concentrations have the potential to convert to nitrate with some loss via ammonia volatilization.
4. Iron, manganese, and arsenic mobilization can occur from organic overloading, as total organic carbon contributes to organic decomposition processes, which are influenced by dissolved oxygen levels; reduced dissolved oxygen can create anoxic conditions that facilitate the formation of decomposition by-products and arsenic release.

D. Whole Effluent Toxicity Testing Requirements

Aquatic toxicity testing is necessary to evaluate the aggregate toxic effect of a mixture of toxicants in the effluent on the receiving water. Acute toxicity testing is conducted over a short time period and measures mortality, while chronic toxicity testing is conducted over a short or longer period and may measure mortality, reproduction, and growth. This Order requires aquatic toxicity testing to be performed following methods identified in the 40 C.F.R. part 136, or other U.S. EPA-approved methods, or included in the following U.S. EPA method *manuals: Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition* (EPA-821-R-02-013). Quarterly chronic whole effluent toxicity testing is required to demonstrate compliance with the toxicity receiving water limitation and chronic toxicity effluent limitations/targets.

The discharge is subject to determination of "*Pass*" or "*Fail*" from a chronic toxicity test using the TST statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*

(EPA 833-R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

The null hypothesis (Ho) for the TST statistical approach is:

> Mean discharge IWC response ≤ RMD x Mean control response, where the chronic RMD = 0.75.

A test result that rejects this null hypothesis is reported as "*Pass*". A test result that does not reject this null hypothesis is reported as "Fail."

The relative "*Percent Effect*" at the discharge IWC is defined and reported as:

> Percent Effect = ((Mean control response – Mean discharge IWC response) / Mean control response) x 100.

This is a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations, i.e., a control and IWC. The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC differs from the control, the test result is "*Fail*"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

1. **Sensitive Species Screening.** Under the Toxicity Provisions, the Discharger shall perform subsequent sensitivity screening to re-evaluate the most sensitive species if the effluent used in the species sensitivity screening is no longer representative of the effluent or if a species sensitivity screening has not been performed in the last fifteen years. Subsequent species sensitivity screening may also be required prior to every order issuance, renewal or reopening, if reopening to address aquatic toxicity.

   Pursuant to Section V.E of the MRP, the Discharger is required to perform species sensitivity screening and submit the results with the Report of Waste Discharge. Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green algae (*Pseudokirchneriella subcapitata*). For subsequent sensitivity screening, if the first two species sensitivity screening events result in no change in the most sensitive species, the Discharger may cease the subsequent species sensitivity screening and the most sensitive species will remain unchanged. The most sensitive species to be used for chronic toxicity testing was determined in accordance with the process outlined in the MRP section V.E. The species that exhibited the highest percent effect was the fathead minnow (*Pimephales promelas*), with a percent effect of 13 percent and has consequently been established as the most sensitive species for chronic WET testing.

2. **Toxicity Reduction Evaluation (TRE).** The Monitoring and Reporting Program of this Order requires chronic WET testing to demonstrate compliance with the numeric chronic toxicity effluent limitation or Basin Plan's narrative toxicity objective. The Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity trigger exceedances within a single calendar month or within two successive calendar months has occurred. In addition, if other information indicates toxicity (e.g., results of additional

monitoring, fish kills, intermittent recurring toxicity), the Central Valley Water Board may require a TRE. A TRE may also be required when there is no effluent available to complete a routine monitoring test, or compliance test.

E. Other Monitoring Requirements

1. **Biosolids Monitoring**. Biosolids monitoring is required to ensure compliance with the pretreatment requirements contained in 40 C.F.R. part 403 and implemented in section VI.C.5.a. of this Order. Biosolids monitoring is required per U.S. EPA guidance to evaluate the effectiveness of the pretreatment program. Biosolids monitoring for compliance with 40 C.F.R. part 503 regulations is not included in this Order since it is a program administered by U.S. EPA's part 503 Biosolids Program (https://www.epa.gov/biosolids/compliance-and-annual-reporting-guidance-about-clean-water-act-laws)
2. **Water Supply Monitoring**. Water supply monitoring is required to evaluate the source of constituents in the wastewater and to evaluate the electrical conductivity of the source water; therefore, Water Supply Monitoring has been retained from previous Order R5-2020-0015.
3. **UV Disinfection System Monitoring**. UV system monitoring and reporting are required to ensure that the UV system is operated to adequately inactivate pathogens in the wastewater. UV disinfection system monitoring is imposed to achieve equivalency to requirements established by DDW and the NWRI Guidelines.
4. **Pond Monitoring**. Pond monitoring is required to ensure the proper operation of Ponds 1 through 14. The Monitoring Location PND-014 was added to this Order to monitor the pond volume, freeboard, and observational data in the lined-Emergency Detention Basin monthly. The revised pond monitoring at Ponds 1 through 13 below are required to characterize the ponds in relation to groundwater concentrations, due to the potential degradation posed by the type of discharges to land described in Fact Sheet section II.B.5.

Table F-19: Revised Pond Monitoring

Parameter	Units	Previous Sampling Frequency	Minimum Sampling Frequency	Reason for Change
BOD_5	mg/L	--	1/Month	Note 1 Note 2
Total Kjeldahl Nitrogen	mg/L	--	1/Month	Note 1 Note 2
Nitrate, Total as Nitrogen	mg/L	1/Quarter	1/Month	Note 1 Note 3
Standard Minerals	mg/L	--	1/Quarter	Note 1 Note 2
Solids Depth	Feet	Measure	1/Year	Note 4

Table F-19 Notes:

1. Representative samples of Pond 1, Pond 2, and Pond 3 shall be taken at Monitoring Location ALG-001, representative samples of Pond 4, Pond 5, and Pond 6 shall be taken at Monitoring Location ALG-002, and samples

at Pond 7 through Pond 13 shall be taken at Monitoring Locations PND-007 through PND-013.

2. Discharger requested monitoring at the ponds in lieu of monitoring the effluent being discharged to the ponds at previous Monitoring Location EFF-002 (Order R5-2020-0015).
3. The Discharger is enrolled in Pathway A of the Nitrate Control Program. There have been instances of nitrate, total as N, being above the water quality objective of 10 mg/L in the ponds. More frequent monitoring for nitrate, total as N, is required gather to determine if the water in the ponds is consistently below the water quality objective for nitrate, total as N.
4. Ponds 1 through 8 and Pond 12 receive unfiltered wastewater that accumulate solids. Annual monitoring is required to determine solids depth in the ponds.

5. **Land Discharge Monitoring**

Previous Order R5-2020-0015 required land discharge monitoring at a general location for all ponds at Monitoring Location EFF-002. This Order requires land discharge monitoring at Monitoring Locations INT-001, LND-002, and LND-003 to characterize the discharge to the ponds. This Order requires the following land discharge monitoring to the ponds to characterize the wastewater to these locations in relation to the pond and groundwater concentrations.

Table F-20: Revised Land Discharge Monitoring

Parameter	Units	Previous Sampling Frequency	Minimum Sampling Frequency	Reason for Change
pH	Standard Units	Upon startup and 1/Week while discharging to ponds	--	Note 1 Note 2
BOD_5	mg/L	Upon startup and 1/Week while discharging to ponds	--	Note 1 Note 2
Electrical Conductivity	µmhos/cm	Upon startup and 1/Week while discharging to ponds	Upon startup and 1/Month while discharging to ponds	Note 1 Note 3
Nitrate, Total as N	mg/L	Upon startup and 1/Week while discharging to ponds	--	Note 1 Note 2

Table F-20 Notes:

1. For Monitoring Location INT-001, the only parameter monitored at this location shall be flow; Monitoring Locations LND-002, and LND-003 shall be monitored for flow and electrical conductivity. The Discharger can cease monitoring in accordance with Table E-5 at Monitoring Locations LND-002 and INT-001 once the construction of the lined Emergency Detention Basin is complete since it this Order include a prohibition prohibiting discharge of screened influent to any pond/basin other than the lined Emergency Detention Basin, once it is constructed and operational.

2. Discharger requested monitoring at the ponds in lieu of monitoring the effluent being discharged to the ponds at previous Monitoring Location EFF-002 (Order R5-2020-0015).
3. Monthly electrical conductivity monitoring is adequate in determining performance-based triggers or limitations.

6. **Pyrethroid Pesticides Monitoring**

   The Discharger submitted pyrethroid pesticides monitoring results with the report of waste discharge. The results met the requirements needed for pyrethroid pesticides monitoring and the results did not exceed trigger levels for pyrethroid pesticides; therefore, pyrethroid pesticides monitoring is not required during this permit term.

7. **Effluent and Receiving Water Characterization Monitoring**

   This Order requires characterization monitoring of the effluent and receiving water to compare parameters with their respective water quality objectives. The effluent and receiving water characterization monitoring will aid in determining any changes to current or future effluent and/or monitoring.

8. **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 WDRs that will serve as an NPDES permit for the City of Woodland Water Pollution Control Facility. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDRs 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 WDRs for the discharge and provided an opportunity to submit written comments and recommendations. Notification was

provided through posting on the Central Valley Water Board's website on XX December 2025 and through posting by the Discharger at City of Woodland City Hall and the Facility entrance on XX December 2025. 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/).

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDRs 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 **7 January 2026**.

C. Public Hearing

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

Date: **26/27 February 2026**
Time: **8:30 a.m.**
Location: Online and
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, WDRs, 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 CCR, 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_instr.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 WDRs 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 Armando Martinez at (916) 464-4617, or email at Armando.Martinez@waterboards.ca.gov.

G

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	RP
Ammonia, Total as Nitrogen	mg/L	2.4	--	1.4	6.6	1.4	--	--	--	--	Yes
Total Selenium	µg/L	7.1	--	5	20	1.5	--	--	--	50	Yes
Total Mercury	ng/L	ND	--	--	--	--	--	--	TMDL	--	No
Methylmercury	ng/L	ND	--	--	--	--	--	--	TMDL	--	Yes

Attachment G Table Notes:

1. **Ammonia, total as Nitrogen.** CMC represents the U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 1-hour average. The CCC represents the U.S. EPA National Recommended Ambient Water Quality Criteria, Freshwater Aquatic Life Protection, 30-day average.
2. **Mercury.** MEC represents the maximum observed annual average concentration for comparison with water column concentration corresponding to the Sport Fish Water Quality Objective in the Statewide Mercury Provisions. The Basin Plan criteria of 12 ng/L represents the water column concentration corresponding to the Sport Fish Water Quality Objective in the Statewide Mercury Provisions.

Abbreviations used in this table:

MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-Specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

ATTACHMENT H – CALCULATION OF WQBELS

AQUATIC LIFE WQBELS CALCULATIONS

Parameter	Units	CMC Criteria	CCC Criteria	B	Effluent CV	CMC Dilution Factor	CCC Dilution Factor	ECA Multiplier$_{acute}$	LTA$_{acute}$	ECA Multiplier$_{chronic}$	LTA$_{chronic}$	AMEL Multiplier$_{95}$	AWEL Multiplier	MDEL Multiplier$_{99}$	AMEL	AWEL	MDEL
Ammonia, Total as Nitrogen	mg/L	6.6	1.4	--	2.0	--	--	0.12	0.77	0.46	0.64	1.7	6.1	8.6	1.1	3.9	--
Total Selenium	µg/L	20	3.1	--	1.1	--	--	0.19	3.7	0.34	1.7	2.1	4.2	5.4	2.2	--	5.7

Attachment H Table Notes:

1. AMEL calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
2. AWEL calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
3. MDEL calculated according to section 1.4 of the SIP using a 99th percentile occurrence probability.

Abbreviations used in this table:

B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
CV = Coefficient of Variation (established in accordance with section 1.4 of the SIP)
ECA Effluent Concentration Allowance
LTA Aquatic Life Calculations – Long-Term Average
MDEL = Maximum Daily Effluent Limitation
AMEL = Average Monthly Effluent Limitation
MDEL = Maximum Daily Effluent Limitation
AWEL = Average Weekly Effluent Limitation

ATTACHMENT I – MONITORING WELL INSTALLATION STANDARD REQUIREMENTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a work plan containing, at a minimum, the information listed in Section I, below. Upon installation, the Discharger shall submit a well installation report that includes the information contained in Section II, below. All work plans and reports must be prepared under the direction of, and certified by, a California registered geologist or California registered civil engineer.

I. MONITORING WELL INSTALLATION WORK PLAN

The monitoring well installation work plan shall contain, at a minimum, the following information:

A. General Information

1. Purpose of the well installation project.
2. Brief description of local geologic and hydrogeologic conditions.
3. Proposed monitoring well locations and rationale for well locations.
4. Topographic map showing facility location, roads, and surface water bodies.
5. Large-scaled site map showing all existing on-site wells, proposed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and major physical and man-made features.

B. Drilling Details

1. On-site supervision of drilling and well installation activities.
2. Description of drilling equipment and techniques.
3. Equipment decontamination procedures.
4. Cutting disposal methods.
5. Soil sampling intervals (if appropriate); logging methods; number and location of soil samples and rationale; and sample collection, preservation, and analytical methods.

C. Monitoring Well Design (in graphic form with rationale provided in narrative form)

1. Borehole diameter.
2. Casing and screen material, diameter, and centralizer spacing (if needed).
3. Type of well caps (bottom cap either screw on or secured with stainless steel screws).
4. Anticipated depth of well, length of well casing, and length and position of perforated interval.
5. Thickness, position and composition of surface seal, sanitary seal, and sand pack.
6. Anticipated screen slot size and filter pack.

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement)

1. Method of development to be used (i.e., surge, bail, pump, etc.).
2. Parameters to be monitored using development and record keeping technique.
3. Method of determining when development is complete.
4. Disposal method of development water.

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot)

1. Identify the Licensed Land Surveyor or Licensed Civil Engineer that will perform the survey.
2. Datum for survey measurements.
3. List well features to be surveyed (i.e., top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP, a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities, shall contain, at a minimum, a detailed written description of standard operating procedure for:

1. Equipment to be used during sampling.
2. Equipment decontamination procedures.
3. Water level measurement procedures.
4. Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged).
5. Monitoring and record keeping during water level measurement and well purging (including copies of record keeping logs to be used).
6. Purge water disposal.
7. Analytical methods and required reporting limits.
8. Sample containers and preservatives.
9. Sampling:
    a. General sampling techniques
    b. Record keeping during sampling (include copies of record keeping logs to be used)
    c. QA/QC samples
10. Chain of Custody.
11. Sample handling and transport.

II. MONITORING WELL INSTALLATION REPORT

The monitoring well installation report shall contain the information listed below. In addition, the report shall also clearly identify, describe, and justify any deviations from the approved work plan.

A. General Information

1. Purpose of the well installation project.
2. Number of monitoring wells installed and identifying label(s) for each.
3. Brief description of geologic and hydrogeologic conditions encountered during well installation.
4. Topographic map showing facility location, roads, surface water bodies.
5. Large-scale site map showing all previously existing wells, newly installed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form)

1. On-site supervision of drilling and well installation activities.
2. Drilling contractor and driller's name.
3. Description of drilling equipment and techniques.
4. Equipment decontamination procedures.
5. Well boring log (provide for each well):
   a. Well boring number and date drilled.
   b. Borehole diameter and total depth.
   c. Total depth of open hole (i.e., total depth drilled if no caving or back-grouting occurs).
   d. Depth to first encountered groundwater and stabilized groundwater depth.
   e. Detailed description of soils encountered, using the Unified Soil Classification System.

C. Well Construction Diagram (required for each well)

1. Monitoring well number and date constructed.
2. Casing and screen material, diameter, and centralizer spacing (if needed).
3. Length of well casing.
4. Length and position of slotted casing and size of perforations.
5. Thickness, position and composition of surface seal, sanitary seal, and sand pack.
6. Type of well caps (bottom cap either screw on or secured with stainless steel screws).

D. Well Development (required for each well)

1. Date(s) and method of development.
2. How well development completion was determined.
3. Volume of water purged from well and method of development water disposal.

E. Well Survey (required for each well)

1. Present the well survey report data in a table.
2. Reference elevation at the top rim of the well casing with the cap removed (feet above mean sea level to within 0.01 foot).
3. Ground surface elevation (feet above mean sea level to within 0.01 foot).
4. Horizontal geodetic location, where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum, or acceptable alternative (provide rationale).

F. Water Sampling

1. Present water sampling data in a table.
2. Date(s) of sampling.
3. Sample identification.
4. How well was purged.
5. How many well volumes purged.
6. Levels of temperature, EC, and pH at stabilization.
7. Sample collection, handling, and preservation methods.
8. Analytical methods used.
9. Laboratory analytical data sheets.
10. Water level elevation(s).
11. Groundwater contour map.

G. Soil sampling (if applicable)

1. Present soil sampling data in a table.
2. Date(s) of sampling.
3. Sample collection, handling, and preservation methods.
4. Sample identification.
5. Analytical methods used.
6. Laboratory analytical data sheets.

H. Well Completion Report(s)

As defined in California Water Code section 13751. Blank forms are available from the California Department of Water Resources' website. Section shall be submitted under separate cover.

I. Appendix

Shall include at a minimum, copies of the following:

1. County-issued well construction permits.
2. Registered engineer or license surveyor's report and field notes.
3. Field notes from well development.