CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CA0078948
ORDER R5-2026-XXXX
WASTE DISCHARGE REQUIREMENTS
FOR THE CITY OF TURLOCK,
REGIONAL WATER QUALITY CONTROL FACILITY, STANISLAUS COUNTY

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

Table 1. Discharger Information

Discharger:	City of Turlock
Name of Facility:	Regional Water Quality Control Facility
Facility Street Address:	901 S. Walnut Road
Facility City, State, Zip:	Turlock, CA 95380
Facility County:	Stanislaus County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Treated Municipal Wastewater	37° 27’ 46”	121° 01’ 57”	San Joaquin River
003	Treated Municipal Wastewater	37° 29’ 59.6”	120° 55’ 18.5”	Turlock Irrigation District, Upper Lateral 4
004	Treated Municipal Wastewater	37°27'26.57"	120°57'46.08"	Turlock Irrigation District, Lateral 5.5

Table 3. Administrative Information

This Order was Adopted on:	**XX December 2026**
This Order shall become effective on:	**1 October 2027**
This Order shall expire on:	**30 September 2032**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with California Code of Regulations, title 23, California Code of Regulations, and an application for reissuance of a NPDES permit no later than:	**1 October 2031**
The United States Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	**Major Discharge**

I, Patrick Pulupa, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **XX December 2026.**

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PATRICK PULUPA, Executive Officer

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I. FACILITY INFORMATION

Information describing the City of Turlock, Regional Water Quality 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. Additionally, the adoption of Title 22 water reclamation requirements for the Facility constitutes permitting of an existing facility that is categorically exempt from the provisions of CEQA pursuant to California Code of Regulations (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 E and G through H are also incorporated into this Order.

D. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.B, IV.C, V.B, VI.C.4, VI.C.5.c 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 Order R5-2021-0005 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

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 – San Joaquin River**. When discharging to the San Joaquin River at Discharge Point 001, as described in Table E-1 of this Order’s Monitoring and Reporting Program, discharges exceeding an average dry weather flow of 20 million gallons per day (MGD) are prohibited.

F. **Annual Flow – Turlock Irrigation District (TID) Upper Lateral 4.** When discharging to the TID Upper Lateral 4 at Discharge Point 003, as described in Table E-1 of this Order's Monitoring and Reporting Program, discharges exceeding an annual total flow volume of 2,033 acre-feet, or outside of 1 March through 31 October are prohibited.

G. Surface Water Discharge to TID Upper Lateral 4 (Discharge Point 003). Discharge to TID Upper Lateral 4 (Discharge Point 003) is prohibited until the TID Board of Directors takes action to accept tertiary recycled water from the Facility and the Discharger notifies the Central Valley Water Board 15 days prior to initiating discharge to TID Upper Lateral 4, in accordance with Special Provision VI.C.6.b..

H. **Annual Flow – Turlock Irrigation District (TID) Lateral 5.5.** When discharging to the TID Lateral 5.5 at Discharge Point 004, as described in Table E-1 of this Order's Monitoring and Reporting Program, discharges exceeding an annual total flow volume of 2,033 acre-feet, or outside of 1 March through 31 October are prohibited. The Discharger shall notify the Central Valley Water Board 15 days prior to initiating discharge to TID Lateral 5.5.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations

1. Final Effluent Limitations – Discharge Points 001, 003, and 004– San Joaquin River, TID Upper Lateral 4, and TID Lateral 5.5

When discharging to the San Joaquin River and/or the TID Upper Lateral 4, and Lateral 5.5 at Discharge Points 001, 003, and 004 respectively, the Discharger shall maintain compliance with the following effluent limitations applicable to each Discharge Point as specified below. Unless otherwise specified, compliance shall be measured at Monitoring Location EFF-001, as described in the Monitoring and Reporting Program, Attachment E:

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

Table 4. Effluent Limitations – Discharge Points 001, 003, and 004 – San Joaquin River, TID Upper Lateral 4 and TID Lateral 5.5

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily	Discharge Point(s)
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celsius	milligrams per liter (mg/L)	10	15	--	001, 003, 004
Total Suspended Solids (TSS)	mg/L	10	15	--	001, 003, 004
Chlorodibromomethane (CDBM)	micrograms per liter (µg/L)	43	--	73	001

Parameters	Units	Average Monthly	Average Weekly	Maximum Daily	Discharge Point(s)
Dichlorobromomethane (DCBM)	µg/L	63	--	99	001
Chlorodibromomethane	µg/L	36	--	63	003
Dichlorobromomethane	µg/L	57	--	91	003
Chlorodibromomethane	µg/L	40	--	56	004
Dichlorobromomethane	µg/L	63	--	83	004
Chloroform	µg/L	160		323	001, 003, 004
1,2,3-TCP	µg/L	0.043		0.090	001, 003, 004
Ammonia Nitrogen, Total (as N) (1 July - 31 October)	mg/L	1.3	3.0	--	001
Ammonia Nitrogen, Total (as N) (1 November – 30 June)	mg/L	1.8	3.1	--	001
Nitrate plus Nitrite	mg/L	10	13	--	001, 003, 004

b. **pH (Discharge Points 001, 003, and 004)**:

i. 6.5 Standard Units (SU) as an instantaneous minimum.

ii. 8.5 SU as an instantaneous maximum.

c. **Percent Removal (Discharge Points 001, 003, and 004):** The average monthly percent removal of 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) shall not be less than 85 percent.

d. **Total Residual Chlorine (Discharge Point 001).** Effluent total residual chlorine shall not exceed:

i. 0.011 mg/L, as a 4-day average; and

ii. 0.019 mg/L, as a 1-hour average.

e. **Total Coliform Organisms (Discharge Points 001, 003, and 004).** Effluent total coliform organisms shall not exceed the following with compliance measured at Monitoring Location TCO-001 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. **Diazinon and Chlorpyrifos (Discharge Point 001)**

i. Average Monthly Effluent Limitation

S(AMEL) = Cd (M-avg)/0.079+ Cc (M-avg)/0.012≤ 1.0

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

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

ii. Average Weekly Effluent Limitation

S(AWEL) = Cd (W-avg)/0.14+ Cc (W-avg)/0.021≤ 1.0

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

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

g. **Chronic Whole Effluent Toxicity MDEL (Discharge Point 001).** No *Ceriodaphnia dubia* 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.

h. **Chronic Whole Effluent Toxicity MMEL (Discharge Point 001).** No more than one *Ceriodaphnia dubia* chronic aquatic toxicity test initiated in a toxicity calendar month shall result in a "Fail" at the IWC for any endpoint.

2. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Recycling Specifications

1. Wastewater used for reclamation shall be treated such that it complies with Title 22 CCR, Section 60301.230 ("*Disinfected Tertiary Recycled Water*").

2. Public contact with the reclaimed water shall be precluded or controlled through such means as fences, signs, or other acceptable alternatives.

3. All reclaimed water equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities, and these shall be of a type, or secured in a manner, that permit operation by authorized personnel only.

4. Reclaimed water shall be used in compliance with Title 22, Division 4, Chapter 3, Article 3, *Uses of Recycled Water* and this Order.

5. The production, distribution, and use of recycled water shall conform to an Engineering Report prepared pursuant to Title 22, section 60323 and approved by the Division of Drinking Water.

6. The Discharger shall maintain compliance with the following limitations, with compliance measured at Monitoring Location REC-001 as described in the attached MRP.

   a. **Total Coliform Organisms.** Recycled water total coliforms shall not exceed:

      1. 2.2 MPN/100 mL, as a 7-day median;

      2. 23 MPN/100 mL, more than once in any 30-day period; and

      3. 240 MPN/100 mL for any single sample.

   b. **Turbidity**. Effluent turbidity shall not exceed any of the following:

      1. An average of 2 NTU within a 24-hour period;

      2. 5 NTU more than 5 percent of the time within a 24-hour period; and

      3. 10 NTU at any time.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations – Not Applicable

B. Groundwater Limitations

Release of waste constituents from any portion of the Facility shall not cause or contribute to groundwater containing any of the following constituents greater than listed below or greater than 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 constituents, provided the Discharger complies with Provision VI.C.3.a.

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:

        i. New regulations. New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

        ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

        iii. Change in sludge use or disposal practice. Under 40 CFR section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

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

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

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

d. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

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

e. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

f. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

g. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by U.S. EPA under section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.

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, maximum daily effluent limitation, weekly average effluent limitation, monthly effluent limitation, instantaneous minimum effluent limitation, instantaneous maximum effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

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

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments

thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. **Whole Effluent Toxicity.** This Order may be reopened for modification to revise the aquatic toxicity provisions if the California Supreme Court determines that the test of significant toxicity cannot be used in NPDES permits or the State Water Board suspends or revises the aquatic toxicity water quality standards.

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. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable. 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. **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/)

f. **North Valley Regional Recycled Water Program.** Separate Order R5-2022-0034 (NPDES Permit No. CA0085316), issued to the City of Turlock and City of Modesto, regulates the combined surface water

discharge from the Facility and the City of Modesto Water Quality Control Facility to the Delta Mendota Canal (DMC). Order R5-2022-0034 expires 31 July 2027 and this Order may be reopened to incorporate the necessary requirements to regulate the discharge from the Facility to the DMC via the North Valley Regional Recycled Water Program rather than renew Order R5-2022-0034.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation (TRE) Requirements.**

i. TRE: The Discharger is required to conduct a TRE, as detailed in the Monitoring and Reporting Program (Attachment E, Section V.G), when any combination of two or more **MDEL or MMEL** violations 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, results of monitoring at a higher concentration than the IWC, fish kills, intermittent recurring toxicity) or if there is no effluent available to complete a routine monitoring test or **MMEL** compliance test, the Executive Officer may require a TRE.

b. **Groundwater Quality Characterization.**

The Discharger shall submit a *Groundwater Water Quality Characterization* with the ROWD. For each groundwater monitoring parameter/constituent identified in the MRP, Attachment E, Section X.D.4, the report shall present a summary of monitoring data. The U.S. EPA Unified Guidance may be used to determine compliance with the groundwater limitations in this order. The report shall explain and justify the selection of the appropriate statistical methods.

c. **Cyanide Constituent Study.**

The Discharger shall submit a *Cyanide Constituent Study* by the due date in the Technical Reports Table. The study shall include a quarterly monitoring (1/Quarter) schedule, at minimum, for cyanide starting 1 October 2027 and concluding on 30 September 2029, followed by a report of findings submitted electronically via CIWQS. The Discharger shall analyze the monitoring samples with analytical methods that attempt to eliminate possible false positives, thereby demonstrating whether the actual cyanide concentrations in the discharge are above or below water quality objectives. Cyanide effluent sampling is only required for the first two years following the effective date of this Order to complete the Cyanide Constituent Study. This Order may be reopened depending on the results of the Cyanide

Constituent Study to implement additional effluent cyanide monitoring and/or limits.

3. Best Management Practices and Pollution Prevention

a. **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 annual average effluent electrical conductivity concentration for any calendar year exceeds a **performance-based trigger of 1,550 µmhos/cm**, 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. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

b. **Filtration System Operating Specifications.** 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.

c. **Emergency Storage Basin Operating Requirements.** When discharges to the emergency storage basin occur, the Discharger shall ensure compliance with the following operation and maintenance requirements:

i. Objectionable odors originating at the Facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.

ii. The emergency storage basin 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; and

c. Vegetation, debris, and dead algae shall not accumulate on the water surface.

d. The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

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

iv. Freeboard in the emergency storage basin shall not be less than 2 feet (measured vertically to the lowest point of overflow), except if lesser freeboard does not threaten the integrity of the emergency storage basin, no overflow of the emergency storage basin 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.

v. The Discharger shall regularly inspect the condition of the constructed basin surfaces (e.g., emergency storage basin) to ensure the integrity of the clay-lined structure and prevent infiltration of waste constituents into soils in a mass or concentration that may violate groundwater limitations in section V.B. of this Order. The Discharger shall maintain and repair the basin as necessary to ensure its integrity. Necessary repairs shall be completed in reasonable timeframes that are consistent with the severity of the impairment and potential for impact to water quality.

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.6 of Attachment E.

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 Discharger shall regularly inspect the condition of the constructed surfaces (e.g., sludge drying beds) to ensure the integrity of the concrete-lined structures and prevent infiltration of waste constituents into soils in a mass or concentration that may violate groundwater limitations in section V.B. of this Order. The Discharger shall maintain and repair the lined beds as necessary to ensure their integrity. Necessary repairs shall be completed in reasonable timeframes that are consistent with the severity of the impairment and potential for impact to water quality.

iii. 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.

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

v. 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.

c. **Resource Recovery from Anaerobically Digestible Material (ADM).** If the Discharger will receive hauled-in ADM for injection into an anaerobic digester, the Discharger shall notify the Central Valley Water Board and develop and implement Standard Operating Procedures (SOPs) for this activity. The SOPs shall be developed prior to receiving hauled-in ADM. The SOPs shall address material handling, including unloading, screening, or other processing prior to anaerobic digestion; transportation; spill prevention; and spill response. In addition, the SOPs shall address avoidance of the introduction of materials that could cause interference, pass-through, or upset of the treatment processes; avoidance of prohibited material; vector control; odor control; operation and maintenance; and the disposition of any solid waste segregated from introduction to the digester. The Discharger shall train its staff on the SOPs and shall maintain records for a minimum of five years for each load received, describing the hauler, waste type, and quantity received. In addition, the Discharger shall maintain records for a minimum of five years for the disposition, location, and quantity of cumulative pre-digestion-segregated solid waste hauled off-site.

6. Other Special Provisions

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

b. **Authorization of Surface Water Discharge to TID Upper Lateral 4 (Discharge Point 003).** The surface water discharge to the TID Upper Lateral 4 (Discharge Point 003) is approved, but cannot begin until: 1) the TID Board of Directors, at its discretion, takes action to accept tertiary recycled water from the Facility, 2) the Discharger provides documentation to the Central Valley Water Board that TID has taken action to accept tertiary recycled water from the Facility, and 3) the Discharger notifies the Central Valley Water Board 15 days prior to initiating discharge to TID Upper Lateral 4.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. **Effluent Limitations for All Parameters (Section IV.A.1, excluding Section IV.A.1.g and h for chronic whole effluent toxicity)**. Effluent limitations apply

during periods when discharging at Discharge Points 001, 003 and/or 004. To evaluate compliance with the final effluent limitations for parameters required in Waste Discharge Requirements section IV.A.1, samples shall be collected at monitoring location EFF-001 and the results reported at the monitoring location for the respective Discharge Location as described in Table E-1.

The Discharger is collecting routine compliance monitoring data at EFF-001 (Discharge Point 002) for its continuous discharge to the Delta Mendota Canal under NPDES Permit number CA0085316 (Order R5-2022-0034 and any revisions to or reissued Waste Discharge Requirements). Because discharges at Discharge Points 001, 003, and/or 004 are intermittent, collecting compliance samples at EFF-001 specifically during short-durations and unanticipated discharge events may not be feasible. For evaluating compliance with maximum daily effluent limitations, average weekly effluent limitations, average monthly effluent limitations, and annual average effluent limitations applicable to Discharge Points 001, 003 and/or 004, effluent samples may be collected at Monitoring Location EFF-001 during a particular time when the discharge is not occurring at Discharge Points 001, 003 and/or 004, yet the samples must be collected within the same monitoring period specified in Attachment E (Table E-3) that discharge at Discharge points 001, 003 and/or 004 occurred; these results will be used to calculate the maximum daily, average weekly, average monthly, and/or annual average effluent concentrations. For example, if the discharge occurs to the San Joaquin River (Discharge Point 001) for the first four days of a month, all average monthly effluent limitations are applicable to the discharge. Effluent samples collected at EFF-001 during that 4-day period and samples collected at EFF-001 while discharging to the TID Upper Lateral 4 (Discharge Point 003) , TID Lateral 5.5 (Discharge Point 004), and/or the Delta Mendota Canal (Discharge Point 002) per NPDES Permit number CA0085316 (Waste Discharge Requirements Order R5-2022-0034 and any revisions to or reissued Waste Discharge Requirements) during the month will be used to calculate the average monthly effluent concentration to evaluate compliance with the average monthly effluent limitation for the discharge to the San Joaquin River.

When surface water discharge is occurring at multiple Discharge Locations during a monitoring period, effluent violations at multiple Discharge Points could result using the same sample results. For example, in the average monthly effluent limitation example discussed above, the same average monthly effluent concentration would be used to evaluate compliance with the average monthly effluent limitations for the TID Upper Lateral 4 (Discharge Point 003), TID Lateral 5.5 (Discharge Point 004) and the San Joaquin River (Discharge Point 001), which if the effluent limitations are exceeded could result in effluent violations for each discharge location.

Monitoring for compliance with chronic whole effluent toxicity effluent limitations as it relates to intermittent discharges is addressed in Attachment E, Section V.B and compliance determination is explained in Section VII.D below.

B. Average Dry Weather Flow Prohibition – San Joaquin River (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).

C. BOD_5 and TSS Effluent Limitations (Section IV.A.1.a). Compliance with the final effluent limitations for BOD_5 and TSS required in WDR section IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations required in WDR section IV.A.1 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.

D. 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.h).** If the result of a routine water flea (*Ceriodaphnia dubia)* 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.i).** If a routine *Ceriodaphnia dubia* chronic whole effluent toxicity test and at least one *Ceriodaphnia dubia* 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.

If the Discharger conducts chronic whole effluent toxicity split sampling with accredited laboratories, the Discharger shall designate which sample shall be used to determine compliance with chronic toxicity effluent limitations.

E. Chlorpyrifos and Diazinon Effluent Limitations (Section IV.A.1.f). Compliance shall be determined by calculating the sum (S), as provided in section IV.A.1.f of this Order, with analytical results that are reported as ND concentrations to be considered to be zero.

F. 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 results 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.

G. Total Residual Chlorine Effluent Limitations (section IV.A.1.d). Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations. Any excursion above the 1-hour average or 4-day average total residual chlorine effluent limitations is a violation. If the Discharger conducts continuous monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance but rather reported as a false

positive. Records supporting validation of false positives shall be maintained in accordance with section IV Standard Provisions (Attachment D).

H. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants 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 of the priority pollutant 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 average monthly effluent limitation (AMEL) and more than one sample result is available in a month, 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

A.

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 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 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.

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

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 toxicity 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.

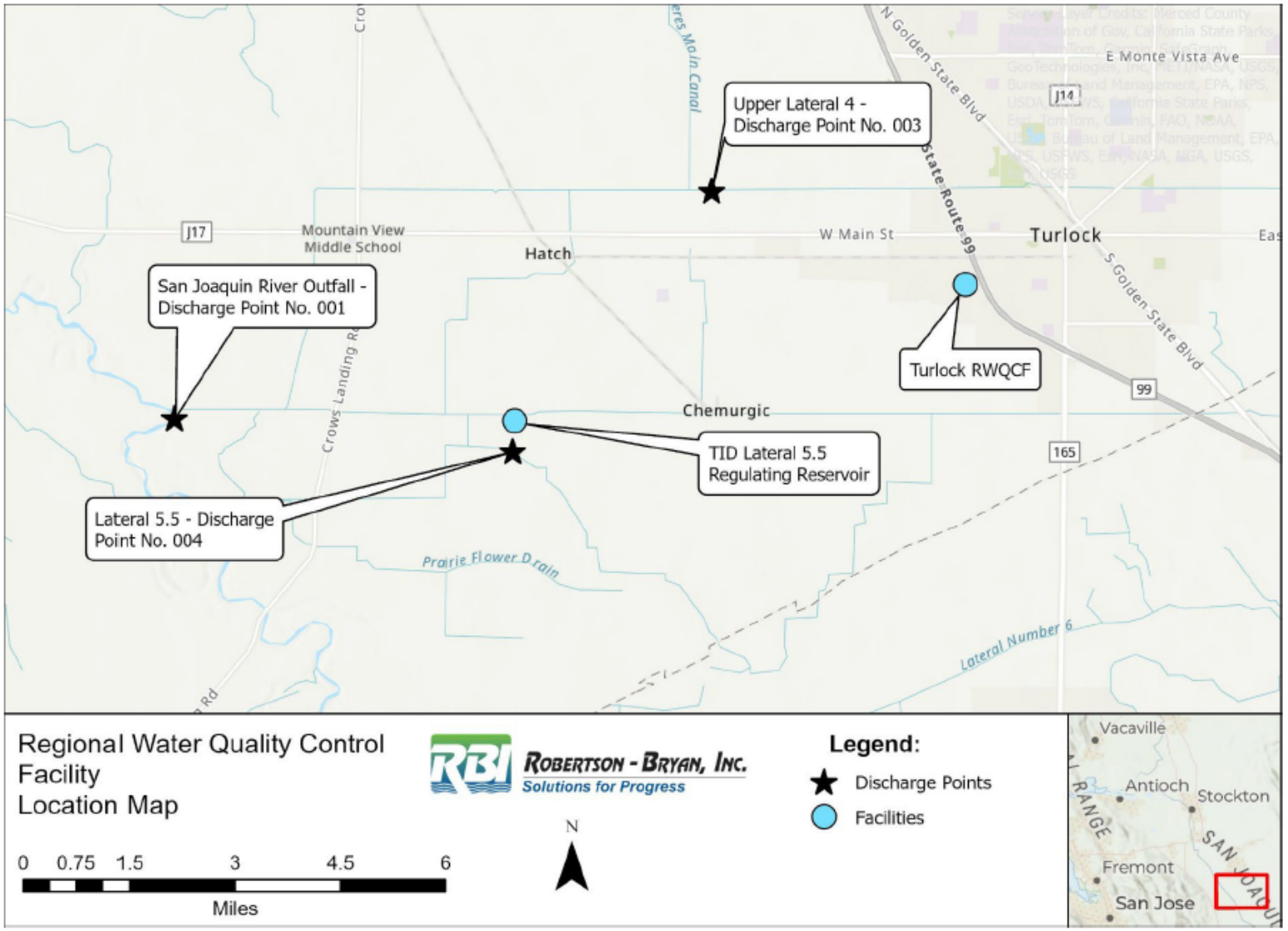
WET Median Monthly Effluent Target (MMET)
For the purposes of chronic aquatic toxicity, an MMET is a target based on a maximum of three independent toxicity tests used to determine whether a TRE should be conducted. Not meeting the MMET is not a violation of an effluent limitation.

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.

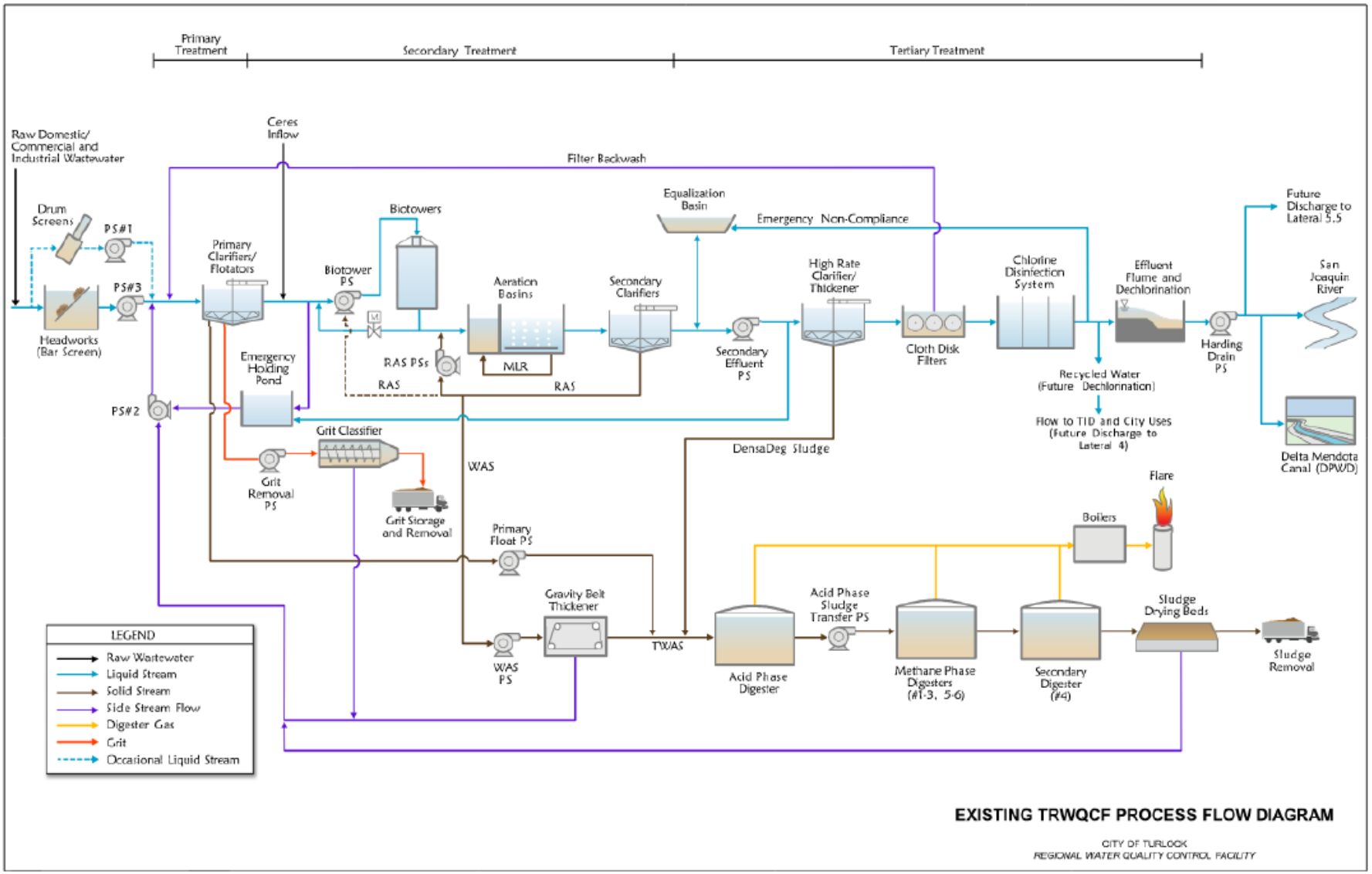
B.

ATTACHMENT B – MAP



C.

ATTACHMENT C – FLOW SCHEMATIC



D.

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).)

   The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. section 122.41(l)(1)(ii).)

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

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

H. Other Noncompliance

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

I. Other Information

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

J. Initial Recipient for Electronic Reporting Data

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

VI. STANDARD PROVISIONS – ENFORCEMENT

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

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

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

E.

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. section 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 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	A location where a representative sample of the influent into the Facility can be collected.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	When discharging at Discharge Point 001, a location where a representative sample of the effluent from the Facility can be collected after all treatment processes and prior to commingling with other waste streams or being discharged into the San Joaquin River.
003	EFF-001	When discharging at Discharge Point 003, a location where a representative sample of the effluent from the Facility can be collected after all treatment processes and prior to commingling with other waste streams or being discharged into the TID Upper Lateral 4.
004	EFF-001	When discharging at Discharge Point 004, a location where a representative sample of the effluent from the Facility can be collected after all treatment processes and prior to commingling with other waste streams or being discharged into the TID Lateral 5.5.
--	PND-001	A location where a representative sample of the contents of the Emergency Storage Basin can be collected.
--	RSW-001	San Joaquin River 1,800 feet upstream of Discharge Point 001.
--	RSW-002	San Joaquin River downstream of Discharge Point 001 and 50 feet above the confluence with Harding Drain.
--	TID-001	TID Upper Lateral 4, 100 feet upstream of Discharge Point 003.
--	TID-002	TID Upper Lateral 4, 100 feet downstream of Discharge Point 003.
--	TID-003	TID Lateral 5.5, 100 feet upstream of Discharge Point 004.
--	TID-004	TID Lateral 5.5, 100 feet downstream of Discharge Point 004.
--	BIO-001	A location where a representative sample of the biosolids can be collected.
001, 003, 004	TCO-001	A location immediately following chlorine disinfection where a representative sample for the effluent total coliform organisms can be collected.
--	REC-001	A location where a representative sample of the effluent from the Facility can be collected after all treatment processes and prior to commingling with other waste streams or being used for reclamation.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. The Discharger shall monitor influent to the Facility at Monitoring Location 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	MGD	Meter	Continuous
pH	standard units	Grab	1/Day
Biochemical Oxygen Demand (5-day @ 20°Celsius)	mg/L	24-hour Composite	1/Week
Total Suspended Solids	mg/L	24-hour Composite	1/Week
Electrical Conductivity @ 25°C	µmhos/cm	Grab	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. **Grab Samples.** All grab samples shall not be collected at the same time each day to get a complete representation of variations in the influent.

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

   d. A hand-held field meter may be used for **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.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location Discharge Points 001, 003 and 004 - Monitoring Location EFF-001 – San Joaquin River, TID Upper Lateral 4, and TID Lateral 5.5

1. When discharging to the San Joaquin River at Discharge Point 001 and/or to the TID Upper Lateral 4 at Discharge Point 003 and/or to the TID Lateral 5.5 at

Discharge Point 004 the Discharger shall monitor tertiary treated effluent at Monitoring Location EFF-001 in accordance with Table E-3 and the testing requirements described in section IV.A.2 below. Monitoring performed by the Discharger for compliance with its Waste Discharge Requirements for the discharge to the Delta Mendota Canal via the North Valley Regional Recycled Water Program Joint Outfall (NPDES Permit number CA0085316, Waste Discharge Requirements Order R5-2022-0034 and any revisions to or reissued Waste Discharge Requirements) may be used to meet these monitoring requirements. In the event that effluent samples for monitoring the Delta Mendota Canal discharge were not collected on the same day(s) that discharge to the San Joaquin River or Upper Lateral 4 or Lateral 5.5 occurred, this data can be used by the Discharger to meet the monitoring requirements of Table E-3 if the effluent samples were collected within the same monitoring period (e.g., within the same month, quarter, etc.). The sample results shall be reported as specified below:

Table E-3. Effluent Monitoring

Pollutant Parameter	Units	Sample Type	Minimum Sampling Frequency	Discharge Point
Flow	MGD	Meter	Continuous	001, 003, 004
Biochemical Oxygen Demand (BOD) 5-day @ 20°Celsius	mg/L	24-hour Composite	1/Week	001, 003, 004
BOD	% removal	Calculate	1/Month	001, 003, 004
Total Suspended Solids (TSS)	mg/L	24-hour Composite	1/Week	001, 003, 004
TSS	% removal	Calculate	1/Month	001, 003, 004
pH	standard units	Meter	Continuous	001, 003, 004
Dissolved Oxygen	mg/L	Grab	1/Week	001, 003, 004
Chlorodibromomethane (CDBM)	µg/L	Grab	1/Month	001, 003, 004
Dichlorobromomethane (DCBM)	µg/L	Grab	1/Month	001, 003, 004
Chloroform	µg/L	Grab	1/Month	001, 003, 004
1,2,3-TCP	µg/L	Grab	1/Month	001, 003, 004
Cyanide, Total (as CN)	µg/L	Grab	1/Quarter (see Table Note j)	001
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week	001
Chlorine, Total Residual	mg/L	Meter	Continuous	001
Chlorpyrifos	µg/L	Grab	1/Year	001

Pollutant Parameter	Units	Sample Type	Minimum Sampling Frequency	Discharge Point
Diazinon	µg/L	Grab	1/Year	001
Electrical Conductivity @ 25°Celsius	µmhos/cm	Grab	1/Week	001, 003, 004
Hardness, Total (as CaCO3)	mg/L	24-hour Composite	1/Quarter	001
Nitrate plus Nitrite, Total (as N)	mg/L	24-hour Composite	1/Month	001, 003, 004
Temperature	°F	Grab	1/Week	001
Total Coliform Organisms	MPN/100 mL	Grab	1/Day	001, 003, 004
Turbidity	NTU	Meter	Continuous	001, 003, 004

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. All sampling shall be conducted at monitoring location EFF-001 and reported at the monitoring location representing the respective Discharge Location as defined in Table E-1.

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

    d. A hand-held field meter may be used for **electrical conductivity**, **dissolved oxygen**, **temperature** 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. **Total Residual Chlorine** must be monitored using an analytical method that is sufficiently sensitive to measure at the permitted level of 0.01 mg/L.

g. **Total Coliform Organisms.** Samples for total coliform organisms shall be collected at Monitoring Location TCO-001, a sample point immediately following chlorine disinfection.

h. **Priority Pollutants**. For all priority pollutant constituents listed in Table E-3 (Chlorodibromomethane and Dichlorobromomethane) the reporting level 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 122.4(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.

j. **Total Cyanide.** The effluent monitoring frequency for total cyanide in this Order is 1/Quarter from 1 October 2027 through 30 September 2029, after which monitoring may cease, to implement the Cyanide Constituent Study requirements. Upon review of the study results, Central Valley Water Board staff will determine if this Order will be reopened and additional effluent monitoring and/or limits will be added.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Toxicity Calendar Month, Quarter and Year.

1. **Toxicity Calendar Month.** A toxicity calendar month is defined as the period of time from the first of a month through 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)..

2. **Toxicity Calendar Quarter.** A toxicity calendar quarter is defined as **three consecutive toxicity calendar months.** For purposes of this Order, 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, etc.).

3. **Toxicity Calendar Year.** A toxicity calendar year is defined as **twelve consecutive toxicity calendar months.** For purposes of this Order, the toxicity calendar year **begins on 1 January** (i.e., 1 January to 31 December), in years in which there are at least 15 days of discharge in at least one toxicity 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 50 percent effluent.

2. **Routine Monitoring Frequency.** The Discharger shall perform routine chronic toxicity testing at Monitoring Location EFF-001 when discharging to the San Joaquin River once per toxicity calendar month in months during which there is expected to be at least 15 days of discharge from Discharge Point 001. While the Discharger is conducting a toxicity reduction evaluation, the routine monitoring at EFF-001 may be reduced to two (2) tests per toxicity calendar year. When there is no effluent available to complete a routine monitoring test or MMEL compliance test, the test shall not be required, and subsequent routine monitoring shall continue at the frequency specified in the permit.

3. **Chronic Toxicity MMEL Compliance Testing.** If a routine chronic toxicity monitoring test results in a “fail” at the IWC, then the Discharger shall complete a chronic toxicity MMEL compliance test. If the MMEL compliance test results in a “pass”, the Discharger shall complete a second chronic toxicity MMEL compliance test. All required chronic toxicity MMEL compliance tests shall be initiated within the same toxicity calendar month as the initiation of the routine monitoring chronic toxicity test. If the first chronic toxicity MMEL compliance test results in a “fail” at the IWC, then the second chronic toxicity MMEL compliance test is unnecessary and is waived.

4. **Sample Volumes.** Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

5. **Test Species.** The testing shall be conducted using the most sensitive species, which is water flea (*Ceriodaphnia dubia)*. The Discharger shall conduct chronic toxicity tests with *Ceriodaphnia dubia*, 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).

6. **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).

7. **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.

8. **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.9, below.

9. **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. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are below.

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 MDEL as soon as the Discharger learns of the exceedance, but no later than 24-hours after receipt of the monitoring results.

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., monthly, quarterly, semi-annually or annually) 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 and 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 ***Ceriodaphnia dubia*** as the most sensitive species. **The species sensitivity screening shall be conducted at least once every fifteen years or if the effluent used in the last species sensitivity screening is no longer representative of the effluent and the results of the most recent species sensitivity screening shall be submitted with the Report of Waste Discharge.**

1. **Frequency of Testing for Species Sensitivity Screening.** Species sensitivity screening for chronic toxicity shall include, at a minimum, chronic WET testing from four consecutive calendar quarters using the water flea (*Ceriodaphnia dubia*), fathead minnow (*Pimephales promelas*), and green algae (*Pseudokirchneriella subcapitata, also known as Selenastrum capricornutum*). The tests shall be performed at an IWC of no less than 50 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 at the IWC, 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 at the IWC 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 at the IWC, 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 tests, if the first two screening events result in no change in the most sensitive species, the Discharger may cease the subsequent species sensitive screening testing and the most sensitive species will remain unchanged.

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. 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 most sensitive species shall be used for chronic toxicity testing for the remainder of the permit term. The Discharger may use the four most recent tests for use in determining the most sensitive species if the tests were conducted in a manner sufficient to make such determination. If the most sensitive species cannot be determined from the species sensitivity screening discussed above, the Discharger shall rotate the test species as the most sensitive species every toxicity calendar year as follows:

a. *Ceriodaphnia dubia* (survival and reproduction test) for the remainder of the toxicity calendar year this Order is effective;

b. *Pimephales promelas* (larval survival and growth test) for the entire toxicity calendar year following the toxicity calendar year this Order is effective;

c. *Pseudokirchneriella subcapitata* (growth test) for the entire toxicity calendar year of the second year following the toxicity calendar year this Order is effective; and

d. Cycling back to *Ceriodaphnia dubia* (survival and reproduction test) after *Pseudokirchneriella subcapitata* (growth test) and through the same rotation.

If a single test exhibits toxicity, demonstrated by a test that results in a "Fail" using the TST statistical approach at the IWC, then the species used in that test shall be established as the most sensitive species until a subsequent Order rescinding this Order becomes effective.

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 violations 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 approved TRE Work Plan. Within 30 days of the test result that triggered the TRE, the Discharger shall submit to the Executive Officer a TRE Action 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 - NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS

A. Monitoring Location REC-001

1. The Discharger shall monitor reclaimed water at Monitoring Locations REC-001 in accordance with Table E-6 below:

Table E-4. Recycled Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Meter	Continuous
Total Coliform Organisms	MPN/ 100 mL	Grab	1/Day
Turbidity	NTU	Meter	Continuous

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

    a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136; or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

    b. **Total Coliform Organisms.** Samples for total coliform organisms shall be collected at Monitoring Location TCO-001, a sample point immediately after chlorine disinfection.

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Discharge Point 001 (San Joaquin River) – Monitoring Locations RSW-001 and RSW-002

1. When discharging continuously for a period of 72-hours or more to Discharge Point 001 in the San Joaquin River, the Discharger shall monitor the San Joaquin River at Monitoring Locations RSW-001 and RSW-002 in accordance with Table E-5 and the testing requirements described in section VIII.A.2 below.

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
pH	standard units	Grab	1/Month
Dissolved Oxygen	mg/L	Grab	1/Month
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Month
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Month
Temperature	°C	Grab	1/Month
Turbidity	NTU	Grab	1/Month

2. **Table E-5 Testing Requirements.** The Discharger shall comply with the following testing requirements when monitoring for the parameters described in Table E-5:

    a. **Applicable to all parameters.** Parameters shall be analyzed using the analytical methods described in 40 CFR part 136 or by methods approved by the Central Valley Water Board or the State Water Board. In addition, if requested by the Discharger, the sample type may be modified by the Executive Officer to another 40 CFR part 136 allowed sample type.

    b. Constituents with weekly sampling frequency may be reduced to monthly at RSW-001 when the San Joaquin River is at “monitor stage” (river elevation is at 48.0 feet (15,242 cfs) at the SJP gauging station) and all monitoring is not required while the San Joaquin River is at “flood stage” (river elevation is at 54.7 feet at the SJP gauging station).

    c. A hand-held field meter may be used for **dissolved oxygen, turbidity**, **temperature, 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.

3. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by RSW-001 and RSW-002 when discharging to the San Joaquin River. Attention shall be given to the presence of:

    a. Floating or suspended matter;

    b. Discoloration;

    c. Bottom deposits;

    d. Aquatic life;

    e. Visible films, sheens, or coatings;

    f. Fungi, slimes, or objectionable growths; and

    g. Potential nuisance conditions.

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

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

a. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 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. Emergency Storage Basin

1. **Monitoring Location PND-001.** The Discharger shall monitor the emergency storage basin (when in use) at PND-001 in accordance with Table E-7 below:

Table E-6. Pond Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow to Basin	Million Gallons/Event	Calculated	1/Event
Reason for Diversion	--	Narrative	--
Duration of Diversion	Hours	Narrative	Per each intermittent diversion event
Description (e.g., Influent or Effluent)	--	Narrative	Per each intermittent diversion event

2. The Discharger shall conduct regular observations and inspections of the lined emergency storage basin at the Facility; frequency of the inspection of the lined emergency storage basin shall be no less than once per 24 months. A summary of the inspections, including the dates, findings, and photo documentation of the inspection, including the berm condition, levee condition, odors and freeboard shall be included with the Annual Operations Report, as specified below in section X.D.2.

C. Effluent and Receiving Water Characterization

1. **Monitoring Frequency**

a. **Effluent Sampling.** Samples shall be collected from the effluent (Monitoring Location EFF-001) quarterly **between 1 January 2029 through 31 December 2029**.

b. **Receiving Water Sampling.** Samples shall be collected from the upstream receiving water locations for Discharge Points 001, 003, and 004 (Monitoring Locations RSW-001, TID-001, and TID-003, respectively). Samples shall be collected twice per year at RSW-001 and once per year at TID-001 and TID-003 **between 1 January 2029 through 31 December 2029, and only at the TID-001 and TID-003 if discharges have commenced**.

2. **Analytical Methods.** Constituents shall be collected and analyzed consistent with the Discharger's Analytical Methods Report (MRP, X.D.1) 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. The 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, if receiving water is sampled.

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 E-12.

4. The Discharger shall conduct effluent and receiving water characterization monitoring in accordance with Table E-7 and the testing requirements described in section IX.E-5 below.

Table E-7. 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

CTR Number	Volatile Organic Parameters	CAS Number	Units	Effluent Sample Type
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
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
	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

CTR Number	Semi-Organic Volatile Parameters	CAS Number	Units	Effluent Sample Type
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
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
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
	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	24-hour Composite

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

CTR Number	Pesticide/PCB/Dioxin Parameters	CAS Number	Units	Effluent Sample Type
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
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	--	ºC	Grab

NON-CONVENTIONAL PARAMETERS

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

NUTRIENTS

CTR Number	Nutrient Parameters	CAS Number	Units	Effluent Sample Type
NL	Ammonia (as N)	7664-41-7	mg/L	24-hour Composite
NL	Nitrate (as N)	14797-55-8	mg/L	24-hour Composite

CTR Number	Nutrient Parameters	CAS Number	Units	Effluent Sample Type
NL	Nitrite (as N)	14797-65-0	mg/L	24-hour Composite
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
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	24-hour Composite
NL	Oxamyl	23135-22-0	µg/L	24-hour Composite
NL	Picloram	1918-02-1	µg/L	24-hour Composite
NL	Simazine (Princep)	122-34-9	µg/L	24-hour Composite
NL	Thiobencarb	28249-77-6	µg/L	24-hour Composite
NL	2,4,5-TP (Silvex)	93-72-1	µg/L	24-hour Composite
NL	Chlorpyrifos	2921-88-2	µg/L	24-hour Composite
NL	Diazinon	333-41-5	µg/L	24-hour Composite

5. **Table E-7 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.** 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-7, 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-7.

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 Methyl Mercury.** 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 and 1631 (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.

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, semiannual, 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-8. 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/Hour	Permit effective date	Hourly	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

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
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
1/Discharge Event	Permit effective date	All	Submit with Monthly SMR

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. 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 This requirement only applies to constituents monitored per Table E-9 (Effluent and Receiving Water Characterization Monitoring), and effluent monitoring per Table E-3 for chlorodibromomethane, dichlorobromomethane, chloroform, cyanide, 123-TCP, chlorpyrifos, and diazinon monitored per section IV.A.1, Monitoring Location EFF-001. This requirement can be fulfilled by uploading the reports with SMRs for compliance with Waste Discharge Requirements for the facility's discharge to the Delta Mendota Canal (NPDES Permit number CA0085316, Waste Discharge Requirements Order R5-2022-0034 and any revisions to or reissued Waste Discharge Requirements).

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" 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.C of the Waste Discharge Requirements.

   c. **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.F of the Waste Discharge Requirements.

   d. **Chlorpyrifos and Diazinon Effluent Limitations.** The Discharger shall calculate and report the value of S_{AMEL} and S_{MDEL} for the effluent, using the equation in Effluent Limitations IV.A.1.f and consistent with the Compliance Determination Language in section VII.E 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 is available on the Internet (http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring/).

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 E-10. 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. A summary of emergency storage basin inspections conducted in accordance with Attachment E, Section IX.B.

    f. 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-10, to demonstrate compliance with this reporting requirement.

4. **Groundwater Quality Characterization Report.** The Discharger shall submit a Groundwater Quality Characterization Report with the next ROWD. The Discharger shall characterize the groundwater for the constituents in the table below.

Table E-9. Groundwater Constituents of Concern

Parameter	Units
Electrical Conductivity @ 25°C	µmhos/cm
Total Dissolved Solids	mg/L
Fixed Dissolved Solids	mg/L
pH	standard units
Total Coliform Organisms	MPN/100 mL
Total Nitrogen	mg/L
Nitrate Nitrogen, Total (as N)	mg/L
Ammonia (as NH4)	mg/L
Total Kjeldahl Nitrogen	mg/L
Standard Minerals	µg/L

Table E-9 Notes:

1. **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), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance). Total iron and total manganese

samples can be filtered using a 1.5-micron filter to evaluate compliance with Secondary MCLs. All other samples can be analyzed using a 0.45-micron filter.

5. **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 E-10:

    a. Report of Waste Discharge (Form 200);

    b. NPDES Form 1 (not needed if submitting Form 2A);

    c. NPDES Form 2A;

    d. NPDES Form 2S

    e. **Salinity Evaluation and Minimization Plan (SEMP).** The Discharger shall evaluate the effectiveness of the SEMP and provide a summary with the Report of Waste Discharge; and

    f. **Mixing Zone Requests.** A mixing zone analysis for constituents the Discharger is requesting the continuation of dilution credits and mixing zones in the calculation of water quality-based effluent limits (e.g., chlorodibromomethane and dichlorobromomethane).

    g. **Most Sensitive Species Screening.** The Discharger shall perform subsequent species sensitivity screening to re-evaluate the most sensitive species for chronic whole effluent toxicity testing in accordance with MRP section V.E and results submitted with the ROWD.

    h. **Groundwater Quality Characterization Report.** The Discharger shall submit with the ROWD a report characterizing the groundwater quality as required in Section VI.C.2 of the WDRs and further outlined in Section X.D.4 of the MRP.

6. **Cyanide Constituent Study**. The Discharger shall submit a Cyanide Constituent Study by the due date in the Technical Reports Table. The study shall include a quarterly monitoring (1/Quarter) schedule, at minimum, for cyanide starting 1 October 2027 and concluding on 30 September 2029, followed by a report of findings submitted electronically via CIWQS. The Discharger shall analyze the monitoring samples with analytical methods that attempt to eliminate possible false positives, thereby demonstrating whether the actual cyanide concentrations in the discharge are above or below water quality objectives. Cyanide effluent sampling is only required for the first two years following the effective date of this Order to complete the Cyanide Constituent Study. This Order may be reopened depending on the results of the Cyanide Constituent Study to implement additional effluent cyanide monitoring and/or limits.

7. **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-8 (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

8. **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 E-10 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-10. Technical Reports

Report #	Technical Report	Due Date	CIWQS Report Name
Intentionally left blank	Standard Reporting Requirements	Intentionally left blank	Intentionally left blank
1	Report of Waste Discharge	1 October 2031	MRP X.D.5
2	Analytical Methods Report	1 January 2028	MRP X.D.1
3	Analytical Methods Report Certification	1 November 2028	MRP IX.C.3
4	Annual Operations Report	1 February 2028	MRP X.D.2
5	Annual Operations Report	1 February 2029	MRP X.D.2
6	Annual Operations Report	1 February 2030	MRP X.D.2
7	Annual Operations Report	1 February 2031	MRP X.D.2
8	Annual Operations Report	1 February 2032	MRP X.D.2
9	Annual Pretreatment Report	28February 2028	MRP X.D.6
10	Annual Pretreatment Report	28 February 2029	MRP X.D.6
11	Annual Pretreatment Report	28 February 2030	MRP X.D.6
12	Annual Pretreatment Report	28 February 2031	MRP X.D.6
12	Annual Pretreatment Report	28 February 2032	MRP X.D.6
13	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2028	MRP X.D.3
14	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2029	MRP X.D.3
15	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2030	MRP X.D.3
16	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2031	MRP X.D.3
17	Recycled Water Policy Annual Report Submittal Confirmation	30 April 2032	MRP X.D.3
18	Cyanide Constituent Study	31 December 2029	WDRs VI.C.2.c

F.

ATTACHMENT F – FACT SHEET

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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:	5C500108001
CIWQS Facility Place ID:	266737
Discharger:	City of Turlock
Name of Facility:	City of Turlock Regional Water Quality Control Facility
Facility Address:	901 S. Walnut Road
Facility City, State Zip:	Turlock, CA 95380
Facility County:	Stanislaus County
Facility Contact, Title and Phone Number:	David Huff, Water Quality Division Manager, (209) 668-5451
Authorized Person to Sign and Submit Reports:	David Huff, Water Quality Division Manager, (209) 668-5451
Mailing Address:	156 South Broadway Ave, Suite 270, Turlock, CA 95380
Billing Address:	Same as Mailing Address
Type of Facility:	Publicly Owned Treatment Works (POTW)
Major or Minor Facility:	Major
Threat to Water Quality:	1
Complexity:	A
Pretreatment Program:	Yes
Recycling Requirements:	Producer – 2.0 million gallons per day (MGD) of recycled water for cooling purposes to the Walnut Energy Center and an average of 100,000 GPD to Pedretti Sports Complex for turf irrigation.

Facility Permitted Flow:	20 MGD, average dry weather flow
Facility Design Flow:	20 MGD, average dry weather flow
Watershed:	Middle San Joaquin – Lower Merced – Lower Stanislaus
Receiving Water:	San Joaquin River, TID Upper Lateral 4, and TID Lateral 5.5
Receiving Water Type:	Inland surface water

A. The City of Turlock (hereinafter Discharger) is the owner and operator of the City of Turlock, Regional Water Quality Control Facility (hereinafter 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 the San Joaquin River, a water or waters of the United States, within the Middle San Joaquin-Lower Merced-Lower Stanislaus watershed. The Facility also proposes to discharge to the TID Upper Lateral 4 and Lateral 5.5. The Discharger was previously regulated by Order R5-2021-0005 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078948 adopted on 18 February 2021 and expired on 31 March 2026. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

C. When applicable, state law requires dischargers to file a petition with the State Water Board, Division of Water Rights and receive approval for any change in the point of discharge, place of use, or purpose of use of treated wastewater that decreases the flow in any portion of a watercourse. The State Water Board retains separate jurisdictional authority to enforce any applicable requirements under Water Code section 1211. This is not an NPDES permit requirement.

D. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on 24 March 2025**.**

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 Turlock and the community service districts of Denair and Keyes, and receives up to 2 MGD of primary treated effluent from the City of Ceres. The Facility serves a population of approximately 91,000. The design daily average flow capacity of the Facility is 20 million gallons per day (MGD).

A. Description of Wastewater and Biosolids Treatment and Controls

1. **Existing Facility.** The treatment system at the Facility consists of the following five systems: (1) preliminary treatment (coarse screening to remove debris); (2) primary treatment (settling and flotation to remove a portion of the solids and organic matter); (3) secondary treatment (biological reduction of organics, ammonia and total nitrogen, and clarification to remove suspended solids); (4) tertiary treatment (high-rate clarification and filtration), and (5) chlorine disinfection with sodium bisulfite dechlorination.

   The Facility also includes a 37.2 million-gallon clay-lined emergency storage basin (ESB), which allows for the diversion and storage of primary effluent if necessary. Historically, the Discharger has used two groundwater dewatering pumps to withdraw groundwater from the vicinity of the sludge drying beds and ESB. The dewatering wells were installed in 1971 when the ESB was operated as an active treatment pond and before the ESB liner was installed. They are located on the northwest and southwest corners of the ESB. The groundwater dewatering pumps are approximately 110 feet deep and discharge a combined rate of 800 gallons per minute (400 gallons per minute per pump) to the headworks for treatment. Though the ESB and sludge drying beds have been lined to protect groundwater from seepage, the Discharger uses the groundwater dewatering pumps as necessary to control groundwater levels in the vicinity of treatment structures and collect groundwater underlying the ESB and sludge drying beds for treatment at the Facility.

   The Discharger currently provides up to 2 MGD of recycled water for cooling purposes to the Walnut Energy Center, a 250-megawatt power plant owned and operated by TID. The Discharger also provides an average of 100,000 gallons per day for irrigation purposes at the Pedretti Sports Complex. Recycled water distribution for these users is permitted separately under the State Water Resources Control Board General Order WQ-2016-0068-DDW, *General Waste Discharge Requirements for Recycled Water Use* (Notice of Applicability WQ-2014-0090-R5005).

2. **Biosolids Treatment.** Solids stream processing areas include grit, screenings, and scum solids handling, thickening, digestion, dewatering, treatment, storage, and disposal. Screenings (i.e., large debris, such as rags) are mechanically removed from the bar screens and dewatered. Screenings and grit separated from heavy solids collected by the primary clarifiers/flotators are disposed of at a landfill**.**

Sludge is anaerobically digested and dewatered using a gravity belt thickener. Dried biosolids are stored onsite in reinforced concrete-lined drying beds. Biosolids are temporarily stored in an asphalt-lined storage area until they are shipped off-site for land application. The facility produces approximately 3,000 dry metric tons of dried biosolids annually. Transportation and disposal/reuse of the biosolids is regulated by U.S. EPA under 40 C.F.R. part 503.

B. Discharge Points and Receiving Waters

1. The Facility is located in section 21, T5S, R10E MDB&M, as shown in Attachment B, a part of this Order. The Facility's primary mode of disposal is discharge to the Delta Mendota Canal (DMC) via the North Valley Regional Recycled Water Program regulated by separate Order R5-2022-0034 (NPDES Permit No. CA0085316) issued to the City of Turlock and City of Modesto for the combined surface water discharge from the Facility and the City of Modesto Water Quality Control Facility to the DMC.

   As described below, this Order authorizes discharges to the San Joaquin River at Discharge Point 001, a discharge location to the Turlock Irrigation District (TID) Upper Lateral 4 at Discharge Point 003, and a new discharge location to the Turlock Irrigation District (TID Lateral 5.5 at Discharge Point 004. Since initiation of discharge to the DMC in March 2020, the Facility only discharges to the San Joaquin River on a temporary, as needed basis (e.g., when discharges to the DMC are not available due to maintenance). Discharges to the TID Upper Lateral 4 are contingent upon the Discharger entering into a formal agreement with TID per Discharge Prohibition III.G and Special Provision VI.C.6.b. The purpose of the discharge to TID Upper Lateral 4 is to supply recycled water to augment irrigation supplies when there is demand within the TID service area from agricultural users within TID's canal system during the irrigation season (1 March through 31 October) and is limited to a maximum of 2,033 acre-feet per year (AFY).

   This Order authorizes an additional discharge location to TID's system at Lateral 5.5 in order to provide TID with more water for the irrigation season. The cities of Turlock and Ceres formed a Joint Powers Authority (JPA), the Stanislaus Regional Water Authority (SRWA), to implement a regional surface water supply project. Under a water sales agreement, TID will provide Tuolumne River water to the SRWA as a drinking water supply source. Turlock, on behalf of the SRWA, will provide recycled water to TID to partially offset Tuolumne River water provided by TID. TID plans to construct a regulating reservoir to temporarily store irrigation spills and return flows collected from the adjacent Harding Drain, as well as approximately 2,000 AFY of the Facility's recycled water per the TID/SRWA water sales agreement. The Discharger will discharge the reservoir water (a mix of Harding Drain water and recycled water) to a new discharge location, TID's Lateral 5.5, for agricultural irrigation use in its service area.

2. Tertiary treated municipal wastewater is discharged at Discharge Point 001 to the San Joaquin River, a water of the United States at a point latitude 37° 27’ 46” N and longitude 121° 01’ 57” W.

3. Tertiary treated municipal wastewater is permitted for discharge at Discharge Point 003 to the TID Upper Lateral 4, a water of the United States at a point latitude 37° 29’ 59.6” N and longitude 120° 55’ 18.5” W. Discharge to TID Upper Lateral 4 (Discharge Point 003) is prohibited per Discharge Prohibition III.G until compliance with Special Provision VI.C.6.b. As required in Special Provision VI.C.6.b, the surface water discharge to the TID Upper Lateral 4 is approved but cannot begin until the TID Board of Directors takes action to accept tertiary recycled water from the Facility, and the Discharger notifies the Central Valley Water Board of such acceptance at least 15 days prior to initiating discharge to TID Upper Lateral 4.

4. Tertiary treated municipal wastewater is permitted for discharge at Discharge Point 004 to the TID Lateral 5.5, a water of the United States at a point latitude 37° 27' 26.57" N, 120 °57 '46.08" W.

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

Effluent limitations contained in Order R5-2021-0005 for discharges from Discharge Point 001 (Monitoring Location EFF-001) and Discharge Point 003 (Lateral 4) and representative monitoring data from the term of Order R5-2021-0005 are as follows:

Table F-2 Historic Effluent Limitations

Parameter	Units	Historic Effluent Limitations	Highest Discharge
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	AMEL 10 AWEL 15	AMEL 4 AWEL 4
pH	std. units	Instantaneous Max 8.5 Instantaneous Min 6.5	Instantaneous Max: 8.1 Instantaneous Min: 6.6
Total Suspended Solids	mg/L	AMEL 10 AWEL 15 MDEL 20	AMEL 9.2 AWEL 9.2
Chlorodibromomethane	µg/L	AMEL 43 MDEL 73	AMEL19.9 MDEL 28
Dichlorobromomethane	µg/L	AMEL 46 MDEL 74	AMEL 43.3 MDEL 58
Ammonia Nitrogen, Total (as N) (16 April – 31 October)	mg/L	AMEL 1.3 AWEL 3.1	AMEL ND AWEL ND
Ammonia Nitrogen, Total (as N) (1 November – 15 April)	mg/L	AMEL 2.2 AWEL 6.8	AMEL ND AWEL ND

Parameter	Units	Historic Effluent Limitations	Highest Discharge
Nitrate plus Nitrite	mg/L	AMEL 10 AWEL 13	AMEL 8.9 AWEL 11.9
Chlorine, Total Residual	mg/L	4-day avg. 0.011 1-hr avg. 0.019	ND
Electrical Conductivity	µmhos/cm	Calendar year annual average 1,250	1,226
Total Coliform Organisms	MPN/100 mL	7-day median 2.2 Once in 30-day period 23 At any time 240	7-day median 4.5 Once in 30-day period 23 At any time 130
Diazinon	µg/L	(see table note 3 below)	ND
Chlorpyrifos	µg/L	(see table note 3 below)	ND
Mercury, Total	lbs/year	Calendar year annual average 0.82	0.001
Average Dry Weather Flow	MGD	MDEL 20	11
Acute Whole Effluent Toxicity	% survival	70 % minimum for any one bioassay 90% median for any three bioassays	Any One Bioassay: 100% Median of Three Consecutive Tests: 100%

Table F-2 Notes:

1. Data in this table are only representative of effluent discharged to the San Joaquin River or the DMC, as no discharges have occurred yet to Upper Lateral 4.

D. Compliance Summary

The Central Valley Water Board issued three Notices of Violation (NOV) under Order R5-2021-0005.

Table F-3 Compliance Summary

Enforcement Action	Enforcement Action Date	Parameter(s)	Description
NOV	1 February 2023	Turbidity	Two exceedances of the 2 NTU operation specification
NOV	23 June 2023	Total Coliform	Two exceedances of the 2.2 MPN/100mL 7-Day Median effluent limit
NOV	8 November 2024	Total Coliform	Five exceedances of the 2.2 MPN/100mL 7-Day Median effluent limit

E. Planned Changes

The Discharger is currently in the process of upgrading the Facility's chemical systems and repairing the in-plant drain line. The Discharger also plans to rehabilitate the primary clarifier/flotators, implement chloramination disinfection capabilities, and create infrastructure to allow diversion of final effluent to the emergency storage basin.

TID will construct a regulating reservoir in the vicinity of Harding Drain and Lateral 5.5 to temporarily store irrigation spills and return flows collected from the adjacent Harding Drain for agricultural use in its service area. The Discharger will construct a discharge to this reservoir because TID will also use this reservoir to receive the 2,000 AFY of recycled water the Discharger is obligated to provide TID under the TID/SRWA water sales agreement, when the reservoir has capacity to receive this water. The reservoir water, which would be a mix of Harding Drain water and recycled water, would be discharged to Lateral 5.5.

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 OR Title 22 water reclamation 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 Plans.** 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

(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.

b. Beneficial uses applicable to the San Joaquin River are specifically identified in Table 2-1 of the Basin Plan from the mouth of the Merced River to Vernalis. The TID Upper Lateral 4 and Lateral 5.5 are not named waterbodies in the Basin Plan for which beneficial uses have been assigned and the tributary rule does not apply to the TID Upper Lateral 4 and Lateral 5.5, because they are not natural waterways. The TID Upper Lateral 4 and Lateral 5.5 are concrete-lined agricultural canals designed solely for irrigation water conveyance. Due to the nature of the canal system (e.g., concrete lining) it does not support the aquatic life beneficial use. Therefore, this Order applies the AGR beneficial to the TID Upper Lateral 4 and 5.5 based on the designed purpose of the canal, contact and non-contact recreation (REC-1 and REC-2) due to public contact with irrigation water, and the municipal and domestic water supply (MUN) beneficial use based on the Sources of Drinking Water Policy, State Water Board Resolution 88-63. The beneficial uses applicable to this discharge for the San Joaquin River and the TID Upper Lateral 4 and Lateral 5.5 are as follows:

Table F-4 Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	San Joaquin River	Existing: Agricultural supply, including irrigation and stock watering (AGR); industrial process supply (PROC); water contact recreation, including canoeing and rafting (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: Municipal and domestic water supply (MUN).
003	TID Upper Lateral 4	Existing: Agricultural supply, including irrigation and stock watering (AGR); contact and non-contact recreation (REC-1 and REC-2). Potential: Municipal and domestic water supply (MUN).

Discharge Point	Receiving Water Name	Beneficial Use(s)
004	TID Lateral 5.5	Existing: Agricultural supply, including irrigation and stock watering (AGR); contact and non-contact recreation (REC-1 and REC-2). Potential: Municipal and domestic water supply (MUN).

c. ***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.

d. **Statewide Toxicity Provisions.** On 1 December 2020, the State Water Board adopted State Policy for Water Quality Control: Toxicity Provisions (Toxicity Provisions) which established statewide numeric water quality objectives for both acute and chronic toxicity, using the Test of Significant Toxicity (TST), and a program of implementation to control toxicity. Per State Water Board Resolution 2021-0044, the Toxicity Provisions were adopted as a State Policy for Water Quality Control for all inland surface waters, enclosed bays, estuaries, and coastal lagoons of the state, regardless of their status as waters of the United States. The Toxicity Provisions establish a uniform regulatory approach to provide consistent protection of aquatic life beneficial uses and protect aquatic habitats and life from the effects of known and unknown toxicants. The Toxicity Provisions were approved by the Office of Administrative Law on 25 April 2022 and by U.S. EPA on 1 May 2023.

   On 14 December 2023, the State Water Board applied for U.S. EPA Region 9 review and approval of a limited-use alternative test procedure (ATP) for the use of one-effluent concentration when conducting whole effluent toxicity (WET) testing (see 40 C.F.R. § 136.5). The application is specific to acute or chronic WET tests in Table 1 of the application when using the TST statistical approach (U.S. EPA, 2010) for analyzing the data. The application is being sought for all dischargers or facilities in California and their associated laboratories. The ATP application is still pending with U.S. EPA.

   The use of the TST has been the subject of litigation. In December 2024, the Second District Court of Appeal upheld the use of the TST in an NPDES permit in the case of *Camarillo Sanitary District v. California Regional Water*

Quality Control Board - Los Angeles Region (Cal. Ct. App., 19 Dec. 2024, No. 2D CIV. B333420) 2024 WL 5164726, unpublished.

A separate legal challenge to the State Water Board's adoption of the Toxicity Provisions originated in Fresno County Superior Court on 18 July 2022, through a petition for writ of mandate filed by Camarillo Sanitary District, City of Simi Valley, City of Thousand Oaks, Central Valley Clean Water Association, and Clean Water SoCal (formerly known as Southern California Alliance of Publicly Owned Treatment Works) (Petitioners). One of the claims was that the Toxicity Provisions was inconsistent with the Clean Water Act. On 9 October 2023, the superior court denied the petition in its entirety.

On 19 December 2023, three of the Petitioners filed a notice of appeal of the Fresno Superior Court's decision upholding the Toxicity Provisions. On 5 August 2025, the Fifth District Court of Appeal issued a published opinion holding that the TST statistical approach, which is an integral component of the Toxicity Provisions, cannot be utilized in NPDES permitting to evaluate WET data because the TST is not an approved method under 40 Code of Federal Regulations part 136. (See *Camarillo Sanitary Dist. v. State Wat. Res. Control Board* (2025) 113 Cal.App.5th 407, review granted 12 Nov. 2025, S292989.) The Court of Appeal did not, however, disturb the Toxicity Provisions' use of the TST as a part of its WQOs. The State Water Board prevailed on all other claims in the litigation. The Court of Appeal's decision became final on 4 September 2025.

On 15 September 2025, the State Water Board filed a petition for review of the Fifth Circuit Court of Appeal's decision with the California Supreme Court. On 12 November 2025, the California Supreme Court granted review. The issues to be briefed and argued are limited to the issues raised in the State Water Board's petition for review.

Pending the California Supreme Court's review, the opinion of the Fifth Circuit Court of Appeal is not binding on the Water Boards. However, the opinion may be cited, not only for its persuasive value, but also for the limited purpose of establishing the existence of a conflict in authority.

In accordance with Water Code sections 13146 and 13247, the Central Valley Water Board must fully implement the WQOs and their implementation procedures in the Toxicity Provisions. The numeric WQOs for chronic and acute toxicity established by the Toxicity Provisions, which are based on the TST, were approved by U.S. EPA and remain in effect. As such, the numeric WQOs continue to serve as the applicable federal water quality standards in California.

The Central Valley Water Board must also continue to comply with federal Clean Water Act NPDES regulations for determining reasonable potential and establishing applicable water quality-based effluent limitations (WQBELs). NPDES regulations (40 C.F.R. § 122.44(d)(1)(vii)(A)) require that all WQBELs be derived from and comply with all applicable water quality standards. Moreover, although the Toxicity Provisions left in place narrative WQOs for

aquatic toxicity in the Board's regional water quality control plans (i.e., Basin Plans), the Toxicity Provisions did supersede basin plan provisions and portions of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) for implementing narrative WQOs. As such, there are currently no basin plan or SIP procedures in effect for implementing narrative WQOs to determine reasonable potential as required by 40 Code of Federal Regulations section 122.44(d)(1)(ii). As a result, the Board must fully implement all of the Toxicity Provisions.

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, receiving water limits, and other requirements to protect the beneficial uses of waters of the state The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **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 State Water Resources Control Board Water Quality Order 2014-0057-DWQ, General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES General Permit No. CAS000001), does not require facilities to obtain coverage if discharges of storm water are regulated under another individual or general NPDES permit adopted by the State Water Board or Regional Water Board (Finding I.B.20). All storm water at the Facility is captured and directed to the Facility headworks for treatment and disposal under this Order. Therefore, coverage under the General Storm Water Permit is not required.

10. **Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.** On 6 December 2022, the State Water Board adopted Order 2022-0109-DWQ, *Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems*, which became effective on 5 June 2023. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage and to comply with prohibitions and requirements including but not limited to development of sanitary sewer management plans (SSMPs) and reporting all sanitary sewer overflows (SSOs). The Discharger is subject to the requirements of Order 2022-0103-DWQ.

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.

12. **Findings on Water Quality Impacts in Disadvantaged or Tribal Communities and Environmental Justice Concerns.** Consistent with Water Code section 13149.2, the Central Valley Water Board has taken into account environmental justice, tribal impact, and racial equity considerations in issuing this Order. The discharges regulated by this Order may impact one or more disadvantaged communities or tribal communities. The Facility regulated by this Order discharges treated municipal wastewater to San Joaquin River and is subject to discharge limitations given potential to cause or contribute to exceedances of water quality objectives for certain constituents, including ammonia, biochemical oxygen demand, chlorine residual, chlorpyrifos, chronic toxicity, diazinon,

chlorodibromomethane, dichlorobromomethane, chloroform, 123-TCP, nitrate plus nitrite, pH, total coliform, and total suspended solids. This Order addresses potential adverse impacts to water quality from the Facility's discharge by setting prohibitions and limits on the discharge of wastewater, requiring ongoing monitoring and reporting of the discharged wastewater and receiving water, and imposing other specifications on the facility's wastewater treatment operations.

Consistent with Water Code section 13149.2, the Central Valley Water Board has considered environmental justice, tribal impact, and racial equity in issuing this Order. The discharges regulated by this Order may impact one or more disadvantaged communities or tribal communities. The Discharger has selected the Alternative Salinity Permitting Approach for the Salt Control Program, which provides an alternative approach for compliance with conservative salinity limitations through implementation of specific requirements (i.e., support facilitation and completion of the Salt Control Program's Prioritization & Optimization Study). This Order addresses potential adverse impacts to water quality from the Facility's discharge by setting prohibitions and performance-based triggers on the discharge of wastewater, requiring ongoing monitoring and reporting of the discharged wastewater and receiving water, and imposing other specifications on the facility's wastewater treatment operations.

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 13 December 2024 U.S. EPA gave partial approval to California's 2024 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 C.F.R. part 130, et seq.)." The Basin Plan also states, "Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment." The listing for the San Joaquin River (Merced River to Tuolumne River) includes alpha-BHC, DDE, DDT, electrical conductivity, total dissolved solids, group A pesticides, mercury, temperature, and unknown toxicity. TID Upper Lateral 4 and Lateral 5.5 are not listed on the CWA 303 (d) list.

2. Total Maximum Daily Loads (TMDLs). Table F-5, below, identifies the CWA section 303(d) listings and any applicable TMDLs for the San Joaquin River (Merced River to Tuolumne River). This permit includes WQBELs for discharges to the San Joaquin River at Discharge Point 001 that are consistent with the assumptions and considerations of the applicable WLAs in each TMDL.

Table F-5 Section 303 (d) List for San Joaquin River (Merced River to Tuolumne River)

Pollutant	Potential Sources	TMDL Status
alpha-BHC	Source Unknown	Estimated completion in 2027
DDE	Source Unknown	Estimated completion in 2027
DDT	Source Unknown	Estimated completion in 2027
Electrical Conductivity/Total Dissolved Solids	Source Unknown	Estimated completion in 2027
Group A Pesticides	Source Unknown	Completed in 2011
Temperature	Source Unknown	Estimated completion in 2027
Unknown Toxicity	Source Unknown	To Be Determined

Table F-5 Note:

TMDL Status to Be Determined. This impairment is not currently prioritized for TMDL development during the permit period. The date of completion for a TMDL will be updated in future permit revisions should the prioritization of this impairment change.

3. The CWA Section 303(d) listings and TMDLs have been considered in the development of the Order.

E. Other Plans, Polices and Regulations

1. **Title 27.** 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, 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.

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 implements Water Code section 13263, subdivision (a), which requires that WDRs take into consideration, among other things, "the need to prevent nuisance," as that term is defined in Water Code section 13050.

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 – San Joaquin River).** 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 (Annual Flow – TID Upper Lateral 4).** This prohibition is based on the agreement between the Discharger and TID that up to 2,000 acre-feet of recycled water may be delivered from the Facility to the TID Upper Lateral 4 for irrigation purposes during the normal irrigation season (1 March – 31 October). To provide operational flexibility so that the full 2,000 acre-feet can be provided without a violation for slightly exceeding this volume, the prohibition restricts the total annual discharge volume to 2,033 acre-feet.

7. **Prohibition III.G (Surface Water Discharge to TID Upper Lateral 4 (Discharge Point 003).** This prohibition is based on the agreement between the Discharger and TID for TID to accept tertiary recycled water from the Discharger. To ensure that both parties are in agreement upon the conditions of the discharge to the TID Upper Lateral 4, the prohibition requires the Discharger provide documentation that TID has taken action to accept tertiary recycled water from the Facility and notifies the Central Valley Regional Water Board of such acceptance at least 15 days prior to initiating discharge to TID Upper Lateral 4.

8. **Prohibition III.H (Annual Flow – TID Lateral 5.5).** This prohibition is based on the agreement between the Discharger and TID that up to 2,000 acre-feet per year of recycled water may be delivered from the Discharger to the TID regulating reservoir and subsequently discharged to TID's Lateral 5.5 for agricultural use in its service area. To provide operational flexibility so that the full 2,000 acre-feet can be provided without a violation for slightly exceeding this volume, the prohibition restricts the total annual discharge volume to 2,033 acre-feet.

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.d of the Fact Sheet for a discussion on Pathogens which includes WQBELs for BOD_5 and TSS.)

b. **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, Discharge Point 003, and Discharge Point 004

Table F-6 Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations
Biochemical Oxygen Demand (5-day @ 20º C)	mg/L	AMEL 30 AWEL 45
Total Suspended Solids	mg/L	AMEL 30 AWEL 45
pH	Standard units	Instantaneous Max 9.0 Instantaneous Min 6.0

Table F-6 Notes:

1. Note that more stringent WQBELs for BOD_5, pH, and TSS are applicable and are established as final effluent limitations in this Order (see section IV.C.3.c 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 treatment, 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 January 2022 through December 2024, which includes effluent and ambient background data submitted in SMRs and the ROWD.

c. **Assimilative Capacity/Mixing Zone**

i. The CWA directs the states to adopt water quality standards to protect the quality of its waters. U.S. EPA's current water quality standards regulation authorizes states to adopt general policies, such as mixing zones, to implement state water quality standards (40 CFR sections 122.44 and 122.45). The U.S. EPA allows states to have broad flexibility in designing its mixing zone policies. Primary policy and guidance on determining mixing zone and dilution credits is provided by the SIP and the Basin Plan. If no procedure applies in the SIP or the Basin Plan, then the Central Valley Water Board may use the U.S. EPA Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001) (TSD).

For non-Priority Pollutant constituents, the allowance of mixing zones by the Central Valley Water Board is discussed in the Basin Plan, Policy for Application of Water Quality Objectives, which states the following, in part: *"In conjunction with the issuance of NPDES and storm water permits, the Regional Board may designate mixing zones within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Board that the mixing zone will not adversely impact beneficial uses. If allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the size of such mixing zones, the Regional Board will consider the applicable procedures and guidelines in the EPA's Water Quality Standards Handbook and the [TSD]. Pursuant to EPA guidelines, mixing zones designated for acute aquatic life objectives will generally*

be limited to a small zone of initial dilution in the immediate vicinity of the discharge."

For Priority Pollutants, the SIP supersedes the Basin Plan mixing zone provisions. Section 1.4.2 of the SIP states, in part, "…with the exception of effluent limitations derived from TMDLs, in establishing and determining compliance with effluent limitations for applicable human health, acute aquatic life, or chronic aquatic life priority pollutant criteria/objectives or the toxicity objective for aquatic life protection in a basin plan, the Regional Board may grant mixing zones and dilution credits to dischargers…The applicable priority pollutant criteria and objectives are to be met through a water body except within any mixing zone granted by the Regional Board. **The allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis.** The Regional Board may consider allowing mixing zones and dilution credits only for discharges with a physically identifiable point of discharge that is regulated through an NPDES permit issued by the Regional Board." [emphasis added]

For incompletely mixed discharges, the Discharger must complete an independent mixing zone study to demonstrate to the Central Valley Water Board that a dilution credit is appropriate. In granting a mixing zone, section 1.4.2.2 of the SIP requires the following to be met:

"A mixing zone shall be as small as practicable. *The following conditions must be met in allowing a mixing zone:*

A mixing zone shall not:

1. *compromise the integrity of the entire water body;*
2. *cause acutely toxic conditions to aquatic life passing thorough the mixing zone;*
3. *restrict the passage of aquatic life;*
4. *adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws;*
5. *produce undesirable or nuisance aquatic life;*
6. *result in floating debris, oil, or scum;*
7. *produce objectionable color, odor, taste, or turbidity;*
8. *cause objectionable bottom deposits;*
9. *cause nuisance;*
10. *dominate the receiving water body or overlap a mixing zone from different outfalls; or*

11. be allowed at or near any drinking water intake. A mixing zone is not a source of drinking water. To the extent of any conflict between this determination and the Sources of Drinking Water Policy (Resolution No. 88-63), this SIP supersedes the provisions of that policy."

Section 1.4.2.1 of the SIP establishes the authority for the Central Valley Water Board to consider dilution credits based on the mixing zone conditions in a receiving water. Section 1.4.2.1 in part states:

"The dilution credit, D, is a numerical value associated with the mixing zone that accounts for the receiving water entrained into the discharge. The dilution credit is a value used in the calculation of effluent limitations (described in section 1.4). ***Dilution credits may be limited or denied on a pollutant-by-pollutant basis, which may result in a dilution credit for all, some, or no priority pollutants in the discharge.****"*

ii. **Dilution/Mixing Zone Study Results.**

(a) **Mixing zones in the San Joaquin River for CDBM, DCBM, chloroform, 123-TCP, and chronic toxicity.** On 24 March 2025, the Discharger provided a Technical Memorandum entitled *San Joaquin River Dilution Credit and Mixing Zone Memorandum* (Robertson – Bryan, Inc.) which provides the results of updated dilution/mixing zone studies for human health constituents CDBM, DCBM, Chloroform, 123-TCP and aquatic life constituent chronic toxicity, that considers hydraulic mixing and volatilization of the volatile organic compounds in the San Joaquin River.

The size of the human health mixing zone in the San Joaquin River for CDBM, DCBM, chloroform, 123-TCP, and aquatic life mixing zone for chronic toxicity was determined using CORMIX. CORMIX was chosen to simulate the effluent plume in the San Joaquin River near the outfall created by the RWQCF discharge due to its ability to simulate discharge effects on receiving water bodies. CORMIX is able to simulate three discharge types: submerged single port discharges (CORMIX1), submerged multiport discharges (CORMIX2), and surface discharges (CORMIX3). The RWQCF outfall consists of a cascading outfall apron structure; therefore, the CORMIX3 model for single port discharges was used to simulate the effluent discharge to the San Joaquin River.

The nearest flow gage in the San Joaquin River upstream of the Facility's treated effluent outfall is near Crows Landing and is operated by the U.S. Geological Survey (USGS gage

11274550). The harmonic mean flow rate was re-evaluated based on flow data from1 October 1995 through 31 December 2024. The updated harmonic mean flow rate of 372 cfs is lower than the 439 cfs harmonic mean flow rate cited in previous Order. The lower harmonic mean flow rate is primarily a function of extending the flow record through December 31, 2024; the previous harmonic mean flow rate was based on data through March 21, 2019. The updated flow record contains one dry water year and two critical water years, which contributed to the lower harmonic mean flow rate.

The North Valley Regional Recycled Water Program effluent conveyance pipeline to provide recycled water to growers along the Delta-Mendota Canal (DMC) was completed in March 2020, the DMC is the primary discharge location for the Facility, and effluent is discharged to the San Joaquin River only on a temporary basis (e.g., when discharges to the DMC are not available due to maintenance). The average effluent discharge rate to the San Joaquin beginning March 12, 2020, through December 31, 2024, accounting for days with zero discharge, is 0.17 mgd (0.26 cfs). This discharge rate is much lower than the 7 mgd assumed for the dilution credit assigned in the previous Order. The maximum four-day average effluent discharge rate during this same period was 9.9 mgd (15.3 cfs).

Table F-7 shows the requested dilution credits and mixing zone size for each parameter.

Table F-7. San Joaquin River – Dilution Credits and Mixing Zone Sizes

Discharge Location	Parameter	Mixing Zone Type	Dilution Credit	Mixing Zone Size
San Joaquin River	CDBM	Human Health	110	18 feet downstream of outfall
	DCBM	Human Health	114	25 feet downstream of outfall
	Chloroform	Human Health	1.7	4.5 feet downstream of outfall
	123-TCP	Human Health	7	4.6 feet downstream of outfall
	Chronic Toxicity	Aquatic Life	1 (IWC 50%)	1,197 feet downstream of outfall

(b) **Mixing zone in the TID Upper Lateral 4 for CDBM, DCBM, chloroform, and 123-TCP.**

On 24 March 2025, the Discharger provided a Technical Memorandum entitled *Mixing Zone and Dilution Credit for Recycled Water Discharge to Turlock Irrigation District's Upper Lateral 4 – Chlorodibromomethane, Dichlorobromomethane, Chloroform and 123-TCP* (Robertson-Bryan, Inc.) which provides the results of a dilution/mixing zone study for human health constituents CDBM, DCBM, chloroform, and 123-TCP that considers hydraulic mixing and volatilization of the volatile organic compounds in the TID Upper Lateral 4. No aquatic life mixing zone was evaluated or requested since TID canals do not support aquatic life beneficial uses. Technical memoranda prepared by Robertson-Bryan, Inc. in 2019 and 2020 provide methodology and analysis information supporting the mixing zone and dilution credits for CDBM and DCBM. The information in these memoranda remain relevant for defining the dilution credit and mixing zone for CDBM and DCBM in this Order, as discussed further below. The 2025 technical memorandum provides additional analysis to support permitting a human health mixing zone and dilution credit for chloroform and 1,2,3-TCP for the Upper Lateral 4 discharge location, utilizing the same model described in the 2019 and 2020 technical memoranda.

A model developed by Robertson-Bryan, Inc. simulates the dilution of Facility recycled water after discharge into Upper Lateral 4 as it flows downstream into Lower Lateral 4 and Ceres Main. Details of the model are provided in the 2019 and 2020 technical memoranda. The model simulated the discharge of Facility recycled water to Upper Lateral 4 on a daily time-step. The TID system flow rates in Upper Lateral 4 and downstream canals Ceres-Main and Lower Lateral 4 were represented by historical data for calendar years 2014–2018. This data continues to be representative of TID system operations. Hence, the model results continue to be relevant for defining the CDBM and DCBM dilution credit and mixing zone in this Order. Furthermore, the model is relevant for determining the chloroform and 123-TCP dilution credit and mixing zone for the Upper Lateral 4 discharge in this Order.

The dilution credit and associated mixing zone size was determined from calculation of the long-term average Facility recycled water fraction in the TID Upper Lateral 4 at Drop 14 and at the Ceres Main-Upper Lateral 4 intersection, considering the hydraulic mixing and volatilization. Table F-8 shows the requested dilution credits and mixing zone size for each parameter.

Table F-8. TID Upper Lateral 4 – Dilution Credits and Mixing Zone Sizes

Discharge Location	Human Health Parameter	Dilution Credit	Mixing Zone Size
Upper Lateral 4	CDBM	92	Upper Lateral 4: From Drop 14 to 3.2 miles downstream
	DCBM	102	
	Chloroform	1.7	• Upper Lateral 4: From Drop 14 to the Ceres Main intersection (0.25 mile) • Lower Lateral 4 to Drop 1 (0.07 mile) • Ceres Main to Drop 25 (0.06 mile).
	123-TCP	7	

(c) **Mixing zone in the TID Lateral 5.5 for CDBM, DCBM, chloroform, and 123-TCP.** 27 June 2024, The Discharger provided a Technical Memorandum entitled *Mixing Zone and Dilution Credit for Recycled Water Discharge to Turlock Irrigation District's Lateral 5.5* (Robertson-Bryan, Inc.) which provides the results of a dilution/mixing zone study for human health constituents CDBM and DCBM that considers hydraulic mixing and volatilization of these volatile organic compounds in the TID Lateral 5.5.

The SIP does not specifically address the fate and transport of non-conservative pollutants in the mixing zone provisions. However, the SIP advises that mixing zone studies can include "…monitoring upstream and downstream of the discharge that characterize the extent of actual dilution." (SIP, section 1.4.2.1, pg. 17) This type of mixing zone study would account for the fate and transport of the volatile organic compounds. Furthermore, the U.S. EPA's Technical Support Document for Water Quality-Based Toxics Control (TSD) provides water quality modelling recommendations for the development of waste load allocations that account for constituent loss and transformation processes (e.g., volatilization).(TSD, pgs. 83-84)

On 24 March 2025, the discharger provided another technical memorandum entitled *Mixing Zone and Dilution Credit for Recycled Water Discharge to Turlock Irrigation District's Lateral 5.5 – Chloroform and 123-TCP* (Robertson-Bryan, Inc.), which provides analysis to support permitting a mixing zone and dilution credit for chloroform and 1,2,3-TCP for the requested Lateral 5.5 discharge location, utilizing the same model described in the 27 June 2024, technical memorandum. No aquatic life mixing zone was evaluated or requested since TID canals do not support aquatic life beneficial uses.

Based on the TSD's guidance for seasonal discharges and that the long-term average flow is the appropriate condition for human health criteria dilution credit, the approach taken to develop the mixing zone and dilution credit for chloroform, 123-TCP for TID's canal system involved modeling the Facility discharge to TID's regulating reservoir and associated discharges to Lateral 5.5 as a time-series for multiple years.

Based on the findings of the dilution/mixing zone studies, there is available dilution for human health constituents CDBM, DCBM, chloroform, and 123-TCP for a Lateral 5.5 discharge. Table F-9 shows the requested dilution credits and mixing zone size for each parameter.

Table F-9. TID Lateral 5.5 – Dilution Credits and Mixing Zone Sizes

Discharge Location	Human Health Parameter	Dilution Credit	Mixing Zone Size
Lateral 5.5	CDBM	103	• Lateral 5.5: From reservoir outfall to Lateral 5.5 terminus (3.8 miles) • Lateral 5.5 Upper Drain: From Lateral 5.5 Drop 16 (Upper Spill) to Harding Drain (0.3 mile) • Prairie Flower Drain: From Lateral 5.5 Drop 23 (Spill at Prairie Flower Drain) to Harding Drain (1.3 miles) • Harding Drain: From Upper Lateral 5.5 Drain to Prairie Flower Drain (2.2 miles)
	DCBM	115	
	Chloroform	1.7	From reservoir outfall to Drop 16 (0.51 mile)
	123-TCP	7	

iii. **Evaluation of Available Dilution for Human Health Criteria in the San Joaquin River, TID Upper Lateral 4, and TID Lateral 5.5 Considering Volatilization (CDBM, DCBM, chloroform, 123-TCP)**. Section 1.4.2.2 of the SIP provides that mixing zones should not be allowed at or near drinking water intakes. Furthermore, regarding the application of a mixing zone for the protection of human health, the TSD states that, "…*the presence of mixing zones should not result in significant health risks, when evaluated using reasonable assumptions about exposure pathways. Thus, where drinking water contaminants*

are a concern, mixing zones should not encroach on drinking water intakes." There are no drinking water intakes within the human carcinogen mixing zone.

The Discharger has requested a human carcinogen mixing zones for compliance with water quality criteria for CDBM, DCBM, chloroform, and 123-TCP. The human carcinogen mixing zones meets the requirements of the SIP as follows:

(1) Shall not compromise the integrity of the entire water body – The TSD states that, *"If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a water body (such as a river segment), then mixing zones are likely to have little effect on the integrity of the water body as a whole, provided that the mixing zone does not impinge on unique or critical habitats."* The mixing zones are not applicable to aquatic life criteria. The mixing zones do not compromise the integrity of the entire water bodies.

(2) Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone – The mixing zones are not applicable to aquatic life criteria. Therefore, acutely toxic conditions will not occur in the mixing zones.

(3) Shall not restrict the passage of aquatic life – The human health mixing zones are not applicable to aquatic life criteria. Therefore, the mixing zones will not restrict the passage of aquatic life.

(4) Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal or State endangered species laws – The mixing zones are not applicable to aquatic life criteria. The mixing zones will not impact biologically sensitive or critical habitats.

(5-9) Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance – The allowance of the mixing zone will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; or cause nuisance. This Order requires the discharge to meet Title 22 (or equivalent) tertiary filtration, which will ensure continued compliance with these mixing zone requirements. Therefore, the allowance of the mixing zones will not produce undesirable or nuisance aquatic life, result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits, or cause nuisance.

(10) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The mixing zones are small relative to the water body, so it will not dominate the water body. Furthermore, the mixing zone does not overlap mixing zones from other outfalls. There are no outfalls or mixing zones in the vicinity of the discharge.

(11) Shall not be allowed at or near any drinking water intake – The mixing zones are not near a drinking water intake.

iv. **Evaluation of Available Dilution for Chronic Aquatic Life in the San Joaquin River (Chronic Whole Effluent Toxicity [WET]).** The chronic WET mixing zone is sized to protect the water body as a whole. A mixing zone for chronic WET has been allowed in this Order for development of the WQBELs for chronic WET.

The chronic WET mixing zone is1,197 feet long, thus any passing aquatic life would be exposed to the mixing zone for minutes, not days. Furthermore, the discharge is intermittent, thus aquatic life in the river would not be routinely exposed to the effluent plume. The chronic WET mixing zone meets the requirements of the SIP as follows:

(1) Shall not compromise the integrity of the entire waterbody – The TSD states that, “If the total area affected by elevated concentrations within all mixing zones combined is small compared to the total area of a waterbody (such as a river segment), then mixing zones are likely to have little effect on the integrity of the waterbody as a whole, provided that the mixing zone does not impinge on unique or critical habitats.” The San Joaquin River is a about 300 miles long; therefore, the mixing zone does not compromise the integrity of the entire waterbody.

(2) Shall not cause acutely toxic conditions to aquatic life passing through the mixing zone – The chronic WET mixing zone would be 1,197 feet long; thus any passing aquatic life would be exposed to the mixing zone for minutes, not days. Additionally, the discharge to the San Joaquin River is intermittent. Therefore, acutely toxic conditions will not occur in the mixing zone.

(3) Shall not restrict the passage of aquatic life – The chronic WET mixing zone would be 1,197 feet long; thus any passing aquatic life would be exposed to the mixing zone for minutes, not days. Additionally, the discharge to the San Joaquin River is intermittent. Therefore, the mixing zone will not restrict the passage of aquatic life.

(4) Shall not adversely impact biologically sensitive or critical habitats, including, but not limited to, habitat of species listed under federal

or State endangered species laws – The chronic mixing zones will not cause acutely toxic conditions, allow an adequate zone of passage, and are sized appropriately to ensure that there will be no adverse impacts to biologically sensitive or critical habitats.

(5-9) Shall not produce undesirable or nuisance aquatic life; result in floating debris, oil, or scum; produce objectionable color, odor, taste, or turbidity; cause objectionable bottom deposits; cause nuisance – Chronic WET mixing zone would not result in floating debris, oil, or scum; produce lingering objectionable color, odor, taste or turbidity; or otherwise cause nuisance. The discharge meets Title 22 (or equivalent) tertiary filtration, resulting in a high-level effluent quality. Also, the discharge is intermittent, and the river provides a high amount of dilution. Thus, the discharge could not result in a sustained condition that would be needed to result in floating debris, oil, or scum; produce lingering objectionable color, odor, taste or turbidity; or otherwise cause nuisance.

(10) Shall not dominate the receiving water body or overlap a mixing zone from different outfalls – The mixing zone is small relative to the water body, so it will not dominate the water body. Furthermore, the mixing zone does not overlap mixing zones from other outfalls. There are no outfalls or mixing zones in the vicinity of the discharge.

(11) Shall not be allowed at or near any drinking water intake – The mixing zone is not near a drinking water intake.

The chronic WET mixing zone therefore complies with the SIP. The mixing zone also complies with the Basin Plan, which requires that the mixing zone not adversely impact beneficial uses. Beneficial uses will not be adversely affected for the same reasons discussed above. In determining the size of the mixing zone, the Central Valley Water Board considered the procedures and guidelines in U.S. EPA's Water Quality Standards Handbook, 2nd Edition (updated July 2007), section 5.1, and section 2.2.2 of the TSD. The SIP incorporates the same guidelines.

A pollutant-by-pollutant evaluation is provided in subsection vi. below to evaluate whether the mixing zones for each pollutant are as small as practicable and comply with the State and federal antidegradation requirements.

v. **Evaluation of Available Dilution for Specific Constituents (Pollutant-by-Pollutant Evaluation)**

When determining whether to allow dilution credits for a specific pollutant, several factors must be considered, such as, available assimilative capacity, facility performance, and compliance with state and federal antidegradation requirements. The receiving water contains assimilative capacity for DCBM, CDBM, chloroform, 1,2,3-TCP, and chronic WET, and the human health criteria and chronic aquatic life criteria mixing zones meet the mixing zone prohibitions of the SIP section 1.4.2.2.A.

The SIP also requires that "[a] mixing zone shall be as small as practicable" and states in section 1.4.2.2.B that "[t]he RWQCB shall deny or significantly limit a mixing zone and dilution credits as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with other regulatory requirements." The State Antidegradation Policy, which incorporates the federal antidegradation policy (State Water Board Order WQ 86-17 [Fay]), requires that existing quality of waters be maintained unless degradation is justified based on specific findings. Item 2 of the State Antidegradation Policy states:

> "Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."

The mixing zones allowed in this Order are as small as practicable and will result in the Discharger implementing best practicable treatment or control of the discharge necessary to assure that pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

(a) **DCBM, CDBM, chloroform, and 1,2,3-TCP.** As outlined above, human health mixing zones have been allowed for the San Joaquin River, Upper Lateral 4, and Lateral 5.5 for these human health constituents that meet the eleven mixing zone prohibitions of section 1.4.2.2.A of the SIP. However, to ensure the mixing zones are as small as practicable and considering section 1.4.2.2.B of the SIP, the Central Valley Water Board finds the mixing zones must be limited. The dilution credits for these parameters have been adjusted based on Facility performance resulting in the dilution credits and mixing zone sizes shown in Tables F-7, F-8, and F-9 above.

(b) **Chronic Whole Effluent Toxicity (WET).** As outlined above, a chronic aquatic life mixing zone has been allowed for the San Joaquin

River for chronic WET that meets the eleven mixing zone prohibitions of section 1.4.2.2.A of the SIP.

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. 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.

The ambient hardness for the San Joaquin River ranges from 148 mg/L to 348 mg/L based on collected ambient data from January 2021 through December 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 34 mg/L (minimum) up to 88 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-10 to conduct the reasonable potential analysis (RPA) and calculate WQBELs, protect beneficial uses under all ambient receiving water conditions and comply with the SIP, CTR, and Basin Plan.

Table F-10. 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	148	20	13
Chromium III	148	2,400	290
Cadmium	148 (acute) 148 (chronic)	7.0	3.3
Lead	148	130	5.2
Nickel	148	650	73

CTR Metals	Ambient Hardness (mg/L)	Acute Criteria (µg/L, total)	Chronic Criteria (µg/L, total)
Copper	148	20	13
Chromium III	148	2,400	290
Cadmium	148 (acute) 148 (chronic)	7.0	3.3
Silver	148	8.0	--
Zinc	148	170	170

Table F-10 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-10 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, acute toxicity, chlorine residual, 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) – Discharge Point 001, San Joaquin River.**
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).

The San Joaquin River is subject to TMDLs for chlorpyrifos and diazinon and wasteload allocations under those TMDLs are available. 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 for the San Joaquin River and amended the Basin Plan to include diazinon and chlorpyrifos waste load allocations and water quality objectives. The Basin Plan Amendment for the Control of Diazinon and Chlorpyrifos Runoff into the San Joaquin River was adopted by the Central Valley Water Board on 21 October 2005 and became effective on 20 December 2006.

The amendment modified Basin Plan Chapter III (Water Quality Objectives) to establish site-specific numeric objectives for diazinon and chlorpyrifos in the San Joaquin River and identified the requirements to meet the additive formula already in Basin Plan Chapter IV (Implementation) for the additive toxicity of diazinon and chlorpyrifos.

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

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.”

Table 3-4 of the Basin Plan lists waterways subject to the chlorpyrifos and diazinon objectives, and includes the reach of the San Joaquin River that the Facility discharges into.

(b) **RPA Results.** Chlorpyrifos and diazinon were not detected in the effluent during 15 sampling events conducted between January 2022 through December 2024. Since these pesticides have been banned for public use, they are not expected to be present in the effluent. The discharge does not have

reasonable potential, but due to the TMDL for diazinon and chlorpyrifos in the San Joaquin River, WQBELs for these constituents are required. The TMDL waste load allocation applies to all NPDES dischargers to the San Joaquin River and will serve as the basis for WQBELs at Discharge Point 001.

(c) **WQBELs.** WQBELs for diazinon and chlorpyrifos are required based on the TMDL for diazinon and chlorpyrifos in the San Joaquin River. Therefore, this Order includes effluent limits calculated based on the waste load allocations contained in the TMDL, as follows:

Average Monthly Effluent Limitation (AMEL)

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

Where:

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

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

Average Weekly Effluent Limitation (AWEL)

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

Where:

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

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

(d) **Plant Performance and Attainability.** Chlorpyrifos and diazinon were not detected in the effluent in 15 sampling events conducted between January 2022 and December 2024. 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.

a. **Constituents with No Reasonable Potential – EFF 001 – Discharge Point 001 (San Joaquin River), Discharge Point 003 (TID Upper Lateral 4), and Discharge Point 004 (TID Lateral 5.5).** 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. **Salinity**

(a) **WQO.** The Basin Plan contains a chemical constituent objective that incorporates state MCLs, contains a narrative objective, and contains numeric water quality objectives for certain specified water bodies for electrical conductivity, total dissolved solids, sulfate, and chloride. The U.S. EPA Ambient Water Quality Criteria 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 Central Valley Water Board must determine the applicable numeric limit to implement the narrative objective for the protection of agricultural supply. Table F-11, below, contains various recommended levels for EC or TDS, sulfate, and chloride.

Table F-11. Salinity Water Quality Criteria/Objectives - TID Upper Lateral 4

Location	Parameters	Secondary MCL	U.S. EPA NAWQC	Maximum Calendar Annual Average Effluent Concentration	Maximum Daily Effluent Concentration
San Joaquin River, Upper Lateral 4, Lateral 5.5	Chloride (mg/L)	250, 500, 600	860 1-hour / 230 4-day (San Joaquin River only)	126	170
	EC (µmhos/cm)	900, 1,600, 2,200	N/A	1,226	1,374
	TDS (mg/L)	500, 1,000, 1,500	N/A	708	830
	Sulfate (mg/L)	250, 500, 600	N/A	96	125

Table F-11 Notes:

1. **Agricultural Water Quality Objectives**. Applicable agricultural water quality objectives vary. Narrative chemical constituent objective of the Basin Plan. Procedures for establishing the applicable numeric limitation to implement the narrative objective can be found in the Policy for Application of Water Quality Objectives, section 4.2.2.1.9 of the Basin Plan. However, the Basin Plan does not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.

2. **Secondary MCLs.** Secondary MCLs are for protection of public welfare and are stated as a recommended level, upper level, and a short-term maximum level.

3. **Chloride.** The Secondary MCL for chloride is 250 mg/L, as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

4. **Electrical Conductivity or Total Dissolved Solids.** The Secondary MCL for EC is 900 µmhos/cm as a recommended level, 1600 µmhos/cm as an upper level, and 2200 µmhos/cm as a short-term maximum, or when expressed as TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum

5. **Sulfate.** The Secondary MCL for sulfate is 250 mg/L as a recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum.

6. **U.S. EPA NAWQC..** The U.S. EPA NAWQC applies only to the San Joaquin River. Upper Lateral 4 and Lateral 5.5 do not have designated aquatic life beneficial uses, therefore, no aquatic life criteria apply to those waterways.

(b) **RPA Results.**

(1) **Chloride.** Chloride concentrations in the effluent ranged from 92 mg/L to 170 mg/L, with an average of 126 mg/L. These levels do not exceed the Secondary MCL. Two background chloride samples were available for the TID Upper Lateral 4 with a maximum concentration of 17.4 mg/L. One sample was available for the TID lateral 5.5 with a concentration of 36 mg/L.

(2) **Electrical Conductivity or Total Dissolved Solids.** A review of the Discharger's monitoring reports shows an average effluent EC of 1,226 µmhos/cm, with a range from 939 µmhos/cm to 1,374 µmhos/cm. These levels exceed the Secondary MCL recommended level but do not exceed the upper level. The background TID Upper Lateral 4 EC averaged 213 µmhos/cm. One sample was available for the TID lateral 5.5 with a concentration of 604 µmhos/cm.

(3) **Sulfate.** Sulfate concentrations in the effluent ranged from 86 mg/L to 108 mg/L, with an average of 96 mg/L. These levels do not exceed the Secondary MCL. Two background sulfate samples were available for the TID Upper Lateral 4 with a maximum concentration of 8.2 mg/L. One sample was available for the TID lateral 5.5 with a concentration of 24.5 mg/L.

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 Salt 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 1,550 µmhos/cm.

ii. **Mercury, Total**

(a) **WQO.** The State Water Board adopted Resolution 2017-0027 on 2 May 2017, which approved Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California, Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Statewide Mercury Provisions). The Statewide Mercury Provisions establish a Sport Fish Water Quality Objective of an average 0.2 mg/kg

methylmercury fish tissue concentration within a calendar year for waters with the beneficial uses of commercial and sport fishing (COMM), tribal tradition and culture (CUL), wildlife habitat (WILD), and marine habitat (MAR). This fish tissue objective corresponds to a water column concentration of 12 ng/L of total mercury for flowing water bodies (e.g., rivers, creeks, streams, and waters with tidal mixing). As shown in Table F-4, the beneficial uses of the San Joaquin River include WILD; therefore, the Sport Fish Water Quality Objective is applicable and is the most stringent objective.

(b) **RPA Results.** The Statewide Mercury Provisions specify that the RPA shall be conducted using the maximum annual average effluent and background mercury concentrations for comparison with the Sport Fish Water Quality Objective. The maximum observed effluent mercury concentration was 1.8 ng/L, with a maximum annual average of 0.9 ng/L, based on 21 samples collected from July 2021 through October 2024. The maximum annual average background concentration for mercury was 4.6 ng/L based on 2 samples collected in July and September 2023. Therefore, the discharge does not exhibit reasonable potential to cause or contribute to an exceedance of the Sport Fish Water Quality Objective in the receiving water.

Additionally, Order R5-2021-0005 included a performance based effluent limitation for mercury of 0.82 lbs/year based on the San Joaquin River being historically listed as an impaired waterbody for mercury pursuant to CWA section 303(d). The highest annual loading between January 2021 through December 2024 was 0.001 lbs/year, which is orders of magnitude less than the facility performance-based effluent limit. On 3 February 2026, the State Water Board adopted the 2026 Integrated Report, which removed the mercury 303(d) listing for the San Joaquin River (Merced River to Tuolumne River segment) due to flaws in the original listing. Therefore, this Order removes the performance-based effluent limit for mercury.

b. **Constituents with No Data or Insufficient Data**

i. **Cyanide**

(a) **WQO.** The CTR includes maximum 1-hour average and 4-day average criteria of 22 µg/L and 5.2 µg/L, respectively, for total cyanide for the protection of freshwater aquatic life.

Footnote 4, page 3 of the Introduction of the SIP states, "*If a water quality objective and a CTR criterion are in effect for the same priority pollutant, the more stringent of the two applies.*" The Basin Plan objective cannot be directly compared to the CTR criteria to determine the most stringent objective because they have different averaging periods. In this situation, the RPA has been conducted considering both the CTR criteria and the Basin Plan site-specific objective.

(c) **RPA Results.** The MEC for cyanide was 13 µg/L based on 13 samples collected from January 2023 through December 2024. Cyanide was not detected in the upstream receiving water based on two samples collected between July 2023 through September 2023. The Discharger provided evidence demonstrating that these effluent analyses were affected by known interferences and the results warrant further study before being used as the basis for establishing cyanide effluent limitations.

The Discharger submitted a request dated 28 August 2026 with supporting evidence that cyanide measurements in effluent samples from acid-distillation methods (e.g., EPA 335.4 and SM4500-CN C/E) are subject to matrix interferences that can result in significant positive and/or negative bias (Giudice et al. 2010, Weinberg et al. 2005, WERF 2003, Zheng et al. 2003, Carr et al. 1997, Wilmot et al. 1996, APHA 1995). Interferences in cyanide testing on municipal effluent are often associated with the sodium hydroxide preservative but can also be due to other compounds, such as nitrate and nitrite.

The Discharger's effluent cyanide analyses used acid distillation of the sample according to method 4500-CN C/E of the Standard Methods for the Analysis of Water and Wastewater (Standard Methods or SM) or U.S. EPA method 335.4. Both methods add chemicals to react with the extracted cyanide and cause a color change. The amount of cyanide is determined by testing the intensity of this color at a particular wavelength (a detection method called colorimetry) in method 4500-CN C/E. U.S. EPA method 335.4 (equivalent to SM 4500 CN C/N) uses semi-automated chemical addition and colorimetric detection.

Quality control samples known as a matrix spike (MS) and MS duplicate (MSD) are standard for assessing whether a sample matrix causes a bias in the results (i.e., under or over reported). In MS/MSDs, a known amount of cyanide is added to a sample by the testing lab and the percent of cyanide recovered is determined relative to the spiked concentration plus the amount

of native cyanide measured in the original sample/matrix (without the cyanide spike). In the text of SM 4500-CN C/E, validation testing on samples spiked with 60–1,000 µg/L of cyanide were provided for selected water matrices consisting of coke plant and refinery wastes, sewage, and surface water (i.e., MS samples). Average recoveries for these MS samples, ranged 97–107%. Method validation results were provided for cyanide testing in the text of SM 4500-C/N on three different wastewater effluent samples spiked with 10–20 µg/L of cyanide. Recoveries ranged 101–112% for these MS samples. Thus, the acid-distillation/colorimetric methods have the potential to result in relatively high recoveries of cyanide that is spiked into wastewater effluent samples.

As EPA 335.4 indicates, poor recoveries are indicative of a "matrix issue" or interference. Consistently poor recoveries of cyanide in the MS/MSDs demonstrate that matrix interference is prevalent in the Facility's effluent samples.

Section 1.2 of the SIP requires that the Regional Water Board use all available, valid, relevant, representative data and information, as determined by the Regional Water Board, to implement the SIP. Section 1.2 of the SIP further states that the Central Valley Water Board has the discretion to consider if any data are inappropriate or insufficient for use in implementing the SIP. A Cyanide Constituent Study is required by this Order (see WDRs Section VI.C.2.c) and includes a quarterly monitoring (1/quarter) schedule, at minimum, for cyanide starting 1 October 2027 and concluding on 30 September 2029, followed by a report of findings submitted electronically via CIWQS. The Discharger shall analyze the monitoring samples with analytical methods that attempt to eliminate possible false positives, thereby demonstrating whether the actual cyanide concentrations in the discharge are above or below water quality objectives. Cyanide effluent sampling is only required for the first two years following the effective date of this Order to complete the Cyanide Constituent Study. This Order may be reopened depending on the results of the Cyanide Constituent Study to implement additional effluent cyanide monitoring and/or limits.

c. **Constituents with Reasonable Potential – Discharge Point 001 – San Joaquin River.** 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, chlorine residual, chlorodibromomethane, dichlorobromomethane, chloroform, 123-TCP, pH, nitrate plus nitrite, and pathogens. 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 the San Joaquin River. 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 the San Joaquin River 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 the Sacramento River has a beneficial use of cold freshwater habitat and the presence of salmonids in the Sacramento River is well-documented, the criteria equations for waters where salmonids are present were used.

The Discharger averaged less than two discharges per month to the San Joaquin River during 2022 through 2024, so the amount of receiving water data collected during the term of the previous Order was limited. At the request of the Discharger,, with concurrence from the Central Valley Water Board Staff, the following measurements were used to determine seasonal Ammonia effluent limitations.

- The 30-day and 4-day chronic criteria (CCC) was calculated using the 30-day paired downstream San Joaquin River pH and temperature measurements collected at RSW-002 during June 2015–May 2020, which was the most recent five-year NPDES Permit term in which the Discharger discharged continuously to the San Joaquin River. During this period, there were 252 paired measurements of pH and temperature, and the period was characterized by critical, dry, below normal, and wet water year types. Utilizing the receiving water measurements to calculate the CCC is protective because the data were collected over a diverse range of conditions. Moreover, there is ample dilution of the effluent in the receiving water, given the Discharger's low and intermittent flows to the San Joaquin River.
- The acute criterion (CMC) was calculated using temperature and pH measurements on final effluent under Order R5-2022-0034 during 2022–2024 (location EFF-001A). These measurements are made onsite at the Facility, but the effluent continues to cool as it travels the 8 miles underground to the San Joaquin River. Using the effluent measurements collected on-site at the Facility

results in conservative (lower) values of the CMC, since the value of the CMC is inversely related to temperature.

- To use the CMC and CCC (above) to calculate ammonia effluent limitations, variability in the Facility's ammonia measurements can be determined with effluent samples collected for under Order R5-2022-0034 (at location EFF-001A). During the three-year period of 2022–2024, 198 ammonia samples were collected and only 7 samples contained ammonia above the detection limit of 0.5 mg/L (as N).

The temperature of the receiving water varies seasonally. Therefore, seasonal water quality criteria were calculated for the 1 November through 30 June (winter season) and the 1 July through 31 October season (summer season). For the winter season, the most stringent CMC is3.64 mg/L (ammonia as N) calculated using the paired effluent pH and temperature data outlined above. For the summer season, the most stringent CMC is also 3.64 mg/L (ammonia as N) calculated using the paired effluent pH and temperature data outlined above.

For the winter season, the most stringent 30-day rolling average CCC of 1.57 mg/L (ammonia as N) has been implemented in this Order. For the summer season, the most stringent 30-day rolling average CCC of 1.44 mg/L (ammonia as N) 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 1.57 mg/L (ammonia as N) for the winter season, the 4-day average concentration that should not be exceeded is 3.93 mg/L (ammonia as N). Based on the 30-day CCC of 1.44 mg/L (ammonia as N) for the summer season, the 4-day average concentration that should not be exceeded is 3.60 mg/L (ammonia as N).

(b) **RPA Results.** The Facility is a POTW that treats domestic wastewater. Untreated domestic wastewater contains ammonia in concentrations that are harmful to aquatic life and exceed the Basin Plan narrative WQO for toxicity. 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.** Ammonia is a non-CTR constituent. 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 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 LTA's 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. The lowest LTA representing the acute, 4-day CCC, and 30-day CCC is then selected for deriving the AMEL and the AWEL. The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures. This Order contains final seasonal WQBELs for ammonia. For the summer season the AMEL and AWEL for ammonia (as N) during the summer season are 1.3 mg/L and 3.0 mg/L, respectively, and the AMEL and AWEL for ammonia (as N) during the winter season are 1.8 mg/L and 3.1 mg/L, respectively based on the objective.

(d) **Plant Performance and Attainability.** From March 2022 through December 2024, 96 percent of the effluent samples showed no detection and no exceedances of the effluent limitations. The Central Valley Water Board concludes that immediate compliance with total ammonia nitrogen effluent limitations is feasible.

ii. **Chlorine Residual**

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

(b) **RPA Results.** The concentrations of chlorine used to disinfect wastewater are high enough to harm aquatic life and violate the Basin Plan narrative toxicity objective if discharged to the receiving water. Reasonable potential therefore does exist and effluent limits are required.

The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. Although the Discharger uses a sodium bisulfate process to dechlorinate the effluent prior to discharge to San Joaquin River, the existing chlorine use and the potential for chlorine to be discharged provides the basis for the discharge to have a reasonable potential to cause or contribute to an instream excursion above the NAWQC.

(c) **WQBELs.** The U.S. EPA's TSD for Water Quality-Based Toxics Control [EPA/505/2-90-001] contains statistical methods for converting chronic (4-day) and acute (1-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average 1-hour limitation is considered more appropriate than an average daily limitation. This Order contains a 4-day average effluent limitation and 1-hour average effluent limitation for chlorine residual of 0.011 mg/L and 0.019 mg/L, respectively, based on U.S. EPA's NAWQC, which implements the Basin Plan's narrative toxicity objective for protection of aquatic life.

(d) **Plant Performance and Attainability.** Based on 330 samples obtained between January 2022 and December 2024, chlorine residual was not detected in the effluent with a method detection limit of 0.01 mg/L. Thus, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

iii. **Chlorodibromomethane**

(a) **WQO**. The CTR includes a criterion of 0.41 µg/L for chlorodibromomethane for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for chlorodibromomethane was 28 µg/L based on 42 samples collected between January 2022 and December 2024. Chlorodibromomethane was not detected in the upstream San Joaquin River based on 2 samples collected between January 2023 and December 2023 (MDL 0.2 µg/L). Therefore, chlorodibromomethane in the discharge has reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the San Joaquin River.

(c) **WQBELs.** Ambient monitoring conducted in the San Joaquin River demonstrates that the San Joaquin River has assimilative capacity for chlorodibromomethane. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for

chlorodibromomethane of 110 was allowed in the development of WQBELs for chlorodibromomethane. For the discharge of treated effluent to the San Joaquin River, this Order contains a final AMEL and MDEL for chlorodibromomethane of 43 µg/L and 73 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 28 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. **Chloroform**

(a) **WQO**. Chloroform is a priority pollutant, however the CTR reserved the human health criteria. The U.S. EPA developed the 2015 recommended National Ambient Water Quality Criteria for Chloroform that includes a criterion of 60 µg/L for the protection of human health for waters from which both water and organisms are consumed, which implements the Basin Plan's narrative toxicity and chemical constituents objective.

(b) **RPA Results.** The MEC for chloroform was 108 µg/L based on 6 samples collected between January 2023 and December 2023. Chloroform was not detected in the upstream San Joaquin River based on 2 samples collected between January 2023 and December 2023 (MDL 0.2 µg/L). Therefore, chloroform in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the San Joaquin River.

(c) **WQBELs – San Joaquin River.** Ambient monitoring conducted in the San Joaquin River demonstrates that the San Joaquin River has assimilative capacity for chloroform. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for chloroform of 1.7 was allowed in the development of WQBELs for chloroform in the San Joaquin River. This Order contains a final AMEL and MDEL for chloroform of 160 µg/L and 323 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 108 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

v. **Dichlorobromomethane**

(a) **WQO**. The CTR includes a criterion of 0.56 µg/L for dichlorobromomethane for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for dichlorobromomethane was 58 µg/L based on 43 samples collected between January 2022 and December 2024. Dichlorobromomethane was not detected in the upstream San Joaquin River based on 2 samples collected between January 2023 and December 2023 (MDL 0.2 µg/L). Therefore, dichlorobromomethane in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the San Joaquin River.

(c) **WQBELs – San Joaquin River.** Ambient monitoring conducted in the San Joaquin River demonstrates that the San Joaquin River has assimilative capacity for dichlorobromomethane. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for dichlorobromomethane of 114 was allowed in the development of WQBELs for dichlorobromomethane in the San Joaquin River. This Order contains a final AMEL and MDEL for dichlorobromomethane of 63 µg/L and 99 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 58 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

vi. **Nitrate and Nitrite**

(a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

U.S. EPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

(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's narrative toxicity objective. This Order, therefore, requires removal of ammonia (i.e., nitrification). Nitrification is a biological process that converts ammonia to nitrate and nitrite, and will result in effluent nitrate concentrations above the Primary MCL for nitrate plus nitrite. Nitrate concentrations in a drinking water supply above the Primary MCL threatens the health of human fetuses and newborn babies by reducing the oxygen-carrying capacity of the blood (methemoglobinemia).

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Nitrate and nitrite are not priority pollutants. 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 for this non-priority pollutant constituent.

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 POTW's 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 POTW'S, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The concentration of nitrogen in raw domestic wastewater is sufficiently high that the resultant treated wastewater has a reasonable potential to exceed or threat to exceed the Primary MCL for nitrate plus nitrite unless the wastewater is treated for nitrogen removal, and therefore an effluent limit for nitrate plus nitrite is required. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification/denitrification to remove ammonia, nitrite, and nitrate from the waste stream. Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. Discharges of nitrate plus nitrite in concentrations that exceed the Primary MCL would violate the Basin Plan's narrative chemical constituents' objective. Although the Discharger denitrifies the discharge, inadequate or incomplete denitrification creates the potential for nitrate and nitrite to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for nitrate plus nitrite and WQBELs are required.

(c) **WQBELs.** This Order retains the WQBELs from Order 2021-0005 with an AMEL and AWEL for nitrate plus nitrite, total (as N) of 10 mg/L and 13 mg/L, respectively, which are based on the Basin Plan's narrative chemical constituents objective for protection of the MUN beneficial use. These effluent limitations are included in this Order to assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

(d) **Plant Performance and Attainability.** Analysis of the effluent data for nitrate plus nitrite shows that the average monthly concentrations are not greater than the applicable AMEL. The Central Valley Water Board concludes, therefore, that immediate compliance with this effluent limitation is feasible.

vii. **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 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "…an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities." Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by the DDW's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 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. Reasonable potential for pathogens therefore exists and WQBELs are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Pathogens are not priority pollutants. 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 for this non-priority pollutant constituent.

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 POTW's 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." (TSD, p. 50)

The beneficial uses of the San Joaquin River include municipal and domestic supply, 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.** 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, to ensure compliance with the DDW recommended Title 22 disinfection criteria, weekly average specifications are impracticable for turbidity. 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 10NTU as an instantaneous maximum.

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 AMEL's 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 provides tertiary treatment and utilizes a chlorine 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.

viii. **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.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH 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 for this non-priority pollutant constituent.

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 POTW's 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." (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Based on 112 samples taken from January 2021 to December 2024, the maximum pH reported was 8.1 and the minimum was 6.9. For reasons provided above, WQBELs for pH are required in this Order.

(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 for the Facility's discharge to the San Joaquin River based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** Based on 112 samples taken from January 2022 to December 2024, the maximum effluent pH reported was 8.1 and the minimum effluent pH was 6.9. The Facility does have proper pH controls in place, and when in proper operation the control of effluent pH leaving the Facility is possible. Thus, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

ix. **123-Trichloropropane (TCP)**

(a) **WQO**. The State Water Board, Division of Drinking Water (DDW) has adopted a Primary MCL for the protection of human health for 123-TCP of 0.005 µg/L.

(b) **RPA Results.** The MEC for 123 TCP was 0.0273 µg/L based on 6 samples collected between January 2023 and December 2024. 123 TCP was not detected in the upstream San Joaquin River based on 6 samples collected between January 2023 and December 2024. Therefore, 123 TCP in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the San Joaquin River.

(c) **WQBELs – San Joaquin River.** Ambient monitoring conducted in the San Joaquin River demonstrates that the San Joaquin River has assimilative capacity for 123 TCP. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for 123 TCP of 7 was allowed in the development of WQBELs for 123 TCP in the San Joaquin River. This Order contains a final AMEL and MDEL for 123 TCP of 0.043 µg/L and 0.090 µg/L, respectively.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 0.0273 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

h. **Constituents with Reasonable Potential – Discharge Point 003 – TID Upper Lateral 4.** The Central Valley Water Board finds that the discharge has reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for chlorodibromomethane, chloroform, dichlorobromomethane, pH, nitrate plus nitrite, pathogens, and 123-TCP in the TID Upper Lateral 4. 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. **Chlorodibromomethane**

(a) **WQO**. The CTR includes a criterion of 0.41 µg/L for chlorodibromomethane for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for chlorodibromomethane was 28 µg/L based on 42 samples collected between January 2022 and December 2024. Chlorodibromomethane was not detected in the background TID Upper Lateral 4 based on two samples between July 2023 and September 2023 (MDL 0.2 µg/L). Therefore, chlorodibromomethane in the discharge has reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in TID Upper Lateral 4.

(c) **WQBELs.** Ambient monitoring conducted in the TID Upper Lateral 4 demonstrates that the TID Upper Lateral 4 has assimilative capacity for chlorodibromomethane. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for chlorodibromomethane of 92 was allowed in the development of WQBELs for chlorodibromomethane. For the discharge of treated effluent to the TID Upper Lateral 4, this Order contains a final AMEL and MDEL for chlorodibromomethane of 36 µg/L and 63 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 28 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

ii. **Chloroform**

(a) **WQO**. Chloroform is a priority pollutant, however the CTR reserved the human health criteria. The U.S. EPA developed the 2015 recommended National Ambient Water Quality Criteria for Chloroform that includes a criterion of 60 µg/L for the protection of human health for waters from which both water and organisms are consumed, which implements the Basin Plan's narrative toxicity and chemical constituents objectives.

(b) **RPA Results.** The MEC for chloroform was 108 µg/L based on 6 samples collected between January 2023 and December 2023. Chloroform was not detected in the TID Upper Lateral 4 based on 2 samples collected between July 2023 and September 2023 (MDL 0.2 µg/L). Therefore, chloroform in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the TID Upper Lateral 4.

(c) **WQBELs.** Ambient monitoring conducted in the TID Upper Lateral 4 demonstrates that the TID Upper Lateral 4 has assimilative capacity for chloroform. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for chloroform of 1.7 was allowed in the development of WQBELs for chloroform in the TID Upper Lateral 4. This Order contains a final AMEL and MDEL for chloroform of 161 µg/L and 323 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 108 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **Dichlorobromomethane**

(a) **WQO**. The CTR includes a criterion of 0.56 µg/L for dichlorobromomethane for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for dichlorobromomethane was 58 µg/L based on 43 samples collected between January 2022 and December 2024. Dichlorobromomethane was not detected in the TID Upper Lateral 4 based on 2 samples collected between July 2023 and September 2023 (MDL 0.2 µg/L). Therefore, dichlorobromomethane in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the TID Upper Lateral 4.

(c) **WQBELs.** Ambient monitoring conducted in the TID Upper Lateral 4 demonstrates that the TID Upper Lateral 4has assimilative capacity for dichlorobromomethane. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for dichlorobromomethane of 102 was allowed in the development of WQBELs for dichlorobromomethane in the TID Upper Lateral 4. This Order contains a final AMEL and MDEL for dichlorobromomethane of 57 µg/L and 91 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 58 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. **Nitrate and Nitrite**

(a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

U.S. EPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

(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's narrative toxicity objective. This Order, therefore, requires removal of ammonia (i.e., nitrification). Nitrification is a biological process that converts ammonia to nitrate and nitrite, and will result in effluent nitrate concentrations above the Primary MCL for nitrate plus nitrite. Nitrate concentrations in a drinking water supply above the Primary MCL threatens the health of human fetuses and newborn babies by reducing the oxygen-carrying capacity of the blood (methemoglobinemia).

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Nitrate and nitrite are not priority pollutants. 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 for this non-priority pollutant constituent.

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 POTW's 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 POTW'S, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The concentration of nitrogen in raw domestic wastewater is sufficiently high that the resultant treated wastewater has a reasonable potential to exceed or threat to exceed the Primary MCL for nitrate plus nitrite unless the wastewater is treated for nitrogen removal, and therefore an effluent limit for nitrate plus nitrite is required. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification/denitrification to remove ammonia, nitrite, and nitrate from the waste stream. Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. Discharges of nitrate plus nitrite in concentrations that exceed the Primary MCL would violate the Basin Plan's narrative chemical constituents' objective. Although the Discharger denitrifies the discharge, inadequate or incomplete denitrification creates the potential for nitrate and nitrite to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for nitrate plus nitrite and WQBELs are required.

(c) **WQBELs.** This Order retains the WQBELs from Order 2021-0005 with an AMEL and AWEL for nitrate plus nitrite, total (as N) of 10 mg/L and 13 mg/L, respectively, which are based on the Basin Plan's narrative chemical constituents objective for protection of the MUN beneficial use. These effluent limitations

are included in this Order to assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

(d) **Plant Performance and Attainability.** Analysis of the effluent data for nitrate plus nitrite shows that the average monthly concentrations are not greater than the applicable AMEL. The Central Valley Water Board concludes, therefore, that immediate compliance with this effluent limitation is feasible.

v. **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 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "…an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities." Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by the DDW's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 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. Reasonable potential for pathogens therefore exists and WQBELs are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires

that, “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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” For priority pollutants, the SIP dictates the procedures for conducting the RPA. Pathogens are not priority pollutants. 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 for this non-priority pollutant constituent.

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 POTW’s 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.” (TSD, p. 50)

The beneficial uses of the TID Upper Lateral 4 include municipal and domestic supply, 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.** 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, to ensure compliance with the DDW recommended Title 22 disinfection criteria, weekly average specifications are impracticable for turbidity. 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 10NTU as an instantaneous maximum.

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 AMEL's 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 provides tertiary treatment and utilizes a chlorine 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.

vi. **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.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH 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 for this non-priority pollutant constituent.

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 POTW's 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." (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Based on 112 samples taken from January 2022 to December 2024, the maximum pH reported was 8.1 and the minimum was 6.9. For reasons provided above, WQBELs for pH are required in this Order.

(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 for the Facility's discharge to the TID Upper Lateral 4 based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** Based on 112 samples taken from January 2022 to December 2024, the maximum effluent pH reported was 8.1 and the minimum effluent pH was 6.9. The Facility does have proper pH controls in place, and when in proper operation the control of effluent pH leaving the Facility is possible. Thus, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

vii. **123-Trichloropropane (TCP)**

(a) **WQO**. The State Water Board, Division of Drinking Water (DDW) has adopted a Primary MCL for the protection of human health for 123 TCP of 0.005 µg/L.

(b) **RPA Results.** The MEC for 123 TCP was 0.0273 µg/L based on 6 samples collected between January 2023 and December 2024. 123 TCP was not detected in the TID Upper Lateral 4 based on 2 samples collected between July 2023 and September 2023. Therefore, 123 TCP in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the San Joaquin River.

(c) **WQBELs.** Ambient monitoring conducted in TID Upper Lateral 4 demonstrates that the TID Upper Lateral 4 has assimilative capacity for 123 TCP. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for 123 TCP of 7 was allowed in the development of WQBELs for 123 TCP in TID Upper Lateral 4. This Order contains a final AMEL and MDEL for 123 TCP of 0.043 µg/L and 0.090 µg/L, respectively.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 0.0273 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

k. **Constituents with Reasonable Potential – Discharge Point 004 – TID Lateral 5.5.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for chlorodibromomethane, dichlorobromomethane, chloroform, 1,2,3-TCP, pH, nitrate plus nitritie, and pathogens in the TID Lateral 5.5. 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. **Chlorodibromomethane**

(a) **WQO**. The CTR includes a criterion of 0.41 µg/L for chlorodibromomethane for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for chlorodibromomethane was 28 µg/L based on 42 samples collected between January 2022 and December 2024. Chlorodibromomethane was not detected in the background TID Lateral 5.5 based one sample from September 2022 (MDL 0.2 µg/L). Therefore, chlorodibromomethane in the discharge has reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in TID Lateral 5.5.

(c) **WQBELs.** Ambient monitoring conducted in the TID Lateral 5.5 demonstrates that the TID Lateral 5.5 has assimilative capacity for chlorodibromomethane. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for chlorodibromomethane of 103 was allowed in the development of WQBELs for chlorodibromomethane. For the discharge of treated effluent to the TID Lateral 5.5, this Order contains a final AMEL and MDEL for chlorodibromomethane of 40 µg/L and 56 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 28 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore,

that immediate compliance with these effluent limitations is feasible.

ii. **Chloroform**

(a) **WQO**. Chloroform is a priority pollutant, however the CTR reserved the human health criteria. The U.S. EPA developed the 2015 recommended National Ambient Water Quality Criteria for Chloroform that includes a criterion of 60 µg/L for the protection of human health for waters from which both water and organisms are consumed, which implements the Basin Plan's narrative toxicity and chemical constituents objectives.

(b) **RPA Results.** The MEC for chloroform was 108 µg/L based on 6 samples collected between January 2023 and December 2023. Chloroform was not detected in the TID Lateral 5.5 based on one sample from September 2022 (MDL 0.2 µg/L). Therefore, chloroform in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the TID Lateral 5.5.

(c) **WQBELs.** Ambient monitoring conducted in the TID Lateral 5.5demonstrates that the TID Lateral 5.5 has assimilative capacity for chloroform. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for chloroform of 1.7 was allowed in the development of WQBELs for chloroform in the TID Lateral 5.5. This Order contains a final AMEL and MDEL for chloroform of 160 µg/L and 323 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 108 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iii. **Dichlorobromomethane**

(a) **WQO**. The CTR includes a criterion of 0.56 µg/L for dichlorobromomethane for the protection of human health for waters from which both water and organisms are consumed.

(b) **RPA Results.** The MEC for dichlorobromomethane was 58 µg/L based on 43 samples collected between January 2022 and December 2024. Dichlorobromomethane was not detected in the TID Lateral 5.5 based on one sample from September 2022 (MDL 0.2 µg/L). Therefore, dichlorobromomethane in the

discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the TID Lateral 5.5.

(c) **WQBELs.** Ambient monitoring conducted in the TID Lateral 5.5 demonstrates that the TID Lateral 5.5has assimilative capacity for dichlorobromomethane. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for dichlorobromomethane of 115 was allowed in the development of WQBELs for dichlorobromomethane in the TID Lateral 5.5. This Order contains a final AMEL and MDEL for dichlorobromomethane of 63 µg/L and 83 µg/L, respectively, based on the CTR criterion for the protection of human health.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 58 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

iv. **Nitrate and Nitrite**

(a) **WQO.** DDW has adopted Primary MCLs for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. DDW has also adopted a Primary MCL of 10 mg/L for the sum of nitrate and nitrite, measured as nitrogen.

U.S. EPA has developed a primary MCL and an MCL goal of 1 mg/L for nitrite (as nitrogen). For nitrate, U.S. EPA has developed Drinking Water Standards (10 mg/L as Primary MCL) and NAWQC for protection of human health (10 mg/L for non-cancer health effects).

(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's narrative toxicity objective. This Order, therefore, requires removal of ammonia (i.e., nitrification). Nitrification is a biological process that converts ammonia to nitrate and nitrite, and will result in effluent nitrate concentrations above the Primary MCL for nitrate plus nitrite. Nitrate concentrations in a drinking water supply above the Primary MCL threatens the health of human fetuses and newborn babies by reducing the oxygen-carrying capacity of the blood (methemoglobinemia).

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Nitrate and nitrite are not priority pollutants. 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 for this non-priority pollutant constituent.

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 POTW's 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 POTW'S, U.S. EPA recommends that, "POTW's should also be characterized for the possibility of chlorine and ammonia problems." (TSD, p. 50)

The concentration of nitrogen in raw domestic wastewater is sufficiently high that the resultant treated wastewater has a reasonable potential to exceed or threat to exceed the Primary MCL for nitrate plus nitrite unless the wastewater is treated for nitrogen removal, and therefore an effluent limit for nitrate plus nitrite is required. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification/denitrification to remove ammonia, nitrite, and nitrate from the waste stream. Inadequate

or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. Discharges of nitrate plus nitrite in concentrations that exceed the Primary MCL would violate the Basin Plan's narrative chemical constituents' objective. Although the Discharger denitrifies the discharge, inadequate or incomplete denitrification creates the potential for nitrate and nitrite to be discharged and provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the Primary MCL. Therefore, the Central Valley Water Board finds the discharge has reasonable potential for nitrate plus nitrite and WQBELs are required.

(c) **WQBELs.** This Order retains the WQBELs from Order 2021-0005 with an AMEL and AWEL for nitrate plus nitrite, total (as N) of 10 mg/L and 13 mg/L, respectively, which are based on the Basin Plan's narrative chemical constituents objective for protection of the MUN beneficial use. These effluent limitations are included in this Order to assure the treatment process adequately nitrifies and denitrifies the waste stream to protect the beneficial use of municipal and domestic supply.

(d) **Plant Performance and Attainability.** Analysis of the effluent data for nitrate plus nitrite shows that the average monthly concentrations are not greater than the applicable AMEL. The Central Valley Water Board concludes, therefore, that immediate compliance with this effluent limitation is feasible.

v. **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 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "…an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities." Title 22 is not directly applicable to surface waters; however, the Central Valley Water Board finds that it is appropriate to apply an equivalent level of

treatment to that required by the DDW's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 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. Reasonable potential for pathogens therefore exists and WQBELs are required.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. Pathogens are not priority pollutants. 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 for this non-priority pollutant constituent.

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 POTW's 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." (TSD, p. 50)

The beneficial uses of TID Lateral 5.5 include municipal and domestic supply, 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.** 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, to ensure compliance with the DDW recommended Title 22 disinfection criteria, weekly average specifications are impracticable for turbidity. 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 10NTU as an instantaneous maximum.

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 AMEL's 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 provides tertiary treatment and utilizes a chlorine 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.

vi. **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.

Federal regulations at 40 C.F.R. section 122.44(d)(1)(i) requires that, "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 which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." For priority pollutants, the SIP dictates the procedures for conducting the RPA. pH 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 for this non-priority pollutant constituent.

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 POTW's 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." (TSD, p. 50)

The Facility is a POTW that treats domestic wastewater. Based on 112 samples taken from January 2021 to December 2024, the maximum pH reported was 8.1 and the minimum was 6.9. For reasons provided above, WQBELs for pH are required in this Order.

(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 for the Facility's discharge to the TID Lateral 5.5 based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** Based on 112 samples taken from January 2022 to December 2024, the maximum effluent pH reported was 8.1 and the minimum effluent pH was 6.9. The Facility does have proper pH controls in place, and when in proper operation the control of effluent pH leaving the Facility is possible. Thus, the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

vii. **123-Trichloropropane (TCP)**

(a) **WQO**. The State Water Board, Division of Drinking Water (DDW) has adopted a Primary MCL for the protection of human health for 123 TCP of 0.005 µg/L.

(b) **RPA Results.** The MEC for 123 TCP was 0.0273 µg/L based on 6 samples collected between January 2023 and December 2024. 123 TCP was not detected in the TID Lateral 5.5 based on one sample from September 2022. Therefore, 123 TCP in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for the protection of human health in the San Joaquin River.

(c) **WQBELs.** Ambient monitoring conducted in TID Lateral 5.5 demonstrates that the TID Lateral 5.5 has assimilative capacity for 123 TCP. Therefore, as discussed further in section IV.C.2.c of this Fact Sheet, a dilution credit for 123 TCP of 7 was allowed in the development of WQBELs for 123 TCP in TID Lateral 5.5. This Order contains a final AMEL and MDEL for 123 TCP of 0.043 µg/L and 0.090 µg/L, respectively.

(d) **Plant Performance and Attainability**. Analysis of the effluent data shows that the MEC of 0.0273 µg/L is less than the applicable WQBELs. The Central Valley Water Board concludes, therefore, that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

a. This Order includes WQBELs for ammonia, BOD, chlorine residual, chlorodibromomethane, chloroform, dichlorobromomethane, pH, nitrate plus nitrite, TSS, and 123-TCP. The general methodology for calculating WQBELs based on the different criteria/objectives is described in subsections IV.C.4.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.

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

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

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

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 $LTA_{chronic}$

Table F-12 Summary of Water Quality-Based Effluent Limitations – Discharge Point No. 001 – San Joaquin River

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations	Maximum Daily Effluent Limitations
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celsius	mg/L	10	15	--
TSS	mg/L	10	15	--
pH	standard units	--	--	Instantaneous Max 8.5 Instantaneous Min 6.5
Chlorodibromomethane	µg/L	43	--	73
Chloroform	µg/L	160		323
Dichlorobromomethane	µg/L	63	--	99
Ammonia Nitrogen, Total (as N) (July 1 through October 31)	mg/L	1.3	3.0	--
Ammonia Nitrogen, Total (as N) (November 1 through June 30)	mg/L	1.8	3.1	--
Chlorine, Total Residual	mg/L	--	0.011 (see table note 1. below)	0.019 (see table note 2. below)
Total Coliform Organisms	MPN/100 mL	Once in 30-day period 23	7-day median 2.2	At any time 240
Chlorpyrifos	µg/L	(see table note 3. below)	(see table note 4. below)	--
Diazinon	µg/L	(see table note 3. below)	(see table note 4. below)	--
Nitrate plus Nitrite	mg/L	10	13	--
1,2,3 TCP	µg/L	0.043		0.090

Table F-12 Notes:

1. Applied as a 4-day average effluent limitation.
2. Applied as a 1-hour average effluent limitation.
3. Average Monthly Effluent Limitation (AMEL)
   S(AMEL) = Cd (M-avg)/0.079+ Cc (M-avg)/0.012≤ 1.0
   Where:
   Cd(M-avg) = average monthly diazinon effluent concentration in µg/L
   Cc (M-avg) = average monthly chlorpyrifos effluent concentration in µg/L
4. Average Weekly Effluent Limitation (AWEL)
   S(AWEL) = Cd (W-avg)/0.14+ Cc (W-avg)/0.021≤ 1.0
   Where:
   Cd(W-avg) = average weekly diazinon effluent concentration in µg/L
   Cc (W-avg) = average weekly chlorpyrifos effluent concentration in µg/L

Table F-13. Summary of Water Quality-Based Effluent Limitations – Discharge Point No. 003 – TID Upper Lateral 4

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations	Maximum Daily Effluent Limitations
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celsius	mg/L	10	15	--
Total Suspended Solids (TSS)	mg/L	10	15	--
pH	standard units	--	--	Instantaneous Max 8.5 Instantaneous Min 6.5
Chlorodibromomethane	µg/L	36	--	63
Chloroform	µg/L	160		323
Dichlorobromomethane	µg/L	57	--	91
Total Coliform Organisms	MPN/100 mL	Once in 30-day period 23	7-day median 2.2	At any time 240
Nitrate plus Nitrite	mg/L	10	13	--
1,2,3 TCP	µg/L	0.043		0.090

Table F-14. Summary of Water Quality-Based Effluent Limitations – Discharge Point No. 004 – TID Lateral 5.5

Parameter	Units	Average Monthly Effluent Limitations	Average Weekly Effluent Limitations	Maximum Daily Effluent Limitations
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celsius	mg/L	10	15	--
Total Suspended Solids (TSS)	mg/L	10	15	--
pH	standard units	--	--	Instantaneous Max 8.5 Instantaneous Min 6.5
Chlorodibromomethane	µg/L	40	--	56
Chloroform	µg/L	160		323
Dichlorobromomethane	µg/L	63	--	83
Total Coliform Organisms	MPN/100 mL	Once in 30-day period 23	7-day median 2.2	At any time 240
Nitrate plus Nitrite	mg/L	10	13	--
1,2,3 TCP	µg/L	0.043		0.090

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.

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 toxicity 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. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CF.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 MCL's) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the design flow (Average Dry Weather Flow) permitted in section III.E of this Order.

2. Averaging Periods for Effluent Limitations

40 C.F.R. section 122.45 (d) requires average weekly and average monthly discharge limitations for POTW's unless impracticable. For CDBM and DCBM, average weekly effluent limitations have been replaced with maximum daily effluent limitations in accordance with section 1.4 of the SIP. Furthermore, for pH, chlorine residual, and total coliform organisms, 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.4 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 for all discharge points are at least as stringent as the effluent limitations in the previous Order, with the exception of effluent limitations for dichlorobromomethane (DCBM), acute whole effluent toxicity, electrical conductivity (EC), and mercury at Discharge Point 001. The effluent limitations for these pollutants are less stringent than those in Order R5-2021-0005. 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.

The San Joaquin River is considered an attainment water for DCBM because the receiving water is not listed as impaired on the CWA section 303(d) list for this constituent. 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 effluent limitations for DCBM from Order R5-2021-0005 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.

Updated information that was not available at the time Order R5-2021-0005 was issued indicates that acute whole effluent toxicity, mercury, and EC do not exhibit reasonable potential to cause or contribute to an exceedance of water quality objectives in the receiving water. Additionally, updated information that was not available at the time Order R5-2021-0005 was issued indicates that less stringent effluent limitations for dichlorobromomethane, based on available dilution credits satisfy requirements in CWA section 402(o)(2). The updated information that supports the relaxation of effluent limitations for these constituents includes the following:

i. **Acute whole effluent toxicity.** This Order removes the effluent limitation for acute whole effluent toxicity per standard approach under

the new Statewide Toxicity Provisions, because chronic toxicity testing is generally protective of both acute and chronic toxicity. This Order includes effluent limitations for chronic whole effluent toxicity, consistent with the Statewide Toxicity Provisions.

ii. **Dichlorobromomethane.** The Discharger provided an updated mixing zone memorandum on 24 March 2025 for the discharge to the San Joaquin River. The study demonstrated that the requested mixing zone size for these constituents is no more than 25 feet. WQBELs for DCBM were calculated based on monitoring data collected over the past permit term, which is representative of current treatment plant performance. Therefore, Central Valley Water Board staff consider this effluent data to be the most representative and reliable dataset to use to determine current Facility performance and development of WQBELs. The discharge would have minimal effect on dichlorobromomethane concentrations in the San Joaquin River. Therefore, this Order includes less stringent effluent limitations for dichlorobromomethane based on the performance of the Facility and the available dilution.

iii. **Electrical Conductivity**. The Discharger is participating in the CV-SALTS's Salinity Control Program Alternative Pathway and in Pathway A of the Nitrate Control Program. This Order removes the effluent limitation for EC and establishes a site-specific trigger of 1,550 µmhos/cm for EC in accordance with the Alternative Pathway.

iv. **Mercury**. This Order removes the performance-based effluent limitation for mercury. The San Joaquin River was listed was listed as an impaired water body pursuant to CWA section 303(d) because of mercury. On 3 February 2026, the State Water Board adopted the 2026 Integrated Report, which removed the mercury 303(d) listing for the San Joaquin River (Merced River to Tuolumne River segment) due to flaws in the original listing. Additionally, mercury does not exhibit reasonable potential to exceed the applicable water quality objective in the receiving water per the Statewide Mercury Provisions based on the effluent and receiving water data over the permit term.

4. Antidegradation Policies

a. Discharge Point 003 – TID Upper Lateral 4

This Order allows for the discharge of recycled water to the TID Upper Lateral 4 during the irrigation season (1 March through 31 October) for the sole purpose of supplying water to agricultural users from TID's canal system. This discharge will result in an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is necessary and was submitted with the Discharger's ROWD and an addendum was submitted to the Central

Valley Water Board on 11 March 2020. 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. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

The Discharger has requested a mixing zone and dilution credits for CDBM, DCBM, chloroform, and 123-TCP for the discharge to the TID Upper Lateral 4 (see section IV.C.2.c.ii.b of this Fact Sheet). The recycled water discharge will comply with effluent limitations for CDBM, DCBM, chloroform, and 123-TCP established using the requested dilution credits. Likewise, the Discharger can comply with effluent limitations issued in the NPDES permit for all other constituents.

The purpose of discharging recycled water to the TID Upper Lateral 4 is not waste disposal; rather, the discharge is necessary to augment TID irrigation supplies as a component of the Regional Surface Water Supply Project. The Discharger will maximize the amount of effluent discharged to the Delta Mendota Canal for beneficial reuse by downstream water districts because these districts pay the Discharger for this water. As such, the period of discharge to the TID Upper Lateral 4 will be limited to the irrigation season when there is demand within the TID service area for irrigation water. The Discharger's recycled water, along with other irrigation water supplied by TID, will be withdrawn for irrigation within a few miles downstream of the discharge. As such, the operational approach to the TID Upper Lateral 4 discharge will maximize dilution of the Discharger's recycled water and will minimize the amount of recycled water within the receiving water due to downstream withdraws of the water from TID's canal system for irrigation purposes.

Key technical findings from the Discharger's Antidegradation Analysis demonstrate the following:

1. The Facility provides advanced treatment to produce Title 22 quality, tertiary-treated recycled water suitable for unrestricted reuse. The Facility utilizes biotowers and aeration basins for high levels of TSS, BOD, ammonia, and nitrate removal.

2. The Facility will be operated to maximize the discharge of recycled water to the Delta Mendota Canal and to discharge no more than 2,033 AFY to the TID Upper Lateral 4.

3. The Facility will only discharge recycled water to the TID Upper Lateral 4 during the irrigation season for the sole purpose of supplying water to agriculture users from TID's canal system, downstream of the discharge point into the TID Upper Lateral 4.

4. The Facility's recycled water quality meets or exceeds the regulations for best practicable treatment or control as it is defined and intended in State Water Board Resolution No. 68-16.

5. Current and future expected operations of the Facility will achieve compliance with requirements in this Order and will meet receiving water quality criteria/objectives, thereby assuring that a condition of pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the area and the state of California will be maintained.

Based on the above findings determined from this analysis, the discharge of 2,033 AFY recycled water to the TID Upper Lateral 4 during the seasonal irrigation period (1 March through 31 October) is consistent with best practicable treatment or control as it is defined and intended in State Water Board Resolution No. 68-16.

Furthermore, 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 best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

b. **Discharge Point 004 – TID Lateral 5.5**

This Order allows for a new discharge of recycled water to the TID Lateral 5.5 during the seasonal irrigation period (March–October). TID plans to construct a regulating reservoir to temporarily store irrigation spills and return flows collected from the adjacent Harding Drain and discharge the reservoir water to TID's Lateral 5.5 for agricultural use in its service area. TID is proposing to use this reservoir to receive the 2,000 AFY of RWQCF recycled water Turlock is to provide TID under the TID/SRWA water sales agreement, when the reservoir has capacity to receive this water. The reservoir water, which would be a mix of Harding Drain water and recycled water, would be discharged to Lateral 5.5.This discharge will result in an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is necessary and was submitted by the Discharger as part of the permit amendment request to the Central Valley Water Board on 1 July 2024. 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. The permitted

discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and the State Anti-Degradation Policy. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

The Discharger has requested a mixing zone and dilution credits for CDBM, and DCBM, chloroform, and 123-TCP for the discharge to the TID Lateral 5.5 (see section IV.C.2.c.ii.c of this Fact Sheet). The recycled water discharge will comply with effluent limitations for CDBM, and DCBM, chloroform, and 123-TCP established using the requested dilution credits. Likewise, the Discharger can comply with effluent limitations issued in the NPDES permit for all other constituents.

The purpose of discharging recycled water to the TID Lateral 5.5 is not waste disposal; rather, the discharge is necessary to augment TID to temporarily store irrigation spills and return flows collected from the adjacent Harding Drain and discharge the reservoir water to TID's Lateral 5.5 for agricultural use in its service area.

Key technical findings from the Discharger's Antidegradation Analysis demonstrate the following:

1. The Facility provides advanced treatment to produce Title 22 quality, tertiary-treated recycled water suitable for unrestricted reuse. The Facility utilizes biotowers and aeration basins for high levels of TSS, BOD, ammonia, and nitrate removal.

2. The Facility would be operated to maximize the discharge of recycled water to the Delta Mendota Canal and to discharge no more than 2,033 AFY to Lateral 5.5.

3. The Facility would only discharge recycled water to Lateral 5.5 during the irrigation season for the sole purpose of supplying water to agriculture users from TID's canal system, downstream of the discharge point into Lateral 5.5.

4. The Facility's recycled water quality meets or exceeds the regulations for best practicable treatment or control as it is defined and intended in State Water Board Resolution No. 68-16.

5. Current and future expected operations of the Facility will achieve compliance with requirements in this Order and will meet receiving water quality criteria/objectives, thereby assuring that a condition of pollution or nuisance will not occur and the highest water quality consistent with maximum benefit to the people of the area and the state of California will be maintained.

Based on the above findings determined from this analysis, the discharge of 2,033 AFY recycled water to the TID Lateral 5.5 during the seasonal irrigation period (March–October) is consistent with best practicable treatment or control as it is defined and intended in State Water Board Resolution No. 68-16.

Furthermore, 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 best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant

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, pH, and TSS. Restrictions on BOD_5, pH, and TSS are discussed in section IV.B.2 of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards.

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.

Table F-15. Summary of Final Effluent Limitations - Discharge Point 001- San Joaquin River

Parameter	Units	Effluent Limitations	Basis (see table note 1 Below)
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celcius	mg/L	AMEL 10 AWEL 15	TTC
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celcius	% Removal	85	CFR

Parameter	Units	Effluent Limitations	Basis (see table note 1 Below)
Total Suspended Solids (TSS)	mg/L	AMEL 10 AWEL 15	TTC
Total Suspended Solids (TSS)	% Removal	85	CFR
Chlorodibromomethane	µg/L	AMEL 43 MDEL73	CTR
Dichlorobromomethane	µg/L	AMEL 63 MDEL99	CTR
Chloroform	µg/L	AMEL 160 MDEL 323	NAWQC
1,2,3-TCP	µg/L	AMEL 0.043 MDEL 0.090	MCL
pH	Standard units	Instantaneous Max 8.5 Instantaneous Min 6.5	BP
Ammonia Nitrogen, Total (as N) (1 July – 31 October)	mg/L	AMEL 1.3 AWEL 3.0	NAWQC
Ammonia Nitrogen, Total (as N) (1 November – 30 June)	mg/L	AMEL 1.8 AWEL 3.1	NAWQC
Nitrate plus Nitrite	mg/L	AMEL 10 AWEL 13	MCL
Chlorine, Total Residual	mg/L	4-day average 0.011 1-hour average 0.019	NAWQC
Chlorpyrifos	µg/L	(see table note 2 below)	BP
Diazinon	µg/L	(see table note 2 below)	BP
Total Coliform Organisms	MPN/ 100 mL	7-day median 2.2 Once in 30 days 23 At any time 240	Title 22

Table F-15 Notes:

1.
TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
CFR – Based on secondary treatment standards contained in 40 CFR part 133.
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..
MCL – Based on the Primary Maximum Contaminant Level.

Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

2. Average Monthly Effluent Limitation (AMEL)

S(AMEL) = Cd (M-avg)/0.079+ Cc (M-avg)/0.012≤ 1.0
Where:
Cd(M-avg) = average monthly diazinon effluent concentration in µg/L
Cc (M-avg) = average monthly chlorpyrifos effluent concentration in µg/L

Average Weekly Effluent Limitation (AWEL)
S(AWEL) = Cd (W-avg)/0.14+ Cc (W-avg)/0.021≤ 1.0
Where:
Cd(W-avg) = average weekly diazinon effluent concentration in µg/L
Cc (W-avg) = average weekly chlorpyrifos effluent concentration in µg/L

Table F-16. Summary of Final Effluent Limitations – Discharge Point 003 (TID Upper Lateral 4) and Discharge Point 004 (TID Lateral 5.5)

Parameter	Units	Effluent Limitations	Basis (see table note 1 below)	Discharge Point
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celcius	mg/L	AMEL 10 AWEL 15	TTC	003, 004
Biochemical Oxygen Demand (BOD), 5-day @ 20°Celcius	% Removal	85	CFR	003, 004
Total Suspended Solids (TSS)	mg/L	AMEL 10 AWEL 15	TTC	003, 004
Total Suspended Solids (TSS)	% Removal	85	CFR	003, 004
Chlorodibromomethane	µg/L	AMEL 36 MDEL 63	CTR	003
Dichlorobromomethane	µg/L	AMEL 57 MDEL 91	CTR	003
Chlorodibromomethane	µg/L	AMEL 40 MDEL 56	CTR	004
Dichlorobromomethane	µg/L	AMEL 63 MDEL 83	CTR	004
Chloroform	µg/L	AMEL 160 MDEL 323	NAWQC	003, 004
1,2,3-TCP	µg/L	AMEL 0.043 MDEL 0.090	MCL	003, 004

Parameter	Units	Effluent Limitations	Basis (see table note 1 below)	Discharge Point
pH	Standard units	Instantaneous Max 8.5 Instantaneous Min 6.5	BP	003, 004
Nitrate plus Nitrite	mg/L	AMEL 10 AWEL 13	MCL	003, 004
Total Coliform Organisms	MPN/ 100 mL	7-day median 2.2 Once in 30 days 23 At any time 240	Title 22	003, 004

Table F-16 Notes:

1. TTC – Based on tertiary treatment capability. These effluent limitations reflect the capability of a properly operated tertiary treatment plant.
   CFR – Based on secondary treatment standards contained in 40 CFR part 133.
   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.
   MCL – Based on the Primary Maximum Contaminant Level.
   Title 22 – Based on State Water Board Division of Drinking Water Reclamation Criteria, CCR, Division 4, Chapter 3 (Title 22).

F. Land Discharge Specifications - Not Applicable

G. Recycling Specifications

Treated wastewater discharged for reclamation is regulated under separate waste discharge requirements and must meet the requirements of CCR, Title 22.

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. The analysis below evaluates 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.

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 chlorpyrifos and diazinon Total Maximum Daily Load (TMDL) requirements are applicable to this discharge. . 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-17. 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.
Chemical Constituents	Narrative	Electrical conductivity effluent monitoring trigger
Color	Narrative	No RP due to tertiary treatment standards. Visual monitoring (when discharging) for discoloration is required in RW.
Dissolved Oxygen	Numeric	No RP, tertiary treatment results in minimal DO impacts.
Floating Material	Narrative	Visual monitoring (when discharging) for floating or suspended matter is required in RW.
Oil and Grease	Narrative	No RP due to tertiary treatment standards. Visual monitoring (when discharging) for visible films, sheens, or coatings is required in RW.
pH	Numeric	No RP but pH effluent limitations are included. Monitoring (when discharging) is required in the RW.
Pesticides	Narrative/ Numeric	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 (when discharging) of suspended matter is required in the RW.

Parameter	Objective	Effluent Limitations and/or Monitoring
Settleable Substances	Narrative	No RP based on effluent data, but Total Suspended Solids effluent limitation is included. Visual monitoring (when discharging) 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 (when discharging) of suspended matter is required in the RW.
Taste and Odors	Narrative	No RP due to tertiary treatment standards. Monitoring (when discharging) of potential nuisance conditions is required in the RW.
Temperature	Numeric	No RP. Monitoring for temperature is required in the RW.
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 for turbidity is required in the RW.

B. Groundwater

1. This Order contains groundwater limitations based on state law and requires a groundwater quality characterization study since existing monitoring wells are dry and there is no data to compare to background groundwater quality. The groundwater quality characterization study report will be evaluated at the end of this permit term prior to the next renewal to determine if there is a need to install new wells to evaluate groundwater impacts from the Facility and determine compliance with limitations established in this Order.

2. Nitrate Total as Nitrogen. The Discharger has elected and been approved to participate in Pathway A of the Nitrate Control Program.

3. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater. The beneficial uses of the underlying groundwater are municipal, industrial supply, and agricultural supply.

4. 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. 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 contains waste at a level greater than the water quality objective and causes the receiving water to exceed a water quality objective, the groundwater limitation would be violated. Similarly, if the same discharge into groundwater contains waste 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, if the receiving water natural background concentration is less than the water quality objective. 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 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. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate, effluent toxicity through a site-specific Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a new chronic

toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE.

c. **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 recoverable when developing effluent limitations. 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.

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. 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/)

e. **North Valley Regional Recycled Water Program.** Separate Order R5-2022-0034 (NPDES Permit No. CA0085316), issued to the City of Turlock and City of Modesto, regulates the combined surface water discharge from the Facility and the City of Modesto Water Quality Control Facility to the Delta Mendota Canal (DMC). Order R5-2022-0034 expires 31 July 2027 and this Order may be reopened to incorporate the necessary requirements to regulate the discharge from the Facility to the DMC via the North Valley Regional Recycled Water Program rather than renew Order R5-2022-0034.

2. Special Studies and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation (TRE).** 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.G. provides additional details regarding the TRE.

b. **Groundwater Quality Characterization Report.** Since there is no groundwater monitoring data available due to dry groundwater monitoring wells around the Facility, the Discharger shall submit a *Groundwater Water Quality Characterization* with the ROWD so that potential for impacts to groundwater from the Facility may be assessed. For each groundwater monitoring parameter/constituent identified in the MRP, Attachment E, Section X.D.4, the report shall present a summary of monitoring data and calculation of the concentration in background monitoring wells. The U.S. EPA Unified Guidance may be used to determine compliance with the groundwater limitations in this order. The report shall explain and justify the selection of the appropriate statistical methods.

c. **Cyanide Constituent Study.** The Discharger provided evidence demonstrating that effluent analyses over the past permit term for cyanide were affected by known interferences and the results warrant further study before being used as the basis for establishing cyanide effluent limitations. The Discharger shall submit a *Cyanide Constituent Study* by the due date in the Technical Reports Table.

3. Best Management Practices and Pollution Prevention

a. **Salinity Evaluation and Minimization Plan.** This provision requires the Discharger to continue to implement the existing salinity evaluation and minimization plan and provide a summary report with the Report of Waste Discharge that evaluates the effectiveness of the salinity evaluation and minimization plan in the reduction of salinity in the discharge to the San Joaquin River.

4. Construction, Operation, and Maintenance Specifications

a. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

b. **Filtration System Operating Specifications.** To ensure the filtration system is operating properly to provide adequate disinfection of the wastewater, the turbidity of the filter effluent 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.

c. **Emergency Storage Basin Operating Requirements.** When discharges to the emergency storage basin occur, the Discharger shall ensure compliance with the following operation and maintenance requirements:

i. Objectionable odors originating at the Facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.

ii. The emergency storage basin 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; and

(c) Vegetation, debris, and dead algae shall not accumulate on the water surface.

(d) The Discharger shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

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

iv. Freeboard in the emergency storage basin shall not be less than 2 feet (measured vertically to the lowest point of overflow), except if lesser freeboard does not threaten the integrity of the emergency storage basin, no overflow of the emergency storage basin 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.

5. **Special Provisions for Publicly-Owned Treatment Works (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.

c. **Resource Recovery from Anaerobically Digestible Material.** Some POTWs choose to accept organic material such as food waste, fats, oils, and grease into their anaerobic digesters for co-digestion to increase production of methane and other biogases for energy production and to prevent such materials from being discharged into the collection system, which could cause sanitary sewer overflows. The California Department of Resources Recycling and Recovery has proposed an exemption from requiring Process Facility/Transfer Station permits where this activity is regulated under waste discharge requirements or NPDES permits. The proposed exemption is restricted to anaerobically digestible material that has been prescreened, slurried, and processed/conveyed in a closed system to be co-digested with regular POTW sludge. The proposed exemption requires that a POTW develop Standard Operating Procedures for the proper handling, processing, tracking, and management of the anaerobically digestible material before it is received by the POTW.

Standard Operating Procedures are required for POTWs that accept hauled food waste, fats, oil, and grease for injection into anaerobic digesters. The development and implementation of Standard Operating Procedures for management of these materials is intended to allow the California Department of Resources Recycling and Recovery to exempt this activity from separate and redundant permitting programs. If the POTW does not accept food waste, fats, oil, or grease for resource recovery purposes, it is not required to develop and implement Standard Operating Procedures.

The Discharger currently accepts hauled-in ADM for direct injection into its anaerobic digester for co-digestion. This provision requires the Discharger to update and implement SOP’s for this activity. The requirements of the SOP’s are discussed in section VI.C.5.c.

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 for flow (continuous), pH (daily), and electrical conductivity (weekly)have been retained from Order R5-2021-0005. Monitoring for BOD_5 and TSS has been reduced to 1/week based on similarly permitted facilities.

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 for flow (continuous), pH (continuous), chlorodibromomethane (monthly), dichlorobromomethane (monthly), ammonia (weekly), chlorine residual (continuous), chlorpyrifos (annually), diazinon (annually), dissolved oxygen (weekly), electrical conductivity (weekly), hardness (quarterly), nitrate plus nitrite (monthly), temperature (weekly), total coliform organisms (daily), and turbidity (continuous) have been retained from Order R5-2021-0005. Monitoring for BOD_5 and TSS has been reduced to 1/week based on similarly permitted facilities.

3. This Order adds monthly effluent monitoring for chloroform and 1,2,3-TCP to determine compliance with new effluent limits for these constituents. This Order adds effluent monitoring for cyanide, quarterly for 2 years, as part of a special study. This Order removes acute toxicity monitoring since chronic toxicity monitoring is retained and will capture any acute effects. Additionally, this Order removes effluent monitoring for total mercury based on no reasonable potential and since the mercury 303(d) listing for the San Joaquin River was removed by the State Water Board on 3 February 2026 per the 2026 Integrated Report.

C. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess the impacts of the discharge on the receiving stream. Receiving surface water monitoring frequencies and sample types have been retained from Order R5-2021-0005.

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 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. At 50% effluent the only species that exceeded 1 TUc across in the four quarters of testing was Ceriodaphnia dubia (>1 TUc for reproduction).

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. The Discharger is required to initiate a TRE when there is any combination of two or more chronic toxicity effluent limitation exceedances within a single toxicity 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. Recycled Water Monitoring

Title 22 disinfected tertiary recycled water production monitoring and reporting are required to ensure compliance with the Recycling Specifications in Section IV.C of the WDRs.

F. 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.b. of this Order. Biosolids monitoring is required per U.S. EPA guidance to evaluate the effectiveness of the pretreatment program.

2. Pond Monitoring

Pond monitoring is required to ensure that the discharge to the emergency storage basin complies with the Emergency Storage Basin Operating Requirements in section VI.C.4.c of this Order. Monitoring frequencies and sample types for freeboard (weekly), levee condition (weekly), and odors (weekly), and flow to basin (once per event) have been retained from Order R5 2021-0005.In addition, the reason for the diversion, duration of diversion, and description of the type of diversion (e.g., influent or effluent) is required.

3. 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 Turlock Regional Water Quality 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. Additionally, consistent with Water Code section 189.7, the Central Valley Water Board conducted outreach to potentially affected disadvantaged and/or tribal communities concerning tentative WDRs. Notification was provided through the following: posting the Notice of Public Hearing (NOPH) at the Facility, the City of Turlock Post Office, and the City of Turlock City Hall. Additionally, the NOPH was posted on the Central Valley Water Board's Tentative Orders webpage.

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 **29 October 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: **10 December 2026**
Time: **8:30 a.m.**
Location: Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

Physical Meeting Location w/Remote Meeting Option

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 Victor Lopez at 916-464-4855, or Victor.Lopez@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	Reasonable Potential
Ammonia (as N) 1 April through 31 October	mg/L	1.1	ND	1.44	3.61	1.44					Yes
Ammonia (as N) 1 November through 31 March	mg/L	1.1	ND	1.57	3.64	1.57					Yes
Chloroform	µg/L	108	0.01	60			60	2000		80	Yes
Chlorodibromomethane	µg/L	28	0.02	0.41	--	--	0.41	34	--	80	Yes
Dichlorobromomethane	µg/L	58	0.01	0.56	--	--	0.56	46	--	80	Yes
1,2,3 TCP	µg/L	0.027	0.0017	0.005						0.005	Yes
Nitrate Plus Nitrite (as N)	mg/L	11.9	0.04	10	--	--	--	--	--	10	Yes

Attachment G Table Notes:

1. All inorganic concentrations are given as a total concentration.

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

H.

ATTACHMENT H-1 – CALCULATION OF WQBELS

HUMAN HEALTH WQBELS CALCULATIONS

Parameter	Units	Criteria	Mean Background Concentration	Effluent CV	Dilution Factor	MDEL/AMEL Multiplier	AMEL Multiplier	AMEL	MDEL	AWEL	Discharge Point
Chloroform	µg/L	60	0.01	0.60	2	2.01	1.55	160	323		001, 003, 004
Chlorodibromomethane	µg/L	0.41	0.05	0.43	110	1.73	1.39	43	73		001
Dichlorobromomethane	µg/L	0.56	0.01	0.34	114	1.57	1.30	63	99		001
Chlorodibromomethane	µg/L	0.41	0.02	0.48	92	1.44	1.82	36	63		003
Dichlorobromomethane	µg/L	0.56	0.01	0.30	102	1.26	1.49	57	91		003
Chlorodibromomethane	µg/L	0.41	0.02	0.60	103	1.39	1.39	40	56		004
Dichlorobromomethane	µg/L	0.56	0.01	0.60	115	1.31	1.31	63	83		004
Nitrate Nitrogen, Total (as N)	mg/L	10	0.04	0.24		1.31	1.21	10	--	13	001, 003, 004
1,2,3 TCP	µg/L	0.005	0.0017	0.60	7	2.01	1.55	0.043	0.090		001, 003, 004

Table notes:
1. Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.
2. Maximum background concentration.
3. AWEL/AMEL multiplier

2. Final effluent limitations in this Order have been retained from Order R5-2021-0005 for Chlorodibromomethane at discharge locations 001 and 003, Dichlorobromomethane at discharge location 003, and nitrate nitrogen, Total (as N) at discharge locations 001 and 003, including all criteria and factors shown in table H-1.

Abbreviations used in this table:

CV =	Coefficient of Variation
MDEL =	Maximum Daily Effluent Limitation
AMEL =	Average Monthly Effluent Limitation
MDEL =	Maximum Daily Effluent Limitation
AWEL =	Average Weekly Effluent Limitation

ATTACHMENT H-2 – 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 (as N) 1 April through 31 October	mg/L	3.64	1.44	7.39	0.60	--	--	0.3	1.2	0.8	1.1	1.2	2.7	3.1	1.3	3.0	--
Ammonia (as N) 1 November through 30 June	mg/L	3.64	1.57	7.39	0.60	--	--	0.3	1.2	0.8	1.2	1.55	2.7	3.1	1.8	3.1	--
Chlorpyrifos	µg/L	0.03	0.02	ND	0	--	--	0.3	0.01	0.5	0.01	1.6	2.7	--	0.01	0.02	
Diazinon	µg/L	0.16	0.1	ND	0	--	--	1.3	0.05	0.5	0.05	1.6	2.7	--	0.08	0.1	

Attachment H-2 Table Notes:

1. Coefficient of Variation (CV) was established in accordance with section 1.4 of the SIP.
2. Average Monthly Effluent Limitations are calculated according to section 1.4 of the SIP using a 95th percentile occurrence probability.
3. Average Weekly Effluent Limitations are calculated according to section 1.4 of the SIP using a 98th percentile occurrence probability.
4. Maximum Daily Effluent Limitations are 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