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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	City of Turlock
Name of Facility	Water Quality Control Facility
Facility Address	901 S. Walnut Road
	Turlock, CA 95380
	Stanislaus County
Facility Contact, Title, and Phone	Dan Madden, Municipal Services Director, (209) 668-5590
Mailing Address	156 South Broadway, Suite 270
	Turlock, CA 95380
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	20 million gallons per day (MGD)

II. FINDINGS

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

A. Background. The City of Turlock (hereinafter Discharger) is currently discharging pursuant to Order No. 5-01-122 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0078948. The Discharger submitted a Report of Waste Discharge, dated 27 April 2004, and applied for a NPDES permit renewal to discharge up to 20 MGD of tertiary treated wastewater from the Water Quality Control Facility, hereinafter Facility. Supplemental information was requested on 16 June 2004 and was submitted on 16 July 2008. The application was deemed complete on 18 July 2008.

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. Facility Description. The Discharger owns and operates a publicly owned treatment works (POTW). The treatment system at the Facility consists of screening, primary treatment (flotation), secondary treatment (activated sludge) that includes biotowers, aeration and nitrification (waste solids are treated via a gravity belt thickener and anaerobic digestion), secondary clarification, high rate clarifier / thickener, cloth disk filters, and chlorine disinfection and sodium bisulfite dechlorination.

Currently, wastewater is discharged from Discharge Point No. 001 (see table on cover page) to Harding Drain [also known as the Turlock Irrigation District (TID) Lateral 5 Drain], a water of the United States, within the Middle San Joaquin – Lower Merced – Lower Stanislaus Watershed. The Discharger is currently planning to construct a

dedicated pipeline to transport and discharge treated wastewater from Discharge Point No. 002 (see table on cover page) to the San Joaquin River, a water of the United States, within the Middle San Joaquin – Lower Merced – Lower Stanislaus Watershed. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

The Discharger currently provides 2.0 MGD of recycled water for cooling purposes to the Walnut Energy Center, a 250 Megawatt power plant owned and operated by the Turlock Irrigation District at Discharge Point No. 003 and to the Pedretti Sports Complex for irrigation purposes at Discharge Point No. 004. Reclamation specifications are included in this Order for the discharge of recycled water at these locations.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (commencing with Section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with Section 13260).
- D. Background and Rationale for Requirements.** The Regional 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 Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at Title 40 of the Code of Federal Regulations (CFR), Part 122.44 (40 CFR 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 CFR Part 133. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).
- G. Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and 40 CFR 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, that are necessary to achieve water quality standards. The Regional

Water Board has considered the factors listed in CWC Section 13241 in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

~~40 CFR 122.44(d)(1)(i) mandates 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, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA 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 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised October 2007), for the Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (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 beneficial uses of the San Joaquin River from the mouth of the Merced River to Vernalis, downstream of the discharge to Harding Drain from Discharge Point No. 001 and to which the Discharger proposes to discharge from Discharge Point No. 002, are municipal and domestic supply (potential); agricultural irrigation, including stock watering; industrial process water supply; water contact recreation, including canoeing and rafting; non-contact water recreation; warm freshwater aquatic habitat; warm and cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; wildlife habitat.

The Basin Plan at page II-2.00 states that the "...beneficial uses of any specifically identified water body generally apply to its tributary streams." The Discharger currently discharges to Harding Drain from Discharge Point No. 001. The Basin Plan does not specifically identify beneficial uses for Harding Drain, but does identify present and potential uses for the San Joaquin River from the mouth of the Merced River to Vernalis, to which Harding Drain is tributary. While flow in Harding Drain is tributary to the San Joaquin River, Harding Drain itself is a constructed agricultural drain. The Regional Water Board finds that Harding Drain is not a "stream" as used in the Basin Plan's tributary language, and as a constructed agricultural drain, Harding Drain is not subject to the tributary provisions of the Basin Plan. Therefore, although Harding Drain is a water of the United States, the Regional Water Board has not designated beneficial

uses of Harding Drain in the Basin Plan. The beneficial uses of Harding Drain are therefore identified by other statutory designations and/or the actual existing beneficial uses of the receiving water and include the following: municipal and domestic supply; agricultural supply; industrial service supply (potential); industrial process supply (potential); water-contact recreation; non-contact water recreation; groundwater recharge; freshwater replenishment; warm freshwater habitat; cold freshwater habitat; warm and cold migration of aquatic organisms; warm and cold spawning, reproduction, and/or early development; and wildlife habitat.

Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to Harding Drain and the San Joaquin River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Harding Drain	<p><u>Existing:</u> Municipal and domestic supply; agricultural supply; water contact recreation; non-contact recreation; groundwater recharge; freshwater replenishment; warm freshwater habitat; cold freshwater habitat; warm and cold migration of aquatic organisms; warm and cold spawning, reproduction, and/or early development; and wildlife habitat.</p> <p><u>Intermittent:</u> N/A</p> <p><u>Potential:</u> Industrial service supply and industrial process supply.</p>
002	San Joaquin River	<p><u>Existing:</u> Agricultural irrigation, including stock watering; industrial process water supply; water contact recreation, including canoeing and rafting; non-contact water recreation; warm freshwater aquatic habitat; warm and cold migration of aquatic organisms; warm spawning, reproduction, and/or early development; and wildlife habitat.</p> <p><u>Intermittent:</u> N/A</p> <p><u>Potential:</u> Municipal and domestic supply.</p>

The Basin Plan includes a 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 CFR 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 2006 CWA section 303(d) listing for Harding Drain includes

chlorpyrifos and unknown toxicity due to agriculture. The 2006 303(d) listing for the San Joaquin River from the Merced River to the Tuolumne River includes boron, DDT, electrical conductivity, Group A Pesticides, mercury, and unknown toxicity. Furthermore, the southern portion of the Sacramento – San Joaquin Delta downstream of the discharge is listed for chlorpyrifos, DDT, diazinon, electrical conductivity, exotic species, Group A pesticides, mercury, and unknown toxicity. TMDLs and Basin Plan amendments have been developed and adopted for diazinon and chlorpyrifos runoff and salt and boron in the lower San Joaquin River.

- I. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA 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, USEPA 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 water quality criteria for priority pollutants.
- J. 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 USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA 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.
- K. Compliance Schedules and Interim Requirements.** In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board's Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See *In the Matter of Waste Discharge Requirements for Avon Refinery* (State Water Board Order WQ 2001-06 at pp. 53-55). See also *Communities for a Better Environment et al. v. State Water Resources Control Board*, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan for the Sacramento and San Joaquin Rivers includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives that are adopted after the date of adoption of the Basin Plan, which was 25 September, 1995 (see Basin Plan at page IV-16). Consistent with the State Water Board's Order in the CBE matter, the Regional Water Board has the discretion to include compliance schedules in NPDES permits when it is including an effluent limitation that is a "new interpretation" of a narrative water quality objective. This conclusion is also consistent with the United States Environmental

Protection Agency policies and administrative decisions. See, e.g., Whole Effluent Toxicity (WET) Control Policy. The Regional Water Board, however, is not required to include a schedule of compliance, but may issue a Time Schedule Order pursuant to Water Code section 13300 or a Cease and Desist Order pursuant to Water Code section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Basin Plan, should consider feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

For CTR constituents, Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or 18 May 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order includes compliance schedules and interim effluent limitations. A detailed discussion of the basis for the compliance schedule(s) and interim effluent limitation(s) and/or discharge specifications is included in the Fact Sheet.

L. Alaska Rule. On 30 March 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by 30 May 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. 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 5-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS). The WQBELs consist of restrictions on aluminum, ammonia, boron (Discharge Point No. 002), carbon tetrachloride, chloride (Discharge Point No. 002), chlorine residual, chlorodibromomethane, copper, dichlorobromomethane, electrical conductivity, iron (Discharge Point No. 002), lead (Discharge Point No. 002), manganese (Discharge Point No. 002), nitrate, pH, selenium, silver (Discharge Point No. 002), and pathogens. This Order's technology-based pollutant restrictions implement the minimum, applicable

federal technology-based requirements. In addition, this Order includes effluent limitations for BOD₅, TSS, and pathogens to meet numeric objectives or protect beneficial uses.

~~WQBELs have been scientifically 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 CFR 131.38. The scientific procedures for calculating the individual WQBELs are based on the CTR-SIP, which was approved by USEPA on 1 May 2001. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the [Clean Water] Act*" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA.

- N. Antidegradation Policy.** 40 CFR 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 No. 68-16. Resolution No. 68-16 is consistent with the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. As discussed in detail in the Fact Sheet the permitted discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.
- P. Endangered Species Act.** 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.

- Q. Monitoring and Reporting.** 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under 40 CFR 122.42. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- S. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections V.B, VI.A.2.v, VI.C.4.a, and VI.C.4.b of this Order 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.
- T. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- U. Consideration of Public Comment.** The Regional 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 of this Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater at a location or in a manner different from that described in the Findings 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 California Water Code.
- D. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.
- E. Upon commencement of discharges to the San Joaquin River from Discharge Point No. 002, the discharge of wastewater to Harding Drain from Discharge Point No. 001 is prohibited, except in the event of a power failure at the pipeline pump station or other emergency condition associated with the pump station or pipeline to Discharge Point No. 002.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point No. 001 (Harding Drain)

1. Final Effluent Limitations – Discharge Point No. 001 (Harding Drain)

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001 for continuous and emergency discharges to Harding Drain, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

Table 6. Effluent Limitations – Discharge Point No. 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
Biochemical Oxygen Demand, 5-day @ 20°C	mg/L	10	15	20	--	--
	lbs/day ¹	1,668	2,502	3,336	--	--
Total Suspended Solids	mg/L	10	15	20	--	--
	lbs/day ¹	1,668	2,502	3,336	--	--
pH	standard units	--	--	--	6.5	8.5
Priority Pollutants						
Copper, Total Recoverable	µg/L	8.9	--	15	--	--
Selenium, Total Recoverable	µg/L	3.7	--	9.1	--	--
	lbs/day ¹	0.62	--	1.52	--	--
Carbon Tetrachloride	µg/L	0.25	--	0.72	--	--
Chlorodibromomethane	µg/L	0.41	--	0.78	--	--
Dichlorobromomethane	µg/L	0.56	--	0.81	--	--
Non-Conventional Pollutants						
Ammonia Nitrogen, Total (as N)	mg/L	1.1	--	2.1	--	--
	lbs/day ¹	183	--	350	--	--
Nitrate Nitrogen, Total (as N)	mg/L	10	--	--	--	--
Total Coliform Organisms	MPN/100 mL	--	--	--	--	240

¹ Based on a design flow of 20 MGD.

- b. **Percent Removal:** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.
- c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
- i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.

- d. **Chronic Whole Effluent Toxicity.** There shall be no chronic whole effluent toxicity in the effluent discharge.
- e. **Total Residual Chlorine.** 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.
- f. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:
 - i. 2.2 most probable number (MPN) per 100 mL, as a 7-day median; and
 - ii. 23 MPN/100 mL, more than once in any 30-day period.
- g. **Average Dry Weather Flow.** The average dry weather flow shall not exceed 20 MGD.
- h. **Electrical Conductivity.** The discharge of electrical conductivity shall not exceed the following:
 - i. 1,000 μ mhos/cm, as a monthly average from **1 September to 31 March**; and
 - ii. 700 μ mhos/cm, as a monthly average from **1 April through 31 August**.

Compliance with final effluent limitations for electrical conductivity is not required until 28 July 2022 (all water year types, except critically dry) or 28 July 2026 (critically dry water years), per the compliance schedule in section VI.C.7.a.
- i. **Aluminum, Total Recoverable.** For a calendar year, the annual average effluent concentration shall not exceed 200 μ g/L.

2. Interim Effluent Limitations

- a. **Mercury.** The total annual mass discharge of total mercury shall not exceed 0.82 pounds.
- b. **Salinity (as Electrical Conductivity). Effective immediately,** the annual average discharge of salinity, measured as electrical conductivity, shall not exceed 979 μ mhos/cm. This interim performance-based limitation shall be in effect until the final effluent limitations under IV.A.1.h, which implement the final waste load allocations established in the TMDL for Salt and Boron in the Lower San Joaquin River, are in effect.

B. Effluent Limitations – Discharge Point No. 002 (San Joaquin River)

1. Final Effluent Limitations – Discharge Point No. 002 (San Joaquin River)

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 002, with compliance measured at Monitoring Location EFF-002 as described in the attached MRP (Attachment E):

Table 7. Effluent Limitations – Discharge Point No. 002

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants						
Biochemical-Oxygen Demand, 5-day @ 20°C	mg/L	10	15	20	--	--
	lbs/day ¹	1,668	2,502	3,336	--	--
Total Suspended Solids	mg/L	10	15	20	--	--
	lbs/day ¹	1,668	2,502	3,336	--	--
pH	standard units	--	--	--	6.5	8.5
Priority Pollutants						
Copper, Total Recoverable	µg/L	8.9	--	15	--	--
Lead, Total Recoverable	µg/L	2.6	--	3.9	--	--
Selenium, Total Recoverable	µg/L	3.7	--	9.1	--	--
	lbs/day ¹	0.62	--	1.52	--	--
Silver, Total Recoverable	µg/L	1.2	--	2.3	--	--
Carbon Tetrachloride	µg/L	4.2	--	12	--	--
Chlorodibromomethane	µg/L	7.6	--	14	--	--
Dichlorobromomethane	µg/L	11	--	16	--	--
Non-Conventional Pollutants						
Aluminum, Total Recoverable	µg/L	261	--	750	--	--
Ammonia Nitrogen, Total (as N)	mg/L	1.1	--	2.1	--	--
	lbs/day ¹	183	--	350	--	--
Chloride	mg/L	203	--	328	--	--
Nitrate Nitrogen, Total (as N)	mg/L	31	--	--	--	--
Total Coliform Organisms	MPN/100 mL	--	--	--	--	240

¹ Based on an average dry weather flow of 20 MGD.

- b. **Percent Removal:** The average monthly percent removal of BOD₅ and TSS shall not be less than 85 percent.
- c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays.
- d. **Chronic Whole Effluent Toxicity.** There shall be no chronic whole effluent toxicity in the effluent discharge.
- e. **Total Residual Chlorine.** 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.

- f. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:
- i. 2.2 most probable number (MPN) per 100 mL, as a 7-day median; and
 - ii. 23 MPN/100 mL, more than once in any 30-day period.
- g. **Average Dry Weather Flow.** ~~The average dry weather flow shall not exceed 20 MGD.~~
- h. **Electrical Conductivity.** The discharge of electrical conductivity shall not exceed the following:
- i. 1,000 μ mhos/cm, as a monthly average from **1 September to 31 March**; and
 - ii. 700 μ mhos/cm, as a monthly average from **1 April through 31 August**.
- Compliance with final effluent limitations for electrical conductivity is not required until 28 July 2022 (all water year types, except critically dry) or 28 July 2026 (critically dry water years), per the compliance schedule in section VI.C.7.a.
- i. **Boron, Total Recoverable.** The discharge of boron shall not exceed the following:
- i. 2.0 mg/L, as a daily maximum from **15 March through 15 September**;
 - ii. 0.8 mg/L, as a monthly average from **15 March through 15 September**;
 - iii. 2.6 mg/L, as a daily maximum from **16 September through 14 March**; and
 - iv. 1.0 mg/L, as a monthly average from **16 September through 14 March**.
- j. **Aluminum, Total Recoverable.** For a calendar year, the annual average effluent concentration shall not exceed 200 μ g/L.
- k. **Iron, Total Recoverable.** For a calendar year, the annual average effluent concentration shall not exceed 300 μ g/L.
- l. **Manganese, Total Recoverable.** For a calendar year, the annual average effluent concentration shall not exceed 50 μ g/L.

2. Interim Effluent Limitations

- a. **Mercury.** The total annual mass discharge of total mercury shall not exceed 0.82 pounds.
- b. **Salinity (as Electrical Conductivity).** **Effective immediately**, the annual average discharge of salinity, measured as electrical conductivity, shall not exceed 979 μ mhos/cm. This interim performance-based limitation shall be in effect until the final effluent limitations under IV.B.1.h, which implement final waste load allocations established in the TMDL for Salt and Boron in the Lower San Joaquin River, are in effect.

C. Land Discharge Specifications **[NOT APPLICABLE]**

D. Reclamation Specifications – Discharge Point Nos. 003 and 004

1. Public contact with the reclaimed water shall be precluded or controlled through such means as fences, signs, and other acceptable alternatives.
2. 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 permits operation by authorized personnel only.
3. Reclaimed water shall be used in compliance with Title 22, Division 4, Chapter 3, Article 3, *Uses of Recycled Water* and this Order.
4. The Discharger shall also maintain compliance with the following reclamation specifications and effluent limitations at Discharge Point Nos. 003 and 004, with compliance measured at Monitoring Location REC-001 and REC-002, respectively, as described in the attached MRP.
 - a. **Tertiary Treated Effluent.** The Discharger shall treat the wastewater such that it complies with Title 22 CCR, Section 60301.230 (“Disinfected Tertiary Recycled Water”) or equivalent.
 - b. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:
 - i. 2.2 most probable number (MPN) per 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 for any single sample.
 - c. **Turbidity.** Effluent turbidity shall not exceed any of the following:
 - i. An average of 2 Nephelometric Turbidity Units (NTU) within a 24-hour period;
 - ii. 5 NTU more than 5 percent of the time within a 24-hour period; and
 - iii. 10 NTU at any time.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Harding Drain or the San Joaquin River:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect

beneficial uses.

3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:** The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses
8. **pH.** The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5 units.
9. **Pesticides:**
 - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer;
 - d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR 131.12.);
 - e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;
 - f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15; and
 - g. Thiobencarb to be present in excess of 1.0 µg/L.
10. **Radioactivity:**
 - a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
 - b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

11. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses
13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
14. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.
15. **Temperature.** The natural temperature to be increased by more than 5°F (applies to discharges to the San Joaquin River only).
16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
17. **Turbidity.** The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations

1. Release of waste constituents from any storage, treatment, or disposal component associated with the Facility shall not cause or contribute to, in combination with other sources of the waste constituents, groundwater within influence of the Facility to contain:
 - a. Taste or odor-producing constituents, toxic substances, or any other constituents, in concentrations that cause nuisance or adversely affect beneficial uses;
 - b. Waste constituent concentrations in excess of water quality objectives or background water quality, whichever is greater; and
 - c. Waste constituent concentrations in excess of the concentrations specified below or background water quality, whichever is greater:

- i. total coliform organisms shall not exceed 2.2 MPN/100 mL over any 7-day period.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the following provisions:
 - 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:

- *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, 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.
- *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.
- *Change in sludge use or disposal practice.* Under 40 CFR 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 Regional Water Board may review and revise this Order at any time upon application of any affected person or the Regional 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 Regional 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 USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- h. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.
- i. 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.

- j. 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 Regional 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 Regional Water Board.
 - iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within 90 days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional Water Board and USEPA 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 Regional Water Board, become a condition of this Order.
- k. The Discharger, upon written request of the Regional 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 Regional Water Board Standard Provision VI.A.2.m.

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 Regional 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.

- l. A publicly owned treatment works (POTW) 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 Regional 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 Regional Water Board may extend the time for submitting the report.
- m. 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.
- n. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.
- o. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- p. 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.
- q. All monitoring and analysis 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.
- r. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.

- s. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.
- t. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.
- u. For POTWs, prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. (CWC section 1211).
- v. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, 1-hour average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within 5 days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR 122.41(l)(6)(i)].

B. Monitoring and Reporting Program (MRP) Requirements

- 1. The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

- a. 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.
- b. Conditions that necessitate a major modification of a permit are described in 40 CFR 122.62, including:
 - 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.
-
- c. **Mercury.** If mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order may be reopened and the interim mass effluent limitation modified (higher or lower) or an effluent concentration limitation imposed. If the Regional Water Board determines that a mercury offset program is feasible for Dischargers subject to a NPDES permit, then this Order may be reopened to reevaluate the interim mercury mass loading limitation(s) and the need for a mercury offset program for the Discharger.
 - d. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.
 - e. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable constituents. In addition, except for the aquatic life criteria for copper, lead, and zinc, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for inorganic constituents. An acceptable WER can be used to adjust aquatic life-based water quality standards, including metals such as copper, and Basin Plan incorporated USEPA water quality standards for ammonia and aluminum. USEPA has also promulgated an objective for copper based on the Biotic Ligand Model (BLM) that can be used as the basis for a site-specific copper effluent limitations. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators and submits an approved report, this Order may be reopened to modify the effluent limitations for the applicable constituents.
 - f. **Salinity (as Electrical Conductivity).** The final effluent limitations for salinity (as electrical conductivity) are based on the salinity TMDL and Basin Plan amendment which also includes a compliance schedule of 16 to 20 years, and is not enforceable until that time. The TMDL recognizes that compliance with the final effluent limitation will require efforts beyond traditional treatment and control, including pollutant trading and supply water allocations. Therefore, this Order may be reopened to modify the effluent limitation based on new information (e.g. amendment of the Bay-Delta Plan).

- g. **Dynamic Modeling.** If the Discharger submits an approved dynamic modeling analysis for constituents regulated by this Order, this Order may be reopened to modify effluent limitations for the applicable constituents.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the toxicity numeric monitoring trigger established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent reoccurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation.
- i. **Toxicity Reduction Evaluation (TRE) Work Plan. Within 90 days of the effective date of this Order,** the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with USEPA guidance¹ and be of adequate detail to allow the Discharger to immediately initiate a TRE as required in this Provision.
- ii. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. WET testing results exceeding the monitoring trigger during accelerated monitoring demonstrates a pattern of toxicity and requires the Discharger to initiate a TRE to address the effluent toxicity.
- iii. **Numeric Monitoring Trigger.** The numeric toxicity monitoring trigger is $> 1 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.

¹ See Attachment F (Fact Sheet) Section VII.B.2.a. for a list of EPA guidance documents that must be considered in development of the TRE Workplan.

iv. **Accelerated Monitoring Specifications.** If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14 days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of four (4) chronic toxicity tests in a 6-week period (i.e., one test every 2 weeks) using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

- a) If the results of four (4) consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.
- b) If the source(s) of the toxicity is easily identified (i.e., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four (4) consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.
- c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and initiate a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:
 - 1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including TRE WET monitoring schedule;
 - 2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and
 - 3) A schedule for these actions.

b. **Mixing Zone Study.** The Discharger shall conduct a mixing zone study following construction and operation of the outfall to the San Joaquin River to verify the results of the mixing zone study performed by the Discharger prior to adoption of this Order. A work plan and schedule for conducting the study shall be submitted to the Regional Water Board within 120 days after initiation of the discharge to the San Joaquin River. The mixing zone study shall be completed and submitted to the Regional Water Board within one year of approval of the work plan and schedule.

3. Best Management Practices and Pollution Prevention

- a. **Salinity Source Control Program.** The Discharger shall develop and implement a Salinity Source Control Program and update as necessary. The Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the San Joaquin River. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1).

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. **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. As a means of discerning compliance with the operating requirement contained in section VI.C.4.b.i of this Order, the dissolved oxygen content in the upper zone (1 foot) of wastewater in emergency storage basin shall not be less than 1.0 mg/L.
 - iii. The emergency storage basin shall not have a pH less than 6.5 or greater than 8.5 for periods of greater than 72 hours.
 - iv. 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.
 - v. Public contact with wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
 - vi. 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

- c. **Turbidity.** The Discharger shall operate the treatment system to insure that turbidity shall not exceed 2 NTU as a daily average; 5 NTU more than 5 percent of the time within a 24 hour period; and 10 NTU, at any time.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. Pretreatment Requirements

- i. The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board or the U.S. Environmental Protection Agency (USEPA) may take enforcement actions against the Discharger as authorized by the CWA.
- ii. The Discharger shall enforce the Pretreatment Standards promulgated under sections 307(b), 307(c), and 307(d) of the Clean Water Act. The Discharger shall perform the pretreatment functions required by 40 CFR Part 403 including, but not limited to:
 - a) Adopting the legal authority required by 40 CFR 403.8(f)(1);
 - b) Enforcing the Pretreatment Standards of 40 CFR 403.5 and 403.6;
 - c) Implementing procedures to ensure compliance as required by 40 CFR 403.8(f)(2); and
 - d) Providing funding and personnel for implementation and enforcement of the pretreatment program as required by 40 CFR 403.8(f)(3).
- iii. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:
 - a) Wastes which create a fire or explosion hazard in the treatment works;
 - b) Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
 - c) Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;

- d) Any waste, including oxygen demanding pollutants (BOD, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
 - e) Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the Regional Water Board approves alternate temperature limits;
 - f) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and:
 - h) Any trucked or hauled pollutants, except at points predesignated by the Discharger.
- iv. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:
- a) Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or:
 - b) Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.

b. Sludge/Biosolids Discharge Specifications

- i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, section 20005, et seq. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a Regional Water Board will satisfy these specifications.
- ii. Sludge and solid waste shall be removed from screens, sumps, ponds, clarifiers, etc. as needed to ensure optimal plant performance.

- iii. 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 V.B. 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 V.B.
- iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR 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 CFR Part 503 whether or not they have been incorporated into this Order.

c. Biosolids Disposal Requirements

- i. The Discharger shall comply with the Monitoring and Reporting Program for biosolids disposal contained in Attachment E.
- ii. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least **90 days** in advance of the change.
- iii. The Discharger is encouraged to comply with the "Manual of Good Practice for Agricultural Land Application of Biosolids" developed by the California Water Environment Association.

d. Biosolids Storage Requirements

- i. Facilities for the storage of Class B biosolids shall be located, designed and maintained to restrict public access to biosolids.
- ii. Biosolids storage facilities shall be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.
- iii. Biosolids storage facilities, which contain biosolids, shall be designed and maintained to contain all storm water falling on the biosolids storage area during a rainfall year with a return frequency of 100 years.
- iv. Biosolids storage facilities shall be designed, maintained and operated to minimize the generation of leachate.

- e. **Collection System.** On 2 May 2006, the State Water Board adopted State Water Board Order 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. The Discharger shall be subject to the requirements of Order 2006-0003 and any future revisions thereto. Order 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR.

Regardless of the coverage obtained under Order 2006-0003, the Discharger's collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR 122.41(d)].

6. Other Special Provisions

- a. Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the DPH reclamation criteria, California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or equivalent.
- b. 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 Regional Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory and certification requirements in the Federal Standard Provisions (Attachment D, Section V.B.) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

7. Compliance Schedules

- a. **Compliance Schedule for Final Effluent Limitations for Electrical Conductivity.** The Discharger shall comply with the following time schedule to ensure compliance with the final effluent limitations for electrical conductivity (Effluent Limitations IV.A.1.h and IV.B.1.h), in accordance with the Salinity and Boron TMDL:

<u>Task</u>	<u>Compliance Date</u>
i. Submit Source Control Workplan ¹	1 June 2010
ii. Submit Treatment or Alternative Salinity Reduction Method Workplan ²	1 June 2015
iii. Continue Implementation of Salinity Source Control Program ³	Ongoing
iv. Annual Progress Reports ⁴	1 June, annually until final compliance
v. Full compliance with final electrical conductivity effluent limitations	28 July 2022 (all water year types, except critically dry) or 28 July 2026 (critically dry years)

¹. Source control efforts must be implemented such that evaluation of effectiveness can occur no later than 1 January 2015.

². This workplan shall detail any necessary additional efforts (e.g., increased treatment or alternative methods of salinity reduction) the Discharger must undertake to ensure compliance if source control efforts do not result in achievement of final effluent limitations.

³. See section VI.C.3.a.

⁴. The progress reports shall detail what steps have been implemented towards achieving compliance with waste discharge requirements, including studies, construction progress, evaluation of measures implemented, and recommendations for additional measures as necessary to achieve full compliance by the final date.

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. **BOD₅ and TSS Effluent Limitations.** Compliance with the final effluent limitations for BOD₅ and TSS required in sections IV.A.1.a shall be ascertained by 24-hour composite samples. Compliance with effluent limitations IV.A.1.b for percent removal shall be calculated using the arithmetic mean of BOD₅ and TSS in effluent samples collected over a monthly period as a percentage of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

B. **Aluminum Effluent Limitations.** Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

C. **Total Mercury Mass Loading Effluent Limitations.** The procedures for calculating the annual mass loading of total mercury are as follows:

1. The total pollutant mass load for each year (January 1st – December 31st) shall be determined using an average of all concentration data collected during the year and the corresponding total annual discharge flow. All effluent monitoring data collected

under the monitoring and reporting program, pretreatment program, and any special studies shall be used for these calculations.

2. In calculating compliance, the Discharger shall count all non-detect measures at one-half of the detection level. If compliance with the effluent limitation is not attained due to the non-detect contribution, the Discharger shall improve and implement available analytical capabilities and compliance shall be evaluated with consideration of the detection limits.

D. Average Dry Weather Flow Effluent Limitations. The average dry weather flow is intended to represent the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow effluent limitations will be determined annually based on the average daily flow over 3 consecutive dry weather months (i.e., July, August, and September).

E. Total Coliform Organisms Effluent Limitations. 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 which analyses have been completed. 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 for that parameter for that 1 day only within the reporting period.

F. Total Residual Chlorine Effluent Limitations. 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.

G. Chronic Whole Effluent Toxicity Effluent Limitation. Compliance with the accelerated monitoring and TRE/TIE provisions of Provision VI.C.2.a shall constitute compliance with effluent limitations contained in sections IV.A.1.d and IV.B.1.d of this Order for chronic whole effluent toxicity.

H. Annual Average Effluent Limitations. Annual average effluent constituent concentrations for determining compliance with the annual average effluent limitations for iron, manganese, aluminum, and salinity shall be performed as the average value of each

averaging period required in the Monitoring and Reporting Program. For example, if quarterly effluent monitoring is required, the annual average is the average of the four quarterly averages. Each quarterly average is the average of the verified results during that calendar quarter.

ATTACHMENT A – DEFINITIONS

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.

Best Practicable Treatment or Control (BPTC): BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – “Statement of Policy with Respect to Maintaining High Quality of Waters in California” (referred to as the “Antidegradation Policy”). BPTC is the treatment or control of a 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.” Pollution is defined in CWC Section 13050(I). In general, an exceedance of a water quality objective in the Basin Plan constitutes “pollution”.

Bioaccumulative pollutants are 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.

Biosolids is sewage sludge that has been treated and tested and shown to be capable of being beneficially and legally used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities as specified under 40 CFR Part 503.

Carcinogenic pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (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) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

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) 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 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.

Estimated Chemical Concentration is the estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

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 are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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

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

Maximum Daily Effluent Limitation (MDEL) means 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 is 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) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (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 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) are those sample results less than the laboratory's MDL.

Ocean Waters are 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.

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

Pollutant Minimization Program (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 Regional 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 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 or Regional Water Board.

Reporting Level (RL) is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System is 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 is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Sewage Sludge is the solid, semisolid, or liquid residue generated during the treatment of domestic sewage in a municipal wastewater treatment facility. Sewage sludge includes solids removed or used during primary, secondary, or advanced wastewater treatment processes. Sewage sludge does not include grit or screening material generated during preliminary treatment of domestic sewage at a municipal wastewater treatment facility.

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

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

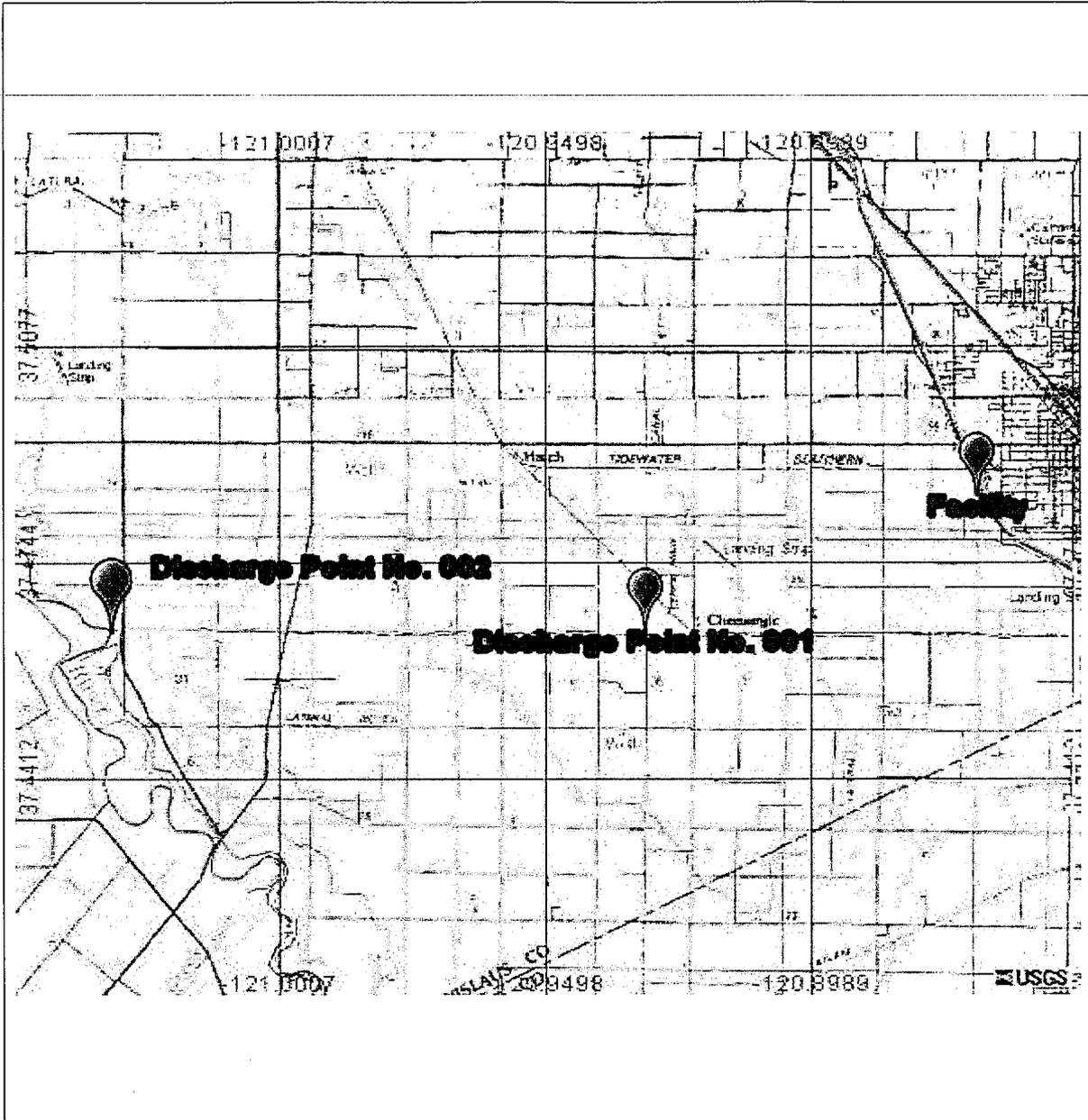
where:

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

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP

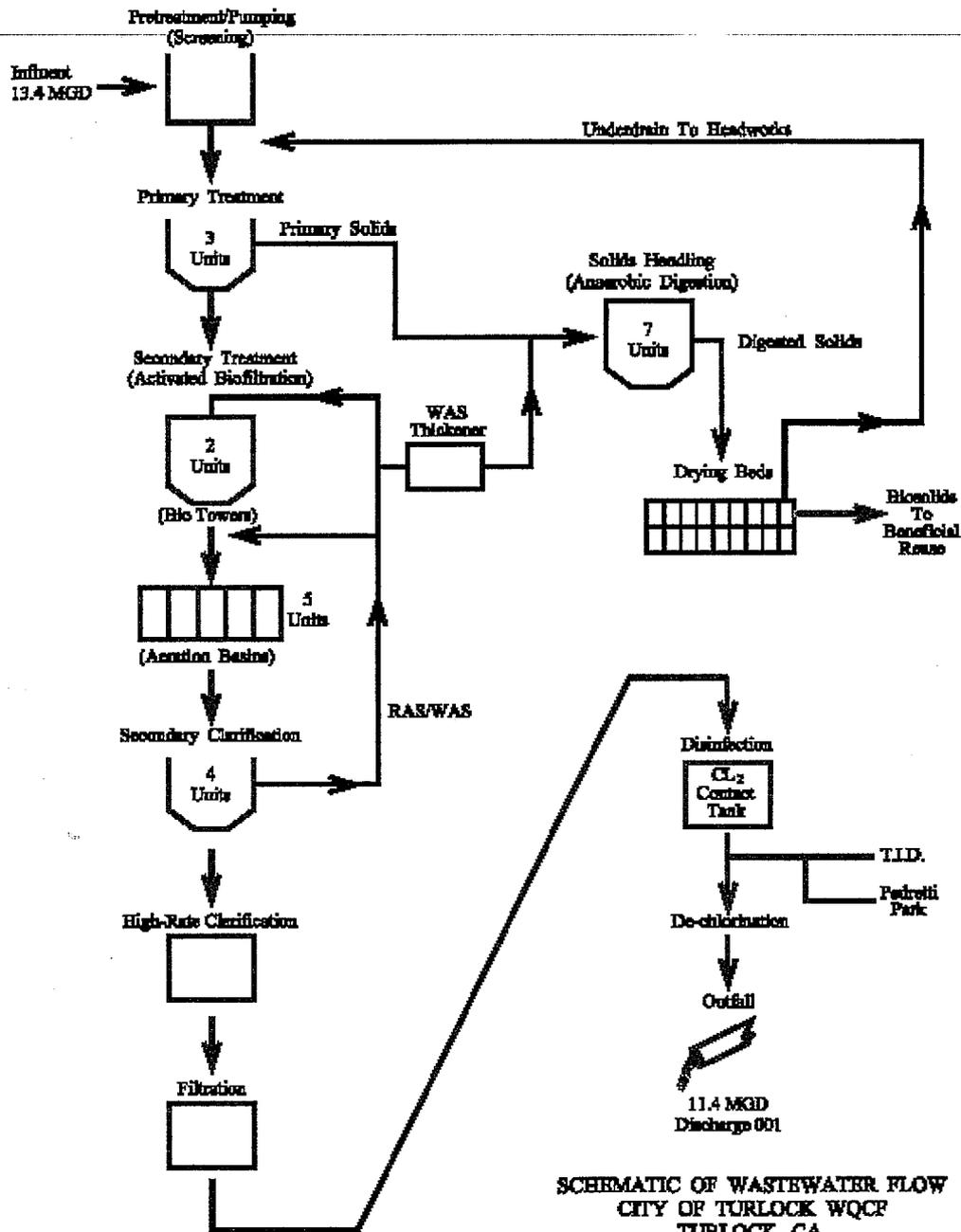


SITE LOCATION MAP

**CITY OF TURLOCK
WATER QUALITY CONTROL FACILITY
STANISLAUS COUNTY**

* See Discharger's Groundwater Monitoring Plan for GW-001 and GW-002 groundwater monitoring well locations.

ATTACHMENT C – FLOW SCHEMATIC



**SCHEMATIC OF WASTEWATER FLOW
 CITY OF TURLOCK WQCF
 TURLOCK, CA.
 DISCHARGE SERIAL # 001
 JUNE, 2008 PG. 1 OF 1**

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the 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, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA 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 CFR 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 CFR 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 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 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 CFR 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 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 CFR 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), 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 (40 CFR 122.41(i); Wat. Code, § 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 (40 CFR 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); 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. (40 CFR 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 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 CFR 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 CFR 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR 122.41(m)(4)(i)):
 - a. ~~Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 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 CFR 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR 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 a notice, if possible at least 10 days before the date of the bypass. (40 CFR 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR 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 CFR 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 CFR 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 CFR 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR 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 CFR 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 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 CFR 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 CFR 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 CFR 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional 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 CFR 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 CFR 122.41(j)(1).)
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order. (40 CFR 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 5 years (or longer as required by 40 CFR 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 Regional Water Board Executive Officer at any time. (40 CFR 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 CFR 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA 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 Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR 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 USEPA). (40 CFR 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA 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 CFR 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 CFR 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR 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 Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR 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 CFR 122.22(d).)

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 CFR 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 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 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR 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 CFR 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 CFR 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that 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 written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission 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. (40 CFR 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional 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 CFR 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 40 CFR 122.29(b) (40 CFR 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 subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 CFR 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 CFR 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR 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. (40 CFR 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 Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional 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 Regional Water Board of the following (40 CFR 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 CFR 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 CFR 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 CFR 122.42(b)(3).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Title 40 of the Code of Federal Regulations section 122.48 (40 CFR 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and state regulations.

I. GENERAL MONITORING PROVISIONS

- A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.
- B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified 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 must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.
- 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 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.

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.
001	EFF-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 Harding Drain.
002	EFF-002	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.
--	LND-001	A location where a representative sample of the influent being discharged into Emergency Storage Basin can be collected.
--	GW-001	Upgradient groundwater monitoring well (identified as Site #1 in the Discharger's Self-Monitoring Reports).
--	GW-002	Downgradient groundwater monitoring well (identified as Site #2 in the Discharger's Self-Monitoring Reports).
--	RSW-001	TID Lateral 5/Ceres Drain at Prairie Flower Road (above Hodges Drop).
--	RSW-002	Harding Drain 100 feet below Hodges Drop.
--	RSW-003	San Joaquin River 1,000 feet above Harding Drain.
--	RSW-004	San Joaquin River 500 feet below Harding Drain.
--	RSW-005	San Joaquin River 50 feet above Harding Drain.
--	RSW-006	San Joaquin River 9,800 feet downstream of Discharge Point No. 002.
--	BIO-001	A location where a representative sample of the biosolids can be collected.
003	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 at the Walnut Energy Center.
004	REC-002	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 at the Pedretti Sports Complex.
--	SPL-001	A location where a representative sample location for the municipal water supply can be collected. If the water supply is from more than one source, a weighted average should be calculated.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

1. Discharger shall monitor influent to the Facility at INF-001 as follows

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	24-hr Composite ¹	1/Day	2
	lbs/day	Calculate	1/Day	2
pH	standard units	Grab	1/Day	2
Total Suspended Solids	mg/L	24-hr Composite ¹	1/Day	2
	lbs/day	Calculate	1/Day	2
Priority Pollutants				
Priority Pollutants	µg/L	24-hr Composite ^{1,3}	1/Year	2
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	2
Total Dissolved Solids	mg/L	Grab	1/Week	2

¹ Composite samples shall be flow proportional.

² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.

³ Volatile constituents shall be sampled in accordance with 40 CFR Part 136.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Locations EFF-001 and EFF-002

1. The Discharger shall monitor the tertiary treated effluent at Monitoring Location EFF-001 (for continuous and emergency discharges from Discharge Point No. 001) and at Monitoring Location EFF-002 (for discharges from Discharge Point No. 002) as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level.

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Meter	Continuous	--
Conventional Pollutants				
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C)	mg/L	24-hr Composite ¹	1/Day	2
	lbs/day	Calculate	1/Day	2
pH	standard units	Meter	Continuous	2
Total Suspended Solids	mg/L	24-hr Composite ¹	1/Day	2
	lbs/day	Calculate	1/Day	2
Priority Pollutants				
Bis (2-ethylhexyl) phthalate	µg/L	Grab ³	1/Quarter	2,4
Carbon Tetrachloride	µg/L	Grab	1/Month	2,4
Chlorodibromomethane	µg/L	Grab	1/Month	2,4
Copper, Total Recoverable	µg/L	24-hr Composite ¹	1/Month	2,4
Dichlorobromomethane	µg/L	Grab	1/Month	2,4
Lead, Total Recoverable	µg/L	24-hr Composite ¹	1/Month ⁵	2,4
Mercury, Total Recoverable	ng/L	Grab	1/Month	2,4,6
Selenium, Total Recoverable	µg/L	24-hr Composite ^{1,7}	1/Month	2,4
Silver, Total Recoverable	µg/L	24-hr Composite ¹	1/Month	2,4
Priority Pollutants	µg/L	24-hr Composite ^{1,8}	1/Month ⁹	2,4
Non-Conventional Pollutants				
Aluminum, Total Recoverable	µg/L	24-hr Composite ¹	1/Month	2,10
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Week ^{11,12}	2
Boron, Total Recoverable	µg/L	24-hr Composite ¹	1/Month	2
Chloride	mg/L	Grab	1/Month	2
Chlorine, Total Residual	mg/L	Meter	Continuous	2,13
Chlorpyrifos	µg/L	24-hr Composite ¹	1/Quarter	2,14
Diazinon	µg/L	24-hr Composite ¹	1/Quarter	2,14
Dissolved Oxygen	mg/L	Grab	1/Week	2
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Week	2
Hardness (as CaCO ₃)	mg/L	24-hr Composite ¹	1/Month	2
Iron, Total Recoverable	µg/L	24-hr Composite ¹	1/Quarter	2
Manganese, Total Recoverable	µg/L	24-hr Composite ¹	1/Quarter	2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Methylmercury	ng/L	Grab	1/Month	^{2,6}
Nitrate Nitrogen, Total (as N)	mg/L	24-hr Composite ¹	1/Month	²
Oil and Grease	µg/L	24-hr Composite ¹	1/Month	²
Settleable Solids	m/L	Grab	1/Month	²
Temperature	°F	Grab	1/Day	²
Total Coliform Organisms	MPN/100 mL	Grab	1/Day	²
Total Dissolved Solids	mg/L	Grab	1/Week	²
Turbidity	NTU	Meter	Continuous	²

- ¹ Composite samples shall be flow proportional.
- ² Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136.
- ³ In order to verify if bis (2-ethylhexyl) phthalate is truly present in the effluent discharge, the Discharger shall take steps to assure that sample containers, sampling apparatus, and analytical equipment are not sources of the detected contaminant.
- ⁴ For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.
- ⁵ Monitoring required at Monitoring Location EFF-002 for discharges from Discharge Point No. 002, only.
- ⁶ Unfiltered methylmercury and total mercury samples shall be taken using clean hands/dirty hands procedures, as described in USEPA Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Levels, for collection of equipment blanks (section 9.4.4.2), and shall be analyzed by USEPA Method 1630/1631 (Revision E) with a method detection limit of 0.02 ng/L for methylmercury and 0.2 ng/L for total mercury.
- ⁷ Selenium shall be sampled using EPA Test Method 7742 or later amendment.
- ⁸ Volatile constituents shall be sampled in accordance with 40 CFR Part 136.
- ⁹ Monitoring is required 1/month ONLY during the 3rd year of the permit term and shall be concurrent with receiving surface water sampling. The Discharger is not required to conduct effluent monitoring for priority pollutants that have already been sampled in a given month, as required in Table E-3.
- ¹⁰ Compliance with the final effluent limitations for aluminum can be demonstrated using either total or acid-soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.
- ¹¹ Concurrent with whole effluent toxicity monitoring.
- ¹² pH and temperature shall be recorded at the time of ammonia sample collection.
- ¹³ Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.
- ¹⁴ Chlorpyrifos and diazinon shall be sampled using EPA Method 625M, Method 8141, or equivalent GC/MS method.

2. For emergency discharges to Harding Drain, on the first day of each such emergency discharge, the Discharger shall monitor and record data for the constituents listed in Table E-3, except for priority pollutants, after which the frequencies of analysis given in the schedule shall apply for the duration of each such emergency discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

- A. **Acute Toxicity Testing.** The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:
 1. Monitoring Frequency – The Discharger shall perform monthly acute toxicity testing, concurrent with effluent ammonia sampling.
 2. Sample Types – For static non-renewal and static renewal testing, the samples shall be grab samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location EFF-001 (when discharging from Discharge Point No. 001) and EFF-002 (when discharging from Discharge Point No. 002).
 3. Test Species – Test species shall be fathead minnows (*Pimephales promelas*).
 4. Methods – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature, total residual chlorine, and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.
 5. Test Failure – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.
- B. **Chronic Toxicity Testing.** The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:
 1. Monitoring Frequency – The Discharger shall perform quarterly three species chronic toxicity testing.
 2. Sample Types – Effluent samples shall be flow proportional 24-hour composite samples and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring location specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001 (when discharging from Discharge Point No. 001) or RSW-005 (when discharging from Discharge Point No. 002) sampling location, as identified in the Monitoring and Reporting Program.

3. Sample Volumes – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.
4. Test Species – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:
 - The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);
 - The fathead minnow, *Pimephales promelas* (larval survival and growth test); and
 - The green alga, *Selenastrum capricornutum* (growth test).
5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002.*
6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.
7. Dilutions – The chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).

If the receiving water is toxic, laboratory control water may be used as the diluent, in which case, the receiving water should still be sampled and tested to provide evidence of its toxicity.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Receiving Water	0	25	50	75	87.5	100	0
% Laboratory Water	0	0	0	0	0	0	100

8. Test Failure –The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:
 - a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002 (Method Manual),* and its subsequent amendments or revisions; or

- b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in Special Provisions VI. 2.a.iii.)

C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Water Board within 24-hours after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. **WET Testing Reporting Requirements.** All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "Report Preparation and Test Review" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, and shall contain, at minimum:

- a. The results expressed in TUC, measured as 100/NOEC, and also measured as 100/LC₅₀, 100/EC₂₅, 100/IC₂₅, and 100/IC₅₀, as appropriate.
- b. The statistical methods used to calculate endpoints;
- c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);
- d. The dates of sample collection and initiation of each toxicity test; and
- e. The results compared to the numeric toxicity monitoring trigger.

Additionally, the monthly discharger self-monitoring reports shall contain an updated chronology of chronic toxicity test results expressed in TUC, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or TRE.

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.

3. **TRE Reporting.** Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes :