

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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ORDER NO. R5-2008-0058

NPDES NO. CA0085278

WASTE DISCHARGE REQUIREMENTS

FOR

**FOREST MEADOWS WASTEWATER RECLAMATION PLANT
CALAVERAS COUNTY WATER DISTRICT AND CAIN-PAPAIS TRUST
CALAVERAS COUNTY**

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

Table 1. Discharger Information

Discharger	Calaveras County Water District and Cain-Papais Trust
Name of Facility	Forest Meadows Wastewater Reclamation Plant
Facility Address	1040 Forest Meadows Drive
	Murphys, CA 95247
	Calaveras County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by the Calaveras County Water District and Cain-Papais Trust from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Tertiary Effluent	38° 09' 41" N	120° 24' 51" W	Stanislaus River

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	25 April 2008
This Order shall become effective on:	16 June 2008
This Order shall expire on:	1 April 2013
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	180 days prior to expiration date

IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **25 April 2008**.

PAMELA C. CREEDON, Executive Officer

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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	Calaveras County Water Dist. and Cain-Papais Trust .
Name of Facility	Forest Meadows Wastewater Reclamation Plant
Facility Address	1040 Forest Meadows Dr
	Murphys, CA 95247
	Calaveras County
Facility Contact, Title, and Phone	David Andres, General Manager (209) 754-3543
Mailing Address	P.O. Box 846, San Andreas, CA 95249
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	0.19 million gallons per day (mgd)

II. FINDINGS

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

A. Background. Calaveras County Water District and Cain-Papais Trust (hereinafter Discharger), submitted a Report of Waste Discharge, dated December 12, 2005, and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 0.84 mgd of tertiary treated wastewater from the Forest Meadows Wastewater Treatment Plant (hereinafter Facility). The application was deemed complete in March 2006.

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. Calaveras County Water District owns and operates a publicly owned wastewater reclamation facility. The facility is located off of Highway 4, approximately two miles east of the town of Murphys. The facility consists of preliminary screening through a rotary strainer, a complete mix basin, sludge-settling storage basin, two dissolved air flotation thickeners (DAF), two continuous backwash sand filters, an ultraviolet (UV) light disinfection system, and an effluent storage pond owned and operated by Cain-Papais Trust. The facility also has on-site leachfields and an emergency storage pond to serve as a plant reliability feature during periods of plant repair. Tertiary treated wastewater is currently stored and reused for golf course irrigation. During wet years, wastewater flows exceeding the storage capacity of the golf course storage pond will be discharged seasonally at Discharge Point 001 (see table on cover page) to the Collierville Tunnel that empties into the Stanislaus River, a water of the United States. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

The Discharger anticipates the discharge to surface water would occur only during wet years when effluent flows are highest due to high Infiltration and inflow, golf irrigation needs are lowest, and winter/spring storage needs are greatest.

- 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 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 section 122.44, title 40 of the Code of Federal Regulations (CFR)¹ 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 Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. 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 section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, 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.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

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) EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006), 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. The beneficial uses assigned for the receiving water (Stanislaus River) are as follows: municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); hydropower generation; water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation, including aesthetic enjoyment (REC-2); commercial and sport fishing; aquaculture; warm freshwater habitat; cold freshwater habitat; and wildlife habitat.

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. Thus, as identified in the Basin Plan, beneficial uses applicable to the Stanislaus River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Stanislaus River	municipal and domestic supply (MUN); agricultural supply, including stock watering (AGR); hydropower generation; water contact recreation, including canoeing and rafting (REC-1); non-contact water recreation, including aesthetic enjoyment (REC-2); commercial and sport fishing; aquaculture; warm freshwater habitat; cold freshwater habitat; and wildlife habitat.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 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 February 13, 2001. These rules contain water quality criteria for priority pollutants.

J. State Implementation Policy. On March 2, 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 April 28, 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 May 18, 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 February 24, 2005 that became effective on July 13, 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 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 September 25, 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 May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final

effluent limitation that 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 and/or discharge specifications. 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 March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 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 May 30, 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 May 30, 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 and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on total suspended solids (TSS), and pH. The water quality-based effluent limitations consist of restrictions on turbidity and pathogens. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order includes new effluent limitations for turbidity and total coliform organisms to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in the Fact Sheet. In addition, the Regional Water Board has considered the factors in Water Code section 13241 in establishing these requirements.

Water quality-based effluent limitations 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 water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on May 1, 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 May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 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 section 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.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water

Board established California's antidegradation policy in State Water Board Resolution 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 section 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 title 40, Code of Federal Regulations section 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.
- P. Monitoring and Reporting.** Section 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.
- Q. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. 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.
- R. Provisions and Requirements Implementing State Law.** The provisions and/or requirements in subsections IV.B, IV.C, and V.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.
- S. 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.
- T. 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. The discharge of tertiary treated wastewater at Discharge Point – 001 is prohibited when the storage reservoir has 3.9 feet or more of available freeboard.
- F. The discharge of tertiary treated wastewater at Discharge Point - 001 is prohibited except from 1 December to 15 May.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point - 001

1. Final Effluent Limitations: Discharge Point - 001

The Discharger shall maintain compliance with the following effluent limitations with compliance measured at monitoring location EFF-001 as described in the attached MRP.

- a. The Discharger shall maintain compliance with the effluent limitations specified in Table 6:

Table 6. Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD 5-day @ 20°C	mg/L	10	15	20	---	---
	lbs/day ¹	70	105	140	---	---
Total Suspended Solids	mg/L	10	15	20	---	---
	lbs/day ¹	70	105	140	---	---
pH	Stand. units	---	---	---	6.5	8.5
Chlorine Residual	mg/l	0.01	---	0.02	---	---
Settleable Solids	ml/l	0.1	---	0.2	---	---
Foaming Agents (MBAS)	µg/L	---	---	6,531 ²	---	---
Nitrite	mg/l	---	---	31 ²	---	---
Ammonia (Total)	mg/l	---	---	50 ²	---	---
	lbs/day ¹	---	---	350	---	---
Aluminum ³	µg/L	71	---	143	---	---
Copper ³	µg/L	2.5	---	4.9	---	---
Cyanide	µg/L	---	---	156 ²	---	---
Lead ³	µg/L	0.52	---	1.0	---	---
Zinc ³	µg/L	23	---	47	---	---
Turbidity	NTU	---	---	---	---	10
Total Coliform Organisms	MPN/100mL	---	---	---	---	240

¹ Based on a design flow of 0.84 million gallons per day

² Limitations are based on allowable dilution credits

³ Compliance required by 18 May 2010.

- b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids 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. **Turbidity.** Effluent turbidity shall not exceed:
 - i. 2 NTU, as a daily average; and
 - ii. 5 NTU, more than 5 percent of the time within a 24-hour period.
- e. **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.

- f. **Average Daily Discharge Flow.** The Average Daily Discharge Flow shall not exceed 0.84 mgd.

2. Interim Effluent Limitations

- a. **Effective immediately and until 17 May 2010**, the Discharger shall maintain compliance with the following limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP. These interim effluent limitations shall apply in lieu of the corresponding final effluent limitations specified for the same parameters during the time period indicated in this provision.

Table 7. Interim Effluent Limitations

Parameters	Units	Maximum Daily Effluent Limit
Aluminum	µg/L	2,520
Copper	µg/L	40
Lead	µg/L	2.8
Zinc	µg/L	264

B. Land Discharge Specifications (Set forth in WDR Order No. 5-00-066)

C. Reclamation Specifications (Set forth in WDR Order No. 5-00-066)

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 the Stanislaus River:

1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses.
2. **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 23 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 240 MPN/100 mL.
3. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
4. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.

5. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
6. **Dissolved Oxygen:**
 - a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
 - b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
 - c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
7. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
8. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
9. **pH.** The pH to be depressed below 6.5 raised above 8.5, nor changed by more than 0.5. A one-month averaging period may be applied when calculating the pH change of 0.5.
10. **Pesticides:**
 - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
 - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
 - c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by 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; nor
 - g. Thiobencarb to be present in excess of 1.0 µg/L.
11. **Radioactivity:**
 - a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of

radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

- b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

12. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
13. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.
14. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
15. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses of receiving water.
16. **Temperature.** The natural temperature to be increased by more than 5°F.
17. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
18. **Turbidity.** 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.

In determining compliance with the above limits, a one-month averaging period may be used when determining compliance with this Receiving Surface Water Limitation for turbidity.

B. Groundwater Limitations (Set forth in WDR Order No. 5-00-066)

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:

- i. 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.
- ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- iii. Change in sludge use or disposal practice. Under 40 Code of Federal Regulations (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 five 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 ninety 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.

- I. 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 three 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 four 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 five 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 section 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. **Mercury.** This Order requires the Discharger to conduct additional monitoring and reporting of mercury concentrations in accordance with Attachment E. After receipt of at least twelve months of monitoring data, this Order may be reopened and a limit established for mercury. Additionally, if mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted, this Order shall be reopened and an effluent concentration limitation imposed.
- b. **Pollution Prevention.** This Order requires the Discharger prepare and implement pollution prevention plans following CWC section 13263.3(d)(3) for aluminum, copper, lead, and zinc. Based on a review of the pollution prevention plans, this Order may be reopened for addition and/or modification of effluent limitations and requirements for these constituents.
- c. **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.
- d. **Water Effects Ratios (WER), Metal Translators, and Dynamic Modeling.** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from

dissolved to total recoverable when developing effluent limitations for copper, lead, and zinc. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, or develops a dynamic model for effluent limitation calculations approved by the Regional Water Board, this Order may be reopened to modify the effluent limitations for the applicable inorganic 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. **Initial Investigative 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 an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at minimum:
 - a) A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;
 - b) A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and
 - c) A discussion of who will conduct the Toxicity Identification Evaluation, if necessary (i.e. an in-house expert or outside contractor).
 - 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 **>25 TUc** (where $TUc = 100/NOEC$). 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.
- 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 six-week period (i.e. one test every two 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.

3. Best Management Practices and Pollution Prevention

- a. **Land Disposal Maximization Program.** In an effort to maximize the use of existing land disposal resources as described in Order No. 5-00-066, the Discharger must continue to irrigate the Forest Meadows Golf Course with reclaimed wastewater during the wintertime when the conditions are suitable for irrigation. In addition, the Discharger must also utilize on-site leachfields and the emergency storage basin as and when necessary, to minimize the surface water discharge and to prevent spillage at the storage facility.
- b. **Salinity Evaluation and Minimization Plan.** The Discharger shall prepare a salinity evaluation and minimization plan to address sources of salinity from the domestic wastewater treatment system. The plan shall be completed and submitted to the Regional Water Board **within 9 months of the effective date of this Order for approval by the Executive Officer.**

4. Construction, Operation and Maintenance Specifications

a. Treatment Plant Operating Requirements.

- i. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
- ii. Public contact with wastewater, in and around the discharge point, shall be discouraged through such means as fences, signs, and other acceptable alternatives.

b. Initiation of Surface Water Discharge.

The surface water discharge to the Collierville Tunnel is contingent upon compliance with the following conditions:

- i. **Effluent Limitation and Receiving Water Compliance.** The Discharger shall demonstrate compliance with Final Effluent Limitations IV.A.1, and Receiving Water Limitations V.A.
- ii. **Outfall Pipeline to the Collierville Tunnel.** The Discharger shall design, acquire necessary permits by appropriate agencies, and construct an outfall to Collierville Tunnel at Discharge Point EFF-001. **Six months prior to the anticipated discharge**, the Discharger shall submit to the Regional Water Board an implementation time schedule describing the submittal of plans and specifications, permit acquisition, start of construction and completion of construction.
- iii. **Request for Surface Water Discharge.** The Discharger shall submit to the Regional Water Board a request for a surface water discharge to the Stanislaus River, which demonstrates compliance with items i through ii, above. The surface water discharge is prohibited until the Executive Officer

verifies compliance with Special Provisions VI.C.4.b, and approves the Discharger's request.

5. Special Provisions for Municipal Facilities (POTWs Only)

- a. **Collection System.** On May 2, 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. In October 2006, the Discharger applied for coverage under State Water Board Order 2006-0003 for operation of its wastewater collection system.

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 section 122.41(e)], report any non-compliance [40 CFR section 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR. section 122.41(d)].

- b. **Electronic Notification.** This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within six months of adoption** of this permit. For systems installed following permit adoption, the notification system shall be installed simultaneously.

6. Other Special Provisions

- a. Wastewater shall be oxidized, coagulated, filtered, and adequately disinfected pursuant to the CDPH 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 Schedules for Final Effluent Limitations for Aluminum, Copper, Lead, and Zinc.

- i. **By 18 May 2010**, the Discharger shall comply with the final effluent limitations specified in Section IV.A.1.a., for *aluminum, copper, lead, and zinc*. The Discharger submitted a compliance schedule justification (dated 22 October 2007) for *aluminum, copper, lead, and zinc*. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of section 2.1 of the SIP. As this compliance schedule is greater than 1 year, the Discharger shall submit annual progress reports in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.)
- ii. **Implementation Schedule.** The Discharger shall submit to the Regional Water Board an implementation schedule to assure compliance with the final effluent limitations for *aluminum, copper, lead, and zinc* **within 3 months of the effective date of this Order.**
- iii. **Pollution Prevention Plan.** The Discharger shall prepare and implement a pollution prevention plan for *aluminum, copper, lead, and zinc* in accordance with CWC section 13263.3(d)(3). The minimum requirements for the pollution prevention plan are outlined in the Fact Sheet, Attachment F, Section VII.B.3.c. A work plan and time schedule for preparation of the pollution prevention plan shall be completed and submitted to the Regional Water Board **within 3 months of the effective date of this Order** for approval by the Executive Officer. The Pollution Prevention Plan shall be completed and submitted to the Regional Water Board **within one (1) year following work plan approval by the Executive Officer.**
- iv. **Treatment Feasibility Study.** The Discharger is required to perform an engineering treatment feasibility study examining the feasibility, costs and benefits of different treatment options that may be required to remove *aluminum, copper, lead, and zinc* from the discharge. A work plan and time schedule for preparation of the treatment feasibility study shall be completed and submitted to the Regional Water Board **within 3 months of the effective date of this Order** for approval by the Executive Officer. The treatment feasibility study shall be completed and submitted to the Regional Water Board **within one (1) year following work plan approval by the Executive Officer.**

VII. COMPLIANCE DETERMINATION

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

- A. **BOD and TSS Effluent Limitations.** Compliance with the final effluent limitations for BOD and TSS required in section IV.A.1(a) shall be ascertained by 24-hour composite samples. Compliance with effluent limitations in section IV.A.1(b) for percent removal shall be calculated using the arithmetic mean of 20°C BOD (5-day) and total suspended solids 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 US EPA'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. **Average Daily Discharge Flow Effluent Limitations.** The Average Daily Discharge Flow represents the daily average flow discharged to the Stanislaus River.
- D. **Total Coliform Organisms Effluent Limitations (Section IV.A.1.e.).** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last seven 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.
- E. **Mass Effluent Limitations.** Compliance with the mass effluent limitations will be determined during surface water discharge periods only.

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.

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.

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;

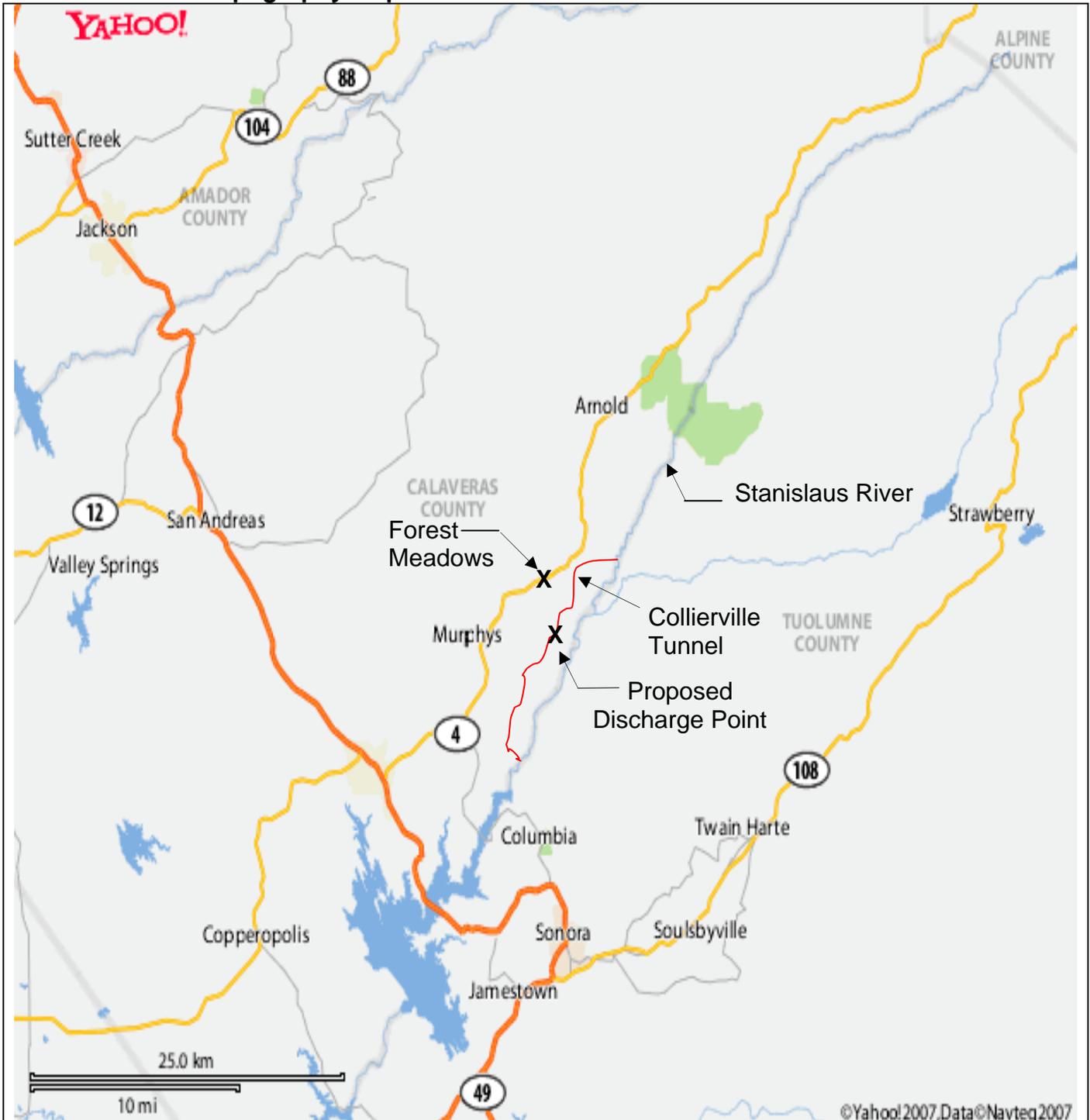
μ is the arithmetic mean of the observed values; and

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

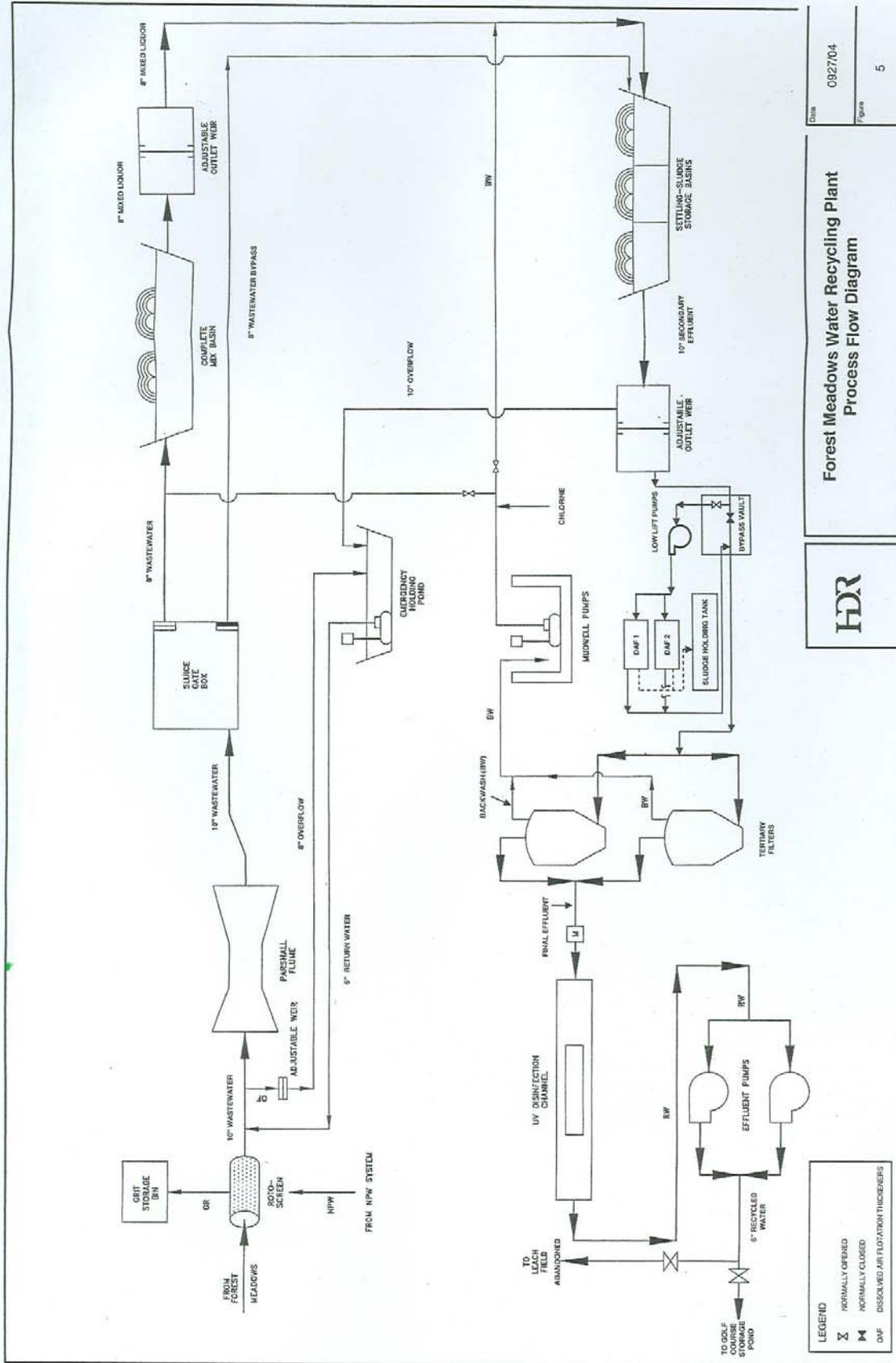
additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible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

Attachment B – Topography Map



<p>Drawing Reference Map Quest Not to Scale</p>	<p>SITE LOCATION FOREST MEADOWS FOREST MEADOWS WWTP CALAVERAS COUNTY</p>	<p>↑ NORTH</p>
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ATTACHMENT C – Forest Meadows Wastewater Treatment Facilities



Date	0927/04
Figure	5

**Forest Meadows Water Recycling Plant
 Process Flow Diagram**



Legend	
⊗	NORMALLY OPENED
⊘	NORMALLY CLOSED
DWF	DISSOLVED AIR FLOTATION THICKENERS

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 C.F.R. § 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 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

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

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 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 C.F.R. § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was

caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

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

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 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 C.F.R. § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 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 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

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

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.22(b)(1));
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
 - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 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 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in 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 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 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 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.42(b)):

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

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 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 Public Health. In the event a certified laboratory is not available to the Discharger, analyses performed by a non-certified 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. 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	At the plant headworks prior to entering into treatment processes
001	EFF-001	Tertiary effluent prior to entering the Collierville Tunnel (A location where a representative sample of the effluent from the Facility can be collected after all treatment processes are completed)
	RSW-001	Stanislaus River: 50 feet upstream of the discharge
	RSW-002	Stanislaus River: 100 feet downstream of the discharge
	SPL-001	Municipal Water Supply

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location (INF-001)

1. Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent for the period sampled. The Discharger shall monitor domestic influent to the facility at the headworks (INF-001) prior to entry into treatment processes as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method
Flow	mgd	Meter	Continuous	
BOD 5-day 20°C	mg/L, lbs/day	24-hr Composite ²	1/week	
Suspended Solids	mg/L, lbs/day	24-hr Composite ²	1/week	
pH	Standard Units	Meter	1/day	
¹ Sampling required only when discharging to the Stanislaus River ² 24-hour flow proportional composite,				

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location (EFF-001)

1. When discharging to surface water, the Discharger shall monitor tertiary treated effluent prior to discharge at EFF-001 (from the last connection at the facility through which the tertiary effluent can be admitted into the Collierville Tunnel). Effluent samples should be representative of the volume and quality of the discharge and the time of collection shall be recorded. 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. The Discharger shall monitor the effluent as follows:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous	
Temperature	°F	Meter	Continuous	
Dissolved Oxygen	mg/L	Meter	Continuous	
pH	Standard Units	Meter	Continuous	
Turbidity	NTU	Meter	Continuous	
Total Residual Chlorine ¹	mg/L	Meter	1/day	
BOD 5-day 20°C	mg/L, lbs/day	24-hr Composite ⁷	1/day	
Total Suspended Solids	mg/L, lbs/day	24-hr Composite ⁷	1/day	
Total Coliform Organisms	MPN/100 mL	Grab	1/day	
Settleable Solids	ml/L	Grab	1/day	
Electrical Conductivity	µmhos/cm	Grab	1/month	
TDS	mg/L	Grab	1/month	
Aluminum	µg/L	24-hr Composite ⁷	1/month	
Ammonia (as N) ^{2, 3}	mg/L, lbs/day	Grab	1/week	
Nitrate (as N)	mg/L, lbs/day	Grab	1/month	
Nitrite (as N)	mg/L, lbs/day	Grab	1/month	
Chloroform	µg/L	Grab	1/month	
Copper ⁴	mg/L	24-hr Composite ⁷	1/month	
Cyanide ⁴	µg/L	24-hr Composite ⁷	1/month	
Foaming Agents (MBAS)	µg/L	Grab	1/month	
Lead ⁴	µg/L	24-hr Composite ⁷	1/month	
Zinc ⁴	µg/L	24-hr Composite ⁷	1/month	
Standard Minerals ⁵	mg/L	Grab	1/year	
Priority Pollutants ^{4, 6}	µg/L	Grab	1/ permit term	

-
- ¹ Sampling for chlorine residual only necessary when chlorine is used in treatment process.
 - ² Concurrent with biotoxicity monitoring
 - ³ Report as total.
 - 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 Standard minerals shall include the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).
 - ⁶ Concurrent with receiving surface water sampling.
 - ⁷ 24-hour flow proportioned composite

If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, except for priority pollutants, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge.

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 – when discharging to the Stanislaus River, the Discharger shall perform quarterly 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.
 3. Test Species – Test Species shall be rainbow trout (*Oncorhynchus mykiss*).
 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 – when discharging to the Stanislaus River, the Discharger shall perform quarterly three species chronic toxicity testing.
2. Sample Types – Effluent 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 specified in the Monitoring and Reporting Program. The receiving water control shall be a grab sample obtained from the RSW-001 (upstream sampling location out of influence of the discharge) 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).
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.)

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	16	8	4	2	1	0	0
% Receiving Water	84	92	96	98	99	100	0
% Laboratory Water	0	0	0	0	0	0	100

- C. **WET Testing Notification Requirements.** The Discharger shall notify the Regional Water Board within 24-hrs 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.

VI. LAND DISCHARGE MONITORING REQUIREMENTS (Set forth in Order No. 5-00-066)

VII. RECLAMATION MONITORING REQUIREMENTS (Set forth in Order No. 5-00-066)

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location – Stanislaus River (RSW-001 and RSW-002)

1. The Discharger shall monitor the Stanislaus River at RSW-001 and RSW-002 as follows:

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency ¹	Required Analytical Test Method
Flow	mgd	Meter	Continuous ^{1, 4}	
Dissolved Oxygen	mg/L	Grab	1/week ⁴	2
pH	Standard Units	Grab	1/week ⁴	2
Temperature	°F (°C)	Grab	1/week ⁴	2
Priority Pollutants ³	µg/L	Grab	1/permit term	2

¹ Flow monitoring is required only at monitoring station RSW-001 when there is a discharge.
² Analyze using the analytical methods described in 40 CFR 136.
³ Priority Pollutants to be sampled during the third year of the permit term. Monitoring only required at RSW-001.
⁴ Only when discharging to surface waters.

In conducting receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Location R-001. Attention shall be given to the presence or absence of:

- | | |
|------------------------------|---|
| Floating or suspended matter | Visible films, sheens or coatings |
| Discoloration | Fungi, slimes, or objectionable growths |
| Bottom deposits | Potential nuisance conditions |
| Aquatic life | |

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

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids (Set forth in Order No. 5-00-066)

B. Municipal Water Supply

1. Monitoring Location SPL-001

The Discharger shall monitor the Municipal Water Supply at SPL-001 as follows. A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Municipal water supply samples shall be collected at approximately the same time as effluent samples.

Table E-6. Municipal Water Supply Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Standard Minerals ¹	mg/L	Grab	1/year	
Electrical Conductivity (25°C) ²	µmhos/cm	Grab	1/year	
Total Dissolved Solids ²	mg/L	Grab	1/year	

¹ Standard minerals shall include all major cations and anions and include verification that the analysis is complete (i.e., cation/anion balance).

² If the water supply is from more than one source, the TDS and EC shall be reported as a weighted average and must include copies of supporting calculations.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

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

5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

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

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

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

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
6. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
 - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. Monitoring results shall be submitted to the Regional Water Board by the **first day** of the second month following sample collection. Quarterly and annual monitoring results shall be submitted by the **first day of the second month following each calendar quarter, semi-annual period, and year**, respectively.
3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with waste discharge requirements. The highest daily maximum for the month, monthly and weekly averages, and medians, and removal efficiencies (%) for BOD and Total Suspended Solids, shall be determined and recorded as needed to demonstrate compliance.
4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.
5. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.
6. A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
7. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
 Central Valley Region
 11020 Sun Center Dr., Suite #200
 Rancho Cordova, CA 95670-6114

8. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	First day of discharge to Stanislaus River	All through the discharge period	First day of second calendar month following month of sampling
Daily	First day of discharge to Stanislaus River	Calendar Day (Midnight through 11.59pm)	First day of second calendar month following month of sampling
Weekly	First day of discharge to Stanislaus River	Sunday through Sunday	First day of second calendar month following month of sampling
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 1 February 1
Annually	January 1 following (or on) permit effective date	January 1 through December 31	February 1 following year of sampling

C. Discharge Monitoring Reports (DMRs) – Not Applicable

Not Applicable. This is a minor discharge.

D. Other Reports

Progress Reports. As specified in the compliance time schedules required in Special Provisions VI, progress reports shall be submitted in accordance with the following reporting requirements. At minimum, the progress reports shall include a discussion of the status of final compliance, whether the Discharger is on schedule to meet the final compliance date, and the remaining tasks to meet the final compliance date.

Table E-8. Reporting Requirements for Special Provisions Progress Reports

Progress reports for compliance schedules for Final Effluent Limitations for aluminum, copper, lead, and zinc.	June 1 , annually, until final compliance
--	--

1. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.
2. The Discharger’s sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs the raw sewage to the wastewater treatment plant. A “sanitary sewer overflow” is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Sanitary sewer overflows are prohibited by this Order. All violations must be reported as required in Standard Provisions. Facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage facilities.
3. **Annual Operations Report.** By **30 January** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:
 - a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.
 - b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
 - c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
 - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.
 - e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations

have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	941582070
Discharger	Calaveras County Water Dist. and Cain-Papais Trust
Name of Facility	Forest Meadows Wastewater Reclamation Plant
Facility Address	1040 Forest Meadows Drive Murphys, CA 95247
Facility Contact, Title and Phone	David Andres, General Manager (209)-754-3543
Authorized Person to Sign and Submit Reports	David Andres, General Manager
Mailing Address	P.O. Box 846, San Andreas, CA 95249
Billing Address	Same as above
Type of Facility	POTW
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	B
Pretreatment Program	No
Reclamation Requirements	Producer of Title 22 water
Facility Permitted Flow	0.84 million gallons per day
Facility Design Flow	0.19 million gallons per day
Watershed	Stanislaus River Watershed
Receiving Water	Stanislaus River
Receiving Water Type	Inland Surface Water

- A. Calaveras County Water District (CCWD) is the owner and operator of Forest Meadows Wastewater Reclamation Plant (hereinafter Facility), a domestic wastewater tertiary treatment facility, which collects and treats wastewater for the Forest Meadows community, which is a residential golf course community of 1000 people. The reclaimed water storage facility and the golf course are owned by Cain-Papais Trust. Therefore,

CCWD and Cain-Papais Trust., are hereby jointly referred to as “Discharger” and are jointly responsible for ensuring compliance with these waste discharge requirements.

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

- B. The Facility discharges treated wastewater to the Stanislaus River via the Collierville Tunnel, a water of the United States. The current biosolids treatment and controls, and the land disposal of tertiary effluent on to the Forest Meadows golf course are regulated by Waste Discharge Requirements Order No. 5-00-066, which was adopted by the Regional Water Board on 17 March 2000, not incorporated by reference herein.
- C. The Discharger filed a report of waste discharge and submitted an application for National Pollutant Discharge Elimination System (NPDES) permit on 12 December 2005. Supplemental information was requested on 15 February 2007 and received on 20 February 2007. On 26 November 2007, the Discharger requested additional time to develop a revised delivery conveyance system to the Stanislaus River. Supplemental information on the modified disposal system was received on 18 January 2008. A site visit was conducted on 23 January 2007, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Calaveras County Water District owns and operates a publicly owned wastewater reclamation facility. The facility is located off of Highway 4, approximately two miles east of the town of Murphys. The facility consists of preliminary screening through a rotary strainer, a complete mix basin, sludge-settling storage basin, two dissolved air flotation thickeners (DAF), two continuous backwash sand filters, an ultraviolet (UV) light disinfection system, and an effluent storage pond. The facility also includes on-site leachfields and an emergency storage pond to serve as a long term plant reliability feature during periods of plant repair. Tertiary treated wastewater is currently stored and reused for golf course irrigation by Cain-Papais Trust. Due to a lack of adequate storage and disposal capacity, the Discharger requested a surface water discharge of tertiary treated effluent from the Facility to the Stanislaus River via the Collierville Tunnel at Discharge Point- 001 (see table on cover page). The Collierville Tunnel is the penstock for CCWD’s North Fork Power Plant. The penstock is an 18-ft diameter, 8.5 mile long conduit connecting McKays Point Reservoir and the Collierville Powerhouse on the Stanislaus River. The Stanislaus River is a water of the United States, and is within the Stanislaus River watershed. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

This Order only regulates surface water discharges to the Stanislaus River, which may only occur during wet winters from 1 December through 15 May, when wastewater flows exceed the Facility’s effluent storage and disposal capacity.

A. Description of Wastewater and Biosolids Treatment or Controls

The Facility's design daily average flow capacity is 0.19 mgd. The current average dry weather flow is 0.07 mgd with a peak wet weather flow of 0.28 mgd.

Currently, the disposal of UV light disinfected tertiary effluent is accomplished solely by irrigation of the 42 acre Forest Meadows golf course. The Discharger anticipates the discharge to surface water would occur only during very wet years during which effluent flows are highest due to high infiltration and inflow, golf course irrigation needs are lowest, winter/spring storage needs are greatest, and only when there is a threat of overflow from the storage reservoir.

Sludge is aerobically digested and hauled to the Arnold Wastewater Treatment Facility (also owned and operated by CCWD) for dewatering using a belt press. The dewatered solids are then hauled to a landfill. Dewatered screenings from headworks are hauled offsite by the local waste management company and subsequently disposed of via landfill.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 34, T4N, R14E, MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.
2. Tertiary treated municipal wastewater is discharged at Discharge Point -001 to the Stanislaus River, a water of the United States at a point Latitude N38°, 09', 41" and longitude W120°, 24', 51". The Stanislaus River is within the Stanislaus River watershed management area.

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

Not Applicable. It is a new discharge.

D. Compliance Summary

In October 2001 the Discharger was issued a Cleanup and Abatement Order (No. R5-01-535) for inadequate storage freeboard limitations as well as for wastewater runoff from the spray disposal area into nearby surface drainage. Order No. 5-00-066 requires that the storage reservoir shall have sufficient capacity to accommodate allowable wastewater flow, ancillary inflow and infiltration, and the total annual precipitation using a return period of 100 years. Subsequent notices of violations were also issued in April and October 2002 for failure to meet freeboard requirements in the storage pond.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the applicable plans, policies, and regulations identified in section II of the Limitations and Discharge Requirements (Findings). This section provides supplemental information, where appropriate, for the plans, policies, and regulations relevant to the discharge.

A. Legal Authority

See Limitations and Discharge Requirements - [Findings](#), Section II.C.

B. California Environmental Quality Act (CEQA)

See Limitations and Discharge Requirements - Findings, Section II.E.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition (Revised August 2006), for the Sacramento and San Joaquin River Basins* (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Board Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. The beneficial uses of the Stanislaus River downstream of the discharge are municipal and domestic supply; agricultural supply, including stock watering; hydropower generation; water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; commercial and sport fishing; aquaculture; warm freshwater habitat; cold freshwater habitat; and wildlife habitat.

The Basin Plan on page II-1.00 states: “*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*” and with respect to disposal of wastewaters states that “*...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*”

The federal CWA section 101(a)(2), states: “*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*” Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after November 28, 1975, whether or not they

are included in the water quality standards. Federal Regulation, 40 CFR section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

This Order contains Effluent Limitations and requires a tertiary level of treatment, or equivalent, necessary to protect the beneficial uses of the receiving water. The Regional Water Board has considered the following factors in CWC section 13241 in establishing these requirements, as discussed in more detail in the Fact Sheet, Attachment F, Section IV.C.3.n.iv.

2. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality 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 (Attachment F, Section IV.D.4) the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution 68-16.
3. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The anti-backsliding requirements do not apply to this permit, because it is a new NPDES permit.
4. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a), California Water Code, requires that "*the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective*". However, the Regional Water Board has determined that no toxic chemical release data has been reported to the state emergency response commission for the discharge into the POTW.

5. **Stormwater Requirements.** USEPA promulgated Federal Regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from wastewater treatment facilities. Wastewater treatment plants are applicable industries under the stormwater program and are obligated to comply with the Federal Regulations.
6. **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.
7. **Water Reuse Policy.** The Basin Plan's Water Reuse Policy states, "*The Regional Water Board encourages the reclamation and reuse of wastewater...and requires as part of a Report of Waste Discharge an evaluation of reuse and land disposal options as alternative disposal methods. Reuse options should include consideration of the following, where appropriate, based on the quality of the wastewater and the required quality for the specific reuses: industrial and municipal supply, crop irrigation, landscape irrigation, ground water recharge, and wetland restoration.*" The purpose of the Water Reuse Policy is to evaluate alternative methods of disposal to prevent unnecessary discharges to surface water

The Discharger disposes of treated wastewater via spray irrigation of the Forest Meadows Golf Course. The land discharge is regulated by Order No. 5-00-066. Order No. 5-00-066 requires that the Discharger maintain sufficient storage capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration during a 100-year rainfall year. The Discharger has documented through a feasibility study report titled, *Forest Meadows Wastewater Facility Plan* (September 2004) that the critical element for effluent disposal to land is its effluent storage capacity. In general, continued use and expansion of land disposal was problematic and cost prohibitive for both existing and future users. Currently, the effluent storage capacity of the Facility (123.5 ac-ft) is not adequate to contain the amount of total water entering the system during a 100-year rainfall year.

The Effluent Storage Pond and Disposal Agreement (Resolution No. 98-40) between CCWD and the golf course owners requires CCWD to deliver an average dry weather flow of up to 0.19 mgd of treated effluent. The agreement further requires that the golf course irrigation pump intake be set so the effluent pond volume cannot drop below a level corresponding to a volume of roughly 50.6 ac-ft. This requirement limits the net usable capacity for storage of treated effluent to approximately 72.9 ac-ft. The estimated long-term effluent storage requirement, during a 100-year rainfall year, is approximately 162 acre-feet. Due to a lack of adequate storage capacity, the Discharger nearly experienced unauthorized overflows from its storage pond during the months of April/May 2001 and February/March 2002. As a result, notices

of violations were issued in October 2001 and April 2002, respectively, for failure to meet the two feet freeboard requirements prescribed in Discharge Specifications B.7 of the WDR Order No. 5-00-066.

The Discharger evaluated several irrigation sites to accommodate the long-term disposal needs projected for build-out. This evaluation also included expanding the existing effluent storage facilities or constructing new facilities at new sites. In addition, potential factors to reduce wastewater flows were also considered and their estimated impact on effluent storage requirements were estimated. The Facility Plan Report concludes that it is not cost effective for CCWD to expand its effluent storage capacity and recommends CCWD pursue approval of a surface water discharge.

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

1. Under Section 303(d) of the 1972 Clean Water Act, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 30 November 2006 USEPA gave final approval to California's 2006 Section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "...those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources (40 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 303(d) list does not have listings for the upper Stanislaus River where the treated effluent is proposed to be discharged, but the lower Stanislaus River is listed for diazinon, group A pesticides, mercury, and unknown toxicity.

E. Other Plans, Polices and Regulations

1. The discharge authorized herein and the treatment and storage facilities associated with the discharge of treated municipal wastewater, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), section 20005 et seq. (hereafter Title 27). The exemption, pursuant to Title 27 CCR section 20090(a), is based on the following:
 - a. The waste consists primarily of domestic sewage and treated effluent;
 - b. The waste discharge requirements are consistent with water quality objectives; and
 - c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

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

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board’s Basin Plan, page IV-17.00, contains an implementation policy (“Policy for Application of Water Quality Objectives” that specifies that the Regional Water Board *“will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.”* This Policy complies with 40 CFR §122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) EPA’s published water quality criteria, (2) a proposed state criterion (*i.e.*, water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board’s “Policy for Application of Water Quality Objectives”)(40 CFR 122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life”* (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plan states that material and

relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

A. Discharge Prohibitions

1. *As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.*
2. Due to lack of wintertime storage capacity, direct discharge to the Stanislaus River via the Collierville Tunnel is permitted only if and when necessary to prevent unauthorized overflows from the storage pond during extreme wet winters.
3. Initiation of discharge to the Stanislaus River is prohibited until it is demonstrated that a direct discharge to surface water is necessary after maximizing land disposal, including golf course irrigation and utilization of on-site leachfields. Furthermore, maximum use of the golf course storage pond is required. Therefore, a discharge prohibition is included in this Order that prohibits the discharge to surface waters when there is 3.9 feet or more of available freeboard in the storage pond.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Regulations promulgated in section 125.3(a)(1) of the Code of Federal regulations require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD₅), total suspended solids (TSS), and pH.

In addition, The California Department of Public Health (CDPH) has established statewide reclamation criteria in Title 22, CCR, for use of reclaimed water and has developed guidelines for discharges to surface waters. The Regional Water Board consults with the CDPH on reclamation and surface water discharges in accordance with the terms specified in a Memorandum of Agreement between CDPH and the State Water Board.

2. Applicable Technology-Based Effluent Limitations (TBEL)

- a. **BOD₅ and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD₅ and TSS. Tertiary treatment is necessary to protect the beneficial uses of the receiving stream and the final effluent limitations for BOD₅ and TSS are based on the technical capability of the tertiary process. BOD₅ is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The secondary and tertiary treatment standards for BOD₅ and TSS are indicators of the effectiveness of the treatment processes. The principal design parameter for wastewater treatment plants is the daily BOD₅ and TSS loading rates and the corresponding removal rate of the system. In applying 40 CFR Part 133 for weekly and monthly average BOD₅ and TSS limitations, the application of tertiary treatment processes results in the ability to achieve lower levels for BOD₅ and TSS than the secondary standards currently prescribed; the 30-day average BOD₅ and TSS limitations have been revised to 10 mg/L, which is technically based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD₅ and TSS is included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. See Table F-3 for final technology-based effluent limitations required by this Order. In addition, 40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal shall not be less than 85 percent. If 85 percent removal of BOD₅ and TSS must be achieved by a secondary treatment plant, it must also be achieved by a tertiary (i.e., treatment beyond secondary level) treatment plant. This Order contains a limitation requiring an average of 85 percent removal of BOD₅ and TSS over each calendar month.
- b. **Flow.** The Facility is designed to provide a tertiary level of treatment for up to a design flow of 0.19 mgd ADWF and a peak wet weather flow of 0.28 mgd. Current annual average daily flow to the facility is 0.07 mgd. Based on the water balance, the proposed volume of water that must be discharged to surface water to provide adequate disposal capacity during 100-year rainfall year is approximately 14.6

MG/yr. The Discharger proposes to construct a pump station with a pumping capacity of approximately 600 gallons per minute to transport tertiary treated effluent to the Stanislaus River in order to prevent uncontrolled discharges from the storage pond. Consequently, this Order contains an Average Daily Discharge Flow effluent limit of 0.84 mgd.

**Summary of Technology-based Effluent Limitations
 Discharge Point – 001**

Table F-2. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day BOD	mg/l	10	15	20		
	lbs/day ¹	70	105	140		
Total Suspended Solids	mg/l	10	15	20		
	lbs/day ¹	70	105	140		
Average Daily Flow	mgd	---	---	0.84		

¹ Based on design flow of 0.84 mgd.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

As specified in section 122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an in-stream excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

- a. **Receiving Water.** The receiving water is the Stanislaus River. Based on the available information, the worst-case dilution is assumed to be zero for certain pollutants to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations for certain pollutants are end-of-pipe limits with no allowance for dilution within the receiving water. Beneficial uses of the Stanislaus River are: municipal and domestic supply; agricultural supply, including stock watering; hydropower generation; water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; commercial and sport fishing; aquaculture; warm freshwater habitat; cold freshwater habitat; and wildlife habitat.

- b. **Hardness.** While no effluent limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, effluent limitations for certain metals. The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness, the lower the hardness the lower the water quality criteria. The hardness-dependent metals include cadmium, copper, chromium III, lead, nickel, silver, and zinc. The equation describing the total recoverable regulatory criterion is as follows:

$$\text{Total Recoverable Criterion} = e^{m[\ln(H)]+b} \quad (\text{Equation 1})$$

Where:

m = criterion-specific constant

H = Hardness

b = criterion-specific constant

The constants “m” and “b” are specific to both the metal under consideration, and the type of total recoverable criterion (i.e. acute or chronic).

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. Recent studies indicate that using the receiving water lowest hardness for establishing water quality criteria is not always the most protective for the receiving water. The Regional Water Board has evaluated these studies and concurs that for some parameters the beneficial uses of the receiving water are best protected using the lowest hardness value of the effluent, while for some parameters, the use of both the lowest hardness value of the receiving water and the lowest hardness value of the effluent is the most protective.

Because of the non-linearity of the Total Recoverable Criterion equation, the relationship can be either concave downward or concave upward depending on the criterion-specific constants. For those contaminants whereby the regulatory criteria exhibit a concave downward relationship as a function of hardness (e.g. acute and chronic copper, chromium III, nickel, and zinc, and chronic cadmium), use of the lowest recorded effluent hardness for establishment of water quality objectives is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher.

For those metals where the regulatory criteria exhibit a concave upward relationship as a function of hardness (i.e. acute cadmium, acute and chronic lead, and acute silver) a water quality objective based on either the effluent

hardness or the receiving water hardness would not be protective under all mixing scenarios. Rather, a water quality objective that accounts for both the hardness of the receiving water and the effluent is required. The following equations provide fully protective water quality criteria for these metals that exhibit a concave upward relationship.

$$\text{Total Recoverable Criterion} = \left(\frac{m(H_e - H_{rw}) (e^{m\{\ln(H_{rw})\}+b})}{H_{rw}} \right) + e^{m\{\ln(H_{rw})\}+b} \quad (\text{Equation 2})$$

Where:

H_e = Lowest recorded effluent hardness

H_{rw} = Lowest recorded receiving water hardness

m = criterion-specific constant

b = criterion-specific constant.

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. For purposes of establishing water quality criteria for hardness-dependent metal criteria with a concave downward relationship (i.e. acute and chronic copper, chromium III, nickel, and zinc, and chronic cadmium), Equation 1, above, was used with a lowest reported effluent hardness value of 33 mg/L as CaCO₃. For establishing water quality criteria for hardness-dependent metal criteria with a concave upward relationship (i.e. acute cadmium, acute and chronic lead, and acute silver), Equation 2, above, was used with the lowest reported effluent hardness of 33 mg/l as CaCO₃ and a minimum receiving water hardness of 8.4 mg/L as CaCO₃.

- c. **Assimilative Capacity/Mixing Zone.** The proposed discharge will enter the Collierville Tunnel, which is the penstock for CCWD's North Fork Power Plant. The penstock is an 18-ft diameter, 8.5 mile long conduit connecting McKays Point Reservoir and the Collierville Powerhouse on the Stanislaus River. On average, the tunnel transports 175 cfs to the Collierville Powerhouse. Prior to entering the powerhouse, the tunnel drops 2000 feet, through the Collierville Powerhouse, and is discharged into the Stanislaus River, which provides a significant amount of turbulence and mixing. Therefore, the Regional Water Board finds that the discharge is completely mixed. In accordance with Section 1.4.2.1. of the SIP, dilution credits may be allowed for completely-mixed discharges by calculating the dilution ratio using the critical receiving water flow divided by the effluent flow. For completely mixed discharges, the SIP allows the dilution for acute aquatic life criteria and objectives to be calculated using a ratio of the lowest 1-day average flow that occurs (on average) once every 10 years (1Q10) to the maximum daily effluent flow. For chronic aquatic life criteria and objectives, the SIP allows dilution to be calculated using the ratio of the lowest 7-day average flow that occurs (on average) once every 10 years (7Q10) to the maximum effluent 4-day average of daily maximum flows. For human health criteria and objectives, dilution is to be calculated using the ratio of harmonic

mean flow to the long-term arithmetic mean effluent flow. Table F-3 shows the details for calculating the available dilution credits.

This Order provides dilution credits only for constituents (ammonia, cyanide, MBAS, and nitrite) whose maximum observed ambient background concentrations were reported lower than the WQO/WQC (i.e. assimilative capacity is available). For constituents without assimilative capacity, this Order includes WQBELs without the benefit of dilution. Section IV.C.3., below, describes the need for WQBELs and whether dilution credits have been granted.

Table F-3: Dilution Credits

Criteria	Receiving Water Flows (mgd)	Effluent Flows (mgd)	Dilution Credit
Acute aquatic life criteria/objectives	56 (1Q10)	0.84	67:1
Chronic aquatic life criteria/objectives	57 (7Q10)	0.84	68:1
Human health criteria/objectives	220 (Harmonic Mean)	0.84	262:1

3. Determining the Need for WQBELs

- a. CWA section 301 (b)(1) requires NPDES permits to include effluent limitations that achieve technology-based standards and any more stringent limitations necessary to meet water quality standards. Water quality standards include Regional Water Board Basin Plan beneficial uses and narrative and numeric water quality objectives, State Water Board-adopted standards, and federal standards, including the CTR and NTR. The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, and tastes and odors. The narrative toxicity objective states: *“All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.”* (Basin Plan at III-8.00.) With regards to the narrative chemical constituents objective, the Basin Plan states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, *“... water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs)”* in Title 22 of CCR. The narrative tastes and odors objective states: *“Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.”*
- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Water Board

finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for ammonia, aluminum, chloroform, copper, cyanide, lead, MBAS, and zinc. Water quality-based effluent limitations (WQBELs) for these constituents are included in this Order. A summary of the reasonable potential analysis (RPA) is provided in Table F-4, and a detailed discussion of the RPA for each constituent is provided below.

- c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control¹. The SIP states in the introduction “*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*” Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.
- d. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.
- e. **Aluminum.** USEPA developed National Recommended Ambient Water Quality Criteria for protection of freshwater aquatic life for aluminum. The recommended four-day average (chronic) and one-hour average (acute) criteria for aluminum are 87 µg/L and 750 µg/L, respectively, for waters with a pH of 6.5 to 9.0. USEPA recommends that the ambient criteria are protective of the aquatic beneficial uses of receiving waters in lieu of site-specific criteria. The effluent stream has been measured to have a low hardness—typically between 33 and 37 mg/L as CaCO₃.

The MEC for aluminum was 810 µg/L, based on 4 samples collected between April 2004 and January 2005, while the maximum observed upstream receiving water aluminum concentration was 130 µg/L, based on 4 samples collected between April 2004 and January 2005. Therefore, aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life resulting in a violation of the Basin Plan’s narrative toxicity objective. Since the receiving water exceeds the chronic toxicity criteria, no assimilative capacity for aluminum is available and a dilution credit cannot be allowed. This Order contains final Average Monthly Effluent Limitations (AMEL) and Maximum Daily Effluent Limitations (MDEL) for aluminum of 71 µg/L and 143 µg/L, respectively, based on USEPA’s National Ambient Water Quality Criteria for the protection of freshwater aquatic life (See Attachment F, Table F-7 for WQBEL calculations).

In USEPA’s *Ambient Water Quality Criteria for Aluminum—1988* [EPA 440/5-86-008], USEPA states that “[a]cid-soluble aluminum...is probably the best measurement at the present...”; however, USEPA has not yet approved an acid-

¹ See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City)
Attachment F – Fact Sheet

soluble test method for aluminum. Replacing the ICP/AES portion of the analytical procedure with ICP/MS would allow lower detection limits to be achieved. Based on USEPA's discussion of aluminum analytical methods, this Order allows the use of the alternate aluminum testing protocol described above to meet monitoring requirements.

Based on the sample results in the effluent, it appears that the Discharger may be in immediate non-compliance of the effluent limitations upon issuance of the permit. New or modified control measures may be necessary in order to comply with these new limitations, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995 (see Basin Plan at page IV-16). The water quality-based effluent limitations for aluminum are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule for compliance with the aluminum effluent limitations and interim effluent limitations are established in the Order.

An interim performance-based maximum daily effluent limitation of 2,520 µg/L has been established in this Order. The interim limitation was established as the MDEL, and is in effect through 17 May 2010. The performance-based MDEL was calculated based on current plant performance, taking effluent variability into account. When there are less than ten sampling data points available, the *Technical Support Document for Water Quality- Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, the performance-based MDEL was calculated as 3.11 times the maximum observed effluent concentration.

As part of the compliance schedule, this Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final aluminum effluent limitations.

- f. **Ammonia.** Untreated domestic wastewater contains ammonia. Nitrification is biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. The Discharger currently uses nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia would violate the Basin Plan narrative toxicity objective. Applying 40 CFR section 122.44(d)(1)(vi)(B), it is appropriate

to use USEPA's Ambient National Water Quality Criteria for the Protection of Freshwater Aquatic Life for ammonia, which was developed to be protective of aquatic organisms.

USEPA's *Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life*, for total ammonia, recommends acute (1-hour average; criteria maximum concentration) standards based on pH and chronic (30-day average, criteria continuous concentration) standards based on pH and temperature. It also recommends a maximum four-day average concentration of 2.5 times the criteria continuous concentration. USEPA found that as pH increased, both the acute and chronic toxicity of ammonia increased. Salmonids were more sensitive to acute toxicity effects than other species. However, while the acute toxicity of ammonia was not influenced by temperature, it was found that invertebrates and young fish experienced increasing chronic toxicity effects with increasing temperature. Because the Stanislaus River has a beneficial use of cold freshwater habitat and the potential for the presence of salmonids and early fish life stages, the recommended criteria for waters where salmonids and early life stages are present were used. USEPA's recommended criteria are show below:

$$CCC_{30\text{-day}} = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \times \text{MIN}(2.85, 1.45 \cdot 10^{0.028(25 - T)}), \text{ and}$$
$$CMC = \left(\frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}} \right),$$

where T is in degrees Celsius

The maximum permitted effluent pH is 8.5. The Basin Plan objective for pH in the receiving stream is in the range of 6.5 to 8.5. The maximum observed 30-day average effluent temperature during discharge season was 51°F (10.5°C), for the 30-day periods ending late May. The maximum observed 30-day receiving water temperature during discharge period was 45.32°F (7.4°C), for the 30-day periods ending 15 May. Using a pH value of 8.5 and the worst-case temperature values of 51°F (10.5°C) on a 30-day basis during the discharge period, the resulting acute and chronic criteria are 2.14 mg/L (as N) and 1.09 mg/L (as N), respectively.

The maximum observed 30-day rolling average temperature and the maximum observed pH of the receiving water were used to calculate the 30-day chronic criteria. The maximum observed 30-day receiving water temperature was 45.32°F (7.4C), for the rolling 30-day period ending 15 May 2005 and the maximum observed pH value was 7.3. Using a pH value of 7.3 and the worst-case temperature value of 45.32°F (7.4°C) on a rolling 30-day basis, the resulting 30-day CCC is 5.08 mg/L (as N). The 4-day average concentration is derived in accordance with the USEPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCC of 5.08 mg/L (as N), the 4-day average chronic criterion is 12.7 mg/L (as N).

The Regional Water Board calculates WQBELs in accordance with SIP procedures for non-CTR constituents, and ammonia is a non-CTR constituent. The SIP procedure assumes a 4-day averaging period for calculating the long-term average discharge condition (LTA). However, USEPA recommends modifying the procedure for calculating permit limits for ammonia using a 30-day averaging period for the calculation of the LTA corresponding to the 30-day chronic criteria. Therefore, while the LTAs corresponding to the acute and 4-day chronic criteria were calculated according to SIP procedures, the LTA corresponding to the 30-day chronic criteria was calculated assuming a 30-day averaging period. The lowest LTA representing the acute, 4-day average, and 30-day chronic criteria is then selected for deriving the AMEL and the MDEL. The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures

The MEC for ammonia was 16 mg/L, based on 4 samples collected between April 2004 and January 2005, while the maximum observed upstream receiving water ammonia concentration was 0.086 mg/L, with arithmetic mean of 0.07 mg/l based on 4 samples collected between April 2004 and January 2005. Therefore, ammonia in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life resulting in a violation of the Basin Plan's narrative toxicity objective.

The maximum observed receiving water ammonia concentration was less than the applicable water quality objective, therefore assimilative capacity for ammonia is available. The effluent limitation calculation procedures in Section 1.4 of the SIP allow for the granting of fresh water aquatic life dilution credit based on the estimated critical receiving water flow of the Stanislaus River, which would lead to a dilution credits of 67:1 and 68:1 for acute and chronic criteria, respectively (see Section IV.C.2.c).

WQBELs calculated using these allowable dilution credits result in an AMEL and MDEL of 56 mg/L and 112 mg/L, respectively. However, the Regional Water Board finds that granting of this dilution credit could allocate an unnecessarily large portion of the receiving water's assimilative capacity for ammonia and could violate the Antidegradation Policy. For this reason, a performance-based effluent limitation would be more appropriate. A performance-based MDEL of 50 mg/L is included in this order and it was calculated using the method as described for aluminum above.

- g. **Chlorine Residual.** The Discharger currently uses ultraviolet light for disinfection of the effluent waste stream. However, the Discharger plans to continue to use chlorine for odor control and tertiary filter backwash, which could create toxic conditions to aquatic organisms if released in the surface water discharge. The current discharge to the golf course storage pond, regulated by Order No. 5-00-066, does not require monitoring for chlorine residual and therefore, no effluent data is available for chlorine. But, due to the proposed chlorine use, there is a reasonable potential to cause or contribute to an exceedance of the Basin Plan's

narrative toxicity objective in the receiving water. Consequently, this Order includes MDEL and AMEL of 0.02 and 0.01 mg/L, respectively. The Facility discharges through an outfall to the Stanislaus River. The chlorine residual limitations required in this Order are protective of aquatic organisms in the undiluted discharge. If compliance is maintained, the Regional Water Board does not anticipate residual chlorine impacts to benthic organisms.

- h. **Chloroform.** Municipal and domestic supply is a beneficial use of the receiving stream. The narrative toxicity objective and this beneficial use designation comprise a water quality standard applicable to pollutants in the receiving stream. The Basin Plan contains the *Policy for Application of Water Quality Objectives*, which provides that narrative objectives may be translated using numerical limits published by other agencies and organizations. The California Environmental Protection Agency (Cal/EPA) Office of Environmental Health Hazard Assessment (OEHHA) has published the Toxicity Criteria Database, which contains cancer potency factors for chemicals, including chloroform, that have been used as a basis for regulatory actions by the boards, departments and offices within Cal/EPA. The OEHHA cancer potency value for oral exposure to chloroform is 0.031 milligrams per kilogram body weight per day (mg/kg-day). By applying standard toxicological assumptions used by OEHHA and USEPA in evaluating health risks via drinking water exposure of 70 kg body weight and two liters per day water consumption, this cancer potency factor is equivalent to a concentration in drinking water of 1.1 µg/L (ppb) at the one-in-a-million cancer risk level. This risk level is consistent with that used by the California Department of Public Health (CDPH) to set *de minimis* risks from involuntary exposure to carcinogens in drinking water in developing MCLs and Action Levels and by OEHHA to set negligible cancer risks in developing Public Health Goals for drinking water. The one-in-a-million cancer risk level is also mandated by USEPA in applying human health protective criteria contained in the NTR and the CTR to priority toxic pollutants in California surface waters.

MUN is a designated beneficial use of the receiving water. However, there are no known drinking water intakes in the Stanislaus River for several miles downstream of the discharge, and chloroform is a non-conservative pollutant. Additionally, the chlorine disinfection facilities are the primary source of chloroform in most domestic treated wastewater effluent. But, Forest Meadows wastewater treatment facilities utilize UV disinfection system prior to discharge to the Stanislaus River. Therefore, the Regional Water Board finds that, in this specific circumstance that the application of the USEPA MCL for total THMs for the effluent is appropriate, as long as the receiving water does not exceed the OEHHA cancer potency factor's equivalent receiving water concentration at a reasonable distance from the discharge into the Stanislaus River.

With regard to total THMs, bromoform, dibromochloromethane and dichlorobromomethane were non-detect and the MEC for chloroform was 3.7 µg/L based on four sampling events collected from April 2004 through December 2005. Therefore, the MEC for total THMs is 3.7 µg/L. The discharge

does not have a reasonable potential to cause or contribute to an in-stream excursion above the chemical constituents objective by causing an exceedance of the USEPA primary MCL for total THMs (80 µg/L). However, additional receiving water monitoring is required to determine whether the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the chloroform OEHHA cancer potency factor's equivalent receiving water concentration. Therefore, effluent and receiving water monitoring for chloroform is included in this Order.

- i. **Copper.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. The criteria for copper are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The USEPA default conversion factors for copper in freshwater are 0.96 for both the acute and the chronic criteria. Using the worst-case measured hardness from the effluent (33 mg/L as CaCO₃) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum four-day average concentration) is 2.45 µg/L and the applicable acute criterion (maximum one-hour average concentration) is 4.91 µg/L, as total recoverable.

The MEC for total copper was 13 µg/L, based on 4 samples collected between April 2004 and January 2005, while the maximum observed upstream receiving water total copper concentration was 9.6 µg/L, based on 4 samples collected between April 2004 and January 2005. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. The receiving water does not have assimilative capacity for copper, therefore, no dilution credit is allowed. An AMEL and MDEL for total copper of 2.5 µg/L and 4.9 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Attachment F, Table F-8 for WQBEL calculations).

Based on reported effluent data, the Discharger will be unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E, an interim performance-based maximum daily limitation of 40 µg/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b)*

documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.” The Discharger provided this information on 22 October 2007. The new WQBELs for copper become effective on **18 May 2010**.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final copper effluent limitations. The interim effluent limitations are in effect through **17 May 2010**. As part of the compliance schedule for copper, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3).

- j. **Cyanide.** The CTR includes maximum 1-hour average and 4-day average cyanide concentrations of 22 µg/L and 5.2 µg/L, respectively, for the protection of freshwater aquatic life. The MEC for cyanide was 50 µg/L, based on 4 samples collected between April 2004 and January 2005, while the maximum observed upstream receiving water cyanide concentration was non-detect, based on 4 samples collected between April 2004 and January 2005. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for cyanide.

The maximum observed cyanide concentration in the receiving water is less than the applicable water quality objective, therefore assimilative capacity for cyanide is available. The effluent limitation calculation procedures in Section 1.4 of the SIP allow for the granting of fresh water aquatic life dilution credit based on the estimated critical receiving water flow of the Stanislaus River, which would lead to a dilution credits of 67:1 and 68:1 for 1-hr average (acute) and 4-hr average (chronic) criteria, respectively (see Section IV.C.2.c).

WQBELs calculated using these allowable dilution credits result in an AMEL and MDEL of 293 mg/L and 588 mg/L, respectively. However, the Regional Water Board finds that granting of this dilution credit could allocate an unnecessarily large portion of the receiving water's assimilative capacity for cyanide and could violate the Antidegradation Policy. For this reason, a performance-based effluent limitation is more appropriate. A performance-based MDEL of 156 µg/l is included in this order and was calculated as described above for aluminum.

- k. **Lead.** The CTR includes hardness-dependent standards for the protection of freshwater aquatic life for lead. Using the worst-case measured hardness from the effluent (33 mg/L) and the lowest recorded receiving water hardness (8.4 mg/L), the applicable chronic criterion (maximum four-day average concentration) is 0.64 ug/L and the applicable acute criterion (maximum one-hour average concentration) is 17 ug/L, as total recoverable.

The MEC for total lead was 0.91 µg/L, based on 4 samples collected between

April 2004 and January 2005, while the maximum observed upstream receiving water total lead concentration was 0.78 µg/L, based on 4 samples collected between April 2004 and January 2005. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for lead.

The receiving water does not appear to have assimilative capacity for lead hence, no dilution credit is allowed. An AMEL and MDEL for total lead of 0.52 µg/L and 1.0 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Attachment F, Table F-10 for WQBEL calculations).

Based on reported effluent data, the Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E, an interim performance-based maximum daily limitation of 2.8 µg/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: *...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.”* The Discharger provided this information on 22 October 2007. The new WQBELs for lead become effective on **18 May 2010**.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final lead effluent limitations. The interim effluent limitations are in effect through **17 May 2010**. As part of the compliance schedule for lead, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3).

- I. **Methylene blue active substances (MBAS).** The Secondary Maximum Contaminant Level (MCL)-Consumer Acceptance Limit for foaming agents (MBAS) is 500 µg/L. Based on 4 samples collected between April 2004 and January 2005, the MEC was 2,100 µg/L while the maximum observed upstream receiving water MBAS concentration was 81 µg/L, which is less than the applicable water quality objective, therefore assimilative capacity for MBAS is

available. The effluent limitation calculation procedures in Section 1.4 of the SIP allow for the granting of human health dilution credit based on the estimated harmonic mean receiving water flow of the Stanislaus River, which would lead to a dilution credit of 262:1 for human health criteria (see Section IV.C.2.c).

WQBELs calculated using this allowable dilution credit results in an average annual effluent limitation of 54,885 µg/L. However, the Regional Water Board finds that granting of this dilution credit could allocate an unnecessarily large portion of the receiving water's assimilative capacity for MBAS and could violate the Antidegradation Policy. For this reason, a performance-based effluent limitation is more appropriate. A performance-based MDEL of 6,531 µg/l is included in this order and was calculated as described above for aluminum.

- m. **Nitrate and Nitrite.** Untreated domestic wastewater contains ammonia. Nitrification is a biological process that converts ammonia to nitrite and nitrite to nitrate. Denitrification is a process that converts nitrate to nitrite or nitric oxide and then to nitrous oxide or nitrogen gas, which is then released to the atmosphere. Nitrate and nitrite are known to cause adverse health effects in humans. The CDPH has adopted a Primary MCL at Title 22 of the California Code of Regulations (CCR), Table 64431-A, for the protection of human health for nitrate that is equal to 10 mg/L (measured as nitrogen) or 45 mg/L (measured as nitrate).

For nitrate and nitrite, USEPA has developed Drinking Water Standards (10 mg/L and 1.0 mg/l as Primary MCL, respectively) and Ambient Water Quality Criteria for protection of human health. Recent toxicity studies have indicated a possibility that nitrate is toxic to aquatic organisms.

The MEC of nitrate nitrogen (as N) from 4 monitoring events between April 2004 and January 2005 was 3.2 mg/L. This value does not exceed the California Primary MCL and therefore, no effluent limitation for Nitrate is included in this Order. However, the maximum effluent concentration in the discharge for nitrite was 9.9 mg/L based on 4 samples collected between April 2004 and January 2005. Based on this data, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the USEPA primary MCL of 1.0 mg/l for nitrite.

The maximum observed nitrite concentration in the receiving water is non-detect, therefore assimilative capacity for nitrite is available. The effluent limitation calculation procedures in Section 1.4 of the SIP allow for the granting of human health-based dilution credit based on the estimated critical receiving water flow of the Stanislaus River, which would lead to a harmonic mean dilution credit of 262:1 (see Section IV.C.2.c).

WQBELs calculated for nitrite using this allowable dilution credit resulted in an AMEL 263 mg/l. However, the Regional Water Board finds that granting of this dilution credit could allocate an unnecessarily large portion of the receiving

water's assimilative capacity for nitrite and could violate the Antidegradation Policy. Therefore, a performance-based MDEL of 31 mg/l is included in this order and was calculated as described above for aluminum.

- n. **Pathogens.** The beneficial uses of the Stanislaus River include municipal and domestic supply, water contact recreation, and agricultural irrigation supply. To protect these beneficial uses, the Regional Water Board finds that the wastewater must be disinfected and adequately treated to prevent disease. The principal infectious agents (pathogens) that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Tertiary treatment, consisting of chemical coagulation, sedimentation, and filtration, has been found to remove approximately 99.5% of viruses. Filtration is an effective means of reducing viruses and parasites from the waste stream. The wastewater must be treated to tertiary standards (filtered), or equivalent, to protect contact recreational and food crop irrigation uses.

The California Department of Public Health Services (CDPH) has developed reclamation criteria, CCR, Division 4, Chapter 3 (Title 22), for the reuse of wastewater. Title 22 requires that for spray irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, wastewater be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 m/ as a 7-day median. As coliform organisms are living and mobile, it is impracticable to quantify an exact number of coliform organisms and to establish weekly average limitations. Instead, coliform organisms are measured as a most probable number and regulated based on a 7-day median limitation.

Title 22 also requires that recycled water used as a source of water supply for non-restricted recreational impoundments be disinfected tertiary recycled water that has been subjected to conventional treatment. A non-restricted recreational impoundment is defined as "*...an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.*" Title 22 is not directly applicable to surface waters; however, the Regional Water Board finds that it is appropriate to apply an equivalent level of treatment to that required by CDPHS's reclamation criteria because the receiving water is used for irrigation of agricultural land and for contact recreation purposes. The stringent disinfection criteria of Title 22 are appropriate since the undiluted effluent may be used for the irrigation of food crops and/or for body-contact water recreation. Coliform organisms are intended as an indicator of the effectiveness of the entire treatment train and the effectiveness of removing other pathogens. The method of treatment is not prescribed by this Order; however, wastewater must be treated to a level equivalent to that recommended by CDPH.

In addition to coliform testing, a turbidity effluent limitation has been included as a second indicator of the effectiveness of the treatment process and to assure compliance with the required level of treatment. The tertiary treatment process, or equivalent, is capable of reliably meeting a turbidity limitation of 2

nephelometric turbidity units (NTU) as a daily average. Failure of the filtration system such that virus removal is impaired would normally result in increased particles in the effluent, which result in higher effluent turbidity. Turbidity has a major advantage for monitoring filter performance, allowing immediate detection of filter failure and rapid corrective action. Coliform testing, by comparison, is not conducted continuously and requires several hours, to days, to identify high coliform concentrations. Therefore, to ensure compliance with the CDPH recommended Title 22 disinfection criteria, weekly average effluent limitations are impracticable for turbidity.

- o. **pH.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the “...pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.” Effluent Limitations for pH are included in this Order based on the Basin Plan objectives for pH.

- p. **Salinity.** The discharge contains total dissolved solids (TDS), chloride, sulfate, and electrical conductivity (EC). These are water quality parameters that are indicative of the salinity of the water. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. The Basin Plan contains a chemical constituent objective that incorporates State MCLs and contains a narrative objective for EC, TDS, Sulfate, and Chloride. In addition, there are USEPA water quality criteria for the protection of aquatic organisms for chloride. See Table F-3, below, for the applicable water quality objectives.

Table F-4. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal ¹	Secondary MCL ³	USEPA Water Quality Criteria
EC (µmhos/cm)	Varies ²	900, 1600, 2200	N.A.
TDS (mg/L)	Varies	500, 1000, 1500	N.A.
Sulfate (mg/L)	Varies	250, 500, 600	N.A.
Chloride (mg/L)	Varies	250, 500, 600	230 (4-day) 860 (1-hr)

- 1 Agricultural water quality goals based on *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985)
- 2 The EC level in irrigation water that harms crop production depends on the crop type, soil type, irrigation methods, rainfall, and other factors. An EC level of 700 umhos/cm is generally considered to present no risk of salinity impacts to crops. However, many crops are grown successfully with higher salinities.
- 3 The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.

- i. **Chloride.** The secondary MCL for chloride is 250 mg/L, as recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. The recommended agricultural water quality goal for chloride, that would apply the narrative chemical constituent objective, is 106 mg/L as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 106 mg/L water quality goal is intended to protect against adverse effects on sensitive crops when irrigated via sprinklers.

Chloride concentrations in the effluent ranged from 31 mg/L to 48 mg/L, with an average of 42 mg/L, for 4 samples collected by the Discharger from April 2004 through January 2005. Background concentrations in receiving water averaged 2 mg/L from 4 samples collected by the Discharger from April 2004 through January 2005. Both the receiving water and the effluent are within the agricultural water quality goal of 106 mg/L. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for Chloride.

- ii. **Electrical Conductivity (EC).** The secondary MCL for EC is 900 μ mhos/cm as a recommended level, 1600 μ mhos/cm as an upper level, and 2200 μ mhos/cm as a short-term maximum. The agricultural water quality goal, that would apply the narrative chemical constituents objective, is 700 μ mhos/cm as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). The 700 μ mhos/cm agricultural water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops, such as beans, carrots, turnips, and strawberries. Most other crops can tolerate higher EC concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the EC, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

EC concentrations in the effluent samples collected from April 2004 through January 2005, averaged 390 μ mhos/cm, with a minimum effluent level of 350 μ mhos/cm, and a maximum effluent level of 460 μ mhos/cm, based on the results of four samples. The background receiving water EC averaged 40 μ mhos/cm from 4 sampling events collected by the Discharger from April 2004 through January 2005. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for EC.

- iii. **Sulfate.** The secondary MCL for sulfate is 250 mg/L as recommended level, 500 mg/L as an upper level, and 600 mg/L as a short-term maximum. Sulfate concentrations in the effluent ranged from 18 mg/L to 55 mg/L, with an average of 32 mg/L, for 4 samples collected by the Discharger from April

2004 through January 2005. Background concentrations in receiving water ranged from 0.88 mg/L to 1.2 mg/L, with an average of 0.96 mg/L, for 4 samples collected by the Discharger from April 2004 through January 2005. The effluent does not exceed the secondary MCL recommended level of 250 mg/L. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for Sulfate.

- iv. **Total Dissolved Solids (TDS).** The secondary MCL for TDS is 500 mg/L as a recommended level, 1000 mg/L as an upper level, and 1500 mg/L as a short-term maximum. The recommended agricultural water quality goal for TDS, that would apply the narrative chemical constituent objective, is 450 mg/L as a long-term average based on Water Quality for Agriculture, Food and Agriculture Organization of the United Nations—Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985). Water Quality for Agriculture evaluates the impacts of salinity levels on crop tolerance and yield reduction, and establishes water quality goals that are protective of the agricultural uses. The 450 mg/L water quality goal is intended to prevent reduction in crop yield, i.e. a restriction on use of water, for salt-sensitive crops. Only the most salt sensitive crops require irrigation water of 450 mg/L or less to prevent loss of yield. Most other crops can tolerate higher TDS concentrations without harm, however, as the salinity of the irrigation water increases, more crops are potentially harmed by the TDS, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

A review of the Discharger's monitoring reports for the samples collected from April 2004 through January 2005, indicates an average TDS effluent concentration of 205 mg/l, a minimum effluent concentration of 160 mg/l, and a maximum effluent concentration of 230 mg/l (based on 4 data points). The background receiving water TDS averaged 32 mg/L from 4 sampling events performed by the Discharger from April 2004 through January 2005. Based on this data, the discharge does not have a reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for TDS.

- v. **Salinity Effluent Limitations.** Based on the low reported salinity in the effluent, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity. However, since the receiving water is tributary to the Sacramento-San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Therefore, this Order requires the Discharger to develop a salinity evaluation and minimization plan to address sources of salinity from the domestic wastewater treatment system.
- q. **Settleable Solids.** For inland surface waters, the Basin Plan states that "[w]ater shall not contain substances in concentrations that result in the deposition of

material that causes nuisance or adversely affects beneficial uses.” This Order contains average monthly and maximum daily effluent limitations for settleable solids.

Because the amount of settleable solids is measured in terms of volume per volume without a mass component, it is impracticable to calculate mass limitations for inclusion in this Order. A daily maximum effluent limitation for settleable solids is included in the Order, in lieu of a weekly average, to ensure that the treatment works operate in accordance with design capabilities.

- r. **Toxicity.** See Section IV.C.5. of the Fact Sheet regarding whole effluent toxicity.
- s. **Zinc.** The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. The criteria for zinc are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for zinc in freshwater are 0.978 for the acute criteria and 0.986 for the chronic criteria. Using the reasonable worst-case effluent hardness, (33 mg/L as CaCO₃), the applicable chronic criterion (maximum four-day average concentration) and the applicable acute criterion (maximum one-hour average concentration) are 23.30 µg/L and 46.74 µg/L, respectively, as total recoverable.

The MEC for total zinc was 85 µg/L, based on 4 samples collected between April 2004 and January 2005, while the maximum observed upstream receiving water total zinc concentration was 160 µg/L, based on 4 samples collected between April 2004 and January 2005. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for zinc. Since the receiving water exceeds both the acute and chronic toxicity criteria, no assimilative capacity for zinc is available and a dilution credit cannot be allowed. An AMEL and MDEL for total zinc of 23 µg/L and 47 µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life (See Attachment F, Table F-11 for WQBEL calculations).

Based on reported effluent data, the Discharger will be unable to comply with these new limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E, an interim performance-based maximum daily limitation of 264 µg/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.”* Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted:

...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.” The Discharger provided this information on 22 October 2007. The new WQBELs for *zinc* become effective on **18 May 2010**.

This Order requires the Discharger to submit a corrective action plan and implementation schedule to assure compliance with the final *zinc* effluent limitations. The interim effluent limitations are in effect through **17 May 2010**. As part of the compliance schedule for *zinc*, the Discharger shall develop a pollution prevention program in compliance with CWC section 13263.3(d)(3).

Table F-5. RPA for Effluent Constituents with Detectable Results

Parameter (units)	N ²	Cv ²	RPA multiplier ²	MEC ²	B ²	WQO/WQC ²	Source	RP ¹
Chloroform (µg/L)	4	0.6	1	3.7	ND	1.1	USEPA Primary MCL	N
Aluminum (µg/L)	4	0.6	1	810	130	87/750	USEPA Recommended WQ Criteria	Y
Ammonia (mg/L)	4	0.6	1	16	0.08	1.02 ^{3,7}	USEPA Recommended WQ Criteria	Y
Chloride (mg/L)	2	0.6	1	48	1.3	106	Agri. goal	N
Arsenic (µg/L)	2	0.6	1	0.67	0.44	10	USEPA Primary MCL	N
Antimony (µg/L)	4	0.6	1	2.5	ND	6	Primary MCL	N
Barium (µg/L)	4	0.6	1	13	36	1000	Calif Primary MCL	N
Berillium (µg/L)	4	0.6	1	0.37	0.75	4	Calif Primary MCL	N
Chromium Total (µg/L)	4	0.6	1	6.3	2.2	50	USEPA Primary MCL	N
Copper (µg/L)	4	0.6	1	13	9.6	3.47 ⁴	Calif. Toxic Rule	Y
Cyanide	4	0.6	1	50	ND	5.2 ⁷	Calif. Toxic Rule	Y
Fluoride (µg/L)	4	0.6	1	0.1	0.48	1000	Agri. WQ Goal	I
Iron (µg/L)	4	0.6	1	200	120	300	Calif. Secondary MCL	N
Lead (µg/L)	4	0.6	1	0.91	0.78	0.64 ^{4,5}	Calif Toxic Rule	Y
Mercury (ng/l)	4	0.6	1	1.42	2.07	50	CTR Human Health	N
Manganese (µg/L)	4	0.6	1	20	14	50	Calif. Secondary MCL	N
Nickel (µg/L)	4		1	3.9	1.5	81/735	Calif. Toxic Rule	N
Zinc ((µg/L)	4	0.6	1	85	160	45.8 ⁴	Calif. Toxic Rule	Y
Tributyltin (µg/L)	4	0.6	1	0.01	0.005	0.07	Ambient Water Quality	N
EC (µmhos/cm)	4	0.6	1	460	47	700 ⁸	Agri. WQ goal	N
Foaming Agents (MBAS)	4	0.6	1	2100	81	500/500 ⁷	Calif. Secondary MCL	I
Hardness mg/l as CaCo3	4	0.6	1	37/33	10/8.4	5000		N
Nitrate (mg/l)	4	0.6	1	3.2	0.1	10	Calif. Primary MCL	N
Nitrite (mg/l)	4	0.6	1	9.9	ND	1.0	Calif. Prmmary MCL	Y
Sulfates (mg/l)	4	0.6	1	55	1.2	250	Calif. Secondary MCL	N
TDS (mg/L) ⁶	4	0.6	1	240	38	450 ⁸	Agri. WQ Goal	N

¹ Reasonable Potential ? N: No, Y: Yes, I: Incomplete data

² n: number of data points available; cv: statistically determined coefficient of variation; RPA multiplier: 99th percentile multiplier; MEC: maximum effluent concentration; N.D. Not detected; B: background receiving water concentration; WQO/WQC: applicable water quality objective/water quality criteria.

³ The maximum receiving water temperature (21.37⁰C) and maximum effluent pH (8.5) were used to calculate the criterion.

⁴ Minimum Effluent hardness of 33 mg/l as CaCO₃ was used to calculate the criterion.

⁵ Minimum receiving water hardness of 8.4 mg/l as CaCO₃ was used to calculate the criterion.

⁶ Effluent and receiving water data from April 2004 to January 2005.

⁷ Final Effluent limitations for ammonia, cyanide and MBAS were calculated using allowable dilution credits.

⁸ RPA screening value.

4. WQBEL Calculations

- a. Effluent limitations for, aluminum, copper, lead and zinc were calculated in accordance with section 1.4 of the SIP and the TSD. For ammonia, cyanide, nitrite, and MBAS a performance-based maximum daily effluent limitations are included in this order.
- b. **Effluent Limitation Calculations.** In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA_{acute} = CMC \qquad ECA_{chronic} = CCC$$

For the human health, agriculture, or other long-term criterion/objective, a dilution credit can be applied. The ECA is calculated as follows:

$$ECA_{HH} = HH + D(HH - B)$$

where:

ECA_{acute} = effluent concentration allowance for acute (one-hour average) toxicity criterion

$ECA_{chronic}$ = effluent concentration allowance for chronic (four-day average) toxicity criterion

ECA_{HH} = effluent concentration allowance for human health, agriculture, or other long-term criterion/objective

CMC = criteria maximum concentration (one-hour average)

CCC = criteria continuous concentration (four-day average, unless otherwise noted)

HH = human health, agriculture, or other long-term criterion/objective

D = dilution credit

B = maximum receiving water concentration

Acute and chronic toxicity ECAs were then converted to equivalent long-term averages (LTA) using statistical multipliers and the lowest is used. Additional statistical multipliers were then used to calculate the maximum daily effluent limitation (MDEL) and the average monthly effluent limitation (AMEL).

Human health ECAs are set equal to the AMEL and a statistical multiplier is used to calculate the MDEL.

$$\begin{aligned}
 AMEL &= mult_{AMEL} \left[\min \left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic} \right) \right] \\
 MDEL &= mult_{MDEL} \left[\min \left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}} \right) \right] \\
 MDEL_{HH} &= \left(\frac{mult_{MDEL}}{mult_{AMEL}} \right) AMEL_{HH}
 \end{aligned}$$

where: $mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
 $mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
 M_A = statistical multiplier converting CMC to LTA
 M_C = statistical multiplier converting CCC to LTA

Water quality-based effluent limitations were calculated for aluminum, ammonia, copper, cyanide, lead, MBAS, nitrite and zinc as follows in Tables F-5 through F-11, below. In calculating water quality-based effluent limitations for ammonia, cyanide, MBAS, and nitrite, dilution credits from the receiving water were considered. As discussed above in Section IV.C.3., the Regional Water Board finds the Discharger can meet more stringent performance-based effluent limitations for ammonia, cyanide, MBAS, and nitrite. Therefore, performance-based maximum daily effluent limitations are included in this Order.

Table F-6: WQBEL Calculations for Ammonia

	Acute	Chronic
pH ⁽¹⁾	8.5	7.0
Temperature °C ⁽²⁾	N/A	7.7
Criteria (mg/L) ⁽³⁾	2.14	1.09
Dilution Credit	67	68
ECA	140	69
ECA Multiplier	0.321	0.527
LTA ⁽⁴⁾	45	36
AMEL Multiplier (95 th %)	⁽⁵⁾	1.55
AMEL (mg/L)	⁽⁵⁾	56
MDEL Multiplier (99 th %)	⁽⁵⁾	3.11
MDEL (mg/L)	⁽⁵⁾	112

⁽¹⁾ Acute design pH = 8.5 (max. allowed effluent pH), Chronic design pH = median receiving stream pH
⁽²⁾ Temperature = Maximum 30-day average seasonal effluent temperature
⁽³⁾ USEPA Ambient Water Quality Criteria
⁽⁴⁾ LTA developed based on Acute and Chronic ECA Multipliers per sections 5.4.1 and 5.5.4 of TSD.
⁽⁵⁾ AMEL & MDEL calculated based on chronic LTA (Chronic LTA < Acute LTA) but final effluent limitations are performance based

Table F-7: WQBEL Calculations for Aluminum

	Acute	Chronic
Criteria (µg/L) ⁽¹⁾	750	87
Dilution Credit	No Dilution	No Dilution
ECA	750	87
ECA Multiplier	0.321	0.527
LTA	241	46
AMEL Multiplier (95 th %)	(2)	1.55
AMEL (µg/L)	(2)	71
MDEL Multiplier (99 th %)	(2)	3.11
MDEL (µg/L)	(2)	143

⁽¹⁾ USEPA Ambient Water Quality Criteria

⁽²⁾ Limitations based on chronic LTA (Chronic LTA < Acute LTA)

Table F-8: WQBEL Calculations for Copper

	Acute	Chronic
Criteria, dissolved (µg/L) ⁽¹⁾	4.73	3.47
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.96	0.96
ECA, total recoverable ⁽³⁾	4.93	3.61
ECA Multiplier ⁽⁴⁾	0.321	0.527
LTA	1.58	1.90
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	1.55	⁽⁸⁾
AMEL (µg/L)	2.5	⁽⁸⁾
MDEL Multiplier (99 th %) ⁽⁷⁾	3.11	⁽⁸⁾
MDEL (µg/L)	4.9	⁽⁸⁾

⁽¹⁾ CTR aquatic life criteria, based on a minimum effluent hardness of 33 mg/L as CaCO₃.

⁽²⁾ EPA Translator used as default.

⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP.

⁽⁴⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.

⁽⁵⁾ Assumes sampling frequency n= 4.

⁽⁶⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.

⁽⁷⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.

⁽⁸⁾ Limitations based on acute LTA (Chronic LTA > Acute LTA)

Table F-9: WQBEL Calculations for Cyanide

	Acute	Chronic
Criteria, (µg/L) ⁽¹⁾	22	5.2
Dilution Credit	67	68
ECA ⁽²⁾	1496	359
ECA Multiplier ⁽³⁾	0.321	0.527
LTA	480	189
AMEL Multiplier (95 th %) ⁽⁴⁾⁽⁵⁾	⁽⁷⁾	1.55
AMEL (µg/L)	⁽⁷⁾	293
MDEL Multiplier (99 th %) ⁽⁶⁾	⁽⁷⁾	3.11
MDEL (µg/L)	⁽⁷⁾	588

- ⁽¹⁾ CTR fresh water aquatic life criteria.
⁽²⁾ ECA calculated per section 1.4.B, Step 2 of SIP.
⁽³⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
⁽⁴⁾ Assumes sampling frequency n= <4.
⁽⁵⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
⁽⁶⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
⁽⁷⁾ AMEL & MDEL based on chronic LTA (Chronic LTA < Acute LTA) but final effluent limitations are performance based.

Table F-10: WQBEL Calculations for Lead

	Acute	Chronic
Criteria, total recoverable (µg/L) ⁽¹⁾	16	0.61
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.953	0.953
ECA, total recoverable ⁽³⁾	17	0.64
ECA Multiplier ⁽⁴⁾	0.321	0.527
LTA	5.5	0.33
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	⁽⁸⁾	1.55
AMEL (µg/L)	⁽⁸⁾	0.52
MDEL Multiplier (99 th %) ⁽⁷⁾	⁽⁸⁾	3.11
MDEL (µg/L)	⁽⁸⁾	1.0

- ⁽¹⁾ CTR aquatic life criteria, based on effluent hardness of 33 mg/L as CaCO₃ and a minimum receiving water hardness of 8.4 mg/l as CaCO₃.
⁽²⁾ EPA Translator used as default.
⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
⁽⁴⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
⁽⁵⁾ Assumes sampling frequency n= <4.
⁽⁶⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
⁽⁷⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
⁽⁸⁾ Limitations based on chronic LTA (Chronic LTA < Acute LTA)

Table F-11: WQBEL Calculations for Zinc

	Acute	Chronic
Criteria, dissolved (µg/L) ⁽¹⁾	45.8	46.18
Dilution Credit	No Dilution	No Dilution
Translator ⁽²⁾	0.978	0.986
ECA, total recoverable ⁽³⁾	46.83	46.84
ECA Multiplier ⁽⁴⁾	0.321	0.527
LTA	15.03	24.68
AMEL Multiplier (95 th %) ⁽⁵⁾⁽⁶⁾	1.55	⁽⁸⁾
AMEL (µg/L)	23	⁽⁸⁾
MDEL Multiplier (99 th %) ⁽⁷⁾	3.11	⁽⁸⁾
MDEL (µg/L)	47	⁽⁸⁾

- ⁽¹⁾ CTR aquatic life criteria, based on a minimum effluent hardness of 33 mg/L as CaCO₃.
- ⁽²⁾ EPA Translator used as default.
- ⁽³⁾ ECA calculated per section 1.4.B, Step 2 of SIP. This allows for the consideration of dilution.
- ⁽⁴⁾ Acute and Chronic ECA Multiplier calculated at 99th percentile per section 1.4.B, Step 3 of SIP or per sections 5.4.1 and 5.5.4 of the TSD.
- ⁽⁵⁾ Assumes sampling frequency n= 4.
- ⁽⁶⁾ The probability basis for AMEL is 95th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- ⁽⁷⁾ The probability basis for MDEL is 99th percentile per section 1.4.B, Step 5 of SIP or section 5.5.4 of the TSD.
- ⁽⁸⁾ Limitations based on acute LTA (Acute LTA < Chronic LTA)

**Summary of Water Quality-based Effluent Limitations
 Discharge Point (D-001)**

Table F-12. Summary of Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Ammonia	mg/l	---		112 ¹		
Settleable Solids	ml/l	0.1		0.2		
Foaming Agents (MBAS)	µg/L	---		54,885 ¹		
Nitrite	mg/l	215 ¹		--		
pH	Std. Units				6.5	8.5
Aluminum	µg/l	71		143		
Cyanide	µg/l	---		588 ¹		
Copper	µg/l	2.5	--	4.9		
Lead	µg/l	0.52		1.0		
Zinc	µg/l	23	--	47		

¹ Limitations are calculated using allowable dilution credits. However, final effluent limitations for compliance with ammonia (50mg/l), cyanide (156 µg/l), MBAS (6,531 µg/l) and nitrite (31 mg/l) are based on plant performance – see Section IV.C.3.

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). This Order also contains effluent limitations for acute toxicity and

requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00) The Basin Plan also states that, “...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...”. USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." Though effluent acute toxicity limitations were included in the previous Order, monitoring results were not available. Accordingly, annual effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay -----	70%
Median for any three or more consecutive bioassays -----	90%

b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan’s narrative toxicity objective. Attachment E of this Order requires quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, Special Provisions VI.C.2.a. requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

D. Final Effluent Limitations

1. Mass-based Effluent Limitations.

Title 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g. CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated based upon the permitted average daily discharge flow allowed in Section IV.A.1.f. of the Limitations and Discharge Requirements.

2. Averaging Periods for Effluent Limitations.

Title 40 CFR 122.45 (d) requires average weekly and average monthly discharge limitations for publicly owned treatment works (POTWs) unless impracticable. However, for toxic pollutants and pollutant parameters in water quality permitting, the US EPA recommends the use of a maximum daily effluent limitation in lieu of average weekly effluent limitations for two reasons. *“First, the basis for the 7-day average for POTWs derives from the secondary treatment requirements. This basis is not related to the need for assuring achievement of water quality standards. Second, a 7-day average, which could comprise up to seven or more daily samples, could average out peak toxic concentrations and therefore the discharge’s potential for causing acute toxic effects would be missed.”* (TSD, pg. 96) This Order utilizes maximum daily effluent limitations in lieu of average weekly effluent limitations for aluminum, copper, lead, and zinc as recommended by the TSD for the achievement of water quality standards and for the protection of the beneficial uses of the receiving stream. Furthermore, for BOD, TSS, pH, coliform, and turbidity, weekly average effluent limitations have been replaced or supplemented with effluent limitations utilizing shorter averaging periods. The rationale for using shorter averaging periods for these constituents is discussed in Attachment F, Section IV.C.3., above.

3. Satisfaction of Anti-Backsliding Requirements.

Not Applicable. It is a new discharge.

4. Satisfaction of Antidegradation Policy

A wastewater treatment facility which produces a waste or increased concentration of waste and which discharges or proposes to discharge to existing high quality waters is required to meet requirements which will result in the best practicable

treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur, and to ensure the highest water quality consistent with the maximum benefit to the people of the State will be maintained.

The Order requires compliance with applicable federal technology-based standards and with water quality-based effluent limits (WQBELs) where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The Stanislaus River provides significant dilution (> 67:1) with additional dilution in the Collierville Tunnel. Where assimilative capacity was available, dilution was considered in the calculation of the WQBELs. However, this Order includes more stringent performance-based effluent limitations in all cases where dilution credits were allowed. In addition, this Order requires that the wastewater be treated to a tertiary level (Title 22 or its equivalent) prior to discharge, which is considered best practicable treatment or control (BPTC) for most constituents. Furthermore, this Order only allows a surface water discharge as a last resort after all effluent storage capacity has been exhausted and is only allowed to occur during the winter months.

A discussion of the constituents of concern is provided below:

- **Organic Constituents of Concern.** With regard to the chlorine disinfection by-products, the use of a UV disinfection process associated with the tertiary treatment system will result in a significant reduction in the concentration of these products.
- **Inorganic Constituents of Concern.** Effluent concentration limits for aluminum, ammonia, nitrite, copper, cyanide, lead, MBAS, and zinc are included in this Order for the protection of the aquatic life and municipal and domestic supply beneficial uses. Effluent limits for these constituents have been established in this Order to ensure the discharge does not cause or contribute to an exceedance of water quality objectives for these constituents in the receiving water.
- **Temperature, DO, Turbidity, and Salinity.** With regard to temperature, dissolved oxygen, and turbidity, the discharge will only occur during times of high river flows (i.e. during wet winters), and there is significant dilution (>67:1) therefore, the discharge will result in no significant changes in temperature, dissolved oxygen, or turbidity in the Stanislaus River. With regards to salinity, based on the low reported salinity in the effluent, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion of water quality objectives for salinity. However, since the receiving water is tributary to the Sacramento-San Joaquin Delta, of additional concern is the salt contribution to Delta waters. Therefore, this Order requires the Discharger to develop a salinity evaluation and minimization plan to address sources of salinity from the domestic wastewater treatment system.

The increase in volume and mass of pollutants from the new discharge will not have significant impacts on aquatic life, municipal and domestic supply, and recreation uses, which are the beneficial uses most likely affected by the pollutants discharged. The proposed discharge to the Stanislaus River will not cause a violation of water quality objectives. The proposed discharge will result in some minimal degradation of waters of the state and navigable waters of the United States, but in this case, such degradation is consistent with the maximum benefit to the people of the state. Limited degradation that does not cause exceedance of water quality objectives is warranted to allow for the economic benefit stemming from local growth. In this case, the Forest Meadows is growing and continued treatment of wastewater is necessary to protect water quality and accommodate growth. The Regional Water Board does not have the jurisdiction to control growth in Forest Meadows, but is required to assure that the discharge is adequately treated. The proposed Order allows wastewater utility service necessary to accommodate housing and economic expansion in the area, and is considered to be a benefit to the people of the State. Additionally, the receiving water has not been designated by the State as an "Outstanding National Resource Waters". Compliance with these requirements will result in the use of best practicable treatment or control of the discharge and the impact on existing water quality will be insignificant.

**Summary of Final Effluent Limitations
 Discharge Point (Stanislaus River – 001)
 Table F-13. Summary of Final Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
5-Day BOD	mg/l	10	--	20		
	lbs/day ¹	70		140		
Total Suspended Solids	mg/l	10	--	20		
	lbs/day ¹	70		140		
Turbidity	NTU					10
Total Coliform	MPN/100ml					240
Settleable Solids	ml/l	0.1		0.2		
pH	Std. Units	--	--	--	6.5	8.5
Chlorine Residual	mg/l	0.01		0.02		
Foaming Agents (MBAS)	µg/L	---		6,531 ²		
Nitrite (as N)	mg/l			31 ²		
Ammonia	mg/l	---		50 ²		
	lbs/day ¹	---		350		
Aluminum	µg/L	71		143		
Copper	µg/ ¹	2.5	--	4.9		
Cyanide	µg/ ¹	--		156 ²		
Lead	µg/ ¹	0.52		1.0		
Zinc	µg/ ¹	23	--	47		

¹ Based on a design flow of 0.84 million gallons per day

² Limitations are calculated using allowable dilution credits but final effluent limitations are based on plant performance

- a. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 85 percent.
- b. **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.
- c. **Turbidity.** Effluent turbidity shall not exceed:
 - i. 2 NTU, as a daily average; and
 - ii. 5 NTU, more than 5 percent of the time within a 24-hour period.
- d. **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.
- e. **Average Daily Discharge Flow.** The Average Daily Discharge Flow shall not exceed 0.84 mgd.

E. Interim Effluent Limitations

1. **Constituents.** The SIP, section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. The State Water Board has held that the SIP may be used as guidance for non-CTR constituents. Therefore, the SIP requirement for interim effluent limitations has been applied to both CTR and non-CTR constituents in this Order. The SIP allows for compliance schedules for CTR criteria based-effluent limitations to extend up to 5 years (however does not require 5 years be granted) from the date of permit issuance, reissuance, or modification. The SIP further states that in no case shall a compliance schedule exceed 10 years from the effective date of the SIP for CTR criterion-based effluent limitations (17 May 2010). Thus, compliance with CTR criterion-based effluent limitations must be achieved by 17 May 2010.

The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995. The WQBEL for non-CTR aluminum is a new interpretation of a water quality objective. The Basin Plan allows for up to 10 years (however does not require 10 years be granted) for compliance with non-CTR criterion based effluent limitations. Aluminum data submitted by the Discharger indicates the Discharger has not been capable of maintaining compliance with the effluent limitations for this constituent from October 2004 to the most recent data available. However, with the proposed minor modifications to the treatment plant, the Discharger is expected to comply with the new effluent limitations for aluminum. Thus, a schedule shorter than 10 years to

achieve consistent compliance with the final effluent limitation for this constituent is more appropriate. Therefore, the Discharger must achieve compliance with non-CTR criterion based effluent limitations by 17 May 2010.

The interim limitations for *aluminum, copper, lead, and zinc* in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are 10 sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the interim limitations in this Order, where applicable, are established as the mean plus 3.3 standard deviations of the available data.

When there are less than 10 sampling data points available, the *Technical Support Document for Water Quality- Based Toxics Control* ((EPA/505/2-90-001), TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of 10 data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than 10 sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed effluent concentration to obtain the daily maximum interim limitation (TSD, Table 5-2).

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

F. Land Discharge Specifications

As set forth in WDR No. 5-00-066

G. Reclamation Specifications

Treated wastewater discharged for reclamation is regulated under separate waste discharge requirements.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and tastes and odors. The toxicity objective requires that surface water and groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective requires that surface water and groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The tastes and odors objective states that surface water and groundwater shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, toxic substances, radionuclides, or taste and odor producing substances in concentrations that adversely affect domestic drinking water supply, agricultural supply, or any other beneficial use.

A. Surface Water

1. CWA section 303(a-c) requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Board will apply to regional waters in order to protect the beneficial uses.” The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, and electrical conductivity.

Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving Surface Water Limitations. Rational for these numeric receiving surface water limitations are as follows:

- a. **Bacteria.** The Stanislaus River has been designated as having the beneficial use of contact recreation (REC-1). For water bodies designated as having REC-1 as a beneficial use, the Basin Plan includes a water quality objective limiting the “...fecal coliform concentration based on a minimum of not less than five samples for any 30-day period...” to a maximum geometric mean of 23 MPN/100 ml. The objective also states that “...[no] more than ten percent of the total number of samples taken during any 30-day period [shall] exceed 240/100 ml.” This objective is included in the Order as a receiving water limitation.

- b. **Biostimulatory Substances.** The Basin Plan includes a water quality objective that “[W]ater shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for biostimulatory substances are included in this Order and are based on the Basin Plan objective.
- c. **Color.** The Basin Plan includes a water quality objective that “[W]ater shall be free of discoloration that causes nuisance or adversely affects beneficial uses.” Receiving Water Limitations for color are included in this Order and are based on the Basin Plan objective.
- d. **Chemical Constituents.** The Basin Plan includes a water quality objective that “[W]aters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.” Receiving Water Limitations for chemical constituents are included in this Order and are based on the Basin Plan objective.
- e. **Dissolved Oxygen.** The Stanislaus River has been designated as having the beneficial use of cold freshwater aquatic habitat (COLD). For water bodies designated as having COLD as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/L of dissolved oxygen. Since the beneficial use of COLD does apply to the Stanislaus River, a receiving water limitation of 7.0 mg/L for dissolved oxygen was included in this Order.

For surface water bodies outside of the Delta, the Basin Plan includes the water quality objective that “...the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation.” This objective was included as a receiving water limitation in this Order.

- f. **Floating Material.** The Basin Plan includes a water quality objective that “[W]ater shall not contain floating material in amounts that cause nuisance or adversely affect beneficial uses.” Receiving Water Limitations for floating material are included in this Order and are based on the Basin Plan objective.
- g. **Oil and Grease.** The Basin Plan includes a water quality objective that “[W]aters shall not contain oils, greases, waxes, or other materials 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.” Receiving Water Limitations for oil and grease are included in this Order and are based on the Basin Plan objective.
- h. **pH.** The Basin Plan includes water quality objective that “[T]he pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses”. This Order includes receiving water limitations for both pH range and pH change.

- The Basin Plan allows an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and a monthly averaging period for determining compliance with the 0.5 receiving water pH limitation is included in this Order.
- i. **Pesticides.** The Basin Plan includes a water quality objective for pesticides beginning on page III-6.00. Receiving Water Limitations for pesticides are included in this Order and are based on the Basin Plan objective.
 - j. **Radioactivity.** The Basin Plan includes a water quality objective that *“[R]adionuclides shall not 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.”* The Basin Plan states further that *“[A]t a minimum, waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations...”* Receiving Water Limitations for radioactivity are included in this Order and are based on the Basin Plan objective.
 - k. **Sediment.** The Basin Plan includes a water quality objective that *“[T]he suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses”* Receiving Water Limitations for suspended sediments are included in this Order and are based on the Basin Plan objective.
 - l. **Settleable Material.** The Basin Plan includes a water quality objective that *“[W]aters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.”* Receiving Water Limitations for settleable material are included in this Order and are based on the Basin Plan objective.
 - m. **Suspended Material.** The Basin Plan includes a water quality objective that *“[W]aters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.”* Receiving Water Limitations for suspended material are included in this Order and are based on the Basin Plan objective.
 - n. **Taste and Odors.** The Basin Plan includes a water quality objective that *“[W]ater shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.”* Receiving Water Limitations for taste- or odor-producing substances are included in this Order and are based on the Basin Plan objective.

- o. **Temperature.** The Stanislaus River has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.” This Order includes a receiving water limitation based on this objective.
- p. **Toxicity.** The Basin Plan includes a water quality objective that “[A]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” Receiving Water Limitations for toxicity are included in this Order and are based on the Basin Plan objective.
- q. **Turbidity.** The Basin Plan includes a water quality objective that “[I]ncreases in turbidity attributable to controllable water quality factors shall not exceed the following limits:
- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
 - Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
 - Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
 - Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”

A numeric Receiving Surface Water Limitation for turbidity is included in this Order and is based on the Basin Plan objective for turbidity

B. Groundwater

Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 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 (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

1. Influent monitoring is required to collect data on the characteristics of the wastewater and to assess compliance with effluent limitations (e.g., BOD and TSS reduction requirements).

B. Effluent Monitoring

1. Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Quarterly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.
2. **Chronic Toxicity.** Quarterly chronic whole effluent toxicity testing is required in order to demonstrate compliance with the Basin Plan's narrative toxicity objective.

D. Receiving Water Monitoring

1. Surface Water

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

2. Groundwater

Not Applicable.

E. Other Monitoring Requirements

1. Biosolids Monitoring

Not Applicable.

2. Water Supply Monitoring

Water supply monitoring is required to evaluate the source of constituents in the wastewater.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

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

B. Special Provisions

1. Reopener Provisions

- a. **Mercury (Special Provision VI.C.1.a).** This provision allows the Regional Water Board to reopen this Order in the event mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL program is adopted. In addition, this Order may be reopened if the Regional Water Board determines that a mercury offset program is feasible for dischargers subject to NPDES permits.
- b. **Pollution Prevention (Special Provision VI.C.1.b).** This Order requires the Discharger prepare and implement pollution prevention plans following CWC section 13263.3(d)(3) for *aluminum, copper, lead, and zinc*. This re-opener provision allows the Regional Water Board to reopen this Order for addition and/or modification of effluent limitations and requirements for these constituents based on a review of the pollution prevention plans.
- c. **Whole Effluent Toxicity (Special Provision VI.C.1.c).** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a Toxicity Reduction Evaluation (TRE). This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

- d. **Water Effects Ratio (WER), Metal Translators and Dynamic Modeling- (Special Provision VI.C.1.d).** A default WER of 1.0 has been used in this Order for calculating CTR criteria for applicable priority pollutant inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable when developing effluent limitations for copper, lead and zinc. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, or develops a dynamic model for effluent limitation calculations approved by the Regional Water Board, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

2. Special Studies and Additional Monitoring Requirements

- a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life." (Basin Plan at III-8.00.) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires Quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of $> 25 \text{ TUc}$ (where $\text{TUc} = 100/\text{NOEC}$) is applied in the provision. As discussed in Section IV.C.2.c., a dilution credit of up to 68:1 may be allowed for chronic aquatic toxicity, which would result in a monitoring trigger of 68 TUc. However, since the entire dilution credit has not been allowed for toxic pollutants (i.e. ammonia and cyanide), the monitoring trigger has been calculated based on the maximum allowed dilution credit for toxic pollutants. With a monitoring trigger of 25 TUc, a TRE is triggered when the effluent exhibits a pattern of toxicity at 4 percent effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is a pattern of toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six week period (i.e. one every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, March 1991* (TSD). The TSD at page 118 states, “EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required.” Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

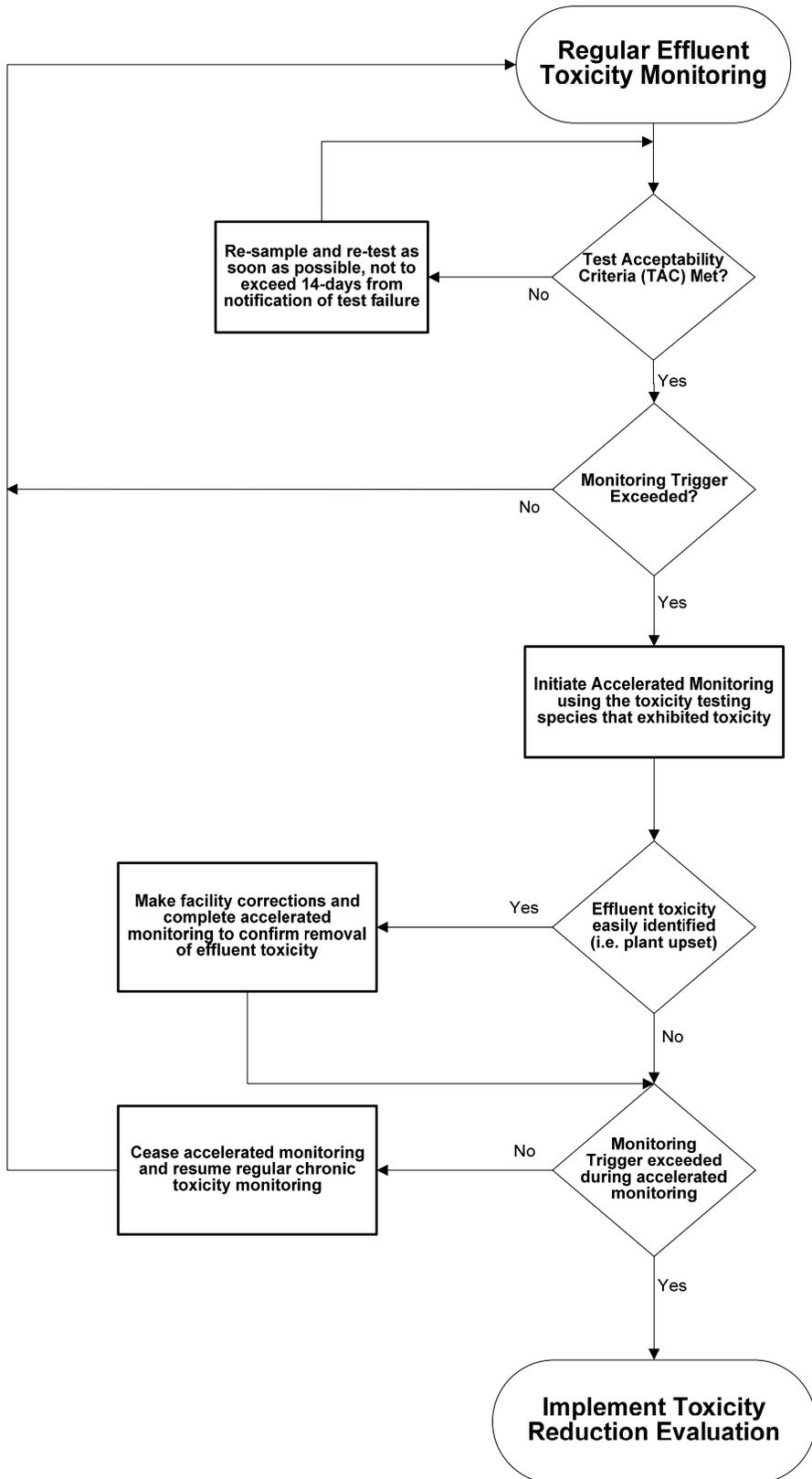
- *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, (EPA/833B-99/002), August 1999.
- *Generalized Methodology for Conducting Industrial TREs*, (EPA/600/2-88/070), April 1989.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/005F, February 1991.
- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/080, September 1993.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

- *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA-821-R-02-012, October 2002.
- *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.
- *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

- b. **Mercury Monitoring Requirements.** The Discharger's effluent contains mercury, a bioaccumulative pollutant, and therefore has a reasonable potential to cause or contribute to an exceedance of the narrative water quality objective. There is inadequate information to establish limitations for mercury. The Discharger is required to monitor and report mercury concentrations in accordance with Attachment E. After receipt of twelve months of monitoring data, this Order may be reopened and an effluent limit established for mercury.

Additionally, if mercury is found to be causing toxicity based on acute or chronic toxicity test results, or if a TMDL for mercury is adopted, this Order shall be reopened and a mass effluent limitation or an effluent concentration limitation imposed.

Figure F-1
WET Accelerated Monitoring Flow Chart



3. Best Management Practices and Pollution Prevention

- a. **Land Disposal Program.** Since initiation of discharge to the Stanislaus River via Collierville Tunnel is prohibited until the available maximization of land disposal has been demonstrated, this Order requires the Discharger to continue to irrigate the Forest Meadows Golf Course with reclaimed wastewater during the wintertime when the conditions are suitable for irrigation. In addition, this Order also requires the Discharger to utilize on-site leachfields and the emergency storage basin as and when necessary, to prevent spillage at the storage facility.
- b. **Salinity Evaluation and Minimization Plan.** In an effort to monitor progress in reducing salinity discharges to the Stanislaus River, the Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the Stanislaus River. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).
- c. **CWC section 13263.3(d)(3) Pollution Prevention Plans.** The pollution prevention plans required for aluminum, copper, lead, and zinc shall, at minimum, meet the requirements outlined in CWC section 13263.3(d)(3). The minimum requirements for the pollution prevention plans include the following:
 - i. An estimate of all of the sources of a pollutant contributing, or potentially contributing, to the loadings of a pollutant in the treatment plant influent.
 - ii. An analysis of the methods that could be used to prevent the discharge of the pollutants into the Facility, including application of local limits to industrial or commercial dischargers regarding pollution prevention techniques, public education and outreach, or other innovative and alternative approaches to reduce discharges of the pollutant to the Facility. The analysis also shall identify sources, or potential sources, not within the ability or authority of the Discharger to control, such as pollutants in the potable water supply, airborne pollutants, pharmaceuticals, or pesticides, and estimate the magnitude of those sources, to the extent feasible.
 - iii. An estimate of load reductions that may be attained through the methods identified in subparagraph ii.
 - iv. A plan for monitoring the results of the pollution prevention program.
 - v. A description of the tasks, cost, and time required to investigate and implement various elements in the pollution prevention plan.
 - vi. A statement of the Discharger's pollution prevention goals and strategies, including priorities for short-term and long-term action, and a description of the Discharger's intended pollution prevention activities for the immediate future.
 - vii. A description of the Discharger's existing pollution prevention programs.

- viii. An analysis, to the extent feasible, of any adverse environmental impacts, including cross-media impacts or substitute chemicals that may result from the implementation of the pollution prevention program.
- ix. An analysis, to the extent feasible, of the costs and benefits that may be incurred to implement the pollution prevention program.

4. Construction, Operation, and Maintenance Specifications

In order to protect public health and receiving waters from overflow of treated or partially treated wastewater, this Provision requires that all wastewater disposal and storage facilities be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

This Order also requires precluding public contact with wastewater, in and around the storage pond, by construction of fences, signs, and other acceptable alternatives.

5. Special Provisions for Municipal Facilities (POTWs Only)

- a. **Collection System:** The Discharger's collection system is part of the treatment system that is subject to the Order 2006-0003, adopted by the State Water Board on May 2006. This Order is a Statewide General WDR for Sanitary Sewer Systems. Therefore, the Discharger shall be subject to the requirements of Order 2006-0003 and any future revisions thereto. Pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR section 122.41(e)], report any non-compliance [40 CFR section 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR. section 122.41(d)].
- b. **Electronic Notification:** Since the Monitoring and Reporting Program is a part of this permit and the facility is not staffed on a full time basis, certain parameters which are necessary to be monitored on a continuous basis requires an electronic system to be established for operator notification and for continuous recording device alarms. .

6. Other Special Provisions

The purpose of this provision is that 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.

7. Compliance Schedules

The use and location of compliance schedules in the permit depends on the Discharger's ability to comply and the source of the applied water quality criteria

- a. The Discharger submitted a request, and justification on 22 October 2007, for a compliance schedule for *aluminum, copper, lead, and zinc*. The compliance schedule justification included all items specified in Paragraph 3, items (a) through (d), of Section 2.1 of the SIP. This Order establishes a compliance schedule for the new, final, water quality-based effluent limitations for *aluminum, copper, lead, and zinc* and requires full compliance by 18 May 2010. The justification in the Infeasibility Analysis provided by the Discharger for the new limitations for aluminum, copper, lead, and zinc, requested a compliance time schedule of three and half years (3 ½) from the effective date of this Order. Allowance of an additional compliance schedule beyond the dates specified in this Order may be granted in a subsequent enforcement order, as the Regional Water Board deems necessary.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Calaveras County Water District and Cain-Papais Trust. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. 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. Notification was provided through direct mailing to agencies and known interested parties, and the posting of the NOPH at the Discharger's offices and the local post office.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 12:00 p.m. on the date indicated in the transmittal letter for the proposed Orders.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: 24/25 April 2008
Time: 8:30 am
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/rwqcb5/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 916-464-4645

F. Register of Interested Persons

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

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Anand Mamidi at 916-464-4853.