CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL VALLEY REGION

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TENTATIVE

ORDER NO. R5-2009-XXXX
NPDES NO. CA0077844

WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF PORTOLA PORTOLA WASTEWATER TREATMENT PLANT PLUMAS COUNTY

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

Table 1. Discharger Information

Discharger	City of Portola
Name of Facility	Portola Wastewater Treatment Plant
Facility Address	120 Main Street
	Portola, CA, 96122
	Plumas 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 City of Portola 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	Secondary Treated Wastewater	39º, 48', 15" N	120º, 29', 29" W	Middle Fork, Feather River

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	
This Order shall become effective on:	
This Order shall expire on:	
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:	**<u>180 days prior to the Order expiration date</u>**

IT IS HEREBY ORDERED, that Order No. R5-2003-0110 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the 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 **<Adoption Date>**.

_____

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	City of Portola
Name of Facility	Portola Wastewater Treatment Plant
Facility Address	120 Main Street
	Portola, CA, 96122
	Plumas County
Facility Contact, Title, and Phone	Michael Achter, Operator, (530) 258 6598
Mailing Address	P.O. Box 1225, Portola, CA, 96122
Type of Facility	Publicly Owned Treatment Works
Facility Design Flow	0.5 million gallons per day (mgd)

II. FINDINGS

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

A. Background. The City of Portola (hereinafter Discharger) is currently discharging pursuant to Order No. R5-2003-0110 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0077844. The Discharger submitted a Report of Waste Discharge, dated December 10, 2007**,** and applied for a NPDES permit renewal to discharge up to 0.5 mgd (monthly average dry weather flow) of treated wastewater from the Portola wastewater treatment plant**,** hereinafter Facility. The application was deemed complete on February 22, 2008.

B. Facility Description. The Discharger owns and operates a municipal wastewater treatment plant. The collection system consists of approximately 15 miles of gravity line and force mains. There are two lift stations in the collection system, one on the north side of the Middle Fork of the Feather River, and one on the South side of the River and discharge to the ponds is by force main from either one of the two lift stations. The treatment system consists of a headworks with bar screen and influent parshall flumes for flow measurement (one flume for each pump station discharge), emergency pond, aerated and unaerated ponds, chlorination, and dechlorination. Wastewater is discharged from Discharge D-001 (see table on cover page) to a small constructed wetlands, then to the Middle Fork of the Feather River, a water of the United States within the Feather River Watershed. Discharge is allowed only from 1 November to 15 May; in some years the discharge occurs for only one or two months. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

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 F 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. 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.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) 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*

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

Joaquin River Basins (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to Middle Fork of the Feather River are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	**Middle Fork of the Feather River (From Last Chance Creek to Lake Oroville)**	Existing: Municipal and domestic water supply (MUN); contact recreation and canoeing and rafting (REC-1); non-contact (REC-2) water recreation; warm freshwater habitat (WARM); cold freshwater habitat (COLD); cold water spawning (SPWN); and wildlife habitat (WILD)

Requirements of this Order implement the Basin Plan.

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 does not include compliance schedules

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 BOD_5, TSS, pH, and

percent removal. The water quality-based effluent limitations consist of restrictions on pathogens, ammonia, electrical conductivity, and copper. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based 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. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order except for percent BOD removal. The percent BOD removal requirement in this Order is 65 percent as opposed 85 percent in the previous Order. The fact sheet explains how this change complies with anti-backsliding requirements of the CWA.

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 authorize 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/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. Discharge from the wetlands to the River is prohibited when River flow as measured at the "DWR MFP" (Middle Fork Feather River Portola) gauging station is less than 40 cfs.

F. Discharge to the Middle Fork of the Feather River is prohibited between 1 May and 31 October.

G. The discharge to the Middle Fork of the Feather River shall not exceed 2% of the River flow as measured at the “DWR MFP” (Middle Fork Feather River Portola) gauging station.

H. The average daily dry weather influent flow to the wastewater treatment facility shall not exceed 0.5 mgd.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point D-001

1. Final Effluent Limitations – Discharge Point D-001

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point D-001, with compliance measured at Monitoring Location EFF-001 as described in the attached MRP (Attachment E):

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

Table 6. Effluent Limitations
The Discharger shall maintain compliance with the following effluent limitation at Disccharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD 5-day @ 20°C	mg/L	30	45	90		
	lbs/day[1]	[1]	[1]	[1]		
Total Suspended Solids	mg/L	30	45	90		
	lbs/day[1]	[1]	[1]	[1]		
pH	standard units				6.0	9.0
Ammonia, Total as N	mg/L	23		45		
Copper, total	mg/L	53		106		
Electrical Conductivity	umhos/cm	684				

1 The average mass discharge for the period from 1 November to 31 April shall not exceed 125.1 lb/day.

b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 65 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. **Total Residual Chlorine.** Effluent total residual chlorine shall not exceed:

i. 0.01 mg/L, as a 4-day average;
ii. 0.02 mg/L, as a 1-hour average;

e. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:

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

2. Interim Effluent Limitations-Not Applicable

B. Land Discharge Specifications – Discharge Points LND-001, LND-002, LND-003, LND-004, LND-005, LND-006, LND-007, and LND-008, Aerated and Facultative Ponds

1. The discharge of waste classified as “hazardous” as defined in section 2521(a) of Title 23, California Code of Regulations (CCR), or “designated”, as defined in section 13173 of the CWC, to the treatment ponds is prohibited.

2. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal facility.

3. As a means of discerning compliance with Land Discharge Specification 4, the dissolved oxygen content in the upper zone (1 foot) of wastewater in ponds shall not be less than 1.0 mg/L.

C. Reclamation Specifications –Not Applicable

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 Middle Fork of the Feather River:

1. **Bacteria**. The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.

2. **Biostimulatory Substances**. Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.

3. **Chemical Constituents**. Chemical constituents to be present in concentrations that adversely affect beneficial uses.

4. **Color**. Discoloration that causes nuisance or adversely affects beneficial uses.

5. **Dissolved Oxygen**:

    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.

6. **Floating Material**. Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.

7. **Oil and Grease**. Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.

8. **pH**. The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5 units*:* A one-month averaging period may be applied when calculating the pH change of 0.5 units.

9. **Pesticides**:

    a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
    b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;

c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer.
d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR §131.12.).
e. Pesticide concentrations to exceed the lowest levels technically and economically achievable.
f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.
g. Thiobencarb to be present in excess of 1.0 µg/L

10. **Radioactivity**:

    a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
    b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

11. **Salinity**. Electrical Conductivity at 25º C shall not exceed 150 umhos/cm (90th percentile) in well-mixed waters of the Middle Fork of the Feather River over a 10 year rolling average

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

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

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

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

16. **Temperature**. The 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.

    Appropriate averaging periods may be used where approved by the executive officer.

B. Groundwater Limitations

1. Release of waste constituents from any portion of the Facility shall not cause groundwater to:

a. Contain any of the following constituents in concentrations greater than listed or greater than natural background quality, whichever is greater.

Table 7. Groundwater Limitations

Constituent	Units	Limitation
Total Coliform Organisms	MPN/100 mL	<2.2
Electrical Conductivity @ 25°C[1]	µmhos/cm	700
Total Dissolved Solids[1]	mg/L	450
Nitrite Nitrogen, Total (as N)	mg/L	1
Nitrate Nitrogen, Total (as N)	mg/L	10
Ammonia (as NH_4)	mg/L	1.5

[1] A cumulative impact limit that accounts for several dissolved constituents in addition to those listed here separately [e.g., alkalinity (carbonate and bicarbonate), calcium, hardness, phosphate, and potassium].

b. Exhibit a pH of less than 6.5 or greater than 8.4 pH units.

c. Impart taste, odor, chemical constituents, toxicity, or color that creates nuisance or impairs any beneficial use.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. The Discharger shall comply with the following provisions:

    a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and

operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.

b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

   i. violation of any term or condition contained in this Order;

   ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

   iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

   iv. a material change in the character, location, or volume of discharge.

   The causes for modification include:

   - *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

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

   - *Change in sludge use or disposal practice.* Under 40 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.

l. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last 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. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

b. Conditions that necessitate a major modification of a permit are described in 40 CFR section 122.62, including:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to Section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

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

c. **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) and Metal Translators.** 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. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

e. **Chloroform.** Chloroform was detected in one sample at a concentration of 0.6 ug/L. Although this result is below the OEHHA cancer potency factor, it is prudent to monitor effluent chloroform, bromoform, bromodichloromethane, and chlorodibromomethane and reopen the permit if detection of any of these constituents, singly or in combination, indicates a reasonable potential for exceedance of a water quality objective for total trihalomethanes.

f. **Cyanide.** Cyanide was detected at a concentration of 8 ug/L in one of two CTR sampling rounds, which is above the CTR criterion. The remaining round of CTR sampling detected cyanide at 3 ug/L, below the CTR criterion. There is no expected source of cyanide in the Portola area. In addition, some recent work has shown that the sodium hydroxide preservative used in the cyanide test produces some false positive readings. There is inadequate data to determine if Cyanide has a reasonable potential. Therefore, this order requires monitoring of cyanide. This Order may be reopened if cyanide is found to cause a reasonable potential for exceedance of its water quality objective.

g. **4,4'-DDD**. 4,4'-DDD was detected in a concentration of 0.0027 ug/l (detected but not quantified) in one sample of CTR sampling. If this sample is indicative of the actual concentration of 4,4'-DDD, then it could represent a reasonable potential for exceedance of its water quality objective. However, 4,4'-DDD, is no longer registered as an agricultural pesticide, and there are no agricultural activities in the vicinity of the treatment plant or town that should result in contamination of the wastewater with 4,4'-DDD. However, it is a long lived metabolite of DDT. Therefore, this order requires monitoring of 4,4'-DDD. This Order may be reopened if 4,4'-DDD is found to cause a reasonable potential for exceedance of a water quality objective.

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 20 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.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with EPA guidance[1].

b. **BPTC Evaluation Tasks**. The Discharger shall propose a work plan and schedule for providing BPTC as required by Resolution 68-16. The technical report describing the work plan and schedule shall contain a preliminary evaluation of each component and propose a time schedule for completing the comprehensive technical evaluation.

Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (*e.g.*, new or revised salinity source control measures, WWTP component

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

upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed four years past the Executive Officer's determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Water Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

Task	Compliance Date
1 -Submit technical report: work plan and schedule for comprehensive evaluation	**Within 6 months** following Order adoption
2 -Commence comprehensive evaluation	**30 days** following Executive Officer approval of Task 1.
3 -Complete comprehensive evaluation	As established by Task 1 and/or 2 years following Task 2, whichever is sooner
4 -Submit technical report: comprehensive evaluation results	**60 days** following completion of Task 3.
5 -Submit annual report describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year	To be submitted in accordance with the MRP (Attachment E, Section X.D.1.)

d. **Groundwater Monitoring.** To determine compliance with Groundwater Limitations V.B., the groundwater monitoring network shall include one or more background monitoring wells and a sufficient number of designated monitoring wells downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater. All monitoring wells shall comply with the appropriate standards as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981), and any more stringent standards adopted by the Discharger or County pursuant to CWC section 13801.

The Discharger, after one year of monitoring, shall characterize natural background quality of monitored constituents in a technical report, to be submitted by 2 years after the adoption of this Order. For each groundwater monitoring parameter/constituent identified in the Monitoring and Reporting Program (Attachment E, Section VIII.C.), the report shall present a summary of monitoring data, calculation of the concentration in background monitoring wells, and a comparison of background groundwater quality to that in wells used to monitor the facility. Determination of background quality shall be made using the methods described in Title 27 California Code of Regulations Section 20415(e)(10), and shall be based on data from at least four consecutive quarterly (or more frequent) groundwater monitoring events. For

each monitoring parameter/constituent, the report shall compare measured concentrations for compliance monitoring wells with the calculated background concentration.

If the monitoring shows that any constituent concentrations are increased above background water quality, the Discharger shall submit a technical report within 2 years, 6 months of this Order, describing the groundwater technical report results and critiquing each evaluated component of the Facility with respect to BPTC and minimizing the discharge's impact on groundwater quality. In no case shall the discharge be allowed to exceed the Groundwater Limitations. This Order may be reopened and additional groundwater limitations added.

e. **Diffuser Installation and Mixing Zone/Dilution Study.** This Order requires that the Discharger maintain a minimum complete mix dilution of 50:1 during discharge. Currently, in accordance with a mixing model the discharger has used, the Discharger can maintain an acute and chronic toxicity mixing zone dilution of 20:1 (See Fact Sheet at IV.C.2.c) complying with the SIP and Basin Plan if there is an ultimate dilution of 50:1 in the River. This toxicity mixing zone at the discharge location is estimated to extend approximately 80 to 100 feet downgradient of the discharge. Section 1.4 of the SIP contains procedures for calculating effluent limitations. The calculation includes a dilution credit, D, which is a numerical value associated with the mixing zone that accounts for the receiving water entrained into the discharge. Dilution credits may be granted at the discretion of the Board in accordance with the provisions in Section 1.4.2. of the SIP. Within 180 days of the adoption of this permit the discharger shall provide plans for the installation of a diffuser to provide rapid mixing with the river. After the diffuser plans are accepted by the Regional Board staff, the Discharger shall install the diffuser within 365 days. The Discharger shall submit additional mixing zone/dilution study information, by means of a dye study, tracer study, or other method approved by the Executive Officer within 1 year of the diffuser installation, which documents that a 20:1 dilution, minimum, exists at all times effluent is being discharged to the Feather River in an acute toxicity mixing zone that complies with the SIP, the Basin Plan, and USEPA's technical support document. If the Discharger fails to submit any deliverable by the date specified, this Permit may be reopened and the dilution credit for acute and chronic toxicity eliminated.

f. **Septage Receiving.** The discharger receives septage from a local septic tank pumper. **Within one year of the adoption of this Order**, the Discharger shall submit an analysis of the septage receiving capacity of the treatment Plant prepared by a California registered civil engineer. The analysis shall report on the amount of septage that is received each year, and the capacity of the Facility to accept septage while complying with the requirements of this Order. If septage in excess of the Facility capacity is being accepted, the Discharger shall submit a plan, at the same time the septage capacity study is submitted, with a time schedule to decrease its septage receiving to within the Facility's capacity within six months.

g. **Force Main River Crossing Leakage Study. Within one year of the adoption of this Order,** the Discharger shall provide an inspection schedule and procedure to assure that the force main from the northwest pump station crossing the River is free of leakage in the area of the River channel.

h. **Reclamation and Reduction of River Discharge. Reclamation, Reduction of River Discharge, and Regionalization.** Within eighteen months of the issuance of this Order, the Discharger shall submit a plan for the minimization of effluent discharge to the Middle Fork of the Feather River and maximization of recycling and surface water discharge. The plan shall include, as a minimum:

- An analysis of methods of reclamation on and off site;
- An analysis of the effects of adding additional pond storage onsite;
- An analysis to maximize pond evaporation;
- An analysis of any opportunities for Regionalization

i. Within 180 days of the adoption of this Order, the Discharger shall submit a study determining whether discharge may be minimized or eliminated during times Electrical Conductivity in the Feather River exceeds 150 umhos/cm.

3. Best Management Practices and Pollution Prevention

a. **Pollutant Minimization Program**. The Discharger shall develop and conduct a Pollutant Minimization Program (PMP) as further described below when there is evidence (e.g., sample results reported as DNQ when the effluent limitation is less than the MDL, sample results from analytical methods more sensitive than those methods required by this Order, presence of whole effluent toxicity, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either: 1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or 2) A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in the MRP .

The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:

i. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;

ii. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;

iii. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;

iv. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and

v. An annual status report that shall be sent to the Regional Water Board including:

(1) All PMP monitoring results for the previous year;

(2) A list of potential sources of the reportable priority pollutant(s);

(3) A summary of all actions undertaken pursuant to the control strategy; and

(4) A description of actions to be taken in the following year.

b. **Salinity Reduction Goal.** The Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the Middle Fork of the Feather River. The Regional Water Board finds that a monthly average effluent salinity of 684 µmhos/cm as electrical conductivity (EC) is a reasonable intermediate goal that can be achieved in this permit term. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program.

4. Construction, Operation and Maintenance Specifications

a. **Treatment Pond 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 shall be precluded through such means as fences, signs, and other acceptable alternatives.

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

a) An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
b) Weeds shall be minimized.
c) Dead algae, vegetation, and debris shall not accumulate on the water surface.

iv. Freeboard shall not be less than two feet (measured vertically to the lowest point of overflow), except if lesser freeboard does not threaten the integrity of the pond, no overflow of the pond occurs, and lesser freeboard is due to direct precipitation or storm water runoff occurring as a result of annual

precipitation with greater than a 100-year recurrence interval, or a storm event with an intensity greater than a 25-year, 24-hour storm event.

v. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

vi. Prior to the onset of the rainy season of each year, available pond storage capacity shall at least equal the volume necessary to comply with Land Discharge Specification v. above.

5. Special Provisions for Municipal Facilities (POTWs Only)

a. **Pretreatment Requirements.**

i. The Discharger shall implement its approved pretreatment program and the program shall be an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the Regional Water Board, the State Water Board or the U.S. Environmental Protection Agency (U.S. EPA) may take enforcement actions against the Discharger as authorized by the CWA.

ii. The Discharger shall enforce the Pretreatment Standards promulgated under sections 307(b), 307(c), and 307(d) of the Clean Water Act. The Discharger shall perform the pretreatment functions required by 40 CFR Part 403 including, but not limited to:

a) Adopting the legal authority required by 40 CFR 403.8(f)(1);

b) Enforcing the Pretreatment Standards of 40 CFR 403.5 and 403.6;

c) Implementing procedures to ensure compliance as required by 40 CFR 403.8(f)(2); and

d) Providing funding and personnel for implementation and enforcement of the pretreatment program as required by 40 CFR 403.8(f)(3).

iii. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the necessary legal authorities, programs, and controls to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:

a) Wastes which create a fire or explosion hazard in the treatment works;

b) Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;

c) Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works;

d) Any waste, including oxygen demanding pollutants (BOD, *etc*.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;

e) Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the Regional Water Board approves alternate temperature limits;

f) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and:

h) Any trucked or hauled pollutants, except at points predesignated by the Discharger.

iv. The Discharger shall implement, as more completely set forth in 40 CFR 403.5, the legal authorities, programs, and controls necessary to ensure that indirect discharges do not introduce pollutants into the sewerage system that, either alone or in conjunction with a discharge or discharges from other sources:

a) Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or:

b) Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.

b. **Sludge/Biosolids Discharge Specifications**

i. Collected screenings, residual sludge, biosolids, and other solids removed from liquid wastes shall be disposed of in a manner approved by the Executive Officer, and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste,* as set forth in Title 27, CCR, Division 2, Subdivision 1, section 20005, et seq. Removal for

further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) that are operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy these specifications.

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

iii. The treatment of sludge generated at the Facility shall be confined to the Facility property and conducted in a manner that precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B. In addition, the storage of residual sludge, solid waste, and biosolids on Facility property shall be temporary and controlled, and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate Groundwater Limitations V.B.

iv. The use and disposal of biosolids shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503. If the State Water Board and the Regional Water Board are given the authority to implement regulations contained in 40 CFR 503, this Order may be reopened to incorporate appropriate time schedules and technical standards. The Discharger must comply with the standards and time schedules contained in 40 CFR 503 whether or not they have been incorporated into this Order.

c. **Biosolids Disposal Requirements**

i. The Discharger shall comply with the Monitoring and Reporting Program for biosolids disposal contained in Attachment E.

ii. Any proposed change in biosolids use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least **90 days** in advance of the change.

iii. The Discharger is encouraged to comply with the “Manual of Good Practice for Agricultural Land Application of Biosolids” developed by the California Water Environment Association.

d. **Biosolids Storage Requirements**

i. Facilities for the storage of Class B biosolids shall be located, designed and maintained to restrict public access to biosolids.

ii. Biosolids storage facilities shall be designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.

iii. Biosolids storage facilities, which contain biosolids, shall be designed and maintained to contain all storm water falling on the biosolids storage area during a rainfall year with a return frequency of 100 years.

iv. Biosolids storage facilities shall be designed, maintained and operated to minimize the generation of leachate.

e. **Collection System.** On 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. The Discharger has applied for and has been approved 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)].

f. 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. 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-Not Applicable**

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 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. **Average Daily Discharge Flow Effluent Limitations**. The Average Daily Discharge Flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the Average Daily Discharge Flow effluent limitations will be measured at times when groundwater is at or near normal and runoff is not occurring.

C. **Total Coliform Organisms Effluent Limitations (Section IV.A.1.)**. 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 23 per 100 milliliters, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.

D. **Total Residual Chlorine Effluent Limitations.** Continuous monitoring analyzers for chlorine residual or for dechlorination agent residual in the effluent are appropriate methods for compliance determination. A positive residual dechlorination agent in the effluent indicates that chlorine is not present in the discharge, which demonstrates compliance with the effluent limitations. This type of monitoring can also be used to prove that some chlorine residual exceedances are false positives. Continuous monitoring data showing either a positive dechlorination agent residual or a chlorine residual at or below the prescribed limit are sufficient to show compliance with the total residual chlorine effluent limitations, as long as the instruments are maintained and calibrated in accordance with the manufacturer's recommendations.

Any excursion above the 1-hour average or 4-day average total residual chlorine

effluent limitations is a violation. If the Discharger conducts continuous monitoring and the Discharger can demonstrate, through data collected from a back-up monitoring system, that a chlorine spike recorded by the continuous monitor was not actually due to chlorine, then any excursion resulting from the recorded spike will not be considered an exceedance, but rather reported as a false positive.

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(l). 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 include~~d~~, 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:

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

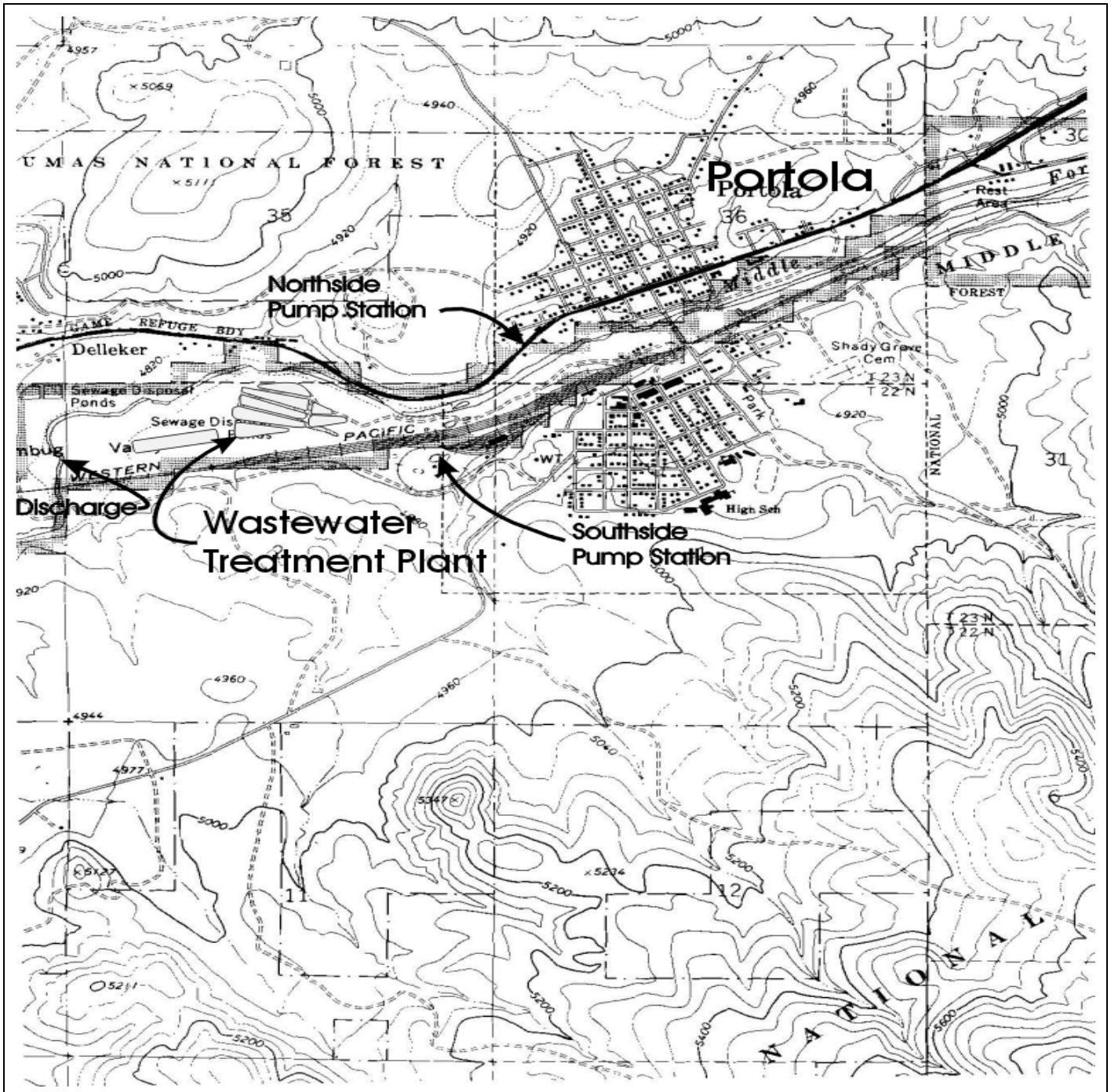
where:

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

Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity,

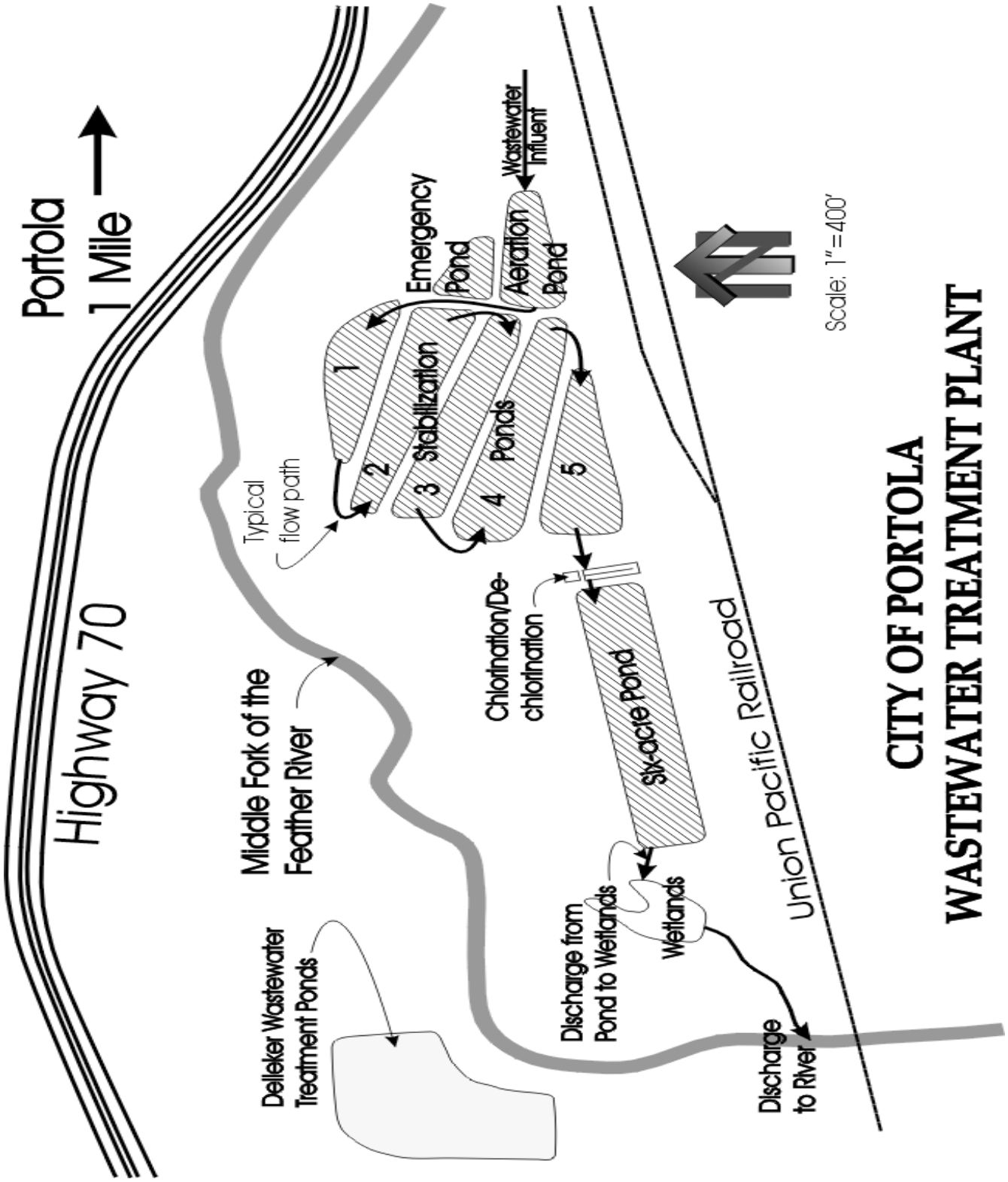
evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best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

ATTACHMENT B – MAP



Drawing Reference: PORTOLA U.S.G.S TOPOGRAPHIC MAP 7.5 MINUTE QUADRANGLE *Photorevised 1973* *Not to scale*	SITE LOCATION MAP CITY OF PORTOLA PORTOLA WASTEWATER TREATMENT PLANT PLUMAS COUNTY	N W E S

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the 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 Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.

C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

II. MONITORING LOCATIONS

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

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	Treatment plant headworks.
D-001	EFF-001	Downstream from the last connection through which wastes can be admitted into the outfall
--	RSW-001	Feather River - 100 feet upstream from point of discharge
--	RSW-002	Feather River – One-quarter mile downstream from the point of discharge.
	LND-001	Pond 1(Aeration Pond)
	LND-002	Pond 2 (Emergency Pond)
	LND-003	Pond 3
	LND-004	Pond 4
	LND-005	Pond 5
	LND-006	Pond 6
	LND-007	Pond 7
	LND-008	Pond 8 (Six Acre Pond)
	RGW-001	Monitoring Well 1
	RGW-002	Monitoring Well 2
	RGW-003	Monitoring Well 3
--	BIO-001	Biosolids Storage Area
--	SPL-001	Water Supply
	SEP-001	Influent Septage

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001 and SEP-001

1. The Discharger shall monitor influent to the facility at INF-001 and SEP-001as follows:

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Influent BOD 5-day 20°C	mg/L	24-hr Composite[1]	1/week	[2]

Influent Suspended Solids	mg/L	24-hr Composite[1]	1/week	[2]
Flow	mgd	Continuous	Daily	
Septage received	gallons	Weigh-bill	Monthly	
Septage BOD	mg/L	Grab	Monthly	[2]
Septage TSS	mg/L	Grab	Monthly	[2]
Septage priority pollutant metals	mg/L	Grab	Twice/year	[2]

[1] 24-hour flow proportional composite

[2] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Board.

A 24-hour composite influent sample shall be collected at the same time an effluent sample is collected for priority pollutants (see below) and analyzed for total recoverable concentrations of antimony, arsenic, beryllium, cadmium, chromium (III), chromium (VI), copper, lead, mercury, nickel, selenium, silver, thallium, zinc, and cyanide with a maximum ML as specified in the SIP.

EFFLUENT MONITORING REQUIREMENTS

Monitoring Location EFF-001

1. The Discharger shall monitor EFF-001 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method and (Minimum Level, units), respectively
Flow	mgd	Meter	Continuous	[1]
Total Residual Chlorine[2]	mg/L	Meter	Continuous	[1]
Temperature[3]	°F	Grab	Daily	[1]
pH	Standard Units	Grab	Daily	[1]
BOD 5-day 20°C	mg/L	24-hr Composite[5]	1/week	[1]
Total Suspended Solids	mg/L	24-hr Composite[5]	1/week	[1]
Total Coliform Organisms	MPN/100 mL	Grab	1/week	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/week	[1]
Ammonia (as N)[4]	mg/L	Grab	1/week	[1]
Nitrate (as N)	mg/L	Grab	1/month	[1]
Nitrite (as N)	mg/L	Grab	1/month	[1]
Total Dissolved Solids	mg/L	Grab	1/month	[1]

Copper, Total and dissolved	µg/L	Grab	1/month	[1]
Hardness, Total (as CaCO3)[6]	mg/L	Grab	1/Month	[1]
Total Trihalo methanes	µg/L	Grab	1/quarter	[1]
4-4'-DDD	µg/L	Grab	1/quarter	[1]
Cyanide	ug/L	Grab	1/quarter	
Iron, total and dissolved	µg/L	Grab	1/quarter	[1]
Aluminum, total and dissolved[7]	µg/L	Grab	1/quarter	[1]
Standard Minerals[8]	mg/L	Grab	1/year	[1]
Priority Pollutants[9, 10]	µg/L	[11]	Yr. 2011	[1]

[1] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board

[2] Total chlorine residual must be monitored with a method sensitive to and accurate at the permitted level of 0.01 mg/L.

[3] Effluent Temperature monitoring shall be at the Outfall location.

[4] Concurrent with biotoxicity monitoring

[5] 24-hour flow proportioned composite (Effluent from ponds shall be considered adequately composited)

[6] Hardness samples shall be collected concurrently with metals samples.

[7] Report as total recoverable or acid soluble (inductively coupled plasma/atomic emission spectrometry or inductively coupled plasma/mass spectrometry) analysis methods, as supported by USEPA's Ambient Water Quality Criteria for Aluminum document (EPA 440/5-86-008), or other standard methods that exclude aluminum silicate particles as approved by the Executive Officer.

[8] 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).

[9] 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.

[10] Concurrent with receiving surface water sampling.

[11] Volatile samples and bis(2-ethylhexyl)phthalate shall be grab samples, the remainder shall be 24-hour composite samples (Effluent from ponds shall be considered adequately composited).

2. 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, 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* – the Discharger shall perform acute toxicity testing monthly and concurrent with effluent ammonia sampling. A minimum of two samples per discharge season shall be obtained.

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. If the retest fails, the discharger shall determine whether ammonia is the toxicant causing failure by using laboratory techniques such as resin stripping of the ammonia in the sample. If ammonia is not determined to be the toxicant causing test failure, the Discharger shall begin a toxicity identification evaluation program.

B. **Chronic Toxicity Testing**. The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency* – the Discharger shall perform three species chronic toxicity testing; one test shall be performed within 365 days of permit adoption, and one test shall be performed no later than 365 days prior to permit adoption.

2. *Sample Types* – Effluent samples shall be grab samples from the discharge of the six acre pond and shall be representative of the volume and quality of the discharge. The receiving water control shall be a grab sample obtained from the RSW-001 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	52.5	5	2.5	1.25	Receiving Water	Laboratory Water
% Effluent	100	52.5	5	2.5	1.25	0	0
% Receiving Water	0	47.5	95	97.5	98.75	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 $100/LC_{50}$, $100/EC_{25}$, $100/IC_{25}$, and $100/IC_{50}$, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

   e. The results compared to the numeric toxicity monitoring trigger.

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

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

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

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

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

   c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS-NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS-NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER

A. Monitoring Location RSW-001

1. The Discharger shall monitor The Middle Fork of the Feather River at RSW-001 as follows (when discharge to the River is occurring):

Table E-5a. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Continuous	DWR MFP Station
Dissolved Oxygen	mg/L	Grab	1/week	[1]
pH	Standard Units	Grab	1/week	[1]
Turbidity	NTU	Grab	1/week	[1]
Fecal Coliform	mpn/100 mL	Grab	1/month	[2]
Hardness (as $CaCO_3$)	mg/L	Grab	1/month	[2]
Priority Pollutants[3,4]	µg/L	Grab	Yr. 2011	[2]
Floating or suspended matter	Narrative	Visual	1/week	
Discoloration	Narrative	Visual	1/week	
Bottom Deposits	Narrative	Visual	1/week	
Aquatic Life	Narrative	Visual	1/week	
Visible films, sheens	Narrative	Visual	1/week	
Fungi, slimes, or objectionable growths	Narrative	Visual	1/week	
Potential nuisance conditions	Narrative	Visual	1/week	
Foam	Narrative	Visual	1/week	

[1] A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the wastewater treatment plant.

[2] Per 40 CFR 136

[3] For priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Water Board or the State Water Board. Volatile samples and bis(2-ethylhexyl)phthalate shall be grab samples, the remainder shall be 24-hour composite samples (Effluent from ponds shall be considered adequately composited).

[4] Concurrent with effluent Priority Pollutant sampling

B. Monitoring Location RSW-002

1. The Discharger shall monitor the Middle Fork of the Feather River at RSW-002 as follows:

Table E-5b. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/week	[1]
pH	Standard Units	Grab	1/week	[1]
Temperature	°F	Grab	1/week	[1]
Electrical Conductivity at 25 ° C	umhos/cm	Grab	1/week	[1]
Turbidity	NTU	Grab	1/week	[1]
Fecal Coliform	mpn/100 ml	Grab	1/week	
Floating or suspended matter	Narrative	Visual	1/week	
Discoloration	Narrative	Visual	1/week	
Bottom Deposits	Narrative	Visual	1/week	
Aquatic Life	Narrative	Visual	1/week	
Visible films, sheens	Narrative	Visual	1/week	
Fungi, slimes, or objectionable growths	Narrative	Visual	1/week	
Potential nuisance conditions	Narrative	Visual	1/week	
Foam	Narrative	Visual	1/week	

[1] A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the wastewater treatment plant.

C. Monitoring Location RGW-002

1. The Discharger shall monitor monitoring Wells RGW-001, RGW-002, RGW-003, etc., as follows:

Table E-5c. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	Once per quarter	[1]
pH	Standard Units	Grab	Once per quarter	[1]
Temperature	°F (°C)	Grab	Once per quarter	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Once per quarter	[1]
Nitrate	mg/L	Grab	Once per quarter	[1]
Total Coliform	Mpn/100ml	Grab	Once per Quarter	[1]

[1] Per 40 CFR 136

IX. OTHER MONITORING REQUIREMENTS

A. Biosolids

1. Monitoring Location BIO-001

1. A composite sample of sludge shall be collected annually at Monitoring Location BIO-001 in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for priority pollutants listed in 40 CFR section 122 Appendix D, Tables II and III (excluding total phenols).

2. A composite sample of sludge shall be collected when sludge is removed from the ponds for disposal in accordance with USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and tested for the metals listed in Title 22.

3. Sampling records shall be retained for a minimum of **five years**. A log shall be kept of sludge quantities generated and of handling and disposal activities. The frequency of entries is discretionary; however, the log should be complete enough to serve as a basis for part of the annual report.

4. Upon removal of sludge, the Discharger shall submit characterization of sludge quality, including sludge percent solids and quantitative results of chemical analysis for the priority pollutants listed in 40 CFR 122 Appendix D, Tables II and III (excluding total phenols). Suggested methods for analysis of sludge are provided in USEPA publications titled "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods" and "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater". Recommended analytical holding times for sludge samples should reflect those specified in 40 CFR 136.6.3(e). Other guidance is available in USEPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989.

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
Total Dissolved Solids	mg/L	Grab	1/year	[3]
Electrical Conductivity @ 25°C[1]	µmhos/cm	Grab	4/year	[3]
Standard Minerals[2]	mg/L	Grab	1/year	[3]

[1] If the water supply is from more than one source, the EC shall be reported as a weighted average and include copies of supporting calculations.
[2] Standard minerals shall include all major cations and anions and include verification that the analysis is complete (i.e., cation/anion balance).
[3] Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136; where no methods are specified for a given pollutant, by methods approved by their Regional Water Board or the State Water Board

C. Pond monitoring Requirements

1. Monitoring locations LND-001, LND-002, LND-003, LND-004, LND-005, LND-006, LND-007, and LND-008

   The Discharger shall monitor ponds as follows

Table E-7. Pond Monitoring

Parameter	Units	Sample Type	Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/month[1]	[2]
Liquid Depth and Freeboard	Feet	Visual	Monthly	Visual
Seepage through pond dikes	Presence/Absence	Visual	Monthly	Visual
Excessive odors or other nuisances	Presence/Absence	Observation	Monthly	Visual
Excessive weed growth in pond	Presence/Absence	Visual	Monthly	Visual

[1] For LND-001 and LND-002 only
[2] Per 40 CFR 136

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.** Not applicable.

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 (± 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
415 Knollcrest Drive, Suite #100
Redding, CA 96002-0129

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

Table E-8. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	**Permit effective date**	**All**	**Submit with monthly SMR**
Daily	**Permit effective date**	**(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.**	**Submit with monthly SMR**
Weekly	**Sunday following permit effective date or on permit effective date if on a Sunday**	**Sunday through Saturday**	**Submit with monthly SMR**
Monthly	**First day of calendar month following permit effective date or on permit effective date if that date is first day of the month**	**1st day of calendar month through last day of calendar month**	**32 days from the end of the monitoring period**
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**	**32 days from the end of the monitoring period**
Annually	**January 1 following (or on) permit effective date**	**January 1 through December 31**	**32 days from the end of the monitoring period**

C. Discharge Monitoring Reports (DMRs)-Not Applicable

D. Other Reports

1. **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-9. Reporting Requirements for Special Provisions Progress Reports

Special Provision	Reporting Requirements
BPTC Evaluation Tasks Provision VI.C.2.c	**1 February**, annually**,** following completion of Task 4 of BPTC Evaluation Compliance Schedule

2. 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.

3. 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.

4. **Groundwater Monitoring Study.** After one year of quarterly groundwater monitoring and within 2 years of permit adoption, the Discharger must submit a groundwater monitoring report. The report must characterize natural background quality of monitored constituents in a technical report, and compare background groundwater quality to that in wells used to monitoring the facility.

5. **Mixing Zone/Dilution Study.** The Discharger is required to submit a mixing zone/dilution study within one year of the diffuser installation which documents that a 20:1 dilution exists at all times effluent is being discharged to the Feather River in an acute toxicity mixing zone that is compatible with the SIP, and Basin Plan. The dilution study shall be accomplished by the use of dye, tracer, or other method approved by the Executive Officer. If the Discharger fails to submit any deliverable by the date specified, this Permit may be reopened and the dilution allowance for acute toxicity removed.

6. **Septage Receiving. Within one year of the adoption of this Order**, the Discharger must submit an analysis of the septage receiving capacity of the treatment Plant prepared by a California registered civil engineer. The analysis shall report on the amount of septage that is received each year, and the capacity of the Facility to accept septage while complying with the requirements of this Order. If septage in excess of the Facility capacity is being accepted, the Discharger shall submit a plan, at the same time the septage capacity study is submitted, with a time schedule to decrease its septage receiving to within the Facility's capacity within six months.

7. **Force Main River Crossing Leakage Study. Within one year of the adoption of this Order,** the Discharger shall provide an inspection schedule and procedure to assure that the force main from the northwest pump station crossing the River is free of leakage in the area of the River channel.

8. **Reclamation and Reduction of River Discharge.** Within eighteen months of the adoption of this Order, the Discharger shall provide a study for minimizing River discharge and maximizing reclamation and on-site storage of wastewater.

9. Within 180 days of the adoption of this Order, the Discharger must submit a study determining whether discharge may be minimized or eliminated during times Electrical Conductivity in the Feather River exceeds 150 umhos/cm.

10. **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.

11. **Annual Salinity Reduction Goal Report**. The Discharger shall submit an annual report by 30 January that discusses the past years efforts to minimize salinity of the discharge.

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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	**5A320102001**
Discharger	City of Portola
Name of Facility	Portola Wastewater Treatment Plant
Facility Address	120 Main Street
	Portola, California, 96122
	Plumas County
Facility Contact, Title and Phone	Michael Achter, Operator, (530) 258 6598
Authorized Person to Sign and Submit Reports	Michael Achter, Operator, (530) 258 6598
Mailing Address	P.O. Box 1225, Portola, CA 96122
Billing Address	P.O. Box 1225, Portola, CA 96122
Type of Facility	POTW
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	No
Reclamation Requirements	Not Applicable
Facility Permitted Flow	0.5 MGD
Facility Design Flow	0.5 MGD
Watershed	Feather River, Middle Fork
Receiving Water	Feather River, Middle Fork
Receiving Water Type	Inland surface water

A. The City of Portola (hereinafter Discharger) is the owner and operator of the City of Portola Wastewater Treatment Plant (hereinafter Facility), a POTW.

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

B. The Facility discharges wastewater to the Middle Fork of the Feather River, a water of the United States, and is currently regulated by Order R5-2003-0110 which was adopted on 11 July 2003 and expired on 1 July 2008. The Discharger is currently operating under Order R5-2003-0110, which has been administratively extended.

C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on 10 December 2007. Site visits were conducted on 20 March and 30 April 2008, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Discharger provides sewerage service for the City of Portola and serves a population of approximately 2,500. The WWTP design daily average flow capacity is 0.5 mgd.

A. Description of Wastewater and Biosolids Treatment or Controls

Wastewater is collected in two lift stations, one on the North side of the Feather River, and one on the South side of the River. At the Facility headworks, influent parshall flumes equipped with sonic level sensors measure influent flow.

The treatment system at the Facility consists of bar screening; treatment in 8 ponds, two of which are aerated by mechanical aerators, and 4 of which are aerated by wind driven aerators (aeration capability of the wind driven aerators is minor); disinfection with chlorine (sodium hypochlorite); and dechlorination (sodium bisulfite). Treated effluent is discharged to a small wetlands pond prior to discharge to the Feather River. A Parshall Flume measures effluent flow.

During the period of 16 May to 31 October, and at times when flow in the Feather River at the point of Discharge is less than 40 cubic feet per second, wastewater is held in the ponds. The wastewater can be discharged at other times.

Sludge is removed from the ponds when necessary. Dried biosolids are hauled to a permitted landfill or landspreading operation.

B. Discharge Points and Receiving Waters

1. The Facility is located in Sections 2 and 3, T22, R13E, MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.

2. Treated municipal wastewater is discharged at Discharge Point D-001 to the Middle Fork of the Feather River, a water of the United States at a point Latitude 39°, 48',

15" N and longitude 120°, 29', 29" W. The outfall is not equipped with a diffuser and discharges at the bank of the River.

3. Discharge Point 001 is located within the Sloat Hydrologic Unit No. 518.33 as defined by the interagency hydrologic map for the Sacramento Hydrologic Basin prepared by the Department of Water Resources (1986).

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

Effluent limitations/Discharge Specifications contained in the existing Order for discharges from D-001, (Monitoring Location Eff-001) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations					Monitoring Data Apr 2003 –Apr 2008	
		Average Monthly	Average Weekly	Max Daily	4-day Average	Monthly Median	Highest Average Monthly Discharge	Highest Daily Discharge
BOD	mg/L	30	45	90			19.3	43
Total Suspended Solids	mg/L	30	45	90			28.5	35.6
Chlorine Residual	mg/L	--	--	.02	0.01	--		0.01
Total Coliform Organisms	MPN/ 100mL	--	--	500	--	23		>1600

D. Compliance Summary

Coliform-On 20 March 2008, the assistant executive officer issued an Administrative Civil Liability in the amount of $15,000 against the Discharger for effluent Coliform violations that occurred in 2005.

In 2004, from Mid March to Mid April, the Discharger experienced three to four weeks of discharges exceeding their effluent pH limitation. On 9 December 2008, the discharger was issued an Administrative Civil Liability Complaint No. R5-2008-0517 in the amount of $63,000 for those violations. The Discharger waived his right to a hearing within 90 days and Board staff is negotiating whether the amount must be paid in full or whether the Discharger may meet the criteria allowing them to perform a compliance project.

BOD and TSS-On September 9, 2003 the discharger was sent a letter noting apparent violations of effluent BOD and TSS. However, Regional Water Board Staff also

performed a comparative study of laboratory results from three ELAP approved laboratories (including Portola's laboratory), which indicated that Portola's Contract laboratory was producing erroneously high results. Therefore no enforcement action was taken against the discharger at that time.

Monitoring Reports-On 12 December 2006, the Discharger was issued a letter informing them that their Monitoring and Reporting forms were not being filled out completely, including metals results shown as "ND" with no detection limit given, lack of effluent chlorine data during some days, lack of pond freeboard data during one month, influent BOD and TSS missing in one case (weekly data), and TKN data missing in another case.

Chlorine Residual-On 3 April 2008, the Discharger was issued a Notice of Violation for failure to maintain a continuous readout of chlorine residual in the treatment plant effluent subsequent to a plant inspection. This violation was due to an instrumentation problem that has since been resolved.

BOD percentage Removal- The discharger has experienced problems meeting the percentage removal effluent limitations for BOD. The 85 percent BOD removal requirement was not met twice in 2004 (although the BOD values are suspect due to the potential laboratory error noted above), three times in 2005 and four times in 2006. For the last two discharge seasons, the Discharger has met the requirement for BOD percentage removal. Removal percentages during months that requirements were not met were generally around 80 percent, and there have been no violations of effluent BOD concentration limitations. The Discharger performed extensive work on their collection system in the late 1990s to reduce infiltration/inflow (I/I) in response to Cease and Desist Order No. 93-068.

In part, the problem of effluent percentage BOD removals is also due to the fact that discharge occurs only during months in which I/I is more likely to dilute the influent, but the discharge consists of wastewater that has been received both during dry (low dilution) and wet (high dilution) months. Another situation that is contributing to the problem is the Discharger's receipt of septage. Septage is very high in BOD and total suspended solids. Although septage is discharged to the Facility, its pollutant contribution has not been taken into account when assessing influent pollutant loads and pollutant removal. This Order requires the Discharger to obtain monthly samples of septage for BOD and TSS analysis, and allows the Discharger to take into account the contribution of septage to the influent BOD and TSS load when calculating percentage removals. The Order also requires that the Discharger perform a study to determine if the amount of septage being accepted may be interfering with the plants performance.

Considering the work that was performed to comply with Cease and Desist Order 93-068, the ability of the discharger to incorporate waste mass loading from septage into percent removal requirements and/or to reduce septage receiving, and the modification of the Order requiring the discharger to obtain 65 percent removal of BOD, the new percentage removal limitation should be achievable.

Effluent Toxicity- No acute toxicity testing was performed during the 2008 discharge season, and the discharger was sent a Notice of Violation due to their failure to perform the test. Effluent sampling for acute toxicity has been increased in this Order from the previous Order (from quarterly to monthly) because the discharge has had problems complying with the effluent toxicity limitation. The Discharger has little input from industries, if any, but does sometimes have high effluent ammonia concentrations and elevated effluent pH, the combination of which can be very toxic to aquatic organisms. In late January of 2004, acute toxicity testing showed no survival of the test species in 100% effluent. pH of the effluent was approximately 8.0 and ammonia was detected at 14 mg/L that month. A subsequent sample later in the season showed 100 percent survival. In March of 2007, another acute bioassay demonstrated no survival. Average ammonia in the discharge for this month was 17 mg/l and median effluent pH was approximately 8.8. A subsequent acute toxicity monitoring test in 2007 demonstrated 70% survival. During this test, pH was still elevated (9.0), but ammonia had been reduced substantially, to approximately 4 mg/L. Effluent toxicity testing in two other samples showed 70 percent and 100 percent survival.

If any of the testing in the new Order, which again has been increased substantially, shows unacceptable results, retesting must be performed. If that test fails, analysis to determine is ammonia is the toxicant must be initiated, and if that proves not to be the case, a toxicity identification evaluation is required.

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 February 2007), 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 Middle

Fork of the Feather River downstream of the discharge are municipal and domestic supply, water contact recreation, other non-contact water recreation, warm and cold freshwater aquatic habitat, cold spawning 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.

2. **Thermal Plan-Not Applicable**

3. **Bay-Delta Plan-Not Applicable**.

4. **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.

5. **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. Compliance with the Anti-Backsliding requirements is discussed in Section IV.D.3.

6. **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) (EPCRKA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective*".

   The most recent toxic chemical data report does not indicate any reportable off-site releases or discharges to the collection system for this facility. Therefore, a reasonable potential analysis based on information from Emergency Planning and Community Right to Know Act (EPCRA) cannot be conducted. Based on information from EPCRA, there is no reasonable potential to cause or contribute to an excursion above any numeric water quality objectives included within the Basin Plan or in any State Water Board plan, so no effluent limitations are included in this permit pursuant to CWC section 13263.6(a).

   However, as detailed elsewhere in this Order, available effluent data indicate that there are constituents present in the effluent that have a reasonable potential to cause or contribute to exceedances of water quality standards and require inclusion of effluent limitations based on federal and state laws and regulations.

7. **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.

8. **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.

D. Impaired Water Bodies on CWA 303(d) List-Not Applicable

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.

2. The State Water Board adopted the *Water Quality Control Policy for the Enclosed Bays and Estuaries of California*. The requirements within this Order are consistent with the Policy.

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. Discharge is prohibited when flow in the River is less than 40 cfs to assure adequate assimilative capacity for the wastewater.

3. Discharge after 31 April has been prohibited to better coincide with the recreational (fishing) season in the Feather River.

B. Technology-Based Effluent Limitations

1. Scope and Authority

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

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in section 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the 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 (BOD_5), total suspended solids (TSS), and pH.

Following publication of the secondary treatment regulations, legislative history indicates that Congress was concerned that USEPA had not “sanctioned” the use of certain biological treatment techniques that were effective in achieving significant reductions in BOD_5 and TSS for secondary treatment. Therefore to prevent unnecessary construction of costly new facilities, Congress included language in the 1981 amendment to the Construction Grants statutes [Section 23 of Pub. L. 97-147] that required USEPA to provide allowance for alternative biological treatment technologies such as trickling filters or waste stabilization ponds. In response to this requirement, definition of secondary treatment was modified on September 20, 1984 and June 3, 1985, and published in the revised secondary treatment regulations contained in section 133.105. These regulations allow alternative limitations for facilities using trickling filters and waste stabilization ponds that meet the requirements for “equivalent to secondary treatment.” These “equivalent to secondary treatment” limitations are up to 45 mg/L (monthly average) and up to 65 mg/L (weekly average) for BOD_5 and TSS.

Therefore, POTWs that use waste stabilization ponds, identified in section 133.103, as the principal process for secondary treatment and whose operation and maintenance data indicate that the TSS values specified in the equivalent-to-secondary regulations cannot be achieved, can qualify to have their minimum levels of effluent quality for TSS adjusted upwards.

To be eligible for equivalent-to-secondary limitations, a POTW must meet all of the following criteria:

- The principal treatment process must be either a trickling filter or waste stabilization pond.
- The effluent quality consistently achieved, despite proper operations and maintenance, is in excess of 30 mg/L BOD_5 and TSS.

- Water quality is not adversely affected by the discharge. (40 C.F.R. § 133.101(g).)

The treatment works as a whole provides significant biological treatment such that a minimum 65 percent reduction of BOD_5 is consistently obtained (30 day average).

2. Applicable Technology-Based Effluent Limitations

a. **BOD_5 and TSS.** Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. A daily maximum effluent limitation for BOD_5 and TSS is also included in the Order to ensure that the treatment works are not organically overloaded and operate in accordance with design capabilities. The Federal Clean Water Act, Section 301, requires that not later than July 1, 1977, publicly owned wastewater treatment works meet effluent limitations based on secondary treatment or any more stringent limitation necessary to meet water quality standards. Federal Regulations, 40 CFR, Part 133, establish the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for five-day BOD and TSS. BOD is a measure of the amount of oxygen necessary for the biochemical oxidation of organic matter, as well as ammonia in some cases. The secondary treatment standards for BOD and TSS are used as indicators of the effectiveness of the treatment processes. The principal design parameters for wastewater treatment plants are the daily BOD and TSS loading rates and the corresponding removal rate of the system. 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. 40 CFR 133.105 provides adjustment of these limitations where waste stabilization ponds are the principal processes used for secondary treatment. Pursuant to the regulations at 40 CFR Parts 133.105(a), (b), and 133.103, absent any adjustment, the BOD and TSS 30-day average discharge limits for such pond stabilization systems shall not exceed 45 mg/L, the 7-day average shall not exceed 65 mg/L, and the 30-day BOD and TSS percent removal shall not be less than 65 percent. This permit requires that the Discharger meet effluent limits of 30 mg/L average monthly effluent concentration for BOD and TSS as this has historically been the capability of the discharger. Effluent percentage removal for BOD and TSS is set at 65 percent

b. The Portola Wastewater Treatment Plant was designed to provide a secondary level of treatment for up to a design flow of 0.5 mgd.

c. 40 CFR 133.102, in describing the maximum pH range of the effluent, states that the pH shall not be less than 6.0 standard units or greater than 9.0 standard units.

3. Summary of Technology-based Effluent Limitations- Discharge Point EFF-001

Table F-3. Summary of Technology-based Effluent Limitations

Parameter	Units	Effluent Limitations

		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
BOD_5	mg/L lbs/day[1]	30 1	45 1	90 1	--	--
Total Suspended Solids	mg/L lbs/day[a]	30 1	45 1	90 1	--	--
pH	standard units	--	--	--	6.0	9.0
Removal	65% removal BOD_5, TSS					

[1]The daily average mass discharge for the period from 1 November to 31 April shall not exceed 125.1 lb/day.

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 Middle Fork of the Feather River is the receiving water for the Portola Wastewater treatment plant. The beneficial uses downstream of the discharge are municipal and domestic supply, water contact recreation including canoeing and rafting; non-contact water recreation, warm freshwater habitat, cold freshwater habitat, cold water spawning, and wildlife habitat.

b. **Hardness.** While effluent limitations for hardness are not 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 metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the reasonable worst-case ambient hardness as required by the SIP[1], the CTR[2]

[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.

and State Water Board Order No. WQO 2008-0008 (City of Davis). The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. (SIP, § 1.2; 40 CFR § 131.38(c)(2), Table 4, note 4.) The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions. In some cases, the hardness of effluent discharges changes the hardness of the ambient receiving water. Therefore, where reliable, representative data are available, the hardness value for calculating effluent limitations can be the downstream receiving water hardness, after mixing with the effluent (Order WQO 2008-0008, p. 11). The Regional Water Board thus has considerable discretion in determining ambient hardness (*Id.*, p.10.).

The hardness values must also be protective under all flow conditions (*Id.*, pp. 10-11). As discussed below, scientific literature provides a reliable method for calculating protective effluent limitations for metals with hardness-dependent CTR criteria, considering all discharge conditions. This methodology produces effluent limitations that prevent these metals from causing receiving water toxicity, while avoiding effluent limitations that are unnecessarily stringent.

A 2006 Study[3] evaluated the relationships between hardness and the CTR metals criteria as the effluent and receiving water mix. The 2006 Study demonstrates that it is necessary to evaluate all discharge conditions (e.g. high and low flow conditions) when determining the appropriate hardness for calculating effluent limitations for hardness-dependent metals. Simply using the lowest recorded receiving water hardness may result in over or under protective effluent limitations and would not represent the reasonable worst-case hardness of the receiving water.

As is discussed in detail below, using the methodology described in the 2006 Study, the Design Hardness for calculating protective hardness-dependent metals limits in this Order ranged from 46mg/L to 48 mg/L (as $CaCO_3$), depending on the metal. The upstream receiving water hardness ranged from 46 mg/L to 81 mg/L (as $CaCO_3$),

The equation describing the total recoverable regulatory criterion, as established in the CTR, is as follows:

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

Where:

[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used. It further requires that the hardness values used must be consistent with the design discharge conditions for design flows and mixing zones.

[3] Emerick, R.W.; Borroum, Y.; & Pedri, J.E., 2006. California and National Toxics Rule Implementation and Development of Protective Hardness Based Metal Effluent Limitations. WEFTEC, Chicago, Ill.

H = Design Hardness
b = metal- and criterion-specific constant
m = metal- and 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). The metal-specific values for these constants are provided in the CTR at paragraph (b)(2), Table 1. The Design Hardness "H" is the hardness of the receiving water that results in hardness-dependent metals effluent limits that are adequately protective under all discharge conditions.

The 2006 Study demonstrated that the relationship between hardness and the calculated criteria is the same for some metals, so the same procedure for estimating the Design Hardness may be used for these metals. The same procedure can be used for chronic cadmium, chromium III, copper, nickel, and zinc. These metals are hereinafter referred to as "Concave Down Metals". "Concave Down" refers to the shape of the curve represented by the relationship between hardness and the CTR criteria in Equation 1. Another similar procedure can be used for determining the Design Hardness for acute cadmium, lead, and acute silver, which are referred to hereafter as "Concave Up Metals".

Design Hardness for Concave Down Metals – For Concave Down Metals (i.e. chronic cadmium, chromium III, copper, nickel, and zinc) the 2006 study demonstrates that effluent limits based on a Design Hardness equivalent to the lowest recorded effluent hardness is adequately protective under all discharge conditions. The minimum effluent hardness was 48 mg/L (as $CaCO_3$), based on five samples. The upstream receiving water hardness varied from 46 mg/L to 81 mg/L (as $CaCO_3$), based on eleven samples. Using a Design Hardness of 48 mg/L for all Concave Down Metals will result in effluent limitations that are protective under all discharge conditions, as demonstrated in Table F-4, below. This example assumed the following conservative conditions:

- Receiving water always at the lowest observed upstream receiving water hardness (i.e. 46 mg/L as $CaCO_3$)
- Upstream receiving water copper concentration always at the CTR criteria (i.e. no assimilative capacity). Based on available data, the receiving water never exceeded the CTR criteria for any metal with hardness-dependent criteria.

Table F-4: Copper Design Hardness Evaluation

		Design Hardness	**48 mg/L**
		Effluent Copper[1]	**5.0 µg/L**
Effluent Fraction	**Mixed Downstream Ambient**		
	Hardness[2] (mg/L)	**Criteria[3] (µg/L)**	**Copper[4] (µg/L)**

1%	46.02	4.8	4.8
25%	46.5	4.8	4.8
50%	47	4.9	4.9
75%	47.5	4.9	4.9
100%	48	5.0	5.0

- [1] Effluent Copper concentration calculated using Equation 1 for chronic criteria at the Design Hardness.
  [2] Mixed Downstream Ambient Hardness is the mixture of the receiving water and effluent hardness using the lowest observed hardnesses (i.e. 46 mg/L and 48 mg/L) for the receiving water and effluent, respectively)
  [3] Mixed Downstream Ambient Criteria is the chronic criteria calculated using Equation 1 at the Mixed Hardness.
  [4] Mixed Downstream Ambient Copper concentration is the mixture of the receiving water and effluent copper concentrations using a receiving water copper concentration assumed to be at the chronic criteria (calculated using 46 mg/L hardness) and the effluent copper concentration equal to the Effluent Copper concentration.

As demonstrated in Table F-4, a Design Hardness of 48 mg/L results in effluent limits that are protective under all discharge conditions (i.e. the Mixed Downstream Ambient Copper Concentration never exceed the Mixed Downstream Ambient Criteria). In this example, the effluent is always in compliance with the CTR criteria and any mixture of the effluent and receiving water is always in compliance with the CTR criteria. Effluent limits based on a lower hardness (e.g. lowest upstream receiving water hardness) would also be protective, but is overly protective and would result in unreasonably stringent effluent limits. Therefore, a Design Hardness of 48 mg/L has been used in this Order for all Concave Down Metals.

Design Hardness for Concave Up Metals – For Concave Up Metals (i.e. acute cadmium, lead, and acute silver), the 2006 Study also demonstrates that the Design Hardness must not exceed the lowest recorded effluent hardness in order to be adequately protective. However, for these metals the Design Hardness is not readily apparent, due to a different relationship between hardness and the metals criteria. Based on the 2006 Study, it is necessary to use an iterative approach to determine the appropriate Design Hardness to calculate effluent limits that are protective under all discharge conditions.

A similar example as was done for the Concave Down Metals is shown below for lead, cadmium, and silver (see Tables F-5, F-6, and F-7). The same conservative assumptions for the receiving water were made. As shown in following tables, the Design Hardness is different for each constituent. A Design Hardness of 47, 46, and 47 mg/L for lead, acute cadmium, and acute silver respectively, result in effluent limits that are protective under all discharge conditions. In these examples, the effluent is always in compliance with the CTR criteria and any mixture of the effluent and receiving water is always in compliance with the CTR criteria. Use of a lower hardness (e.g. the lowest upstream receiving water hardness) is also protective, but is overly protective and would lead to unreasonably stringent effluent limits. Therefore, a Design

Hardness of 47, 46, and 47 mg/L for lead, acute cadmium, and acute silver, respectively, has been used in this Order.

Table F-5: Lead Design Hardness Evaluation

		Design Hardness (mg/L as $CaCO_3$)	**47**
		Effluent Lead (ug/L)[1]	**1.2**
Effluent Fraction	**Mixed[2] Hardness**	**Mixed Criteria[3]**	**Mixed Lead[4] Concentration**
1%	46.02	1.2	1.2
25%	46.5	1.2	1.2
50%	47	1.2	1.2
75%	47.5	1.2	1.2
100%	48	1.2	1.2

[1]Effluent Lead concentration calculated using Equation 1 for chronic criteria at the Design Hardness.

[2]Mixed Downstream Ambient Hardness is the mixture of the receiving water and effluent hardness using the lowest observed hardnesses (i.e.46 mg/L and 48 mg/L) for the receiving water and effluent, respectively)

[3] Mixed Downstream Ambient Criteria is the chronic criteria calculated using Equation 1 at the Mixed Hardness.

[4] Mixed Downstream Ambient Lead concentration is the mixture of the receiving water and effluent lead concentrations using a receiving water lead concentration assumed to be at the chronic criteria (calculated using 46 mg/L hardness) and the effluent lead concentration equal to the Effluent Lead concentration.

Table F-6: Cadmium Design Hardness Evaluation

		Design Hardness (mg/L as $CaCO_3$)	**46**
		Effluent Cadmium (ug/L)[1]	**1.9**
Effluent Fraction	**Mixed[2] Hardness**	**Mixed Criteria[3]**	**Mixed Cadmium Concentration[4]**
1%	46.02	1.9	1.9
25%	46.5	1.9	1.9
50%	47	1.9	1.9
75%	47.5	2.0	1.9
100%	48	2.0	1.9

[1] Effluent Cadmium concentration calculated using Equation 1 for chronic criteria at the Design Hardness.

[2] Mixed Downstream Ambient Hardness is the mixture of the receiving water and effluent hardness using the lowest observed hardnesses (i.e.46 mg/L and 48 mg/L) for the receiving water and effluent, respectively)

[3] Mixed Downstream Ambient Criteria is the chronic criteria calculated using Equation 1 at the Mixed Hardness.

[4] Mixed Downstream Ambient Cadmium concentration is the mixture of the receiving water and effluent cadmium concentrations using a receiving water cadmium concentration assumed to be at the chronic criteria (calculated using 46 mg/L hardness) and the effluent cadmium concentration equal to the Effluent Cadmium concentration.

Table F-7: Silver Design Hardness Evaluation

		Design Hardness (mg/L as $CaCO_3$)[1]	47
		Effluent Silver (ug/L)	1.1
Effluent Fraction	**Mixed Hardness[2]**	**Mixed Criteria[3]**	**Mixed Silver[4] Concentration**
1%	46.02	1.1	1.1
25%	46.5	1.1	1.1
50%	47	1.1	1.1
75%	47.5	1.1	1.1
100%	48	1.1	1.1

[1] Effluent Silver concentration calculated using Equation 1 for chronic criteria at the Design Hardness.

[2] Mixed Downstream Ambient Hardness is the mixture of the receiving water and effluent hardness using the lowest observed hardnesses (i.e.46 mg/L and 48 mg/L) for the receiving water and effluent, respectively)

[3] Mixed Downstream Ambient Criteria is the chronic criteria calculated using Equation 1 at the Mixed Hardness.

[4] Mixed Downstream Ambient Silver concentration is the mixture of the receiving water and effluent silver concentrations using a receiving water silver concentration assumed to be at the chronic criteria (calculated using 46 mg/L hardness) and the effluent silver concentration equal to the Effluent Silver concentration.

c. Assimilative Capacity/Mixing Zone.

USEPA established numeric criteria for priority toxic pollutants in the California Toxics Rule (CTR). The State Water Resources Control Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) to implement the CTR. The Regional Water Board's Basin Plan allows mixing zones provided the Discharger has demonstrated that the mixing zone will not adversely impact beneficial uses. The Basin Plan further requires that in determining the size of a mixing zone, the Regional Water Board will consider the applicable procedures in USEPA's Water Quality Standards Handbook and the Technical Support Document for Water Quality Based Toxics Control (TSD). It is the Regional Water Board's discretion whether to allow a mixing zone. The SIP, in part, states that mixing zones shall not:

- Compromise the integrity of the entire water body.
- Cause acutely toxic conditions to aquatic life passing through the mixing zone.
- Restrict passage of aquatic life.

- Adversely impact biologically sensitive or critical habitats, including but not limited to, habitat of species listed under Federal or State endangered species laws.
- Dominate the receiving water body.
- Overlap a mixing zone from a different outfall.

USEPA's Water Quality Standards Handbook (WQSH) states that States may, at their discretion, allow mixing zones. The WQSH recommends that mixing zones be defined on a case-by-case basis after it has been determined that the assimilative capacity of the receiving stream can safely accommodate the discharge. This assessment should take into consideration the physical, chemical, and biological characteristics of the discharge and the receiving stream; the life history of and behavior of organisms in the receiving stream; and the desired uses of the waters. Mixing zones should not be allowed where they may endanger critical areas (e.g., drinking water supplies, recreational areas, breeding grounds and areas with sensitive biota). USEPA's TSD states, in part in Section 4.3.1, that mixing zones should not be permitted where they may endanger critical areas.

The Basin Plan, the SIP and USEPA's TSD state that allowance of a mixing zone is discretionary on the part of the Regional Board. Mixing zones will be limited to the amount of assimilative capacity necessary to comply with discharge limitations. There are no water intakes downstream of the discharge point within a distance that could be impacted by the proposed mixing zone.

Discharge to the Middle Fork of the Feather River is prohibited when river flow is less than 40 cfs; In addition, discharge is prohibited unless the complete mixing dilution in the River is 50:1 or greater.

A mixing model referred to in the Technical support document was consulted by the Discharger's Engineer to verify the mixing regime of the outfall and river. The model is applicable to point discharges where rapid vertical mixing occurs. According to the Technical support document, the model is based on *Mixing in Inland and Coastal Waters* by H.B. Fischer et al. (1979, Academic Press Inc.).

The configuration of the River is complex at the discharge location. The discharge is just upstream of a railroad bridge that spans the Middle Fork of the Feather River. The Bridge Abutments separate the stream into two primary channels at the point of discharge, a middle channel and a western channel when the River is at approximately 40 cfs. The Discharger's engineer indicates this flow regime is typical even at substantially higher flows. There is also another channel to the east, which receives approximately 20% of the River flow, and passes by the effluent discharge location. Directly downstream of the effluent discharge, the stream turns approximately 45 degrees due to the adjacent topography and railroad bridge abutment, and also increases its velocity to approximately 3 feet per second. Both of these conditions should provide good mixing.

Use of this mixing model by the Discharger's engineer allows the assumption of a dilution of at least 40% of the ultimate dilution in the River at the edge of the acute toxicity mixing zone, approximate 100 feet downstream of the discharge, with a width of approximately 30 feet. The 20:1 dilution has been used for both the acute and chronic toxicity mixing zones, because of the specified method of discharge, which is based upon a volumetric percentage of the River flow. The toxicity mixing zone also allows a zone of passage, and should not prove toxic to organisms floating through the mixing zone.

This Order requires the Discharger to install an effluent diffuser to obtain rapid mixing at the point of discharge to the Middle Fork of the Feather River. The Discharger must also, by a dilution study, show that the minimum dilution at the point of the outfall is 20:1 in a mixing zone that complies with the SIP, the Basin Plan, and the USEPA Technical support document.

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 the 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 copper, ammonia, total

residual chlorine, electrical conductivity, and pathogens. Water quality-based effluent limitations (WQBELs) for these constituents are included in this Order. 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 control.[4] 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.

Table F-8. Summary of Reasonable Potential Analysis

Parameter (ug/L)	Jan 04	May 08	MEC	BC	Applicable Hardness Value (mg/L)	Most Stringent Applicable Criteria	Reasonable Potential?
Antimony	0.2j	<1	0.2	0.2	n/a	6	No
Arsenic	2.4	2	2.4	0.3	n/a	10	No
Beryllium	<0.06	<0.2	0.06	0.06	n/a	4	No
Cadmium	<0.03	<2	0.03	0.03	48	1.4	No
Chromium III	0.4j	2	2	0.8	48	113	No
Chromium(VI)	<0.9	<10	0.9	0.9	n/a	11.4	No
Copper[1]	5.3	7	10	2	48	5.0	Yes
Lead[2]	0.17 j	0.5	0.7	0.1	47	1.2	No
Mercury	0.006	<0.02	0.006	0.03	n/a	0.05	No
Nickel	1.8	2	2	0.6	48	28	No
Selenium	<0.5	<2	0.5	0.5	n/a	5	No
Silver	0.3	<1.0	0.3	0.02	46	1.1	No
Zinc	8	40	40	10	48	64	No
Cyanide	3	8	8	0.9	n/a	5.2	Monitor[3]
Bis-2 ethyl hexyl pthalate	1j	<5	1	0.8	n/a	1.8	No

[4] See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City)

Chloroform	<0.31	0.6	0.6	0.31	n/a	No Criteria	Monitor
4,4'-DDD	<0.002	0.0027j	.0027	0.002	n/a	0.00083	Monitor

[1] In addition, copper was detected at 10 ug/l, 5.8 ug/L, 5.8 ug/l, and 5 ug/L, in February 2005, March 2007, April 2007, and April 2008, respectively.
[2] In addition, lead was detected at 0.7 ug/l in April 2008
[3] There is no expected source of cyanide in the Portola area. In addition some recent work has shown that the sodium hydroxide preservative used in the cyanide test produces some false positive readings.
j: "Lab detected but not quantified."
MEC: Maximum Effluent Concentration. If all samples values are non-detect then MEC equals lowest detection limit.
BC: Maximum Background Concentration.
Lowest effluent hardness value is 48 mg/L as CaCO3 and lowest receiving water hardness value is 46 mg/L as CaCO3.
n/a: Not Applicable.

e. **Ammonia.** 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. The Nitrification of the wastewater in the Portola ponds is sporadic due to the area's cold climate and the Plant's minimal aeration. 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. 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 Middle Fork of the Feather River has a beneficial use of cold freshwater habitat and the presence of salmonids and early fish life stages in the Feather River is well documented, the recommended criteria for waters where salmonids and early life stages are present were used. USEPA's recommended criteria are show below:

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

$$CMC = \left(\frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}} \right),$$

where *T* is in degrees Celsius

The maximum permitted effluent pH is 9.0. The Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.5. The maximum observed 30-day average effluent temperature was 66.2 ºF (19 ºC). The maximum observed 30-day R-1 temperature was 60.3 ºF (15.7 ºC) . Using the Basin Plan high pH receiving water value of 8.5 (In accordance with 42 R-1 receiving water monitoring samples submitted by the City, the River pH has not exceeded 7.9) and the worst-case average temperature values at the edge of the mixing zone (15.9ºC as a flow weighted average of effluent and R-1 temperature) on a 30-day basis (without dilution credit) the CMC and CCC are 2.14 mg/L and 0.996 mg/l, respectively. The chronic 4 day average criterion is derived by multiplying the chronic criterion (30 day) for ammonia by 2.5, for a criterion of 2.49 mg/L.

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 average monthly effluent limitation (AMEL) and the maximum daily effluent limitation (MDEL). The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures. The ammonia effluent limitations, with the provision for a dilution credit of 20, are 23 mg/L (as N) as the AMEL and 45 mg/L as the MDEL (See Section IV.C.4, Table F-10, of the Fact Sheet for calculations of the AMEL and MDEL for ammonia.)

The MEC for ammonia was 24 mg/L based on 36 samples. 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. In accordance with the ammonia MEC and the dilution credit of 20, the Discharger should be able to meet their effluent limitations for ammonia.

f. **Chlorine Residual.** The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses a sodium bisulfite chemical addition system to dechlorinate the effluent prior to discharge to The Middle Fork of the Feather River. Due to the existing chlorine use and the potential for chlorine to be discharged, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan's narrative toxicity objective.

The USEPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001] contains statistical methods for converting chronic (four-day) and acute (one-hour) aquatic life criteria to average monthly and maximum daily effluent limitations based on the variability of the existing data and the expected frequency of monitoring. However, because chlorine is an acutely toxic constituent that can and will be monitored continuously, an average one-hour limitation is considered more appropriate than an average daily limitation. Average one-hour and four-day limitations for chlorine, based on these criteria, are included in this Order. The Discharger can immediately comply with these new effluent limitations for chlorine residual.

g. **Chloroform.** 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 Department of Health Services (DHS) 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.

The observed chloroform MEC was 0.6 µg/L. The equivalent concentration for the OEHHA cancer potency factor is 1.1 µg/L. The MEC does not exceed the cancer potency factor even excluding dilution; therefore, an Effluent Limitation for chloroform is not required. However, monitoring for total trihalomethanes is included in this Order

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 (48 mg/L as $CaCO_3$) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum four-day average concentration) is 5.0 and the applicable acute criterion (maximum one-hour average concentration) is 7.0, as total recoverable.

The MEC for total copper was 10 µg/L, based on detected copper in 7 samples, while the maximum observed upstream receiving water total copper concentration was 2 µg/L. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper. An AMEL and MDEL for total copper of 53 µg/L and 106µg/L, respectively, are included in this Order based on CTR criteria for the protection of freshwater aquatic life, after dilution in the acute toxicity mixing zone (See Attachment F, Table F-11 for WQBEL calculations). Based on the effluent sample results, it appears the Discharger can meet these new limitations.

h. **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 8 µg/L, based on 2 CTR sampling events, while the maximum observed upstream receiving water cyanide concentration was <0.9 µg/L, based on the same two CTR sampling events. No sources of cyanide are expected in the service area of the treatment facility. In addition some recent work has shown that the sodium hydroxide preservative used in the cyanide test produces some false positive readings. With the data available, it cannot be determined if there is a reasonable potential for cyanide and this Order calls for additional cyanide monitoring.

i. **Electrical Conductivity. (see Subsection m.-Salinity)**

j. **Nitrite and Nitrate.** 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 California DHS has adopted Primary MCLs at Title 22 of the California Code of Regulations (CCR), Table 64431-A, for the protection of human health for nitrite and nitrate that are equal to 1 mg/L and 10 mg/L (measured as nitrogen), respectively. Title 22 CCR, Table 64431-A, also includes a primary MCL of 10,000 µg/L for the sum of nitrate and nitrite, measured as nitrogen.

USEPA has developed a primary MCL and an MCL goal of 1,000 µg/L for nitrite (as nitrogen). For nitrate, USEPA has developed Drinking Water Standards (10,000 µg/L as Primary Maximum Contaminant Level) and Ambient Water Quality Criteria for protection of human health (10,000 µg/L for non-cancer health effects). Recent toxicity studies have indicated a possibility that nitrate is toxic to aquatic organisms.

Inadequate or incomplete denitrification may result in the discharge of nitrate and/or nitrite to the receiving stream. However, the concentrations of nitrate or nitrate outside the acute toxicity mixing zone, and after the effluent has been completely mixed with the River, a substantial distance before any drinking water intakes are encountered, do not represent reasonable potential for exceedance

of a water quality objective. However, monitoring for these compounds is included in the Order.

k. **Pathogens**. Municipal and domestic supply, agricultural irrigation, and body contact water recreation are beneficial uses of the receiving stream. Coliform limits are imposed to protect the beneficial uses of the receiving water, including public health through contact recreation and drinking water pathways. In a letter to the Regional Water Board dated 8 April 1999, the California Department of Health Services indicated that DHS would consider wastewater discharged to water bodies with identified beneficial uses of irrigation or contact recreation and where the wastewater receives dilution of more than 20:1 to be adequately disinfected if the effluent coliform concentration does not exceed 23 MPN/100 mL as a 7-day median and if the effluent coliform concentration does not exceed 240 MPN/100 mL more than once in any 30 day period. The Discharger is prohibited from discharging to the Middle Fork of the Feather River when ultimate dilution in the River is less than 50:1 or during the recreational season. Therefore the 23 MPN/100 mL limitation is found to be appropriate.

l. **Persistent Chlorinated Hydrocarbon Pesticides.** 4,4'-DDD was detected in the effluent at a concentration of 0.0027 µg/L (detected but not quantified). 4,4'-DDD is a chlorinated hydrocarbon pesticide. The Basin Plan requires that no individual pesticides shall be present in concentrations that adversely affect beneficial uses; discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; total chlorinated hydrocarbon pesticides shall not be present in the water column at detectable concentrations; and pesticide concentrations shall not exceed those allowable by applicable antidegradation policies. The CTR contains numeric criteria for 4,4'-DDD of 0.0001 µg/L for the protection of human health. However, with the very low concentration of 4,4'-DDD detected and the fact that 4,4'-DDD is no longer registered for use as an agricultural pesticide, there is inadequate information to determine if 4,4'-DDD has a reasonable potential for the exceedance of its water quality objective. This Order calls for monitoring of 4,4'-DDD, and contains a reopener if 4,4'-DDD is found to create a reasonable potential for exceedance of its water quality objective.

m. **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.

n. **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. There are no USEPA water quality criteria for the protection of aquatic organisms for these constituents. The Basin Plan contains a chemical constituent objective that incorporates State MCLs, contains a narrative

objective, and contains numeric water quality objectives for EC, TDS, Sulfate, and Chloride.

Table F-9. Salinity Water Quality Criteria/Objectives

Parameter	Agricultural WQ Goal[1]	Secondary MCL[3]	Basin Plan	Effluent	
				Avg	Max
EC (µmhos/cm)	Varies[2]	900, 1600, 2200	150 umhos/cm[4]	282	684
TDS (mg/L)	Varies[2]	500, 1000, 1500	--	153	340
Sulfate (mg/L)	N/A	250, 500, 600	--	n/a	n/a
Chloride (mg/L)	106[2]	250, 500, 600	--	n/a	n/a

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 Agricultural water quality goals listed provide no restrictions on crop type or irrigation methods for maximum crop yield. Higher concentrations may require special irrigation methods to maintain crop yields or may restrict types of crops grown.

3 The secondary MCLs are stated as a recommended level, upper level, and a short-term maximum level.

4 At a 90th percentile for well mixed waters of the Middle Fork of the Feather River at 25ºC as a 10 year rolling average.

i. **Electrical Conductivity (EC)**. The water quality objective for electrical conductivity for the section of the Middle Fork of the Feather River from Frenchman Reservoir to Lake Oroville is 150 umhos/cm at a 90th percentile at in well mixed waters of the River at 25ºC applied as a 10 year rolling average. A review of the Discharger's monitoring reports shows an average effluent EC of 411 µmhos/cm, with a range from 282 µmhos/cm to 684 µmhos/cm. These levels exceed the applicable objectives. The background receiving water EC averaged 140 µmhos/cm in 33 sampling events collected by the Discharger, in the last 5 years, with a maximum value of 185 ug/L. An effluent limitation of 684 umhos/cm has been set until adequate potable water quality has been obtained (10 years of data) to set a BPTC effluent limitation of 500 umhos/cm over the influent water in the next permit cycle.

ii. **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. Sulfate and Chloride similarly have Secondary MCLs. Compliance with the electrical conductivity Water Quality Objective would assure that the TDS, sulfate, and chloride of the River does not adversely affect any beneficial use of the receiving water.

iii. **Salinity Effluent Limitations**. The Antidegradation Policy (Resolution No. 68-16) requires that the Discharger implement best practicable treatment or

control (BPTC) of its discharge. For salinity, the Regional Water Board is considering limiting effluent salinity of municipal wastewater treatment plants to an increment of 500 µmhos/cm over the salinity of the municipal water supply as representing BPTC. This Order includes a performance-based average monthly effluent limitation of 684 µmhos/cm for electrical conductivity. This Order requires quarterly monitoring of EC of the Discharger's water supply (see Attachment E, Section IX.B). This Order also includes a receiving water limitation that the discharge cannot cause or contribute to the receiving water exceeding the water quality objective for EC in the Middle Fork of the Feather River.

Special Provision VI.C.3.b requires the Discharger to report on progress in reducing salinity discharges to the Feather River. Implementation measures to reduce salt loading may include source control, mineralization reduction, chemical addition reductions, changing to water supplies with lower salinity, and limiting the salt load from domestic and industrial dischargers. Compliance with these requirements may result in a salinity reduction in the effluent discharged to the receiving water; however, the discharge may cause or contribute to an exceedance of a water quality objective for salinity until adequate measures are implemented to meet those objectives. Until additional data is obtained for receiving water electrical conductivity it is unknown whether or not the discharge will cause or contribute to an exceedance of the River water quality objective.

o. **Total Trihalomethanes (THMs).** Information submitted by the Discharger indicates that the effluent contains THMs, specifically chloroform. The Basin Plan contains the narrative "chemical constituent" objective that requires, at a minimum, that waters with a designated MUN use not exceed California MCLs. In addition, the chemical constituent objective prohibits chemical constituents in concentrations that adversely affect beneficial uses. The California primary MCL for total THMs is 100 µg/L. The USEPA primary MCL for total THMs is 80 µg/L, which was effective on January 1, 2002 for surface water systems that serve more than 10,000 people. Pursuant to the Safe Drinking Water Act, DHS must revise the current total THMs MCL in Title 22, CCR to be as low or lower than the USEPA MCL. Total THMs include bromoform, dichlorobromomethane, chloroform, and chlorodibromomethane. The 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 regional boards, departments, and offices within Cal/EPA. This cancer potency factor is equivalent to a chloroform concentration in drinking water of 1.1 µg/L (ppb) at the 1-in-a-million cancer risk level with an average daily consumption of two liters of drinking water over a 70-year lifetime. This risk level is consistent with that used by the DHS 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 Middle Fork of the Feather River until the River discharges to Lake Oroville, approximately 60 miles downstream, and chloroform is a non-conservative pollutant. Therefore, to protect the MUN use of the receiving waters, the Regional Water Board finds that, in this specific circumstance, 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 outfall. There was one detection of chloroform in the effluent (see Chloroform) at 0.6 ug/L. Total THMs in the discharge do not have a reasonable potential to cause or contribute to an in-stream excursion above the USEPA primary MCL for total THMs

p. **Toxicity.** See Section IV.C.5. of the Fact Sheet regarding whole effluent toxicity.

4. WQBEL Calculations

a. Effluent limitations for ammonia and copper were calculated in accordance with section 1.4 of the SIP. The following paragraphs describe the methodology used for calculating effluent limitations.

b. **Effluent Limitation Calculations.** In calculating maximum effluent limitations, the effluent concentration allowances were set equal to the criteria/standards/objectives.

$$ECA = C + D[X(C - B)] \quad \text{when } C > B, \text{ and}$$
$$ECA = C \quad \text{when } C \leq B$$

where:

ECA_{acute} = effluent concentration allowance for acute (one-hour average) toxicity criterion, adjusted, if necessary, for hardness, pH, and translators.

$ECA_{chronic}$ = effluent concentration allowance for chronic (four-day average) toxicity criterion adjusted, if necessary, for hardness, pH, and translators.

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

X= receiving water allocation factor

C = human health, aquatic life, or other long-term criterion/objective

D = dilution credit (dilution ratio * estimated mixing)

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.

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

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

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

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

Water quality-based effluent limitations were calculated for ammonia and copper as follows in Tables F-10 and F-11, below.

Table F-10. WQBEL Calculations for Ammonia

	Acute	Chronic(30 day)	Chronic (4-day)
Criteria (mg/L) (1)	2.14	0.996	2.49
Dilution Credit	20:1	20:1	20:1
ECA	44.9	20.9	52.2
ECA Multiplier	0.329	0.786	0.537
LTA	14.8	16.42	28.05
AMEL Multiplier (95th%)	1.53	(2)	(2)
AMEL (mg/L)	**23**	**(2)**	**(2)**
MDEL Multiplier (99th%)	3.04	(2)	(2)
MDEL (mg/L)	**45**	**(2)**	**(2)**

(1) USEPA Ambient Water Quality Criteria
(2) Limitations based on Acute (Acute LTA < Chronic (30 day)< Chronic 4day)

Table F-11. WQBEL Calculations for Copper

	Acute	Chronic
Criteria, dissolved (µg/L) (1)	7.01	4.98
Dilution Credit	20:1	20:1
Translator	0.96	0.96
ECA, total recoverable	107.2	64.58
ECA Multiplier	0.32	0.53
LTA	34.2	34.2
AMEL Multiplier (95th%)	1.55	(2)

AMEL (µg/L)	53	(2)
MDEL Multiplier (99th%)	3.11	(2)
MDEL (µg/L)	106	(2)

(1) CTR aquatic life criteria, based on a hardness of 48 mg/L as $CaCO_3$.
(2) Limitations based on acute or Chronic LTA (Chronic LTA = Acute 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
Chlorine			0.01(1)			0.02(2)
Electrical Conductivity	umhos/cm	684				
Copper, Total Recoverable	mg/L	53		106		
Ammonia		23		45		
Total Coliform	MPN/ 100 mL	23(3)		240	--	--

(1)-Applied as a 4-day average effluent limitation.
(2)-Applied as a 1-hour average effluent limitation.
(3)-Expressed as a 7 sample median.

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 20 TUc."

Accordingly, 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 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. This Order does not include mass based limitations due to the criteria for copper, ammonia, and chlorine, being expressed in terms of concentration. Electrical Conductivity cannot be expressed in terms of mass limitations.

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 copper and ammonia, 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, and coliform 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.

All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order except for percent BOD removal. The percent BOD removal requirement in this Order is 65 percent as opposed to the previous Order, which was 85 percent. The CWA allows revision of effluent limitations only if such revision is subject to and consistent with a State's antidegradation policy. As the relaxation of the effluent percentage removal limitation will not result an the discharge of any additional pollutants, there will be no additional degradation of the receiving water, and this modification is in compliance with the state's antidegradation policy. The antibacksliding requirements also prohibit the reissued permits to contain effluent limitations which are less stringent than the current effluent limitation guidelines for that pollutant, or which would cause the receiving water to violate the applicable state water quality standard under Section 303 of the CWA. The relaxation of the percentage removal requirements complies with those prohibitions.

4. Satisfaction of Antidegradation Policy

a. **Surface Water.** The permitted surface water discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

b. **Groundwater.** The Discharger utilizes facultative and aerated ponds. Domestic wastewater contains constituents such as total dissolved solids (TDS), specific conductivity, pathogens, nitrates, organics, metals and oxygen demanding substances (BOD). Percolation from the lagoons may result in an increase in the concentration of these constituents in groundwater. The increase in the concentration of these constituents in groundwater must be consistent with Resolution 68-16. Any increase in pollutant concentrations in groundwater must be shown to be necessary to allow wastewater utility service necessary to accommodate housing and economic expansion in the area and must be consistent with maximum benefit to the people of the State of California. Some

degradation of groundwater by the Discharger is consistent with Resolution 68-16 provided that:

i. the degradation is limited in extent;

ii. the degradation after effective source control, treatment, and control is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order;

iii. the Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures; and

iv. the degradation does not result in water quality less than that prescribed in the Basin Plan.

Table F-13. Summary of Final Effluent Limitations

Parameter	Units	Effluent Limitations					Basis
		Average Monthly	Average Weekly	Maximum Daily	Instant. Minimum	Instant. Maximum	
BOD[1]	mg/L	30	45	90	--	--	Tech.
BOD	lbs/day[2]	[2]	[2]	[2]	--	--	Tech.
Total Suspended Solids	mg/L	30	45	90	--	--	Tech.
	lbs/day[2]	[2]	[2]	[2]	--	--	Tech.
Removal	65% removal BOD_5 and TSS						Tech.
pH	--	--	--	--	6.0	9.0	Tech.
Copper, Total Recoverable	ug/L	53	--	106	--	--	CTR
Chlorine Residual	mg/L	--	0.01[3]	0.02[4]	--	--	USEPA
Ammonia	mg/L	23		45			BP/USEPA
Total Coliform Organisms	MPN/100 mL	23[5]	--	240	--	--	BP/DPH
Electrical Conductivity	umhos/cm	684					Performance

[1] 5-day, 20°C Biochemical Oxygen Demand (BOD)
[2] The daily average mass discharge for the period from 1 November to 31 April shall not exceed 125.1 lb/day
[3] 4-day average
[4] 1-hour average
[5] 7 sample median

Percent Removal: The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 65 percent

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.

Total Residual Chlorine. Effluent total residual chlorine shall not exceed:

iii. 0.01 mg/L, as a 4-day average;
iv. 0.02 mg/L, as a 1-hour average;

Total Coliform Organisms. Effluent total coliform organisms shall not exceed:

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

E. Interim Effluent Limitations-Not Applicable

F. Land Discharge Specifications

1. The Land Discharge Specifications are necessary to protect the beneficial uses of the groundwater.

G. Reclamation Specifications-Not Applicable

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, salinity, temperature, electrical conductivity, 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. **Ammonia.** The Basin Plan states that, "[w]*aters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in receiving waters.*"

b. **Bacteria.** The Basin Plan includes a water quality objective that "*[I]n water designated for contact recreation (REC-1), the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml*." Numeric Receiving Water Limitations for bacteria are included in this Order and are based on the Basin Plan objective.

c. **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.

d. **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.

e. **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.

f. **Dissolved Oxygen.** The Middle Fork of the Feather 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 Middle Fork of the Feather 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.

g. **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.

h. **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.

i. **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.

j. **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.

k. **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.

l. **Electrical Conductivity.** The Basin Plan includes a water quality objective that states: Electrical **conductivity** (at 25°C) "*[s]hall not exceed 150 micromhos/cm (90 percentile) in well-mixed waters of the Feather River.*" The Basin Plan objective is applied as a 10-year rolling average. A numeric Receiving Surface Water Limitation for electrical conductivity is included in this Order and is based on the Basin Plan objective for electrical conductivity.

m. **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.

n. **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.

o. **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.

p. **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.

q. **Temperature.** The Middle Fork of the Feather 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 5ºF above natural receiving water temperature*." This Order includes a receiving water limitation based on this objective

r. **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.

s. **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-

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

Basin Plan water quality objectives include narrative objectives for chemical constituents, tastes and odors, and toxicity of groundwater. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, animals, or aquatic life. The chemical constituent objective states groundwater shall not contain chemical constituents in concentrations that adversely affect any beneficial use. The tastes and odors objective prohibits taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses. The Basin Plan also establishes numerical water quality objectives for chemical constituents and radioactivity in groundwaters designated as municipal supply. These include, at a minimum, compliance with MCLs in Title 22 of the CCR. The bacteria objective prohibits coliform organisms at or above 2.2 MPN/100 ml. The Basin Plan requires the application of the most stringent objective necessary to ensure that waters do not contain chemical constituents, toxic substances, radionuclides, taste- or odor-producing substances, or bacteria in concentrations that adversely affect municipal or domestic supply, agricultural supply, industrial supply or some other beneficial use. Groundwater limitations are required to protect the beneficial uses of the underlying groundwater.

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).

2. As described in Section IV.C.3 above for salinity, monitoring for salinity (EC) in the influent will be required quarterly in conjunction with effluent and water supply monitoring as a means to provide data to evaluate BPTC for discharges from the Facility.

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.

2. The SIP states that if "…*all reported detection limits of the pollutant in the effluent are greater than or equal to the C* [water quality criterion or objective] *value, the RWQCB* [Regional Water Board] *shall establish interim requirements…that require additional monitoring for the pollutant….*" All reported detection limits for 2,3,7,8 TCDD, acrylonitrile, carbon tetrachloride, pentachlorophenol, benzidine, benzo (a) anthracene, benzo (a) pyrene, benzo (b) fluoranthene, benzo (k) fluoranthene, bis (2-chloroethyl) ether, chrysene, dibenzo (a, h) anthracene, 3,3 dichlorobenzidine, 2,4-dinitrotoluene, 1,2-diphenylhydrazine, hexachlorobutadiene, n-nitrosodimethylamine, n-nitrosodi-n-propylamine, aldrin, alpha-bhc, chlordane. 4,4'-DDT, 4,4'-DDE, 4,4'-DDD, dieldrin, heptachlor, heptachlor epoxide, PCB 1016, PCB 1221, PCB 1232, PCB 1242, PCB 1248, PCB 1254, PCB 1260, and toxaphene are greater than or equal to corresponding applicable water quality criteria or objectives. Monitoring for these constituents has been included in this Order in accordance with the SIP.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Monthly 96-hour bioassay testing is required to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Chronic whole effluent toxicity testing is required twice during the permit life 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

a. Section 13267 of the California Water Code states, in part, *"(a) A Regional Water Board, in establishing…waste discharge requirements… may investigate the quality of any waters of the state within its region*" and *"(b) (1) In conducting an investigation…, the Regional Water Board may require that any person who… discharges… waste…that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Water Board requires. The burden, including costs, of these reports*

b. Monitoring of the groundwater must be conducted to determine if the discharge has caused an increase in constituent concentrations, when compared to background. The monitoring must, at a minimum, require a complete assessment of groundwater impacts including the vertical and lateral extent of degradation, an assessment of all wastewater-related constituents which may have migrated to groundwater, an analysis of whether additional or different methods of treatment or control of the discharge are necessary to provide best practicable treatment or control to comply with Resolution No. 68-16. Economic analysis is only one of many factors considered in determining best practicable treatment or control. If monitoring indicates that the discharge has incrementally increased constituent concentrations in groundwater above background, this permit may be reopened and modified. Until groundwater monitoring is sufficient, this Order contains Groundwater Limitations that allow groundwater quality to be degraded for certain constituents when compared to background groundwater quality, but not to exceed water quality objectives. If groundwater quality has been degraded by the discharge, the incremental change in pollutant concentration (when compared with background) may not be increased. If groundwater quality has been or may be degraded by the discharge, this Order may be reopened and specific numeric limitations established consistent with Resolution 68-16 and the Basin Plan.

c. This Order requires the Discharger to begin groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with Regional Board plans and policies, including Resolution 68-16. Evidence in the record includes effluent monitoring data that indicates the presence of constituents that may degrade groundwater and surface water.

E. Other Monitoring Requirements

1. Biosolids Monitoring

Biosolids monitoring is required to ensure compliance with the biosolids disposal requirements (Special Provisions VI.C.6.a.). Biosolids disposal requirements are

imposed pursuant to 40 CFR Part 503 to protect public health and prevent groundwater degradation.

2. **Water Supply Monitoring**

Water supply monitoring is required to evaluate the source of constituents in the wastewater and to establish a final, BPTC effluent in the next permit for this facility. In particular, quarterly monitoring for electrical conductivity and total dissolved solids is required.

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. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a 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.

b. **Water Effects Ratio (WER) and Metal Translators.** 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. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

c. **Dilution Study**. The discharger is required to perform an effluent dilution study within one year of installation of an effluent diffuser. The permit may be reopened at that time if the results of the dilution study are substantially different from the results used to establish an acute toxicity mixing zone for this Order.

d. **Chloroform.** Chloroform was detected in one sample at a concentration of 0.6 ug/L. Although this result is below the relevant cancer potency factor, it is prudent to monitor effluent chloroform, bromoform, bromodichloromethane, and chlorodibromomethane and reopen the permit if detection of any of these constituents, singly or in combination, indicates a reasonable potential for exceedance of a water quality objective for total trihalomethanes.

e. **Cyanide. c**yanide was detected in a concentration of 8 ug/l in one out of two CTR sampling events, above the CTR criteria of 5 ug/L. Another CTR sampling event detected cyanide at 3 ug/L. If the initial sample is representative of the actual concentration of cyanide, then cyanide could represent a reasonable potential. However, the minimal amount of data is insufficient to determine if reasonable potential exists. This Order calls for monitoring of cyanide, and may be reopened if cyanide is found to cause a reasonable potential for exceedance of a water quality objective.

f. **4,4'-DDD.** 4,4'-DDD was detected in a concentration of 0.0048 ug/l (detected but not quantified) in one round of CTR sampling. If this sample is representative of the actual concentration of 4,4'-DDD, then 4,4'-DDD could represent a reasonable potential. However, 4,4'-DDD, is no longer registered as an agricultural pesticide, and there are no agricultural activities in the vicinity of the treatment plant or town that should result in contamination of the wastewater with 4,4'-DDD. Therefore, this order requires monitoring of 4,4'-DDD. This Order may be reopened if 4,4'-DDD is found to cause a reasonable potential for exceedance of a water quality objective.

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 chronic WET monitoring twice during the term of the permit 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 >20 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does allow dilution for the chronic condition.

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 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.

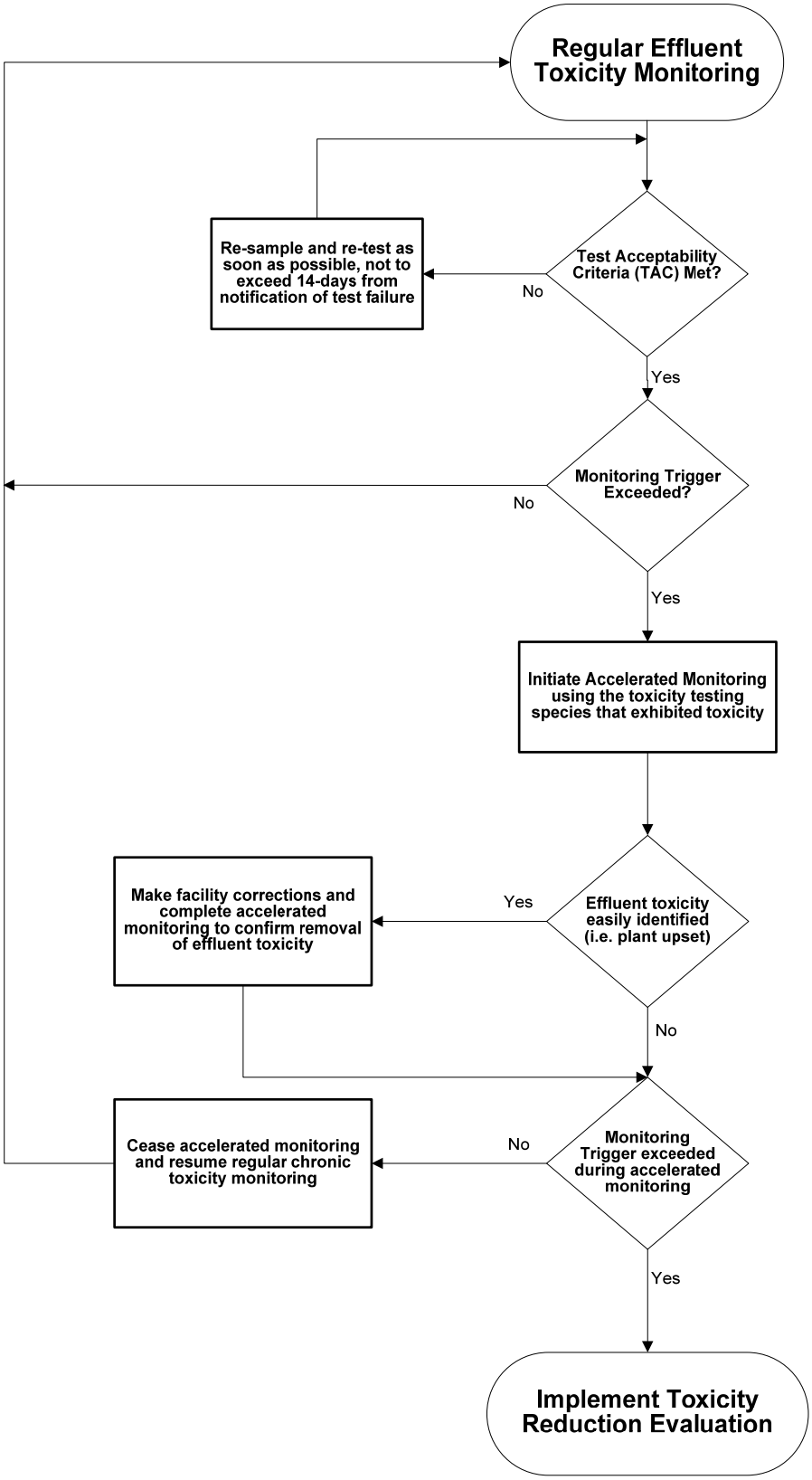
- *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

- *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*

Figure F-1
WET Accelerated Monitoring Flow Chart



b. The Discharger must provide a plan for inspection of the force main crossing the Middle Fork of the Feather River to assure that there is no leakage from this line in accordance with Provision VI C. 2 c.

c. **BPTC Evaluation Tasks**. The Discharger shall propose a work plan and schedule for providing BPTC as required by Resolution 68-16. The technical report describing the work plan and schedule shall contain a preliminary evaluation of each component and propose a time schedule for completing the comprehensive technical evaluation.

   Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results and critiquing each evaluated component with respect to BPTC and minimizing the discharge's impact on groundwater quality. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (*e.g.*, new or revised salinity source control measures, WWTP component upgrade and retrofit) to achieve BPTC and identify the source of funding and proposed schedule for modifications. The schedule shall be as short as practicable but in no case shall completion of the necessary modifications exceed four years past the Executive Officer's determination of the adequacy of the comprehensive technical evaluation, unless the schedule is reviewed and specifically approved by the Regional Water Board. The technical report shall include specific methods the Discharger proposes as a means to measure processes and assure continuous optimal performance of BPTC measures. The Discharger shall comply with the following compliance schedule in implementing the work required by this Provision:

Task	Compliance Date
1 -Submit technical report: work plan and schedule for comprehensive evaluation	**Within 6 months** following Order adoption
2 -Commence comprehensive evaluation	**30 days** following Executive Officer approval of Task 1.
3 -Complete comprehensive evaluation	As established by Task 1 and/or 2 years following Task 2, whichever is sooner
4 -Submit technical report: comprehensive evaluation results	**60 days** following completion of Task 3.
5 -Submit annual report describing the overall status of BPTC implementation and compliance with groundwater limitations over the past reporting year	To be submitted in accordance with the MRP (Attachment E, Section X.D.1.)

d. **Groundwater Monitoring.** To determine compliance with Groundwater Limitations V.B., the Discharger is required to install a groundwater monitoring

network. This provision requires the Discharger to evaluate its groundwater monitoring network to ensure there are one or more background monitoring wells and a sufficient number of designated monitoring wells downgradient of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater. Currently, there are no groundwater monitoring wells at the site. If the monitoring shows that any constituent concentrations are increased above background water quality, by 2 years and 6 months from the date of this Order, the Discharger shall submit a technical report describing the groundwater evaluation report results and critiquing each evaluated facility component with respect to BPTC and minimizing the discharge's impact on groundwater quality.

e. **Mixing Zone/Dilution Study.** This study must be performed after installation of an effluent diffuser to assure that a minimum effluent dilution of 20:1 is achieved in a mixing zone that conforms to the SIP, the Basin Plan, and the USEPA Technical Support Document.**.**

f. **Septage Study.** The Discharger must provide a study on their ability to accept septage, and assure that septage is not adversely affecting their treatment capacity.

g. **Force Main River Crossing Study Leakage Study.** The Discharger must provide a plan for inspection of the force main crossing the Middle Fork of the Feather River to assure that there is no leakage from this line.

h. **Reclamation, Reduction of River Discharge, and Regionalization.** The State Water Board adopted a State Policy for Water Quality Control on 6 July 1972 in which the State Water Board found that protection of the State's waters required implementation programs that conformed to specific principles. The State Policy for Water Quality Control included the following principles that relate to reclaimed water and consolidation of wastewater collection and treatment systems.

    i. Municipal, agricultural, and industrial wastewaters must be considered as a potential integral part of the total available fresh water resource.

    ii. Coordinated management of water supplies and wastewaters on a regional basis must be promoted to achieve efficient utilization of water.

    iii. Wastewater collection and treatment facilities must be consolidated in all cases where feasible and desirable to implement sound water quality management programs based upon long-range economic and water quality benefits to an entire basin.

    iv. Institutional and financial programs for implementation of consolidated wastewater management systems must be tailored to serve each particular area in an equitable manner.

v. Wastewater reclamation and reuse systems which assure maximum benefit from available fresh water resources shall be encouraged. Reclamation systems must be an appropriate integral part of the long-range solution to the water resources needs of an area and incorporate provisions for salinity control and disposal on nonreclaimable residues.

The Basin Plan includes a wastewater reuse policy that encourages the reclamation and reuse of wastewater where practicable and requires as part of a Report of Waste Discharge an evaluation of reuse and land disposal options as alternative disposal methods.

State and federal antidegradation policies require dischargers to demonstrate that degradation from new or expanded discharges are necessary, and to implement BPTC of the discharge necessary to maintain the highest water quality consistent with maximum benefit to the people of the State. Regionalization, reclamation, reuse and conservation may enhance the implementation of these policies.

Within eighteen months of the issuance of this Order, the Discharger shall submit a plan for the minimization of effluent discharge to the Middle Fork of the Feather River and maximization of recycling and surface water discharge. The plan shall include, as a minimum:

- An analysis of methods of reclamation on and off site;
- An analysis of the effects of adding additional pond storage onsite;
- An analysis to maximize pond evaporation;
- An analysis of any opportunities for Regionalization

i. Within 180 days of the adoption of this Order, the Discharger must submit a study determining whether discharge may be minimized or eliminated during times Electrical Conductivity in the Feather River exceeds 150 umhos/cm.

3. Best Management Practices and Pollution Prevention

a. **Pollutant Minimization Program.** As required in Section 2.4.5.1 of the SIP, a pollutant minimization program (PMP) is required when there is evidence that a priority pollutant is present in the effluent above an effluent limitation and either: 1) A sample result is reported as DNQ and the effluent limitation is less than the RL; or 2) A sample result is reported as ND and the effluent limitation is less than the MDL. The goal of a PMP is to reduce all potential sources of a priority pollutant through pollution minimization strategies and measures to maintain effluent concentrations at or below WQBELs.

b. **Salinity Reduction Goal** In an effort to monitor progress in reducing salinity discharges to the Feather River, the Discharger shall provide annual reports demonstrating reasonable progress in the reduction of salinity in its discharge to the Feather River. Based on effluent data for this Facility, the Regional Water

Board finds that a monthly average salinity effluent limitation of 684 µmhos/cm as electrical conductivity (EC) is a reasonable performance-based limitation that can be immediately achieved upon the effective date of this Order. The annual reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.)

4. Construction, Operation, and Maintenance Specifications

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

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6. Other Special Provisions-Not Applicable

7. Compliance Schedules-Not Applicable

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 Portola Wastewater Treatment Plant. 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 physical posting (posting at city offices, county courthouse or city hall) and Internet posting.

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 5:00 p.m. on 13 May 2009.

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: 11/12 June 2009
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 (530) 224-4845.

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 Ronald S. Dykstra at (530) 224-4858.