

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**

**CENTRAL VALLEY REGION**

1685 "E" Street Fresno, CA 93706-2007  
 Phone (559) 445-5116 • FAX (559) 445-5910  
 http://www.waterboards.ca.gov/centralvalley

**ORDER NO. R5-2008-XXXX**  
**NPDES NO. CA0084239**

**WASTE DISCHARGE REQUIREMENTS FOR THE  
 MALAGA COUNTY WATER DISTRICT  
 WASTEWATER TREATMENT FACILITY  
 FRESNO COUNTY**

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

<b>Table 1. Discharger Information</b>	
<b>Discharger</b>	Malaga County Water District
<b>Name of Facility</b>	Malaga Wastewater Treatment Facility
<b>Facility Address</b>	3749 South Maple Avenue
	Fresno, CA 93725
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

For the discharge identified below:

<b>Table 2. Discharge Location</b>				
<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Tertiary Treated	36° 40' 43" N	119° 44' 41" W	Central Canal
002	Secondary Treated	Evaporation/Percolation Ponds (Disposal Ponds)		Groundwater

<b>Table 3. Administrative Information</b>	
This Order was adopted by the Regional Water Quality Control Board on:	<b>&lt;Adoption Date&gt;</b>
This Order shall become effective on:	<b>&lt;Effective Date&gt;</b>
This Order shall expire on:	<b>&lt;Expiration Date&gt;</b>
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:	<b>[180 days prior to the Order expiration date]</b>

IT IS HEREBY ORDERED that Order No. 99-100 is rescinded upon the effective date of this Order, except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the Water Code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>**.

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 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**

<b>Discharger</b>	Malaga County Water District
<b>Name of Facility</b>	Malaga Wastewater Treatment Facility
<b>Facility Address</b>	3749 South Maple Avenue
	Fresno, CA 93725
	Fresno County
<b>Facility Contact, Title, and Phone</b>	Russ Holcomb, General Manager, (559) 485-7353
<b>Mailing Address</b>	3580 South Frank Street
	Fresno, CA 93725
<b>Type of Facility</b>	Publicly Owned Treatment Works
<b>Facility Design Flow</b>	0.85 mgd, Secondary Treated Wastewater to Disposal Ponds (Discharge Point 002)
	0.45 mgd, Disinfected Tertiary Treated Wastewater to Central Canal (Discharge Point 001)
	1.2 mgd Total Flow

**II. FINDINGS**

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

**A. Background.** Malaga County Water District (hereinafter Discharger) is currently discharging pursuant to Waste Discharge Requirements (WDRs) Order No. 99-100 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084239. The Discharger submitted a Report of Waste Discharge (RWD) dated 31 December 2003, and applied for a NPDES permit renewal to discharge up to 1.2 million gallons per day (mgd) of treated wastewater from its Malaga Wastewater Treatment Facility (WWTF), hereinafter “Facility”. The application was deemed complete on 31 June 2004. The Discharger subsequently submitted information to supplement the RWD dated 23 January 2006, 9 March 2006, and 17 November 2006.

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

**B. Facility Description.** The Discharger owns and operates the Facility. The sanitary sewer system leading to the Facility is also owned and operated by the Discharger. The secondary and tertiary treatment systems consist of three screw pumps (one in service at a time), a barminutor, an aerated grit chamber, a flash mixing box, a flocculation tank, one primary clarifier (DAF unit), three activated sludge aeration tanks, two aerobic sludge digesters, a sludge thickening tank, three secondary clarifiers, a "fuzzy" filter, and chlorination/dechlorination tank. The Discharger committed to replace the

chlorination/dechlorination tank with ultraviolet disinfection in late 2008. The Facility disposes of secondary wastewater in 36 acres of evaporative/percolation ponds. By design, up to 0.85 mgd of secondary treated wastewater can be discharged to the ponds (Discharge Point 002) for disposal.

Up to 0.45 mgd of tertiary treated wastewater can be discharged to the Fresno Irrigation District's (FID's) Central Canal (Discharge 001), a water of the United States within the South Valley Flow Hydrologic Unit (No. 551.00). The Central Canal is a distributary of the Kings River via the Fresno and Fancher Creek Canals, and feeds into other canals and aqueducts to the south and to the west. The Central Canal is hydraulically connected to Fresno Slough that during periods of heavy rain drains to the San Joaquin River; both also waters of the United States.

Digested sludge is dewatered onsite using one acre of unlined sludge drying beds, and then hauled offsite for land application. Attachment B provides maps of the area around the Facility and associated groundwater monitoring well network. 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 Water Code 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.** Requirements in this Order are based on information submitted as part of the application, monitoring and reporting data, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E and G are also incorporated into this Order.
- E. Industrial Pretreatment Program.** Cease and Desist Order No. 5-01-001 directed the Discharger to submit the then overdue industrial pretreatment program (IPP) required by WDRs Order No. 99-100. On 6 October 2004, the Discharger submitted its industrial pretreatment program (IPP) and a draft ordinance amending its Municipal Code. The State Water Board Office of Chief Counsel deemed the ordinance adequate on 29 December 2005. This Order approves the City's Industrial Pretreatment Program.
- F. 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.
- G. 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)<sup>1</sup> require that permits include conditions meeting applicable

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<sup>1</sup> All further statutory references are to Title 40 of the Code of Federal Regulations (40 CFR), unless otherwise indicated.

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).

**H. Water Quality-based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. Factors listed in CWC Section 13241 were considered in establishing these requirements. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements, is discussed in the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State's narrative criterion, supplemented with other relevant information, as provided in 40 CFR section 122.44(d)(1)(vi).

**I. Water Quality Control Plans.** The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereinafter Basin Plan) designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Though the Basin Plan at page II-2 states that the "...beneficial uses of any specifically identified water body generally apply to its tributary streams," the Central Canal is a man-made conveyance and the tributary rule does not apply.

Beneficial use of Central Canal is AGR and also municipal and domestic supply (MUN) per the Basin Plan because it is a water for which beneficial uses are not specifically listed therein.

Additionally, NPDES permits must implement the requirements of the CWA. The federal regulations implementing the CWA create a rebuttable presumption that all waters are of fishable, swimmable quality. Thus, the quality of water in the Central Canal must be suitable for REC-1 and WARM.

The Basin Plan designates the beneficial uses of groundwater in Detailed Analysis Unit 233 as MUN, AGR, industrial service supply (IND), industrial process supply (PRO), REC-1, and REC-2.

Thus, as described further in the Fact Sheet, beneficial uses are as follows:

<b>Table 5. Basin Plan Beneficial Uses</b>		
<b>Discharge Point</b>	<b>Receiving Water Name</b>	<b>Beneficial Use(s)</b>
001	Central Canal (Man-made conveyance)	MUN, AGR, REC-1, WARM
002	Groundwater	MUN, AGR, IND, PRO, REC-1, REC-2

Requirements of this Order implement the Basin Plan.

- J. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain water quality criteria for priority pollutants.
  
- K. State Implementation Policy.** On 2 March 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
  
- L. Compliance Schedules and Interim Requirements.** In general, an NPDES permit must include final effluent limitations that are consistent with Clean Water Act section 301 and with 40 CFR 122.44(d). There are exceptions to this general rule. The State Water Board has concluded that where the Regional Water Board’s Basin Plan allows for schedules of compliance and the Regional Water Board is newly interpreting a narrative standard, it may include schedules of compliance in the permit to meet effluent limits that implement a narrative standard. See *In the Matter of Waste Discharge Requirements for Avon Refinery* (State Water Board Order WQ 2001-06 at pp. 53-55). See also *Communities for a Better Environment (CBE) et al. v. State Water Resources Control Board*, 34 Cal.Rptr.3d 396, 410 (2005). The Basin Plan 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 17

August 1995 (See Basin Plan at page IV-22). 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 CWC section 13300 or a Cease and Desist Order pursuant to CWC section 13301 where it finds that the discharger is violating or threatening to violate the permit. The Regional Water Board will consider the merits of each case in determining whether it is appropriate to include a compliance schedule in a permit, and, consistent with the Basin Plan, should consider feasibility of achieving compliance, and must impose a schedule that is as short as practicable to achieve compliance with the objectives, criteria, or effluent limit based on the objective or criteria.

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

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

**N. 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<sub>5</sub> and TSS. The water quality-based effluent limitations consist of restrictions on turbidity and pathogens. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements.

These limitations are more stringent than required by the CWA. Specifically, this Order includes effluent limitations for BOD, TSS, turbidity and pathogens more stringent than applicable federal standards that are necessary to meet numeric objectives or protect beneficial uses. The rationale for including these limitations is explained in the Fact Sheet. In addition, the Regional Water Board has considered the factors in Water Code section 13241 in establishing these requirements.

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

- O. Antidegradation Policy.** Section 131.12 of 40 CFR 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 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.
- P. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Fact Sheet, Attachment F, covers whether anti-backsliding is an issue in this Order.
- Q. Monitoring and Reporting.** Section 122.48 of 40 CFR 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 provided in Attachment E establishes monitoring and reporting requirements to implement federal and State requirements.

- R. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR, section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR, section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable to it under section 122.42. This Order includes special provisions applicable to the Discharger. Rationale for the special provisions is provided in the attached Fact Sheet.
- S. Provisions and Requirements Implementing State Law.** The provisions and requirements in subsections IV.C, V.B, and portions of VI.C of this Order are included to implement State law only. These provisions and requirements are not required or authorized under the federal CWA; consequently, violations of these provisions and requirements are not subject to the enforcement remedies that are strictly for NPDES violations.
- T. Notification of Interested Parties.** Discharger and interested agencies and persons were notified of intent to prescribe Waste Discharge Requirements for the discharge and provided with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- U. Consideration of Public Comment.** In a public meeting all comments pertaining to the discharge were heard and considered. Notice of the Public Hearing is provided in the Fact Sheet of this Order.

### III. DISCHARGE PROHIBITIONS

- A.** Discharge of pollutants or wastewater at a location or in a manner or of a character substantively different from that described in the Findings is prohibited.
- B.** The by-pass or overflow of wastes from the Facility is prohibited, except as allowed by federal Standard Provisions I.G. and I.H. (Attachment D).
- C.** Creation of a condition of pollution or nuisance, as defined in Section 13050 of the California Water Code, is prohibited.
- D.** Discharge of waste classified as “hazardous,” as defined in Section 2521(a) of Title 23, CCR, Section 2510, et seq., or “designated,” as defined in Section 13173 of the California Water Code, is prohibited.
- E.** Discharge of oil or residuary product of petroleum, or of chemicals known to cause cancer or reproductive toxicity, is prohibited except as specifically authorize herein.

## IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

### A. Facility Effluent Limitations

Unless otherwise indicated, the following Effluent Limitations apply to both Discharge Points 001 and 002. Compliance with these limitations shall be measured at monitoring locations 001 and 002, respectively. The Effluent shall not:

1. Exceed an average monthly daily flow of:
  - a. 0.45 mgd at Discharge Point 001
  - b. 0.85 mgd at Discharge Point 002
  - c. 1.2 mgd, total
2. As an average monthly EC, exceed the monthly flow-weighted average of EC in the source water plus 500 µmhos/cm, or a total of 1,000 µmhos/cm, whichever is more stringent.
3. Exceed a chloride concentration of 175 mg/L as a daily maximum.
4. Exhibit a pH of less than 6.5 or greater than 8.3 standard units.

### B. Effluent Limitations – Discharge Point D-001(Tertiary Treatment)

#### 1. Final Effluent Limitations

The Discharger shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the attached MRP:

#### a. Conventional, Priority, and Non-Conventional Pollutants:

Table 6. Effluent Limitations				
Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
<b>Conventional Pollutants</b>				
Biochemical Oxygen Demand (BOD <sub>5</sub> ) @ 20°C	mg/L	10	15	30
	lbs/day <sup>1</sup>	38	56	113
Total Suspended Solids (TSS)	mg/L	10	15	30
	lbs/day <sup>1</sup>	38	56	113
Settleable Solids	ml/L	0.1	--	0.2
<b>Priority Pollutants<sup>4</sup></b>				
Bromoform	µg/L	4.3	--	8.6

<b>Table 6. Effluent Limitations</b>				
<b>Parameter</b>	<b>Units</b>	<b>Effluent Limitations</b>		
		<b>Average Monthly</b>	<b>Average Weekly</b>	<b>Maximum Daily</b>
Chlorodibromomethane (Dibromochloromethane)	µg/L	0.41	--	0.82
Dichlorobromomethane (Bromodichloromethane)	µg/L	0.56	--	1.1
<b>Non-Conventional Pollutants</b>				
Ammonia Nitrogen, Total (as N) (May-October) <sup>3</sup>	mg/L	0.8	--	1.1
	lbs/day <sup>1</sup>	3.0	--	4.1
Ammonia Nitrogen, Total (as N) (November-April) <sup>3</sup>	mg/L	0.4	--	0.6
	lbs/day <sup>1</sup>	1.5	--	2.3
Boron	mg/L	--	--	1.0
Turbidity	NTU	2	--	5 <sup>2</sup>

1. Based on a design flow of 0.45 mgd
2. 5 NTU more than 5% of the 24-hour period, 10 NTU at any time
3. Effective 19 May 2010. In interim, see Table 7
4. Effective 1 November 2008, if the Discharger certifies to the Executive Officer in writing that the ultraviolet system is operational and chlorine is no longer being used for disinfection purposes or detected in the effluent, the Executive Officer may, at her discretion, notify the Discharger that these effluent limitations and associated monitoring are suspended.

- b. **Percent Removal:** The average monthly percent removal of BOD and total suspended solids shall not be less than 90 percent.
- c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
  - i. 70% for any one bioassay; and
  - ii. 90% for the median of 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. 2.2 most probable number (MPN)/ 100 mL as a 7-day median; and
  - ii. 23 MPN/ 100 mL more than once in any month.
  - iii. 240 MPN/ 100 ml at any time.

**2. Interim Effluent Limitations**

The interim effluent limitations in Table 7 shall apply in lieu of the final effluent limitations specified for the same parameters in Table 6 until the effective date of the final effluent limitations as specified in footnotes 3 and 4, Table 6:

<b>Table 7. Interim Effluent Limitations</b>			
<b>Parameter</b>	<b>Units</b>	<b>Effluent Limitations</b>	
		<b>Average Monthly</b>	<b>Maximum Daily</b>
Ammonia	mg/L	--	1.3
Bromoform	µg/L	---	28
Chlorodibromomethane (Dibromochloromethane)	µg/L	---	143
Dichlorobromomethane (Bromodichloromethane)	µg/L	---	162

**C. Land Discharge Specifications – Discharge Point D-002 (Secondary Treatment)**

The Discharger shall maintain compliance with the effluent limitations in Table 8 at Discharge Point D-002, with compliance measured at Monitoring Location M-002 as described in the attached MRP:

<b>Table 8. Land Discharge Specifications</b>			
<b>Parameter</b>	<b>Units</b>	<b>Effluent Limitations</b>	
		<b>Average Monthly</b>	<b>Maximum Daily</b>
Biochemical Oxygen Demand (BOD) (5 day @ 20 °C)	mg/L	40	80
Total Suspended Solids (TSS)	mg/L	40	80
Settleable Solids	mL/L	0.2	1.0

**D. 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 Central Canal:

1. **Un-ionized Ammonia.** Un-ionized ammonia to be present in amounts that adversely affect beneficial uses or to be present in excess of 0.025 mg/L (as N).

2. **Biostimulatory Substances.** Water to contain biostimulatory substances that 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 at centroid of flow;
  - b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; or
  - c. The dissolved oxygen concentration to be reduced below 5.0 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 or raised above 8.3
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. Pesticides to be present in concentrations in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15/specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations.
10. **Radioactivity**
  - a. Radionuclides to be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

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

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

## **B. Groundwater Limitations**

Release of waste constituents from the Facility, in combination with other sources, shall not cause underlying groundwater to contain waste constituents in concentrations that adversely affect beneficial use of it. More specifically, the Facility shall not cause or contribute to the following in groundwater:

1. EC greater than 900 umhos/cm.
2. Total nitrogen greater than 10 mg/L.
3. Taste or odor producing constituents that cause nuisance.
4. Total coliform equal to or greater than 2.2 MPN/100mL.

## VI. PROVISIONS

### A. Standard Provisions

1. All Standard Provisions included in Attachment D are part of this Order.
2. The following provisions are part of this Order:
  - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.
  - b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
    - i. violation of any term or condition contained in this Order;
    - ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
    - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
    - iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- *Change in sludge use or disposal practice.* Under 40 CFR 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

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

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- 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 that it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

- I. A publicly owned treatment works (POTW), whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last three years' average dry

- weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the Discharger shall notify the Regional Water Board by 31 January. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.
- m. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
  - n. 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.
  - o. 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. (Water Code section 1211).
  - p. 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 (559) 445-5116 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**

The Discharger shall comply with the MRP and any revisions thereto (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. 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.

### 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  $> 1 \text{ TUc}$  (where  $\text{TUc} = 100/\text{NOEC}$ ). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.
- 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<sup>2</sup>.

- 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

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<sup>2</sup> 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.

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:

<u>Task</u>	<u>Compliance Date</u>
1 -Submit technical report: work plan and schedule for comprehensive evaluation	<b>Within 6 months</b> following Order adoption
2 -Commence comprehensive evaluation	<b>30 days</b> 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	<b>60 days</b> 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.)

- c. **Use Attainability Study.** If the Discharger finds it in its best interest to pursue de-designation of MUN, it shall provide information necessary to support a Regional Water Board Use Attainability Analysis (UAA) for the Central Canal downstream of Discharge Point D-001. In such case, it shall submit a technical report in the form of a work plan with proposed time schedule to provide the necessary information. The work plan must describe in detail the information the Discharger intends to provide and how this information will address the requirements of 40CFR 131.3(g) and 131.10(g) and the criteria for exception from designation as MUN set forth in the Basin Plan. Reopening of this Order for inclusion of effluent limitations for pollutants driven by the MUN designation, as determined by RPA, shall be delayed pending completion of the following tasks and further action by the Regional Water Board, if the work plan is approved by the Executive Officer and, upon submittal of the completed technical report, if the technical report in the opinion of the Executive Officer warrants the UAA and consideration of de-designation of MUN by the Regional Water Board.

<u>Task</u>	<u>Compliance Date</u>
1 -Implement work plan in accordance with conditions of approval determined by the Executive Officer.	Within 30 days of Executive Officer's written approval
2 -Semi-annual monitoring reports on progress over previous one-half calendar year	1 February and 1August of each year
3 -Submittal of technical report with all required information	By the deadline approved by the Executive Officer but no later than January 2010.

d. **Groundwater Monitoring.** The Discharger currently maintains one upgradient and four downgradient groundwater monitoring wells. To determine the adequacy of the current monitoring network, the Discharger shall submit to the Regional Water Board by **<6 months following adoption of Order>** a technical report evaluating the current groundwater monitoring system. The technical report shall contain an evaluation of each groundwater monitoring well. Following completion of the comprehensive technical evaluation, the Discharger shall submit a technical report describing the evaluation's results. Where deficiencies are documented, the technical report shall provide recommendations for necessary modifications (e.g., new or expanded groundwater monitoring wells). 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.

### 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 a sample result is reported as DNQ and the effluent limitation is less than the RL; or 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 MRP section X.A.5.

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:
  - (a) All PMP monitoring results for the previous year;
  - (b) A list of potential sources of the reportable priority pollutant(s);
  - (c) A summary of all actions undertaken pursuant to the control strategy; and
  - (d) A description of actions to be taken in the following year.

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

- a. Disposal Pond Requirements.
  - i. 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.
  - ii. Ponds shall have sufficient capacity to contain all wastewater volume generated annually that cannot be reliably and consistently disposed of by evaporation and percolation from the ponds, or discharged at Discharge Point D-001, including ancillary inflow and infiltration and design seasonal precipitation. 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.



- iii. Prior to the onset of the rainy season of each year, available pond storage capacity shall at least equal the design volume necessary to comply with the previous paragraph.
- iv. The Discharger shall maintain and operate all ponds sufficient to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically). As a means of managing available capacity and to discern compliance with this paragraph, the Discharger shall install and maintain in each pond permanent markers with calibration that indicates the water level at design capacity and enables determination of available operational freeboard.

## **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).
  - e) Publishing a list of significant violators as required by 40 CFR 403.8(f)(2)(vii).
- 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 proper 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. Sludge/Biosolids Disposal Requirements**

Any proposed change in sludge or biosolids use or disposal practice from that described herein as hauled off by an authorized, independent party shall be reported to the Executive Officer and USEPA Regional Administrator at least **90 days** in advance of the change.

**d. Collection System**

Requirements of the is Order do not apply to the Discharger's collection system except for a 24-hour reporting requirement in the event of an overflow from the collection system that endangers human health or the environment. In such an event, the Discharger shall comply with the Twenty-four Hour Reporting provisions set forth in Attachment D, section V.E.

**e. Electronic Notification System.**

This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification

for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within six months of adoption** of this permit. For systems installed following permit adoption, the notification system shall be installed simultaneously.

## 6. Other Special Provisions

- a. Wastewater discharged at Discharge Point D-001 shall be oxidized, coagulated, filtered, and adequately disinfected as this is defined in California Code of Regulations, Title 22, Division 4, Chapter 3, (Title 22), or the equivalent.
- b. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Regional Water Board (Attachment D, Section II.C.).
- c. 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.
- 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. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and pond disposal areas, or at the outfall to the Central Canal.
- f. Dissolved oxygen in the upper zone (1 foot) of effluent in disposal ponds of less than 1.0 mg/L will be considered an indication that the ponds are organically overloaded and threatening to violate Discharge Prohibition III.C. Should the DO be below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Regional Water Board within 7 days with a proposal that will insure a consistent DO of at least 1.0 mg/L within 30 days.
- g. The Facility shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

- h. Public contact with wastewater shall be precluded through such means as fences and signs controlling access to the facility, or other acceptable alternatives.
- i. The Discharger shall for each fiscal year (July-June) pay the required annual filing fee in accordance with the current fee schedule established by the State Water Board by the due date specified in the annual invoice (typically issued during October of each fiscal year). The fee is for privilege of discharge authorized by this Order.
- j. Except as expressly identified and authorized in this Order, the Discharger shall not use surface or groundwater as dilution to achieve compliance with effluent limitations in this Order.
- k. Physical facilities shall be designed and constructed according to accepted engineering practice and shall be capable of full and consistent compliance with this Order when properly operated and maintained. Proper operation and maintenance shall be described in an Operation and Maintenance ("O&M") manual prepared by the design engineer. The operation and maintenance manual shall be reviewed at least every time a significant change, alteration, or expansion is made to the facility. The Discharger shall certify in every annual report whether the operation and maintenance manual is complete and reflective of the Facility, and whether operation, maintenance, and staffing for the year being reported was as prescribed in the O&M manual.

## 7. Compliance Schedules

- a. **Compliance Schedules for Final Effluent Limitations for bromoform, chlorodibromomethane, dichlorobromomethane, and ammonia**
  - i. **By 1 November 2008**, the Discharger shall comply with the final effluent limitations for bromoform, chlorodibromomethane, and dichlorobromomethane. **By 18 May 2010**, the Discharger shall comply with the final effluent limitations for ammonia.
  - ii. **Treatment Feasibility Study.** The Discharger shall perform an engineering treatment feasibility study examining the feasibility, costs and benefits of different treatment options that may be required to remove ammonia from the discharge. A work plan and time schedule for preparation of the treatment feasibility study shall be completed and submitted to the Regional Water Board **within 4 months of the effective date of this Order** and will be subject to the approval of the Executive Officer. The treatment feasibility study shall be completed and submitted to the Regional Water Board **within one (1) year following work plan approval by the Executive Officer**, and progress reports shall be submitted in accordance with the Monitoring and Reporting Program (Attachment E, Section X.D.1.).

## 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 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 Monthly Daily Flow Effluent Limitations.** The Average Monthly Daily Flow represents the daily average flow determined over a calendar month.
- C. Total Coliform Organisms Effluent Limitations.** For each day that an effluent sample is collected and analyzed for total coliform organisms, the 7-day median shall be determined by calculating the median concentration of total coliform bacteria in the effluent utilizing the bacteriological results of the last seven days for which analyses have been completed. If the 7-day median of total coliform organisms exceeds a most probable number (MPN) of 2.2 per 100 milliliters, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.
- 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 ( $\mu$ )**, 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:  $\Sigma x$  is the sum of the measured ambient water concentrations, and  $n$  is the number of samples.

**Average Monthly Effluent Limitation (AMEL)**: the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

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

**Best Practicable Treatment or Control (BPTC)**: BPTC is a requirement of State Water Resources Control Board Resolution 68-16 – “Statement of Policy with Respect to Maintaining High Quality of Waters in California” (referred to as the “Antidegradation Policy”). BPTC is the treatment or control of a discharge necessary to assure that, “(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.” Pollution is defined in CWC Section 13050(I). In general, an exceedance of a water quality objective in the Basin Plan constitutes “pollution”.

**Bioaccumulative** pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

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

**Coefficient of Variation (CV)** is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

**Daily Discharge**: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

**Detected, but Not Quantified (DNQ)** are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

**Dilution Credit** is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

**Effluent Concentration Allowance (ECA)** is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

**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.

**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.

**Natural Groundwater** is the term usually reserved for the subsurface water that occurs naturally beneath the water table in soils and geologic formations that are fully saturated.

**Not Detected (ND)** are those sample results less than the laboratory's MDL.

**Overflow** is a spill, release, discharge, or diversion of untreated or partially treated wastewater.

**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 ( $\sigma$ )** 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;

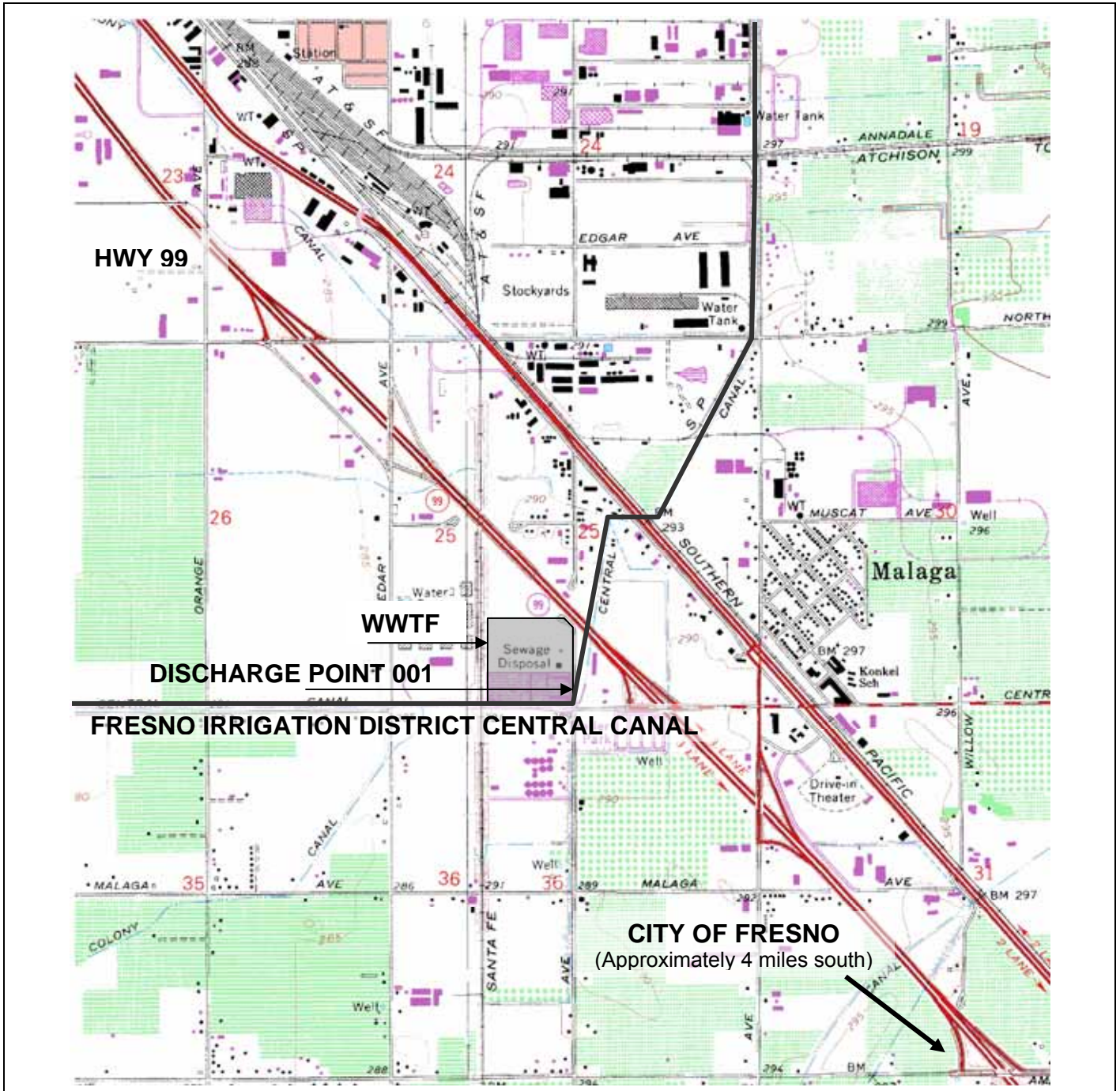
$\mu$  is the arithmetic mean of the observed values; and

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.

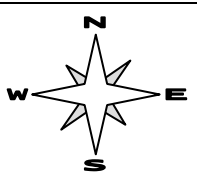
The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, 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.)

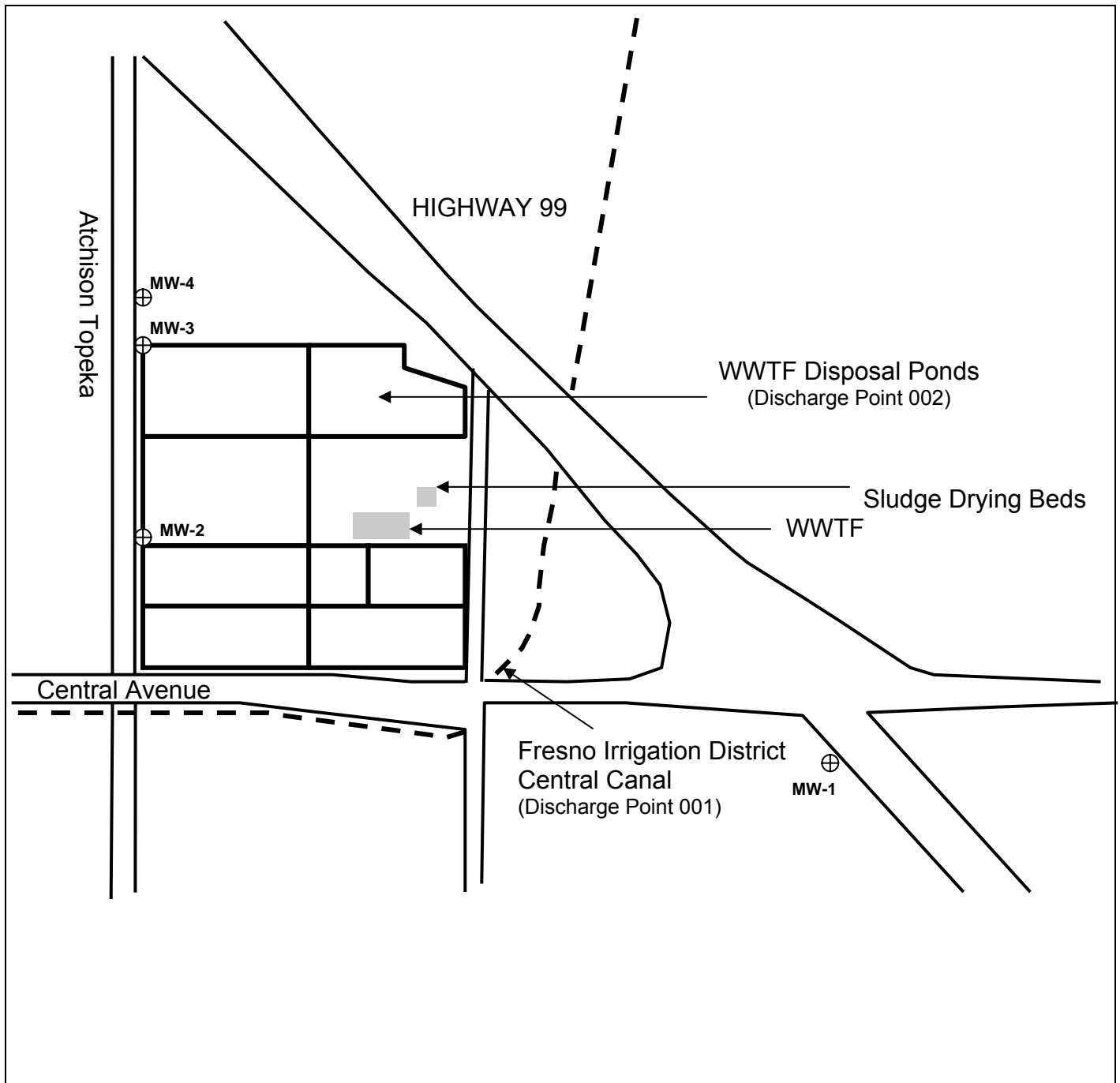
**ATTACHMENT B – MAP**



Drawing Reference:  
 U.S.G.S TOPOGRAPHIC MAP  
 MALAGA 7.5 MINUTE QUADRANGLE  
  
*Photorevised 1979*  
*Not to scale*

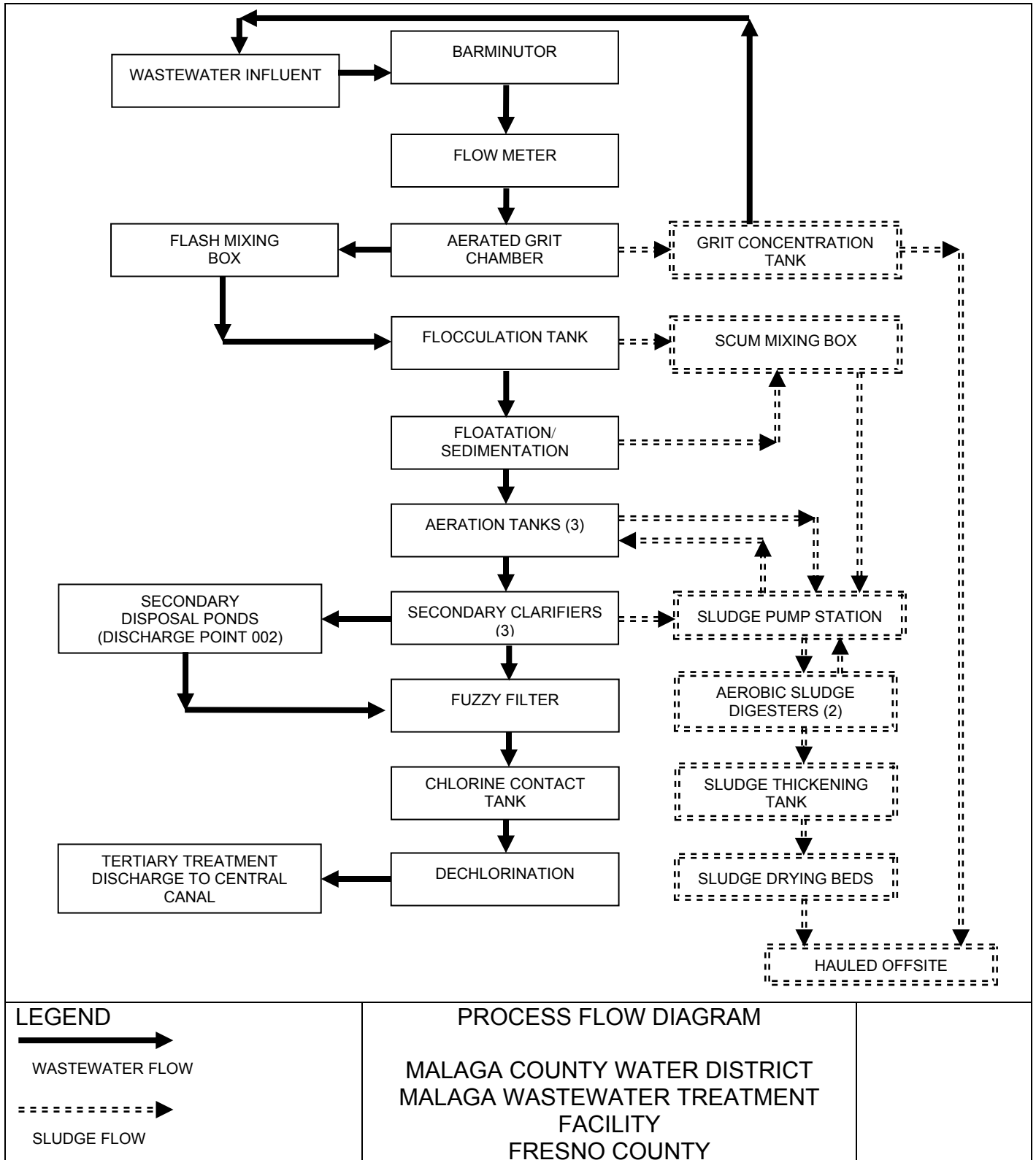
**SITE LOCATION MAP**  
  
 MALAGA COUNTY WATER DISTRICT  
 MALAGA WASTEWATER TREATMENT  
 FACILITY  
 FRESNO COUNTY





<p><b>LEGEND</b></p> <ul style="list-style-type: none"> <li>⊕ Monitoring Well</li> <li>- - - Receiving Water</li> </ul> <p>Revised from map by Provost &amp; Pritchard  <i>Not to scale (Locations Approximate)</i></p>	<p><b>GROUNDWATER MONITORING WELL MAP</b></p> <p><b>MALAGA COUNTY WATER DISTRICT              MALAGA WASTEWATER TREATMENT              FACILITY              FRESNO COUNTY</b></p>	
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**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 CFR 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR 122.41(a)(1).)

#### **B. Need to Halt or Reduce Activity Not a Defense**

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

#### **C. Duty to Mitigate**

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

#### **D. Proper Operation and Maintenance**

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR 122.41(e).)

#### **E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 122.41(g).)
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR 122.5(c).)

## **F. Inspection and Entry**

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR 122.41(i); Water Code § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR 122.41(i)(4).)

## **G. Bypass**

1. Definitions
  - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i).)
  - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedance of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR 122.41(m)(4)(i)):
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 122.41(m)(4)(i)(A));

- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR 122.41(m)(4)(i)(B)); and
      - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR 122.41(m)(4)(ii).)
5. Notice
  - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR 122.41(m)(3)(i).)
  - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR 122.41(m)(3)(ii).)

## H. Upset

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

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR 122.41(n)(2).
2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR 122.41(n)(3)):



- a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));
  - b. The permitted facility was, at the time, being properly operated (40 CFR 122.41(n)(3)(ii));
  - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR 122.41(n)(3)(iii)); and
  - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR 122.41(n)(4).

## **II. STANDARD PROVISIONS – PERMIT ACTION**

### **A. General**

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

### **B. Duty to Reapply**

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR 122.41(b).)

### **C. Transfers**

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR 122.41(l)(3); § 122.61.)

## **III. STANDARD PROVISIONS – MONITORING**

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under 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 CFR 122.41(j)(4); § 122.44(i)(1)(iv)).

#### **IV. STANDARD PROVISIONS – RECORDS**

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least 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 CFR 122.41(j)(2).)
- B.** Records of monitoring information shall include:
1. The date, exact place, and time of sampling or measurements (40 CFR 122.41(j)(3)(i));
  2. The individual(s) who performed the sampling or measurements (40 CFR 122.41(j)(3)(ii));
  3. The date(s) analyses were performed (40 CFR 122.41(j)(3)(iii));
  4. The individual(s) who performed the analyses (40 CFR 122.41(j)(3)(iv));
  5. The analytical techniques or methods used (40 CFR 122.41(j)(3)(v)); and
  6. The results of such analyses. (40 CFR 122.41(j)(3)(vi).)
- C.** Claims of confidentiality for the following information will be denied (40 CFR 122.7(b)):
1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and
  2. Permit applications and attachments, permits and effluent data. (40 CFR 122.7(b)(2).)

#### **V. STANDARD PROVISIONS – REPORTING**

**A.** Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); Wat. Code, § 13267.)

## B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR 122.22(a)(3).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR 122.22(b)(1));
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR 122.22(b)(2)); and
  - c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR 122.22(b)(3).)
4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR 122.22(c).)
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware

that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 CFR 122.22(d).)

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 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 CFR 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR 122.41(l)(4)(iii).)

### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR 122.41(l)(5).)

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A).)

- b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR 122.41(l)(6)(iii).)

#### **F. Planned Changes**

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR 122.41(l)(1)):

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

#### **G. Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR 122.41(l)(2).)

#### **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR 122.41(l)(7).)

#### **I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 122.41(l)(8).)

## **VI. STANDARD PROVISIONS – ENFORCEMENT**

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13267, 13350, 13385, 13386, and 13387.

## **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

### **A. Publicly-Owned Treatment Works (POTWs)**

All POTWs shall provide adequate notice to the Regional Water Board of the following (40 CFR 122.42(b)):

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

# ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

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

### **I. GENERAL MONITORING PROVISIONS**

- A.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of this Regional Water Board.
- B.** Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a non-certified laboratory will be accepted provided a Quality Assurance-Quality Control program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- C.** 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
---	<b>M-INF</b>	WWTF influent at the inlet of the headworks
<b>001</b>	<b>M-001</b>	Following disinfection and prior to discharge to the Central Canal (36°40'43" N. Latitude and 119°40'41" W. Longitude).
<b>002</b>	<b>M-002</b>	After the secondary clarifiers, but prior to filtration units and discharge to the disposal ponds.
---	<b>R-001</b>	500 feet upstream of Discharge Point D-001
---	<b>R-002</b>	500 feet downstream of Discharge Point D-001
---	<b>SPL-001</b>	Water Supply
---	<b>G-001 – G-004</b>	Groundwater Monitoring Wells
---	<b>PND-001</b>	Disposal Ponds
---	<b>BIO-001</b>	Sludge drying beds before removal to storage or disposal

**III. INFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location M-INF**

1. The Discharger shall monitor influent to the WWTF at Monitoring Location M-INF as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Metered	Continuous	
Biochemical Oxygen Demand (BOD) (5 day @ 20°C)	mg/L	24-hr Composite <sup>2</sup>	1/Week	[1]
Total Suspended Solids (TSS)	mg/L	24-hr Composite <sup>2</sup>	1/Week	[1]

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR 136
2. 24-hour flow proportional composite

**IV. EFFLUENT MONITORING REQUIREMENTS**

**A. Monitoring Location M-001**

1. The Discharger shall monitor at Monitoring Location M-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:

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>4</sup>	Required Analytical Test Method
Flow	mgd	Metered	Continuous <sup>7</sup>	
Turbidity	NTU	Grab	1/Week	
pH	standard units	Grab	1/Day	<sup>1</sup>

<b>Table E-3. Tertiary Effluent Monitoring</b>				
<b>Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Minimum Sampling Frequency<sup>4</sup></b>	<b>Required Analytical Test Method</b>
Electrical Conductivity @ 25°C (EC)	µmhos/cm	Grab	1/Day	1
Temperature <sup>3</sup>	°F	Grab	1/Day	1
Residual Chlorine, Total (TRC) <sup>9</sup>	mg/L	Grab	1/Day	1,2
Settleable Solids (SS)	ml/L	Grab	1/Day	1
Total Coliform Organisms (TCO)	MPN/100 ml	Grab	1/Week	1
Biochemical Oxygen Demand (BOD) (5 day @ 20 °C)	mg/L	24-hr Composite <sup>8</sup>	1/Week	1
	Lbs/day	Calculated	1/Week	1
Total Suspended Solids (TSS)	mg/L	24-hr Composite <sup>8</sup>	1/Week	1
	Lbs/day	Calculated	1/Week	1
Total Dissolved Solids (TDS)	mg/L	24-hr Composite <sup>8</sup>	1/Month	1
Ammonia Nitrogen, Total (as N) <sup>5</sup>	mg/L	Grab	1/Month	1
	Lbs/day	Calculated	1/Month	1
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month	1
	Lbs/day	Calculated	1/Month	1
Total Nitrogen	mg/L	Grab	1/Month	1
Phosphorus, Total (as P)	mg/L	Grab	1/Month	1
Aluminum <sup>9</sup>	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Boron	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Copper <sup>9</sup>	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Cyanide <sup>9</sup>	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Chloride	mg/L	24-hr Composite <sup>8</sup>	1/Month	1
Fluoride	mg/L	24-hr Composite <sup>8</sup>	1/Month	1
Diazinon <sup>9</sup>	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Bromoform <sup>9</sup>	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Chlorodibromomethane (Dibromochloromethane) <sup>9</sup>	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Dichlorobromomethane (Bromodichloromethane) <sup>9</sup>	µg/L	24-hr Composite <sup>8</sup>	1/Month	1
Minerals <sup>6</sup>	mg/L	24-hr Composite <sup>8</sup>	1/Year	1

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR 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 Board or the State 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. If results appear to violate effluent limitations, but sampling frequency is not sufficient to validate violation, or indicates a violation and potential upset of the treatment process, the frequency shall be increased to confirm the magnitude and duration of violation, if any, and aid in identification and resolution of the problem.
5. Report as total ammonia nitrogen; record pH at time of collection.
6. 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).
7. Flow shall be monitored continuously and recorded daily.
8. 24-hour flow proportioned composite.
9. If a statistically valid database establishes that reasonable potential no longer exists for this pollutant, the Executive Officer may, as appropriate, decrease the frequency or eliminate monitoring of the constituent in this table.

## B. Monitoring Location M-002

1. The Discharger shall monitor at Monitoring Location M-002 as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

<b>Table E-4. Secondary Effluent Monitoring</b>				
<b>Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Minimum Sampling Frequency<sup>3</sup></b>	<b>Required Analytical Test Method</b>
Flow	mgd	Metered	Continuous <sup>2</sup>	
Electrical Conductivity @ 25°C (EC)	µmhos/cm	Grab	1/Day	1
Biochemical Oxygen Demand (BOD) (5 day @ 20°C)	mg/L	Grab	1/Week	1
	lbs/day	Calculated	1/Week	1
Total Suspended Solids (TSS)	mg/L	Grab	1/Week	1
	lbs/day	Calculated	1/Week	1
Settleable Solids (SS)	ml/L	Grab	1/Week	1
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Quarter	1
Minerals <sup>4</sup>	mg/L	Grab	1/Year	1

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR 136
2. Flow shall be monitored continuously and recorded daily.
3. If results appear to violate effluent limitations, but sampling frequency is not sufficient to validate violation, or indicates a violation and potential upset of the treatment process, the frequency shall be increased to confirm the magnitude and duration of violation, if any, and aid in identification and resolution of the problem.
4. 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)

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

Table E-5. Chronic Toxicity Testing Dilution Series							
Sample	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	12.5	0	0
% Laboratory Water	0	25	50	75	87.5	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<sub>50</sub>, 100/EC<sub>25</sub>, 100/IC<sub>25</sub>, and 100/IC<sub>50</sub>, 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. (Note: items a through c, above, are only required when testing is performed using the full dilution series.)

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. POND MONITORING REQUIREMENTS

### A. Monitoring Location PND-001

Permanent markers shall be placed in the evaporation/percolation ponds with calibration marks indicating the water level at design capacity and available operational freeboard. In addition, the Discharger shall inspect the conditions of the ponds once per week and write visual observations of potential problems in a bound logbook. Notations shall include observations of whether weeds are developing in the water or the pond surface, and their locations; whether dead algae, vegetation, scum, or debris are accumulating on the pond surface, and their location; whether borrowing animals or

insects are present; and the color of the pond. A copy of the entries made in the log each month shall be submitted with the monitoring report the following month. Where the operation and maintenance (O&M) manual requires remedial action, the Discharger shall briefly explain the action to be taken to correct the discrepancy. Pond monitoring shall include the following:

<b>Constituent</b>	<b>Units</b>	<b>Sample Type</b>	<b>Frequency</b>
Freeboard	feet <sup>1</sup>	Observation	1/Week
Dissolved Oxygen <sup>2</sup>	mg/L	Grab	1/Week <sup>3</sup>

1. To the nearest tenth of a foot.
2. Samples shall be collected from a depth of one-foot, opposite the inlet, between 0800 and 0900 hours.
3. Should sampling indicate DO < 1.0 mg/L or disposal ponds produce objectionable odors, the monitoring frequency for the subject pond shall be increased to daily until DO ≥ 1.0 mg/L, and/or odor-producing conditions are resolved.

**VII. RECLAMATION MONITORING REQUIREMENTS**

Not Applicable

**VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER**

**A. Monitoring Locations R-001 and R-002**

1. The Discharger shall monitor the Central Canal at Monitoring Locations R-001 and R-002 as follows:

<b>Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Minimum Sampling Frequency<sup>3</sup></b>	<b>Required Analytical Test Method</b>
Flow	mgd	Grab	Continuous	2
pH	Standard Units	Grab	1/Day	1
Electrical Conductivity @ 25°C (EC)	umhos/cm	Grab	1/Day	1
Temperature	°F	Grab	1/Day	1
Chlorine, Total Residual	mg/L	Grab	1/Day	1
Dissolved Oxygen (DO)	mg/L	Grab	1/Month	1
Aluminum	µg/L	Grab	1/Month	1
Ammonia Nitrogen, Total (as N)	mg/L	Grab	1/Month	1
Ammonia, Un-ionized (as N) <sup>4</sup>	mg/L	Calculated	1/Month	1
Fecal Coliform Organisms	MPN/100 ml	Grab	1/Month	1
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month	1

**Table E-7a. Receiving Water Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>3</sup>	Required Analytical Test Method
Total Kjeldahl Nitrogen (TKN) (as N)	mg/L	Grab	1/Month	1
Phosphorus, Total (as P)	mg/L	Grab	1/Month	1
Turbidity	NTU	Grab	1/Month	1
Minerals <sup>5</sup>	mg/L	Grab	1/Year	1

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR 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 Board or the State Board.
2. Flow shall be monitored continuously and recorded daily.
3. If results appear to violate effluent limitations, but sampling frequency is not sufficient to validate violation, or indicates a violation and potential upset of the treatment process, the frequency shall be increased to confirm the magnitude and duration of violation, if any, and aid in identification and resolution of the problem.
4. Temperature and pH shall be determined at the time of sample collection for the calculation of un-ionized ammonia.
5. Minerals shall include at least total dissolved solids, chloride, sulfate, bicarbonate alkalinity, carbonate alkalinity, calcium, magnesium, potassium, sodium, boron, iron, phosphate, manganese, hardness, and all major anions and cations. Analyses should be accompanied by an anion/cation balance demonstrating that analyses are complete.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by R-001 and R-002. Attention shall be given to the presence of:
  - i. Floating or suspended matter
  - ii. Discoloration
  - iii. Bottom deposits
  - iv. Aquatic life
  - v. Visible films, sheens coatings
  - vi. Fungi, slimes, or objectionable growths
  - vii. Potential nuisance conditions

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

**B. Monitoring Location G-001, G-002, G-003, G-004**

1. The Discharger shall monitor in groundwater at G-001- G-004 as follows:

**Table E-7b. Ground Water Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Depth to groundwater	Feet <sup>3</sup>	Measure	1/Month <sup>2</sup>	NA
Groundwater elevation	Feet <sup>3</sup>	Calculate	1/Month <sup>2</sup>	NA
pH	Standard Units	Grab	1/Month <sup>2</sup>	1
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month <sup>2</sup>	1
Electrical Conductivity @ 25°C (EC)	µmhos/cm	Grab	1/Month <sup>2</sup>	1
Minerals <sup>4</sup>	mg/L	Grab	1/Year	1



1. Pollutants shall be analyzed using the analytical methods described in 40 CFR 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 Board or the State Board.
2. Monthly during the first year of monitoring and annually thereafter.
3. To the nearest hundredth, above mean sea level.
4. Minerals shall include at least total dissolved solids, chloride, sulfate, bicarbonate alkalinity, carbonate alkalinity, calcium, magnesium, potassium, sodium, boron, iron, phosphate, manganese, and all major anions and cations. Analyses should be accompanied by an anion/cation balance demonstrating that analyses are complete.

## IX. OTHER MONITORING REQUIREMENTS

### A. Priority Pollutants

The State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). The SIP states that the Regional Water Boards will require periodic monitoring for pollutants for which criteria or objectives apply and for which no effluent limitations have been established. Accordingly, the Regional Water Board is requiring, as part of this Order, that the Discharger conduct annual **(1/Year)** effluent monitoring (Monitoring Location M-001) of priority pollutants. Priority pollutants are defined as USEPA Priority Pollutants and consist of the constituents listed in the most recent National Toxics Rule and California Toxics Rule. The Discharger must analyze pH and hardness of the effluent and receiving water at the same time as priority pollutants.

### B. Sludge/Biosolids

Sludge in this document means the solid, semisolid, and liquid residues removed during the primary, secondary, or advanced wastewater treatment processes. Biosolids refers to sludge that has been treated and tested and shown to be capable of being beneficially and legally used pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation activities. Residues from the sludge thickener and drying beds are assumed to qualify as Class B biosolids while residues removed from ponds are assumed to require further treatment to qualify as biosolids. For convenience, the following refers to sludge but is applicable to biosolids as well.

#### 1. Monitoring Location BIO-001

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

- c. 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.
- d. 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.

Parameter	Units	Sample Type	Minimum Sampling Frequency <sup>2</sup>	Required Analytical Test Method
pH	Standard Units	Grab	1/Year	1, 2
Fecal Coliform	MPN/100 ml	Grab	1/Year	1, 2
Ammonia Nitrogen, Total (as N)	mg/kg	Grab	1/Year	1, 2
Nitrate Nitrogen, Total (as N)	mg/kg	Grab	1/Year	1, 2
Phosphorous, Total	mg/kg	Grab	1/Year	1, 2
Potassium, Total	mg/kg	Grab	1/Year	1, 2
Metals <sup>3</sup>	mg/kg	Grab	1/Year	1, 2

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR 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. When sludge is removed from the treatment units (or at least annually), but prior to disposal, a composite sample of sludge shall be analyzed, on a dry weight basis.
3. Arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel selenium and zinc analysis of soluble concentrations of heavy metals shall also be included as needed. 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. Additional sludge sampling may be requested at subsequent intervals, depending upon review of analytical results. An annual sludge monitoring report shall be submitted and shall include all of the above information.

### **C. 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.

<b>Table E-9. Municipal Water Supply Wells Monitoring Requirements</b>				
<b>Parameter</b>	<b>Units</b>	<b>Sample Type</b>	<b>Minimum Sampling Frequency</b>	<b>Required Analytical Test Method</b>
Nitrate Nitrogen, Total (as N)	mg/L	Grab	1/Month	1
Electrical Conductivity @ 25°C (EC) <sup>2</sup>	µmhos/cm	Grab	1/Month	1
Minerals <sup>3</sup>	mg/L	Grab	1/Year	1

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR 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 Board or the State Board.
2. As the source water is from more than one well, the EC results shall be reported as a weighted average and include copies of supporting calculations.
3. Minerals shall include at least total dissolved solids, chloride, sulfate, bicarbonate alkalinity, carbonate alkalinity, calcium, magnesium, potassium, sodium, boron, iron, phosphate, manganese, and all major anions and cations. Analyses should be accompanied by an anion/cation balance demonstrating that analyses are complete.

## **X. REPORTING REQUIREMENTS**

### **A. General Monitoring and Reporting Requirements**

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

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

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

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

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

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

**B. Self Monitoring Reports (SMRs)**

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit continuously, daily, weekly, monthly, quarterly and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order.
3. 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.
4. 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.
5. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

<b>Table E-10. Monitoring Periods and Reporting Schedule</b>			
<b>Sampling Frequency</b>	<b>Monitoring Period Begins On...</b>	<b>Monitoring Period</b>	<b>SMR Due Date</b>
Continuous	Permit effective date	All	First day of second calendar month following month of sampling
1 / Day	Permit effective date	Calendar day (Midnight through 11:59 PM)	First day of second month following month of sampling
1 / Week 2 / Week 3 / Week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling
1 / Month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 <sup>st</sup> day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1 / Quarter 2 / Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
1 / Year	January 1 following (or on) permit effective date	January 1 through December 31	February 1

6. In addition to the signatory requirements of Standard Provisions (Attachment D), all monitoring reports shall be signed: by the chief operator of the Facility and, if the chief operator of the Facility is not in direct line of supervision of the laboratory function for a discharger conducting any of its own analyses, also by the chief of the laboratory.
7. The Discharger shall submit SMRs in accordance with the following requirements:
  - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The 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. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
  - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation. 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.
  - c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D) and 6, above, to the address listed below:

Regional Water Quality Control Board  
NPDES Unit  
Central Valley Region  
1685 "E" Street  
Fresno, CA 93706-2007

### **C. Discharge Monitoring Reports (DMRs)**

1. As described in Section X.B.1, above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

- DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 <sup>th</sup> Floor Sacramento, CA 95814

All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

#### D. Other Reports

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

Special Provision	Reporting Requirements
BPTC Evaluation Tasks	<b>1 February</b> , annually, following completion of Task 4 of BPTC Evaluation Compliance Schedule
Compliance Schedules for ammonia, bromoform, bromodichloromethane, and Dibromochloromethane compliance with final effluent limitations.	<b>1 June</b> , annually, until final compliance

- 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.
- 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.
  - f. The available pond storage capacity as determined on or about 15 November of the prior year.
4. **Annual Pretreatment Reporting Requirements.** The Discharger shall submit annually a report to the Regional Water Board, with copies to USEPA Region 9 and the State Water Board, describing the Discharger's pretreatment activities over the previous 12 months. In the event that the Discharger is not in compliance with any conditions or requirements of this Order, including noncompliance with pretreatment audit/compliance inspection requirements, then the Discharger shall also include the reasons for noncompliance and state how and when the Discharger shall comply with such conditions and requirements.

An annual report shall be submitted by **28 February** and include at least the following items:

- a. A summary of analytical results from representative, flow proportioned, 24-hour composite sampling of the POTWs influent and effluent for those pollutants USEPA has identified under Section 307(a) of the CWA which are known or suspected to be discharged by industrial users.

Sludge shall be sampled during the same 24-hour period and analyzed for the same pollutants as the influent and effluent sampling and analysis. The sludge analyzed shall be a composite sample of a minimum of 12 discrete samples taken at equal time intervals over the 24-hour period. Wastewater and sludge sampling and analysis shall be performed at least annually. The discharger shall also provide any influent, effluent or sludge monitoring data for nonpriority



pollutants which may be causing or contributing to Interference, Pass-Through or adversely impacting sludge quality. Sampling and analysis shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto.

- b. A discussion of Upset, Interference, or Pass-Through incidents, if any, at the treatment plant, which the Discharger knows or suspects were caused by industrial users of the POTW. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of, the industrial user(s) responsible. The discussion shall also include a review of the applicable pollutant limitations to determine whether any additional limitations, or changes to existing requirements, may be necessary to prevent Pass-Through, Interference, or noncompliance with sludge disposal requirements.
- c. The cumulative number of industrial users that the Discharger has notified regarding Baseline Monitoring Reports and the cumulative number of industrial user responses.
- d. An updated list of the Discharger's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The Discharger shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards by specifying which set(s) of standards are applicable. The list shall indicate which categorical industries, or specific pollutants from each industry, are subject to local limitations that are more stringent than the federal categorical standards. The Discharger shall also list the noncategorical industrial users that are subject only to local discharge limitations. The Discharger shall characterize the compliance status through the year of record of each industrial user by employing the following descriptions:
  - i. complied with baseline monitoring report requirements (where applicable);
  - ii. consistently achieved compliance;
  - iii. inconsistently achieved compliance;
  - iv. significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
  - v. complied with schedule to achieve compliance (include the date final compliance is required);
  - vi. did not achieve compliance and not on a compliance schedule; and
  - vii. compliance status unknown.

A report describing the compliance status of each industrial user characterized by the descriptions in items iii. through vii. above shall be submitted for each

calendar quarter **within 21 days of the end of the quarter**. The report shall identify the specific compliance status of each such industrial user and shall also identify the compliance status of the POTW with regards to audit/pretreatment compliance inspection requirements. If none of the aforementioned conditions exist, at a minimum, a letter indicating that all industries are in compliance and no violations or changes to the pretreatment program have occurred during the quarter must be submitted. The information required in the fourth quarter report shall be included as part of the annual report. This quarterly reporting requirement shall commence upon issuance of this Order.

- e. A summary of the inspection and sampling activities conducted by the Discharger during the past year to gather information and data regarding the industrial users. The summary shall include:
  - i. the names and addresses of the industrial users subjected to surveillance and an explanation of whether they were inspected, sampled, or both and the frequency of these activities at each user; and
  - ii. the conclusions or results from the inspection or sampling of each industrial user.
- f. A summary of the compliance and enforcement activities during the past year. The summary shall include the names and addresses of the industrial users affected by the following actions:
  - i. Warning letters or notices of violation regarding the industrial users' apparent noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the apparent violation concerned the federal categorical standards or local discharge limitations.
  - ii. Administrative orders regarding the industrial users noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iii. Civil actions regarding the industrial users' noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - iv. Criminal actions regarding the industrial users noncompliance with federal categorical standards or local discharge limitations. For each industrial user, identify whether the violation concerned the federal categorical standards or local discharge limitations.
  - v. Assessment of monetary penalties. For each industrial user identify the amount of the penalties.
  - vi. Restriction of flow to the POTW.

- vii. Disconnection from discharge to the POTW.
- viii. A summary of public participation activities to involve and inform the public.
- ix. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.
- g. A description of any significant changes in operating the pretreatment program which differ from the information in the Discharger's approved Pretreatment Program including, but not limited to, changes concerning: the program's administrative structure, local industrial discharge limitations, monitoring program or monitoring frequencies, legal authority or enforcement policy, funding mechanisms, resource requirements, or staffing levels.
- h. A summary of the annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

Duplicate signed copies of these Pretreatment Program reports shall be submitted to the Regional Water Board and the:

State Water Resources Control Board  
Division of Water Quality  
P.O. Box 944213  
Sacramento, CA 94244-2130

and the

Regional Administrator  
U.S. Environmental Protection Agency W-5  
75 Hawthorne Street  
San Francisco, CA 94105

## ATTACHMENT F – FACT SHEET

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## ATTACHMENT F – FACT SHEET

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

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this Order 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**

<b>WDID</b>	5D100124001
<b>Discharger</b>	Malaga County Water District
<b>Name of Facility</b>	Malaga Wastewater Treatment Facility
<b>Facility Address</b>	3749 South Maple Avenue
	Fresno, CA 93725
<b>Facility Contact, Title and Phone</b>	Russ Holcomb, General Manager, (559) 485-7353
<b>Authorized Person to Sign and Submit Reports</b>	Russ Holcomb, General Manager, (559) 485-7353
<b>Mailing Address</b>	3580 S. Frank Street, Fresno, CA 93725
<b>Billing Address</b>	3580 S. Frank Street, Fresno, CA 93725
<b>Type of Facility</b>	Publicly Owned Treatment Works (POTW), SIC Code: 4952
<b>Major or Minor Facility</b>	Major
<b>Threat to Water Quality</b>	2
<b>Complexity</b>	A
<b>Pretreatment Program</b>	Y
<b>Reclamation Requirements</b>	Not Applicable
<b>Facility Permitted Flow</b>	Up to 0.45 mgd to Central Canal.
	Up to 0.85 mgd to Disposal Ponds
	Total Flow of 1.2 mgd
<b>Facility Design Flow</b>	Same as Facility Permitted Flow.
<b>Watershed</b>	South Valley Floor Hydrologic Unit (551.00).
<b>Receiving Water</b>	Central Canal and groundwater.
<b>Receiving Water Type</b>	Surface water and groundwater.

- A. The Malaga County Water District (hereinafter Discharger) is the owner and operator of the Malaga Wastewater Treatment Facility (hereinafter Facility or WWTF), a publicly owned treatment works (POTWs).
- B. 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.
- C. The Facility discharges tertiary treated effluent to the Fresno Irrigation District’s Central Canal (Discharge Point 001), a water of the United States, and to disposal ponds (Discharge Point 002). These discharges are currently regulated by Waste Discharge Requirements (WDRs) Order No. 99-100, which was adopted on 28 July 1999 and expired on 1 July 2004. The terms and conditions of the current Order were automatically continued and remain in effect until new Waste Discharge Requirements and renewed National Pollutant Discharge Elimination System (NPDES) permit become effective pursuant to this Order.
- D. The Discharger filed a report of waste discharge and submitted an application for renewal of its WDRs and NPDES permit on 31 December 2003. Supplemental information was received on 23 January 2006, 9 March 2006 and 17 November 2006. A site visit was conducted on 15 July 2004 and 4 June 2007 to observe operations and collect additional data to develop permit limitations and conditions.

## II. FACILITY DESCRIPTION

The Facility is situated on 36 acres at the northwest corner of Central and Maple Avenues. The Discharger provides sewerage service to domestic and industrial users for the unincorporated community of Malaga and serves a population of approximately 1,000 people. The secondary treatment design daily average flow capacity is 1.2 mgd and some of this can be further subjected to tertiary treatment, up to the daily average flow capacity of 0.45 mgd. The disposal ponds have disposal capacity of about 0.85 mgd, but this becomes less without pond maintenance as percolation rates decrease.

### A. Site Conditions.

1. Average annual precipitation and pan evaporation in the area are approximately 10 and 65 inches, respectively.
2. Surface soils in the vicinity are moderately permeable and classified as Hesperia fine sandy loam, consisting of well-drained, mainly sandy loam underlain by a silty layer according to the Soil Conservation Service 1962 Soil Survey of the Eastern Fresno Area. The soil has a hardpan layer at five to seven feet that is underlain by alluvial fan deposits of alternating sand and clay layers.
3. First encountered groundwater is 55 to 65 feet below ground surface.

## **B. Description of Wastewater and Biosolids Treatment or Controls**

- 1. Industrial Pretreatment Program.** Inflows originate from about 1,000 domestic users, which account for about 35 percent of the flows, and 140 permitted industrial users, which is the remaining 65 percent. The largest industrial users are food processors, glass manufactures, and truck and car washes, as well as process water from the Rio Bravo Power Plant.

Provision H.10 of WDRs Order No. 99-100 required the District to submit a series of reports to develop an adequate industrial pretreatment program (IPP) by 1 May 2000 for Regional Water Board approval. When the District did not complete this Provision, the District was issued Cease and Desist Order No. 5-01-001, which required, in part, the District to develop an approved IPP by 1 October 2001.

On 6 October 2004, the Discharger submitted its IPP and draft ordinance amending its Municipal Code. The Regional Water Board provided comments dated 7 February 2005, and State Water Board Office of Chief Counsel deemed the ordinance adequate on 29 December 2005. This Order approves the City's Industrial Pretreatment Program.

- 2. Treatment Works.** The treatment train consists of three screw pumps (one in service at a time), screening, an aerated grit chamber, flocculation tank, one primary clarifier which consists of a clarifier/DAF unit (unit out of service), three activated sludge aeration basins, two aerobic sludge digesters, and three secondary clarifiers (two are out of service). The tertiary WWTF consists of the secondary WWTF followed by filtration ("fuzzy" filter) and disinfection by chlorination/dechlorination. In the information submitted to supplement the RWD, the District re-rates the design capacity of the tertiary system to 0.45 mgd and therefore requests the permitted discharge flow equal this at Discharge Point 001.

The existing clarifier/DAF structure was constructed 35 years ago. Surfacing effluent adjacent to the DAF structure has been traced back to the DAF structure. The District performed an investigation of all adjacent structures and determined that the concrete structure of the DAF has cracks that allow untreated wastewater to escape the structure. The District recently received funding to re-epoxy the DAF structure to repair the leaks and repairs are currently underway.

The District intends to obtain additional funding to implement ultraviolet disinfection (UV) for its method of disinfection as it committed to as part of an enforcement settlement. The District will complete this project by 1 October 2008 and a time schedule is incorporated into this Order to complete this project.

- 3. Sludge and Biosolids Handling.** Sludge and other solids from the treatment process are discharged to two aerobic digesters and a sludge thickening tank, and then discharged to unlined sludge drying beds for dewatering. Dewatered sludge or biosolids, was historically land applied to areas surrounding the WWTF, including areas directly adjacent to the sludge drying beds. The District now stockpiles the solids for up to two years at which point it contracts with a third party for hauling off-



site for disposal, reuse or further treatment prior to reuse. As described in this Fact Sheet, historical sludge handling practices unreasonably degraded groundwater. This Order contains a time schedule to complete the necessary improvements to existing sludge handling practices as part of BPTC evaluation tasks.

**C. Discharge Points and Surface Waters**

1. The WWTF is in Section 25, T14S, R20E, MDB&M, as shown in Attachment B (Figure B-1), a part of this Order.
2. Up to 0.45 mgd is discharged to the Central Canal from Discharge Point 001.
3. Central Canal water is used for irrigation of alfalfa, almonds, vineyards, truck crops (vegetables, onions, strawberries), oats, peaches, corn, cotton, plums, and pasture. Water not used for irrigation flows to Fresno Slough. During years of heavy rainfall, water flows from Fresno Slough to the Mendota Pool along the San Joaquin River.

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

1. Effluent limitations contained in WDRs Order No. 99-100 for discharges from Discharge Point D-001 to Central Canal and representative monitoring data from Monitoring Location M-001 are summarized below:

<b>Table F-2. Historic Tertiary Effluent Limitations and Monitoring Data</b>							
Parameter	Units	Effluent Limitation			Monitoring Data (From January 2000 – April 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge <sup>1</sup>	Highest Average Weekly Discharge	Highest Daily Discharge
<b>Conventional Pollutants</b>							
Biochemical Oxygen Demand (BOD) (5 day @ 20°C)	mg/L	20	--	40	6.3	--	37
pH	s.u. <sup>4</sup>	--	--	6.0-9.0 <sup>5</sup>	--	--	6.0-9.3 <sup>5</sup>
Total Suspended Solids (TSS)	mg/L	20	--	40	43	--	61
<b>Priority Pollutants</b>							
Not Applicable							
<b>Non-Conventional Pollutants</b>							
Ammonia Nitrogen, Total (as N)	mg/L	2	--	--	6.1	--	--
Boron, Total Recoverable	mg/L	0.4	--	--	0.2	--	--
Carbonate + Bicarbonate (as CaCO <sub>3</sub> )	mg/L	50	--	--	--	--	--

**Table F-2. Historic Tertiary Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitation			Monitoring Data (From January 2000 – April 2007)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge <sup>1</sup>	Highest Average Weekly Discharge	Highest Daily Discharge
Chloride	mg/L	175	--	--	100	--	--
Chlorine, Total Residual	mg/L	--	--	0.1	--	--	0.2
Electrical conductivity @ 25°C (EC)	µmhos/cm	--	--	1,000 <sup>6</sup>	--	--	1,337
Flow	mgd	0.35	--	--	0.34	--	--
Settleable Solids	ml/L	0.2	--	0.5	0.1	--	0.1
Sodium, Total Recoverable	mg/L	175	--	--	110	--	--
Turbidity	NTU <sup>2</sup>	2	2	5	4.3	--	6.8
Total Coliform	MPN <sup>3</sup> /100 mL	--	2.2	240	--	240	240

1. When calculating the monthly average, not detected (NDs) were calculated as ½ of the Practical Quantitation Limit (PQL) or Detection Limit for Reporting (DLR). PQLs or DLRs were used since Method Detection Limits (MDLs) were not available in the laboratory reports.
2. Nephelometric Turbidity Units (NTU)
3. Most probable number (MPN)
4. Standard units (s.u.)
5. Instantaneous minimum-maximum range.
6. The annual average EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 µmhos/cm, or a total of 1,000 µmhos/cm, whichever is more stringent.

2. Effluent limitations contained in WDRs Order No. 99-100 for discharges from Discharge Point D-002 to disposal ponds and representative monitoring data from Monitoring Location M-002 are summarized below:

**Table F-3. Historic Secondary Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitation		Monitoring Data (From January 2000 – To April 2007)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge <sup>1</sup>	Highest Daily Discharge
<b>Conventional Pollutants</b>					
Biochemical Oxygen Demand (BOD) (5 day @ 20°C) <sup>2</sup>	mg/L	40	80	9.6	31
pH	s.u.	--	6.0-9.0 <sup>2</sup>	--	6.0-9.4 <sup>2</sup>
Total Suspended Solids (TSS) <sup>3</sup>	mg/L	40	80	26	87

<b>Table F-3. Historic Secondary Effluent Limitations and Monitoring Data</b>					
Parameter	Units	Effluent Limitation		Monitoring Data (From January 2000 – To April 2007)	
		Average Monthly	Maximum Daily	Highest Average Monthly Discharge <sup>1</sup>	Highest Daily Discharge
<b>Priority Pollutants</b>					
Not Applicable					
<b>Non-Conventional Pollutants</b>					
Dissolved oxygen (DO)	mg/L	--	1.0	--	--
Electrical conductivity @ 25°C (EC)	µmhos/cm	--	1,000 <sup>3</sup>	--	1,302
Flow	mgd	1.2	--	0.82	--
Freeboard	Feet	--	2	generally violated	--
Settleable Solids	mL/L	0.2-	1.0	0.1	0.2

1. When calculating the monthly average, not detected (NDs) were calculated as ½ of the Practical Quantitation Limit (PQL) or Detection Limit for Reporting (DLR). PQLs or DLRs were used since Method Detection Limits (MDLs) were not available in the laboratory reports.
2. Instantaneous minimum-maximum range.
3. The annual average EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 µmhos/cm, or a total of 1,000 µmhos/cm, whichever is more stringent.

**E. Compliance Summary**

1. **Tertiary Treated Wastewater.** The Regional Water Board adopted Administrative Civil Liability (ACL) Order No. R5-2006-0003 on 26 January 2006 for violations of effluent limitations contained in WDRs Order No. 99-100 for Discharge Point 001. Effluent violations from January 2000 through January 2004 described in the ACL Order are summarized below:

<b>Table F-4. Violations of Tertiary Effluent Limitations</b>					
Parameter	Units	Effluent Limitation (Discharge Point 001)		Number of Violations, Discharge Point 001 (January 2000 –June 2004)	
		Average Monthly	Maximum Daily	Monthly Average Violations	Maximum Daily Violations
<b>Conventional Pollutants</b>					
pH	s.u.		6.0-9.0 <sup>1</sup>	--	1
Total Suspended Solids (TSS)	mg/L	20	40	1	2
<b>Priority Pollutants</b>					
Not Applicable					
<b>Non-Conventional Pollutants</b>					
Chlorine, Total Residual	mg/L		0.1	--	1

**Table F-4. Violations of Tertiary Effluent Limitations**

Parameter	Units	Effluent Limitation (Discharge Point 001)		Number of Violations, Discharge Point 001 (January 2000 –June 2004)	
		Average Monthly	Maximum Daily	Monthly Average Violations	Maximum Daily Violations
Electrical conductivity @ 25°C (EC)	µmhos/cm		1000 <sup>2</sup>	--	360
Turbidity	NTU	2	5	9	2

1 Instantaneous minimum-maximum range.

2 The annual average EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 µmhos/cm, or a total of 1,000 µmhos/cm, whichever is more stringent.

As part of the ACL settlement, the Discharger agreed to complete various compliance projects to address the violations. Generally these are comprised of two components (1) construction of a new potable water well to provide lower EC, and (2) a series of six additional projects to reduce the EC gain as the water makes its way from the source well, through use, treatment, and disposal. A detailed list and compliance dates, as listed in the ACL Order, are summarized below:

**Table F-5. Compliance Projects and Status**

Item	Description	Completion Date
1.a.	Analysis and determination of EC sources	Ongoing
2.	Establish pretreatment ordinance	Ongoing
3.	Construct New Well	Completed
4.	Establish water softener ordinance	1 June 2008
5.	Automate chemical feed	1 November 2006 (completed)
6.	Construction of UV Disinfection	1 October 2008
7.	Continuous monitoring of EC, turbidity, pH, and chlorine residual	1 December 2006

2. **Secondary Treated Wastewater.** Discharger SMRs from January 2000 through July 2006 indicate effluent at Discharge 002 violated the EC limit (shown in Table F-4 above), but at less frequency than at Discharge 001. This is a result, in part, of the chemical additions necessary for the chlorination and dechlorination processes prior to discharge to the Canal. In addition, the Discharger chronically does not meet the minimum 2.0 feet freeboard requirements in the disposal ponds. This is a result of the decrease in percolation rates from deferred pond maintenance. The Discharger is, in part, increasing its discharge volume at Discharge 001 to allow a disposal pond to be taken out of service for maintenance to restore percolation rates.
3. **Cease and Desist Order.** The Regional Water Board adopted Cease and Desist Order No. 5-01-001 for violations of WDRs Order No. 99-100, including violations of the minimum freeboard requirement; exceedances of the EC, turbidity, and chlorine residual limitations; and failing to develop a pretreatment program. The Discharger completed the tasks necessary to satisfy the requirements of the CDO. A separate order to rescind the CDO will be considered with the adoption of this Order.

## F. Planned Changes

The Discharger is scheduled to update its disinfection process to ultraviolet disinfection and will increase its discharge flow to the Central Canal.

## III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

### 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.F.

### C. State and Federal Regulations, Policies, and Plans

- 1. Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (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. Based on State Water Board Resolution No. 88-63, the Basin Plan specifies that water bodies that do not have beneficial uses listed in the Basin Plan are all designated as having the use of MUN. The Central Canal is a distributary of the Kings River via the Fresno and Fancher Creek Canals, and feeds into other canals and aqueducts to the south and to the west. The Central Canal is hydraulically connected to Fresno Slough. Accordingly, the Central Canal carries waters of the United States and must be maintained of swimmable (REC-1), fishable (WARM) quality. The Basin Plan on page II-1 states: *“Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality Control Act. In setting water quality objectives, the Regional Water Board must consider past, present, and probable future beneficial uses of water.”* and with respect to disposal of wastewaters states that *“...use of waters for disposal of wastewaters is not included as a beneficial use...and are subject to regulation as activities that may harm protected 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.

The beneficial uses of the Central Canal downstream of the discharge are thus municipal and domestic supply, agricultural irrigation, water contact recreation, and warm freshwater aquatic habitat. This Order contains Effluent Limitations requiring a tertiary level of treatment, or equivalent, for the surface water discharge, which is necessary to protect the beneficial uses of the receiving water. The Regional Water Board has considered the factors listed in CWC section 13241 in establishing these requirements, as discussed in more detail in the Fact Sheet.

2. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail later in the Fact Sheet (Attachment F, Section IV.D.4.), the discharge is consistent with the antidegradation provisions of 40 CFR section 131.12 and State Water Board Resolution 68-16.
3. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. Compliance with the Anti-Backsliding requirements is described in Section IV.D.3.
4. **Emergency Planning and Community Right to Know Act.** Section 13263.6(a), California Water Code, requires that "the Regional Water Board shall prescribe effluent limitations as part of the waste discharge requirements of a POTW for all substances that the most recent toxic chemical release data reported to the state emergency response commission pursuant to Section 313 of the Emergency Planning and Community Right to Know Act of 1986 (42 U.S.C. Sec. 11023) (EPCRA) indicate as discharged into the POTW, for which the State Water Board or the Regional Water Board has established numeric water quality objectives, and has determined that the discharge is or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to, an excursion above any numeric water quality objective".

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.

5. **Storm Water 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 storm water program and are obligated to comply with the Federal Regulations.
6. **Endangered Species Act.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

#### **D. Other Plans, Policies and Regulations**

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

#### IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

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

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

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board’s Basin Plan, page IV-21, contains an implementation policy (“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**

The five prohibitions set forth in the Order represent acts that are totally unacceptable to the Regional Water Board.

1. Prohibition A concerns a substantial change in location or manner of the discharge, or a change in its character, from what was provided in the RWD and evaluated for compliance with the Water Code and CWA. Discharge requirements in this Order may not be protective of water quality if there is a substantial change, and hence such is prohibited.
2. Prohibition B prohibits bypass pursuant to 40 CFR 122.41 (m)(4), with federal allowance for exceptions set forth in section 1.G of Attachment D, Standard Provisions.
3. Prohibition C reflects two general situations that, if created, justify cleanup or abatement enforcement activities and assessment of administrative civil liabilities.
4. Prohibition D concerns two categories of waste that are subject to full containment as prescribed by Title 23 and Title 27 of the California Code of Regulations and, if discharged, have high potential for creating a condition that would violate Prohibition C as well.
5. Prohibition E incorporates prohibitions as set forth in the Basin Plan and not covered by the preceding prohibitions.

## **B. Technology-Based Effluent Limitations**

### **1. Scope and Authority**

Regulations promulgated in 40 CFR 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 40 CFR 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<sub>5</sub>), total suspended solids (TSS), and pH.

## 2. Applicable Technology-Based Effluent Limitations

- a. **BOD<sub>5</sub> 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<sub>5</sub> and TSS. Tertiary treatment is necessary to protect the beneficial uses of the receiving stream and the final effluent limitations for BOD<sub>5</sub> and TSS are based on the technical capability of the tertiary process. BOD<sub>5</sub> is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The secondary and tertiary treatment standards for BOD<sub>5</sub> and TSS are indicators of the effectiveness of the treatment processes. The principal design parameter for wastewater treatment plants is the daily BOD<sub>5</sub> and TSS loading rates and the corresponding effluent quality and removal efficiency of the system. Application of tertiary treatment processes results in the ability to achieve lower levels for BOD<sub>5</sub> and TSS than the 40 CFR standards prescribed; the 30-day average BOD<sub>5</sub> and TSS limitations have been revised to 10 mg/L, which is technically achievable based on the capability of a tertiary system. In addition to the average weekly and average monthly effluent limitations, a daily maximum effluent limitation for BOD<sub>5</sub> and TSS allows reasonable excursions that will not jeopardize effective disinfection. See Table F-6 for final technology-based effluent limitations required at Discharge Point D-001 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 efficiency shall not be less than 85 percent. A tertiary treatment plant must remove more solids to achieve the more stringent effluent limits. This Order contains a limitation requiring an average of 90 percent removal of BOD<sub>5</sub> and TSS at D-001 over each calendar month.
- b. **Flow.** The WWTF, as designed, is capable of providing a tertiary level of treatment for up to a design flow of 0.45 mgd. Therefore, this Order contains a Monthly Average Daily Discharge Flow effluent limit for Discharge Point D-001 of 0.45 mgd.

<b>Table F-6 Summary of Technology-based Effluent Limitations Discharge Point D-001</b>				
Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
<b>Conventional Pollutants</b>				
Biochemical Oxygen Demand (BOD) (5 day @ 20°C) <sup>2</sup>	mg/L	10	15	30
	lbs/day <sup>1</sup>	38	56	113
Total Suspended Solids (TSS) <sup>2</sup>	mg/L	10	15	30
	lbs/day <sup>1</sup>	38	56	113
Settleable Solids	ml/L	0.1	--	0.2

1 Based on the average monthly flow of 0.45 mgd

2 The average monthly percent removal of 5-day biochemical oxygen demand (BOD) and total suspended solids (TSS) shall not be less than 90 percent.

### 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.** Beneficial uses of the Central Canal are AGR, MUN, REC-1 and WARM.
- b. **Hardness.** While no effluent limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, effluent limitations for certain metals. The *California Toxics Rule*, at (c)(4), states the following:

“Application of metals criteria. (i) *For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/L or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.*”  
[emphasis added]

The State Water Board, in footnote 19 to Water Quality Order No. 2004-0013, stated: “*We note that...the Regional Water Board...applied a variable hardness value whereby effluent limitations will vary depending on the actual, current*”

*hardness values in the receiving water. We recommend that the Regional Water Board establish either fixed or seasonal effluent limitations for metals, as provided in the SIP, rather than ‘floating’ effluent limitations.”*

Effluent limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual conditions at the time of discharge, effluent limitations must be set using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions.

In water, the toxicity of some metals (cadmium, chromium III, copper, lead, nickel, silver and zinc) is dependent on the hardness of the water. In general, the lower the hardness the more toxic metals become. A recent paper entitled “*Developing Protective Hardness-Based Metal Effluent Limitations*” by Robert W. Emerick, Ph.D., P.E. and John E. Pedri, P.E. describes methodologies for calculating criteria for hardness-based metals that ensure the beneficial uses of the receiving water will be protected under all dilution conditions when the final mixed receiving water/effluent hardness is less than 400 mg/L. These methodologies were used to develop hardness-dependent metals criteria that represent reasonable worst-case conditions and were included in the reasonable potential analysis.

The equations presented in the Dr. Emerick’s and Mr. Pedri’s paper were developed for occasional effluent dominated conditions (i.e., an effluent discharge can constitute up to 100 percent of stream flow at times) and no use of assimilative capacity. The CTR and NTR describe water quality standards for metals that vary as a function of hardness. The relationship between the relative toxicity criteria and constituent concentration as a function of hardness can be either concave upward or concave downward. The most appropriate methodology is dependent on the relationship.

For those metals whereby the criteria exhibit a **concave downward** relationship as a function of hardness (acute and chronic copper, chromium III, nickel, zinc, and chronic cadmium), use of effluent hardness for establishing criteria is fully protective of all beneficial uses regardless of whether the effluent or receiving water hardness is higher. The lowest recorded effluent hardness (i.e., 140 mg/L as CaCO<sub>3</sub>) was used to establish metals criteria with a concave downward relationship as a function of hardness.

For those metals whereby the regulatory criteria exhibit a **concave upward** relationship as a function of hardness (acute cadmium, acute and chronic lead, and acute silver), developing criteria that account for both the hardness of the receiving water and effluent is required. Under the discharge conditions that exist in the Central Canal where the effluent hardness is higher than receiving water hardness, use of the lowest recorded effluent hardness and the lowest

recorded receiving water hardness to calculate the criteria represent a reasonable worst-case scenario.

For purposes of conducting the reasonable potential analysis for metals, the lowest reported effluent hardness value of 140 mg/L as CaCO<sub>3</sub> and the lowest receiving water hardness of 8.6 mg/L as CaCO<sub>3</sub> were used. Using these hardness values, only effluent data for copper indicated the discharge may have a reasonable potential to exceed criteria (see Section IV.C.3.h. below).

- c. **Assimilative Capacity/Mixing Zone.** The Discharger discharges to the Central Canal year round. During the non-irrigation season effluent discharged from the WWTF is the only flow in the Canal. During the irrigation season the effluent is diluted with irrigation water at minimum ratio of 200 to 1.

### 3. Determining the Need for WQBELs

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

Table F-12, and a detailed discussion of the RPA for each constituent is provided below.

- c. The Regional Water Board conducted the RPA in accordance with Section 1.3 of the SIP. Although the SIP applies directly to the control of CTR priority pollutants, the State Water Board has held that the Regional Water Board may use the SIP as guidance for water quality-based toxics control.<sup>1</sup> The SIP states in the introduction “*The goal of this Policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency.*” Therefore, in this Order the RPA procedures from the SIP were used to evaluate reasonable potential for both CTR and non-CTR constituents.
- d. WQBELs were calculated in accordance with section 1.4 of the SIP, as described in Attachment F, Section IV.C.4.
- e. **Aluminum.** The Discharger submitted the result of one effluent sample collected in May 2007 for analysis of total recoverable aluminum. The sample returned 190 ug/L of total aluminum. No samples of the upstream receiving water have been analyzed for aluminum. The MEC of 190 ug/L exceeded the chronic USEPA National Recommended Ambient Water Quality Criteria of 87 ug/L.

The currently available information is not adequate to demonstrate that aluminum has the reasonable potential to cause, or contribute to, an excursion above an applicable water quality objective. The data set is limited. Additional data should be collected to adequately characterize the presence of aluminum in the discharge.

The Order requires sampling of the effluent and receiving water for aluminum. To determine whether aluminum in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the Basin Plan’s narrative toxicity objective, this Order requires the Discharger to conduct a RPA to determine whether effluents limits are necessary to protect the beneficial uses of the Central Canal.

- f. **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 Discharger does not currently use nitrification to remove ammonia from the waste stream. Inadequate or incomplete nitrification may result in the discharge of ammonia to the receiving stream. Ammonia is known to cause toxicity to aquatic organisms in surface waters. Discharges of ammonia would violate the Basin Plan narrative toxicity objective. Applying 40 CFR 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

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<sup>1</sup> See, Order WQO 2001-16 (Napa) and Order WQO 2004-0013 (Yuba City)

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 or CMC) standards based on pH and chronic (30-day average, criteria continuous concentration or CCC) standards based on pH and temperature. USEPA also recommends that no 4-day average concentration should exceed 2.5 times the 30-day CCC. 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.

The maximum permitted effluent pH is 8.3 as the Basin Plan objective for pH in the receiving stream is the range of 6.5 to 8.3. To protect against the worst-case short-term exposure of an organism, a pH value of 8.3 was used to derive the acute criterion. The resulting acute criterion is 3.15 mg/L.

The maximum observed 30-day rolling average temperature and the maximum observed pH were used to calculate seasonal 30-day chronic criteria. The maximum observed 30-day temperature for May through October was 29.4°C, for November through April the maximum observed 30-day temperature was 22.1°C. The maximum observed pH value was 9.0 for November through April and 8.2 for May through October. Using the pH values and the worst-case temperature values on a rolling 30-day basis, the resulting 30-day CCC is 0.3 mg/L (as N) for November through April and 0.69 mg/L (as N) for May through October. The 4-day average concentration is derived in accordance with the USEPA criterion as 2.5 times the 30-day CCC. Based on the 30-day CCCs of 0.3 and 0.69 mg/L (as N), the 4-day average concentration that should not be exceeded is 0.75 and 1.73 mg/L (as N), respectively.

The MEC for ammonia was 1.1 mg/L for May through October and 1.8 mg/L for November through April. Therefore, ammonia in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a level necessary to protect aquatic life, resulting in a violation of the Basin Plan's narrative toxicity objective.

The 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, and 30-day chronic criteria is then selected for deriving the AMEL and the MDEL. The remainder of the WQBEL calculation for ammonia was performed according to the SIP procedures.

An AMEL and MDEL for ammonia of 0.8 mg/L and 1.1 mg/L, respectively, were calculated for the period from May to October and an AMEL and MDEL for ammonia of 0.4 mg/L and 0.6 mg/L, respectively, were calculated for the period from November to April based on SIP procedures. It appears that the Discharger may be in immediate non-compliance upon issuance of the permit. New or modified control measures may be necessary to comply with the effluent limitations, and the new or modified control measures cannot be designed, installed and put into operation within 30 calendar days. The Basin Plan includes a provision that authorizes the use of compliance schedules in NPDES permits for water quality objectives adopted after 25 September 1995. The WQBELs for ammonia are based on a new interpretation of the narrative standard for protection of receiving water beneficial uses. Therefore, a compliance schedule for compliance with the ammonia effluent limitations is established in the Order. An interim performance-based maximum daily effluent limitation of 1.3 mg/L has been established in this Order. The interim limitation was determined as described in Attachment F, Section IV.E.1., and is in effect until **18 May 2010**. As part of the compliance schedule, this Order requires the Discharger to submit a work plan and time schedule to conduct a treatment feasibility study within four months and to submit a report within a year to achieve compliance with the final ammonia effluent limitations.

- g. **Bromoform.** The CTR includes a bromoform criterion of 4.3 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. The MEC for bromoform was 8.9 µg/L. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for bromoform.

No dilution is allowed due to periods of no flow in the receiving water. An AMEL and MDEL for bromoform of 4.3 µg/L and 8.6 µg/L, respectively, are included in this Order based on based on the CTR criterion for the protection of human health (See Attachment F for WQBEL calculations). The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.D.1., an interim performance-based maximum daily limitation of 28 µg/L was calculated.

Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR*



*critera, the RWQCB may establish a compliance schedule in an NPDES permit.” Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: ...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable*

Bromoform is a byproduct of the chlorination process. The Discharger indicated its commitment as part of an ACL settlement to complete a UV disinfection system by 1 October 2008 to replace the current chlorination system. Eliminating use of chlorine on schedule should result in no generation of bromoform shortly thereafter. This Order imposes the final bromoform limitation, effective 1 November 2008, with a provision that would allow the Executive Officer to suspend the limitation and monitoring once the Discharger proves that the UV system has eliminated the current reasonable potential of bromoform to violate a water quality objective.

- h. **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 minimum measured hardness from the effluent (140 mg/L as CaCO<sub>3</sub>) and the USEPA recommended dissolved-to-total translator, the applicable chronic criterion (maximum four-day average concentration) is 12.4 µg/L and the applicable acute criterion (maximum one-hour average concentration) is 19.2 µg/L, as total recoverable.

The MEC for total copper was 22 µg/L, based on just two samples collected and where one was nondetect. There is insufficient data to determine RP reliably. To determine whether the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for copper, monitoring for copper is being required. This permit contains a reopener provision should monitoring results indicate that the discharge has the reasonable potential to cause or contribute an exceedance of water quality objectives and effluent limitations are required.

- i. **Chlorodibromomethane.** The CTR includes a chlorodibromomethane criterion of 0.41 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. The MEC for chlorodibromomethane was 46 µg/L. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for chlorodibromomethane.

No dilution is allowed due to periods of no flow in the receiving water. An AMEL and MDEL for chlorodibromomethane of 0.41 µg/L and 0.82 µg/L, respectively, are included in this Order based on based on the CTR criterion for the protection of human health (See Attachment F for WQBEL calculations). The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E.1., an interim performance-based maximum daily limitation of 143 µg/L was calculated.

As noted under bromoform, Section 2.1 of the SIP provides allowance for a time schedule unless certain conditions, which the Discharger complied with.

As also noted under bromoform, the proposed installation of the UV system should eliminate the generation of chlorodibromomethane. This Order imposes the final chlorodibromomethane limitation, effective 1 November 2008, with a provision that would allow the Executive Officer to suspend the limitation and monitoring once the Discharger proves that the UV system has eliminated the current reasonable potential to violate a water quality objective.

- j. **Chlorine Residual.** The Discharger uses chlorine for disinfection, which is extremely toxic to aquatic organisms. The Discharger uses a sulfur dioxide process to dechlorinate the effluent prior to discharge to the FID Central Canal. 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.

- k. **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 9.9 µg/L, based on two samples. To determine if the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for cyanide, monitoring for cyanide is being required. This permit contains a reopener provision should monitoring results indicate that the discharge has the

reasonable potential to cause or contribute an exceedance of water quality objectives and effluent limitations be required.

- i. **Diazinon.** Results from monitoring conducted by the Discharger indicate that the MEC for diazinon is 0.41 µg/L. Insufficient information is available to determine whether diazinon in the discharge has reasonable potential to cause or contribute to an in-stream excursion above applicable water quality criteria or objectives. There is only one effluent data point available, and the data point has been estimated as DNQ. Instead of limitations, additional monitoring has been established for diazinon with a reopener provision should monitoring results indicate that the discharge has the reasonable potential to cause or contribute an exceedance of water quality objectives.
  
- m. **Dichlorobromomethane.** The CTR includes a dichlorobromomethane criterion of 0.56 µg/L for the protection of human health and is based on a one-in-a-million cancer risk for waters from which both water and organisms are consumed. The MEC for dichlorobromomethane was 8 µg/L. Therefore, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for dichlorobromomethane.

No dilution is allowed due to periods of no flow in the receiving water. An AMEL and MDEL for dichlorobromomethane of 0.56 µg/L and 1.1 µg/L, respectively, are included in this Order based on based on the CTR criterion for the protection of human health (See Attachment F for WQBEL calculations). The Discharger is unable to comply with these limitations. Section 2.1 of the SIP allows for compliance schedules within the permit for existing discharges where it is demonstrated that it is infeasible for a Discharger to achieve immediate compliance with a CTR criterion. Using the statistical methods for calculating interim effluent limitations described in Attachment F, Section IV.E.1., an interim performance-based maximum daily limitation of 162 µg/L was calculated.

As noted under bromoform, Section 2.1 of the SIP provides allowance for a time schedule unless certain conditions, which the Discharger complied with.

As also noted under bromoform, the proposed installation of the UV system should eliminate the generation of dichlorobromomethane. This Order imposes the final dichlorobromomethane limitation, effective 1 November 2008, with a provision that would allow the Executive Officer to suspend the limitation and monitoring once the Discharger proves that the UV system has eliminated the current reasonable potential to violate a water quality objective.

- n. **Electrical Conductivity.** (see Subsection r. Salinity)
  
- o. **Fluoride.** *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), recommends that the fluoride concentration in waters used for agricultural irrigation not exceed 1000 µg/L. Applying the Basin Plan “Policy for Application of Water Quality Objectives”, the numeric standard

that implements the narrative objective is the Agricultural Water Quality Goal of 1000 µg/L. The Primary Maximum Contaminant Level (MCL) for fluoride is 2000 µg/L.

The MEC for fluoride was 1300 µg/L, based on two samples. To determine whether the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the criteria for fluoride, monitoring is being required. This permit contains a reopener provision should monitoring results indicate that the discharge has the reasonable potential to cause or contribute an exceedance of water quality objectives and effluent limitations be required.

- p. **Pathogens.** To protect identified beneficial uses from pathogens the wastewater must be adequately treated. The principal infectious agents (pathogens) that may be present in raw sewage are classified into three broad groups: bacteria, parasites, and viruses. Treatment, consisting of chemical coagulation, sedimentation, and filtration, will remove approximately 99.5% of pathogens. Disinfection of the tertiary effluent ensures greater removal.

The California Department of Public Health (DPH) reclamation criteria in 22 CCR, Division 4, Chapter 3 (Title 22) is intended to insure that reuse of wastewater does not pose unacceptable health risks in various use situations. Title 22 requires that, for sprinkler irrigation of food crops, parks, playgrounds, schoolyards, and other areas of similar public access, the recycled water must be adequately disinfected, oxidized, coagulated, clarified, and filtered, and that the effluent total coliform levels not exceed 2.2 MPN/100 ml as a 7-day median. It defines this as “disinfected tertiary treatment.” Title 22 requires that recycled water supplying non-restricted recreational impoundments be subjected to “disinfected tertiary treatment.” A non-restricted recreational impoundment is defined as “...an impoundment of recycled water, in which no limitations are imposed on body-contact water recreational activities.”

It is not practical or necessary to be exact in quantifying pathogens in this circumstance as they are living and mobile, multiply exponentially and are impractical to quantify exactly and regulate by weekly average limitations. Tests for detection and enumeration of indicator organisms, rather than of pathogens, are used. The accepted general indicator for pathogenic bacteria is coliform bacteria and its population has been authenticated as a reliable standard. Test results allow prediction of coliform organisms populations as a most probable number and limitations typically are specified in terms of daily maximum and a 7-day median. Hence, a total coliform population of 2.2 MPN/100 ml, in the opinion of the DPH, ensures the risk of disease from pathogenic bacteria is at an acceptable level for any of the identified direct uses.

To ensure that other pathogen groups are successfully reduced requires a high degree of filtration as well as achieving the disinfection level described above. Filtration ensures a higher quality effluent by removing finer organic material and it increases the effectiveness and reliability of the disinfection process. The performance standard for effective filtration is measured in turbidity. Tertiary

treatment technology can consistently achieve an average daily turbidity of 2 nephelometric turbidity units. A disinfected tertiary effluent that achieves this turbidity and the total coliform density previously described ensures that the risk of disease from all pathogen groups is at an acceptable level for any of the identified direct uses.

Title 22 only applies to direct reuse. In indirect use situations where human exposure is or will be similar, it is reasonable to conclude that the health risk will be acceptable if the treatment process and results are the same as, or comparable to, what Title 22 requires for the same exposure in direct reuse. The receiving water is used for irrigation of agricultural land and for contact (i.e., unrestricted) recreation purposes. Disinfected tertiary treatment is also recommended in DPH's "*Uniform Guidelines for the Disinfection of Wastewater*" for surface water discharges under conditions similar to those described herein. As these indirect uses are similar to the direct uses where Title 22 specifies a minimum of "disinfected tertiary treatment," the Regional Water Board concludes that "disinfected tertiary treatment" is appropriate for Discharge Point D-001. The method of treatment is not prescribed by this Order but the Order does specify that wastewater must be treated using a process and to a level the same as or equivalent to that of Title 22.

Monitoring turbidity allows immediate detection of filter failure that enables rapid corrective action. Coliform testing requires several hours or days to identify high coliform concentrations.

To ensure the Facility achieves appropriate disinfected tertiary treatment, this Order contains effluent limitations reflecting a tertiary level of treatment and disinfection, or fail-safe equivalent, and associated monitoring for Disposal Point D-001 compliance.

- q. **pH.** Effluent Limitations for pH are included in this Order to ensure the Basin Plan objective for pH is met in the receiving water when no dilution is available.
- r. **Salinity.** The effluent limits for EC, boron and chloride specified by the Basin Plan are considered to be water quality based. They are thus incorporated directly into the Order.
- s. **Settleable Solids.** For inland surface waters, the Basin Plan states that "[w]ater shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses." This Order contains average monthly and maximum daily effluent limitations for settleable solids.

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

- t. **Total Trihalomethanes (THMs).** Information submitted by the Discharger indicates that the effluent contains THMs. 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, 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) 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.

No known drinking water intakes exist in the Central Canal downstream of the discharge, and chloroform is a non-conservative pollutant. The installation of the UV system will eliminate THMs and chloroform effective 1 November 2008.

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

#### 4. WQBEL Calculations

- a. Effluent limitations for ammonia, bromoform, dibromochloromethane, and bromodichloromethane 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.

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

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

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

where:

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

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

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

CMC = criteria maximum concentration (one-hour average)

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

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

D = dilution credit

B = maximum receiving water concentration

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

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

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

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

Water quality-based effluent limitations were calculated for ammonia, dichlorobromomethane, and chlorodibromomethane as follows in Tables F-7 through F-10, below.

(1)

**Table F-7. QBEL Calculations for Ammonia (November - April)**

	Acute	Chronic (30-day)	Chronic (4-day)
pH <sup>(1)</sup>	8.3	9	N/A
Temperature °C <sup>(2)</sup>	N/A	22.1	N/A
Criteria (mg/L) <sup>(3)</sup>	3.15	0.3	0.75
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA	3.15	0.3	0.75
ECA Multiplier	0.45	0.85	0.65
LTA <sup>(4)</sup>	1.42	0.26	0.49
AMEL Multiplier (95 <sup>th</sup> %)	<sup>(5)</sup>	1.35	<sup>(5)</sup>
AMEL (mg/L)	<sup>(5)</sup>	0.4	<sup>(5)</sup>
MDEL Multiplier (99 <sup>th</sup> %)	<sup>(5)</sup>	2.24	<sup>(5)</sup>
MDEL (mg/L)	<sup>(5)</sup>	0.6	<sup>(5)</sup>

<sup>(1)</sup> Acute design pH = 8.3 (max. allowed pH), Chronic design pH =9 (max. effluent pH).

<sup>(2)</sup> Temperature = the maximum observed running 30-day average effluent temperature.

<sup>(3)</sup> USEPA Ambient Water Quality Criteria.

<sup>(4)</sup> LTA developed based on Acute and Chronic ECA Multipliers calculated at 99th percentile level per sections 5.4.1 and 5.5.4 of TSD.

<sup>(5)</sup> Limitations based on chronic LTA.

**Table F-8. QBEL Calculations for Ammonia (May - October)**

	Acute	Chronic (30-day)	Chronic (4-day)
pH <sup>(1)</sup>	8.3	8.2	N/A
Temperature °C <sup>(2)</sup>	N/A	29.4	N/A
Criteria (mg/L) <sup>(3)</sup>	3.15	0.69	1.73
Dilution Credit	No Dilution	No Dilution	No Dilution
ECA	3.15	0.69	1.73
ECA Multiplier	0.54	0.89	0.72
LTA <sup>(4)</sup>	1.7	0.61	11.25
AMEL Multiplier (95 <sup>th</sup> %)	<sup>(5)</sup>	1.25	<sup>(5)</sup>
AMEL (mg/L)	<sup>(5)</sup>	0.8	<sup>(5)</sup>
MDEL Multiplier (99 <sup>th</sup> %)	<sup>(5)</sup>	1.86	<sup>(5)</sup>
MDEL (mg/L)	<sup>(5)</sup>	1.1	<sup>(5)</sup>

<sup>(1)</sup> Acute design pH = 8.3 (max. allowed pH), Chronic design pH =8.2 (max. effluent pH).

<sup>(2)</sup> Temperature = the maximum observed running 30-day average effluent temperature.

<sup>(3)</sup> USEPA Ambient Water Quality Criteria.

<sup>(4)</sup> LTA developed based on Acute and Chronic ECA Multipliers calculated at 99th percentile level per sections 5.4.1 and 5.5.4 of TSD.

<sup>(5)</sup> Limitations based on acute LTA.



**Table F-9 QBEL Calculations for Chlorodibromomethane**

	Human Health
Criteria (µg/L)	0.41
Dilution Credit	No Dilution
ECA (µg/L)	0.41
<b>AMEL (µg/L)</b>	<b>0.41</b>
MDEL Multiplier (99 <sup>th</sup> %)	2.01
<b>MDEL (µg/L)</b>	<b>0.82</b>

**Table F-10 QBEL Calculations for Dichlorobromomethane**

	Human Health
Criteria (µg/L)	0.56
Dilution Credit	No Dilution
ECA (µg/L)	0.56
<b>AMEL (µg/L)</b>	<b>0.56</b>
MDEL Multiplier (99 <sup>th</sup> %)	2.01
<b>MDEL (µg/L)</b>	<b>1.1</b>

**Table F-11. Summary of Water Quality-based Effluent Limitations**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Conventional Pollutants</b>						
pH	standard units	--	--	--	6.5	8.3
<b>Priority Pollutants</b>						
Bromoform	µg/L	4.3	--	8.6	--	--
Chlorodibromomethane (Dibromochloromethane)	µg/L	0.41	--	0.82	--	--
Dichlorobromomethane (Bromodichloromethane)	µg/L	0.56	--	1.1	--	--
<b>Non-Conventional Pollutants</b>						
Ammonia Nitrogen, Total (as N) (May-October)	mg/L	0.8	--	1.1	--	--
	lbs/day <sup>1</sup>	3.0	--	4.1	--	--
Ammonia Nitrogen, Total (as N) (November-April)	mg/L	0.4	--	0.6	--	--
	lbs/day <sup>1</sup>	1.5	--	2.3	--	--
Boron	mg/L	--	--	1.0	--	--
Chloride	mg/L	--	--	175	--	--

<sup>1</sup>. Based on a design flow of 0.45 mgd

## 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-6) The Basin Plan also states that, "...effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate...". USEPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "Guidance for NPDES Permit Issuance", dated February 1994. In section B.2. "Toxicity Requirements" (pgs. 14-15) it states that, "In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc." 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:

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-6) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

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

## **D. Final Effluent Limitations**

### **1. Mass-based Effluent Limitations.**

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

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

### **2. Averaging Periods for Effluent Limitations.**

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

### **3. Satisfaction of Anti-Backsliding Requirements.**

Some effluent limitations in this Order are less stringent than those in the previous Order. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations. WDRs Order No. 99-100 specifies effluent limitations for sodium and carbonate + bicarbonate. These constituents have no technology basis and no potential to exceed a water quality objective. Apparently both were included as performance-based limits when the

salinity of the discharge was poorly managed. As noted elsewhere, salinity is effectively regulated by EC, boron and chloride effluent limitations.

#### 4. Satisfaction of Antidegradation Policy

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. This Order provides for an increase in the volume and mass of pollutants discharged at Discharge Point D-001. The increase will not have significant impacts on aquatic life, which is the beneficial use most likely affected by the pollutants discharged (BOD, suspended solids, chlorine residual, temperature, and metals) as limits are applied at end of pipe. The increase will not cause a violation of water quality objectives. The total flow allowed remains the same and allows wastewater utility service necessary to accommodate housing and economic expansion in the area, and is considered to be a benefit to the people of the State. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge.

#### 5. Summary of Final Effluent Limitations-Tertiary Treatment

- a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point D-001:

<b>Table F-12. Summary of Final Effluent Limitations Discharge Point D-001</b>						
Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<b>Conventional Pollutants</b>						
Biochemical Oxygen Demand (BOD) (5 day @ 20°C)	mg/L	10	15	30	--	--
	lbs/day <sup>1</sup>	38	56	113	--	--
Total Suspended Solids (TSS)	mg/L	10	15	30	--	--
	lbs/day <sup>1</sup>	38	56	113	--	--
Settleable Solids (SS)	ml/L	0.1		0.2		
pH	standard units	--	--	--	6.5	8.3
<b>Priority Pollutants</b>						
Bromoform	µg/L	4.3	--	8.6	--	--
Chlorodibromomethane (Dibromochloromethane)	µg/L	0.41	--	0.82	--	--
Dichlorobromomethane (Bromodichloromethane)	µg/L	0.56	--	1.1	--	--
<b>Non-Conventional Pollutants</b>						
Ammonia Nitrogen, Total (as N) (May-October)	mg/L	0.8	--	1.1	--	--
	lbs/day <sup>1</sup>	3.0	--	4.1	--	--
Ammonia Nitrogen, Total (as N) (November-April)	mg/L	0.4	--	0.6	--	--
	lbs/day <sup>1</sup>	1.5	--	2.3	--	--
Boron	mg/L	--	--	1.0	--	--

**Table F-12. Summary of Final Effluent Limitations Discharge Point D-001**

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Chloride	mg/L	--	--	175	--	--
Turbidity	NTU	2	--	5 <sup>2</sup>	--	10

1. Based on a design flow of 0.45 mgd
2. More than 5% of the time in the 24-hour period

- b. **Percent Removal:** The average monthly percent removal of BOD 5-day 20°C and total suspended solids shall not be less than 90 percent.
- c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
  - i. 70% for any one bioassay; and
  - ii. 90% as the median for any three consecutive bioassays.
- d. **Maximum Daily Discharge Flow.** The average monthly daily discharge flow from Discharge Point 001 shall not exceed 0.45 mgd.
- e. **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;
- f. **Total Coliform Organisms.** Effluent total coliform organisms shall not exceed:
  - i. 2.2 most probable number (MPN) per 100 ml, as a 7-day median; and
  - ii. 23 MPN/100 ml more than once in any month.
  - iii. 240 MPN/100 ml at any time.
- g. **Electrical Conductivity.** The monthly average of EC in the discharge shall not exceed the flow-weighted average of EC in the source water plus 500 µmhos/cm, or a total of 1,000 µmhos/cm, whichever is more stringent.

**E. Interim Effluent Limitations**

1. **Ammonia, Bromoform, Chlorodibromomethane, and Dichlorobromomethane.** The SIP, section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Water Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must be based on current treatment plant performance or existing permit limitations, whichever is more stringent. The State Water Board has held that the SIP may be

used as guidance for non-CTR constituents. Therefore, the SIP requirement for interim effluent limitations has been applied to both CTR and non-CTR constituents in this Order.

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

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

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

Table 13 summarizes the calculations of the interim effluent limitations for ammonia, bromoform, chlorodibromomethane, and dichlorobromomethane:

**Table F-13. Interim Effluent Limitation Calculation Summary**

Parameter	MEC	Mean	Std. Dev.	# of Samples	Interim Limitation
Ammonia	1.83	0.56	0.22	168	1.3
Bromoform	8.9	--	--	2	28
Chlorodibromomethane	46	--	--	2	143
Dichlorobromomethane	52	--	--	2	162

## **F. Land Discharge Specifications- Disposal Point D-002**

1. The Basin Plan requires that wastewater treatment facilities that discharge to land in a manner that waste may infiltrate below the ground surface and degrade ground water must also comply with effluent limits. Limitations for Disposal Point D-002 include the requirement for removal of 80% or reduction to 40 mg/L, whichever is more restrictive, of both 5-day BOD and suspended solids and a maximum EC not to exceed the EC of source water plus 500 umhos/cm. Pond freeboard is to be greater than two feet (measured vertically).

## **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 directly on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, turbidity, and electrical conductivity.

Numeric Basin Plan objectives for bacteria, dissolved oxygen, pH, temperature, and turbidity are applicable to this discharge and have been incorporated as Receiving

Surface Water Limitations. Rational for these numeric receiving surface water limitations are as follows:

- a. **Ammonia.** The Basin Plan states that, “waters 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<sub>3</sub>) to exceed 0.025 mg/l (as N) in receiving waters.”
- b. **Bacteria.** The Basin Plan includes a water quality objective that “In waters designated 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.”
- c. **Biostimulatory Substances.** The Basin Plan includes a water quality objective that “[W]ater shall not contain biostimulatory substances that promote aquatic growths to the extent such growths cause nuisance or adversely affect beneficial uses.”
- 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.”
- e. **Chemical Constituents.** The Basin Plan includes a water quality objective that “Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.” .
- f. **Dissolved Oxygen.** The Central Canal has been designated as having the beneficial use of warm freshwater aquatic habitat (WARM). For water bodies designated as having WARM as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 5.0 mg/L of dissolved oxygen.
- g. **Floating Material.** The Basin Plan includes a water quality objective that “[W]aters shall not contain floating material, including but not limited to solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.”
- 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.”
- i. **pH.** The Basin Plan includes water quality objective that the pH of water shall not be depressed below 6.5 or raised above 8.3.
- j. **Pesticides.** The Basin Plan includes a water quality objective for pesticides beginning on page III-3.
- k. **Radioactivity.** The Basin Plan includes a water quality objective that “Radionuclides 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...”

- l. **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.”
- m. **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.”
- n. **Suspended Material.** The Basin Plan includes a water quality objective that “Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses
- o. **Taste and Odors.** The Basin Plan includes a water quality objective that “[W]aters shall not contain taste- or odor-producing substances in concentrations that cause nuisance, adversely affect beneficial uses, or impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to domestic or municipal water supplies.”
- p. **Temperature.** The FID Central Canal has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[e]levated temperature wastes shall not cause the temperature of waters designated COLD or WARM to increase by more than 5°F above natural receiving water temperature.”
- q. **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.”
- r. **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.”*

## **B. Groundwater**

1. The beneficial uses of the underlying ground water are municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply.
2. 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.
3. Groundwater limitations reflect water quality objectives and will protect the beneficial uses of the underlying groundwater.

## **VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

Section 122.48 of 40 CFR 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 (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

### **A. Influent Monitoring**

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

## **B. Effluent Monitoring**

1. Pursuant to the requirements of 40 CFR 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to insure the discharge is not the cause of unreasonable impacts on the receiving stream and groundwater.

## **C. Whole Effluent Toxicity Testing Requirements**

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

## **D. Receiving Water Monitoring**

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 shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports." The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the Regional Water Board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports. The Monitoring and Reporting Program (Attachment E) is issued pursuant to California Water Code Section 13267.

### **1. Surface Water**

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**

This Order requires the Discharger to continue groundwater monitoring and includes a regular schedule of groundwater monitoring in the attached Monitoring and Reporting Program. The groundwater monitoring reports are necessary to evaluate impacts to waters of the State to assure protection of beneficial uses and compliance with 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.5.b. and c.). 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 quantify the constituents before use.

## 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 determining reasonable potential. 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.

## 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-6.) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Attachment E of this Order requires Quarterly chronic WET monitoring for demonstration of compliance with the narrative toxicity objective.

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

**Monitoring Trigger.** A numeric toxicity monitoring trigger of  $> 1$  TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 100% effluent.

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

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six week period ( i.e. one test 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.

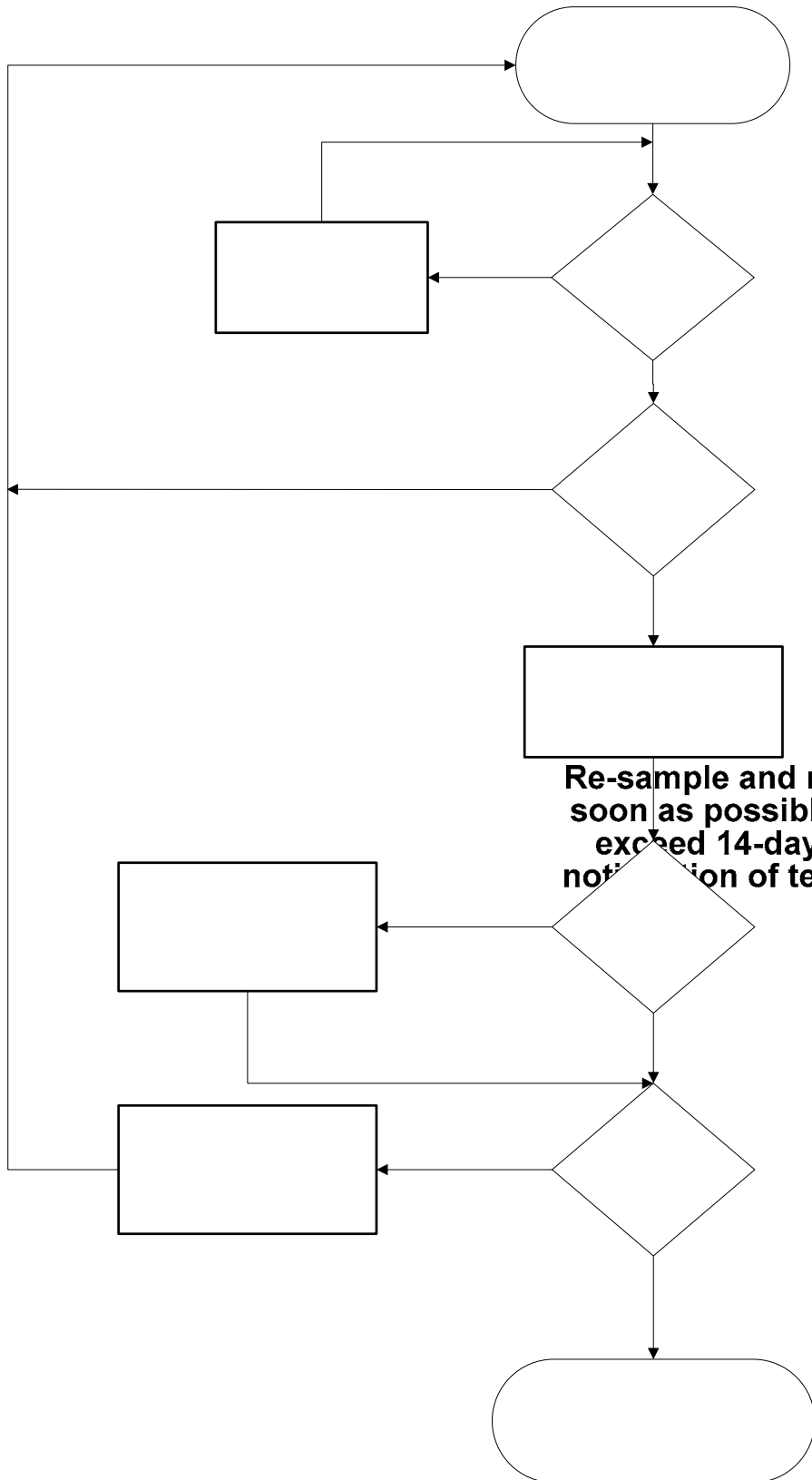
See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

**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**



**Re-sample and re-test as soon as possible, not to exceed 14-days from notification of test failure**

**Regul  
Toxicity**

**Test A  
Criteri**

No

**Monit  
Ex**

No



- b. **Groundwater Monitoring (Special Provisions VI.C.2.d.).** To determine compliance with Groundwater Limitations V.B., the Discharger is required to evaluate the adequacy of its groundwater monitoring network. This provision requires the Discharger to evaluate the utility of the groundwater monitoring network for detecting the impacts of every treatment, storage, and disposal unit that does or may release waste constituents to groundwater. Following completion of the evaluation, the Discharger is required to submit a technical report describing the evaluation's results and providing recommendations for necessary modifications (e.g., new monitoring wells and/or modifications to existing wells).

### **3. Use Attainability Study**

As noted elsewhere, the Basin Plan does not designate beneficial uses of the Central Canal as it is unlisted and not subject to the tributary rule. However, the primary purpose of the canal, beneficial uses of the downstream waterways, and federal goals for surface waters generally establish the standards for water quality in the canal. The exception is the beneficial use of municipal and domestic water supply (MUN), which the Basin Plan applies to unlisted waters such as the Central Canal. MUN does not currently occur and is not anticipated to occur from water in the Central Canal downstream of the discharge, and MUN may not be attainable.

With the commitment to convert to UV disinfection, there will be no CTR constituents where the effluent limitation is driven by MUN. However, required monitoring of particular constituents that show a possibility of having reasonable potential may yield data that indicates reasonable potential to exceed a water quality objective established to protect MUN. If this is the case, particularly if pollution prevention measures are not sufficient to remove the potential, the Discharger may wish to provide information sufficient to support a use attainability analysis and Regional Water Board consideration of de-designation of MUN. The Order contains a special provision allowing this opportunity.

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

The Order contains four specifications particular to the use of ponds that are essentially standard practice as to preventing mosquitoes and exceedance of capacity.

### **5. Special Provisions for Municipal Facilities (POTWs Only)**

#### **a. Sanitary Sewer Systems**

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order

requires agencies to develop sanitary sewer management plans and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions. The Discharger enrolled as required and must comply with both the General Order and this Order.

The Discharger's collection system is part of the wastewater collection, treatment, and disposal system. Pursuant to federal regulations, the Discharger must properly operate and maintain its collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR section 122.41(d)].

The General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating SSOs. The General Order, however, does not impose federal 24-hour reporting requirements. Accordingly, 24-hour reporting is required by the Order for overflow from the collection system that endangers the public health or environment. To avoid redundancy, all other matters concerning the collection system will be regulated under the General Order.

**b. Pretreatment Requirements.**

- i. The Federal Clean Water Act, Section 307(b), and Federal Regulations, 40 CFR Part 403, require publicly owned treatment works to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants that interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR Part 403.
- ii. The Discharger has developed a pretreatment program that the Order officially approves. The Discharger must implement and enforce its approved pretreatment program and as 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. EPA may take enforcement actions against the Discharger and/or an industrial user as authorized by the CWA.

**6. Other Special Provisions**

Special provisions included in this Order include:

- a. a requirement for disinfected tertiary treatment for reasons explained elsewhere in this fact sheet.
- b. a requirement for notification of transfer of control and provision that transfer is subject to approval of Executive Officer.

- c. clarification that clean water from any source allowed into the system cannot compromise compliance with the Order or, as per the Basin Plan, be used for dilution to comply with the Order.
- d. a requirement to monitor dissolved oxygen in ponds and maintain at least 1.0 mg/L to manage odors, and to ensure odors that originate at the Facility do not migrate off-site in objectionable concentrations.
- e. a requirement for 100-year flood protection.
- f. a requirement to control public access to the Facility.
- g. a requirement to pay annual fees.
- h. a general requirement that facilities comply with accepted design standards and operate in accordance with an up-to-date Operations and Maintenance Manual.

## **7. Compliance Schedules**

The use and location of compliance schedules in the permit depends on the Discharger's ability to comply and the source of the applied water quality criteria. This Order establishes a compliance schedule for the new, final, water quality-based effluent limitations for ammonia and requires full compliance by 18 May 2010. It also imposes a schedule, consistent with a previous commitment by the Discharger to convert to UV disinfection to achieve compliance with effluent limitations for all the trihalomethane pollutants.

## **VIII. PUBLIC PARTICIPATION**

The 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 Malaga County Water District. As a step in the WDR adoption process, the Regional Water Board staff developed and circulated for comment tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

### **A. Notification of Interested Parties**

The Regional Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided them with an opportunity to submit their written comments and recommendations on tentative WDRs. Notification was provided through the Fresno Bee on 21 December 2007 and the Regional Water Board's web site.

### **B. Written Comments**

The staff determinations of appropriate requirements are tentative when circulated and posted for comment. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by

mail to the Office of the Regional Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices **by noon on 22 January 2008**

### **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: 13/14 March 2008  
Time: 8:30 am  
Location: Regional Water Quality Control Board, Central Valley Region  
11020 Sun Center Dr., Suite #200  
Rancho Cordova, CA 95670

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

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

### **D. Waste Discharge Requirements Petitions**

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

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

### **E. Information and Copying**

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling 559- 445-5116.

## **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 Debra Bates at 559-445-6281.