

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2005-0015

NPDES NO. CA0077852

WASTE DISCHARGE REQUIREMENTS
FOR
RIO ALTO WATER DISTRICT
LAKE CALIFORNIA WASTEWATER TREATMENT PLANT
TEHAMA COUNTY

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

BACKGROUND

1. The Rio Alto Water District (Discharger) submitted a Report of Waste Discharge, dated 19 May 2003, and applied for permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Lake California Wastewater Treatment Plant (WWTP).
2. The Discharger owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the community of Lake California. The treatment plant is in Section 28, Township 29 North, Range 3 West of the Mt. Diablo Base Line and Meridian, as shown on Attachment A, which is a part of this Order. Treated municipal wastewater is discharged to the Sacramento River, waters of the United States at Discharge Point 001 and is reclaimed and used for landscape irrigation on the grounds of the WWTP.
3. The treatment system consists of headworks with a grinder, an oxidation ditch, clarification, pressure filtration, chlorination and dechlorination, and a secondary effluent holding pond. Sludge is applied to drying beds and ultimately to land owned by the Discharger. The Report of Waste Discharge characterizes the discharge as follows:

Average Monthly Flow	0.096 mgd
Peak Monthly Flow	0.252 mgd
Design Flow	0.64 mgd

<u>Constituent</u>	<u>Average Monthly Concentration</u>	<u>Maximum Monthly Concentration</u>
BOD ₅ ^a	2.0 mg/L	4.3 mg/L
Total Suspended Solids	5.0 mg/L	10 mg/L
Settleable Solids	Trace	Trace
Chlorine	Trace	0.02 mg/L
Coliform Bacteria	< 2 MPN/100 mL	8 MPN/100 mL
pH	7.8 - 8.5	

^a 5-day, 20°C biochemical oxygen demand

4. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the basin. The requirements of this Order implement the Basin Plan.
5. The USEPA adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995, and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001. These rules contain water quality criteria applicable to this discharge. The State Water Resources Control Board (SWRCB) 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) on 2 March 2000, which contains guidance on implementation of the NTR and the CTR.

BENEFICIAL USES OF THE RECEIVING STREAM

6. Beneficial uses of the Sacramento River downstream of Shasta Dam to the Colusa Basin Drain, as identified in Table II-1 of the Basin Plan, are municipal and domestic supply (MUN); agricultural irrigation and stock watering (AGR); industrial service and power supply (IND and POW); non-contact and body contact recreation, including canoeing and rafting (REC-1 and REC-2); warm and cold freshwater aquatic habitat (WARM and COLD); warm and cold water fish migration habitat (MIGR); warm and cold water spawning, reproduction, and/or early development habitat (SPWN); wildlife habitat (WILD); and navigation (NAV).

EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL

7. 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.
8. Section 303 (d) of the CWA requires states to identify waters for which implementation of technology-based effluent limitations have not been stringent enough to attain water quality standards for those waters. On 25 July 2003 the USEPA approved the State's updated list of 303 (d) impaired waters, which lists the Sacramento River from Cottonwood Creek to Red Bluff as impaired for unknown toxicity.
9. 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 Board finds that the discharge does not show a reasonable potential to cause or contribute to in-stream excursions above applicable water quality standards, and

therefore, water quality based effluent limitations are not included in this Order for pollutants that were not already regulated by Order No. 98-199.

10. Section 13263.6(a), California Water Code, requires that *“the regional 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 board or the regional 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.”*
11. The Regional Board has adopted numeric receiving water objectives for arsenic, cadmium, copper and zinc in the Basin Plan. USEPA’s Toxics Release Inventory database does not list any toxic constituents as being discharged to the Rio Alto WWTP, and therefore, effluent limitations for these metals are not included in this permit pursuant to CWC Section 13263.6 (a).
12. **Zinc:** Effluent monitoring data submitted by the Discharger show that there may be reasonable potential for discharges from the Lake California WWTP to cause or contribute to in-stream excursions above applicable water quality standards for zinc. Due to insufficient data, however, this Order is not establishing water quality based effluent limitations for zinc at this time, but is requiring additional monitoring to allow a more definitive determination of reasonable potential. If the findings of that monitoring, together with existing monitoring data, demonstrate that the discharge shows a reasonable potential to cause or contribute to in-stream excursions above applicable water quality standards, this Order will be reopened, and effluent limitations for zinc will be established. Concurrently with additional monitoring, the Discharger may perform a Dilution Study in accordance with Section 1.4.2 of the SIP to determine the appropriateness of dilution credits and a mixing zone, if effluent limitations for zinc are to be established.
13. **Bis (2-ethylhexyl) phthalate:** Effluent monitoring data submitted by the Discharger show that there may be reasonable potential for discharges from the Lake California WWTP to cause or contribute to in-stream excursions above applicable water quality standards for bis (2-ethylhexyl) phthalate. Because bis (2-ethylhexyl) phthalate is a common contaminant of sample containers, sampling apparatus, and analytical equipment, however, the Regional Board is not establishing water quality based effluent limitations for this pollutant at this time. The Discharger is required to have a certified laboratory collect contaminant-free effluent samples and analyze them to allow a definitive determination of reasonable potential. The Discharger also has the option of conducting a study of its sample collection, handling, and analytical methods to eliminate opportunity for sample contamination with bis (2-ethylhexyl) phthalate, and then, to collect and analyze effluent samples to allow a definitive determination of reasonable potential. If the findings of that monitoring demonstrate that the discharge shows a

reasonable potential to cause or contribute to in-stream excursions above applicable water quality standards, this Order will be reopened, and effluent limitations for bis (2-ethylhexyl) phthalate will be established.

14. **Chlorine:** Chlorine is commonly used as a disinfection agent in the treatment of wastewater. Proper disinfection ensures destruction of pathogens prior to discharge to surface waters. The Discharger uses chlorine for disinfection of the wastewater at the treatment plant. Because chlorine poses a threat to human health and is especially harmful to organisms living in water, a dechlorination process is necessary for the removal of chlorine. For dechlorination, the Discharger uses sodium bisulfite, which combines with chlorine, to render it relatively unreactive and thus removes it from the waste stream. Inadequate dechlorination may result in the discharge of chlorine to the receiving stream and cause toxicity to aquatic life. The Basin Plan prohibits the discharge of toxic substances in toxic concentrations.

The USEPA has developed Ambient Water Quality Criteria for the protection of freshwater aquatic life. The recommended maximum one-hour average and four-day average concentrations for chlorine are 0.02 mg/L and 0.01 mg/L, respectively. Effluent Limitations for chlorine are included in this Order and are based on the Basin Plan narrative toxicity objective.

15. **Coliform Bacteria:** This Order requires a monthly median total coliform limit of 23 MPN/100 mL and a daily maximum limit of 500 MPN/100 mL for effluent discharged to the Sacramento River. This level is thought to be adequately protective of beneficial uses and is consistent with the previous permit.
16. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and SWRCB Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.
17. As stated in General Provisions, No. 13 of *Standard Provisions and Reporting Requirements, For Waste Discharge Requirement* (February 2004), this Order prohibits bypass from any portion of the treatment facility. USEPA, at 40 CFR 122.41 (m), defines bypass as the intentional diversion of waste streams from any portion of a treatment facility and at 40 CFR 122.41 (m) (4) prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. The SWRCB has adopted Order No. WQO 2002-0015, which cites these regulations as allowing bypass only for essential maintenance to assure efficient operation. In United States v. City of Toledo, Ohio (63 F. Supp 2d 834, N.D. Ohio 1999) a federal district court in Ohio required construction when greater plant capacity was needed to avoid bypasses.

Section 301 of the CWA requires, not later than 1 July 1977 that publicly owned wastewater treatment works meet effluent limitations based on secondary treatment or any more stringent limitation necessary to meet water quality standards. At 40 CFR 133, the USEPA establishes

the minimum level of effluent quality attainable by secondary treatment for BOD, TSS, and pH. BOD is a measure of the amount of oxygen used in the biochemical oxidation of organic matter. The solids content—suspended (TSS) and settleable (SS)—is also an important characteristic of wastewater. The secondary treatment standards for BOD and TSS are indicators of the effectiveness of the treatment processes. The principal infectious agents that may be present in raw sewage may be classified into three broad groups: bacteria, parasites, and viruses. Secondary treatment has been shown to be effective for pathogen removal.

A wet weather influent waste stream may contain significantly diluted levels of BOD and TSS. A bypassed diluted waste stream may have BOD and TSS levels that meet the secondary objectives, either alone or when blended with treated wastewater. However, the bypassed waste stream would not have been treated to reduce pathogens or other individual pollutants. The indicator parameters of BOD and TSS cannot be diluted to a level that may indicate the adequate treatment has occurred as an alternative to providing appropriate treatment.

18. CWA Sections 303 (a-c), require states to adopt numeric water quality criteria where they are necessary to protect designated uses. The Regional Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR 131.20). SWRCB No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in water quality control plans (Basin Plans). The Basin Plan states that: “The numerical and narrative water quality objectives define minimum standards that the Regional Board will apply to regional waters in order to protect the beneficial uses.” This Order contains receiving water limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity and turbidity.

PRETREATMENT

19. The design flow of the Lake California WWTP is less than 5 mgd, and the facility does not receive discharges from industrial users, and therefore, the Discharger is not required to develop a pretreatment program pursuant to USEPA regulations at 40 CFR 403.

GROUNDWATER

20. Unless otherwise designated by the Regional Board, the beneficial uses of all groundwaters of the Central Valley Region are municipal and domestic water supply, agricultural supply, and industrial service and process supply. Discharges authorized by this Order may not cause or contribute to degradation of groundwater or interfere with beneficial uses.

COLLECTION SYSTEM

21. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs this raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.
22. Sanitary sewer overflows consist of varying mixtures of domestic sewage, industrial wastewater, and commercial wastewater. This mixture depends on the pattern of land use in the sewage collection system tributary to the overflow. The chief causes of sanitary sewer overflows include grease blockages, root blockages, debris blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, storm or groundwater inflow/infiltration, lack of capacity, and contractor caused blockages.
23. Sanitary sewer overflows often contain high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen demanding organic compounds, oil and grease, and other pollutants. Sanitary sewer overflows can cause temporary exceedances of applicable water quality objectives, pose a threat to public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters in the area.
24. The Discharger is expected to take all necessary steps to adequately maintain and operate its sanitary sewer collection system. This Order requires the Discharger to prepare and implement a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan.
25. As much as 40 percent of influent flow to the Lake California WWTP in wet weather months is currently attributed to infiltration of groundwater and inflow of stormwater (I&I) to the collection system. The Discharger is systematically replacing clay sewer pipe, installed in the early 1970s with PVC in order to reduce I&I. Excessive I&I at the Lake California WWTP does not cause exceedances of equipment design flows but causes a very dilute influent, not amenable to biological treatment processes. Within the Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan, the Discharger must describe specific steps that will be taken over the lifetime of this Order to further reduce I&I to the Lake California WWTP and a schedule for achieving the steps described in that document.

STORMWATER

26. U.S. EPA 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 municipal sanitary sewer systems. Wastewater Treatment Plants are

applicable industries under the storm water program and are obligated to comply with the Federal Regulations. Storm water discharges from the WWTP are regulated under the General Permit for Discharges of Storm Water Associated with Industrial Activities (State Water Resources Control Board, Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001). This facility is less than 1.0 mgd and is not required to obtain coverage under the general storm water permit.

GENERAL

26. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.
27. California Water Code Section 13267 states, in part, "*(a) A Regional 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 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 Board requires."* The accompanying Monitoring and Reporting Program is issued pursuant to CWC Section 13267 and is necessary to assure compliance with these Waste Discharge Requirements. The Rio Alto Water District is responsible for the discharges, which are subject to this Order.
28. The Discharger plans to use a portion of the wastewater effluent as irrigation water on the wastewater treatment plant grounds.
29. The Regional Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The Information Sheet, Monitoring and Reporting Program No. R5-2005-0015, and Attachment A are a part of this Order.
30. The discharge is presently governed by Waste Discharge Requirements Order No. 98-199, adopted by the Regional Board on 23 October 1998.
31. The USEPA and the Regional Board have classified this discharge as a minor discharge.
32. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with CWC Section 13389.
33. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

34. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.
35. This Order shall serve as an NPDES permit pursuant to CWA Section 402, and amendments thereto, and shall take effect upon the date of hearing, provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. 98-199 is rescinded and the Rio Alto Water District, its agents, successors and assigns, in order to meet the provisions contained in CWC Division 7 and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions:

1. Discharge of wastewater at a location or in a manner different from that described in the Order is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. [See attached “Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)”].
3. Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.

B. Effluent Limitations:

1. Effluent shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>4-Day Maximum</u>	<u>7-Day Median</u>
BOD ₅ ^a	mg/L	10 ^b	15 ^b	30 ^b		
	lbs/day ^c	53	80	160		
TSS	mg/L	10 ^b	15 ^b	30 ^b		
	lbs/day ^c	53	80	160		
Settleable Solids	mL/L	0.1		0.2		
Chlorine	mg/L			0.02 ^d	0.01	
Total Coliform Bacteria	MPN/100 mL			500		23

^a Five-day biochemical oxygen demand at 20° C

^b To be ascertained by a 24-hour composite

^c Based upon a design treatment capacity of 0.64 mgd

^d 1-hour average

2. The arithmetic mean of 20°C BOD (five-day) and total suspended solids in effluent samples collected over a monthly period shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (85 percent removal).
3. The discharge shall not have a pH less than 6 nor greater than 9.
4. The average dry weather discharge flow shall not exceed 0.64 million gallons.

C. Toxicity Limitation

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

Minimum for any one bioassay.....70 %
Median for any three or more consecutive bioassays90 %

D. Discharge Specifications (Land Disposal)

1. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas or property owned by the Discharger.
2. The dissolved oxygen content in the upper zone (1 foot) of the wastewater holding pond shall not be less than 1.0 mg/L.
3. The wastewater holding pond shall not have a pH less than 6 or greater than 9.
4. The wastewater holding pond shall be managed to prevent breeding of mosquitoes. In particular,
 - a. Weeds shall be minimized.
 - b. Dead algae, vegetation, and debris shall not accumulate on the water surface
5. Public contact with the wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
6. The wastewater holding pond shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than two feet (measured vertically to the lowest point of overflow).

E. Sludge Disposal:

1. Collected screenings, sludges, 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.
2. Any proposed change in sludge use or disposal practice from a previously approved practice shall be reported to the Executive Officer and USEPA Regional Administrator at least 90 days in advance of the change.
3. Use and disposal of sewage sludge shall comply with existing Federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR 503.
4. If the SWRCB and the Regional Board become authorized 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.
5. The Discharger is encouraged to comply with the *Manual of Good Practice for Agricultural Land Application of Biosolids* developed by the California Water Environment Association.
6. Within the Annual Report of each year, the Discharger shall report the volume of sludge generated and its disposition in the previous calendar year.

F. Receiving Water Limitations:

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan, and as such, they are a required part of this permit.

The discharge shall not cause the following in the receiving water:

1. Concentrations of dissolved oxygen to fall below 9.0 mg/L between 1 June and 31 August. When natural conditions are below this level, the discharge shall not cause the concentration of dissolved oxygen to fall below 95 percent of saturation.

Concentrations of dissolved oxygen to fall below 7.0 mg/l between September 1 and May 31. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95th percentile concentration shall not fall below 75 percent of saturation.

2. Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.
3. Discoloration that causes nuisance or adversely affects beneficial uses.
4. Ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units.
5. Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
6. Floating material in amounts that cause nuisance or adversely affect beneficial uses.
7. Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.
8. Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.
9. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
10. Pesticides:

Pesticides in individual or combined concentrations that adversely affect beneficial uses.

Pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses.

Total identifiable persistent chlorinated hydrocarbon pesticides in concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.

Concentrations exceeding those allowable by applicable antidegradation policies (see State Water Resources Control Board Resolution No. 68-16 and 40 C.F.R. Section 131.12.)

Concentrations exceeding the lowest levels technically and economically achievable.

Concentrations exceeding the Maximum Contaminant Levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.

Concentrations of thiobencarb in excess of 1.0 mg/l

11. The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Units (NTUs) 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 NTUs where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs
12. The ambient temperature in the receiving water to increase more than 5° F above natural receiving water temperature, nor to increase above 56° F, when such an increase will be detrimental to the fishery – whichever is more restrictive.
13. Deposition of material that causes nuisance or adversely affects beneficial uses.
14. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or 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.
15. Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether toxicity is caused by a single substance or the interactive effect of multiple substances.
16. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB pursuant to the CWA and regulations adopted thereunder.
17. Chemical constituents to exceed the primary maximum contaminant levels (MCLs) for inorganic and organic chemicals and fluoride and the secondary MCLs, specified in Title 22, Division 4, Chapter 15 of the California Code of Regulations and to exceed the following water quality objectives, which are taken from Table III-1 of the Basin Plan and are specific to the Sacramento River adjacent to Lake California Wastewater Treatment Plant:

<u>Constituent</u>	<u>Receiving Water, ug/L</u>
Barium	100
Iron	30
Manganese	50
Zinc	21 ^a

^a Expressed as dissolved metal and based on a receiving water hardness of 54 mg/L CaCO₃, which was the measured hardness in receiving water samples collected by the Discharger on 14 February 2001.

18. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
19. The fecal coliform concentration in any 30-day period to exceed a geometric mean of 200 MPN/100 mL or cause more than 10 percent of total samples to exceed 400 MPN/100 mL.
20. Electrical conductivity to exceed 230 umhos/cm (50 percentile) or 235 umhos/cm (90 percentile) at Knights Landing above Colusa Basin Drain; or 240 umhos/cm (50 percentile) or 340 umhos/cm (90 percentile) at I Street Bridge, based upon previous 10 years of record.
21. Upon adoption of any applicable water quality standard for receiving waters by the Regional Board or the State Water Resources Control Board pursuant to the CWA or regulations adopted thereunder, this permit may be reopened and receiving water limitations added.

G. Ground Water Limitations:

The discharge shall not cause the groundwater to exceed water quality objectives, unreasonably affect beneficial uses, or cause a condition of pollution or nuisance. The applicable groundwater objective for coliform bacteria is 2.2 MPN/100 mL (maximum) over any seven day period.

H. Provisions:

1. Treatment and any on-site disposal areas for sludge and on-site areas irrigated with treated wastewater facilities shall be located and operated to prevent inundation or washout due to floods with a 100-year return frequency.
2. 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.

3. **Within one year of the adoption date of this order** the Discharger shall submit to the Regional Board a Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Overflow Response Plan (SSS Plan) that describes the actions designed to prevent or minimize the potential for sanitary sewer overflows. The Discharger shall amend the SS Plan as necessary. The Discharger shall ensure that the up-to-date SSS Plan is readily available to maintenance personnel at all times and that personnel are familiar with the plan.

At a minimum, the Operation and Maintenance portion of the SSS Plan shall contain or describe the following:

- a. Plans of the sewer system, identifying sewer mains, manholes, cleanouts, any air relief valves, and any other specific critical equipment or infrastructure;
 - b. A listing of equipment and elements to be inspected, a description of inspection procedures and inspection frequency, and sample inspection forms;
 - c. A schedule for routine inspection and testing of manholes, sewer system piping, valves, and other key system components, and rehabilitation procedures to be followed in the case that such rehabilitation is necessary;
4. At a minimum, the Overflow Prevention and Response portion of the SSS Plan shall contain or describe the following:
 - d. Response procedures for sanitary sewer overflows. Procedures shall minimize the volume of sewage that may enter surface waters, and minimize the adverse effects of sewer overflows on water quality and public health. Procedures shall also ensure that all overflows are properly identified, responded to and reported; and
 - e. A plan to notify the Tehama County Environmental Health Department and a public notification plan, in which any posting of areas contaminated with sewage is performed at the direction of the Tehama County Environmental Health Department. All parties with a reasonable potential for exposure to an overflow event shall be notified. Any spill in excess of 1,000 (one thousand) gallons to a surface water must also be immediately reported to the State of California Office of Emergency Services. Failure to report such a spill in accordance with the above laws and regulations is a misdemeanor punishable by fine and imprisonment.

5. The SSS Plan shall include a description of the specific steps that will be taken over the lifetime of this Order to further reduce I&I to the Lake California WWTP and a schedule for achieving the steps described in that document.
6. There are indications that the discharge may contain constituents that have a reasonable potential to cause or contribute to an exceedance of water quality objectives for zinc and bis (2-ethylhexyl) phthalate. Monitoring requirements have been included in the Monitoring and Reporting Program for these constituents. The Discharger shall use a certified laboratory to collect and analyze contaminant-free samples or shall comply with the following time schedule in conducting a study for bis (2-ethylhexyl) phthalate:

<u>Task</u>	<u>Compliance Date</u>
Submit a Workplan and Time schedule to perform monitoring study of sample collection, handling, and analytical procedures for the bis (2-ethylhexyl) phthalate to identify opportunities for contamination and to identify corrective action steps to be implemented to prevent such contamination in the future.	6 months after adoption of this Order
Implement corrective action steps and collect and analyze two receiving water and two effluent samples for bis (2-ethylhexyl) phthalate. Receiving water and effluent samples shall be 24-hour composite samples, collected concurrently in two sampling events at approximately six-month intervals. One sampling event shall occur in the dry season, and one shall occur in the wet season.	18 months after adoption of this Order
Submit a summary report, including analytical data, to the Regional Board that describes results of the two monitoring events performed under Task 2, above.	24 months after adoption of this Order

The Discharger shall submit to the Regional 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 Board by letter when it returns to compliance with the time schedule. If the Discharger decides to use a certified laboratory to collect samples rather than conduct this study, notification in writing shall be submitted to the Board within 6 months of the adoption date of this order.

If after review of the results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality objective this Order will be reopened and effluent limitations added for the subject constituents.

7. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above effluent toxicity limitations established by this Order, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included.
8. The Discharger shall use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.
9. The Discharger shall report to the Regional 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.
10. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)," dated February 2004, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
11. The Discharger shall comply with Monitoring and Reporting Program No. R5-2005-0015, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by USEPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.
12. This Order expires on **1 January 2010**, and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.
13. Within one year following adoption of this Order, the Discharger shall identify the latitude and longitude of the outfall location to the nearest 15 seconds and report that location to the Regional Board
14. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from, the SWRCB (Division of Water Rights).

15. 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 this office.

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 Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 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 CWC. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 27 January 2005.

THOMAS R. PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

NPDES NO. CA0077852

MONITORING AND REPORTING PROGRAM NO. R5-2005-0015
FOR
RIO ALTO WATER DISTRICT
LAKE CALIFORNIA WASTEWATER TREATMENT PLANT
TEHAMA COUNTY

This Monitoring and Reporting Program is issued pursuant to California Water Code Sections 13383 and 13267. The Discharger shall not implement any changes to this Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program. Specific sample station locations shall be established under direction of the Regional Board's staff, and a description of the stations shall be attached to this Order.

Section 13267 of the California Water Code states, in part, “(a) A regional 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 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 board requires.” This Monitoring and Reporting Program to monitor groundwater and surface water required by Order No. R5-2005-0015 is necessary to assure compliance with Order No. R5-2005-0015. The Discharger operates the facility that discharges waste subject to Order No. R5-2005-0015.

INFLUENT MONITORING

A sampling station shall be established where representative samples of influent can be collected. Samples shall be collected at the influent sampling station at approximately the same time as effluent samples and should be representative of the influent flow for the period sampled. Influent samples shall be analyzed according to the following schedule.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
BOD ₅	mg/L	grab	monthly
Suspended Solids	mg/L	grab	monthly

EFFLUENT MONITORING

Effluent samples shall be collected at Discharge Point 001 downstream of the last connection through which wastes can be admitted to the outfall. Effluent samples shall be representative of the volume and nature of the discharge. Composite samples may be collected by a proportional sampling device approved by the Executive Officer or by grab samples composited proportionately to flow. When compositing grab samples, the sampling interval shall not exceed one hour. The time of collection of grab samples shall be recorded. Effluent samples shall be analyzed according to the following schedule.

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sample Frequency</u>
Max and Mean Daily Flow	mgd	continuous	Daily
pH	pH units	grab	Daily
Chlorine	mg/L	grab	Daily
Settleable Solids	mL/L	grab	Daily
BOD ₅	mg/L	24-hr composite	Weekly
Suspended Solids	mg/L	24-hr composite	Weekly
Total Coliform Bacteria	MPN/100 mL	grab	Weekly
Zinc	ug/L	grab	Bimonthly ^a
bis (2-ethylhexyl) phthalate	ug/L	grab	Biannual ^b
Acute Toxicity ^c	% survival	grab	One time in permit lifecycle
Priority Pollutants ^d	ug/L	24 hr composite	One time in permit lifecycle
Chronic Toxicity	To be done once during permit cycle. See requirements below.		

^a For the first year of operation following adoption of this order to give 6 bimonthly samples.

^b For the first year of operation following adoption of this order to give 2 biannual samples, one during the dry season and one during the wet season.

^c Effluent shall be monitored for acute toxicity one time in the five-year lifecycle of this Order. All acute toxicity bioassays shall be performed according to EPA-821-R-02-012 *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, October 2002 (or latest edition) using *Pimephales promelas* with no pH adjustment, with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP). Temperature and pH shall be recorded at the time of bioassay sample collection.

^d Samples shall be analyzed for the toxic priority pollutants identified by the California Toxics Rule at 40 CFR 131.38. Effluent samples shall be collected simultaneously with receiving water samples to be analyzed for the Priority pollutants. See requirements below under section "Priority Pollutant Monitoring".

RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water samples shall be taken from the following stations.

<u>Station</u>	<u>Station Description</u>
R-1	500 feet (150 m) upstream from the point of discharge in moving water representative the receiving stream
R-2	¼ mile (400 m) downstream from the point of discharge, off the west bank, in moving water representative of the receiving stream

Receiving water samples shall be analyzed according to the following schedule.

<u>Constituent</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency</u>
Dissolved Oxygen	mg/L	R-1, R-2	Monthly
Total Coliform Bacteria	MPN/100 mL	R-1, R-2	Monthly
Zinc	ug/L	R-1	Bimonthly ^a
bis (2-ethylhexyl) phthalate	ug/L	R-1	Biannual ^b
Priority Pollutants ^c	ug/L	R-1	One time in permit lifecycle

^a For the first year of operation following adoption of this order to give 6 bimonthly samples.

^b For the first year of operation following adoption of this order to give 2 biannual samples, one during the dry season and one during the wet season.

^c Samples shall be analyzed for the toxic priority pollutants identified by the California Toxics Rule at 40 CFR 131.38. Receiving water samples shall be collected simultaneously with effluent samples to be analyzed for the priority pollutants. Monitoring shall be conducted in accordance with procedures described below under section "Priority Pollutant Monitoring".

Whenever receiving water samples are collected, the Discharger shall observe receiving water conditions throughout the reach bounded by Stations R-1 and R-2 and record observations pertaining to:

- Floating or suspended matter
- Discoloration
- Aquatic life
- Bottom deposits
- Films, sheens, and coatings
- Algae, fungi, and slime growth
- Potential nuisance conditions

CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA-821-R-02-013, *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002. Composite samples shall be collected at the discharge of the plant prior to its entering the Sacramento River. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. If at the time of sampling the discharge is not continuous the sample shall be a composite over the entire discharge time for the day. Time of sample collection shall be recorded. The chronic toxicity monitoring shall be performed on the undiluted effluent samples. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species: *Pimephales promelas*, *Ceriodaphnia dubia* and *Selenastrum capricornicutum*

Frequency: One time no more than 365 days and no less than 180 days prior to expiration of this Order

PRIORITY POLLUTANT MONITORING

The State Water Resources Control Board (SWRCB) 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 Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

Receiving water samples shall be collected upstream at receiving water station R-1. Receiving water and effluent samples shall be collected simultaneously, and analyzed for the CTR pollutants (identified in Attachment E) plus pH and hardness. The Discharger is not required to perform asbestos monitoring or additional dioxin congener monitoring. All analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each of the analytes. Laboratory methods and limits shall be as described in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2000), unless a variance has been approved by the Executive Officer. If, after a review of the monitoring results, it is determined that the discharge causes, has the reasonable potential to cause, or contributes to in-stream excursions above water quality objectives, this Order will be reopened and limitations based on those objectives will be included. Additionally, if pollutants are detected, but insufficient information exists to establish an effluent limit or determine if an effluent limit is necessary, then additional monitoring will be required to provide sufficient information. The sampling event shall be conducted **at least 180 days but no more than 365 days prior to expiration of this Order**. Results shall be reported within **90 days of sample collection**.

All organic analyses shall be by Gas Chromatography/Mass Spectrometry (GCMS), Method 8260B for volatiles and Method 8270C for semi-volatiles. Pesticides shall be analyzed by Method 8081A. Dioxins shall be analyzed by Method 1613/8290. If organic analyses are run by Gas Chromatography (GC) methods, any detectable concentrations are to be confirmed by GCMS. Inorganics shall be analyzed by the following Methods.

Metals shall be analyzed by the U.S. EPA methods listed below. Alternative analytical procedures may be used with approval by the Regional Board if the alternative method has the same or better detection level than the method listed.

Method Description	EPA Method	Constituents
Inductively Coupled Plasma/Mass Spectrometry (ICP/MS)	1638	Antimony, Beryllium, Cadmium, Copper, Lead, Nickel, Selenium, Silver, Thallium, Total Chromium, Zinc
Cold Vapor Atomic Absorption (CVAA)	1631	Mercury
Gaseous Hydride Atomic Absorption (HYDRIDE)	206.3	Arsenic
Flame Atomic Absorption (FAA)	218.4	Chromium VI
Colorimetric	335./ 2 or 3	Cyanide

All priority pollutant metal analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each constituent. The MDL should be as close as practicable to the USEPA MDL determined by the procedure found in 40 CFR Part 136. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory.
- b. Sample results less than the reported ML, 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.
- c. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration." Numerical estimates of data quality may be by percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- d. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

SLUDGE

In the Annual Report, the Discharger shall report the quantity of sludge generated during the previous calendar year and the method and location of its disposal.

REPORTING

Unless otherwise specified, monitoring results shall be submitted to the Regional Board by the first day of the second month following sample collection (i.e., the January report is due by 1 March). Effective in January 2004, any NPDES effluent monitoring report received more than 30 days after its due date is subject to a \$3000 Mandatory Minimum Penalty [Water Code Section 13385]. An additional \$3000 penalty is required for each 30 days a report is late. If you have no discharge, you must still submit a report indicating that no discharge occurred, or you will be subject to the \$3000 Penalties.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with the waste discharge requirements.

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 Reports.

Upon written request of the Board, the Discharger shall submit an Annual Report (calendar year) with both tabular and graphical summaries of the monitoring data obtained during the previous year. The report shall discuss the facility's 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. The Annual Report shall be submitted by **1 February of the subsequent year** and shall address all aspects of the waste discharge requirements (effluent limitations, compliance schedules, storm water, sludge handling and disposal, etc.)

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provisions D.6.

The Discharger shall implement the Monitoring and Reporting Program beginning on the effective date of this Order.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

INFORMATION SHEET

ORDER NO. R5-2005-0015
NPDES NO. CA0077852
RIO ALTO WATER DISTRICT
LAKE CALIFORNIA WASTEWATER TREATMENT PLANT
TEHAMA COUNTY

GENERAL INFORMATION

The Rio Alto Water District (Discharger) submitted a Report of Waste Discharge dated 19 May 2003, and applied to renew its permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Lake California Wastewater Treatment Plant to the Sacramento River. The Discharger is currently regulated under Waste Discharge Requirements Order No. 98-199 (NPDES No. CA0077852), adopted by the Regional Board on 23 October 1998.

The Discharger owns and operates a wastewater collection, treatment, and disposal system, and provides sewerage service to the community of Lake California in Tehama County. The treatment plant is in Section 28, Township 29 North, Range 3 West of the Mt. Diablo Base Line and Meridian. Treated municipal wastewater is discharged to the Sacramento River adjacent to wastewater treatment plant (WWTP), a water of the United States. A portion of the discharge is diverted and is used for landscape irrigation on the grounds of the WWTP.

The treatment system consists of headworks with a grinder, an oxidation ditch, clarification, pressure filtration, chlorination and dechlorination, and a secondary effluent holding pond. Sludge is applied to drying beds and ultimately to land owned by the Discharger.

The facility is in the Enterprise Flat Hydrologic Area No. 508.10, as depicted on interagency hydrologic maps prepared by the California Department of Water Resources in August 1986.

BENEFICIAL USES

As identified by Table II-1 of the Basin Plan, beneficial uses of the of the Sacramento River downstream of Shasta Dam to the Colusa Basin Drain, are municipal and domestic supply (MUN); agricultural irrigation and stock watering (AGR); industrial service and power supply (IND and POW); non-contact and body contact recreation (REC-1 and REC-2), including canoeing and rafting; warm and cold freshwater aquatic habitat (WARM and COLD); warm and cold water fish migration habitat (MIGR); warm and cold water spawning, reproduction, and/or early development habitat (SPWN); wildlife habitat (WILD); and navigation (NAV).

The beneficial uses of groundwater in the area of the Lake California Wastewater Treatment Plant are municipal and domestic water supply, agricultural supply, and industrial service and process supply.

State Water Resources Control Board (SWRCB) Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) requires the Regional Board, in regulating the discharge of waste, to maintain high quality waters of the State unless it is

demonstrated that any change in quality will be consistent with the maximum benefit of the people of the State, it will not unreasonably affect beneficial uses, and it will not result in water quality less than that described in the Regional Board's policies (i.e., pollutant concentrations cannot exceed water quality objectives). The Regional Board has considered Resolution No. 68-16 in preparing the Order and finds that the current discharge is consistent with this policy and will not cause an increase in pollutant concentrations in groundwater and surface water above applicable water quality objectives, as long as the discharge complies with all provisions of the Order.

GROUNDWATER MONITORING

This Order does not require the Discharger to conduct groundwater monitoring. There is no current evidence to indicate that discharges from the facility pose any threat to groundwater quality. If any information becomes available indicating adverse groundwater impacts attributable to discharges from the Lake California Wastewater Treatment Plant, investigation of facility operation and groundwater monitoring may be required.

BASIS FOR PERMIT REQUIREMENTS

The Discharger operates a publicly owned wastewater treatment facility, and therefore, is subject to USEPA's secondary treatment regulations at 40 CFR 133.

Discharge Prohibitions

Prohibitions on bypass, nuisance, and discharges that occur in a manner different than described by the Order are retained from Order No.98-199 and/or are consistent with objectives of the Basin Plan, as required by the California Water Code and the Clean Water Act, to protect the beneficial uses of waters of the State.

Establishment of Mass-Based Effluent Limits and Effluent Flow Limit

This Order establishes concentration-based and mass-based effluent limits. The mass-based effluent limits are calculated using the concentration-based limits and the design effluent flow rate for the facility as provided by the Discharger (0.64 mgd).

Dilution Considerations for Effluent Limit Calculations

In determining effluent limits, the Regional Board did not allow credit for effluent dilution by the receiving water. Effluent limits, therefore, have been established to attain all applicable water quality criteria/objectives at the point of discharge. The Regional Board may grant a dilution credit and a mixing zone only following independent study and demonstration by the Discharger that a dilution credit is appropriate.

Determination of Effluent Limits for CTR Constituents and Toxicity

Reasonable Potential Analysis

USEPA regulations at 40 CFR 122.4 (d) 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. The *National Toxics Rule* (NTR) establishes water quality criteria for toxic pollutants applicable to the Discharger at 40 CFR Part 131.36. On May 18, 2000, water quality criteria of the NTR were supplemented by criteria of the *California Toxics Rule* (CTR) at 40 CFR 131.38. The NTR, CTR, and the Basin Plan contain water quality standards applicable to the discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (the State Implementation Plan or SIP), which contains guidance on implementation for the NTR and CTR.

In February 2001 and November 2002, the Discharger collected effluent and receiving water samples for analysis of the NTR/CTR toxic priority pollutants. Analyses were performed and reported in accordance with procedures established by the State Implementation Plan. Analytical results were generated for volatile and semi-volatile substances, metals, 2,3,7,8-TCDD dioxin, and sixteen dioxin congeners.

Following methodology described in Section 1.3 of the SIP, the Regional Board has evaluated the Discharger's CTR data and determined that there may be reasonable potential for concentrations of zinc and bis (2-ethylhexyl) phthalate to cause or contribute to an instream excursion above a narrative or numerical water quality standard or objective. The following table summarizes the monitoring data for these constituents and the applicable water quality standards or objectives.

Pollutant	Most Stringent Water Quality Standard (Source)	Effluent Concentration (Date Sampled)
Zinc	21 ug/L, expressed as total recoverable metal (Basin Plan, acute concentration for the Sacramento R. upstream of the State Hwy. 32 Bridge in Hamilton City, based on a receiving water hardness of 54 mg/L CaCO ₃)	16 and 34 ug/L (effluent samples collected on 2/14/01 and 11/20/02, respectively)
Bis (2-ethylhexyl) phthalate	1.8 ug/L (CTR human health criteria for consumption of water and organisms)	<2 and 5 ug/L (effluent samples collected on 2/14/01 and 11/20/02, respectively)

Water Quality Based Effluent Limits for Zinc and Bis (2-ethylhexyl) phthalate

Although monitoring indicate elevated levels of zinc and bis (2-ethylhexyl) phthalate in effluent samples collected by the Discharger, the Regional Board believes additional data is needed before water quality based effluent limitations for these pollutants can be established. The proposed Order

requires the discharger to conduct additional effluent and receiving water monitoring for zinc and bis (2-ethylhexyl) phthalate. The Order also directs the Discharger to conduct a study of sample collection, handling, and analytical procedures for bis (2-ethylhexyl) phthalate or use a certified laboratory to provide contaminant-free sampling and analysis for bis (2-ethylhexyl) phthalate. If studies allow a more definitive determination of reasonable potential for these pollutants, the Order will be reopened, and effluent limitations will be established for zinc and bis (2-ethylhexyl) phthalate.

Acute and Chronic Toxicity

The Basin Plan includes a narrative water quality objective for toxicity that requires receiving waters to be free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. The Basin Plan also requires that, at a minimum, 96-hour bioassays to evaluate compliance with the narrative objective, and, where appropriate, acute toxicity limitations and monitoring must be required. Section 4 of the SIP requires chronic toxicity monitoring to be conducted to demonstrate compliance with narrative toxicity objectives. This Order implements both the Basin Plan and SIP toxicity requirements.

The State has listed that portion of the Sacramento River adjacent to the WWTP on the State's 303 (d) list as impaired for toxicity. The Regional Board has determined that the Lake California WWTP is an unlikely contributor of toxicity to the Sacramento River because it treats strictly domestic type wastewater, and does not have any industrial dischargers to its treatment plant. The Regional Board, therefore, is proposing to require acute and chronic toxicity monitoring one time in the Permit lifecycle to determine the need for acute and/or chronic toxicity effluent limitations and to determine compliance with the narrative objective for toxicity.

Determination of Effluent Limits for non-CTR Constituents

Chlorine

The Basin Plan prohibits the discharge of toxic materials in toxic concentrations. Chlorine is used for disinfection of the effluent waste stream. Chlorine can cause toxicity to aquatic organisms when discharged to surface waters. USEPA recommends, in their Ambient Water Quality Criteria for the Protection of Fresh Water Aquatic Life, that chlorine concentrations not exceed 0.02 mg/L as a 1-hour average and 0.01 mg/L as a 4 day average. The use of chlorine as a disinfectant in the wastewater treatment process presents a reasonable potential that it could be discharged in toxic concentrations. An effluent limitation for chlorine has been included in the Order to protect the receiving stream aquatic life beneficial uses. The effluent limitation has been established at the USEPA recommended ambient water quality criteria for chlorine. The one-hour average limitation, rather than an instantaneous or daily maximum, will be applied for compliance determinations. A one-hour average limitation allows for continuous monitoring anomalies while protecting aquatic organisms against toxicity.

Biochemical Oxygen Demand (BOD)

The proposed Order retains the effluent limitations for BOD₅ of 10, 15, and 30 mg/L (monthly average, weekly average, and daily maximum concentrations), and it retains the BOD₅ removal efficiency requirement of 85 percent from the previous permit. These limitations reflect the minimum standards of performance for secondary treatment plants, as required by the USEPA at 40 CFR 133.102. In accordance with 40 CFR 122.45, mass limitations for BOD, based on the facility's design flow of 0.64 mgd, are included in the permit to prevent dilution as a means of complying with concentration based effluent limitations.

Suspended Solids (TSS)

The Basin Plan states that waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses. The proposed Order retains the effluent limitations for TSS of 10, 15, and 30 mg/L (monthly average, weekly average, and daily maximum concentrations), and it retains the TSS removal efficiency requirement of 85 percent from the previous permit. These limitations reflect the minimum standards of performance for secondary treatment plants, as required by the USEPA at 40 CFR 133.102. In accordance with 40 CFR 122.45, mass limitations for TSS, based on the facility's design flow of 0.64 mgd, are included in the permit to prevent dilution as a means of complying with concentration based effluent limitations.

Settleable Solids

The Basin Plan states that waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses. The proposed Order contains monthly average and daily maximum settleable solids limits of 0.1 mL/L and 0.2 mL/L, respectively. These limits are retained from the previous permit and are based on performance that can reasonably be achieved in well-designed, constructed and operated pollutant control systems.

pH

The Basin Plan provides that the pH of surface waters shall not be depressed below 6.5 nor raised above 8.5 nor shall the discharge alter pH of the receiving water more than 0.5 units. Federal regulations at 40 CFR 133.102(c) describes the minimum level of effluent quality to be attained by secondary treatment facilities for pH to be within 6.0 and 9.0 units. This Order requires the pH of the effluent to be maintained within the limits of 6.0 and 9.0 pH units.

Monitoring and Reporting

Section 308 of the CWA and USEPA regulation 40 CFR 122.44 (i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality. The Discharger is responsible for conducting monitoring and for reporting the results to the USEPA using

Discharge Monitoring Reports. The self-monitoring program requires monitoring of receiving water, influent and effluent, storm water, and sludge.

The Monitoring and Reporting Program retains influent monitoring for BOD and suspended solids to allow determination of removal efficiencies for these wastewater characteristics through treatment steps. Receiving water sampling stations and monitoring requirements are also retained from Order No. 98-199; however the proposed Order includes a requirement for sampling and analysis of the CTR pollutants in receiving water one time in the five year lifecycle of the Order, to coincide with similar monitoring of effluent.

Effluent monitoring requirements for flow, pH, chlorine, settleable and suspended solids, BOD₅, coliform bacteria, and chronic toxicity are retained from Order No. 98-199. Acute and chronic toxicity testing are required to be conducted once during the permit lifecycle to determine compliance with the receiving water narrative objective for toxicity. Monitoring for CTR pollutants is required to be done once during the permit lifecycle, coinciding with receiving water monitoring for the CTR pollutants to allow on-going assessment of the need for effluent limitations for the priority pollutants.

