

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2008-\_\_\_\_\_

WASTE DISCHARGE REQUIREMENTS  
FOR  
TEJON-CASTAC WATER DISTRICT  
TEJON RANCHCORP  
TEJON INDUSTRIAL COMPLEX WASTEWATER TREATMENT FACILITY  
KERN COUNTY

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

1. The Tejon-Castac Water District (hereafter District) owns and operates a wastewater treatment facility (WWTF) that serves the Tejon Industrial Complex. The Tejon Ranchcorp owns the land on which the WWTF and Industrial Complex resides. The District and Tejon Ranchcorp are hereafter referred to as Discharger. The Discharger submitted a Report of Waste Discharge (RWD) on 30 November 2004, for modification and expansion of the existing WWTF. The RWD proposes to expand the WWTF from a monthly average discharge flow of 0.05 to 0.1 million gallons per day (mgd). The WWTF provides sewerage for a hotel, gas stations, restaurants, shower and restrooms areas, convenience stores, and industrial warehouses.
2. The WWTF is on the west side of Interstate Five at Laval Road, approximately ten miles north of Lebec, in Section 6, T10N, R19W, MDB&M, as shown on [Attachment A](#), which is attached hereto and made part of this Order by reference.
3. Waste Discharge Requirements (WDRs) Order No. 99-076, adopted on 11 June 1999, was issued to Tejon Ranchcorp, which previously owned and operated the WWTF prior to the formation of the District. Order No. 99-076 restricted the monthly average discharge flow to 0.05 mgd. The Tejon Ranchcorp initially proposed to exclusively recycle disinfected tertiary-treated effluent on landscaped areas surrounding the Industrial Complex. The WDRs prescribed effluent limits for 5-day biochemical oxygen demand (BOD<sub>5</sub>), total suspended solids (TSS), settleable solids (SS), total coliform organisms (TCO), and turbidity, as well as electrical conductivity (EC). The Discharger is unable to consistently comply with the limits prescribed in WDRs Order No. 99-076, as well as this Order. An enforcement order to be considered separately requires the Discharger to complete the work necessary to comply.
4. The purpose of this Order is to rescind WDRs Order No. 99-076 and prescribe requirements that reflect the WWTF.
5. The RWD presents information on site conditions and the wastewater treatment process.

### Wastewater Treatment Facility

6. The WWTF consists of the wastewater collection system, influent pump station, headworks with a comminuter, bar screen and flow meter, an aerated flow equalization basin, and a dissolved air floatation (DAF) unit (installed in September 2007). Wastewater from DAF unit is discharged to reactor #1 of the Santec WWTF (WWTF-1). From reactor #1 wastewater is discharged to the STM-Aerotor WWTF (WWTF-2). WWTF-1 is designed to treat 0.05 mgd, and is an extended aeration package plant. WWTF-2 is also designed to treat 0.05 mgd and is a fixed film process. The WWTF is designed to filter using a sand filtration followed by ultraviolet light disinfection prior to discharge to ponds (Ponds 1 and 2). Effluent from Ponds 1 and 2 is then recycled on 14-acres of landscaped areas (Landscaped Use Area) as shown on [Attachment A](#). Pond 1 is 1.26 acres and equipped with a compacted clay liner. Pond 2 is 1.13 acres and is unlined. [Attachment B](#), which is attached hereto and made part of this Order by reference, depicts a process flow diagram of the WWTF.
7. Originally, and as reflected in WDRs Order No. 99-076, the WWTF consisted only of WWTF-1. As flows increased, the Discharger submitted a RWD for the installation of WWTF-2. Due to deficiencies in treatment from WWTF-1 and WWTF-2, the filtration and disinfection facilities were not adequate. Therefore, the Discharger has never consistently met the effluent limits specified in Order No. 99-076 and, therefore, is unable to recycle effluent on the Landscaped Use Area.
8. Due, in part, to the WWTF's inability to consistently provide adequate treatment and recycle effluent, discharge was exclusively to the lined Pond 1. In the winter months, Pond 1 will occasionally overflow to Pond 2 maintaining two feet of freeboard in Pond 1. The Discharger indicates that it plans to submit a RWD in support of a flow increase above 0.1 mgd and the construction of a new WWTF. The Discharger has also indicated that it may recycle effluent on fiber and fodder crops; however, the area, feasibility, and planning of this discharge has not been completed. The Discharger submitted a water balance that shows that Ponds 1 and 2 provide adequate storage capacity for flows up to at least 0.1 mgd with no recycling during a 100-year rainfall return frequency.
9. Fluctuations in flow occur from the variance in traffic during peak holiday and summer travel.
10. Self-monitoring data from December 2006 through November 2007 characterize the discharge as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Influent</u>	<u>Effluent</u>
Monthly average flow	mgd	0.06	--
5-day biochemical oxygen demand (BOD) <sub>5</sub>	mg/L	-516	33
Total suspended solids (TSS)	mg/L	453	-58
Settleable solids (SS)	mL/L	--	10
Total coliform organisms (TCO)	MPN/100 mL	--	>1,600

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Influent</u>	<u>Effluent</u>
Total nitrogen	mg/L	60 <sup>1</sup>	--
Electrical conductivity (EC)	µmhos/cm	--	-1183

<sup>1</sup> Based on influent concentrations collected during a pilot test program for the 2004 RWD. Effluent characterized during the pilot test program used different technology than currently proposed and therefore is not shown in the table. During the study, influent total nitrogen values ranged from 31 to 110 mg/L.

11. The EC of the WWTF effluent is about 600 to 700 µmhos/cm over source water.
12. Finding 10 shows influent BOD concentrations about twice as high as typical strength domestic influent. WWTF-1 and WWTF-2 were designed to treat influent BOD and TSS concentrations of 250 mg/L. The Discharger installed the DAF unit to reduce influent BOD and TSS concentrations, improving overall effluent quality, but its effects have not yet been fully demonstrated.
13. Wasted sludge from the treatment process is pumped to a sludge holding tank, where it is periodically pumped into a truck and hauled offsite for disposal at an authorized facility.

### **Sanitary Sewer Overflows**

14. 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 treatment facility. 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.
15. On 2 May 2006, the State Water Board adopted Statewide General Waste Discharge Requirements For Sanitary Sewer Systems, Water Quality Order No. 2006-003-DWQ (General Order). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the order. The Discharger’s collection system is greater than one mile in length; therefore the General Order is applicable.

### **Site-Specific Conditions**

16. The WWTF is in an arid climate characterized by hot dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry. Average annual precipitation and evaporation in the discharge area are about 6 inches and 84 inches, respectively, according to information published by the California Department of Water Resources (DWR).
17. Soils within the area consist mainly of interbedded layers of silty sand, sandy gravel, and silty gravel with occasional layers of clayey sand. According to reports prepared by the

Discharger's engineers, soil permeability ranges from  $1 \times 10^{-3}$  to  $1 \times 10^{-6}$  cm/sec. Tejon's water balance cites percolation rates of 0.025 feet/month for Pond 1, and 3.5 feet/month for Pond 2.

18. The WWTF is not within a 100-year floodplain according to Federal Emergency Management Agency maps.
19. Land use in the WWTF vicinity is primarily agricultural with several acres of native vegetation surrounding the WWTF. There are also oil fields west and south of the WWTF. DWR land use data published in 1998 describes crops grown in the area. The primary crops grown within five miles of the WWTF include cotton, wheat, alfalfa, almonds, grapes, onions and garlic, potatoes and melons. Crops grown to a lesser extent include carrots, safflower, sugar beats, and apples. Irrigation water is supplied by both groundwater and surface waters. Some salt sensitive crops (e.g., carrots, almonds) are grown in the area.

### **Storm Water**

20. The Discharger has two storm water ponds. Each industrial parking area discharging to the storm water ponds is equipped with an oil/sand separator to remove pollutants collected from the storm water runoff from the surrounding parking lot areas. Federal Regulations for storm water discharges were promulgated by the United States Environmental Protection Agency (USEPA) on 16 November 1990 (Title 40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities that discharge storm water associated with industrial activity (storm water) to obtain National Pollutant Discharge Elimination System (NPDES) permits and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BTC) to reduce or eliminate industrial storm water pollution. The uses within the Industrial Complex (with the exception of the WWTF) have a State Industrial Classification (SIC) code of 5541 and are in the exempt category listed in the State Water Resources Control Board General Order No. 92-08-DWQ. Therefore, at this time, the Discharger is not required to obtain a NPDES general industrial storm water permit.
21. The Discharger is not required to obtain coverage under a NPDES general industrial storm water permit for the WWTF because all storm water runoff from the WWTF is retained onsite and does not discharge to a water of the United States.

### **Groundwater Considerations**

22. The WWTF is within the White Wolf groundwater basin, which consists of an aquifer that is vertically unconfined but horizontally confined by bedrock and the White Wolf Fault, according to the Wheeler Ridge-Maricopa Water Storage District. In the discharge vicinity groundwater ranges from about 500 to 900 feet bgs according to DWR. Generally, first encountered groundwater contains EC values varying from 500 to 2,550  $\mu\text{mhos/cm}$ , and nitrate as N of less than 10 mg/L, according to groundwater data from U.S. Geological Survey (USGS) wells within two miles of the WWTF.

23. The Discharger obtains its source water from the Tejon-Castac Water District (District), operated by Cal Water. The California Department of Public Health (DPH) considers the District's water system as a non-transient non-community water system. The District operates a filtration plant that treats water from the California Aqueduct. The District also has one well available as an emergency water supply. Discharger SMRs show the source water EC is about 340 to 550  $\mu\text{mhos/cm}$ . Source water EC from the Discharger's backup well ranges from about 1000 to 1300  $\mu\text{mhos/cm}$ , which is within the range of the USGS wells. The source water is of good quality, as indicated by the District's 2006 Water Quality Report. Excerpts of this report are presented below.

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Value</u>
Arsenic	$\mu\text{g/L}$	2.5
Chloride	$\text{mg/L}$	48
EC	$\mu\text{mhos/cm}$	320
Nitrate (as N)	$\text{mg/L}$	2.2
TDS	$\text{mg/L}$	190

#### **Basin Plan, Beneficial Uses, and Water Quality Objectives**

24. The Water Quality Control Plan for the Tulare Lake Basin, 2nd Edition, (hereafter Basin Plan) designates beneficial uses, establishes numerical and narrative water quality objectives, contains implementation plans and policies for protecting all waters of the basin, and incorporates by reference plans and policies of the State Water Board. Pursuant to Section 13263(a) of the California Water Code (CWC), these waste discharge requirements implement the Basin Plan.
25. The WWTF is between Detailed Analysis Unit (DAU) Nos. 258 and 261 within the Kern County Basin hydrologic unit. The Basin Plan designates the beneficial uses of groundwater in both DAUs as municipal and domestic supply, agricultural supply, and industrial service supply. DAU No. 258 also includes the beneficial use of industrial process supply.
26. The Basin Plan includes a water quality objective for Chemical Constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations: Table 64431-A (Inorganic Chemicals) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449, and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449.
27. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Tastes and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with

designated beneficial uses. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.

28. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including:
- a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC shall not exceed the EC of the source water plus 500  $\mu\text{mhos/cm}$ . When the source water is from more than one source, the EC shall be a weighted average of all sources.
  - b. Discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000  $\mu\text{mhos/cm}$ , a chloride content of 175 mg/L, or boron content of 1.0 mg/L.
- These effluent limits are considered best practicable treatment or control (BPTC).

29. Maximum salinity limits for most wastewater discharges for most areas are those described in [Finding 28.b](#). One exception is the White Wolf subarea, where the subject discharge takes place, allows more or less restrictive limits. The limits for the White Wolf subarea are discussed in the Basin Plan's "Discharges to Land" subsection of the "Municipal and Domestic Wastewater" section. Relaxation of applicable effluent salinity limits in the White Wolf subarea are based on the class of irrigation water underlying the WWTF. The Basin Plan specifies that irrigation waters (underlying groundwater in this case) with an EC between 1000 – 3000  $\mu\text{mhos/cm}$ , chlorides between 175 – 350 mg/L, sodium between 60-75 (percent based constituents), and boron between 0.5-2 mg/L be considered Class II irrigation water. Based on the quality from the Discharger's backup source water well, groundwater is considered Class II for EC. The discharge to land in areas overlying Class II or poorer groundwater shall not exceed an EC of 2,000  $\mu\text{mhos/cm}$ .
30. The list of crops in [Finding 19](#) is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but is representative. Crops sensitive to salt and boron are currently being grown in the area are primarily due to the importation of high quality surface water.
31. The Basin Plan requires domestic WWTFs that discharge to land to comply with treatment performance standards for BOD<sub>5</sub> and TSS. WWTFs that preclude public access and discharge less than 1 mgd must provide removal of 80 percent or reduction to 40 mg/L, whichever is more restrictive, of both BOD<sub>5</sub> and TSS.

### **Antidegradation Analysis**

32. State Water Resources Control Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution No. 68-16) prohibits degradation of groundwater unless it has been shown that:

- a. The degradation is consistent with the maximum benefit to the people of the State;
  - b. The degradation will not unreasonably affect present and anticipated future beneficial uses;
  - c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives; and
  - d. The discharger employs BPTC to minimize degradation.
33. The economic prosperity of the County and communities surrounding the Complex is of maximum benefit to the people of California. At full build out the Complex is expected to employ more than 6,000 people. In addition, the Complex provides the necessary commercial, dining, and lodging services for travelers between the San Joaquin Valley and southern California.
34. Constituents of concern that have the potential to degrade groundwater include, in part, salts and nutrients.
- a. For salinity, the Basin Plan contains effluent limits specifically for the White Wolf Basin that considered Resolution 68-16 when adopted. The discharge meets these limits and therefore should not unreasonably degrade the beneficial uses of groundwater with respect to salinity.
  - b. For nitrogen that could affect the beneficial uses of a high quality water, practicable measures to protect the water are: 1) treating the effluent such that it is below objectives for drinking water, or 2) storing the effluent in a manner that protects the underlying groundwater from percolation from ponds until it can be beneficially used on crops. The Discharger may implement either or both to satisfy Resolution 68-16.

#### **Treatment and Control Practices**

35. The WWTF described in [Findings 6 through 8](#), provides treatment and control of the discharge that incorporates:
- a. low salinity source water;
  - b. recycles effluent;
  - c. secondary treatment;
  - d. disinfected tertiary treatment (when used for unrestricted use);
  - e. appropriate biosolids disposal practices; and
  - f. an operation and maintenance (O&M) manual.
36. This Order establishes groundwater limitations for the WWTF that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan.

### **Water Recycling Criteria**

37. Domestic wastewater contains pathogens harmful to humans that are typically measured by means of total or fecal coliform, as indicator organisms. DPH, which has primary statewide responsibility for protecting public health, has established statewide criteria in Title 22, California Code of Regulations, Section 60301 et seq., (hereafter Title 22) for the use of recycled water and has developed guidelines for specific uses. Revisions of the water recycling criteria in Title 22 became effective on 2 December 2000. The revised Title 22 expands the range of allowable uses of recycled water, establishes criteria for these uses, and clarifies some of the ambiguity contained in the previous regulations.
38. A 1988 Memorandum of Agreement (MOA) between DPH and the State Water Resources Control Board (State Water Board) on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California.
39. State Water Board Resolution No. 77-1, Policy with Respect to Water Recycling in California, encourages recycling projects that replace or supplement the use of fresh water, and the Water Recycling Law (California Water Code Section 13500-13529.4) declares that utilization of recycled water is of primary interest to the people of the State in meeting future water needs.
40. The Basin Plan encourages recycling for irrigation wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water.
41. Title 22, Section 60323 requires recyclers of treated municipal wastewater to submit an engineering report detailing the use of recycled water, contingency plans, and safeguards. The Discharger submitted an engineering report to the Regional Water Board and DPH pursuant to Title 22, Section 60323, for its water recycling operations for the Landscaped Use Area in March 1999. The Discharger needs to submit a supplemental Title 22 Engineering Report if it intends to recycle secondary-treated effluent on fiber and fodder crops, or changes its method of disinfection, or water recycling areas.
42. If the Discharger uses ultraviolet light as the method used for disinfection, DPH provided in Memorandums to the Regional Water Boards, dated 15 July and 1 November 2004, guidance regarding the operation and maintenance requirements of the ultraviolet light disinfection units. The Memorandums recommend that waste discharge requirements include the specifications and provisions necessary so that the units are properly operated and maintained to meet the effluent quality necessary to comply with Title 22.

### **Other Regulatory Considerations**

43. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in Title 40, Code of Federal Regulations, Part 503, Standards for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to EPA. The RWD states that all biosolids will be hauled to a separate permitted facility.
44. As the discharge consists of treated domestic sewage and incidental discharges from treatment and storage facilities associated with a domestic wastewater treatment plant, and as these discharges are regulated by waste discharge requirements consistent with applicable water quality objectives, the WWTF and its discharge is exempt from containment pursuant to Title 27, Section 20090(a).

### **CEQA**

45. The Kern County Planning Department, as the lead agency for purposes of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et, seq.) and the CEQA guidelines (Title 14, Division 6, California Code of Regulations, as amended), in 1998 adopted a mitigated negative declaration (MND) and in 2000 certified an Environmental Impact Report (EIR) that evaluates the potential environmental impacts from the discharge of tertiary treated effluent to ponds. Effluent from the ponds is used for supplemental irrigation on surrounding landscaped areas. The Regional Water Board is a responsible agency pursuant to CEQA. The Regional Water Board reviewed and considered the MND and EIR prepared by the County. This Order contains requirements that will mitigate or avoid environmental effects on water quality.

### **General Findings**

46. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge
47. Pursuant to CWC Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.
48. The Regional Water Board will review this Order periodically and will revise requirements when necessary.
49. California Water Code Section 13267(b) states that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having

discharged or discharging, or who proposes to discharge, waste outside of its region 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 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 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.”

50. The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2008-\_\_\_\_\_ are necessary to assure compliance with these waste discharge requirements. The Discharger operates the WWTF that discharges the waste subject to this Order.

### **Public Notice**

51. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

52. All comments pertaining to the discharge were heard and considered in a public meeting.

**IT IS HEREBY ORDERED** that, Waste Discharge Requirements Order No. 99-076 is rescinded and that, pursuant to Sections 13263 and 13267 of the California Water Code, the Tejon-Castac Water District, Tejon Ranchcorp and their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

#### **A. Prohibitions**

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated wastes, except as allowed by *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, E.2 is prohibited.
3. Discharge of waste classified as ‘hazardous’, as defined in Section 2521(a) of Title 23, California Code of Regulations, Section 2510 et seq., is prohibited. Discharge of waste classified as ‘designated,’ as defined in California Water Code Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

## **B. General Discharge Specifications**

1. The monthly average discharge flow shall not exceed 0.1 mgd.
2. The Discharger shall implement water recycling to the maximum extent feasible.
3. Wastewater treatment, storage, and use of recycled water shall not cause pollution or a nuisance as defined by Section 13050 of the CWC.
4. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes a violation of the Groundwater Limitations.
5. Objectionable odors shall not be perceivable beyond the limits of the Facility property at an intensity that creates or threatens to create nuisance conditions.
6. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.
7. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
8. On or about **1 October** of each year, available disposal pond storage capacity shall at least equal the volume necessary to comply with [General Discharge Specification B.7](#).
9. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
  - a. An erosion control plan should assure that coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, and herbicides.
  - c. Dead algae, vegetation, and other debris shall not accumulate on the water surface.
  - d. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the 1 April to 30 June bird nesting season.

**C. Effluent Limitations**

1. The effluent shall not exceed the following limitations:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD <sub>5</sub> <sup>1</sup>	mg/L	40	80
TSS <sup>2</sup>	mg/L	40	80

<sup>1</sup> Five day biochemical oxygen demand (BOD<sub>5</sub>)

<sup>2</sup> Total suspended solids (TSS)

2. The arithmetic mean of BOD<sub>5</sub> and TSS in effluent samples collected over a monthly period shall not exceed 20 percent of the arithmetic mean of the values for influent samples collected at appropriate the same times during the same period (80 percent removal).
3. The annual flow-weighted average EC of the discharge shall not exceed 2,000 µmhos/cm calculated on a 12-month average monthly basis.

**D. Effluent Limitations for Unrestricted Use**

In addition to the above, effluent discharged from the WWTF for unrestricted use on surrounding landscaped areas (Landscaped Use Area) shall not exceed the following effluent limitations:

1. BOD and TSS

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD <sub>5</sub> <sup>1</sup>	mg/L	10	20
TSS <sup>2</sup>	mg/L	10	20

<sup>1</sup> 5-day Biochemical Oxygen Demand

<sup>2</sup> Total Suspended Solids

2. Total Coliform Organisms
- The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which the analyses have been completed.
  - The number of total coliform bacteria shall not exceed an MPN of 23 milliliters in more than one sample in any 30-day period.
  - No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
3. Turbidity – if effluent is filtered through undisturbed soil or a filter media.

- a. An average of 2.0 NTU within a 24-hour period.
  - b. 5.0 NTU more than 5 percent of the time within a 24-hour period.
  - c. 10.0 NTU at any time.
4. Turbidity – if effluent that is filtered through a microfiltration, ultrafiltration, nanofiltration, or reverse osmosis membrane.
- a. An average of 0.2 NTU more than 5 percent of the time within a 24-hour period.
  - b. 0.5 NTU at any time.

#### **E. Recycling Discharge Specifications**

1. Effluent discharged to Landscaped Use Area shall comply with Title 22 CCR, Section 60301.230 (“Disinfected Tertiary Recycled Water”).
2. Recycled water shall be used in compliance with Title 22, Division 4, Chapter 3, Article 3, *Uses of Recycled Water*.
3. Ultraviolet Light (UV) Disinfection – The Discharger shall maintain and operate the UV Disinfection system during discharge to the Landscaped Use Areas to ensure adequate disinfection, including:
  - a. Maintaining an adequate dose for disinfection in accordance with the most recent National Water Research Institute / American Water Works Association Research Foundation UV Disinfection Guidelines.
  - b. Providing continuous, reliable monitoring of flow, UV transmittance, UV power, and turbidity.
  - c. Maintaining the UV transmittance in the wastewater exiting the UV disinfection system so that it does not fall below the level necessary to ensure adequate disinfection.
  - d. Visually inspecting the quartz sleeves and cleaning system components per the manufacturer’s operations manual for physical wear (scoring, solarization, seal leaks, cleaning fluid levels, etc.) and to check the efficacy of the cleaning system.
  - e. Periodically cleaning and replacing lamp sleeves per manufacturer’s specifications or sooner and at fixed frequency to ensure adequate disinfection and in accordance with a site-specific operations and maintenance manual.
4. Public contact with effluent (treatment works, Ponds, or Landscaped Use Area) shall be precluded through such means as fences, signs (in accordance with Title 22, California Code of Regulations (CCR) Section 60310(g)), or acceptable alternatives.

5. Public contact with recycled water shall be controlled using signs and/or other appropriate means. Signs of a size no less than four inches high by eight inches wide shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in [Attachment C](#), a part of this Order, and present the following wording:

**“RECYCLED WATER – DO NOT DRINK”**

**“AGUA DE DESPERDICIO RECLAMADA – POR FAVOR NO TOME”**

6. Recycled water controllers, valves, and similar appurtenances shall be affixed with recycled water warning signs, and shall be equipped with removable handles or locking mechanisms to prevent public access or tampering. Quick couplers, if used, shall be of a type, or secured in a manner, that permits operation only by authorized personnel. Hose bibs shall not be used.
7. The Discharger will maintain the following setback distances from restricted areas irrigated with recycled water:

Setback Distance (feet)			
<u>Undisinfected Secondary</u>	<u>Disinfected Tertiary</u>		<u>To</u>
25	--		Property Line
30	--		Public Roads
50	50		Drainage courses
100	50		Irrigation wells
150	50		Domestic wells

8. No physical connection shall exist between recycled water piping and any domestic water supply or domestic well, or between recycled water piping and any irrigation well that does not have an air gap or reduce pressure principle device.
9. Any irrigation runoff shall be confined to the Landscaped Use Area, and shall not enter any surface water drainage course or stormwater drainage system unless the runoff does not pose a public health threat and is authorized by the regulatory agency.
10. Spray, mist, or runoff shall not enter dwellings, designated outdoor eating areas, or food handling facilities.
11. Drinking water fountains shall be protected against contact with recycled water spray, mist, or runoff.
12. Any connection between the recycled water conveyance system and any potable water conveyance system, groundwater supply well, or surface water supply source for the

purpose of supplemental water shall be equipped with a DPH-approved backflow prevention device.

13. Sprinkler heads shall be of the type approved for recycled water and shall create a minimum amount of mist. Drainage through sprinkler heads is prohibited.
14. Land application areas that are spray irrigated and allow public access (unrestricted areas) shall be irrigated during periods of minimal use (typically between 9 p.m. and 6 a.m.). Consideration shall be given to allow maximum drying time prior to subsequent public use.
15. Areas irrigated with recycled water shall be managed to prevent nuisance conditions or breeding of mosquitoes. More specifically:
  - a. All applied irrigation water must infiltrate completely within a 48-hour period;
  - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation; and
  - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.
16. Recycling of WWTF effluent shall be at reasonable agronomic rates considering the crop, soil, and climate. The annual nutrient loading of reclamation areas, including the nutritive value of organic and chemical fertilizers and of the recycled water, shall not exceed crop demand.

#### **F. Sludge Specifications**

Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. Biosolids refers to sludge that has undergone sufficient treatment and testing to qualify for reuse pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation.

1. Sludge and solid waste shall be removed from screens, sumps, aeration basins, ponds, clarifiers, etc. as needed to ensure optimal plant operation.
2. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property.
3. Any handling and storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary (i.e., no longer than two years) 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 of this Order.

4. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.
5. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water quality control board or State Water Board or a local (e.g., county) program authorized by a regional water quality control board. In most cases, this means the General Biosolids Order (State Water Board Water Quality Order No. 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be authorized by the General Biosolids Order, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.
6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

#### **G. Pretreatment Requirements**

1. The Discharger shall implement the necessary controls to ensure incompatible wastes are not introduced to the treatment system. These include, at a minimum: (a) wastes that create a fire or explosion hazard, or corrosive structural damage to the treatment works; (b) solid or viscous wastes in amounts that cause obstruction to flow in sewers, or which cause other interference with proper operation or treatment works; (c) petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through; (d) pollutants that result in the presence of toxic gases, vapors, or fumes within the treatment works; and (e) any trucked or hauled pollutants, except at points predesignated by the Discharger.
2. The Discharger shall implement the controls (e.g., contracts, agreements, etc.) necessary to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:
  - 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.

## H. Groundwater Limitations

1. Release of waste constituents from any treatment or storage component associated with the WWTF shall not cause or contribute to groundwater:
  - a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality whichever is greater:
    - (i) Nitrate as nitrogen of 10 mg/L.
    - (ii) Total coliform organisms of 2.2 MPN/100 mL.
    - (iii) For constituents identified in Title 22, the MCLs quantified therein.
  - b. Containing taste or odor-producing constituents, or toxic substances, or any other constituents, in concentrations that cause nuisance or adversely affect beneficial uses.

## I. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as Standard Provision(s).
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. R5-2007-\_\_\_\_\_, which is part of this Order, and any revisions thereto as adopted by the Regional Water Board or approved by the Executive Officer. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger self-monitoring reports.
3. The Discharger shall keep at the WWTF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall not allow pollutant-free wastewater to be discharged into the Facility collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.
5. The Discharger must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This Provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger only when the operation is necessary to achieve compliance with the conditions of the Order.

6. 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 sections 415 and 3065 of Title 16, CCR, 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.
7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Regional Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus 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 time schedule. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
8. In the event of any change in control or ownership of land or waste treatment and storage 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 appropriate Regional Water Board office.
9. 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, the 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 paragraph of Standard Provision B.3 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. If approved by the Executive Officer, the transfer request will be submitted to the Regional Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
10. As a means of discerning compliance with [General Discharge Specification B.5](#), the dissolved oxygen content in the upper zone (1 foot) of effluent in disposal ponds shall not be less than 1.0 mg/L for three consecutive sampling events. 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 and propose a remedial approach to resolve the low DO results **within 30 days**.

11. 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 management and to discern compliance with this Provision, 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.
12. **UV Disinfection O&M Manual.** If ultraviolet light is the method of disinfection to meet Title 22 disinfection requirements for unrestricted use, prior to implementing water recycling, the Discharger shall submit an operations and maintenance plan detailing how the UV system will comply with [Recycling Discharge Specification E.3](#) and the most recent National Water Research Institute / American Water Works Association Research Foundation UV Disinfection Guidelines.
13. **Salinity Source Control Study.** By 1 January 2009, the Discharger shall conduct a salinity evaluation and submit a salinity minimization plan to identify and implement measures to reduce the salinity in the discharge to the extent feasible. The salinity minimization plan shall include a time schedule to implement the identified measures.

I, PAMELA C. CREEDON, 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 \_\_\_\_\_.

\_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

Order Attachments:

- A. Site Location Map
  - B. Plan View Map
  - C. Recycled Water Signage
- Monitoring and Reporting Program No. R5-2008-\_\_\_\_\_  
Information Sheet  
Standard Provisions (1 March 1991) (separate attachment to Discharger only)

ARP/DKP: 12/27/07