

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0019

FOR  
WESTERN HILLS WATER DISTRICT AND DIABLO GRANDE LIMITED PARTNERSHIP  
DIABLO GRANDE WASTEWATER RECLAMATION FACILITY  
STANISLAUS COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring influent wastewater, treated effluent, effluent storage ponds, effluent reclamation areas, and groundwater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. Regional Board staff shall approve specific sample station locations prior to implementation of sampling activities.

This MRP is effective upon date of signature; however, only groundwater samples need to be collected until the WWTF has been constructed and is in use. In the meantime, the Discharger shall submit monthly status reports and quarterly groundwater monitoring reports as described in the "Reporting" section of this MRP.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. The instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in the "Reporting" section of the MRP.

**INFLUENT MONITORING**

Influent flow monitoring shall be performed at the headworks. Samples shall be collected at approximately the same time as effluent samples and should be representative of the influent. Influent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Influent Flow	gpd	Continuous Meter	Daily	Monthly
Average Daily Flow	gpd	Calculated	Monthly	Monthly
BOD <sub>5</sub>	mg/L	Grab	Weekly	Monthly
Total Suspended Solids	mg/L	Grab	Weekly	Monthly

<sup>1</sup> 5-day biochemical oxygen demand.

### EFFLUENT STORAGE POND MONITORING

Each effluent storage pond shall be monitored as specified below:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Dissolved Oxygen <sup>1</sup>	mg/L	Grab	Weekly	Monthly
Freeboard	0.1 feet	Measurement	Weekly	Monthly
Odors	--	Observation	Weekly	Monthly
Liner condition	--	Observation	Weekly	Monthly
Levee condition	--	Observation	Monthly	Monthly

<sup>1</sup> Samples shall be collected at a depth of one foot from each pond in use, opposite the inlet. Samples shall be collected between 0700 and 0900 hours.

### EFFLUENT MONITORING

Effluent samples shall be collected before discharge to the effluent storage ponds and shall be representative of the volume and nature of the discharge. Effluent monitoring shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
BOD <sub>5</sub>	mg/L	Grab	Weekly	Monthly
Total Coliform Organisms <sup>1</sup>	MPN/100 ml <sup>2</sup>	Grab	Daily	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Sodium	mg/L	Grab	Monthly	Monthly
Chloride	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
pH	Standard	Grab	Monthly	Monthly
Standard Minerals <sup>3</sup>	mg/L	Grab	Annually	Annually

<sup>1</sup> Using a minimum of 10 tubes or two dilutions.

<sup>2</sup> Most probable number per 100 ml.

<sup>3</sup> Standard Minerals shall include, at a minimum, the following elements/compounds: barium, calcium, magnesium, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

### WATER RECLAMATION AREA MONITORING

Monitoring of the effluent reclamation area shall be conducted daily during the irrigation season, and the results shall be included in the monthly monitoring report. Evidence of erosion, saturation, irrigation runoff, or the presence of nuisance conditions shall be noted in the report. Effluent monitoring results shall be used in calculations to ascertain loading rates at the water reclamation area. Monitoring of the water reclamation area shall include the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	Gallons	Continuous	Daily	Monthly
Rainfall	Inches	Observation	Daily	Monthly
Acreage Applied <sup>1</sup>	Acres	Calculated	Daily	Monthly
Water Application Rate <sup>2</sup>	gal/acre/day	Calculated	Daily	Monthly
Total Nitrogen Loading Rate <sup>2</sup>	lbs/ac/month	Calculated	Monthly	Monthly
Total Dissolved Solids Loading Rate <sup>2</sup>	lbs/ac/month	Calculated	Monthly	Monthly

<sup>1</sup> Land application areas shall be identified.

<sup>2</sup> For each land application area.

At least once per month during the irrigation season, the entire irrigated area shall be inspected on the morning following an irrigation event to identify any equipment malfunction or other circumstances that might allow irrigation runoff to leave the irrigation area and/or create ponding conditions that violate the Waste Discharge Requirements. A daily log of these inspections shall be kept at the facility and made available for review upon request.

### GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Board for review and approval. Once installed, all new wells shall be added to the MRP and shall be sampled and analyzed according to the schedule below.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged at least three well volumes until temperature, pH and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected using standard EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Depth to Groundwater	0.01 feet	Measurement	Quarterly
Groundwater Elevation <sup>1</sup>	0.01 feet	Calculated	Quarterly
Gradient	feet/feet	Calculated	Quarterly
Gradient Direction	degrees	Calculated	Quarterly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling and Reporting Frequency</u>
Total Dissolved Solids	mg/L	Grab	Quarterly
Electrical Conductivity	µmhos/cm	Grab	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly
Total Kjeldahl Nitrogen	mg/L	Grab	Quarterly
pH	pH units	Grab	Quarterly
Trihalomethanes <sup>2</sup>	µg/l	Grab	Quarterly
Boron	mg/L	Grab	Quarterly
Chloride	mg/L	Grab	Quarterly
Iron	mg/L	Grab	Quarterly
Manganese	mg/L	Grab	Quarterly
Sodium	mg/L	Grab	Quarterly
Standard Minerals <sup>3</sup>	mg/L	Grab	Annually

<sup>1</sup> Groundwater elevation shall be determined based on depth-to-water measurements using a surveyed measuring point elevation on the well and a surveyed reference elevation.

<sup>2</sup> EPA Method 8020 or equivalent.

<sup>3</sup> Standard Minerals shall include, at a minimum, the following elements/compounds: barium, calcium, magnesium, potassium, sulfate, total alkalinity (including alkalinity series), and hardness.

### SLUDGE MONITORING

A composite sample of digested sludge shall be collected at least once per year when sludge is removed from the wastewater treatment system for disposal in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, and analyzed for cadmium, copper, nickel, chromium, lead, and zinc.

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

### WATER SUPPLY MONITORING

A sampling station shall be established where a representative sample of the municipal water supply can be obtained. Water supply monitoring shall include at least the following for each water source used during the previous year:

<u>Constituents</u>	<u>Units</u>	<u>Sampling Frequency</u>
Total Dissolved Solids	mg/L	Annually
pH	pH units	Annually
Standard Minerals <sup>1</sup>	mg/L	Annually

<sup>1</sup> Standard Minerals shall include, at a minimum, the following elements/compounds: barium, calcium, magnesium, sodium, potassium, chloride, nitrogen, sulfate, total alkalinity (including alkalinity series), and hardness.

## REPORTING

In reporting monitoring data, the District shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all Groundwater Monitoring Reports shall be prepared under the direct supervision of a Registered Engineer or Geologist and signed by the registered professional.

### A. Monthly Monitoring Reports

Daily, weekly, and monthly monitoring data shall be reported in monthly monitoring reports. Monthly reports shall be submitted to the Regional Board on the **1<sup>st</sup> day of the second month following sampling** (i.e. the January Report is due by 1 March). At a minimum, the reports shall include:

1. If the WWTF is not yet operational, then the report shall describe the construction progress to date and the anticipated start-up date.
2. Once the WWTF is operational, then the report shall include the following:
  - a. Results of influent, effluent, effluent storage pond, and effluent reclamation area monitoring;
  - b. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format;
  - c. If requested by staff, copies of laboratory analytical report(s); and
  - d. A calibration log verifying calibration of all hand-held monitoring instruments and devices used to comply with the prescribed monitoring program.

### B. Quarterly Monitoring Reports

The Discharger shall establish a quarterly sampling schedule for groundwater monitoring such that samples are obtained approximately every three months. Quarterly monitoring reports shall be submitted to the Board by the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarterly report is due by May 1<sup>st</sup>) and may be combined with the monthly report. The Quarterly Report shall include the following:

1. Results of groundwater monitoring;

2. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities for the groundwater monitoring. The narrative shall be sufficiently detailed to verify compliance with the WDR, this MRP, and the Standard Provisions and Reporting Requirements. The narrative shall be supported by field logs for each well documenting depth to groundwater; parameters measured before, during, and after purging; method of purging; calculation of casing volume; and total volume of water purged;
3. Calculation of groundwater elevations, an assessment of groundwater flow direction and gradient on the date of measurement, comparison of previous flow direction and gradient data, and discussion of seasonal trends if any;
4. A narrative discussion of the analytical results for all groundwater locations monitored including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
5. A comparison of monitoring data to the groundwater limitations and an explanation of any violation of those requirements;
6. Summary data tables of historical and current water table elevations and analytical results;
7. A scaled map showing relevant structures and features of the facility, the locations of monitoring wells and any other sampling stations, and groundwater elevation contours referenced to mean sea level datum; and
8. Copies of laboratory analytical report(s) for groundwater monitoring.

### **C. Annual Report**

An Annual Report shall be prepared as the fourth quarter monitoring report. The Annual Report will include all monitoring data required in the monthly/quarterly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. The contents of the regular groundwater monitoring report for the last sampling event of the year;
2. If requested by staff, tabular and graphical summaries of all data collected during the year;
3. An evaluation of the groundwater quality beneath the wastewater treatment facility and reclamation area;
4. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
5. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;

6. A copy of the certification for each certified wastewater treatment plant operator working at the facility and a statement about whether the Discharger is in compliance with Title 23, CCR, Division 3, Chapter 26.
7. Summary of information on the disposal of sludge and/or solid waste;
8. The results from annual monitoring of the groundwater wells and water supply;
9. The results from any sludge monitoring required by the disposal facility;
10. Equipment maintenance and calibration records, as described in Standard Provision No. C.4; and
11. A forecast of influent flows, as described in Standard Provision No. E.4.

A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by:

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THOMAS R. PINKOS, Executive Officer

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31 January 2003

(Date)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0019

WASTE DISCHARGE REQUIREMENTS

FOR  
WESTERN HILLS WATER DISTRICT  
AND DIABLO GRANDE LIMITED PARTNERSHIP  
DIABLO GRANDE WASTEWATER RECLAMATION FACILITY  
STANISLAUS COUNTY

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

1. On 17 June 2002, Western Hills Water District submitted a Report of Waste Discharge (RWD) for a wastewater treatment facility to treat and dispose of domestic wastewater generated in the Diablo Grande community in western Stanislaus County, as shown on Attachment A, which is attached hereto and made part of this Order by reference. Additional information required to complete the RWD was submitted by Western Hills Water District on 21 October 2002.
2. Western Hills Water District will operate and maintain the sanitary sewer system and wastewater treatment facility (WWTF), which consists of the wastewater treatment plant, effluent storage pond, and reclamation areas. Diablo Grande Limited Partnership owns the land on which the WWTF will be constructed (Assessor's Parcel Numbers 25-10-05 and 25-11-06). These entities shall hereafter be referred to individually or jointly as "Discharger".
3. The WWTF will be constructed off of Oak Flat Road, Patterson, in T6S, R7E, Section 7, MDB&M on a road that has not yet been named. The location of the proposed WWTF and effluent reclamation area are shown on Attachment B, which is attached hereto and made part of this Order by reference.
4. Order No. R5-2002-0011, adopted by the Regional Board on 25 January 2002, prescribes requirements for treatment and reclamation of an average of 200,000 gallons per day (gpd) of domestic wastewater. This Order is no longer adequate because the Discharger wishes to change the treatment process and reclamation area.

**Proposed Facility and Discharge**

5. The Diablo Grande development currently encompasses the Ranch Golf Course and the associated clubhouse. Over the next several years, five or more phases of residential and commercial development will occur. At build out, the development will have approximately 5,000 residences, six golf courses, hotel and conference facilities, and commercial centers.
6. The proposed WWTF is designed to serve only the Ranch Golf Course public facilities and the first residences in the first phase of development, up to a total of 400 equivalent dwelling units (EDUs). The first phase of residential development, which is known as Oak Flat Village will ultimately include approximately 2,200 residences, a town center, a hotel/conference center, and a shopping center. Additional wastewater treatment and disposal facilities and/or expansion of the proposed WWTF may



be designed and permitted as development progresses. Alternatively, the development may ultimately be connected to the City of Patterson’s wastewater treatment facility.

- 7. The wastewater collection system will consist of gravity sewer lines; no lift stations will be constructed.
- 8. Based on standard engineering references and plans for extensive use of water-conserving fixtures, the Discharger estimates the character of the influent waste as follows:

Constituent	Estimated Influent Concentration (mg/L)
BOD	300
Total Suspended Solids	300
Total Dissolved Solids	640
Total Kjeldahl Nitrogen	55

- 9. The WWTF will provide secondary treatment and disinfection using a package treatment plant. Secondary treatment will include screening and extended aeration activated sludge processes. Screenings will be washed and transported to a landfill for disposal. Biosolids will undergo aerobic digestion, and supernatant will be returned to the secondary treatment process. Screenings and digested biosolids will be disposed of off-site.
- 10. Secondary effluent will be disinfected using sodium hypochlorite solution to a median total coliform organisms concentration of 23 MPN per 100 mL. The system will provide flow-proportional dosing and inline mixing. The system is designed to provide a minimum residual chlorine concentration of 1.0 mg/L after 30 minutes of contact time for average daily flows. Each of two chlorine tanks will have a low level alarm and will automatically switch to another tank at a preset level. There will also be a backup chlorine pump.
- 11. Disinfected effluent will be stored in a lined 4.5-acre storage reservoir. The reservoir is designed with a nominal 20-foot operating water depth with 3 feet of freeboard, and a capacity of 22.2 million gallons. The base elevation of the pond will be adjusted as necessary during final design to maintain the pond bottom above the seasonal high water table to prevent uplift pressure on the liners. The liner will be 40-mil high-density polyethylene installed under a formal Construction Quality Assurance program.
- 12. A separate lined emergency storage reservoir with a capacity of 2 million gallons will be used to store any flows to the influent pump station that exceed the hydraulic capacity of any portion of the treatment train. This reservoir will also be lined with 40-mil high-density polyethylene. Discharges to the emergency storage basin should be infrequent, but might include raw wastewater or partially treated effluent that is reclaimed through the lift station for re-treatment. Waste in the emergency storage reservoir will be returned to the treatment system as capacity becomes available.
- 13. The influent pump station wet well will have an overflow pipe to divert raw sewage into the emergency storage pond as needed to prevent pump station overflows.

14. The WWTF will be equipped with an alarm system operating on an independent power supply. The system is designed to react to any circumstances that threaten to cause a spill or exceedance of the applicable treatment standards for effluent reclamation. If an alarm is not acknowledged by on-site personnel, then an autodialer will contact designated on-call staff to respond.
15. The design flow for the WWTF is 100,000 gallons per day (gpd) average daily dry weather flow and 400,000 gpd peak hourly flow. Storm water falling on the treatment plant drains to the headworks.
16. Western Hills Water District submitted a water balance with the RWD. The calculations show that the storage reservoir will have sufficient capacity to contain the allowable wastewater flow, inflow/infiltration, and all flows from seasonal precipitation using a 100-year return period.
17. The Discharger estimates the character of the WWTF effluent as follows:

Constituent	Design Effluent Concentration		
	Daily Average	Monthly Average	Maximum
BOD (mg/L)	40	--	80
Total Dissolved Solids mg/L)	--	640	--
Total Nitrogen <sup>1</sup> (mg/L)		55	--
Settleable Solids (ml/L)	0.1	--	0.5
Total Coliform Organisms (MPN/100 mL)	23 <sup>2</sup>	--	240

<sup>1</sup> Total Kjeldahl nitrogen plus nitrate nitrogen.

<sup>2</sup> 7-day median value.

### Reclaimed Water Discharge

18. Disinfected secondary effluent will be reclaimed to irrigate 30 acres of fodder crops adjacent to the wastewater treatment plant.
19. Effluent will be applied by flood irrigation at agronomic rates for both nitrogen and water application. Perimeter berms will be used to keep the reclaimed water within the reclamation area during irrigation.

### Sanitary Sewer System

20. The sanitary sewer system does not include any lift stations. Wastewater will flow through gravity sewers to the influent pumping station at the WWTF. The treatment plant is equipped with emergency electrical generators capable of powering the entire treatment plant, including the influent pumping station.
21. The sanitary sewer system collects wastewater and consists of sewer pipes, manholes, and/or other conveyance system elements and directs this raw sewage to the WWTF. 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. For the proposed facility, any sanitary sewer overflows would consist of varying mixtures of domestic and commercial wastewater, depending on land uses in the sewage collection system. 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, operate, and prevent discharges from 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.

### **Site-Specific Conditions**

25. Annual precipitation in the vicinity of the WWTF averages approximately 11 inches. The mean water surface evaporation rate is approximately 54 inches per year. All portions of the WWTF are outside the 100-year flood zone.
26. The WWTF and reclamation area lie within the San Joaquin Delta Hydrologic Unit Area No. 542.10, as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.
27. Diablo Grande is transected by several intermittent streams. Salado Creek, an intermittent stream that is tributary to the San Joaquin River, flows through the Oak Flat Village portion of Diablo Grande.
28. The wastewater treatment plant, emergency storage pond, and reclamation area are adjacent to the south bank of the creek. The effluent storage pond is adjacent to the north bank of the creek.

### **Groundwater Considerations**

29. A total of six groundwater monitoring wells and nine piezometers currently exist at the WWTF site. Five additional wells were installed to monitor the groundwater upgradient and downgradient of the existing Ranch Golf Course. Because the existing groundwater system was designed to monitor a different reclamation area, it is not adequate to monitor the proposed discharge.
30. As described by soil boring logs from the Baseline Groundwater Assessment Report submitted by the Discharger, shallow soils in the area are predominantly silty clays and sandy silts to a depth of

approximately 20 to 50 feet below the surrounding grade. The fine-grained soils are typically underlain by gravels and siltstone or claystone, siltstone, and shale.

31. Based on groundwater monitoring data acquired from late 2000 to mid-2002, groundwater elevations at the WWTF ranged from 962 to 980 feet above mean sea level (MSL), or approximately 30 to 50 feet below the surrounding grade, with minor seasonal variability. The water table generally follows the site topography and the flow direction is generally toward Salado Creek.
32. Based on three sampling events, pre-discharge groundwater monitoring data for the WWTF and Ranch Golf Course sites is summarized below. Pesticides and herbicides were also analyzed in the first sampling event, but none were detected in any of the samples. Monitoring well locations are shown on Attachment B.

Mean Concentration (mg/L except as noted)

Well ID	Depth to Water <sup>1</sup>	Total Dissolved Solids	Nitrate as NO <sub>3</sub>	Chloride	Sulfate	Sodium	Total Coliform Organisms <sup>2</sup>
MW-1	10.7	950	3	47	380	150	40 <sup>3</sup>
MW-2	25.8	820	17	150	130	150	2
MW-3	42.1	5,100	37	220	3000	760	>1,600
MW-4	33.7	1,100	18	100	450	200	<2
MW-5	30.7	--	12	90	400	140	8
MW-6	34.7	1,500	21	90	770	250	14
MW-7	25.7	3,600	1	160	1,300	290	250 <sup>3</sup>
MW-8	17.0	1,300	20	73	560	180	<2
MW-9	27.9	1,200	18	210	390	200	14
MW-10	12.6	900	15	120	210	130	4
MW-11	44.1	1,200	1	200	410	220	>1,600

<sup>1</sup> Feet below ground surface (bgs); based on data obtained in May 2002.

<sup>2</sup> MPN per 100 mL.

<sup>3</sup> Average of data from two monitoring events; results were very disparate.

33. The baseline groundwater monitoring data indicate that groundwater quality beneath the WWTF and the golf course is highly variable in character, with some evidence of localized, naturally occurring saline groundwater, which is relatively common in the area. The land was previously used for seasonal cattle grazing, which does not typically cause saline groundwater conditions.
34. It is appropriate that the Discharger install additional groundwater monitoring wells, continue groundwater monitoring, and complete a technical analysis of groundwater monitoring data to formally determine final background concentrations.

### **Groundwater Degradation**

35. State Water Resources Control Board (State Board) Resolution No. 68-16 (hereafter Resolution 68-16 or the “Antidegradation Policy”) requires the Regional Board in regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board’s policies (e.g., quality that exceeds water quality objectives).
36. Some degradation of groundwater beneath the WWTF is consistent with Resolution 68-16 provided that:
  - a. The degradation is confined within a specified boundary;
  - b. The Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating best practicable treatment and control (BPTC) measures;
  - c. The degradation is limited to waste constituents typically encountered in municipal wastewater as specified in the groundwater limitations in this Order; and
  - d. The degradation does not result in water quality less than that prescribed in the Basin Plan.
37. Some degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of California. The technology, energy, water reclamation, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. Degradation of groundwater by constituents (e.g., toxic chemicals) other than those specified in the groundwater limitations in this Order, and by constituents that can be effectively removed by conventional treatment (e.g., total coliform bacteria) is prohibited. When allowed, the degree of degradation permitted depends upon many factors (i.e., background water quality, the waste constituent, the beneficial uses and most stringent water quality objective, source control measures, waste constituent treatability).

### **Treatment and Control Practices**

38. The Discharger will provide treatment and control of the discharge that incorporates:
  - a. Use of a low salinity, low hardness water supply;
  - b. Metal, concrete and/or plastic treatment structures that provide complete containment during wastewater treatment;
  - c. Alarm and automatic flow diversion systems to prevent system bypass or overflow;
  - d. Effluent storage pond liner systems consisting of 40-mil high density polyethylene installed under a formal Construction Quality Assurance program;

- e. Disinfection of treated effluent;
  - f. Wastewater reclamation using agronomic application rates;
  - g. Appropriate biosolids storage and disposal practices;
  - h. An operation and maintenance (O&M) manual; and
  - i. Certified operators to assure proper operation and maintenance.
39. The WWTF design and effluent reclamation program incorporate numerous BPTC measures, and information presented in the RWD indicates that the system will not cause groundwater degradation. In order to determine compliance with Resolution No. 68-16 it is appropriate to establish a schedule for installation and sampling of groundwater monitoring wells and formally determine background groundwater concentrations for selected constituents. If groundwater is degraded or there is evidence that the discharge may cause degradation, then the Discharger will be required to evaluate and implement additional BPTC measures for each conveyance, treatment, storage, and disposal component of the system. Completion of these tasks will ensure that BPTC and the highest water quality consistent with the maximum benefit to the people of the state will be achieved.
40. This Order establishes interim 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. This Order contains tasks for assuring that BPTC and the highest water quality consistent with the maximum benefit to the people of the state will be achieved. Accordingly, the discharge is consistent with the antidegradation provisions of Resolution 68-16. Based on the results of the scheduled tasks, the Regional Board may reopen this Order to reconsider groundwater limitations and other requirements to comply with Resolution 68-16.

### **Water Reclamation**

41. State Board Resolution No. 77-1, *Policy with Respect to Water Reclamation in California*, encourages reclamation projects that replace or supplement the use of fresh water, and *The Water Recycling Law* (CWC sections 13500-13529.4) declares that utilization of reclaimed water is of primary interest to the people of the State in meeting future water needs.
42. The California Department of Health Services (DHS) has established statewide water reclamation criteria in Title 22, CCR, Section 60301 et. seq. (hereafter Title 22). DHS revised the water reclamation criteria contained in Title 22 on 2 December 2000. The Discharger will treat to secondary standards and disinfect the secondary effluent per Title 22 requirements.
43. A 1988 Memorandum of Understanding between DHS and the State Board on the use of reclaimed water establishes basic principles relative to the two agencies and the regional boards. The Memorandum allocates primary areas of responsibility and authority between the agencies and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to use of reclaimed water.

44. DHS requires that the American Water Works Association (AWWA) *Guidelines for Distribution of Non-Potable Water* and *Guidelines for the On-site Retrofit of Facilities Using Disinfected Tertiary Recycled Water* be implemented in design and construction of reclamation equipment. The guidelines require installation of purple pipe, adequate signs, and adequate separation between the reclaimed water lines and domestic water lines and sewer lines. The Discharger proposes to fully comply with these requirements.
45. Section 60303 of Title 22 states that water reclamation requirements shall not apply to the use of reclaimed water onsite at a water reclamation plant, or wastewater treatment plant, provided access by the public to the area of onsite reclaimed water use is restricted.
46. Section 60323(a) of Title 22 states that no person shall produce or supply reclaimed water for direct reuse from a proposed water reclamation plant unless an engineering report is submitted for review and approval by DHS and the Regional Board. Irrigation of fodder crops is considered a beneficial reuse. A Title 22 Engineering Report was submitted to DHS on 16 October 2002. DHS provided comments on the revised Title 22 Report on 30 October 2002, and those comments are addressed in these WDRs.

#### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

47. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Board. These requirements implement the Basin Plan.
48. Surface water drainage is to Salado Creek, a tributary of the San Joaquin River. The beneficial uses of the San Joaquin River are municipal and domestic supply; agricultural irrigation and stock watering supply; process and service industrial supply; contact recreation, other noncontact recreation; warm and cold freshwater habitat; warm and cold migration; warm water spawning; wildlife habitat; and navigation.
49. The beneficial uses of the underlying groundwater are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
50. The Basin Plan encourages water reclamation.
51. The Basin Plan establishes numerical and narrative water quality objectives for surface and groundwater within the basin, and recognizes that water quality objectives are achieved primarily through the Regional Board's adoption of waste discharge requirements and enforcement orders. Where numerical water quality objectives are listed, these are limits necessary for the reasonable protection of beneficial uses of the water. Where compliance with narrative water quality objectives is required, the Regional Board will, on a case-by-case basis, adopt numerical limitations in orders, which will implement the narrative objectives to protect beneficial uses of the waters of the state.

52. The Basin Plan identifies numerical water quality objectives for waters designated as municipal supply. These are the maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Regional Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
53. The Basin Plan contains narrative water quality objectives for chemical constituents, tastes and odors, and toxicity. The toxicity objective requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants or animals. The chemical constituent objective requires that groundwater shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The tastes and odors objective requires that groundwater shall not contain tastes or odors producing substances in concentrations that cause nuisance or adversely affect beneficial uses.
54. Section 13241 of the Water Code requires the Regional Board to consider various factors, including economic considerations, when adopting water quality objectives into its Basin Plan. Water Code Section 13263 requires the Regional Board to address the factors in Section 13241 in adopting waste discharge requirements. The State Board, however, has held that a Regional Board need not specifically address the Section 13241 factors when implementing existing water quality objectives in waste discharge requirements because the factors were already considered in adopting water quality objectives. These waste discharge requirements implement adopted water quality objectives. Therefore, no additional analysis of Section 13241 factors is required.
55. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in 40 CFR 503, *Standard 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.
56. The Regional Board is using the Standards in 40 CFR 503 as guidelines in establishing this Order, but the Regional Board is not the implementing agency for 40 CFR 503 regulations. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to the EPA.
57. The State Board adopted Order No. 97-03-DWQ (General Permit No. CAS000001) specifying waste discharge requirements for discharges of storm water associated with industrial activities, and requiring submittal of a Notice of Intent by all affected industrial dischargers. The wastewater treatment plant facilities are designed to drain all runoff to the plant headworks. Because there will be no storm water discharge from the industrial portion of the facility, the Discharger is not required to obtain coverage under General Permit No. CAS000001.
58. On 26 October 1993, in accordance with the California Environmental Quality Act (CCR, Title 14, Section 15261 et. seq.), the Stanislaus County Board of Supervisors certified a Specific Plan and



Final EIR for the Diablo Grande development. A lawsuit challenging documents related to the Specific Plan was heard by the Stanislaus County Superior Court and the State of California Fifth District Appellate Court. The appellate court determined that the final EIR was sufficient with the exception of the discussion of long-term water sources for the development. Consequently, a Supplemental EIR and Final Specific Plan were completed to address the water resources plan. Based on these documents, the Diablo Grande Specific Plan EIR was recertified by the Stanislaus County Board of Supervisors on 7 December 1999 with respect to the first phase of development only. The proposed wastewater treatment and disposal system is consistent with the project as analyzed in the Final EIR. The Final EIR specifies the following general mitigation measures related to water quality protection:

- a. Monitor WWTF effluent quality to ensure compliance with standards specified by the DHS and Regional Board.
- b. Treat or re-treat wastewater as necessary to ensure compliance with those standards prior to discharge to the irrigation system.
- c. Implement a comprehensive management program to minimize concentrations of nutrients, salts, herbicides, and pesticides in irrigation percolate and runoff.

Compliance with this Order implements these mitigation measures.

59. Section 13267(b) of the California Water Code provides 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 discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports 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."

The monitoring and reporting program required by this Order and the attached Monitoring and Reporting Program No. R5-2003-0019 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.

60. The California Department of Water Resources sets standards for the construction and destruction of groundwater wells (hereafter DWR Well Standards), as described in *California Well Standards Bulletin 74-90* (June 1991) and *Water Well Standards: State of California Bulletin 94-81* (December 1981). These standards, and any more stringent standards adopted by the state or county pursuant to CWC Section 13801, apply to all monitoring wells.
61. State regulations that prescribe procedures for detecting and characterizing the impact of waste constituents from waste management units on groundwater are found in Title 27. While the WWTF is

exempt from Title 27, the data analysis methods of Title 27 are appropriate for determining whether the discharge complies with the terms for protection of groundwater specified in this Order.

62. The discharge authorized herein and the treatment and storage facilities associated with the discharge, except for discharges of residual sludge and solid waste, are exempt from the requirements of Title 27, California Code of Regulations (CCR), Section 20380 et seq. (hereafter Title 27). The exemption, pursuant to Title 27 CCR Section 20090(a), is based on the following:
  - a. The waste consists primarily of domestic sewage and treated effluent;
  - b. The waste discharge requirements are consistent with water quality objectives; and
  - c. The treatment and storage facilities described herein are associated with a municipal wastewater treatment plant.
63. Pursuant to California Water Code 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.

#### **Public Notice**

64. 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.
65. Recommendations of the State Department of Health Services regarding the public health aspects of water reclamation have been considered.
66. The Discharger and interested agencies and persons have been notified of the Regional Board's 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.
67. All comments pertaining to the discharge were heard and considered in a public meeting.

**IT IS HEREBY ORDERED** that Order No. R5-2002-0011 is rescinded and, pursuant to Sections 13263 and 13267 of the California Water Code, Western Hills Water District and Diablo Grande Limited Partnership, and their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder, shall comply with the following:

*[Note: Other prohibitions, conditions, definitions, and some methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]*

**A. Discharge Prohibitions**

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated or partially treated waste is prohibited.
3. Discharge of sewage from a sanitary sewer system at any point upstream of a wastewater treatment plant is prohibited. Discharge of treated wastewater downstream of the WWTF, other than at the designated reclamation area, is prohibited.
4. Discharge of waste classified as 'hazardous' under Section 2521, Chapter 15 of Title 23 or 'designated', as defined in Section 13173 of California Water Code is prohibited.
5. Public contact with reclaimed water is prohibited.
6. Application of reclaimed water in a manner or location other than that described herein is prohibited.
7. The use of reclaimed wastewater for purposes other than irrigation as defined in Sections 60304 (c), (d), and (e) of Title 22 and this Order is prohibited.

**B. Discharge Specifications**

1. The monthly average dry weather influent flow to the WWTF shall not exceed 100,000 gpd.
2. The peak daily influent flow to the WWTF plant shall not exceed 400,000 gpd.
3. Wastewater treatment and use of reclaimed water shall not cause pollution or a nuisance as defined by Section 13050 of the California Water Code (CWC).
4. Public contact with wastewater at the WWTF shall be precluded or controlled through such means as fences and signs, or acceptable alternatives.
5. 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 violation of the Groundwater Limitations.
6. Objectionable odors originating at the facility shall not be perceivable beyond the limits of the property owned by the Discharger.
7. As a means of discerning compliance with Discharge Specification B.6, the dissolved oxygen content in the upper one foot of any wastewater or reclaimed water storage pond shall not be less than 1.0 mg/l.
8. The Discharger shall operate all systems and equipment to maximize treatment of wastewater and optimize the quality of the discharge.

9. The Discharger shall treat the wastewater such that it complies with Title 22 CCR, Section 60301.225 (“Disinfected Secondary-23 Recycled Water”).
10. All treatment and storage facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
11. Wastewater ponds shall be managed to prevent breeding of mosquitoes. In particular,
  - a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
12. The facility shall have sufficient treatment, storage, and disposal capacity to accommodate allowable wastewater flow, design seasonal precipitation, and ancillary inflow and infiltration. 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.
13. Freeboard in any pond containing wastewater or reclaimed water shall never be less than two feet as measured from the water surface to the lowest point of overflow.
14. On or about **15 October** of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications B.12 and B.13.

**C. Effluent Limitations**

1. Effluent discharged to the WWTF effluent storage reservoir shall not exceed the following limits:

Constituent	Effluent Concentration Limit	
	30-Day Average	Daily Maximum
BOD <sub>5</sub> (mg/L) <sup>1</sup>	40	80
Settleable Solids (ml/L)	0.1	0.5

<sup>1</sup> 5-day biochemical oxygen demand.

2. Reclaimed water discharged to the effluent storage ponds for subsequent discharge to the water reclamation irrigation system shall comply with the following limits for total coliform organisms:
  - a. The median concentration of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed.
  - b. The number of total coliform bacteria shall not exceed an MPN of 240 total coliform bacteria per 100 milliliters in more than one sample in any 30-day period.

3. No stored wastewater or effluent shall have a pH less than 6.5 or greater than 9.0.

#### **D. General Solids Disposal Specifications**

Sludge means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screenings generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the facility. 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, ponds, and clarifiers as needed to ensure optimal plant operation.
2. Treatment and storage of sludge shall be confined to the treatment facility property, and shall be conducted in a manner that precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the Groundwater Limitations of this Order.
3. Any storage of residual sludge, solid waste, and biosolids at the facility shall be temporary, and the waste shall be controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or at concentrations that will violate the 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 disposal sites operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.
5. Use and disposal of biosolids shall comply with the self-implementing federal regulations of 40 CFR 503, which are subject to enforcement by the U.S. EPA, not the Regional Board. If during the life of this Order, the state accepts primacy for implementation of 40 CFR 503, the Regional Board may also initiate enforcement where appropriate.

#### **E. Water Reclamation Specifications**

1. Application of reclaimed water shall be confined to the designated reclamation areas as defined in this Order.
2. Reclaimed water shall meet the criteria contained in Title 22, CCR.
3. Reclaimed water shall be used in compliance with Title 22, Article 3 (“Uses of Recycled Water”).
4. Public contact with reclaimed wastewater shall be controlled through use of fences and cautionary signs, and/or other appropriate means. Perimeter warning signs indicating that reclaimed water is in use shall be posted at least every 500 feet along the property boundary, at each corner, and at each access road entrance to the irrigation area. The size and content of these signs shall be as described in Section 60310 of Title 22. Additionally, reclaimed water

controllers, valves, and similar appurtenances shall be affixed with reclaimed water warning signs, and shall be equipped with removable handles or locking mechanisms to prevent public access or tampering.

5. Application of reclaimed water shall comply with the following setback requirements:

<u>Setback Definition</u>	<u>Minimum Irrigation Setback (feet)</u>
Edge of reclamation area to property boundary	25
Edge of reclamation area to public road	30
Edge of reclamation area to irrigation well	100
Edge of reclamation area to domestic well	100
Edge of reclamation area to manmade or natural surface water drainage course <sup>2</sup>	50

<sup>1</sup> As defined by the wetted area produced during irrigation.

<sup>2</sup> Excluding ditches used exclusively for tailwater return.

6. Application of reclaimed water shall be by sheet flow only (e.g., flood or furrow irrigation).
7. 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.
8. Any connection between the reclaimed water conveyance system and any potable water conveyance system, groundwater supply well, or surface water supply source for the purpose of supplementing reclaimed water shall be equipped with a DHS-approved backflow prevention device.
9. Application rates for reclaimed water shall not exceed agronomic rates considering the crop, soil, climate, and irrigation management system in accordance with the water balance submitted with the RWD.
10. Irrigation runoff (i.e., tailwater) shall be completely contained within the designated water reclamation area and shall not enter any surface water drainage course.
11. Irrigation with reclaimed water shall not be performed within 24 hours of a forecasted storm, during or within 24 hours after any precipitation event, nor when the ground is saturated.
12. Storm water runoff generated more than 24 hours after the end of the last irrigation event may be released from the reclamation area to storm water conveyances.
13. The reclamation area shall be managed to prevent breeding of mosquitoes. In particular:
  - a. There shall be no standing water 48 hours after irrigation;
  - b. Tailwater ditches must be maintained essentially 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 effluent.

**F. Groundwater Limitations**

- 1. Release of waste constituents from any portion of the WWTF and reclamation area shall not cause groundwater to:
  - a. Contain any of the following constituents in concentrations greater than listed or greater than natural background quality, whichever is greater:

<u>Constituent</u>	<u>Units</u>	<u>Limitation</u>
Boron	mg/L	0.7
Chloride	mg/L	106
Iron	mg/L	0.3
Manganese	mg/L	0.05
Sodium	mg/L	69
Total Coliform Organisms	MPN/100 mL	<2.2
Total Dissolved Solids <sup>1</sup>	mg/L	450
Total Nitrogen	mg/L	10
Nitrite (as N)	mg/L	1
Nitrate (as N)	mg/L	10
Ammonia (as NH <sub>4</sub> )	mg/l	1.5
Bromoform	µg/l	4
Bromodichloromethane	µg/l	0.27
Chloroform	µg/l	1.1
Dibromochloromethane	µg/l	0.37

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

- b. Contain any constituent not identified in Groundwater Limitation F.1.a in concentrations greater than background quality (whether chemical, physical, biological, bacteriological, radiological, or some other property or characteristic).
- c. Exhibit a pH of less than 6.5 or greater than 8.5 pH units.
- d. Impart taste, odor, toxicity, or color that creates nuisance or impairs any beneficial use.

**G. Provisions**

- 1. All of the following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared as described in Provision G.4.

- a. At least **30 days prior** to discharging treated effluent to the designated reclamation area, the Discharger shall submit a technical report documenting complete compliance with any and all requirements for disinfection system performance verification, cross connection control, runoff controls, modifications, and improvements set forth in this Order and/or the DHS' review of the Final Title 22 Engineering Report. The report shall include the corresponding DHS approval letter.
- b. At least **30 days prior** to discharging treated effluent to the designated reclamation area, the Discharger shall submit an Irrigation System Inspection Plan detailing the procedures and schedule for regular inspections designed to ensure that all system elements are functioning properly. The plan shall include as-built irrigation system plans and specific procedures for inspections and system adjustments or modifications to be made immediately upon discovery of any malfunction that threatens to cause a violation of this Order.
- c. At least **30 days prior** to WWTF start-up, the Discharger shall submit a report certifying substantial completion of WWTF construction. The report shall include as-built drawings signed and stamped by a California registered engineer showing the treatment plant layout; storage pond grading and liner system details; and a detailed description of construction quality assurance testing to ensure pond liner integrity. The report shall clearly document any significant deviation from the system design as presented in the RWD.
- d. **By 30 April 2003**, the Discharger shall submit a Groundwater Monitoring Workplan prepared in accordance with, and including the items listed in, the first section of Attachment C: "*Monitoring Well Workplan and Monitoring Well Installation Report Guidance*." The workplan shall describe a proposed expansion to the existing groundwater monitoring network specifically designed to ensure that background water quality is adequately characterized and any potential water quality impacts from the discharge are detected. The system shall be designed to yield samples representative of the uppermost portion of the first aquifer underlying the site. Additionally, because coliform organisms have been consistently detected in the existing monitoring wells, the workplan shall include a plan for well redevelopment and/or disinfection to eliminate potential cross contamination from drilling activities.
- e. **By 30 September 2003**, the Discharger shall submit a *Sanitary Sewer System Operation, Maintenance, Overflow Prevention, and Response Plan* (SSS Plan) that describes the actions designed to prevent, or minimize the potential for sanitary sewer overflows. The Discharger shall maintain the SSS Plan in an up-to-date condition and shall amend the SSS Plan whenever there is a change (e.g. in the design, construction, operation, or maintenance of the sanitary sewer system or sewer facilities) that materially affects the potential for sanitary sewer overflows, or whenever there is a sanitary sewer overflow. The Discharger shall ensure that the up-to-date SSS Plan is readily available to sewer system personnel at all times and that sewer system personnel are familiar with it.
  - i. At a minimum, the Operation and Maintenance portion of the plan shall contain or describe the following:



1. Detailed maps of the sanitary sewer system, identifying sewer mains, manholes, and lift stations;
  2. A detailed listing of elements to be inspected, a description of inspection procedures and inspection frequency, and sample inspection forms;
  3. A schedule for routine inspection and testing of all pipelines, lift stations, valves, and other key system components. The inspection/testing program shall be designed to reveal problems that might lead to accidental spills and ensure that preventive maintenance is completed;
  4. Provisions for repair or replacement of old, worn out, or defective equipment;
  5. Provisions to minimize the need for manual operation of critical systems and provide spill alarms or other “fail safe” mechanisms;
  6. The ability to properly manage, operate and maintain, at all times, all parts of the collection system that the Discharger owns or over which the Discharger has operational control;
  7. The ability to provide adequate capacity to convey base flows and peak flows for all parts of the collection system the Discharger owns or over which the Discharger has operational control; and
  8. How the Discharger will take all feasible steps to stop and mitigate the impact of sanitary sewer overflows in portions of the collection system the Discharger owns or over which the Discharger has operational control.
- ii. At a minimum, the Overflow Prevention and Response Plan shall contain or describe the following:
1. Identification of areas of the collection system that historically have overflowed and an evaluation of the cause of the overflow;
  2. Maintenance activities that can be implemented to address the cause of the overflow and means to prevent future overflows. Maintenance activities may include pretreatment of wastewater from industrial dischargers who discharge high concentrations of oil and grease in their wastewater;
  3. Procedures for responding to sanitary sewer overflows designed to minimize the volume of sewer overflow that enters surface waters, and minimize the adverse effects of sewer overflows on water quality and beneficial uses;
  4. Steps to be taken when an overflow or spill occurs, and procedures that will be implemented to ensure that all overflows and spills are properly identified, responded to and reported; and
  5. A public notification plan, in which any posting of areas contaminated with sewage is performed at the direction of the Stanislaus County Environmental Resources Department. All parties with a reasonable potential for exposure to an overflow event shall be notified.

- f. **By 30 October 2003**, the Discharger shall submit a Monitoring Well Installation Report prepared in accordance with, and including the items listed in, the second section of Attachment C: "*Monitoring Well Workplan and Monitoring Well Installation Report Guidance*." The report shall describe the installation and development of the new monitoring wells and explain any deviation from the approved workplan.
  - g. **By 30 December 2004**, the Discharger shall submit a *Background Groundwater Quality Study Report*. For each groundwater monitoring parameter/constituent identified in the MRP, the report shall present a summary of monitoring data and calculation of the concentration in background monitoring wells. Determination of background quality shall be made using the methods described in Title 27, Section 20415(e)(10), and shall be based on data from at least four consecutive quarterly (or more frequent) groundwater monitoring events. For each monitoring parameter/constituent, the report shall compare the calculated background concentration with the interim numeric limitations set forth in Groundwater Limitation F.1.a. Where background concentrations are statistically greater than the interim limitations specified in Groundwater Limitation F.1.a, the report shall recommend final groundwater limitations which comply with Resolution 68-16 for the waste constituents listed therein. Subsequent use of a concentration as a final groundwater limitation will be subject to the discretion of the Executive Officer.
2. If groundwater monitoring results show that the discharge of waste is causing groundwater to contain waste constituents in concentrations statistically greater than background water quality then, within 120 days of the request of the Executive Officer, the Discharger shall submit a *BPTC Evaluation Workplan* that sets forth the scope and schedule for a systematic and comprehensive technical evaluation of each component of the facility's waste treatment and disposal system to determine best practicable treatment and control for each waste constituent listed in the Groundwater Limitation F.1.a of this Order. The workplan shall contain a preliminary evaluation of each component of the WWTF and effluent disposal system and propose a time schedule for completing the comprehensive technical evaluation. The schedule to complete the evaluation shall be as short as practicable, and shall not exceed one year.
3. In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for investigations and studies, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall the professional's signature and/or stamp of the seal.
4. The Discharger shall comply with Monitoring and Reporting Program No. R5-2003-0019, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

5. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and made part of this Order by reference. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
6. The Discharger shall use the best practicable cost-effective control technique(s) including proper operation and maintenance, to comply with discharge limits specified in this order.
7. The Discharger shall provide certified wastewater treatment plant operators in accordance with Title 23 of the California Code of Regulations, Division 3, Chapter 26.
8. As described in the Standard Provisions, the Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
9. Upon the reduction, loss, or failure of the sanitary sewer system resulting in a sanitary sewer overflow, the Discharger shall take any necessary remedial action to (a) control or limit the volume of sewage discharged, (b) terminate the sewage discharge as rapidly as possible, and (c) recover as much as possible of the sewage discharged (including wash down water) for proper disposal. The Discharger shall implement all applicable remedial actions including, but not limited to, the following:
  - a. Interception and rerouting of sewage flows around the sewage line failure;
  - b. Vacuum truck recovery of sanitary sewer overflows and wash down water;
  - c. Use of portable aerators where complete recovery of the sanitary sewer overflows are not practicable and where severe oxygen depletion is expected in surface waters; and
  - d. Cleanup of sewage-related debris at the overflow site.
10. 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."
11. The Discharger shall not allow pollutant-free wastewater to be discharged into the wastewater 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.
12. The Discharger shall submit to the Regional Board on or before each compliance report due date, the specified document or, if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is being reported, then the Discharge shall state the reasons for such noncompliance and provide an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Board in writing when it returns to compliance with the time schedule.

13. In the event of any change in control or ownership of land or waste discharge facilities described herein, 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.
14. At least **90 days** prior to termination or expiration of any lease, contract, or agreement involving disposal or reclamation areas or off-site reuse of effluent, used to justify the capacity authorized herein and assure compliance with this Order, the Discharger shall notify the Regional Board in writing of the situation and of what measures have been taken or are being taken to assure full compliance with this Order.
15. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or recession of this Order.
16. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
17. The Regional Board will review this Order periodically and will revise requirements when necessary.

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 31 January 2003.

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THOMAS R. PINKOS, Executive Officer

AMENDED  
ALO:1/31/03