

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. 93-176
FOR
GRANT PARK DEVELOPMENT, LLC
DUNNIGAN WATER WORKS WASTEWATER TREATMENT FACILITY
YOLO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring the wastewater treatment facility (WWTF) influent, effluent, wastewater ponds, groundwater, and biosolids disposal. 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 Water Board staff shall approve specific sampling locations prior to any sampling activities. 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 sample shall be recorded on the sample chain of custody form.

Field test instruments (such as those used to test dissolved oxygen, pH, and electrical conductivity) may be used provided that:

1. The user is trained in proper use and maintenance of the instruments;
2. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer;
3. 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 this MRP.

WWTF INFLUENT MONITORING

The Discharger shall monitor influent wastewater in accordance with the following. Samples shall be representative of the influent to the first treatment pond. Grab samples are considered adequately composited to represent the influent. Influent monitoring shall include, at a minimum, the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Flow Meter Observation	Daily	Monthly
BOD ¹	mg/L	Grab	Weekly	Monthly
Total Suspended Solids	mg/L	Grab	Weekly	Monthly

¹ Five-day, 20° Celsius biochemical oxygen demand.

WWTF EFFLUENT MONITORING

The Discharger shall monitor pond effluent in accordance with the following. Samples shall be collected from the last wastewater treatment pond that contains water. Effluent monitoring shall include, at a minimum, the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Total Dissolved Solids	mg/L	Grab	Weekly	Monthly
Nitrate nitrogen	mg/L	Grab	Weekly	Monthly
Total Kjeldahl nitrogen	mg/L	Grab	Weekly	Monthly
Standard Minerals ¹	mg/L	Grab	Quarterly	Monthly ³
Metals ²	ug/L	Grab	Quarterly	Monthly ³

¹ Standard Minerals shall include, at a minimum, the following elements/compounds: boron, bromide, calcium, chloride, fluoride, magnesium, phosphate, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness as CaCO₃.

² At a minimum, the following metals shall be included: aluminum, arsenic, cadmium, copper, lead, iron, manganese, nickel, and zinc. Analytical methods shall be selected to provide reporting limits below the Water Quality Limit for each constituent.

³ Results shall be reported in the Monthly Monitoring Report for the month in which sampling occurs.

WWTF POND MONITORING

The Discharger shall monitor all ponds at the WWTF in accordance with the following. Samples shall be collected from permanent monitoring locations that will provide samples representative of the wastewater in each pond. Freeboard shall be measured vertically from the water surface to the lowest elevation of the pond berm, and shall be measured to the nearest 0.10 feet. Pond monitoring shall include, at a minimum, the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard	0.1 Feet	Staff Gauge Observation	Weekly	Monthly
Dissolved Oxygen ¹	mg/L	Grab	Weekly	Monthly
pH	pH units	Grab	Weekly	Monthly
Electrical Conductivity	umhos/cm	Grab	Weekly	Monthly

¹ Samples shall be collected opposite each pond inlet at a depth of one foot between 0700 and 0900 hours.

FACILITY INSPECTIONS

The Discharger shall inspect the WWTF at least weekly. At a minimum, the inspection shall include the following elements:

- a. Condition of fences designed to prevent public access.
- b. Odors discernible at the property boundary.
- c. Integrity of all berms, dikes, and levees, including consideration of damage from erosion, wave action, and burrowing rodents.
- d. Headworks damage and debris accumulation.
- e. Flow metering system function.
- f. Piping systems, including control valves and visible piping.

GROUNDWATER MONITORING

This monitoring program applies to all monitoring wells, including any constructed after completion of the initial groundwater monitoring well network. **Effective upon completion and development of the groundwater monitoring wells, but no later than 30 July 2007**, the Discharger shall establish a quarterly sampling schedule for groundwater monitoring, with samples obtained approximately every three months.

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

Prior to well purging, groundwater elevations shall be measured. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater elevations shall be calculated and used to determine groundwater gradient and direction of flow. The monitoring wells shall be purged of at least three well volumes or until temperature, pH, and electrical conductivity have stabilized. Samples shall be collected and analyzed using approved EPA methods. Groundwater monitoring shall include, at a minimum, the following:

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Depth to groundwater	0.01 feet	Measurement	Quarterly	Quarterly
Groundwater elevation ¹	0.01 feet	Calculated	Quarterly	Quarterly
Gradient	feet/feet	Calculated	Quarterly	Quarterly
Gradient direction	Degrees	Calculated	Quarterly	Quarterly
pH	pH units	Grab	Quarterly	Quarterly
Total dissolved solids	mg/L	Grab	Quarterly	Quarterly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Nitrate nitrogen	mg/L	Grab	Quarterly	Quarterly
Ammonia nitrogen	mg/L	Grab	Quarterly	Quarterly
Total Kjeldahl nitrogen	mg/L	Grab	Quarterly	Quarterly
Total coliform organisms ²	MPN/100 ml	Grab	Quarterly	Quarterly
Standard minerals ³	mg/L	Grab	Annually	Quarterly ⁵
Metals ⁴	ug/L	Grab	Annually	Quarterly ⁵

¹ Groundwater elevations shall be determined based on depth-to-water measurements using a surveyed elevation reference point on the well casing.

² Using a minimum of 15 tubes or three dilutions

³ Standard Minerals shall include, at a minimum, the following elements/compounds: boron, bromide, calcium, chloride, fluoride, magnesium, phosphate, potassium, sodium, sulfate, total alkalinity (including alkalinity series), and hardness as CaCO₃.

⁴ At a minimum, the following metals shall be included: aluminum, arsenic, cadmium, copper, lead, iron, manganese, nickel, and zinc. Analytical methods shall be selected to provide reporting limits below the Water Quality Limit for each constituent.

⁵ Results for constituents analyzed annually shall be reported in the fourth quarterly monitoring report each year.

BIOSOLIDS MONITORING

The Discharger shall keep records regarding biosolids generated by the treatment processes, including any analytical test results; the quantity of biosolids removed for disposal; the quantity of biosolids removed from the ponds and temporarily stored on site; and steps taken to prevent nuisance conditions. Records shall be stored onsite and shall be available for review during inspections.

If biosolids are transported off-site for disposal, then the Discharger shall submit records identifying the hauling company, the amount of biosolids transported, the date removed from the facility, the disposal facility name and address, and copies of all analytical data required by the entity accepting the waste. These records shall be submitted as part of the Annual Monitoring Report.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., influent, 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 Water Board.

A. Monthly Monitoring Reports

Monthly reports shall be submitted to the Regional Water Board on the **1st day of the second month following sampling** (i.e. the January Report is due by 1 March). Such reports shall bear the certification and signature of the Discharger's authorized representative. An example Monthly Monitoring Report is included as Attachment A.

At a minimum, the monthly monitoring reports shall include:

1. Results of the following monitoring:
 - a. WWTF Influent monitoring; and
 - b. WWTF pond monitoring.
2. A comparison of monitoring data to the discharge specifications, disclosure of any violations of the WDRs, and an explanation of any violation of those requirements. Data shall be presented in tabular format.
3. Copies of current calibration logs for all field test instruments.
4. If requested by staff, copies of laboratory analytical report(s).
5. A summary facility inspection and repair report. The following items shall be inspected at the specified frequency and specifically addressed in the report:
 - a. Condition of fences designed to prevent public access (monthly).
 - b. Odors discernible at the property boundary (weekly).
 - c. Integrity of all berms, dikes, and levees, including consideration of damage from erosion, wave action, and burrowing rodents (weekly).
 - d. Headworks damage and debris accumulation (weekly).
 - e. Flow metering system function (weekly).
 - f. Piping systems, including control valves and visible piping (weekly).

The facility inspection and repair report shall include the name of the person conducting the inspections, dates of inspection, problems identified, repairs recommended, repairs completed, and dates of completion.

B. Quarterly Monitoring Reports

The Discharger shall submit quarterly monitoring reports to the Regional Water Board by the **1st day of the second month after the quarter** (i.e. the January-March quarter is due by May 1st) each year.

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

The Quarterly Monitoring 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 WDRs, 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.
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 shall include all monitoring data required in the monthly/quarterly schedule. The Annual Report shall be submitted to the Regional Water 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 quarterly monitoring report for the last quarter of the year.

2. Analytical results for all annual monitoring.
3. If requested by staff, tabular and graphical summaries of all data collected during the year.
4. An evaluation of the performance of the WWTF, including discussion of capacity issues, infiltration and inflow (I/I), nuisance conditions, and a forecast of the flows anticipated in the next year.
5. An evaluation of the groundwater quality beneath the wastewater treatment facility.
6. A discussion of compliance and the corrective action taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements.
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.
8. Summary of information on the disposal of biosolids as described in the "Biosolids Monitoring" section.
9. A copy of the WWTF operator's current certification.

A letter transmitting the self-monitoring reports shall accompany each report. The 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 agents, as described in the Standard Provisions General Reporting Requirements Section B.3.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

(Date)

Attachment A: Example Monthly Monitoring Report

ALO:07/16/2007

ATTACHMENT A
REVISED MONITORING AND REPORTING PROGRAM NO. 93-176
EXAMPLE MONTHLY MONITORING REPORT

[Note: The following is a suggested monthly report format that complies with the reporting requirements set forth in the MRP and the Standard Provisions and Reporting Requirements. The Discharger is not required to use the example monthly monitoring report, but all monthly monitoring reports must comply with the MRP and the Standard Provisions and Reporting Requirements.]

DATE: _____

TO:

Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670

Attention: Anne Olson

FROM:

Grant Park Development, LLC
Dunnigan Water Works
P.O. Box 730
Dunnigan, CA 95937

MONTHLY MONITORING REPORT FOR _____
(month) (year)

**GRANT PARK DEVELOPMENT, LLC
DUNNIGAN WATER WORKS WASTEWATER TREATMENT FACILITY
YOLO COUNTY**

Enclosed is the monthly monitoring report for the Dunnigan Water Works wastewater treatment facility in Yolo County. The report covers the monitoring period noted above.

The following attachments comprise this monitoring report:

- A. Influent Monitoring Summary
- B. Effluent Monitoring Summary
- C. Pond Monitoring Summary
- D. Violation Reporting
- E. Facility Inspection and Repair Report and Violation Summary
- F. Field instrument calibration logs dated _____
- G. Analytical laboratory report(s) dated _____

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine.

(signature)

(date)

(printed name)

(month) _____ (year) _____

A. INFLUENT MONITORING

Day of Month	Influent Flow (gpd)	BOD (mg/L)	TSS (mg/L)
Monitoring frequency:	Daily	Weekly	Weekly
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
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31			

BOD = biochemical oxygen demand TSS = total suspended solids gpd = gallons per day

(month) _____ (year) _____

B. EFFLUENT MONITORING

Week		Week 1	Week 2	Week 3	Week 4
Sampling Date					

Parameter	Units	Analytical Result			
Total dissolved solids	mg/L				
Nitrate nitrogen	mg/L				
Total Kjeldahl nitrogen	mg/L				
Standard Minerals	(Quarterly only)				
Boron	mg/L				
Bromide	mg/L				
Calcium	mg/L				
Chloride	mg/L				
Fluoride	mg/L				
Magnesium	mg/L				
Phosphate	mg/L				
Potassium	mg/L				
Sodium	mg/L				
Sulfate	mg/L				
Total alkalinity	mg/L				
Bicarbonate alkalinity	mg/L				
Carbonate alkalinity	mg/L				
Hydroxide alkalinity	mg/L				
Hardness as CaCO ₃	mg/L				
Metals	(Quarterly only)				
Aluminum	ug/L				
Arsenic	ug/L				
Cadmium	ug/L				
Copper	ug/L				
Lead	ug/L				
Iron	ug/L				
Manganese	ug/L				
Nickel	ug/L				
Zinc	ug/L				

(month) _____ (year) _____

C. POND MONITORING

Parameter:	Freeboard	Dissolved Oxygen	pH	Electrical Conductivity
Monitoring Frequency:	Weekly	Weekly	Weekly	Weekly
Sample Type:	Observation	Grab	Grab	Grab
Units:	feet	mg/L	pH units	umhos/cm
Week 1				
Date:				
Pond No. 1				
Pond No. 2				
Pond No. 3				
Pond No. 4				
Week 2				
Date:				
Pond No. 1				
Pond No. 2				
Pond No. 3				
Pond No. 4				
Week 3				
Date:				
Pond No. 1				
Pond No. 2				
Pond No. 3				
Pond No. 4				
Week 4				
Date:				
Pond No. 1				
Pond No. 2				
Pond No. 3				
Pond No. 4				

D. VIOLATION REPORTING

Discuss all violations of the WDRs and MRP during the monitoring period. For each violation, explain the reason(s) for the violation and steps that will be taken to prevent recurrence.

(month) _____ (year) _____

E. SUMMARY FACILITY INSPECTION AND REPAIR REPORT

Inspection Date	Inspector	Problems identified, repairs recommended, repairs completed, and date of completion
Fence Condition (monthly)		
Odors (weekly)		
Pond berms (weekly)		
Headworks (weekly)		
Flow meter (weekly)		
Piping system (weekly)		