

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

REVISED MONITORING AND REPORTING PROGRAM NO. R5-2002-0076  
DARK HORSE SUBDIVISION  
DARK HORSE, LLC  
NEVADA COUNTY

This Monitoring and Reporting Program (MRP) incorporates requirements for monitoring of the influent, effluent, groundwater, and other aspects of the wastewater collection, treatment, and disposal system at the Dark Horse Subdivision and is issued pursuant to Water Code Section 13267. This Revised MRP is effective upon date of signature. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All wastewater samples should be representative of the volume and nature of the discharge. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

Field test instruments (such as pH and dissolved oxygen meters) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are field calibrated prior to each use;
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.

**WASTEWATER TRUCKING MONITORING**

As long as the wastewater is being trucked to the Lake of the Pines Wastewater Treatment Facility, the Discharger shall: (a) monitor the daily influent flow to the Wastewater Treatment Plant, (b) submit copies of signed receipts from the licensed wastewater hauler showing the volume of wastewater trucked to the treatment facility, (c) conduct Collection System and Treatment Plant monitoring and reporting as described in this MRP (starting on Page 2), (d) submit monthly monitoring reports as required by the MRP, and (d) submit quarterly monitoring reports that only include information pertaining to the inspection reports associated with the collection system and treatment plant monitoring. However, once the wastewater treatment and disposal system is operational, all of the monitoring and reporting requirements included in this MRP must be completed.

**INFLUENT MONITORING**

The Discharger shall monitor the Wastewater Treatment Plant influent for the following constituents according to the following schedule:

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow <sup>1</sup>	gpd	Continuous	Daily	Monthly
BOD <sub>5</sub> <sup>2</sup>	mg/L	Grab	Monthly	Monthly

<sup>1</sup> Flow shall be determined from a calibrated metering device.

<sup>2</sup> 5-day, 20°C Biochemical Oxygen Demand

### EFFLUENT MONITORING

Effluent samples shall be collected downstream from the effluent pumping tank outfall to the land application areas. Effluent samples should be representative of the volume and quality of the discharge. Sample collection time and person's name collecting them shall be recorded. Effluent discharged to irrigated land application areas shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Sample Type</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
pH <sup>1</sup>	pH units	Grab	Monthly	Monthly
Turbidity <sup>1</sup>	NTU	Grab	Monthly	Monthly
Total Coliform Organisms	MPN/100 mL	Grab	Monthly	Monthly
BOD <sub>5</sub> <sup>2</sup>	mg/L	Grab	Monthly	Monthly
Total Dissolved Solids	mg/L	Grab	Monthly	Monthly
Total Nitrogen	mg/L	Grab	Monthly	Monthly
Nitrate as Nitrogen	mg/L	Grab	Monthly	Monthly
Total Kjeldahl Nitrogen	mg/L	Grab	Monthly	Monthly
Total Suspended Solids	mg/L	Grab	Monthly	Monthly

<sup>1</sup> Hand held field meter may be used

<sup>2</sup> 5-day, 20°C Biochemical Oxygen Demand

### SUBSURFACE IRRIGATION DISPOSAL AREA MONITORING

Inspections of the subsurface irrigation disposal areas shall be conducted on a monthly basis, and shall consist of a physical evaluation of the disposal site area to determine whether waste is being contained beneath the ground surface. The ground in the immediate vicinity and surrounding the disposal site shall be inspected to determine the presence of effluent on the ground surface. The inspection report shall include any findings of springs, unusual ponding, or otherwise surfacing effluent, which would indicate a failure to the system.

A written report of the conditions observed in each area shall be prepared following each inspection, and shall be submitted with the monthly report. Such written description shall include name of the person making the entry, the condition of all the items listed in the above paragraph, and shall identify any maintenance work necessary (i.e., mowing of grass) on the physical aspects of the system

### COLLECTION SYSTEM AND TREATMENT PLANT MONITORING

An operator log shall be kept on-site for all operation and maintenance activities and be made available for review on request. Overflows from either system must be reported immediately in

accordance with the *Standard Provisions*. Components of the collection system and treatment plant shall be monitored at a minimum for physical condition and operation as follows:

<u>Component</u>	<u>Inspections per O &amp; M Manual</u>	<u>Reporting Frequency</u>
Collection Piping	Odors, Piping, Manholes, and Grease Traps	Quarterly
Lift Station	Odors, Grease, Water Level, and Debris	Quarterly
Force Main	Odors, Cracks, Leaks, and Abnormalities	Quarterly
Treatment Plant	Odors, Grease, Leaks, and Equip. Function	Quarterly
Alarm Systems	Alarm actuation and Auto Dialer function	Quarterly
Backup Power	Auto function, Operational test and visual fuel containment	Quarterly

### SLUDGE MONITORING

The volume of sludge removed shall be reported annually. A composite sample of sludge shall be collected in accordance with EPA's POTW Sludge Sampling and Analysis Guidance Document, August 1989, when removed from the digester and tested for the following metals on an annual basis:

Cadmium	Copper	Nickel	Mercury
Chromium	Lead	Zinc	Iron

Sampling records shall be retained for a minimum of five years. An entry in the operators log shall be kept of sludge quantities generated and of handling and disposal activities. The log shall be part of the annual report.

### GROUNDWATER MONITORING

Prior to construction and/or sampling of any groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Water Board for review and approval. 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. Water table elevations shall be calculated and used to determine groundwater gradient and direction of flow. Samples shall be collected using standard EPA methods. The Quarterly Report shall include 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 <sup>1</sup>	0.01 feet	Grab	Quarterly	Quarterly
Total Coliform Organisms	MPN/100 ml	Grab	Quarterly	Quarterly

<u>Constituent</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
pH	pH units	Grab	Quarterly	Quarterly
Trihalomethanes <sup>2</sup>	ug/L	Grab	Quarterly	Quarterly
Total Dissolved Solids	mg/L	Grab	Quarterly	Quarterly
Nitrate as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Nitrite as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Ammonia as Nitrogen	mg/L	Grab	Quarterly	Quarterly
Chloride	mg/L	Grab	Quarterly	Quarterly
Iron	mg/L	Grab	Quarterly	Quarterly
Boron	mg/L	Grab	Quarterly	Quarterly
Manganese	mg/L	Grab	Quarterly	Quarterly
Sodium	mg/L	Grab	Quarterly	Quarterly
Standard Minerals <sup>3</sup>	mg/L	Grab	Annually	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> Individual trihalomethane constituent concentrations shall be identified, using EPA Method 8260B or equivalent.

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

### 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>	<u>Reporting Frequency</u>
Total Dissolved Solids	mg/L	Annually	Annually
pH	pH Units	Annually	Annually
Standard Minerals <sup>1</sup>	mg/L	Annually	Annually

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

### REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type, 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.

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 Professional Geologist and signed by the registered professional.

Certification of the monitoring reports shall be as specified in General Reporting Requirements B.3. of the *STANDARD PROVISIONS AND REPORTING REQUIREMENTS FOR WASTE DISCHARGE REQUIREMENTS*, dated 1 March 1991, which is commonly referenced as the *Standard Provisions*.

#### **A. Monthly Monitoring Reports**

Monthly reports shall be submitted to the Regional Water 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. During the period that the wastewater treatment and subsurface disposal system is not operational, a status report shall be included stating that it is not operational and providing a timeline for completion. In addition, the report shall include copies of signed receipts from the licensed wastewater hauler showing the volume of wastewater trucked to the Lake of the Pines Wastewater Treatment Facility.
2. Once the wastewater treatment and disposal system is operational, then the report shall include the following:
  - a. All continuous, daily, weekly, and monthly monitoring conducted during the month;
  - b. A narrative description of all preparatory, monitoring, sampling, and analytical testing activities. The narrative shall be sufficiently detailed to verify compliance with this Monitoring and Reporting Program (MRP), Waste Discharge Requirements (WDRs), and the *Standard Provisions*;
  - c. 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;
  - d. If requested by staff, copies of laboratory analytical report(s); and
  - e. 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. Inspection reports associated with the wastewater collection system and treatment plant.

### **C. Annual Monitoring Report**

The December monthly report (**due by 1<sup>st</sup> day of February each year**) shall also serve as an Annual Monitoring Report. At a minimum, the Annual Monitoring Report shall include the following:

1. The contents of the December quarterly report and summarize all data collected during the year;
2. Tabular and graphical summaries of all well monitoring data obtained during previous years;
3. Information about disposal of screenings, sludges from domestic wastewater septic tanks, or other solids removed from liquid wastes that were disposed during the year such as volume, location, date, and transportation used;
4. A scaled Subdivision map showing each lot's status, its type of wastewater disposal system, location of the Community Collection System, lift stations, Community Disposal

System, surface water monitoring locations, groundwater monitoring wells, and other relevant monitoring points, structures, and/or features of the wastewater collection, treatment, and disposal systems;

5. A narrative discussion of the analytical results for all media and locations monitored, including spatial and temporal trends, with reference to summary data tables, graphs, and appended analytical reports (as applicable);
6. A comparison of monitoring data to the discharge specifications, groundwater limitations and surface water limitations, and explanation of any violation of those requirements;
7. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system and/or reporting program;
8. The names, certificate grades, and general responsibilities of all persons employed by the Discharger;
9. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations;
10. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration;
11. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment and disposal facilities as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy; and
12. Results of the annual water supply monitoring.

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. Pursuant to Standard Provisions, General Reporting requirements B.3, the transmittal letter shall contain the following statement by the Discharger, or the Discharger's authorized agent:

*"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 on my inquiry of the those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."*

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

Original Signed By  
Ordered by: \_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer  
\_\_\_\_\_  
27 March 2008  
(Date)

gjc: 27 Mar-08