

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. R5-2008-0022

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
FOR

CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION
DEUEL VOCATIONAL INSTITUTION WASTEWATER TREATMENT SYSTEM
IMPROVEMENT PROJECT DEWATERING DISCHARGE TO LAND
SAN JOAQUIN COUNTY

WHEREAS, Water Code Section 13260(a) requires that any person discharging wastes or proposing to discharge wastes within the region that could affect the quality of waters of the State shall file a Report of Waste Discharge (RWD); and

WHEREAS, California Department of Corrections and Rehabilitation (hereafter referred to as "Discharger"), submitted an RWD for the discharge of extracted groundwater to support construction of the Deuel Vocational Institution Wastewater Treatment System Improvement Project (WTSIP) on 27 December 2007; and

WHEREAS, the WTSIP is required to comply with Regional Water Board Waste Discharge Requirements Order No. R5-2003-0065 and Cease and Desist Order No. R5-2005-0152; and

WHEREAS, with regard to dewatering, the WTSIP can be described as the Headworks/Aeration Tank Excavation Project and the Pipeline Excavation Project. Dewatering may occur simultaneously or individually. All dewatered groundwater will be discharged to the same outfall location; and

WHEREAS, the entire project site, including the dewatering discharge area, encompasses portions of Sections 20, 21, 28, 29, 32, and 33, T2S, R6E MDB&M, and is depicted on Attachment A, which forms part of this resolution by reference; and

WHEREAS, the wastewater discharge area ("designated disposal area") is owned by the Discharger, and consists of approximately 178 acres. The designated disposal area is depicted on Attachment B, which forms part of this resolution by reference; and

WHEREAS, the Discharger completed calculations based on soil types and estimated hydraulic conductivity to develop a groundwater model to estimate the number and spacing of dewatering wells and associated pumping rates to sustain the localized groundwater drawdown required to complete construction; and

WHEREAS, shallow groundwater will be extracted through a series of shallow wells within the dewatering area and will be discharged to the designated disposal area for percolation. The well configurations are as follows: and

- At the Headworks/Aeration Tank Excavation Project an estimated 15 wells will be installed. Extraction rates are estimated to be from 16 to 150 gpm/well. The resulting pumping rates are estimated to be from 240 gpm to 2,250 gpm (345,600 to 3,240,000 gallons per day).
- At the Pipeline Excavation Project an estimated 7 wells will be installed. Extraction rates are estimated to be from 24 to 71 gpm/well. The resulting pumping rates are estimated to be from 168 gpm to 497 gpm (241,920 to 715,680 gallons per day).

WHEREAS, dewatering wells will be approximately 55 feet deep for the Headworks/Aeration Tank Excavation Project and 40 feet deep for the Pipeline Excavation Project to provide adequate dewatering for construction activities. Well permits will be obtained from the San Joaquin County Environmental Health Department; and

WHEREAS, dewatering is expected to begin in January 2008 and end by November 2008; and

WHEREAS, extracted groundwater will be conveyed approximately 1.9 miles by an existing toe drain at the base of the levee at the eastern property boundary, to an existing irrigation pump station. The extracted groundwater will be discharged to the toe drain at a location south of any potentially sensitive areas identified in the mitigated negative declaration. From there, the water will be pumped at the irrigation pump station to the Discharger's Big Reservoir. Water will flow by gravity from Big Reservoir through a distribution system that will apply the water through row and furrow flood irrigation of the 178 acre designated disposal area; and

WHEREAS, during months when precipitation exceeds evaporation rates, the applied water may pond on the surface of the designated disposal area. If mosquito breeding occurs in the designated disposal area, the Discharger will consult with the San Joaquin County Mosquito and Vector Control District; and

WHEREAS, containment berms surround the designated disposal area. Management of discharge rates will be used to contain the water at all times. If necessary due to extreme precipitation conditions, two emergency ponds (Dairy 1 and 2) can be used to store excess water and an additional 270 acres are available for disposal of extracted groundwater; and

WHEREAS, a dairy exists at the facility and wastewater originating at the dairy is normally stored in ponds during the winter months and applied to land application areas during the growing season. The Discharger has stated that livestock will be removed from the facility if the land application areas are needed for application of extracted groundwater as described above. Dairy wastewater will not be applied to the designated disposal area used for the extracted groundwater; and

WHEREAS, shallow groundwater is typically 2 to 5 feet below the surrounding grade at the dewatering site. Local groundwater flow is generally towards the west to southwest; and

WHEREAS, based on groundwater monitoring data performed, three locations of groundwater contamination exist at the facility. They are: the burn pit, maintenance building Underground Storage Tank (UST), and the wastewater treatment plant UST; and

- At the burn pit, groundwater is polluted with volatile organic compounds that include trichloroethylene, perchloroethylene, and daughter products of TCE and PCE.
- At the maintenance building UST site, groundwater is polluted with diesel and gasoline petroleum hydrocarbons and the gasoline constituents benzene and methyl t-butyl ether (MTBE).
- At the wastewater treatment plant UST site, groundwater is polluted with diesel petroleum hydrocarbons.

WHEREAS, the groundwater at the three chemical release sites is being remediated under the supervision of the Regional Water Board; and

WHEREAS, because groundwater contaminants including volatile organic compounds, and petroleum hydrocarbons have been detected in on-site groundwater samples, and the dewatered groundwater has the potential to contain these contaminants, the Discharger has elected to treat all extracted groundwater with granular activated carbon (or an equivalent treatment method that results in non-detectable contaminant concentrations in the treated water) prior to discharge into the toe drain; and

WHEREAS, groundwater samples from the designated disposal area were not tested, but there is no reason to believe that the shallow groundwater quality below the designated disposal area is impacted with pollutants, including petroleum hydrocarbons or volatile organic compounds. Furthermore, aside from the pollutants described above, shallow groundwater quality is likely of similar quality at the dewatering area and at the designated disposal area; and

WHEREAS, the RWD included a water balance that demonstrates adequate disposal capacity for up to 832,000 gpd on average using a reasonably conservative numerical model that considers 100-year return annual precipitation amounts and normal evaporation and percolation rates; and

WHEREAS, on 7 April 2006, the California Department of Corrections and Rehabilitation approved a mitigated negative declaration for the wastewater treatment system improvements. Mitigation measures related to water quality were included in the document, and included a requirement to provide setbacks from the areas of the toe drain that are considered as potential freshwater marsh. The Discharger will mitigate the potential impact by piping extracted groundwater approximately 800 feet south to an area that is not considered potential freshwater marsh; and

WHEREAS, surface water drainage from the project site is to the Sacramento San Joaquin Delta Hydrologic Unit; and

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WHEREAS, the beneficial uses of the San Joaquin River (within the Sacramento San Joaquin Delta Hydrologic Area) are municipal and domestic supply; agricultural supply; industrial process supply; industrial service supply; water contact recreation; non-contact water recreation; warm freshwater habitat; cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; wildlife habitat; and navigation; and

WHEREAS, the designated beneficial uses of the groundwater are municipal and domestic supply, agricultural supply, and industrial service supply and industrial process supply; and

WHEREAS, the Regional Water Quality Control Board, Central Valley Region (Regional Water Board) has a statutory obligation to prescribe waste discharge requirements except where a waiver is not against the public interest; and

WHEREAS, the Regional Water Board has determined that due to the fact that shallow groundwater will be extracted from, and discharged back into, the same aquifer with low to moderate potential for evapoconcentration in or near the same area from which it was extracted, and treatment will be provided to remove waste constituents such as petroleum hydrocarbons and volatile organic compounds, the discharge poses little or no threat to water quality if the discharge is temporary and water is discharged under conditions that prevent discharge to surface water; and

WHEREAS, 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 having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports";* and

WHEREAS, the reports required by attached Monitoring and Reporting Program No. R5-2008-0022 are necessary to ensure compliance with this Resolution. The Discharger owns and operates the facility that discharges the waste subject to this Order; and

WHEREAS, the Regional Water Board held a hearing on 25 January 2008 in Rancho Cordova, California and considered all evidence concerning this matter:

RESOLVED, that the California Regional Water Quality Control Board, Central Valley Region, waives waste discharge requirements for the California Department of Corrections and

Rehabilitations' Deuel Vocational Institution Wastewater Treatment System Improvement Project dewatering discharge, subject to the following conditions:

Discharge Prohibitions

1. Discharge of extracted groundwater to surface waters or surface water drainage courses is prohibited.
2. Discharge of waste classified as "hazardous" as defined in 27 CCR Section 20164 is prohibited.
3. Discharge of extracted groundwater to the toe drain or other surface water drainage course containing detectable concentrations of total petroleum hydrocarbons or volatile organic compounds is prohibited.
4. Bypass or overflow of extracted groundwater from the designated disposal area, the additional 270 acres, dairy ponds no. 1 or 2, or the toe drain shown on Attachment B is prohibited.
5. The application of dairy wastewater to the designated disposal area shown on Attachment B is prohibited for the duration of the dewatering project.
6. If extracted groundwater is discharged to the additional 270 acres as a result of hydraulic conditions, the application of dairy wastewater is prohibited.

Discharge Specifications:

1. The daily discharge flow shall not exceed 832,000 gallons per day as a 30-day average except during the first 15-days of dewatering at the headworks/aeration tank site where the maximum flow rate shall not exceed 1,600,000 gallons per day over the 15-day time period.
2. The discharge shall not cause a condition of pollution or nuisance as defined by the California Water Code, Section 13050.
3. All extracted groundwater shall be treated with granular activated carbon or an equivalent treatment method to assure compliance with Discharge Prohibition No. 3 prior to discharge to the toe drain. If the Discharger determines treatment is not necessary because contaminants are not present, the data shall be submitted to the Executive Officer. Treatment may cease upon approval of the Executive Officer.
4. By **29 February 2008** the Discharger shall submit a technical report that describes the configuration of the granular activated carbon (or equivalent treatment system) and describes the granular activated carbon replacement protocol.
5. Objectionable odor originating at the discharge areas shall not be perceivable beyond the limits of those areas.
6. The Discharger shall operate all systems and equipment to optimize the quality of the discharge. In particular, care shall be taken to prevent erosion of the toe drain.

7. Storm water best management practices, as described in Storm Water Pollution Prevention Plans prepared for the construction activities, shall be implemented at all times.
8. This waiver expires on 1 November 2009. The Discharger must submit an RWD at least 120 days before the expiration date to obtain a new waiver if they wish to continue the discharge after the expiration date.

Provisions

1. Pursuant to Section 13267 of the California Water Code, the Discharger shall comply with the monitoring and reporting requirements prescribed in Monitoring and Reporting Program No. R5-2008-0022. In so doing, 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.

RESOLVED, that this action waving waste discharge requirements is conditional and may be terminated at any time prior to 1 November 2009.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a true, full, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 25 January 2008.

Original signed by

PAMELA C. CREEDON, Executive Officer

Attachments: Monitoring and Reporting Program
 A – Site Location Map
 B – Site Plan
 Standard Provisions and Reporting Requirements

TRO: 1/25/08

REVISED

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2008-0022

FOR

CALIFORNIA DEPARTMENT OF CORRECTIONS AND REHABILITATION
DEUEL VOCATIONAL INSTITUTION WASTEWATER TREATMENT SYSTEM
IMPROVEMENT PROJECT DEWATERING DISCHARGE TO LAND
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This Monitoring and Reporting Program (MRP) describes requirements for monitoring extracted groundwater and the designated disposal area. 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.

DESIGNATED DISPOSAL AREA MONITORING

The Discharger shall monitor the dewatering discharge areas in accordance with the following. Monitoring shall be performed daily and the results shall be included in the monthly monitoring report. Erosion, ground saturation, the effectiveness of containment berms and levees, and nuisance conditions shall be evaluated weekly and discussed in the report. The discharge shall also be monitored to estimate hydraulic loading rates.

<u>Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
Extracted groundwater flow rate	gallons	Metered	Daily	Monthly
Rainfall ¹	Inches	Measurement	Daily	Monthly
Net acreage receiving the discharge ²	Acres	Estimation	Daily	Monthly
Nuisance Conditions ³	Observation	NA	Daily	Monthly
Evidence of discharge outside the designated disposal area ⁴	Present or Absent		Daily	Monthly

¹ Rainfall can be reported from data collected from an on-site weather station or a nearby government operated weather station.

² Acreage shall name all fields that received water. The acreage for each field shall be estimated.

³ Nuisance conditions consist of objectionable odors, presence or breeding of mosquitoes, or other objectionable vector.

⁴ The description shall include evidence of erosion, ground saturation, effectiveness of containment berms and levees.

TREATMENT SYSTEM MONITORING

The Discharger shall monitor effluent from the treatment system in accordance with the following. Monitoring shall be performed weekly and the results shall be included in the monthly monitoring report. This monitoring is required unless the Executive Officer approves operation of the dewatering system without use of a treatment system based on the extracted groundwater quality.

<u>Parameter</u>	<u>Units</u>	<u>Analytical Method</u> ¹	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
VOCs ²	mg/L	EPA Method 8260B	Weekly	Monthly
TPH-G	mg/L	EPA Method 8015B	Weekly	Monthly
TPH-D	mg/L	EPA Method 8015B	Weekly	Monthly
MTBE	mg/L	EPA Method 8260	Weekly	Monthly
GAC ³	Pounds	Measurement	Monthly	Monthly

VOCs denotes Volatile Organic Compounds. TPH-G denotes Total Petroleum Hydrocarbons as Gasoline. TPH-D denotes Total Petroleum Hydrocarbons as Diesel. MTBE denotes Methyl T-Butyl Ether. GAC denotes Granular Activated Carbon.

¹ Analytical method specified or equivalent.

² VOCs analysis can be limited to cis- and trans-1,2-Dichlorethene, Tetrachloroethene (PCE), Trichloroethene (TCE).

³ GAC monitoring shall consist of reporting the number of GAC pounds replaced during the month. If a carbon change out was not performed, the report shall so state.

REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date and monitoring results are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with the conditions of Resolution No. R5-2008-0022. 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 monitoring** (i.e. the January Report is due by 1 March). At a minimum, the monthly monitoring reports shall include the results of the designated disposal area monitoring, treatment system monitoring, and description of the amount of granular activated carbon or other treatment residual used or a detailed discussion of any alternative treatment method implemented.

B. Annual Report

An Annual Report shall be prepared after each year and after completion of the project. The Annual Report shall include all monitoring data required in the monthly schedule, and 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. Tabular and graphical summaries of all data collected during the year.
2. An evaluation of the discharge areas and discussion of any structural or operational improvements needed for future use of these areas.

3. A discussion of compliance and the corrective action taken.
4. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program.

A letter transmitting the self-monitoring reports shall accompany each report. The letter shall include a discussion of all problems found during the reporting period, and actions taken or planned for correcting them, such as operation or facility modifications. If the Dischargers have 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.

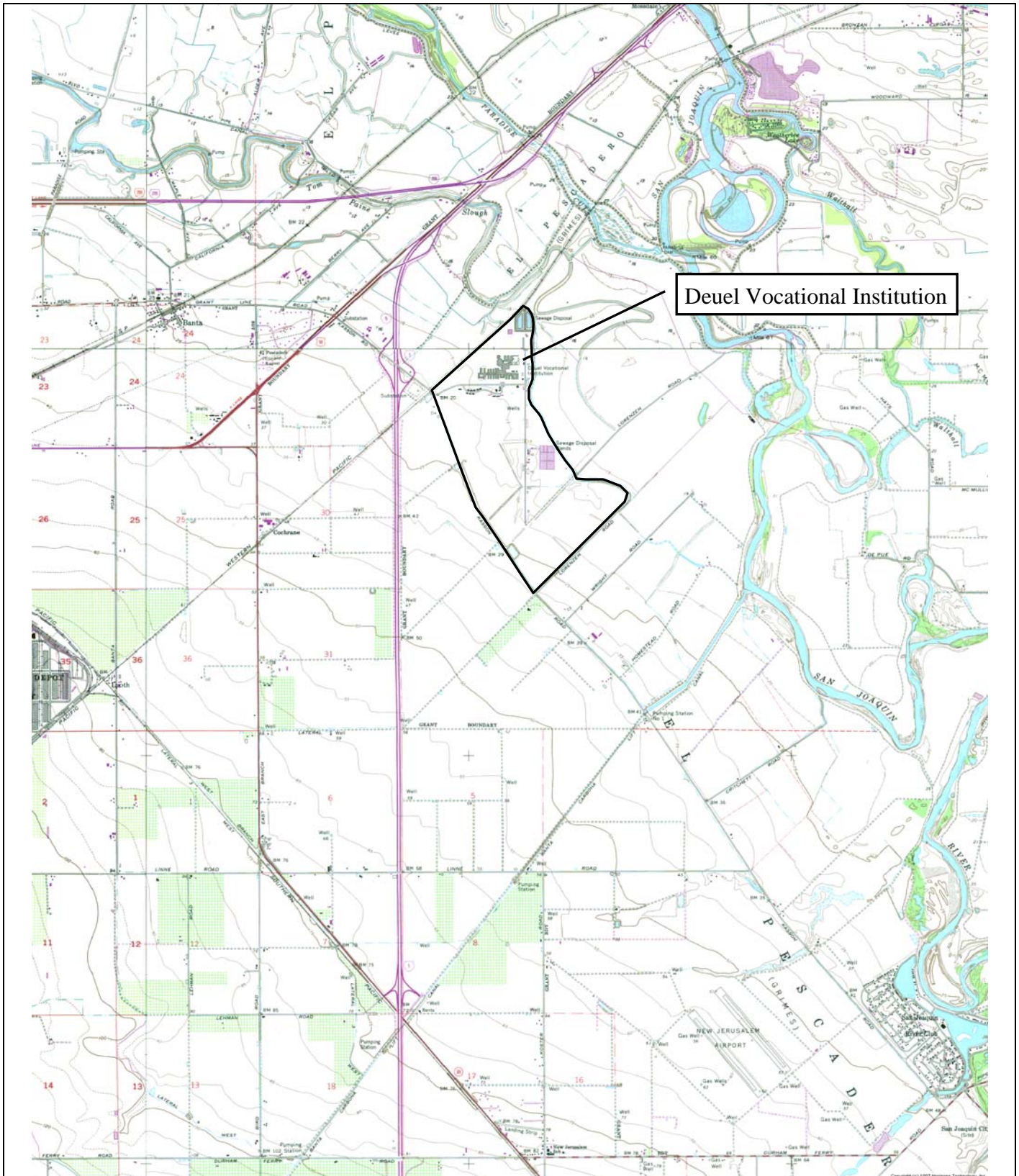
The Discharger shall implement the above monitoring program as of the date of this Resolution.

Original signed by
Ordered by: _____
PAMELA C. CREEDON, Executive Officer

25 January 2008
(Date)

TRO: 1/25/08

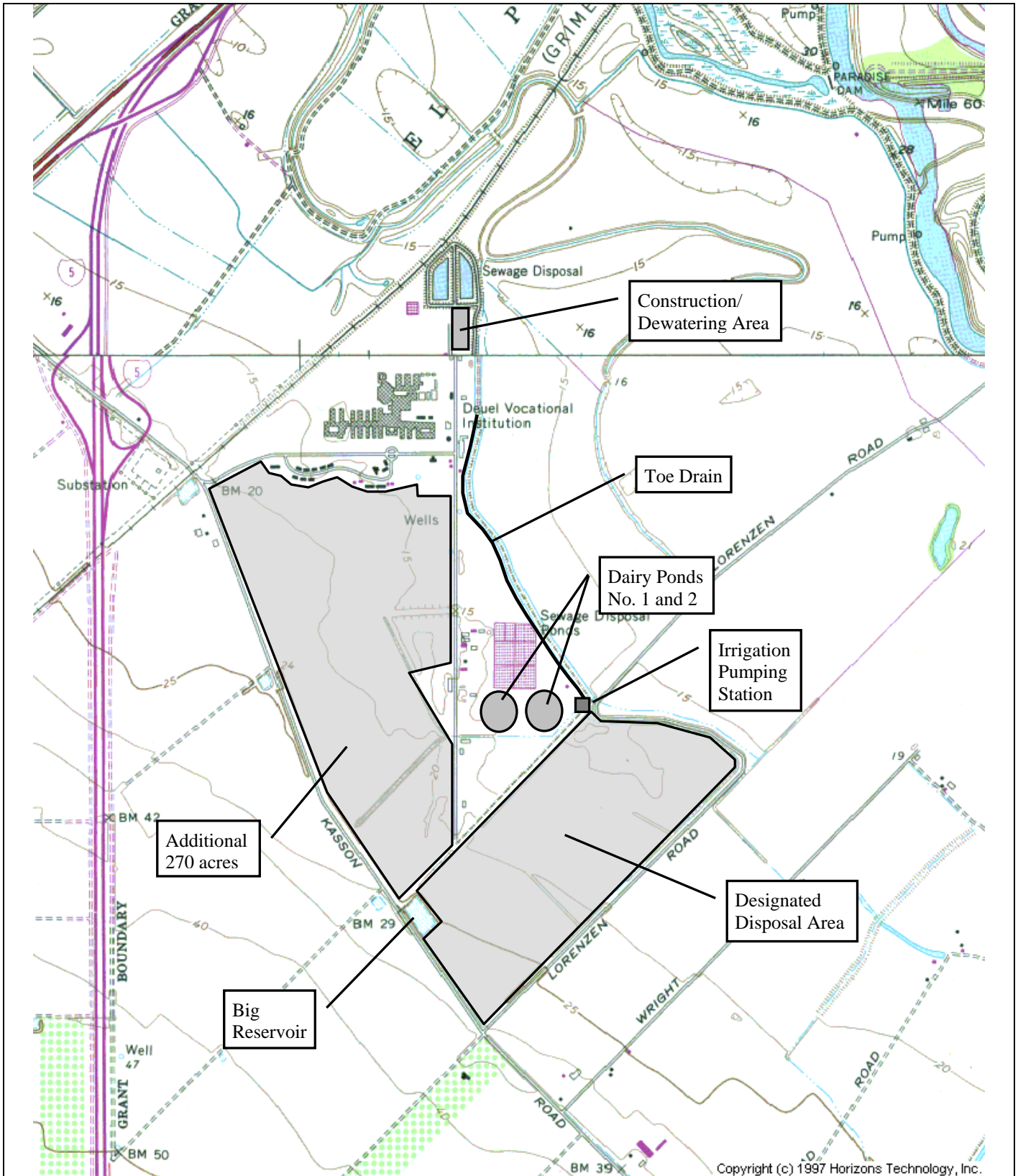
REVISED



Drawing Reference:
U.S.G.S
Vernalis, Topographic
Map, 7.5 min quad

SITE LOCATION MAP
Deuel Vocational Institution
23500 Kasson Road
Tracy, San Joaquin County

approx. scale
1 in. = 5,100 ft.



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Drawing Reference:
 U.S.G.S
 Quad Name
 TOPOGRAPHIC MAP
 7.5 MINUTE QUAD

SITE PLAN
 Deuel Vocational Institution
 23500 KASSON ROAD
 Tracy, San Joaquin County

approx. scale
 1 in. = 3,600 ft.