

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

RESOLUTION NO. R5-2007-0178

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS  
FOR  
CONTRA COSTA WATER DISTRICT, CALIFORNIA DEPARTMENT OF WATER  
RESOURCES, AND IRONHOUSE SANITARY DISTRICT  
CONTRA COSTA CANAL REPLACEMENT PHASE I  
DEWATERING DISCHARGE TO LAND  
CONTRA COSTA 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, Contra Costa Water District, the California Department of Water Resources, and Ironhouse Sanitary District (hereafter referred to as "Dischargers"), submitted a RWD for the discharge of extracted groundwater to support construction of Phase I of the Contra Costa Canal Replacement Project on 18 June 2007, and additional information was received on 24 October 2007; and

WHEREAS, on 29 November 2006, the Contra Costa Water District Board of Directors approved a Mitigated Negative Declaration for all phases of the Contra Costa Canal Replacement Project. Submittal of a RWD for discharges of dewatering water and compliance with the NPDES General Permit for Discharges of Storm Water Associated with Construction Activities were the only mitigation measures related to water quality included in the adopted Mitigated Negative Declaration. The Dischargers have submitted the required RWD for Phase I of the project; and

WHEREAS, the Contra Costa Canal Replacement Project is along the alignment of the existing Contra Costa Canal between Rock Slough and Pumping Station No. 1 on the east side of Oakley. The entire project site, including the Phase I dewatering discharge areas, encompasses portions of Sections 24 and 25, T2N, R2E and Sections 19, 28, 29, 30 and 33, T2N, R3E and MDB&M, and is depicted on Attachment A, which forms part of this resolution by reference; and

WHEREAS, the dewatering discharge sites for Phase I are owned by Ironhouse Sanitary District (approximately 90 acres on Assessors Parcel Numbers 037-191-034, 037-192-011, and 037-192-009) and the California Department of Water Resources (approximately 426 acres on Assessors Parcel Number 037-191-036); and

WHEREAS, the project will include excavation of the existing canal and dewatering along its entire length to facilitate placement of a 10-foot diameter reinforced concrete pipeline at an approximate depth of 20 feet to replace the unlined canal; and

WHEREAS, Phase I of the project includes installing a cofferdam in the existing canal approximately 800 feet east of Marsh Creek, installing 2,400 feet of pipeline from Pumping

Plant Number 1 to the cofferdam, and constructing the pumping station transition and pipeline access structures for that segment of pipeline.

WHEREAS, shallow groundwater will be extracted through a series of shallow wells at 30- to 50-foot intervals along the north side of the pipeline alignment and discharged to designated disposal areas for percolation; and

WHEREAS, dewatering wells will typically be 24 inches in diameter and approximately 60 feet deep with 8-inch casing and a graded rock filter pack. Well permits will be obtained from the Contra Costa Environmental Health Department; and

WHEREAS, Phase I of the project will likely be completed by December 2009, and expected dewatering discharge rates will vary between approximately 0.5 and 2.1 million gallons per day (mgd) during the months of May through October, with minimal dewatering, if any, from November through April; and

WHEREAS, extracted groundwater will be conveyed by temporary pipelines to the designated disposal areas and will be land applied using flood irrigation methods at a hydraulic rate that does not exceed the evaporation and percolation ability of the soil. Ponds will not be used and no new containment berms will be constructed. The existing berms and levees surrounding the discharge sites and management of discharge rates and schedules will be used to contain the water at all times; and

WHEREAS, extracted groundwater will primarily be discharged to the land owned by the California Department of Water Resources (the former Emerson Dairy site), and the Ironhouse Sanitary District property will be used as a secondary discharge area during peak flows as necessary, and;

WHEREAS, discharges of extracted groundwater to the former Emerson Dairy site will temporarily replace the use of irrigation water from Emerson Slough; and

WHEREAS, discharges of extracted groundwater to the land owned by Ironhouse Sanitary District on the north side of the Contra Costa Canal will not impact Ironhouse Sanitary District's effluent disposal capacity because those fields have not been used in over ten years; and

WHEREAS, discharges of extracted groundwater to the land owned by Ironhouse Sanitary District on the south side of the Contra Costa Canal will not impact Ironhouse Sanitary District's effluent disposal capacity if the dewatering discharge is limited to the dry months of the year when Ironhouse Sanitary District would ordinarily need supplemental water to irrigate that area; and

WHEREAS, shallow groundwater is typically five to eight feet below the surrounding grade along the entire pipeline alignment. Regional groundwater flow is generally northward

towards the river. Based on groundwater studies completed by Ironhouse Sanitary District, pumping from the existing canal has created a localized gradient that draws shallow groundwater southward towards the canal from a distance of up to 800 feet away. Once the canal is converted to a pipeline, the normal northward groundwater flow regime should resume; and

WHEREAS, based on groundwater monitoring data collected by Ironhouse Sanitary District for the period August 2000 through April 2007<sup>1</sup>, shallow groundwater quality along the north side of the canal under Ironhouse Sanitary District's former effluent recycling areas is very saline with high concentrations of dissolved solids (1,400 to 8,100 mg/L), sodium (280 to 1,400 mg/L), chloride (190 to 2,400 mg/L), magnesium (56 to 450 mg/L), and sulfate (320 to 4,700 mg/L). These conditions are partly due naturally occurring salinity; and

WHEREAS, based on limited data collected by Contra Costa Water District, shallow groundwater quality along the north side of the canal on the former Emerson Dairy site is saline with high concentrations of dissolved solids (970 to 1,500 mg/L), sodium (300 to 360 mg/L), chloride (160 to 430 mg/L). Nitrate nitrogen concentrations are also elevated at up to 25 mg/L. There is no evidence to suggest that these conditions are not widespread under the former dairy, which ceased operation within the last five years; and

WHEREAS, a single groundwater sample obtained after a one-day pumping test of a pilot dewatering well near Pumping Plant No.1 indicates that groundwater discharged from that area may be less saline than the underlying groundwater with a dissolved solids concentration of 590 mg/L. However, once the pumping plant is shut down for construction, the salinity of pumped groundwater may increase; and

WHEREAS, the RWD included an adequate operation and maintenance plan that included best management practices; and

WHEREAS, the RWD included a water balance that demonstrates adequate disposal capacity for anticipated discharge rates using a reasonably conservative numerical model; and

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

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

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<sup>1</sup> Data for monitoring wells MW-1, MW-18, and MW-19.

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

WHEREAS, the Regional Water Quality Control Board, Central Valley Region 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 little potential for evapoconcentration in or near the same area from which it was extracted, the discharge poses little or no threat to water quality if the water is discharged under conditions that prevent discharge to surface water; and

WHEREAS, the Regional Board held a hearing on 6 December 2007 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 Contra Costa Canal Replacement Phase I 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. Bypass or overflow of extracted groundwater from the designated disposal areas shown on Attachment A is prohibited.
4. Discharge of extracted groundwater to the Ironhouse Sanitary District land south of the Contra Costa Canal is prohibited from **1 November through 30 April each year**.

### **Discharge Specifications:**

1. The daily discharge flow shall not exceed 2.1 million gallons between **1 May and 30 October in 2008 and 2009**. Discharges between **1 November and 30 April** are prohibited unless the daily discharge flow is minimal and the Executive Officer has approved a specific wet season discharge plan.
2. The volume of water applied to the discharge areas on any single day shall not exceed reasonable agronomic rates based on the vegetation grown, pre-discharge soil moisture conditions, and weather conditions.

3. The discharge shall not cause a condition of pollution or nuisance as defined by the California Water Code, Section 13050.
4. Objectionable odor originating at the discharge areas shall not be perceivable beyond the limits of those areas.
5. The Dischargers shall operate all systems and equipment to optimize the quality of the discharge.
6. Storm water best management practices, as described in Storm Water Pollution Prevention Plan, shall be implemented around the discharge areas at all times.
7. Sediment and soil excavated from the pipeline alignment shall be used within the project site. Excavation spoils shall not be placed within surface water drainage courses or in a manner that permits discharge of sediment into a surface water drainage course.
8. This waiver expires on **30 December 2009**. The Dischargers must submit a 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. The Dischargers shall comply with the monitoring and reporting requirements prescribed in Monitoring and Reporting Program No. R5-2007-0178.
2. Contra Costa Water District will generate the waste subject to the terms and conditions of this waiver and will maintain exclusive control over the discharge. Ironhouse Sanitary District and the California Department of Water Resources are named as co-dischargers because these entities own the land where the discharge will occur. As such, Contra Costa Water District is primarily responsible for compliance with the conditions of this Resolution.

RESOLVED, that this action waving waste discharge requirements is conditional and may be terminated at any time prior to 30 December 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 6 December 2007.

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PAMELA C. CREEDON, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2007-0178  
FOR  
CONTRA COSTA WATER DISTRICT, CALIFORNIA DEPARTMENT OF WATER  
RESOURCES, AND IRONHOUSE SANITARY DISTRICT  
CONTRA COSTA CANAL REPLACEMENT PHASE I  
DEWATERING DISCHARGE TO LAND  
CONTRA COSTA COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring reclaimed water and reclaimed water reuse areas. This MRP is issued pursuant to Water Code Section 13267. The Dischargers shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

**DEWATERING DISCHARGE AREA MONITORING**

The Dischargers shall monitor the dewatering discharge areas in accordance with the following. Monitoring shall be performed at least weekly 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>
Flow from extraction wells to each discharge area <sup>1</sup>	Gallons and inches	Estimation	Weekly	Monthly
Rainfall	inches	Measurement	Weekly	Monthly
Net acreage receiving the discharge <sup>1</sup>	acres	Estimation	Weekly	Monthly

<sup>1</sup> Specific discharge areas shall be identified on a scaled map.

**REPORTING**

In reporting monitoring data, the Dischargers 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. R5-2007-0178. 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 **1<sup>st</sup> 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 dewatering discharge area monitoring,

as specified above.

## **B. Annual Report**

An Annual Report shall be prepared 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 2009**. 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 Dischargers, or the Dischargers' 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  
\_\_\_\_\_  
12 December 2007  
(Date)

ALO:12/12/07

# ATTACHMENT A



LEGEND	
◆	Shallow monitoring well
— (Red)	Primary discharge areas
— (Blue)	Secondary discharge area
ISD	Ironhouse Sanitary District
DWR	California Department of Water Resources

SITE PLAN	
CONTRA COSTA WATER DISTRICT	
CONTRA COSTA CANAL REPLACEMENT PROJECT	
PHASE I	
CONTRA COSTA COUNTY	
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Approx. Scale:  
1" = 1,500'