

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

BOARD ORDER NO. 6-00-57A03
WDID NO. 6B190107069

AMENDED WASTE DISCHARGE REQUIREMENTS
FOR
LOS ANGELES COUNTY SANITATION DISTRICT NO. 20,
PALMDALE WATER RECLAMATION PLANT

Los Angeles County

The California Regional Water Quality Control Board, Lahontan Region (Regional Board) finds:

1. Discharger

The County Sanitation Districts of Los Angeles County District No. 20 (District) owns and operates the Palmdale Water Reclamation Plant. Effluent from this Facility is disposed to the Effluent Management Site owned by the City of Los Angeles World Airports (Airport). The District leases the Effluent Management Site from the Airport to: a) land dispose effluent and b) supply recycled water to irrigate fodder and fiber crops at agronomic rates. The California Water Code, Section 13270, exempts public agencies that lease land to other public agencies for waste disposal purposes from Waste Discharge Requirements (WDRs).

Therefore, the District only, and no longer the Airport, is referred to as the “Discharger”. For the purposes of water recycling, the District is the “Producer”, “Distributor” and “Primary User.” Farmers responsible for day-to-day farming are “Secondary Users” and identified in Board Order 6-00-57-A03 which requires them to comply with Title 22, California Code of Regulations for recycled water use. This finding replaces Finding No. 1 of Board Order 6-00-57 and 6-00-57-A01.

2. Reason for Action

The District submitted an amended Report of Waste Discharge and amended Engineering Report of Recycled Water dated April 29, 2005. The District intends to expand agricultural re-use, primarily alfalfa, winter oats/barley and summer Sudan grass crops, to portions of Section 14 and 16 (Attachment A). Additionally, the District proposes to use recycled water for dust control and soil compaction during construction of the center pivot systems.

3. Order History

The Regional Board regulates the facility under the following active Board Orders.

Table 1 – Active Regional Board Orders for Palmdale Water Reclamation Plant

Order No.	Date	Purpose
		Waste Discharge Requirements
6-00-57	6-14-2000	Current revised Waste Discharge Requirements
6-00-57-A01	4-14-2004	Authorizes recycled water use in Section 15
6-00-57-A02	7-26-2004	Requires Secondary Users to comply with Title 22 criteria
		Monitoring and Reporting Programs
6-00-57-A01	2-26-2004	Replaces monitoring program No. 6-00-57

Order No.	Date	Purpose
6-00-57-A02	4-14-2004	Establishes Section 15 monitoring program
6-00-57-A03	10-13-2004	Modifies vadose zone monitoring program
		Enforcement Orders
R6V-2003-056	11-12-2003	Cleanup and Abatement Order for nitrate polluted groundwater
R6V-2004-039	10-13-2004	Cease and Desist Order to reduce and abate land spreading disposal of effluent

4. Recycled Water Criteria

The State Department of Health Services established recycled water criteria in Title 22, California Code of Regulations, Section 60001 et seq, that are included as Attachment C to Board Order 6-00-57-A01. The criteria specify that fodder and fiber crops can be irrigated with a minimum of “undisinfected secondary recycled water.” The District’s secondary treatment facilities produce water meeting this quality. The criteria also specify that water used for dust control and soil compaction to be “disinfected secondary-23 recycled water¹.” Since May 2004 the District has disinfected effluent with sodium hypochlorite using a temporary system. Beginning in August 2005, the District will have completed construction of permanent facilities to consistently achieve disinfected secondary-23 water. This exceeds the criteria for fodder and fiber crop uses but is necessary for dust control and construction soil compaction applications. After the center pivots are installed, the District intends to continue disinfecting all effluent that is land disposed or applied to crops for agricultural re-use. This and previous Orders require producers and users of recycled water to comply with applicable Title 22 criteria.

5. Secondary Users

Board Order 6-00-57-A02 identifies farmers that are under contract to manage day-to-day farming operations as “secondary users.” At this time, the District intends to produce and deliver recycled water to the expanded re-use areas of Sections 14 and 16 as the primary user and has not yet selected a secondary user. Board Order 6-00-57-A02 requires the Regional Board be notified of all secondary users and requires them to comply with Title 22 recycled water criteria.

6. Authorized Effluent Management Site

The Palmdale Water Reclamation Plant and authorized Effluent Management Site are described in more detail in the previously adopted orders that are still in effect. In addition, the authorized disposal areas will now include the northeast one-quarter of Section 16 and the west one-half, southeast one-quarter, and southwest one-quarter of the southwest one-quarter of the north-east quarter of Section 14, Tier 6 North, Range 11 West, San Bernardino Baseline and Meridian. The total area leased by the District from the Airport for disposal operations and called the Effluent Management Site is 2,680 acres. Portions of the northeast one-quarter of Section 14 contain the Little Rock Creek Drainage. Agricultural re-use is not authorized over that portion of the Effluent Management Site, shown on Attachment “A”, that drains directly to Little Rock Creek. Effluent is applied to crops above agronomic rates only to the south one-half of Section 9 and center pivots 6, 7 and 8 in Section 10, as shown on Attachment A.

7. Groundwater Nitrate Pollution

¹ Disinfected secondary-23 recycled water means recycled water that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analysis have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30-day period.

Land disposal of effluent has resulted in nitrate pollution in underlying groundwater. To address this, the Regional Board adopted enforcement Orders as described above. Expansion of the Effluent Management Site to include portions of Section 14 and 16 is intended, in part, to address the groundwater pollution by providing additional area to dispose effluent at agronomic rates to limit the over application during the winter season when there is low crop demand. The Cease and Desist Order establishes an October 15, 2008 date for which the Discharger must cease the discharge of nitrogen to groundwater that creates pollution. The area of affected groundwater is generally down gradient (north) of Sections 14 and 16.

8. Groundwater Degradation

Data from adjacent monitoring wells, reported in the 2004 Annual Monitoring Report, is shown in the table below.

Table 2 – 2004 Average Groundwater Quality in Wells Adjacent to Sections 14 and 16

Well No.	Location with respect To Sections 14 and 16	Total Dissolved Solids (mg/L)	Nitrate (mg/L)
MW-1*	Up gradient	187	1.11
MW-16	Down gradient	128	0.89
MW-24	Down gradient	168	0.86
MW-38	Up gradient	139	2.98
MW-39	Up gradient	186	1.50

* MW-1 data from 2005. This well was dry in 2004.

Background water quality in the vicinity of the Effluent Management Site generally has a total dissolved solids concentration of about 165 mg/L and nitrate of less than 2 mg/L. Therefore, groundwater quality in the vicinity of Section 14 and 16 is similar to natural background conditions. The extent to which offsite sources from agricultural fields or septic tank leach fields may contribute nitrate to local groundwater is unknown.

To evaluate the effect of using recycled water on receiving groundwater, the District submitted three groundwater degradation reports that include the Section 14 and 16 agricultural expansion areas². The District will limit the amount of water applied to the crop agronomic needs.

The Regional Board determines that some degradation is in the best interest of the people of the State provided that numerical water quality objectives are not violated. The degradation will provide public benefit in terms of wastewater management and produce a valuable crop. This finding satisfies Board Order 6-00-57, Discharge Specification I, C., 1, which requires that existing high quality water be maintained unless appropriate findings are made.

9. Department of Health Services Consultation

² a) Anti-degradation Analysis, Palmdale Water Reclamation Plant, June 2003, prepared by TRC Inc.
b) Degradation Analysis for TDS from Disinfection Process Modification at Palmdale Water Reclamation Plant, April 2004, prepared by the Los Angeles County Sanitation District Attachment 2 to the April 29, 2005 Report of Waste Discharge
c) Anti-degradation Analysis for Agricultural Reuse, April 2005, Palmdale Water Reclamation Plant

The Engineering Report, dated April 29, 2005 was submitted to the Department of Health Services. In accordance with Section 13523 of the California Water Code, the Regional Board consulted with the Department of Health Services. Their comments and recommendations are incorporated into this Order. The Department of Health Services accepted the District's Engineering Report in a letter dated June 6, 2005.

10. Lahontan Basin Plan

The Regional Board adopted a Water Quality Control Plan for the Lahontan Region (Basin Plan), which became effective on March 31, 1995, and this Order implements the Plan, as amended.

11. Ground Water Beneficial Uses

The beneficial uses of the ground waters of the Antelope Valley (Department of Water Resources Basin No. 6-44) as set forth and defined in the Water Quality Control Plan for the Lahontan Region are:

- a. Municipal and domestic supply (MUN);
- b. Agricultural supply (AGR);
- c. Industrial service supply (IND); and
- d. Freshwater replenishment (FRSH).

12. Surface Water Beneficial Uses

The beneficial uses of Little Rock Creek, an intermittent stream in the Antelope Hydrologic Unit (Department of Water Resources No. 626.00) as set forth and defined in the Water Quality Control Plan for the Lahontan Region are:

- a. Municipal and domestic supply (MUN);
- b. Groundwater recharge (GWR)
- c. Water contact recreation (REC-1)
- d. Non-contact water recreational (REC-2)
- e. Commercial and sport fishing (COMM)
- f. Cold freshwater habitat (COLD)
- g. Wildlife habitat (WILD)

13. California Environmental Quality Act (CEQA) Compliance

The project consists of the continued operation of the Facility and expansion of the recycled water disposal area to approximately 680 additional acres of the Effluent Management Site. The District circulated a Negative Declaration through the State Clearinghouse (SCH# 2004101097) for this project. On December 23, 2004, the District filed a Notice of Determination in compliance with Section 21152 of the Public Resources Code that it certified a Negative Declaration for the proposed Section 14 & 16 expansion. No mitigation measures were proposed in the environmental document.

14. Water Recycling Requirements

The Water Recycling Requirements specified in Board Order No. 6-00-57 and 6-00-57-A01 are consistent with the current Department of Health Services Water Recycling Criteria and remain in effect except as amended herein.

15. Notification of Interested Parties

The Regional Board has notified the Discharger and interested agencies and persons of its intent to amend WDRs for the discharge.

16. Consideration of Public Comments

The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger shall comply with the following.

Pursuant to Water Code Section 13270, for purposes of this Order and all previous Orders that are amended hereby, the Airport will no longer be treated as a Discharger. All other Findings, Discharge Specifications, Provisions, Standard Provisions, and General Provisions for Monitoring and Reporting that are identified in Board Order Nos. 6-00-57, 6-0057A1, and 6-00-57A2 remain in effect and unchanged.

I. DISCHARGE SPECIFICATIONS

Discharge Specifications I.B (Water Recycling Requirements) of Board Orders 6-00-57 and 6-00-57-A01 are replaced with the following.

A. Water Recycling Requirements

1. The use of recycled water is limited to the Effluent Management Site as described in the Finding 7 of Board Order 6-00-57-A01 and Finding 4 of this Order and as shown on Attachment A.
2. As described in Section 60323, Title 22, an Engineering Report must be submitted to the Regional Board and Department of Health Services for any material modification in the manner or method that recycled water is produced or used.
3. As described in Section 60304 (d), Title 22 recycled water used for producing fodder and fiber crops (agricultural fields), ornamental nursery stock (tree farm) and orchards where the recycled water does not come into contact with edible portion of the crop (pistachios) must meet the requirements of "Undisinfected secondary recycled water."
4. Pursuant to Title 22, Sections 60301.900 and 60301.650, "Undisinfected secondary recycled water" must be effluent that is fully oxidized in which the organic matter has been stabilized, is nonputrescible, and contains dissolved oxygen.

5. Pursuant to Title 22, Section 60301. 225, "Disinfected secondary recycled water-23 water" must be effluent that has been oxidized and disinfected so that the median concentration of total coliform bacteria in the disinfected effluent does not exceed a most probable number (MPN) of 23 per 100 milliliters utilizing the bacteriological results of the last seven days for which analysis have been completed, and the number of total coliform bacteria does not exceed an MPN of 240 per 100 milliliters in more than one sample in any 30-day period.
6. As described in Title 22, Section 60307 (b), recycled water used for dust control within the Effluent Management Site and soil compaction during construction of the center pivots in Sections 14 and 16 must meet the requirements of "Disinfected secondary recycled water-23 water."
7. The Discharger and Secondary Users must comply with all requirements for recycled water use areas as specified in Section 60310, Title 22.
8. The District, as producer of recycled water, must comply with all operational requirements specified in Sections 60325 (Personnel), 60327 (Maintenance), 60329 (Operating records and reports) and 60331 (Bypass) specified in Title 22.
9. The District, as producer of recycled water, must comply with the general Requirements of Design specified in Article 8, Title 22.
10. The District, as producer of recycled water, must comply with Reliability Requirements for Full Treatment specified in Article 10, Title 22 for production of water to meet the recycled water uses allowed in this Order.
11. Discharge of recycled water, or runoff commingled with recycled water off of the authorized Effluent Management Site, or to Little Rock Creek is prohibited.
12. The spray irrigation of nut bearing or ornamental trees and/or the harvesting of nuts from the ground surface is prohibited.
13. Christmas trees irrigated with recycled water shall be harvested no earlier than 30 days after the cessation of irrigation with recycled water. The trees shall be cut at a point on the trunk that is a minimum of two feet above the ground surface for the protection of worker and public health.
14. The use of recycled water shall not cause pollution or threatened pollution as defined in Section 13050(l) of the California Water Code.
15. The use of recycled water shall not cause nuisance as defined in Section 13050(m) of the California Water Code.
16. The Discharger shall not over apply recycled water above crop agronomic needs in the Effluent Management Site except for the south one-half of Section 9 and center pivots 6, 7 and 8 as shown on Attachment A.

II. PROVISIONS

A. Monitoring and Reporting Program

Pursuant to Section 13267 of the California Water Code, the Discharger must comply with the Monitoring and Reporting Program No. 00-57-A04.

B. Abandoned Wells

By **August 1, 2005**, and prior to use of recycled water in Sections 14 and 16, the Discharger shall submit a technical report documenting the destruction of the identified abandoned wells in those Sections. This report is needed to demonstrate that existing direct conduits to groundwater are sealed that may allow recycled water to reach groundwater. The report shall indicate conformance to the following:

1. Well destruction was completed in accordance with the work plan submitted May 28, 2004;
2. All work was completed under the supervision of a Registered Civil Engineer or Engineering Geologist; and
3. Well destruction conformed to California Well Standards, Department of Water Resources Bulletins 74-90 and 74-81.

C. Vadose Zone Monitoring

The Discharger initially proposed no additional vadose zone monitoring station adjacent to the Little Rock Wash but now have agreed to install additional stations by November 2005.

By **August 15, 2005**, the Discharger shall submit a revised Vadose zone monitoring plan that includes additional monitoring stations in fields within Section 14 adjacent to Little Rock Wash.

Prior to the use of recycled water for agricultural operations, or by **December 15, 2005**, whichever occurs first, the Discharger shall submit a report documenting the installation of the new stations. The Executive Officer may grant extensions if requested and justified. This report is needed to demonstrate that the Discharger has the ability to verify compliance with waste discharge requirements. The report shall indicate conformance to the following:

1. Vadose zone monitoring stations were installed in accordance with the work plans dated December 3, 2004 and August 19, 2004; and
2. All work was completed under the supervision of a Registered Civil Engineer or Engineering Geologist.

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Lahontan Region, on July 13, 2005.

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachment: A. Effluent Management Site Map

JC/rp/lacsd#20 (Palmdale) (lacsd20 wdr 6-00-57-A03)
6/2005