

California Regional Water Quality Control Board  
Santa Ana Region

Staff Report

March 2, 2001

ITEM: 6

SUBJECT: Amendment to Waste Discharge Requirements Order No. 81-127, as amended by Order No. 98-99, for Lamb Canyon Landfill, Riverside County Waste Management Department, Order No. 01-18

**DISCUSSION:**

The Riverside County Waste Management Department (RCWMD) owns and operates the Lamb Canyon Landfill, located at 16411 Lamb Canyon Road (Highway 79).

On June 12, 1981, Order No. 81-127 was adopted by the Regional Board for landfill operations at the site. The applicable regulations governing municipal solid waste landfills (MSWLFs) are contained in Division 2, Title 27, California Code of Regulations (Title 27). Order No. 81-127 was subsequently amended by Order No. 98-99, a blanket permit to require all MSWLFs to comply with federal regulations (Subtitle D) and Title 27 requirements.

Provision C.2. of Order No. 98-99 stipulates that for waste containment systems installed beyond the October 3, 1993 landfill footprint, a prescriptive composite liner must be used. However, the Regional Board may approve engineered alternatives to the prescriptive liner design provided that certain conditions are met.

The RCWMD has submitted applications to request the Board's approval for several different alternative liner designs for future expansions at Lamb Canyon Landfill. Construction for the upcoming Phase 2, Stage 1 lateral expansion is scheduled to begin in April 2001.

Regional Board staff have evaluated the applications, including the performance equivalency demonstration report; slope stability analyses; the Construction Quality Assurance/Quality Control (CQA/QC) plan; and the design, operation, and drainage control plan submitted for the Phase 2, Stage 1 area expansion. Staff have concluded that the proposed engineered alternative liner designs will satisfy the performance criteria as required under Provision C.2. of Order No. 98-99 by providing equivalent water quality protection and by achieving the minimum stability requirements, provided that the additional requirements specified in the proposed order are met.

It is necessary to amend the existing waste discharge requirements for Lamb Canyon Landfill to incorporate additional requirements for the installation of engineered alternative liner systems.

This order also includes a provision authorizing the Executive Officer of the Regional Board to approve the use of any of the five engineered alternative liner designs included in Finding 8 of the proposed order for future expansions at the landfill without presenting them individually to the Regional Board for further approval.

**RECOMMENDATION:**

Adopt Order No. 01-18 as presented.

Comments were solicited from the following agencies:

U. S. Environmental Protection Agency, Region 9 - Donna Orebec  
State Water Resources Control Board, Division of Clean Water Programs – Barbara Evoy  
State Water Resources Control Board, Office of the Chief Counsel - Ted Cobb  
California Integrated Waste Management Board, Sacramento – Julie Nauman  
State Department of Water Resources, Sacramento – Michael Driller  
State Department of Health Services - San Diego/Santa Ana/San Bernardino  
Riverside County Department of Environmental Health Services, LEA – John Watkins/Chuck  
Strey  
Riverside County Waste Management Department – Mubashad Ahmad/Fouad Mina

California Regional Water Quality Control Board  
Santa Ana Region

ORDER NO. 01-18

Amending Waste Discharge Requirements for  
Lamb Canyon Landfill  
Riverside County Waste Management Department

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. The Riverside County Waste Management Department (hereinafter discharger) owns and operates the Lamb Canyon Landfill, located at 16411 Lamb Canyon Road (Highway 79). This landfill is located in a portion of Sections 21, 28, and 29, T3S, R1W, SBB&M, at latitude 33°52'30" and longitude 117°0'0". The location of the facility is shown on Attachment A, which is hereby made a part of this order. The landfill site currently encompasses 1,088 acres, 178 acres of which are currently being developed as waste management unit.
2. On June 12, 1981, Order No. 81-127 was adopted by the Regional Board for landfill operations at the site. Order No. 81-127 contains discharge requirements, provisions, and monitoring and reporting requirements that require the discharger to design and operate the landfill in accordance with Chapter 15, Division 3, Title 23, California Code of Regulations (Chapter 15). Effective June 18, 1997, Chapter 15 was replaced by Title 27, California Code of Regulations (Title 27), the combined State Water Resources Control Board /California Integrated Waste Management Board AB 1220 regulations for discharges of waste to land.
3. Order No. 81-127 was subsequently amended by Order No. 98-99, a blanket waste discharge requirements (WDR) requiring all municipal solid waste landfills (MSWLFs) to comply with federal Subtitle D regulations and Title 27 requirements.
4. Provision C.2. of Order No. 98-99 stipulates that all MSWLF waste containment systems installed beyond the October 3, 1993 landfill footprint must include a composite liner consisting of an upper synthetic flexible membrane liner (FML) that is at least 60-mils thick (if high density polyethylene is used), and a lower component of soil that is at least two feet thick and that has a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/s. Provision C.2. of Order No. 98-99 allows engineered alternatives to the prescriptive composite liner, provided that certain conditions are also met.
5. The discharger is proposing to expand the landfill laterally, in phases, using engineered alternative containment systems. Construction for the upcoming Phase 2, Stage 1 area expansion is scheduled to begin in April 2001.

6. On October 18, 1999, the discharger submitted Joint Technical Document (JTD) Addendum No. 2, requesting approval to use an engineered alternative to the prescriptive liner design that had previously been approved by the Board for landfill expansion beyond the existing footprint at a different site. JTD Addendum No. 2 application was considered complete on October 20, 1999.
7. On September 20, 2000, the discharger submitted JTD Addendum No. 3, an amendment to JTD Addendum No. 2, to include additional engineered alternative liner designs for site expansion beyond the existing landfill footprint.
8. The discharger has proposed a total of five engineered alternative designs for the bottom and sideslope liner systems at the landfill site. The profiles of the prescriptive standard design (PSD) and the proposed engineered alternative design (EAD) for the bottom and side slope liner systems are described below, starting from the bottom of the liner systems:

a. Bottom Liner Systems

PSD	EAD-B1	EAD-B2	EAD-B3
Prepared subgrade	Prepared subgrade	Prepared subgrade	Prepared subgrade
24-inch #1x10 <sup>-7</sup> cm/s low permeability layer	24-inch #1x10 <sup>-7</sup> cm/s low permeability layer	40-mil textured HDPE geomembrane <u>and</u> Geosynthetic Clay Liner (GCL) using Bentomat, Bentofix or equivalent	GCL with 40-mil HDPE geomembrane backing
Minimum 60-mil HDPE liner	80-mil double-side textured HDPE liner	80-mil double-side textured HDPE liner	80-mil double-side textured HDPE liner
12-inch #1x10 <sup>-2</sup> cm/s drainage layer	12-inch #1x10 <sup>-2</sup> cm/s drainage layer	12-inch #1x10 <sup>-2</sup> cm/s drainage layer	12-inch #1x10 <sup>-2</sup> cm/s drainage layer
8-oz. geotextile filter fabric	8-oz. geotextile filter fabric	8-oz. geotextile filter fabric	8-oz. geotextile filter fabric
24-inch protective soil cover	24-inch protective soil cover	24-inch protective soil cover	24-inch protective soil cover
Refuse	Refuse	Refuse	Refuse

b. Sideslope Liner Systems

PSD	EAD-S1	EAD-S2
Prepared subgrade	Prepared subgrade	Prepared subgrade
24-inch #1x10 <sup>-7</sup> cm/s low permeability layer	GCL (Bentomat, Bentofix or equivalent)	GCL (Bentomat, Bentofix or equivalent)
Minimum 60-mil HDPE liner	80-mil single-side textured HDPE liner	80-mil single-side textured HDPE liner
12-inch #1x10 <sup>-2</sup> cm/s drainage layer 8-oz. geotextile filter fabric	16-oz. geotextile filter fabric	Geocomposite drainage layer
24-inch protective soil cover	24-inch protective soil cover	24-inch protective soil cover
Refuse	Refuse	Refuse

9. Engineered alternatives to prescriptive design are proposed:
  - a. To minimize the cost of the containment system by installing engineered alternative containment systems that will provide equivalent or better protection against water quality impairment compared to the prescriptive liner system.
  - b. To provide minimum static and seismic stability on steep sideslopes as required under §21750(f)(5), Title 27. Cut slopes proposed at the Phase 2, Stage 1 expansion area range from 1½:1 to 2:1 to accommodate the removal of unsuitable native materials such as uncontrolled fill and landslide debris on canyon sideslopes.
10. Regional Board staff has reviewed JTD Addendum No. 3, which includes the performance equivalency demonstration report titled “Comparison of Alternative Liner Systems to Prescriptive Liner System, Lamb Canyon Landfill” dated August 1, 2000 as required under Section 20080(b), Title 27; the slope stability report titled “Geotechnical Investigation for the proposed Phase 2, Stage 1 Expansion at Lamb Canyon Sanitary Landfill” dated January 24, 2001, and the design details and the operation and drainage control plans for the Phase 2, Stage 1 area expansion. Regional Board staff has commented and received responses from the discharger during the JTD review period. On January 4, 2001, the discharger satisfactorily demonstrated compliance with Section 20080(b), Title 27 for the proposed use of EADs, and JTD Addendum No. 3 was considered complete. Regional Board staff believes that the proposed EADs will afford waste containment capability equal to or exceeding that offered by the PSD, provided that the CQA monitoring requirements and the provisions specified in this order are met.
11. The capability of the EAD liner systems to afford water quality protection equivalent to the PSD system depends largely on good construction quality assurance and quality control of the liner materials used, and during the installation of these materials.
12. This order amends the existing waste discharge requirements<sup>1</sup> for Lamb Canyon Landfill to require the discharger to comply with certain provisions and monitoring requirements for evaluating the quality of the EAD liner materials and the liner installation procedures. This order also includes a provision authorizing the Executive Officer of the Regional Board to approve the use of any of the approved EAD liner systems for future expansions at the site without presenting them to the Regional Board for further approval.

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<sup>1</sup> Board Orders No. 81-127 and 98-99.

13. This project involves the amendment of waste discharge requirements for an existing facility for which waste discharge requirements need to be revised, and as such, is exempt from the California Environmental Quality Act (Public Resources Code, Section 21100 et seq.) in accordance with Section 15301, Chapter 3, Title 14, California Code of Regulations.
14. The Regional Board has notified the discharger and interested agencies and persons of the Board's intent to amend the waste discharge requirements previously adopted for the discharger, and has provided them with an opportunity to submit their written views and recommendations.
15. The Regional Board, in a public meeting, heard and considered all comments pertaining to the proposed amendment of the existing waste discharge requirements for Lamb Canyon Landfill.

IT IS HEREBY ORDERED THAT the discharger shall comply with the following:

1. The following waste discharge requirements shall be added as Provision C.2.a and b of Order No. 98-99 as follows:
  - "a. "To comply with the requirements for EAD composite liner systems, the discharger shall:
    - i. Prepare and submit for the approval of the Executive Officer a CQA/QC plan in accordance with §20323, Title 27. A detailed design and drainage plan and construction specifications shall be included with the CQA/QC plan, and these documents shall be submitted at least 120 days prior to start of construction.
    - ii. Implement the approved plans such that manufacturing and installation defects in the FML are eliminated or minimized. In no case shall the number of manufacturing defects exceed one pinhole per acre, nor shall the number of installation defects<sup>2</sup> exceed two per acre.
    - iii. Provide good contact between the FML and the underlying compacted soil or GCL through proper implementation of the approved CQA/QC plan.

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<sup>2</sup> The definitions for the manufacturing (2.2 mm<sup>2</sup> in area) and installation (1 cm<sup>2</sup> in area) defects provided by USEPA Hydrologic Evaluation of Landfill Performance (HELP) Model, User's Guide for Version 3.0, September 1994, shall be used.

- "b. The Executive Officer is hereby authorized to approve the use of any of the EAD liner systems included in Finding 8 of this order for future expansions at the site provided that the discharger complies with all other provisions of this order, including the following:
- i. The discharger shall submit the waste management unit design and construction information as required by §20310 through §20370, Title 27 for approval by the Executive Officer. This information shall be submitted at least 180 days prior to start of construction."
2. All other terms and conditions contained in Orders No. 81-127 and 98-99 shall remain unchanged. Amended or revised provisions contained in this order supersede any conflicting provisions in Orders No. 81-127 and 98-99.

I, Gerard J. Thibeault, 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, Santa Ana Region, on March 2, 2001.

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Gerard J. Thibeault  
Executive Officer

Order No. 01-18  
Amending WDRs for Lamb Canyon Landfill  
RCWMD

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**Attachment A**  
**Order No. 01-18**  
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