



August 23, 2023

Board of Directors
Ventura Regional Sanitation District
Ventura, California

RECEIVE AND FILE THE STAFF UPDATE REGARDING DESIGN OF PHASE 4C FOR THE TOLAND ROAD LANDFILL

RECOMMENDATION

Receive and file the staff update regarding design of Phase 4C for the Toland Road Landfill.

FISCAL IMPACT

The continuing design of Phase 4C will not have any immediate cost implications. In the longer term, additional costs will be realized with respect to the originally anticipated design for Phase 4C. The magnitude and timing of these additional costs will be discussed at today's meeting, and they this concept will be further developed and presented to the VRSD Board in another agenda item at a future public meeting.

BACKGROUND

On May 4, 2023, the VRSD Board approved an amendment to the District's contract (Contract No. 22-018) with Dragomir Design-Build, Inc. (Dragomir), which included additional funding to investigate a slope stability issue in the perimeter slope on the south side of Phase 4C. Dragomir, the District's landfill civil engineer studied the slope in detail with the assistance of the geotechnical firm Oakridge Geoscience, Inc.

Today's agenda item is to inform the Board of the results of the analysis.

ANALYSIS

In its simplest form, the original design of a landfill can be thought of as the anticipated volume available for waste disposal based on the existing geography and the approved ultimate elevation of the waste and final cover. Total volume or weight projections can be inferred from the original landfill design.

A municipal solid waste landfill is composed of Landfill cells which are typically constructed in phases. The cost associated with each cell is ultimately offset by the revenues from trash disposed in that cell. The design generally consists of earth to be

moved to accomplish the original design volume and then the placement of a landfill liner to seal the landfill waste away from the underlying soil and groundwater source, if any.

Phase 4C is the final cell contemplated in the original design of the Toland Road Landfill. And it is now time to design Phase 4C to ensure that it will be available for use once the currently active cell is filled. Thus, it was crucial to study the slope stability issue in order to complete the civil engineering design, plans, and specifications which will be used to construct the final cell for Phase 4C.

Based on the analysis of the slope, Dragomir developed and studied four scenarios to address the slope stability issue. These are shown in summary form in Attachment No. 1, and they range in cost from \$5 million to \$40 million. This exhibit will be explained in detail during the staff presentation at the meeting today.

This letter has been reviewed by Legal Counsel as to form.

If you should have any questions or need additional information, please contact me by phone at (805) 658-4679 or via email at richardjones@vrsd.com.



RICHARD JONES, DIRECTOR OF OPERATIONS

APPROVED FOR FISCAL IMPACT:


Alvertina Rivera, Director of Finance

APPROVED FOR AGENDA:


Chris Theisen, General Manager

Attachments: 1. Engineer's estimate for slope repair options.

ENGINEER'S ESTIMATE FOR EPAR SLOPE REPAIR OPTIONS

Site Name: Toland Road Landfill

Project Location: 3500 Toland Rd, Santa Paula, CA 93060

Option 1: Reconstruct EPAR Slope with Soil-Cement Fill Buttress

Item No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Engineering Design	LS	1	\$ 75,000	\$ 75,000
2	Constructs Avg. 35-FT High Soil Cement Buttress (12-FT Thick x 1,000-FT Long)	CY	420,000	\$ 80	\$ 33,600,000
3	24" Downdrains on Western Slopes (1 DD. every 2 a.c., 400-LF Avg. Length Ea.)	LF	1,500	\$ 120	\$ 180,000
20% Contingency					\$ 6,771,000
ESTIMATED OPTION 2 TOTAL COST					\$ 40,626,000

Option 2: Construct Tie-Back Walls Along Peak of Slope Face

Item No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Engineering Design	LS	1	\$ 225,000	\$ 225,000
2	Excavation/Hauling to Construct Tie-Back Walls	CY	75,000	\$ 25	\$ 1,875,000
3	Install Tie-Back Wall Anchors (1 ea. @ 5-FT x 5-FT Spacing)	EA	1,281	\$ 2,000	\$ 2,562,000
4	Construct Avg. 35-FT High Tie-Back Walls	LF	915	\$ 5,400	\$ 4,941,000
20% Contingency					\$ 1,920,600
ESTIMATED OPTION 3 TOTAL COST					\$ 11,523,600

Option 3: Install Soil Nails and Shotcrete Slope Face

Item No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Engineering Design	LS	1	\$ 225,000	\$ 225,000
2	Clear, Grub, Minor Grade Ex. Slope Face	SF	323,500	\$ 5	\$ 1,617,500
3	Install Soil Nails	SF	323,500	\$ 25	\$ 8,087,500
4	2" Shotcrete Entire Slope Face	SF	323,500	\$ 15	\$ 4,852,500
20% Contingency					\$ 2,956,500
ESTIMATED OPTION 4 TOTAL COST					\$ 17,739,000

Option 4: Regrade Slope at 2:1 and Reconstruct EPAR

Item No.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE
1	Engineering Design	LS	1	\$ 75,000	\$ 75,000
2	Excavation/Hauling to Construct 2:1 Slope Face w/ Benches	CY	247,000	\$ 10	\$ 2,470,000
3	Reconstruct EPAR Channel Section: 6" PCC / 6" AB Channel Bottom (Width 20-FT, Length 915-FT)	SF	18,300	\$ 15	\$ 274,500
4	24" Downdrains on Western Slopes (1 DD. every 2 a.c., 400-LF avg. Length Ea.)	LF	1,500	\$ 120	\$ 180,000
5	35,000 CY Lost Airspace (due to revised subgrade tie-ins)	CY	35,000	\$ 37.23	\$ 1,303,050
20% Contingency					\$ 599,900
ESTIMATED OPTION 1 TOTAL COST					\$ 4,902,450

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