

# MEMORANDUM

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**To:** SFSWMA Joint Powers Board Members  
**From:** Randall Kippenbrock, P.E., Executive Director <sup>RLK</sup>  
**Date:** May 11, 2025  
**Subject:** Request for Approval of Closure/Post-Closure Care Cost Estimates for the Caja del Rio Landfill

## SUMMARY

The Agency is requesting the Board approve the closure and post-closure care cost estimates of \$11,074,899 for the Caja del Rio Landfill (Landfill), effective June 30, 2025.

The Agency's auditors may reflect the updated cost estimates in the FY-25 financial statements.

## BACKGROUND

On June 20, 2024, the Board approved the June 30, 2024 closure and post-closure care cost estimates for the Landfill at \$10,807,007. These cost estimates were published in a June 12, 2024 report prepared by Randall Kippenbrock, P.E.

The June 30, 2025 cost estimates were derived using the June 30, 2024 cost estimates and adjusted for 2.8% annual inflation, based on the U.S. Department of Labor Statistics Bureau of Labor Statistics data.

The cost of installing 13 active landfill gas wells in Cell 6B was lowered from \$621,634 in 2024 to \$611,988. The gas well installation project is expected to commence in Fall 2025. After the project is completed, the closure/post-closure care cost estimates for June 30, 2026, will not require the cost of installing new gas wells.

All other conditions/factors for the cost estimates remained unchanged.

The filled/active disposal area of the Landfill subject to closure and post-closure care is the entire West Phase (Cells 1-6B) permitted disposal area of 87.3 acres. The East Phase (Cells 7-11) permitted disposal area of 54.3 acres is not included.

## ACTION REQUESTED

The Agency requests the Board approve the June 30, 2025 closure and post-closure care cost estimates for the Landfill.

Attachment: Closure/Post-Closure Care Cost Estimates for Landfill for June 30, 2025.

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**Attachment**

**Closure/Post-Closure Care Cost Estimates for Landfill for June 30, 2025**

**Closure / Post Closure Care and Phase I / II Assessment  
Cost Estimates  
for June 30, 2025**

**Caja del Rio Landfill  
SWB Permit No. SWM-261708 and SW98-05(M)  
Santa Fe, Santa Fe County, New Mexico**

prepared for:

**Santa Fe Solid Waste Management Agency  
Caja del Rio Landfill  
149 Wildlife Way  
Santa Fe, NM 87506**

prepared by:

**Randall Kippenbrock, P.E.  
Santa Fe Solid Waste Management Agency  
149 Wildlife Way  
Santa Fe, NM 87506**

**May 10, 2025**



*Randall Kippenbrock  
5/11/25*

**Closure / Post-Closure Care and Phase I / II Assessment  
Cost Estimates  
for  
June 30, 2025**

**Santa Fe Solid Waste Management Agency  
Caja del Rio Landfill**

The following describes the cost estimates for closure, post-closure care, Phase I assessment and Phase II assessment as per 20.9.10 New Mexico Administrative Code, Financial Assurance.

The closure cost estimate requires a detailed written estimate, in current dollars, showing the cost of hiring a third party to close the largest area of the landfill ever requiring a final closure at any time during the active life when the extent and manner of its operation would make closure the most expensive, as indicated by its final closure plan under 20.9.10.9 NMAC.

The post-closure care cost estimate is based on a detailed written estimate, in current dollars, showing the most expensive costs of hiring a third party to conduct post-closure care for the landfill in compliance with the post-closure care plan under 20.9.10.10 NMAC.

Both Phase I and Phase II assessments are based on written estimates, in current dollars, of the costs of hiring a third party to conduct activities in accordance with 20.9.10.11 NMAC.

This report does not include the cost estimate for a corrective action program.

The unit costs are based on SFSWMA experience from cell development and liner construction projects. The unit costs are not site-specific, showing breakdown of labor, equipment, material, etc. The unit costs, however, are within the range commonly found in cost estimating references (e.g., cost estimates from consultants/contractors, RS Means, and the EPA).

The closed landfill site will consist of 495 permitted acres, including the disposal area, surrounding buffer zone areas, and the property designated for drainage, storage, and maintenance facilities.

The annual adjustment inflation for Year 2024 is 2.8%, which is based on the U.S. Department of Labor - Bureau of Labor Statistics data.

**The closure cost estimate is based on the following conditions:**

1. Current site conditions.
2. Closing the filled waste disposal area (constructed cells) and placing final cover.
3. The filled/active disposal area encompasses  $\pm$  87.3 acres of the West Phase Cells 1-6B permitted disposal area (footprint) of 87.3 acres. This does not include the East Phase Cells 7-11 permitted disposal area (footprint) of 54.3 acres.

4. The final cover type required for the Subtitle D cells - erosion layer (6"), infiltration layer (18"), and intermediate cover (12").
5. Assumes the intermediate cover is in place under 20.9.5 NMAC. ( $\pm$  73.3 acres).
6. Based on the above, the total number of acres that will require final cover for closure is 87.3 acres as of June 30, 2024 and 87.3 acres at the end of the 20-year permit life.
7. No final cover has been installed (0 acres).

**The post-closure cost estimate is based on the following:**

1. The total number of acres for post-closure care is 87.3 acres.
2. Assume re-seeding once every five years for 5% of the landfill area.
3. Assume cover repair for 5% of the landfill area.
4. All groundwater monitoring wells and the active methane gas system are in place prior to closure.
5. Assume the active landfill gas (methane) collection system can be removed after a minimum of 15 years in operation after landfill closure.
6. The volume of leachate generated annually will drop substantially once intermediate or final cover is applied to an area.
7. Annual groundwater detection monitoring and reporting for the approved Reduced Parameter Sampling List for 24 years.
8. Six years of annual groundwater detection monitoring and reporting for 20.9.9.20 NMAC Subsections A and C.
9. Quarterly methane gas monitoring and reporting for 30 years.

**The cost estimate for Phase I assessment is based on the following:**

1. Assessment monitoring and corrective action is required for a ten-year period.
2. Initial assessment monitoring within 90 days of the determination of an exceedance under Subsection M of 20.9.9.10 NMAC to include sampling and analyzing the groundwater for all constituents and parameters referenced and listed in Subsections B and C of 20.9.9.20 NMAC for each downgradient well (MW-2R and MW-4R).
3. Sample and analyze for any constituents detected in the downgradient wells from the initial assessment monitoring, a minimum of four independent samples from each upgradient and

downgradient well (MW-1, MW-2R, MW-4R).

4. Costs for the 90-day assessment monitoring in MW-1, MW-2R and MW-4R per Subsection D(2) of 20.9.9.13 NMAC. This includes sampling and analysis for all constituents listed in Subsections A and C of 20.9.9.20 NMAC and the detected constituents from Subsection B of 20.9.9.20 NMAC.
5. Costs for preparation and submittal of a report covering the methods and results of the initial assessment monitoring, four independent rounds of assessment monitoring and the additional 90-day assessment monitoring.
6. Semi-annual monitoring in MW-1, MW-2R and MW-4R for Subsections A and C of 20.9.9.20 NMAC, plus assessment monitoring detections in Subsection B of 20.9.9.20 NMAC, for eight events.
7. Additional detection monitoring costs for the assessment detections in wells MW-1, MW-2R and MW-4R.
8. Assessment monitoring in MW-1, MW-2R and MW-4R for Subsection B of 20.9.9.20 NMAC required at least once every five years (two events).
9. Installation of two downgradient corrective action wells per NMED. Costs are based on the installation of Well P-5 installed at the landfill in September 2006.
10. Monitoring in the two corrective action wells for the assessment detections.
11. Costs for preparation and submittal of a report covering the methods and results of the corrective action well installation and sampling.
12. Semi-annual monitoring in the two correction action monitoring wells for the assessment detections.

**The cost estimate for Phase II assessment is based on the following:**

1. Phase II cost is estimated to be \$100,000.

<b>COST ITEM</b>	<b>UNIT</b>	<b>COST</b>	<b>QUANTITY</b>	<b>TOTAL COST</b>
<b>Engineering Costs</b>				
Topographic Survey	Per Acre	\$216	87.3	\$18,857
Boundary Survey for Affidavit	Lump Sum	\$8,534	1	\$8,534
Site Evaluation	Per Acre	\$475	87.3	\$41,468
Final Closure Plans	Per Acre	\$517	87.3	\$45,134
Contract Administration, Bidding and Award	Lump Sum	\$17,071	1	\$17,071
Administrative Costs	Lump Sum	\$17,071	1	\$17,071
Closure Inspection & Testing	Per Acre	\$5,976	87.3	\$521,705
SUBTOTAL .....				\$669,839
10% CONTINGENCY .....				\$66,984
ENGINEERING TOTAL .....				\$736,823
<b>Construction Costs</b>				
Erosion Layer Placement (6" layer and on-site; 87.3 ac)	Per Cubic Yard	\$5.73	70,422	\$403,518
Infiltration Layer Placement (18" layer and on-site; 87.3 ac)	Per Cubic Yard	\$5.73	202,554	\$1,160,634
Seeding, Composting	Per Acre	\$14,536	87.3	\$1,268,993
Drainage Swales	Per Acre	\$2,560	87.3	\$223,488
Active Landfill Gas Well Installation for Cell 6B (13 wells)	Per Well	\$47,076	13	\$611,988
Site Grading & Drainage	Per Acre	\$2,560	87.3	\$223,488
Site Fencing and Security	Lump Sum	\$5,118	1	\$5,118
SUBTOTAL .....				\$3,897,227
10% CONTINGENCY .....				\$389,723
CONSTRUCTION TOTAL .....				\$4,286,950
<b>CALCULATION OF CLOSURE COSTS</b>				
Engineering Total .....				\$736,823
Construction Total .....				\$4,286,950
Groundwater Well Installation Total .....				\$0
Contract Performance Bond: (2% of Construction Subtotal) .....				\$77,945
Legal Fees: ( 25% of Engineering Subtotal + 10% of Construction Subtotal) .....				\$557,183
<b>TOTAL CLOSURE COST .....</b>				<b>\$5,658,900</b>

1. Total costs rounded to the nearest dollar. CPI for Year 2024 is 2.8%.

**CAJA DEL RIO LANDFILL - JUNE 30, 2025 POST-CLOSURE COST ESTIMATE<sup>(1)</sup>**

COST ITEM	UNIT	COST	QUANTITY	TOTAL COST
<b>Engineering Costs</b>				
Post Closure Plan (one time event)	Lump Sum	\$12,799	1	\$12,799
Site Inspection & Recordkeeping	Per Annum	\$5,118	30	\$153,540
Correctional Plans & Specifications	Per Annum	\$4,097	30	\$122,910
<b>Site Monitoring Costs</b>				
Detection Monitoring and Reporting for 3 Wells - Reduced Parameter Sampling List	Per Event	\$11,206	24	\$268,944
Detection Monitoring and Reporting for 3 Wells - Subsections A and C of 20.9.9.20 NMAC	Per Event	\$15,747	6	\$94,482
Methane Gas Monitoring and Reporting for 10 Probes	Per Annum	\$5,079	30	\$152,370
<b>Construction and Maintenance Costs</b>				
Cover Repair for 5% of the Landfill Area - 87.3 ac (6" layer and on-site; 5% = 4.37 ac) <sup>(2)</sup>	Per Event	\$20,162	30	\$604,860
Reseed 5% of the Landfill Area <sup>(3)</sup>	Per Event	\$10,903	6	\$65,418
Fence, Gate and Sign Repair /Replacement	Per Annum	\$1,027	30	\$30,810
Groundwater Monitoring Well Replacement <sup>(4)</sup>	Per Annum	\$3,743	30	\$112,290
Groundwater Monitoring Well Maintenance <sup>(5)</sup>	Per Well	\$1,498	3	\$4,494
Active Landfill Gas System - Operation & Maintenance <sup>(6)</sup>	Per Annum	\$158,177	15	\$2,372,655
Decommissioning Active Landfill Gas System (41 wells)	Per Event	\$272,543	1	\$272,543
Leachate Disposal <sup>(7)</sup>	Per Gallon	\$0.088	120,000	\$10,560
<b>CALCULATION OF POST CLOSURE COSTS</b>				
SUBTOTAL (30-year post-closure period excluding post-closure plan) . . . . .				\$4,265,876
10% CONTINGENCY . . . . .				\$426,588
Post Closure Plan (one time cost) . . . . .				\$12,799
<b>TOTAL POST CLOSURE COST (Subtotal costs and 10% contingency plus post closure plan) . . . . .</b>				<b>\$4,705,263</b>

1. Total costs rounded to the nearest dollar. CPI for Year 2024 is 2.8%.
2. Cost is erosion layer placement under construction section for closure cost.
3. Assume re-seeding once every five years for 5% of the landfill area.
4. Cost includes replacing one of the groundwater wells during the 30-year post-closure period.
5. Cost includes replacement of pumps, well pads and padlocks for 3 wells.
6. Assume the active landfill gas collection system can be removed after a minimum of 15 years in operation after landfill closure.
7. Estimated quantity of leachate generated over the 30-year post-closure period.

**CAJA DEL RIO LANDFILL - JUNE 30, 2025**

**COST ESTIMATES FOR PHASE I AND PHASE II ASSESSMENT<sup>(1)</sup>**

<b>COST ITEM</b>	<b>UNIT</b>	<b>COST</b>	<b>QUANTITY</b>	<b>TOTAL COST</b>
<b>Phase I Assessment Costs</b>				
Initial Assessment Monitoring for all Constituents for Each Downgradient Wells: MW-2R, MW-4R; Subsections B and C of 20.9.9.20 NMAC	Per Well	\$5,714	2	\$11,428
Four Independent Assessment Monitoring for Detected Constituents from the Initial Assessment Monitoring - Upgradient and Downgradient Wells: MW-1, MW-2R, MW-4R	Per Well	\$1,969	12	\$23,628
Assessment Monitoring Within 90 Days for all Constituents in Subsections A and C, plus Detected Constituents in Subsection B for MW-1, MW-2R, MW-4R	Per Event	\$11,428	1	\$11,428
Assessment Monitoring Report	Per Report	\$5,079	1	\$5,079
Semi-Annual Monitoring - Subsections A and C, plus Assessment Monitoring Detections - Subsection B in MW-1, MW-2R, MW-4R for Eight (8) Events <sup>(3)</sup>	Per Event	\$16,458	8	\$131,664
Additional Assessment Monitoring Detections - Subsection B in MW-1, MW-2R, MW-4R	Per Event	\$572	10	\$5,720
Assessment Monitoring Detections - Subsection B in MW-1, MW-2R, MW-4R at Least Once Every Five (5) Years	Per Event	\$24,953	2	\$49,906
Corrective Action Well (CAW) Installation	Per Well	\$105,957	2	\$211,914
CAW Sampling	Per Well	\$1,969	2	\$3,938
CAW Installation and Sampling Report	Per Report	\$12,699	1	\$12,699
CAW Semi-Annual Monitoring for Two (2) Wells	Per Event	\$3,936	20	\$78,720
SUBTOTAL .....				\$546,124
10% CONTINGENCY .....				\$54,612
<b>TOTAL PHASE I ASSESSMENT COST .....</b>				<b>\$600,736</b>
<b>Phase II Assessment Costs</b>				
Phase II Assessment Total, per NMED	-	\$100,000	1	\$100,000
SUBTOTAL .....				\$100,000
10% CONTINGENCY .....				\$10,000
<b>TOTAL PHASE II ASSESSMENT COST .....</b>				<b>\$110,000</b>

1. Total costs rounded to the nearest dollar. CPI for Year 2024 is 2.8%.
2. Assessment monitoring and corrective action is required for a 10-year period.
3. Costs for 8 of the 16 semi-annual events are covered in the post-closure care costs under site monitoring costs.