State of Utah

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Lieutenant Governor

Department of
Environmental Quality

L. Scott Baird
Executive Director

DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL
Ty L. Howard
Director

July 8, 2020

Mark Franc, Senior Engineer
Waste Management
3683 South 4975 West
West Haven, UT 84401

RE: Mountainview Class V Landfill Permit for the Asbestos Monofill

Dear Mr. Franc:

The 30-day public comment period for the Mountainview Class V Landfill draft permit began May 1, 2020 and ended June 1, 2020. No comments were received.

Enclosed is the final Permit 0906R1 with an effective date of July 8, 2020 and an expiration date of July 8, 2030.

If you have any questions, please contact Doug Taylor at (801) 536-0240.

Sincerely,

Ty L. Howard, Director
Division of Waste Management and Radiation Control

TLH/DT/ar

Enclosures: Statement of Basis (DHSW-2020-009665)
Mountainview Class V Landfill Permit 0906R1 (DSHW-2020-001682)
Attachment #1 – Design and Construction (DSHW-2020-001684)
Attachment #2 – Plan of Operation (DSHW-2020-001686)
Attachment #3 – Inspection Forms ((DSHW-2020-001690)
Attachment #4 – Closure and Post Closure (DSHW-2020-01688)

c: Gary Edwards, MS, Health Officer, Salt Lake County Health Dept.
Dorothy Adams, Deputy Director, Salt Lake County Health Dept.
Royal DeLegge, MPA, EHS, Environmental Health Director, Salt Lake County Health Dept.
Katie Gibson-Jacobsen, P.E., HAL Engineers

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DIVISION OF WASTE MANAGEMENT AND RADIATION CONTROL SOLID WASTE LANDFILL PERMIT

MOUNTAINVIEW CLASS V LANDFILL

Pursuant to the provision of the Utah Solid and Hazardous Waste Act, Title 19, Chapter 6, Part 1, Utah Code Annotated (Utah Code Ann.) (the Act) and the Utah Solid Waste Permitting and Management Rules, R315-301 through 320 of the Utah Administrative Code adopted thereunder, a Permit is issued to:

Mountainview Landfill Inc.
as owner and operator, (Permittee)

to own, construct, and operate the Mountainview Class V Landfill located in the Salt Lake County, Utah as shown in the Permit Renewal Application that was determined complete on June 8, 2020.

The Permittee is subject to the requirements of R315-301 through 320 of the Utah Administrative Code and the requirements set forth herein.

All references to R315-301 through 320 of the Utah Administrative Code are to regulations that are in effect on the date that this permit becomes effective.

This Permit shall become effective July 8, 2020.

This Permit shall expire at midnight July 7, 2030.

Closure Cost Revision Date: July 8, 2025.

Signed this 8th day of July 2020.

Ty L. Howard, Director
Division of Waste Management and Radiation Control

FACILITY OWNER/OPERATOR INFORMATION

LANDFILL NAME:	Mountainview Class V Landfill
OWNER NAME:	Mountainview Landfill, Inc.
OWNER ADDRESS:	6976 West California Ave Salt Lake City, Utah 84104
OWNER PHONE NO.:	801-250-0555
OPERATOR NAME:	Mountainview Landfill, Inc.
OPERATOR ADDRESS:	6976 West California Ave Salt Lake City, Utah 84104
OPERATOR PHONE NO.:	801-250-0555
operator phone number	
TYPE OF PERMIT:	Class V Landfill
LOCATION:	South 1/2 of the southwest 1/4 section of Section 10, Township 1 South, Range 2 West, Salt Lake Base and Meridian
PERMIT NUMBER:	0906R1
PERMIT HISTORY	Permit effective July 8, 2020. This is the first renewal of the original permit signed on February 10, 2020.

The term, "Permit," as used in this document is defined in R315-301-2(55) of the Utah Administrative Code. Director as used throughout this permit refers to the Director of the Division of Waste Management and Radiation Control.

The renewal application for Mountainview Class V Landfill, dated December 31, 2019, tracking number DSHW-2019-018502, was deemed complete on the date shown on the signature page of this Permit. All representations made in the attachments of this permit are enforceable under R315-301-5(2) of the Utah Administrative Code. Where differences in wording exist between this Permit and the attachments, the wording of this Permit supersedes that of the attachments.

This Permit consists of the signature page, Facility Owner/Operator Information section, sections I through V, and all attachments to this Permit. The facility as described in this Permit consists of a Class V Asbestos Monofill disposal cell.

Compliance with this Permit does not constitute a defense to actions brought under any other local, state, or federal laws. This Permit does not exempt the Permittee from obtaining any other local, state or federal permits or approvals required for the facility operation.

The issuance of this Permit does not convey any property rights, other than the rights inherent in this Permit, in either real or personal property, or any exclusive privileges other than those inherent in this Permit. Nor does this Permit authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations, including zoning ordinances.

The provisions of this Permit are severable. If any provision of this Permit is held invalid for any reason, the remaining provisions shall remain in full force and effect. If the application of any provision of this Permit to any circumstance is held invalid, its application to other circumstances shall not be affected.

By this Permit, the Permittee is subject to the following conditions.

PERMIT REQUIREMENTS

I. GENERAL COMPLIANCE RESPONSIBILITIES

I.A. General Operation

I.A.1. The Permittee shall operate the landfill in accordance with all applicable requirements of R315-301 through 320 of the Utah Administrative Code, for a Class V Landfill, that are in effect as of the date of this Permit unless otherwise noted in this Permit. Any permit noncompliance or noncompliance with any applicable portions of 19-6-101 through 125, Utah Code Annotated, and applicable portions of R315-301 through 320 of the Utah Administrative Code constitutes a violation of the Permit or applicable statute or rule and is grounds for appropriate enforcement action, permit revocation, modification, or denial of a permit renewal application.

I.B. Acceptable Waste

I.B.1. This Permit is for the disposal of non-hazardous solid waste that may include:

I.B.1.a Construction/demolition waste as defined by 19-6-102(4), Utah Code Annotated;

I.B.1.b Yard waste, as defined in R315-301-2(85), Utah Administrative Code;

I.B.1.c Inert waste, as defined in R315-301-2(37), Utah Administrative Code;

I.B.1.d Petroleum contaminated soils as allowed in R315-315-8(3), Utah Administrative Code;

I.B.1.e Regulated asbestos-containing material in compliance with R315-301-2(5), Utah Administrative Code.

I.C. Prohibited Waste

I.C.1. Hazardous waste as defined by R315-261-3 of the Utah Administrative Code except as allowed in permit condition I.B (Acceptable Waste) above;

I.C.2. PCB's as defined by R315-301-2(53), Utah Administrative Code, except construction/demolition waste containing PCB's as specified by R315-315-7(2)(a) and (c), Utah Administrative Code; no household waste, except waste resulting from the abatement, rehabilitation, renovation and remodeling of homes and other residences; no municipal waste; no special waste, except as specified in this permit; no commercial waste; and no industrial waste shall be accepted for treatment, storage, or disposal at the landfill.

I.C.3. Waste tires as defined by R315-320 of the Utah Administrative Code.

I.C.4. Any prohibited waste received and accepted for treatment, storage, or disposal at the facility shall constitute a violation of this Permit, of 19-6-101 through 125, Utah Code Annotated, and of R315-301 through 320 of the Utah Administrative Code.

I.D. Inspections and Inspection Access

I.D.1. The Permittee shall allow the Director or an authorized representative, or representatives from the Salt Lake County Health Department, to enter at reasonable times and:

I.D.1.a Inspect the landfill or other premises, practices or operations regulated or required under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;

I.D.1.b Have access to and copy any records required to be kept under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;

I.D.1.c Inspect any loads of waste, treatment facilities or processes, pollution management facilities or processes, or control facilities or processes required under this Permit or regulated under R315-301 through 320 of the Utah Administrative Code; and

I.D.1.d Create a record of any inspection by photographic, video, electronic, or any other reasonable means.

I.E. Noncompliance

I.E.1. If monitoring, inspection, or testing indicates that any permit condition or any applicable rule under R315-301 through 320 of the Utah Administrative Code may be or is being violated, the Permittee shall promptly make corrections to the operation or other activities to bring the facility into compliance with all permit conditions or rules.

I.E.2. In the event of noncompliance with any permit condition or violation of an applicable rule, the Permittee shall promptly take any action reasonably necessary to correct the noncompliance or violation and mitigate any risk to the human health or the environment. Actions may include eliminating the activity causing the noncompliance or violation and containment of any waste or contamination using barriers or access restrictions, placing of warning signs, or permanently closing areas of the facility.

I.E.3. The Permittee shall:

I.E.3.a Document the noncompliance or violation in the daily operating record, the day the event occurred or the day it was discovered;

I.E.3.b Notify the Director by telephone within 24 hours, or the next business day following documentation of the event; and

I.E.3.c Give written notice of the noncompliance or violation and measures taken to protect human health and the environment within seven days after Director notification.

I.E.4. Within thirty days after the documentation of the event, the Permittee shall submit to the Director a written report describing the nature and extent of the noncompliance or violation and the remedial measures taken or to be taken to protect human health and the environment and to eliminate the noncompliance or violation. Upon receipt and review of the assessment report, the Director may order the Permittee to perform appropriate remedial measures including development of a site remediation plan for approval by the Director.

I.E.5. In an enforcement action, the Permittee may not claim as a defense that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with R315-301 through 320 of the Utah Administrative Code and this Permit.

I.F. Revocation

I.F.1. This Permit is subject to revocation if the Permittee fails to comply with any condition of the Permit. The Director will notify the Permittee in writing prior to any proposed revocation action and such action shall be subject to all applicable hearing procedures established under R305-7 of the Utah Administrative Code and the Utah Administrative Procedures Act.

I.G. Attachment Incorporation

I.G.1.a Attachments to the Permit Application are incorporated by reference into this Permit and are enforceable conditions of this Permit, as are documents incorporated by reference into the attachments. Language in this Permit supersedes any conflicting language in the attachments or documents incorporated into the attachments.

I.H. DESIGN AND CONSTRUCTION

I.H.1. Design and Construction

I.H.1.a The Permittee shall construct any landfill cell, sub-cell, run-on diversion system, runoff containment system, waste treatment facility, leachate handling system, or final cover in accordance with the design found in Attachment 1 and in accordance with the R315-301 thru 320 of the Utah Administrative Code.

I.H.2. Run-On Control

I.H.2.a The Permittee shall construct drainage channels and diversions as specified in Attachment 1 and shall maintain them at all times to effectively prevent runoff from the surrounding area from entering the landfill.

II. LANDFILL OPERATION

II.A. Operations Plan

II.A.1. The Permittee shall keep the Operations Plan included in Attachment 2 on site at the landfill or at the location designated in section III-H of this Permit. The Permittee shall operate the landfill in accordance with the operations plan. If necessary, the Permittee may modify the Operations Plan following the procedures of R315-311-2(1) of the Utah Administrative Code and approved of by the Director. The Permittee shall note any modification to the Operations Plan in the daily operating record.

II.A.1.a Security

II.A.1.a.(i) The Permittee shall operate the Landfill so that unauthorized entry to the facility is restricted. The Permittee shall:

II.A.1.a.i.A Lock all facility gates and other access routes during the time the landfill is closed.

II.A.1.a.i.B Have at least two persons employed by the Permittee at the landfill during all hours that the landfill is open.

II.A.1.a.i.C Construct all fencing and any other access controls as shown in the Permit Application to prevent access by persons or livestock by other routes.

II.B. Training

II.B.1. The Permittee shall provide training for on-site personnel in landfill operation, including waste load inspection, hazardous waste identification, and personal safety and protection.

II.C. Burning of Waste

II.C.1. Intentional burning of solid waste is prohibited and is a violation of R315-303-4(2)(b) of the Utah Administrative Code.

II.C.2. The Permittee shall extinguish all accidental fires as soon as reasonably possible.

II.D. Daily Cover

The Permittee shall cover the waste periodically to prevent fires and to control vectors, blowing litter, odor, scavenging, and fugitive dust. Cover shall be provided no less than quarterly. At the end of the operating day when cover is applied, the amount of cover placed and the area receiving cover shall be recorded in the operating record.

II.D.1. The Permittee may use an alternative daily cover material when the material and the application of the alternative daily cover meets the requirements of R315-303-4(4)(b) through (e) of the Utah Administrative Code.

II.E. Ground Water Monitoring

II.E.1. The Permittee shall monitor the ground water underlying the landfill in accordance with the Ground Water Monitoring found in Section 4.12 in Attachment 2 of the Operations Plan.

II.E.2. Gas Monitoring

II.E.3. The Permittee shall monitor explosive gases at the landfill in accordance with the Gas Monitoring Plan contained in Section 4.11 of Attachment 2, Plan of Operation.

II.E.4. If the concentrations of explosive gases at any of the facility structures, at the property boundary, or beyond the property boundary ever exceed the standards set in R315-303-2(2)(a) of the Utah Administrative Code, the Permittee shall:

II.E.4.a Immediately take all necessary steps to ensure protection of human health and notify the Director;

II.E.4.b Within seven days of detection, place in the daily operating record the explosive gas levels detected and a description of the immediate steps taken to protect human health;

II.E.4.c Implement a remediation plan that meets the requirements of R315-303-3(5)(b) of the Utah Administrative Code; and

II.E.4.d Submit the plan to, and receive approval from, the Director prior to implementation.

II.F. Waste Inspections

II.F.1. The Permittee shall visually inspect incoming waste loads to verify that no wastes other than those allowed by this permit are disposed in the landfill. The Permittee shall conduct a complete waste inspection at a minimum frequency of 1% of incoming loads, but no less than one complete inspection per week. The Permittee shall select the loads to be inspected on a random basis.

II.F.2. The Permittee shall inspect all loads suspected or known to have one or more containers capable of holding more than five gallons of liquid to ensure that each container is empty.

II.F.3. The Permittee shall inspect all loads that the Permittee suspects may contain a waste not allowed for disposal at the landfill.

II.F.4. The Permittee shall conduct complete random inspections as follows:

II.F.4.a The Permittee shall conduct the random waste inspection at the working face or an area designated by the Permittee.

II.F.4.b The Permittee shall direct that loads subjected to complete inspection be unloaded at the designated area;

II.F.4.c Loads shall be spread by equipment or by hand tools;

II.F.4.d Personnel trained in hazardous waste recognition and recognition of other unacceptable waste shall conduct a visual inspection of the waste; and

II.F.4.e The personnel conducting the inspection shall record the results of the inspection on a waste inspection form found in Attachment 3. The Permittee shall place the form in the daily operating record at the end of the operating day.

II.F.4.f The Permittee or the waste transporter shall properly dispose of any waste found that is not acceptable at the facility at an approved disposal site for the waste type and handle the waste according to the rules covering the waste type.

II.G. Disposal of Special Wastes

II.G.1. The Permittee shall handle and dispose of asbestos waste in accordance with R315-315-2 of the Utah Administrative Code as well as the procedures outlined in Section 4.15 of Attachment 2.

II.H. Self Inspections

The Permittee shall inspect the facility to prevent malfunctions and deterioration, operator errors, and discharges, which may cause or lead to the release of wastes or contaminated materials to the environment or create a threat to human health or the environment. These general inspections shall be completed no less than quarterly and shall cover the following areas: waste placement, compaction, and cover; fences and access controls; roads; run-on/run-off controls; final and intermediate cover; litter controls; and records. A record of the inspections shall be placed in the daily operating record on the day of the inspection. Areas needing correction, as noted on the inspection report, shall be corrected and the actions taken placed in the daily operating record.

II.I. Recordkeeping

II.I.1. The Permittee shall maintain and keep on file at landfill office, a daily operating record and other general records of landfill operation as required by R315-302-2(3) of the Utah Administrative Code. The landfill operator, or other designated personnel, shall date and sign the daily operating record at the end of each operating day. Each record to be kept shall contain the signature of the appropriate operator or personnel and the date signed. The Daily operating record shall consist of the following two types of documents:

II.I.1.a Records related to the daily landfill operation or periodic events including:

II.I.1.a.(i) The number of loads of waste and the weights or estimates of weights or volume of waste received each day of operation and recorded at the end of each operating day;

II.I.1.a.(ii) Major deviations from the approved plan of operation, recorded at the end of the operating day the deviation occurred;

II.I.1.a.(iii) Results of monitoring required by this Permit, recorded in the daily operating record on the day of the event or the day the information is received;

II.I.1.a.(iv) Records of all inspections conducted by the Permittee, results of the inspections, and corrective actions taken, recorded in the record on the day of the event.

II.I.1.b Records of a general nature including:

II.I.1.b.(i) A copy of this Permit;

II.I.1.b.(ii) Results of inspections conducted by representatives of the Director, and of representatives of the local Health Department, when forwarded to the Permittee;

II.I.1.b.(iii) Closure and Post-closure care plans; and

II.I.1.b.(iv) Records of employee training.

II.J. Reporting

II.J.1. The Permittee shall prepare and submit to the Director an Annual Report as required by R315-302-2(4) of the Utah Administrative Code. The Annual Report shall include: the period covered by the report, the annual quantity of waste received, an annual update of the financial assurance mechanism, all ground water monitoring results, the results of gas monitoring, and all training programs completed.

II.K. Roads

II.K.1. The Permittee shall improve and maintain all access roads within the landfill boundary that are used for transporting waste to assure safe and reliable all-weather access to the disposal area.

II.L. Litter Control

II.L.1. Litter resulting from operations of the landfill shall be minimized. In addition to the litter control plans found in Attachment 2, Operations Plan, the Permittee shall implement the following procedures when high wind conditions are present:

II.L.1.a Reduce the size of the tipping face;

II.L.1.b Reduce the number of vehicles allowed to discharge at the tipping face at one time;

II.L.1.c Orient vehicles to reduce wind effects on unloading and waste compaction;

II.L.1.d Reconfigure tipping face to reduce wind effect;

II.L.1.e Use portable and permanent wind fencing as needed; and

II.L.1.f Should high winds present a situation that the windblown litter cannot be controlled; the Permittee shall cease operations of the landfill until the winds diminish.

III. CLOSURE REQUIREMENTS

III.A. Closure

III.A.1. The Permittee shall install the Evapotranspiration (ET) Cover of the landfill approved April 29, 2019, in the Mountainview CD Landfill Modification of the Final Grade.

III.A.2. Title Recording

III.A.2.a The Permittee shall meet the requirements of R315-302-2(6) of the Utah Administrative Code by recording a notice with the Salt Lake County Recorder as part of the record of title that the property has been used as a landfill. The notice shall include waste disposal locations and types of waste disposed. The Permittee shall provide the Director the notice as recorded.

III.B. Post-Closure Care

III.B.1. The Permittee shall perform post-closure care at the closed landfill in accordance with the Post-Closure Care Plan contained in Attachment 4, Closure and Post Closure Plan. Post-closure care shall continue until all waste disposal sites at the landfill have stabilized and the finding of R315-302-3(7)(c) of the Utah Administrative Code is made.

III.C. Financial Assurance

III.C.1. The Permittee shall keep in effect and active, the currently approved financial assurance mechanism found in Table 3 of Attachment 4, Financial Assurance. The Permittee shall adequately fund and maintain the financial assurance mechanism to provide for the cost of closure at any stage or phase or anytime during the life of the landfill or the permit life, whichever is shorter.

III.D. Financial Assurance Annual Update

III.D.1. The Permittee shall submit an annual revision of closure and post-closure costs for inflation and financial assurance funding as required by R315-309-2(2) of the Utah Administrative Code to the Director.

III.D.2. The Permittee shall submit a complete revision of the closure and post-closure cost estimates by the Closure Cost Revision Date listed on the signature page of this Permit and any time the facility is expanded, any time a new cell is constructed, or any time a cell is expanded.

IV. ADMINISTRATIVE REQUIREMENTS

IV.A. Permit Modification

IV.A.1. Modifications to this Permit may be made upon application by the Permittee or by the Director, following the procedures specified in R315-311-2 of the Utah Administrative Code. The Permittee shall be given written notice of any permit modification initiated by the Director.

IV.B. Permit Transfer

IV.B.1. This Permit may be transferred to a new Permittee or new Permittees by complying with the permit transfer provisions specified in R315-310-11 of the Utah Administrative Code.

IV.C. Expansion

IV.C.1. This Permit is for a Class V Landfill. The permitted landfill shall operate according to the design and Operation Plan described and explained in this Permit. Any expansion of the current footprint designated in the description contained in the Permit Application, but within the property boundaries designated in the Permit Application, shall require submittal of plans and specifications to the Director. The plans and specifications shall be approved by the Director prior to construction.

IV.C.2. Any expansion of the landfill facility beyond the property boundaries designated in the description contained in the Permit Application shall require submittal of a new permit application in accordance with the requirements of R315-310 of the Utah Administrative Code and 19-6-108(1)(d), Utah Code Annotated, and shall receive all approvals required in 19-6-108, Utah Code Annotated.

IV.C.3. Any addition to the acceptable wastes described in Section I.B shall require a permit modification in accordance with R315-311 of the Utah Administrative Code.

IV.D. Expiration

IV.D.1. If the Permittee desires to continue operating this landfill after the expiration date of this Permit, the Permittee shall submit an application for permit renewal at least six months prior to the expiration date, as shown on the signature (cover) page of this Permit. If the Permittee timely submits a permit renewal application and the permit renewal is not complete by the expiration date, this Permit shall continue in force until renewal is completed or denied.

Permit Attachments

Attachment 1 – Design and Construction
Attachment 2 – Plan of Operation
Attachment 3 – Inspection Forms
Attachment 4 – Closure and Post Closure

Attachment 1
Design and Construction

Attachment 2
Plan of Operation

Attachment 3
Inspection Forms

Attachment 4
Closure and Post Closure

Statement of Basis
for the Mountainview Class V Asbestos Monofill Permit

1. INTRODUCTION

This Statement of Basis provides the rationale of the Director of the Division of Waste Management and Radiation Control (DWMRC) for issuing the Mountainview Class V Asbestos Monofill Permit. The Director's staff conducted this evaluation to ensure compliance with the applicable Solid Waste Rules. Doug Taylor wrote this Statement of Basis.

2. FACILITY BACKGROUND

a. Facility Location and History

The facility is located at 6976 West California Avenue, Salt Lake City, Utah, in Section 10, Township 1 South, Range 2 West, Salt Lake Base Meridian.

b. Regulatory History

A construction and demolition landfill has operated at this location since 1985 when it was owned by Bland Landscaping. Waste Management acquired the construction and demolition landfill in 1998 and subsequently applied for and received a permit to dispose of asbestos on February 10, 2010. This is the first renewal of that permit.

3. EVALUATION OF RENEWAL PERMIT

a. The permit application (DSHW-2019-018502) for the Facility was received on January 7, 2020 at which time the evaluation of the permit application was begun. Page 18 of the permit application was missing the Post-Closure Care Period Contact. An email was sent to the application and the information was sent by email and inserted into page 18 of the permit application. A draft permit was developed, and a copy of the draft permit was sent to the applicant. After a few minor editorial suggestions by the applicant were received and added to the draft permit, the comment period was initiated on May 1, 2020 by the Division's document (DSHW-2020-006222).

4. JUSTIFICATION PERMIT

The Director's staff has evaluated the permit application as required by Section 19-6-108 of the Solid and Hazardous Waste Act and R315-301 through 320 of the Solid and Hazardous Waste Rules.

5. PUBLIC PARTICIPATION

As required by Utah Administrative Code R315-311-3, the Director provided a 30-day public comment period on the draft permit which began May 1, 2020 and ended June 1, 2020. No comments were received.

CONCLUSION

The Director has determined that the applicant has met all required items in the permit application. The Director concludes that this permit satisfies the requirements of the Solid and Hazardous Waste Act and applicable rules.

3 DESIGN

The following sections discuss the final grading plan, final cover design, and provisions for drainage.

3.1 Grading

The landfill site is relatively flat with elevations ranging from about 4,215 to 4,220 feet mean sea level (MSL). As discussed in Section 2.2, the near-surface soil has a permeability of about 4 x 10^{-7} cm/s. Permeability of native clayey soils at the nearby SLVLF are on the order of 10^{-7} to 10^{-8} cm/s.

No excavation occurs before waste is placed in the landfill. Wastes are placed on the native low-permeability soils. The native low-permeability soils serve as a low-permeability liner below the waste. Although the native low-permeability soils beneath the site would impede the downward movement of leachate within the existing landfill, no leachate has been detected.

A liner and leachate collection system are not required for a Class V (Asbestos Monofill) landfill, such as MVLF. Accordingly, a liner or leachate collection system is not proposed for the future area at MVLF. However, the native low-permeability soils beneath the landfill serve as a natural low-permeability liner and provide waste containment.

The landfill footprint will eventually cover most of the permitted 76 acre site. As shown on Drawing 1, the landfill footprint will cover approximately 74 acres. The footprint will be set back 10 feet along the north and east boundaries and 30 feet along the south and west boundaries. The proposed final elevation is 4,425 feet MSL. The original design of the landfill included a minimum 50-foot-wide top deck with a minimum slope of 5 percent. The design included 2:1 (horzontal:vertical) sideslopes with 25-foot-wide-benches every 40 vertical feet on the north and west sides of the landfill, a pronounced swale along the south facing slope with a flatter slope of 3:1, and a change in slope from 2:1 to 5:1 along the south and east slopes to improve the appearance of the ridgeline from the south. Later, two knolls replaced the single peak from the 1998 Design and Operation Plan to reduce the pyramid shape. The slope variations, swale, and two knolls served no regulatory or engineering design purpose, caused operational issues, and were an inefficient use of the landfill footprint. A design modification was submitted in 2018 and approved. The modification straightens the variable slopes to conform with the typical 2:1 slopes and 25-foot wide benches every 40 vertical feet. The modification also removes the two knoll design feature on top of the facility and replaces it with a single 125-foot to 200-foot wide deck with a 2%-7.5% slope for drainage. The approved design is shown on Drawing 1.

The revised design includes a total landfill air space (waste) of approximately 11.3 million cubic yards (cy). As of the most recent aerial topographic survey on March 3, 2019, approximately 10.2 million cubic yards (cy) of air space has been used since beginning operation in 1985. The site has a remaining capacity of 1.1 million cy. Based on an estimated annual air space usage of 76,500 tons, the landfill has a remaining life of approximately 11.5 years.

The landfill contains an asbestos monofill that was originally permitted to consume 50,000 cubic yards of landfill capacity. The asbestos monofill footprint has not changed, and the top surface of the monofill has been raised to increase the total capacity of the monofill to 177,500 cubic yards. The remaining capacity of the revised monofill is approximately 111,000 cubic yards. The original grading of the monofill is shown on Drawing 2. Revised grading is shown on Drawing 3, and cross-sections are shown on Drawing 4.

3.2 Final Cover Design

3.2.1 Regulatory Requirements

Regulations applicable to the MVLF final cover system are contained in UDEQ Solid Waste Permitting and Management Rules (R315-301 through 320) and the SLVHD's Health Regulations #1, Solid Waste Management Facilities.

UDEQ Rule R315-302-3(2) requires that a landfill be closed in manner that

(a) minimizes the need for further maintenance;
(b) minimizes or eliminates threats to human health and the environment from post-closure escape of solid waste constituents, leachate, landfill gases, contaminated run-off or waste decomposition products to the ground, ground water, surface water, or the atmosphere; and
(c) prepares the facility or unit for the post-closure period

UDEQ Rule R315-305-(5) requires a Class VI landfill such as MVLF to be closed by leveling the wastes to the extent practicable and placing a minimum of two feet of soil cover, including six inches of topsoil. The landfill cover may be seeded with grass, other shallow rooted vegetation or other native vegetation or covered in another manner approved by the Executive Director.

SLVHD Regulations #1 requires a landfill to have a final cover consisting of a compacted layer of cover material, at least 24 inches thick, with the upper 6 inches of a soil composition suitable to sustain plant growth, and the lower portion of material that restricts infiltration to the equivalent of that achieved by 18 inches of low-permeability (1 x 10^{-5} cm/sec or less) soil.

3.2.2 Final Cover

The approved final cover consists of a two-foot-thick layer of soil that is an evaporative soil cover. These covers provide sufficient moisture storage so that the soil moisture can be removed by evaporation. Evaporative covers have been designed and constructed on many landfills in arid and semi-arid regions and effectively reduce infiltration without long-term performance concerns that may be associated with geosynthetic materials or compacted clay covers.

The evaporative cover is designed to store moisture and allow for eventual evaporation and plant transpiration. Little moisture is released to flow into the waste and subgrade soils. The prescriptive standard has a lower moisture holding capacity so the soil barrier does little but to delay the inevitable infiltration into the waste. The semi-arid conditions of Salt Lake City, where evaporation well exceeds precipitation, are well suited for evaporative covers. Note that the landfill is currently in operation without a final cover, and groundwater monitoring has not identified groundwater impacts. In addition to allowing less infiltration, the evaporative cover is much less susceptible to settlement and cracking than a compacted clay cover.

3.3 Drainage

3.3.1 Existing Site Conditions

The area immediately east of the site is the Salt Lake Valley Landfill. North of the site is a wedge-shaped open area bounded by the northern landfill limits and an earth mound (abandoned rail road) traversing diagonally beginning at the northwest corner of the

property. This open area creates additional contributory flow along the northern perimeter of the site. Drainage tributary to the south is minimal due to an existing ditch alongside West California Ave. West of the site is 7200 West and Lee Ditch where most of the site surface runoff will drain.

3.3.2 Design Criteria

The design criteria utilized for determining the surface water runoff is based on the 25-year, 24-hour duration storm event, as required by SLVHD. The proposed drainage system design is based on the final landfill grades shown on Drawing 1.

3.3.3 Hydrologic Analysis

The method used for determining storm runoff is based on Technical Release 55 (TR-55), *Urban Hydrology for Small Watershed,* published by the Natural Resource Conservation (NRCS). Runoff peak flows and storm hydrographs obtained from the hydrologic analysis are based on 25-year, 24-hour frequency storm event and presented in Appendix C.

Precipitation. Rainfall data from the nearest precipitation station (National Weather Service-Salt Lake City Station [SLCS] was used to simulate the storm event at the site. The estimated 25-year, 24-hour precipitation reported from the SLCS is 2.65 inches.

Rainfall Distribution. TR-55 includes four synthetic 24-hour rainfall distributions developed by the NRCS representing various regions of the United States. Based on the geographical location of the site, Type II rainfall distribution was used in the analysis.

Time of Concentration. The time of concentration (T_c) is the time for runoff to travel from the most hydraulically distant point in a drainage subarea to the collection point. Calculation for T_c consists of overland flow or sheet flow, shallow concentrated flow, and open channel flow, or some combination, to the collection point. The T_c calculated for the landfill drainage subareas range from 6 to 8 minutes, approximately 0.1 hour, which is the minimum time concentration allowed by the TR-55 methodology. Open channel flow time is calculated based on flow velocities obtained from Manning's equation.

Overland flow time is determined based on the kinematics equation for sheet flow condition. Travel times for shallow concentrated and open channel flows were calculated based on flow velocities obtained from Manning's equation. Data input for the TR-55 computer analysis are presented in the hydrology calculations.

An approximate T_c for the off-site drainage area was developed based on the topographic features on the US Geological Survey (USGS) map and open channel flow time along the northern perimeter of the site.

Hydrologic Soil Group. Selection of runoff curve numbers (CNs) are based on the hydrologic soil classification, cover type, hydrologic conditions, and antecedent moisture condition. The soils at the site are predominately silty clay loam classified under the Type C under the NRCS soil group system. Based on available soil information and land use, the CN values used for the analysis are as follows:

Area Description	CN
Landfill Top Deck	86
Landfill Side Slope	88
Perimeter / Access Road	90
Undeveloped Area	79

3.3.4 Drainage Improvements

Calculations shown in Appendix C support the following drainage structures. The proposed bench and downdrain systems are designed to handle peak flows (25-year, 24-hour event) for the final closure condition. Benches and downdrains have been conservatively designed assuming that run-off is not conveyed into intermediated downdrains and is directed into downdrains on the western slope. Downdrains on the north and south slopes will actually convey some of the flow and convey water to the perimeter and natural drainage courses. Final improvements are shown on the drainage plan in Appendix C. Calculations included in Appendix C support the following improvements.

Grass-lined Benches. Most of the flow will be collected from side slopes and conveyed via benches. Drop inlets along the benches will be used to convey surface flow to downdrain pipes.

Downdrains. The downdrain system is designed to provide hydraulic capacity of intercepted run-off carried on the bench system. Drop inlets are included as part of the downdrain system. The high velocity flow (average of 30 fps) will be migrated through energy dissipaters or equivalent materials at the bottom of downdrains to minimize erosion.

Perimeter Drainage. Water will be conveyed to the perimeter of the site and into natural drainage courses. The perimeter drainage system will carry some of the run-off and control some run-on.

Culverts. Culverts have been constructed to convey water under 7200 West and California Avenue South to Lee Ditch. Flared end sections will intercept flow from ditches and downdrains. The site's point of discharge is the existing Lee Ditch.

3.4 Sequencing

The asbestos monofill will be constructed and filled adjacent to the MVL C&D fill sequencing. The location and elevation of the monofill is shown on Drawings 3 and 4. Vertical lifts will be placed at a rate and thickness which will be based on waste receipt. The top lift elevation of the monofill will remain as close to the elevation of the surrounding C&D lift as possible.

Soil Cover. Cover will consist of a total of two feet of soil. This material will be taken from on-site stockpiles of clean fill or if necessary, purchased from outside sources. Suitable soils (CL or SC) for the final cover will be determined from test parameters established. A quality assurance plan will be prepared to follow for cap construction. A final construction report for each segment of final cover completed will be submitted to the UDEQ and SLVHD.

3.5 Anticipated Service Life

The revised landfill design includes a total landfill air space (waste) of approximately 11.3 million cubic yards (cy). As of the most recent aerial topographic survey on March 3, 2019, approximately 10.2 million cubic yards (cy) of air space has been used since beginning operation in 1985. The site has a remaining capacity of 1.1 million cy. Based on an estimated annual air space usage of 76,500 tons, the landfill has a remaining life of approximately 11.5 years.

The landfill contains an asbestos monofill that was originally permitted to consume 50,000 cubic yards of landfill capacity. The asbestos monofill footprint has not changed, and the top surface of the monofill has been raised to increase the total capacity of the monofill to 177,500 cubic yards. The remaining capacity of the revised monofill is approximately 111,000 cubic yards. The original grading of the monofill is shown on Drawing 2. Revised grading is shown on Drawing 3, and cross-sections are shown on Drawing 4.

Ongoing engineering reviews will be conducted to continue and monitor the remaining service life.

APPROXIMATE LANDFILL FOOTPRINT

WELL BNW

WELL BN2

2-24" RCP WITH FLARED END SECTION

NORTH WEST DETENTION POND

24" CMP

18" CMP

12" CMP

2% TYP.

2:1 TYP.

40' WIDE ACCESS ROAD MAX. GRADE = 5.8%

7.5% TYP.

PROVIDE CROWN WITH 2% MIN SLOPE

25' WIDE BENCH WITH DITCH

7200 WEST STREET

WESTERN PERIMETER DITCH

24" RCP WITH FLARED END SECTION

SOUTH WEST DETENTION POND

SOUTHERN PERIMETER DITCH

WELL BSC

WELL BS

WEST CALIFORNIA AVENUE

SOUTH EAST DETENTION POND

DETENTION POND

OFFICE SCALES

MAINT. SHOP

WATER SUPPLY WELL

FACILITY FUEL TANK

18.24 ACRES FINAL COVER IN PLACE

5.71 ACRES COVER TO BE RE-OPENED

PROPERTY BOUNDARY

100 0 100 200 FEET

FILE NAME: PROJECTS\290 - WASTE MANAGEMENT\03.300 - MOUNTAIN VIEW PERMIT MODIFICATION\CAD\WORKING DRAWINGS\CLOSURE DESIGN.DWG
FILE DATE: 8.29.2018 16:41:06 (CAM)

10/07

HANSEN ALLEN & LUCE ENGINEERS

PROFESSIONAL ENGINEER — GARDON L. JONES — No. 5048470-2202 — 8/29/2018 — STATE OF UTAH

PROJECT ENGINEER

DESIGNED	GLJ	3				
DRAFTED	GDS	2				
CHECKED	GLJ	1				
DATE	AUGUST 2018	NO.	DATE	REVISIONS	BY	APVD.

SCALE: NOT TO SCALE

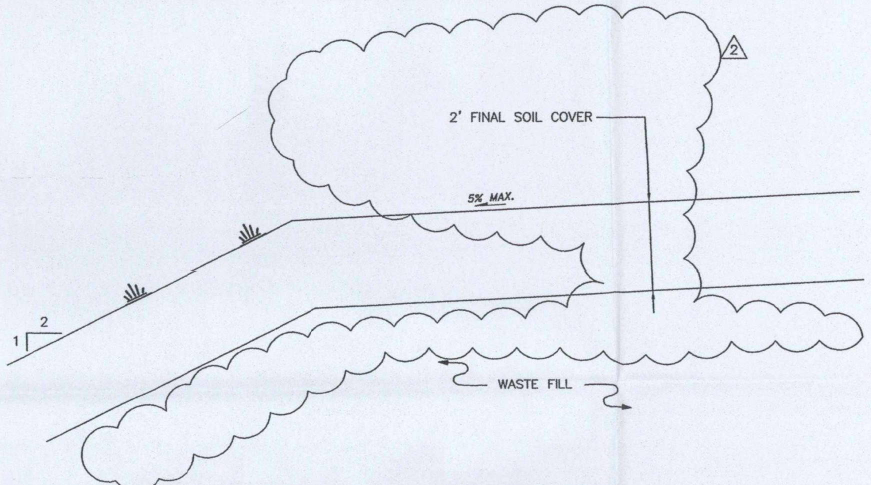
WASTE MANAGEMENT

MOUNTAIN VIEW LANDFILL FACILITY

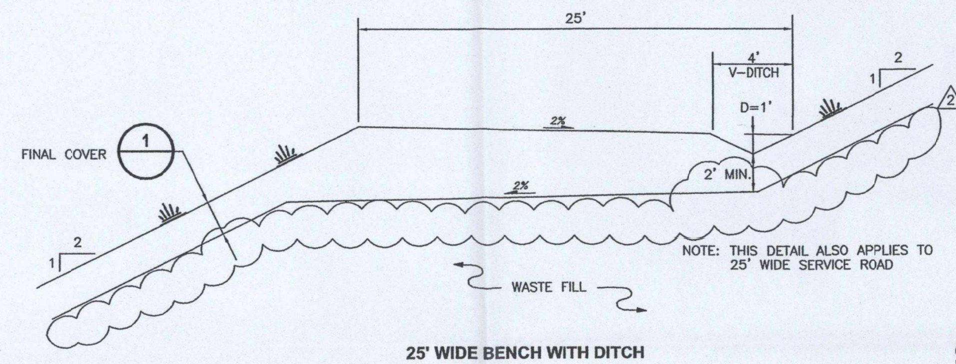
MOUNTAIN VIEW PERMIT MODIFICATIONS
FINAL GRADING PLAN

SHEET 1

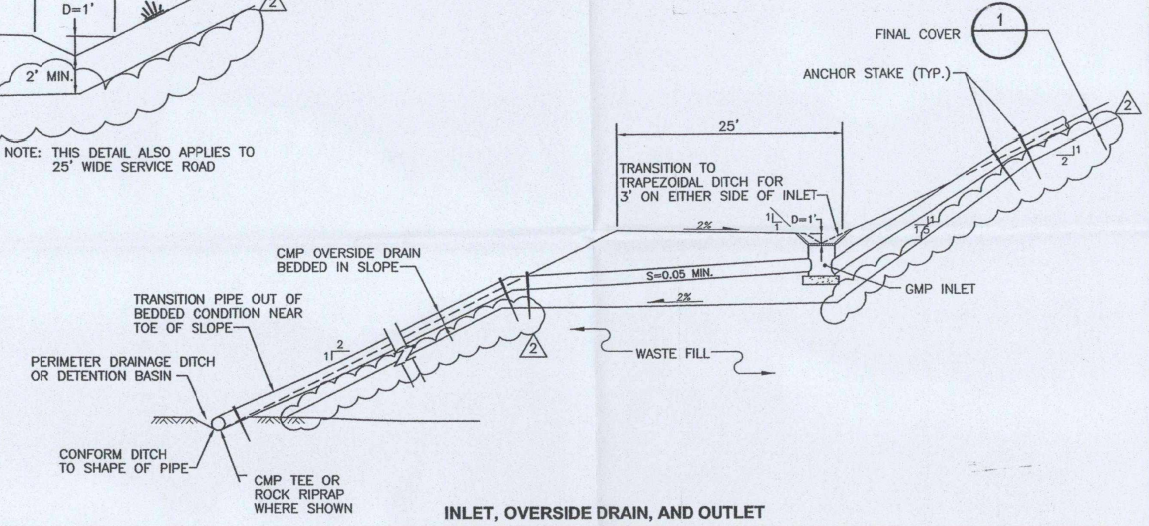
290.03.300



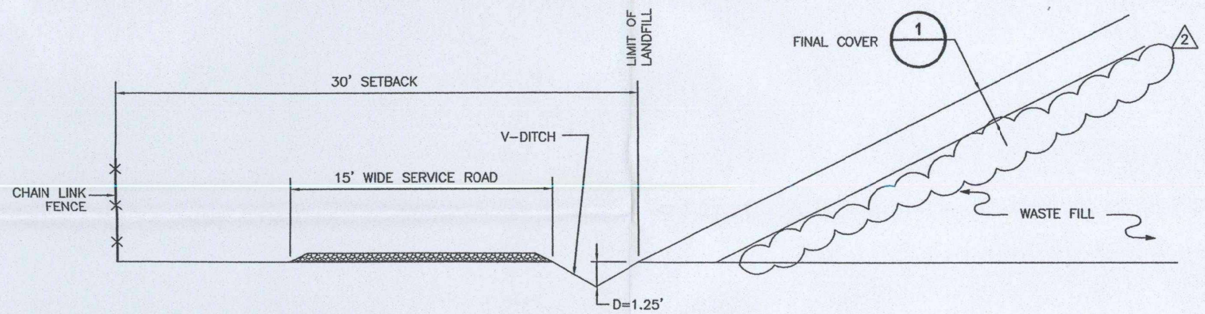
TYPICAL FINAL COVER
DETAIL 1
SCALE: 1" = 2'



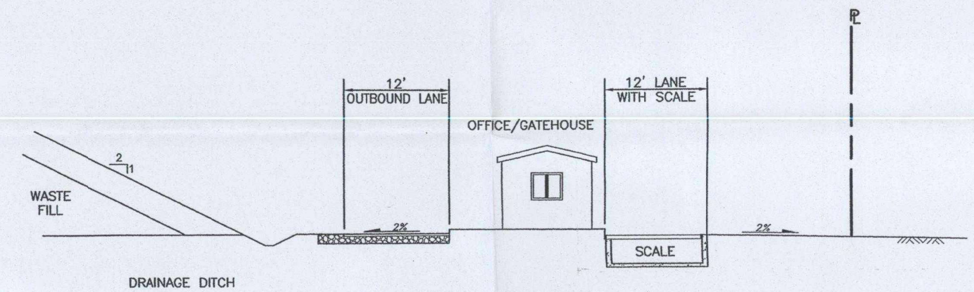
25' WIDE BENCH WITH DITCH
DETAIL 4
SCALE: 1" = 5'



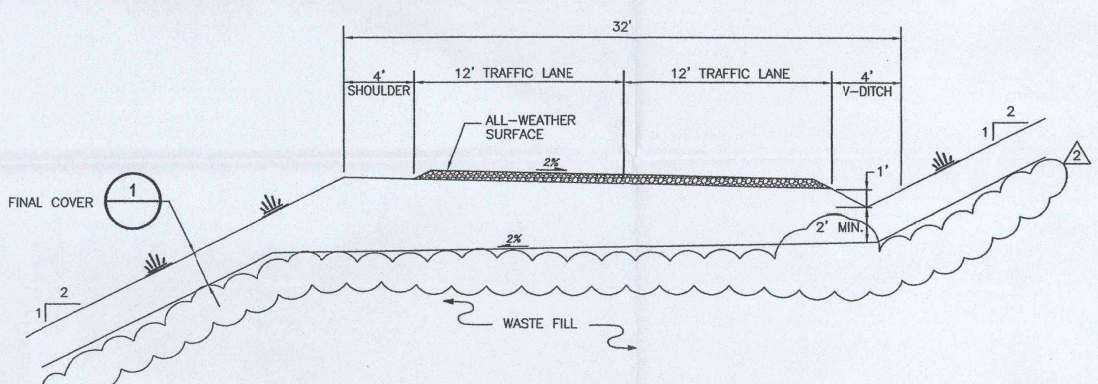
INLET, OVERSIDE DRAIN, AND OUTLET
DETAIL 5
SCALE: 1" = 10'



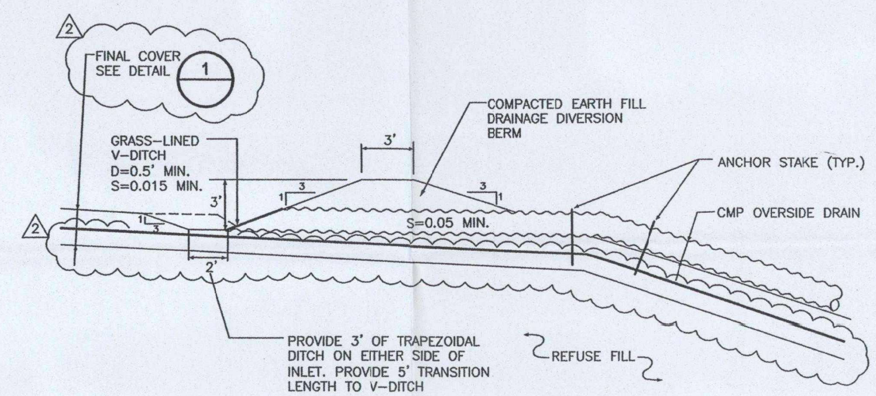
WEST PERIMETER DETAIL
DETAIL 2
SCALE: 1" = 5'



ENTRANCE FACILITIES
DETAIL 6
N.T.S.



ACCESS ROAD
DETAIL 3
SCALE: 1" = 5'



DRAINAGE DIVERSION BERM AND INLET (TOP OF LANDFILL)
DETAIL 7
SCALE: 1" = 5'

PROFESSIONAL ENGINEER NO. 4865328 GARTH ROBERT BOWERS STATE OF UTAH 1/13/06

For revision 1 & 2 changes

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	1/10/06	REV. FINAL COVER THICKNESS	KLT	RDH	RDH	RDH
1	9/22/03	REV. DETAILS 5, 6 ADDED DETAIL 7	KLT	RDH	RDH	RDH

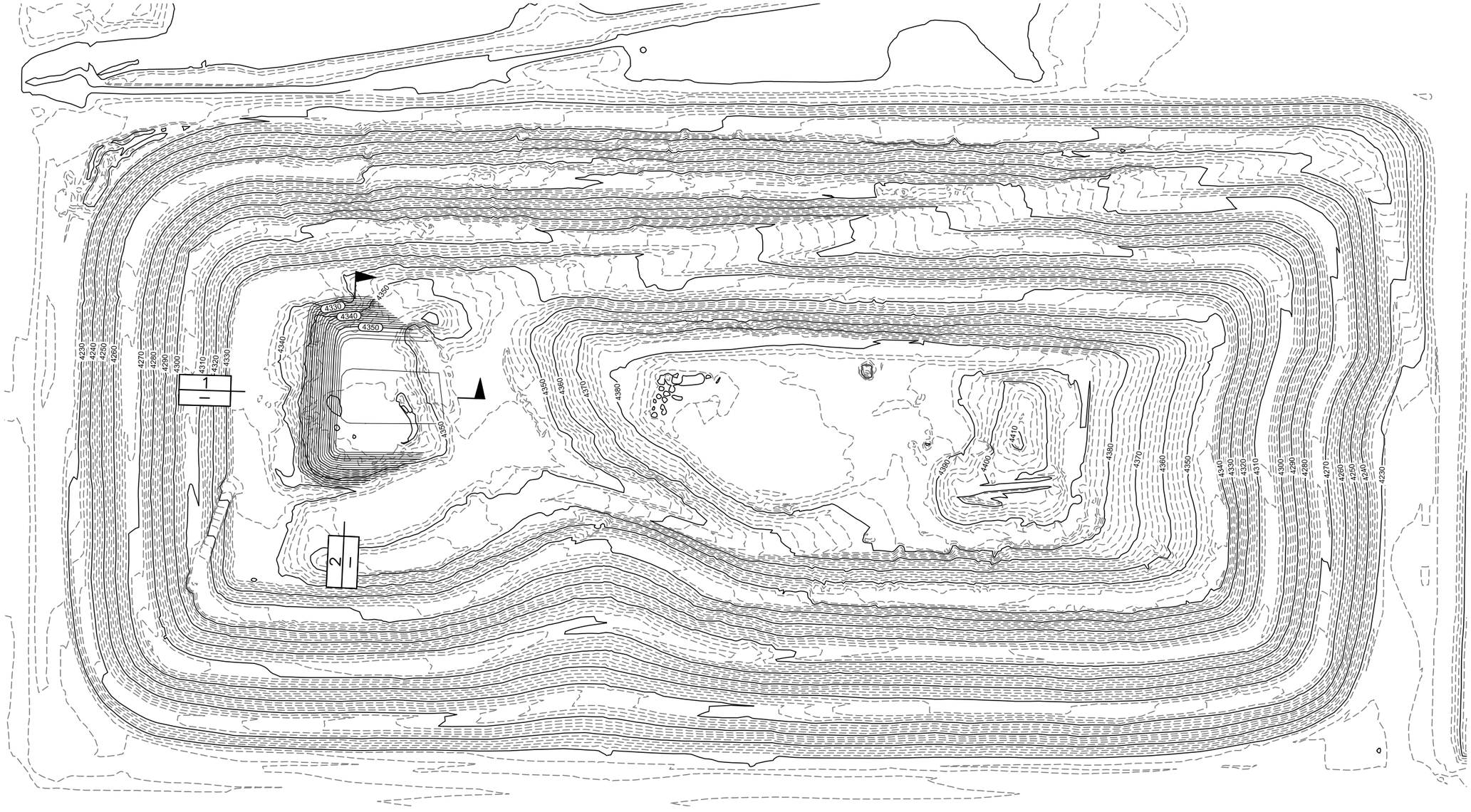
DATE OF ISSUE APR 1998 — DWN BY CKF/SER — DES BY DH — CHK BY — APP BY

Shaw™ EMCON/OWT, Inc.

WASTE MANAGEMENT, INC.
MOUNTAIN VIEW LANDFILL
SALT LAKE CITY, UTAH

DETAILS

DRAWING NO. 4
PROJECT NO. 844008



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10/07

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED GLJ
DRAFTED GDS
CHECKED GLJ
DATE NOVEMBER 2019

NO.	DATE	REVISIONS	BY	APVD.
3				
2				
1				

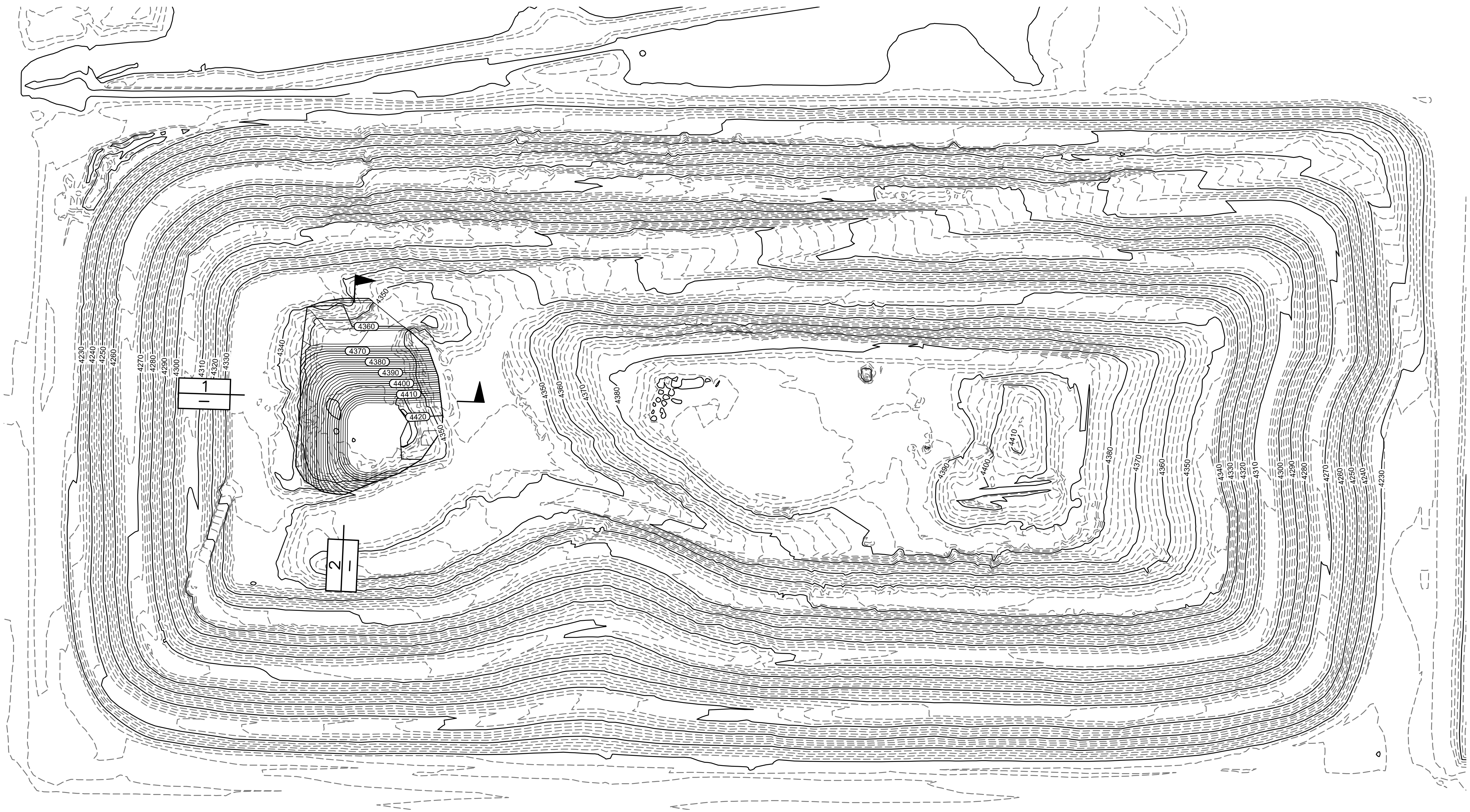
SCALE
NOT TO SCALE

WASTE MANAGEMENT

MOUNTAIN VIEW LANDFILL FACILITY

MOUNTAIN VIEW ASBESTOS PERMIT UPDATE
MARCH 03, 2019 TOPOGRAPHIC MAP
ORIGINAL ASBESTOS DISPOSAL AREA

SHEET
2
290.03.301



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FILE DATE: 8.16.2018 12:38:07 (GDS)
10/07

HANSEN ALLEN & LUCE INC ENGINEERS

PROJECT ENGINEER

DESIGNED GLJ	3				
DRAFTED GDS	2				
CHECKED GLJ	1				
DATE NOVEMBER 2019	NO.	DATE	REVISIONS	BY	APVD.

SCALE NOT TO SCALE

WM WASTE MANAGEMENT

MOUNTAIN VIEW LANDFILL FACILITY

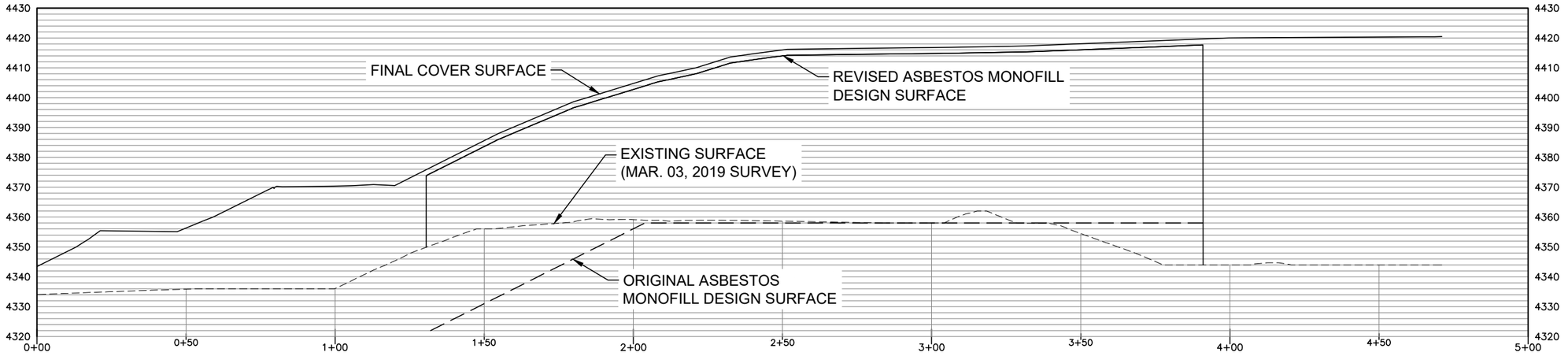
MOUNTAIN VIEW ASBESTOS PERMIT UPDATE
MARCH 03, 2019 TOPOGRAPHIC MAP
REVISED ASBESTOS DISPOSAL AREA

SHEET 3

290.03.301

ADDITIONAL CAPACITY OF REVISED ASBESTOS MONOFILL DESIGN SURFACE = 127,500 C.Y.

REMAINING CAPACITY OF REVISED ASBESTOS MONOFILL DESIGN SURFACE = 111,258 C.Y.



SECTION 1
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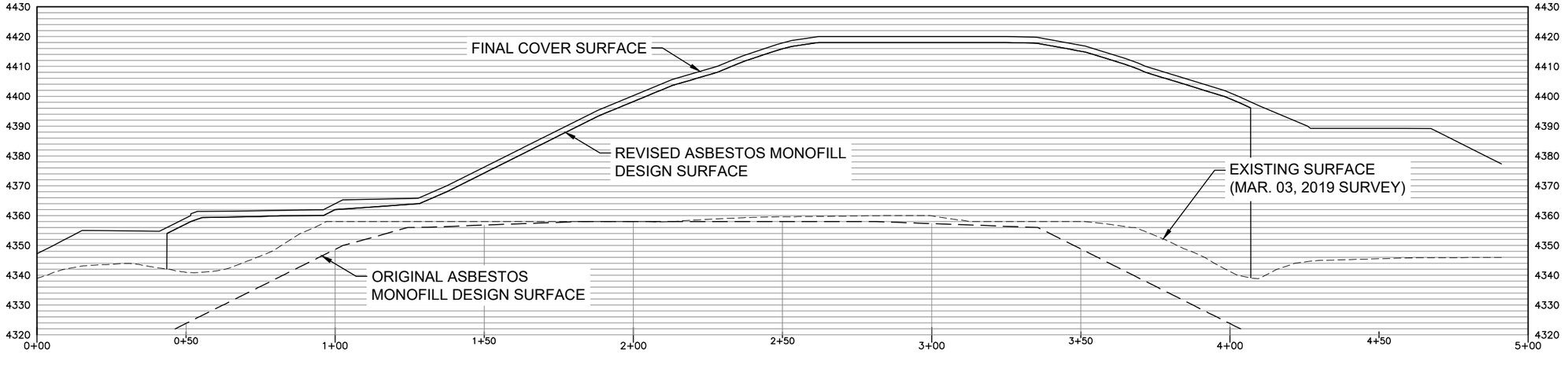

SECTION 2
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FILE DATE: 8.16.2018 12:38:07 (GDS)

HANSEN ALLEN & LUCE, Inc. ENGINEERS

PROJECT ENGINEER

DESIGNED GLJ
DRAFTED GDS
CHECKED GLJ
DATE NOVEMBER 2019

NO.	DATE	REVISIONS	BY	APVD.
3				
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SCALE NOT TO SCALE

WASTE MANAGEMENT

MOUNTAIN VIEW LANDFILL FACILITY

MOUNTAIN VIEW ASBESTOS PERMIT UPDATE
MARCH 03, 2019 TOPOGRAPHIC MAP
ASBESTOS DISPOSAL AREA SECTIONS

SHEET 4
290.03.301

10/07

4 OPERATIONS PLAN

This operations plan has been prepared in fulfillment of SLVHD Health Regulations #1 Solid Waste Management Facilities and UDEQ regulations. Table 2 references the SLVHD Regulations with the applicable sections in this plan.

4.1 Waste Acceptance

Asbestos waste acceptance criteria will be based on the procedures described in Section 4.1.5 of this document.

Operating hours of the facility may range from 6:00AM to 8:00PM. Hours of operation may change to accommodate customer cleanup projects or for other reasons. Relevant hours are posted at the site entrance.

The Class V facility accepts asbestos containing material and is operated as an asbestos monofill. Solid wastes that are not accepted include, but are not limited to, municipal solid waste, medical waste, putrescible waste, fluorescent electrical fixtures and transformers containing polychlorinated biphenyls, tires, drums, and containers with liquid or unrecognizable wastes, and fuel tanks.

4.2 Landfill Equipment

Landfill operations will be managed with the use of heavy construction equipment which currently includes the following:

Bulldozer
Compactor
Rubber Tire Loader
Track Hoe
Water Truck

In the event of equipment breakdown, or operational changes, other equipment may be used to manage disposal of wastes.

Equipment on site will be provided with the following safety devices:

1) Rollover protection devices
2) Seat belts
3) Audible reverse warning devices
4) Fire Extinguishers on all equipment used to manage solid waste or fill cover material
5) Communication equipment

Adequate equipment will be maintained at all times to ensure availability for proper management of the waste material and compliance with SLVHD Section 6.5(k).

4.3 Landfill Personnel

The number of site personnel will be adequate to ensure proper operations and management of the landfill. In addition, a member of management will be available during all hours of operation to handle emergency situations with facility communications equipment. Landfill Personnel include the following:

Landfill District Manager – Patrick Craig
6976 West California Avenue
Salt Lake City, Utah 84104
(801) 250-0555

Operations manager
Equipment operators
Gatehouse personnel
Traffic directors

Laborers, mechanics, and related support personnel will be provided as needed. Current operations require a staff of about four full-time employees during any given work shift. All employees will be required to wear the following at all times in the active areas on site:

1) Hard hat
2) Gloves
3) Safety glasses
4) Safety footwear (steel toe and steel shank)
5) Safety vests

4.4 Training

MVLF utilizes internal as well as external training opportunities, and conducts on-the-job training for new employees, and recurring training to refresh existing employees. Training is conducted on landfill operating procedures, equipment operations, identification and inspection of acceptable and unacceptable wastes, health and safety training, record keeping and reporting, and in related areas. A safety specialist assists in maintaining an updated Site Safety Manual and in instructing employees in the manual's procedures, use of personal safety devices, and use of the protective features of equipment. Equipment operators especially are trained in fire protection, and the use of fire extinguishers, which are mounted on each piece of equipment. Employees are trained on all equipment that they are expected to use in the performance of their jobs. The goal of employee training is to ensure proper and safe operations for employees, and the public users of the site.

4.5 Signage

The landfill entrance gate area has existing signs that indicate the name, permit number, hours of use, penalty for unauthorized use, safety precautions, types of waste accepted and not accepted, and additional information. Signs are used as needed to direct traffic onto roads, control vehicle speed within the landfill, and to indicate unloading areas.

The asbestos monofill area is screened by fencing or berms and posted with warning signs on all four sides. The wording "CAUTION ASBESTOS WASTE" or similar wording is printed on the signs with lettering at least three inches high.

4.6 Waste Inspection Procedures

When vehicles loaded with waste materials arrive at the gate, they must stop at the gatehouse. The gatehouse attendant is trained in waste acceptance procedures. Through a series of questions, the gatehouse attendant determines the nature and general source of the waste materials. A video camera is mounted outside the gatehouse, positioned to allow the attendant to observe the load. A waste receipt ticket is filled out that identifies the account's name, time and date, load description, and the origin of the waste.

If the load is deemed unacceptable, it is rejected, and not allowed to proceed into the landfill. A "Load Rejection Report", is completed by the landfill and provided to SLVHD for regulatory notification.

Loads accepted for disposal are handled in accordance with section 4.15.6 of this document and are again inspected by the equipment operators at the working face.

4.7 Disposal Procedures and Contingency Plans for Fire or Explosion

No open burning will be conducted at any time. If a fire should ignite or explosion occurs, soil from designated stockpiles or other areas maintained near the disposal area will be used to cover any burning waste. The water truck may be used to spray water on the fire as necessary. At the same time that site personnel are responding to the fire, emergency response agencies such as the fire department will be called in to assist as needed.

Verification of grades and elevations will be performed by certified surveyors on an as needed basis. Typically, this occurs once a year when annual aerial topographic map is prepared.

4.8 Surface Water Management

Run-on and run-off will be controlled through use of berms, ditches, and erosion control efforts. Lee Ditch and Kersey Creek are the nearest surface water bodies and both feed the Great Salt Lake. The active portion of the landfill is maintained at a higher grade than surrounding areas and soil berms are constructed as necessary to direct surface water from the active portion of the landfill. The soil berms and grading techniques employed effectively isolate portion of the landfill where waste may be exposed.

Surface water run-off from the facility is collected in a series of trenches constructed around the perimeter of the facility. These trenches convey surface water to unnamed surface water control ditches and Lee Creek located north and west of the property.

MVLF manages stormwater consistent with the requirements of the General Industrial stormwater Discharge Permit. As required, a stormwater pollution prevention plan and stormwater monitoring plan have been prepared for MVLF.

The limits of landfill are outside the 100-year flood plan as shown on Figure 4 available from Salt Lake County FEMA Database. The limits of landfill are also outside wetlands as depicted on Figure 5 from the National Wetlands Inventory Database.

4.9 Litter, Odor, Vector, and Dust Control

Temporary litter fencing will be deployed as needed to contain blowing paper and plastics. Litter will be cleaned up by laborers as needed to maintain a safe and orderly appearance. Prevailing winds are from the southwest.

Odors are not expected, due to the inert nature of the waste. Placement of cover soil over certain types of waste also will act to control any odors. Disease vectors, rats, or flies are not expected to be an issue, due to the inert nature of waste.

Dust will be controlled by watering. Water is pumped into the water truck from an onsite water well. If no water is available from the well an off-site water source will be used. A Fugitive Dust Control Plan reviewed by UDEQ is included in Appendix A-4.

4.10 Noise Levels

All on-site equipment is equipped with mufflers. Noise levels will be minimized to prevent levels beyond the property line exceeding allowable limits set forth in the SLVHD Regulations #1.

4.11 Explosive Gas Monitoring

Although C&D waste disposal sites generally do not generate significant amounts of explosive gas (landfill gas), a monitoring program will continue to be conducted. The monitoring program is in place to ensure that landfill gas, measured as methane, generated by the waste does not create a hazardous

condition. Landfill personnel have been trained in the use and calibration of a methane detector for monitoring the surface of the landfill. Gas monitoring at MVLF was started in March 1997 and is performed quarterly by landfill personnel. The methane detector is recalibrated every quarter before monitoring and a minimum of two locations approximately thirty feet up the landfill slope, various locations at the top of landfill, the site buildings, and the corners of the fill are selected for monitoring each quarter. The results of the monitoring program are recorded on a Methane Monitoring Form and are kept on site.

If gas levels do exceed 25 percent of the lower explosive limit (LEL) within any structure or the LEL at the landfill's property line, MVLF shall:

1) Immediately take necessary steps to ensure the immediate protection of human health and safety;
2) Immediately notify the SLVHD of the gas levels detected and the remediation steps which have already been taken;
3) Within 14 days, submit to the SLVHD for approval an ongoing remediation plan for the gas accumulation. The plan will describe the nature and extent of the problem and the proposed remedy. The plan will be implemented upon approval of the SLVHD.

4.12 Groundwater Monitoring

Groundwater from five on-site monitoring wells is sampled annually and analyzed by a Utah Certified Laboratory. Groundwater monitoring since 1985 has not indicated any impact to groundwater from the disposal of waste at this site.

A Groundwater Monitoring Plan dated August 2001 presents the groundwater monitoring program for MVLF. This plan incorporates monitoring elements approved by SLVHD to provide environmental protection during and after development. The plan further uses monitoring locations selected on the basis of hydrogeologic conditions to provide early detection of a potential release from the facility and corrective action programs to be initiated if groundwater is contaminated.

4.13 Spill Prevention

A spill prevention control and countermeasure plan has been prepared for MVLF.

4.14 Recordkeeping Procedures

The landfill will continue to maintain a site Operating Record that will be available for inspection by the SLVHD and UDEQ. The operating record will include at least the following information:

- Amounts and types of waste accepted at the facility
- Unacceptable waste notifications
- Random load inspections
- Survey information regarding the filled areas of the landfill
- Groundwater and gas monitoring results
- Training procedures and documentation of training
- Site Facility Inspections (see Appendix A)

4.15 Special Operating Requirements for Asbestos Containing Materials

The site will operate in accordance with the SLVHD, UDEQ and USEPA requirements.

4.15.1 Additional Operating Record Requirement.

In accordance with SLVHD regulations, MVLF will keep an additional operating record containing the identity of persons who have disposed asbestos waste at the landfill and the amount of asbestos waste each person has disposed at the landfill. The documentation will consist copy of the non-hazardous waste manifest or Waste Shipment Record in accordance with 40 CFR 61.154 (e)(1).

4.15.2 Asbestos Waste Separation From Existing Solid Waste

Asbestos waste cells will not be located directly on top of existing solid waste. Prior to placing ACM over any area containing solid waste, the area will receive 2 feet of clean soil consistent with final cover.

4.15.3 Location Mapping Requirement

In accordance with SLVHD regulations, MVLF will provide to the SLVHD, and keep on file, a plat map showing the exact location of all asbestos disposal areas.

4.15.4 Handling

Regulated asbestos-containing material to be disposed of in MVLF asbestos monofill shall be handled, transported, and disposed in a manner that will not permit the release of asbestos fibers into the air and must otherwise comply with Code of Federal Regulations, Title 40, Part 61, Section 154.

4.15.5 Material and Containerizing Requirements

MVLF does not accept regulated asbestos-containing material unless the waste has been adequately wetted and containerized to meet UDEQ and SLVHD regulations including:

a. Regulated asbestos-containing material is adequately wetted when its moisture content prevents fiber release.
b. Regulated asbestos-containing material is properly containerized when it is placed in double plastic bags of 6-mil or thicker, sealed in such a way to be leak-proof and air-tight, and the amount of void space or air in the bags is minimized. Regulated asbestos-containing material slurries must be packaged in leak-proof and air-tight rigid containers if such slurries are too heavy for the plastic bag containers. Upon submittal of a request, including documentation demonstrating safety, the Executive Secretary may authorize other proper methods of containment which may include double bagging, plastic-lined cardboard containers, plastic-lined metal containers, or the use of vacuum trucks for the transport of slurry.
c. MVLF requires that all containers holding regulated asbestos-containing material be labeled with the name of the waste generator, the location where the waste was generated, and tagged with a warning label indicating that the containers hold regulated asbestos-containing material.

4.15.6 Disposal Standards.

MVLF applies the following standards to the disposal of Regulated Asbestos-Containing Material;

a. Upon entering the disposal site, the transporter of the regulated asbestos-containing material must notify the scalehouse operator that the load contains regulated asbestos-containing material by presenting the waste shipment record. MVLF will verify quantities received, sign off on the waste shipment record, and send a copy of the waste shipment record to the generator within 30 days.

b. Upon receipt of the regulated asbestos-containing material, the MVLF inspects the loads to verify that the regulated asbestos-containing material is properly contained in leak-proof containers and labeled appropriately. MVLF will notify the Salt Lake Valley Health Department and the Utah Department of Environmental Quality Executive Secretary if it is believed that the regulated asbestos-containing material is in a condition that may cause fiber release during disposal. If the wastes are not properly containerized, and the load is accepted, MVLF will thoroughly soak the regulated asbestos-containing material with a water spray prior to unloading, rinse out the truck, and immediately cover the regulated asbestos-containing material with material which prevents fiber release prior to compacting the regulated asbestos-containing material in the landfill.

c. During deposition and covering of the regulated asbestos-containing material, MVLF will:
   i. Prepare a separate area of the landfill (monofill) to receive the regulated asbestos-containing material.
   ii. Assure asbestos waste is unloaded in a way that minimizes breaking of containers or bags. As necessary, MVLF may require the ACM hauler to notify the facility of the time and date the asbestos waste will be transported and the volume of asbestos to be disposed so that the facility operator can oversee the unloading.
   iii. Within 18 hours or at the end of the operating day, completely cover the containerized regulated asbestos-containing material with sufficient care to avoid breaking the containers with a minimum of six inches of material containing no regulated asbestos-containing material. If the regulated asbestos-containing material is improperly containerized, it will be completely covered immediately with six inches of material containing no regulated asbestos-containing material; and
   iv. Cover all ACM daily with a cover material using material such as soil that is free of asbestos, debris or other objects that may puncture the asbestos containing bags or containers. Asbestos will be covered with two feet (61 centimeters) of cover material if equipment will be driven over the disposal area or site or six inches (15.2 centimeters) of cover material if equipment will not be driven over the disposal area.

d. MVLF will provide barriers adequate to control public access. MVLF will:
   i. limit access to the regulated asbestos-containing material management site to no more than two entrances by gates that can be locked when left unattended and by fencing adequate to restrict access by the general public; and;
   ii. place warning signs at the entrances and at intervals no greater than 330 feet along the perimeter of the sections where regulated asbestos-containing material is deposited that comply with the requirements of 40 CFR 61.154(b).

MOUNTAIN VIEW LANDFILL
Quarterly Permit Facility Inspection

Signature_____ Date_____

ITEM	YES/NO	COMMENTS
Have wastes been placed in the appropriate locations?		
Have wastes been properly compacted?		
Are wastes being covered to prevent fires?		
Are the facility fences, gates, and other access controls in good condition?		
Are the facility roads maintained to provide safe and reliable access to the disposal area?		
Are the facility run-on/off controls in good condition and not blocked?		
Is final and intermediate cover in good condition?		
Is litter being picked up as necessary?		
Is the daily operating record being completed as required?		

5 CLOSURE AND POST CLOSURE

This section describes the tasks involved for implementing closure and post-closure maintenance of MVLF.

5.1 Closure

This preliminary plan reviews sequencing cover design, grading, and discusses closure cost and financial assurance.

5.1.1 Sequencing

The landfill will be closed in stages as portions reach final grade. Areas will be closed after they reach final grade. A Quality Assurance Plan for construction of final cover will be prepared. Upon completion of each segment of final cover, a final construction report will be completed.

5.1.2 Cover Design

The approved final cover consists of a two-foot thick layer of soils. As discussed in Section 3.2, the approved cover meets the SLVHD Health Regulations and the UDEQ Regulations including:

- Minimizing further maintenance
- Minimizing threats to human health and the environment by minimizing infiltration
- Preparing the facility for post closure period

The final cover will be vegetated to minimize erosion and maximize evapotranspiration.

5.1.3 Grading

Final grades are 2:1 with 25-foot-wide benches every 40 vertical feet. The top of the landfill is a 125-foot to 200-foot wide deck with 2%-7.5% slopes for drainage. The final elevation is about 4,425 feet MSL. Benches intercept surface water and generally slope to the west.

5.1.4 Drainage

Run-off is controlled by a system of drainage benches and downdrains as discussed in Section 3.4.4. Drainage improvements include:

- Culverts to convey water to Lee Ditch

The system has been designed for peak flows from the 25-year, 24-hour storm.

5.1.5 Closure Costs

Financial assurance is based on a worst-case closure area. Worst-case closure costs include two feet of cover soil, ditch and bench grading, and vegetation. The estimated worst-case closure costs are summarized in Table 3. The costs include final features, such as downdrains and culverts, shown on the Final Grading and Drainage Plan (Drawing 1).

5.2 Post Closure Maintenance

The post closure maintenance plan describes the tasks necessary to implement the post closure maintenance requirements. The plan includes:

- Monitoring and control systems operating during the post-closure maintenance period
- Inspection and maintenance procedures for the closed landfill
- Emergency response plan
- Estimated post-closure maintenance costs

5.2.1 Final Cover Integrity

This program will involve making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, and other events. A post closure maintenance program will be instituted at the landfill to verify that the final cover retains its integrity. The final cover areas will be routinely evaluated and inspected for:

- Evidence of erosion
- Ponded water
- Odor
- Exposed refuse
- Cracks
- Settlement
- Slope failure
- Leachate seeps

Cracks in the final cover will be repaired. Any erosion damage, which may occur as a result of extremely heavy rainfall, will be repaired. Temporary berms, ditches, and straw mulch will be used as needed to prevent further erosion damage to soil cover areas until site conditions permit replacement of eroded soil and reseeding of vegetation.

5.2.2 Drainage System

Drainage control problems can result in accelerated erosion of a particular area within the landfill. Differential settling of drainage control structures can limit their usefulness and may result in failure to direct storm water properly off the site.

A post closure maintenance program will be implemented so that the integrity of the final drainage system is maintained throughout the post closure maintenance period. The final drainage system will be routinely evaluated and inspected for ponded water, and blockage of and damage to drainage structures. In areas where erosion problems are noted or drainage control structures need to be repaired, proper maintenance procedures will be implemented to prevent further damage.

Inspections and any maintenance will be conducted by landfill personnel.

5.2.3 Vegetative Cover

The condition of vegetation will be monitored annually. Inspections will identify areas of irregular color or growth deficiency. During future inspections, the spread of these conditions will be noted.

5.2.4 Groundwater Monitoring Network

The groundwater monitoring system will remain in service throughout the closure and post-closure periods. Upon determination by local, state, and federal agencies that

groundwater monitoring is no longer necessary, the system will be decommissioned. The wells will be decommissioned consistent with applicable local and state regulations.

Groundwater monitoring wells will be inspected for signs of failure or deterioration during each sampling event. If damage is discovered, the nature and extent of the problem will be recorded. A decision will be made to repair or replace the well. (Possible repairs include redevelopment, chemical treatment, partial casing replacement or repair, resealing of the annulus, or pumping and testing.) If a well needs to be replaced, it will be properly decommissioned well destruction. Inspections and maintenance will be performed by landfill personnel.

5.2.5 Post-Closure Cost Estimate

The post-closure maintenance cost estimate shown in Table 3 was prepared based on the post-closure maintenance plan presented in this section. The post-closure maintenance cost estimate includes the cost of materials, equipment, labor, and administration. The post-closure maintenance costs are assumed to continue for at least 30 years after closure. The estimated total post-closure maintenance costs are summarized in Table 3.

5.2.6 Post-Closure Care Period Contact

Contact the following individual about the facility during the post-closure care period:

Mark W. Franc, Area Engineer
6976 West California Avenue
Salt Lake City, Utah 84104
801-726-7052

Table 3

Mountain View Landfill
Worst Case Closure and Post-Closure Maintenance and Care
Financial Assurance Cost Estimate
October 2019

Inflation factor 1.02436

Worst Case Exit Closure Cost

Description	Units	Prior Year Unit Cost	Updated Unit Cost	Quantity	Prior Year Cost	Updated Cost
Final Cap Construction – *50.2 Acres*						
Contractor Mobilization/demobilization	EA	$24,932.62	$25,539.98	1	$24,932.62	$25,539.98
24" Cover material purchase/place/compact)	CY	$6.23	$6.38	161979	$1,009,129.17	$1,033,711.56
Hydroseeding		$623.32	$638.50	50.2	$31,290.66	$32,052.90
Grading – Ditches & Swales	ACRE	$15.58	$15.96	6400	$99,712.00	$102,140.98
Surveys	LF	$4,363.21	$4,469.50	1	$4,363.21	$4,469.50
QA/QC and soils testing	LS	$3,116.58	$3,192.50	50.2	$156,452.32	$160,263.49
Closure Report and Certification	ACRE	$12,466.31	$12,769.99	1	$12,466.31	$12,769.99
Deed/Records Filing	EA	$3,116.58	$3,192.50	1	$3,116.58	$3,192.50
Building/Facilities Demobilization	EA	$31,165.78	$31,924.98	1	$31,165.78	$31,924.98
Fencing and Site Security	EA	$6,233.16	$6,385.00	1	$6,233.16	$6,385.00
					Total Exit Closure Site Costs =	**$1,412,450.88**

Notes:

1. Worst case closure assumes 50.2 acres of final cap to build at closure or at an intermediate closure condition.
2. Final cap consists of 24-inches of CL or SC soils as determined by ASTM and seeded with native grass seed.
3. Soils for final cover obtained from on-site stockpiles.

Annual Post Closure Maintenance & Care Cost

Description	Units	Prior Year Unit Cost	Updated Unit Cost	Annual Quantity	Prior Year Annual Cost	Updated Cost
Site Maintenance						
Misc. Grading and repair of final cap	HR	$154.64	$158.41	40	$6,185.60	$6,336.28
Reseeding and fertilizing of final cap	ACRE	$1,113.38	$1,140.50	1	$1,113.38	$1,140.50
Mowing and weed control	ACRE	$154.64	$158.41	63	$9,742.32	$9,979.64
Drainage repair/maintenance	HR	$154.64	$158.41	20	$3,092.80	$3,168.14
Miscellaneous maintenance	HR	$55.67	$57.03	20	$1,113.40	$1,140.52
Monitoring						
Annual inspections & report	HR	$105.15	$107.71	40	$4,206.00	$4,308.46
Groundwater sampling	HR	$84.12	$86.17	40	$3,364.80	$3,446.77
Groundwater sample analyses	EA	$371.13	$380.17	7	$2,597.91	$2,661.20
Annual reporting	HR	$98.97	$101.38	20	$1,979.40	$2,027.62
Annual surface water sampling	HR	$74.23	$76.04	20	$1,484.60	$1,520.76
Surface water sample analyses	EA	$18.56	$19.01	4	$74.24	$76.05
Annual reporting	HR	$105.15	$107.71	20	$2,103.00	$2,154.23
Landfill gas monitoring	HR	$55.67	$57.03	24	$1,336.08	$1,368.63
					Initial Annual Post-Closure Care & Maintenance Costs =	**$39,328.80**
					Post-Closure Care & Maintenance Period (Years) =	30
					30-Year Total Post-Closure Care & Maintenance Costs =	**$1,179,863.89**

Notes:

1. Post-Closure assumes a 30-year post closure period on the completed landfill footprint of 63 acres.
2. A total of seven groundwater sample points (five wells, one field duplicate, and one trip blank) are sampled annually for constituents listed in Mountain View Landfill Groundwater Monitoring Plan dated August 2001.
3. Surface water monitoring occurs quarterly.

Total Required Financial Assurance Bond Amount =	**$2,592,315**