



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF SOLID AND
HAZARDOUS WASTE
Scott T. Anderson
Director

June 23, 2015

Robert Greenberg
Administrative Control Board
Solid Waste Special Service District #1
P.O. Box 980
Moab, UT 84532

RE: Moab Class IVb Landfill Draft Permit Renewal

Dear Mr. Greenberg:

The Division of Solid and Hazardous Waste has completed its review of the application to renew the solid waste permit for the Moab Class IVb Landfill. The application is complete. A draft permit is enclosed for your review. Please provide us with any comments by July 15, 2015.

After your review and resolution of any comments, the Division will conduct the required 30-day public comment period. Following the public comment period and resolution of any public comments, final action will be taken on the draft permit.

If you have any questions, please call Phil Burns at (801) 536-0253.

Sincerely,

Scott T. Anderson, Director
Division of Solid and Hazardous Waste

STA/PEB/kl

Over

Enclosure: Moab Landfill Draft Solid Waste Permit (DSHW-2015-005113)
Attachment 1- Landfill Design and Construction Plans (DSHW-2015-004593)
Attachment 2 – Plan of Operation (DSHW-2015-004594)
Attachment 3 –Closure and Post-Closure (DSHW-2015-004595)

c: David Cunningham, RN, MSN, Health Officer, Southeastern Utah Dist. Health Dept.
Brady C. Bradford, MSPH, REHS, Env. Health Director, Southeastern Utah Dist. Health Dept.
David Ariotti, P.E., DEQ District Engineer
Debby Barton, Manager, Solid Waste Special Service District #

**DIVISION OF SOLID AND HAZARDOUS WASTE
SOLID WASTE PERMIT RENEWAL**

MOAB CLASS IVb LANDFILL

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

Grand County Solid Waste Management Special Service District #1,
as owner and operator (Permittee),

to own, construct and operate the Moab Landfill located in Township 26 S, Range 22 E, Sections 5 and 6, SLMB; Grand County, Utah as shown in the permit renewal application that was determined complete on *(insert date of draft permit cover letter and DSHW tracking number)*.

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 _____.

This Permit shall expire at midnight _____.

Closure Cost Revision Date:_____.

Signed this _____ day of _____, 2015.

Scott T. Anderson, Director
Division of Solid and Hazardous Waste

FACILITY OWNER/OPERATOR INFORMATION

LANDFILL NAME: Moab Landfill

OWNER NAME: Solid Waste Management Special Service District #1

OWNER ADDRESS: 1000 East Sand Flats Road
P.O. Box 980
Moab, Utah 84532

OWNER PHONE NO.: (435) 259-3867

OPERATOR NAME: same as owner

TYPE OF PERMIT: Class IVb Landfill

PERMIT NUMBER: 9704R2

LOCATION: Landfill site is located in NW ¼ SW ¼ of Section 5 and the E ½ SE ¼ NE ¼ SE ¼, and E ½ NE ¼ SE ¼ SE ¼ of Section 6, Township 26 S, Range 22 E, Salt Lake Base and Meridian, Grand County, Lat. 38° 48' 47", Long. 109° 47' 34"

DIRECTIONS TO FACILITY: Approximately two miles east of Moab at 1000 East Sand Flats Road

PERMIT HISTORY: Permit renewal signed insert date signed

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

This Permit consists of the signature page, Facility Owner/Operator Information Section, Sections I through V and all attachments to this Permit.

The facility described in this Permit consists of the gate house and Class IVb waste 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.

I. GENERAL COMPLIANCE RESPONSIBILITIES

A. General Operation

The Permittee shall operate the landfill in accordance with all applicable requirements of R315-304 of the Utah Administrative Code 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 Utah Code Ann § 19-6-101 through 123 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.

B. Acceptable Waste

1. Construction/demolition waste as defined in R315-301-2(17) of the Utah Administrative Code;
2. Yard waste as defined in R315-301-2(87) of the Utah Administrative Code;
3. Inert waste as defined in R315-301-2(37) of the Utah Administrative Code;
4. Waste tires when the requirements of R315-320 of the Utah Administrative Code are met; and
5. Petroleum contaminated soils as allowed in R315-315-8(3) of the Utah Administrative Code.

C. Prohibited Waste

1. Hazardous waste as defined by R315-1 and R315-2 of the Utah Administrative Code;
2. PCBs as defined by R315-301-2(53) of the Utah Administrative Code, except PCBs specified by R315-315-7(2)(a) and (c) of the Utah

Administrative Code;

3. Household waste, except waste resulting from the abatement, rehabilitation, renovation and remodeling of homes and other residences;
4. Municipal waste;
5. Special waste except as specified in this Permit;
6. Regulated asbestos-containing material;
7. Industrial waste as defined in R315-301-2(35) of the Utah Administrative Code;
8. Commercial waste as defined in R315-301-2(14) of the Utah Administrative Code; and
9. Containers larger than household size (five gallons) holding any liquid, non-containerized material containing free liquids or any waste containing free liquids in containers larger than five gallons.

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

D. Inspections and Inspection Access

The Permittee shall allow the Director or an authorized representative or representatives from the Southeastern Utah District Health Department to enter at reasonable times and:

1. 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;
2. 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;
3. 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
4. Create a record of any inspection by photographic, video, electronic or any other reasonable means.

E. Noncompliance

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.

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.

The Permittee shall:

1. Document the noncompliance or violation in the daily operating record, on the day the event occurred or the day it was discovered;
2. Notify the Director by telephone within 24 hours or the next business day following documentation of the event; and
3. Give written notice of the noncompliance or violation and measures taken to protect human health and the environment within seven days after Director notification.

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.

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.

F. Revocation

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.

G. Attachment Incorporation

Attachments to the Permit 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.

II. DESIGN AND CONSTRUCTION

A. Design and Construction

The landfill shall be constructed according to the design outlined in Attachment 1 and in the area designated in the Attachment 1, including landfill cells, fences, gates and berms.

The Permittee shall notify the Director upon completion of construction of any landfill cells or run-on and run-off diversion systems. No landfill cells or run-on and run-off diversion system may be used until construction is approved by the Director.

The Permittee shall notify the Director of the completion of construction of any final cover system and shall provide all necessary documentation and shall apply for approval of the construction from the Director.

If ground water is encountered during excavation of the landfill, the Director shall be notified immediately, and a contingency plan implemented or alternative construction design developed and submitted for approval.

All engineering drawings submitted to the Director shall be stamped by a professional engineer with a current registration in Utah.

B. Run-On Control

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.

III. LANDFILL OPERATION

A. Plan of Operation

The Permittee shall keep the Plan of Operations included in Attachment 2 onsite 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 Plan of Operations. If necessary, the Permittee may modify the Plan of Operations, provided that the modification meets all of the requirements of R315-301 through 320 of the Utah Administrative Code and is as protective of human health and the environment as the Plan of Operations approved as part of this Permit. Any modification must be approved by the Director as a minor modification under R315-311-2(1)(a) of the Utah Administrative Code. The Permittee shall note any modification to the Plan of Operations in the daily operating record.

The Permittee shall submit any modification to the Plan of Operations to the Director for approval.

B. Security

The Permittee shall operate the landfill so that unauthorized entry to the facility is restricted. The Permittee shall:

1. Lock all facility gates and other access routes during the time the landfill is closed.
2. Have at least one person employed by the Permittee at the landfill during all hours that the landfill is open.
3. Construct all fencing and any other access controls as shown in Attachment 1 to prevent access by persons or livestock by other routes.

C. Training

Permittee shall provide training for onsite personnel in landfill operation, including waste load inspection, hazardous waste identification and personal safety and protection.

D. Burning of Waste

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

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

E. Cover

The Permittee shall cover the waste as necessary to prevent fires and to control

vectors, blowing litter, odor, scavenging and fugitive dust.

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

The Permittee shall use a minimum of six inches of earthen cover no less than once each quarter (three months) for all wastes received at the landfill. This cover shall consist of soil; no alternative may be used.

The Permittee shall record in the daily operating record and the operator shall certify, at the end of each day of operation when soil or an alternative cover is placed, the amount and type of cover placed and the area receiving cover.

F. Waste Inspections

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 month. The Permittee shall select the loads to be inspected on a random basis.

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.

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

Random inspections shall be conducted as follows:

1. The Permittee shall conduct the random waste inspection at the working face or an area designated by the Permittee.
2. The Permittee shall direct that loads subjected to complete inspection be unloaded at the designated area;
3. Loads shall be spread by equipment or by hand tools;
4. Personnel trained in hazardous waste recognition and recognition of other unacceptable waste shall conduct a visual inspection of the waste; and
5. The personnel conducting the inspection shall record the results of the inspection on a waste inspection form as found in Attachment 2. The Permittee shall place the form in the daily operating record at the end of the operating day.

6. 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.

G. Self Inspections

The Permittee shall inspect the facility to prevent malfunctions and deterioration, operator errors and discharges that 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. The Permittee shall complete these general inspections no less than quarterly and shall cover the following areas: waste placement, adequate cover, fences and access controls, roads, run-on/run-off controls, final and intermediate cover, litter controls and records. The Permittee shall place a record of the inspections in the daily operating record on the day of the inspection. The Permittee shall correct the problems identified in the inspections in a timely manner and document the corrective actions in the daily operating record.

H. Recordkeeping

The Permittee shall maintain and keep on file at the gate house 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. The daily operating record shall consist of the following two types of documents:

1. Records related to the daily landfill operation or periodic events including:
 - a. 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;
 - b. Major deviations from the approved Plan of Operations recorded at the end of the operating day the deviation occurred;
 - c. 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;
 - d. Records of all inspections conducted by the Permittee, results of the inspections and corrective actions taken shall be recorded in the record on the day of the event.
2. Records of a general nature including:

- a. A copy of this Permit, including the Attachments;
- b. Results of inspections conducted by representatives of the Director and representatives of the local Health Department, when forwarded to the Permittee;
- c. Closure and Post-closure care plans; and
- d. Records of employee training.

I. Reporting

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 and all training programs completed.

J. Roads

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

K. Litter Control

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

1. Reduce the size of the tipping face;
2. Reduce the number of vehicles allowed to discharge at the tipping face at one time;
3. Orient vehicles to reduce wind effects on unloading and waste compaction;
4. Reconfigure tipping face to reduce wind effect;
5. Use portable and permanent wind fencing as needed; and
6. Should high winds present a situation that the windblown litter cannot be controlled, cease operations of the landfill until the winds diminish.

IV. CLOSURE REQUIREMENTS

A. Closure

The Permittee shall place the final cover of the landfill as shown in the Attachment 3. The final cover shall meet, at a minimum, the standard design for closure as specified in R315-305-5(5)(b) of the Utah Administrative Code.

B. Title Recording

The Permittee shall meet the requirements of R315-302-2(6) of the Utah Administrative Code by recording a notice with the Grand 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 a copy of the recorded notice.

C. Post-Closure Care

The Permittee shall perform post-closure care at the closed landfill in accordance with the Post-Closure Care Plan contained in Attachment 3. 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.

D. Financial Assurance

The Permittee shall keep in effect and active the currently approved financial assurance mechanism or another approved mechanism that meets the requirements of R315-309 of the Utah Administrative Code and is approved by the Director to cover the costs of closure and post-closure care at the landfill. The Permittee shall adequately fund and maintain the financial assurance mechanism(s) to provide for the cost of closure and post-closure until termination of financial assurance in accordance with R315-309-11 of the Utah Administrative Code.

With each annual revision of the closure and post-closure care cost estimate, the Permittee shall determine the annual payments to be made to the trust fund by the following formula:

$$NP=[CE-CV]/Y$$

where NP is the next payment, CE is the current cost estimate for closure and post-closure care (updated for inflation or other changes), CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

E. Financial Assurance Annual Update

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

F. Closure Cost and Post-Closure Cost Revision

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.

V. ADMINISTRATIVE REQUIREMENTS

A. Permit Modification

Modifications to this Permit may be made upon application by the Permittee or by the Director. The Permittee shall be given written notice of any permit modification initiated by the Director.

B. Permit Transfer

This Permit may be transferred to a new Permittee in accordance with R315-310-11 of the Utah Administrative Code.

C. Expansion

This Permit is for the operation of a Class IVb Landfill according to the design and Plan of Operations described and explained in Attachments 1 and 2. Any expansion of the current footprint designated in the description contained in Attachment 1, but within the property boundaries designated in Attachment 1, shall require submittal of plans and specifications to the Director. The plans and specifications shall be approved by the Director prior to construction.

Any expansion of the landfill facility beyond the property boundaries designated in the description contained in Attachment 1 shall require submittal of a new permit application in accordance with the requirements of R315-310 of the Utah Administrative Code.

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.

D. Expiration

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.

File: - Permit 9704R2

Attachments

Attachment 1 – Landfill Design and Construction Plans

Attachment 2 – Plan of Operation

Attachment 3 – Closure and Post-Closure

Attachment 1
Design and Construction

Attachment 2 Operations Plan

Attachment 3
Closure and Post-Closure

PART III – TECHNICAL DATA

1. Topographic Map

Attachment 1 is a USGS 7.5-minute series topographic map showing the Landfill. The map shows the facility property, the latitude and longitude coordinates of the front gate, the land use and zoning of the surrounding area, surface drainage channels, direction of prevailing winds, and a typical location of the gatehouse (its location is adjusted incrementally as the active area changes). The direction of prevailing winds was determined by observation by District employees during the first permit renewal application in March 2002. There are no structures within one-fourth mile of the site.

There is an overhead electric power line that terminates on the eastern edge of the second tier of the Landfill, with a ground line that connects to the gatehouse to provide 120-volt power (shown on Attachment 8). The gatehouse is approximately 100 square feet in size and is placed on skids to allow relocation as needed.

2. Engineering Report

a. Facility Design and Operation

As described in the original permit application (1996) and the first permit renewal application (2002), the facility design consists of two feet of cover soil over all existing waste at the site and two feet of cover over Class IV waste at final grades and closure. Existing and final grades, as drawn in the original and first renewal permit applications, are shown on Attachments 2 and 4. Additional fill will be placed in areas where existing grades are currently less than 2%. Daily operation of the site will consist of screening incoming loads and directing the unloading of waste. Daily operation is discussed in detail in Section 4 of this document.

The District will either self-perform or contract with a private contractor for earthwork at the facility. Six inches of onsite soil will be placed over Class IV waste at least once per quarter. Each year an additional amount of soil cover, sufficient to bring the total cover depth to 2 feet over the waste, will be placed over waste that is at final grades. Cover depth will be monitored closely, using wooden stakes and test holes as quality control measures, while final cover is placed. Final cover material will consist of sand and will be obtained from the sandstone slope at the south and west ends of the site. At any given time, the active area will not exceed 10,000 square yards in size. The active area will be graded at a minimum 2% slope to one end to promote drainage.

b. Stormwater Control

A stormwater control berm approximately 2 feet tall has been constructed along the southern and eastern boundaries of the Landfill (shown on Attachment 8). It will provide runoff and run-on control between the Landfill and the dry wash. Stormwater running off the active area of the Landfill will collect against the inside of the berm and will be allowed to evaporate. Average annual rainfall at the Landfill is approximately 9 inches.

c. Equipment

Either the District or the contractor will provide the equipment to compact waste and place cover and build berms. If the District is providing earthwork, it will have appropriate equipment onsite (currently consisting of two dozers and two wheeled loaders), stored securely on the Landfill property when not in use.

d. Erosion Control

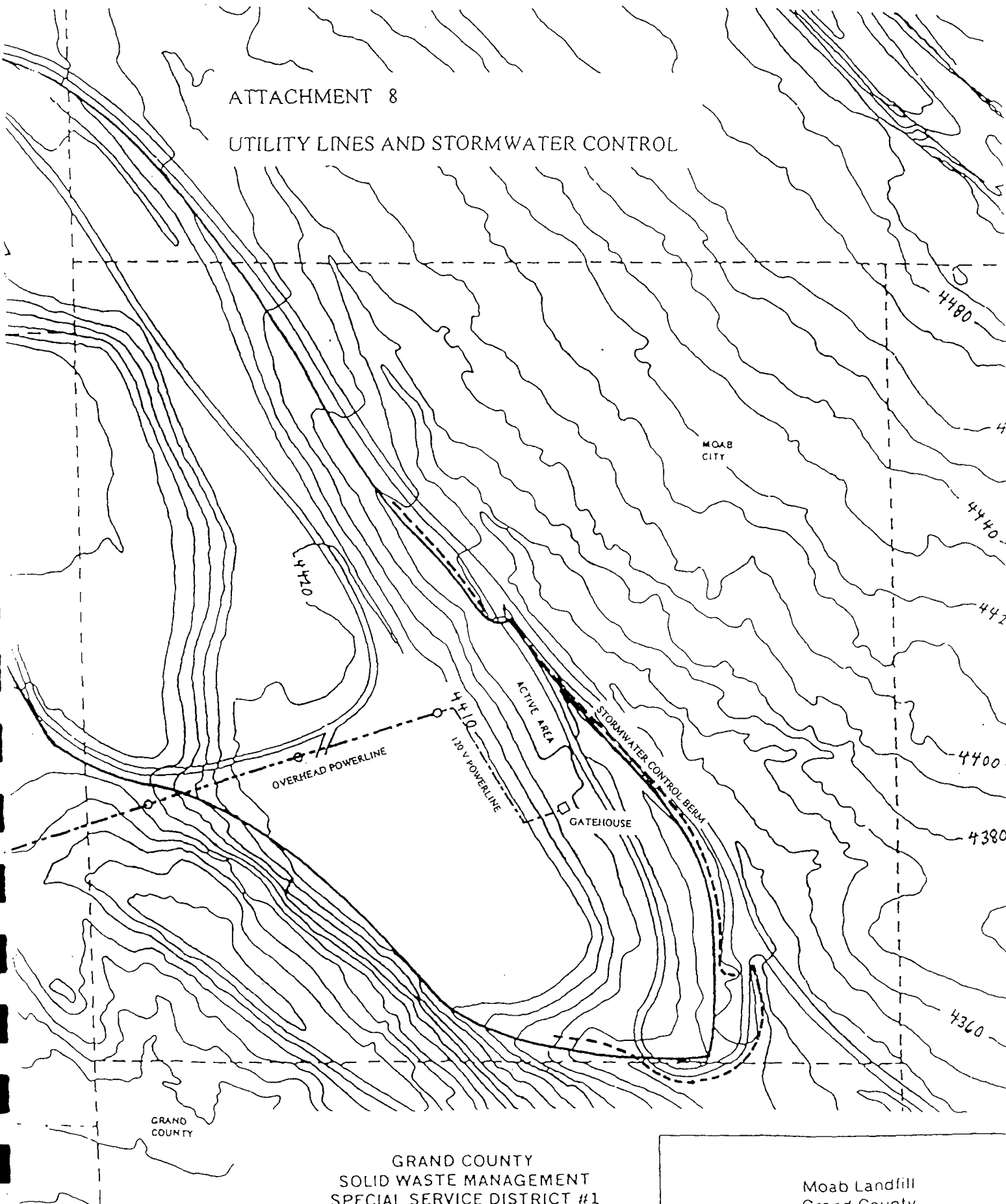
Final cover placed and seeded will provide erosion control. Erosion will also be addressed by frequent monitoring and maintenance by the District, so that proper slopes and vegetation are maintained on the top and sides of the Landfill.

e. Closure Design, Construction, Maintenance, and Land Use

The Landfill will be closed in accordance with the final closure plan. Final grades will be achieved through placement of Class IV waste. Final cover will consist of two feet of onsite soils. Final cover will be placed in stages as the waste reaches final grades once per year. No stormwater structures or monitoring facilities that will require maintenance after closure are located onsite. The Landfill will be used as open space after closure.

ATTACHMENT 8

UTILITY LINES AND STORMWATER CONTROL



GRAND COUNTY
SOLID WASTE MANAGEMENT
SPECIAL SERVICE DISTRICT #1
Box 980 Moab, Utah 84532
(435) 259-3867

Moab Landfill
Grand County
Solid Waste Management SSD No. 1

Attachment 3 and includes a legal description of the site. The City of Moab has given the District authorization to operate the Landfill on the property and the written authorization is included in Attachment 3.

The Final Closure Plan provided in Attachment 4, and shows approximately 0.80 acre of Class IV fill area off the north Landfill boundary on Grand County property. This Class IV waste fill is required to obtain 3-to-1 side slopes without moving existing waste. The County has given the District authorization to fill Class IV waste on the property. Attachment 2 provides the Existing Contour Map and shows two waste fill areas encompassing approximately 2.3 acres on Grand County and Bureau of Land Management (BLM) land. These areas have already been closed are not part of this permit renewal application.

Appendix A provides the current solid waste permit renewal for the Moab Class IV Landfill.

4. Plan of Operation

a. Schedule of Construction

The District closed the old landfill with two feet of soil and constructed the new Klondike Landfill in March of 1997. The District opened this Moab Landfill as a Class IV Landfill the same day that the Klondike Landfill opened. The Klondike Landfill accepts Class 1 MSW and the Moab Landfill accepts Class IV C&D waste.

The Landfill will be filled in two phases. In Phase 1, the lower portion of the Landfill will be brought up to an elevation of 4,420 feet mean sea level (msl) by placing Class IV waste in lifts along the eastern and southern sides of the closed Class I facility. In Phase 2, the Landfill will be brought up to a final elevation of approximately 4,475 feet msl by placing Class IV waste in lifts around the south, east, and north sides of the closed Class I facility. In January of 2003, the Landfill was fenced with a 6-foot chain link fence.

b. Solid Waste Handling Procedures

A gate attendant will check all incoming loads of waste at the Landfill gatehouse and will visually inspect each load for prohibited waste. In 2008, the Landfill averaged 100 loads per month. Based on a one percent waste inspection schedule, a thorough inspection of a randomly selected load will occur one time each month. Loads containing prohibited waste; such as MSW, hazardous waste, special waste, and liquids will be rejected. The driver of the waste vehicle will be required to remove prohibited waste if they are unloaded at the Landfill. A copy of the District's random load inspection form is provided as Attachment 5.

The gate attendant will record the volume of waste by measuring the quantity of the waste in the vehicle by cubic yards. A sample of the daily log form the District uses to track incoming volumes and waste types is provided as Attachment 6. The gate attendant will direct the driver to dump at the working face. The driver of the vehicle will be responsible for unloading the waste. Waste will be unloaded by hand or automatically from a dump truck or waste collection vehicle.

All waste will be covered with a minimum of six inches of onsite soil or crushed asphalt as intermediate cover at least once per quarter (per correspondence dated September 23, 1999 and retained for this permit renewal application, since conditions have not changed). The limits of the active tipping area will be delineated by cones and/or other barricades as required to prevent public access. Active area is defined as any waste area that has not been covered by final or intermediate cover. Only one active area will be utilized at any one time. The active area will not exceed 10,000 square yards. When waste elevations reach final grades, the waste will be covered with an additional 2 feet of soil to meet the final cover requirements for cover thickness and slopes.

c. Fire Contingency Plan

Waste fires at the Landfill will be contained by the use of onsite sand (which is always available from nearby stockpiled cover) and fire extinguishers kept in the gatehouse and on mobile equipment. The likelihood of a fire spreading outside the active area is minimal since little to no vegetation is present on site. The City of Moab fire department will respond to the site if a fire becomes uncontrollable. The fire department can be accessed by calling 911. The gatehouse attendant has access to a mobile phone at all times. Loads containing burning waste are rejected.

d. Alternative Waste Handling

Other than fire, no events can be predicted during which the waste handling procedures described above are inappropriate. No equipment is required for daily operations. Wet weather will not prevent operation since the site is sandy and well drained. If a fire occurs, the District will open another active area. The Landfill will be closed and waste routed to the Klondike Landfill or the Moab transfer station in the unlikely event that the Landfill could not dispose of Class IV waste.

e. Plan for Litter Control

Litter is unsightly, can clog machinery, and causes environmental as well as public relations problems. The Landfill Attendant will keep litter under control and cleaned up. The working face will be kept downwind as much as possible so the wind will blow loose litter back onto the working face. Prompt compaction will also reduce litter.

Effective use of cover soil also keeps blowing litter under control. This cover and a perimeter fence prevent litter from leaving the landfill site. Constantly shifting high velocity winds accompanying storms, and thermals known as "dust devils," are common at this site. Application of soil and a perimeter fence are an effective barrier method to control wind-blown litter. Fencing exists at the perimeter of the landfill to contain litter so it can be retrieved within the landfill site. District landfill attendants will regularly patrol the fence and terrain surrounding the landfill.

f. Plan for Excluding Prohibited Waste

The gate attendant will visually inspect each load for prohibited waste. Loads containing prohibited waste such as household or MSW, hazardous waste, special waste, and liquids will be rejected. The driver of any vehicle which unloads prohibited waste will be required to re-load prohibited waste at the Landfill. A random load inspection will be performed at least once each month, which will help continue the education process for the public and reinforce the responsibility to separate prohibited and acceptable waste.

Plans for preventing prohibited wastes from being tipped at the Landfill are discussed in paragraph 4(b) above.

g. Landfill Inspections and Monitoring

District personnel will perform landfill monitoring and inspections listed in Table 1.

Table 1. Inspections and Monitoring Schedule

Type of Monitoring/Inspection	Frequency	Description of Monitoring/Inspection
Landfill Gas	Quarterly	Field measurements of Landfill at ground surface around the Landfill perimeter and inside Landfill structures using a combustible gas meter
Drainages, Roads, Intermediate, and Final Cover Areas	Quarterly	Visual inspection for needed repairs to stormwater run-on/run-off controls, soil cover, and site roads due to erosion, etc.
Prohibited Waste	1X Monthly	1% random load inspection schedule
Disease Vectors	Monthly	Visual inspection for signs of vector or rodent activity; weed control
Site Control	Monthly	Visual inspection of perimeter fence to check fence's integrity
Site Control	Daily	Visual inspection of main gate to check for integrity and litter control
Opacity	Daily	Visual inspection for opacity to ensure that procedures are controlling fugitive dust

The form(s) used to record inspections and monitoring events is provided as Attachment 7.

h. Personnel Training

The District will ensure that all personnel responsible for operation of the Landfill have adequate training to comply with this Plan of Operation. At least one District employee will be trained and certified under the Manager of Landfill Operations (LOMO) program accredited by the Solid Waste Association of North America. Landfill operators will receive on-the-job training from certified staff and will receive an 8-hour refresher training annually that covers landfill

operations and waste screening. The District will maintain records of this training in personnel files.

i. Safety

The following safety equipment and protective gear will be stored onsite at the Landfill:

Table 2. Safety Equipment and Protective Gear

Equipment	Location
5-pound Power-Sentry Fire Extinguishers	Each piece of mobile equipment
20-pound Power-Sentry Fire Extinguisher	Onsite
Earplugs	Onsite
Safety Glasses	Onsite
Gloves	Onsite
Cellular Phone	Onsite
Hard Hat	Onsite
Dust Mask	Onsite
Safety Vest	Onsite

The District and its contractors are responsible for training their respective employees in the location and use of this safety equipment, as well as the safety requirements for heavy equipment. The District will conduct quarterly safety meetings to discuss general and specific safety issues. Attendance at these meetings will be mandatory for all Landfill employees.

A single utility ground line connects the gatehouse with 120-volt power. The line is protected from damage by placement and is clearly marked and set away from traffic areas. The utility line will be adjusted as the gatehouse shifts position within the active area.

The following emergency telephone numbers must be posted in a prominent location in the Landfill gatehouse:

Emergency	911
Fire Dept. (non-emergency)	435-259-5557
Highway Patrol	435-259-5441
Sheriff Dept.	435-259-8115
Hospital	435-259-7191
District Manager	435-259-3867

j. Disease Vector Control

The District will control insect, rodent, and bird populations by controlling the waste disposed in the Landfill and by use of cover.

By excluding food waste and other putrescible waste from the Class IV Landfill, the District will discourage activity and viability of populations of most insects and rodents. Intermediate cover should further reduce the habitat for these disease vectors. If additional measures are needed the District will contract with a professional exterminator to establish a protocol for control of these pests.

k. Fugitive Dust

Dust is caused by wind, traffic movement on unpaved roads, heavy equipment, and vehicles operating within the Landfill. The road to the Landfill gate from Sand Flats Road is unpaved. If fugitive dust is observed on this road or within the Landfill parameter, the District will contract for water truck deliveries to control dust as conditions require.

l. Methane Gas Monitoring

The Landfill will be monitored on a quarterly basis for methane gas releases using a handheld photo ionization detector (PID). A PID will be made available upon request by contacting David Ariotti, the District Engineer for the Utah Department of Environmental Quality (UDEQ), at (435) 637-3671. The District will coordinate the monitoring events and will arrange for interpretation of the monitoring results if combustible gases are detected.

The procedure consists of walking the perimeter of the Landfill, recording PID readings at each corner of the fence line, as well as from within the gatehouse. If methane releases are detected in excess of 25% of the lower explosive limit (LEL) in the gatehouse, or more than 100% LEL at the property boundary, the following procedure is prescribed:

- Halt Landfill operations immediately. If personnel or the gatehouse appears to be threatened, evacuate the Landfill.
- If gas is detected in the gatehouse, open the doors and windows to allow the gas to escape.
- If off-site buildings or structures appear to be threatened, call the fire department, evacuate the property(ies), and notify the property owners.
- Call the District Manager. Monitor the release and determine temporary corrective action as soon as possible. Implement permanent corrective action as soon as practicable.
- Notify the UDEQ Division of Solid and Hazardous Waste (DSHW) immediately and submit a written report within 14 days of detecting the release.

If, at any time, concentrations of combustible gases exceed the standard set in DSHW Rules, the District will implement the requirement imposed on the District by DSHW regulations in effect at the time of exceedances.

m. Stormwater

Assuming a 25-year, 24-hour storm-total event of 2.0 inches (from NOAA Atlas), a soil runoff Curve Number of 85 (fine sand soils, no vegetation) and a total of 9 acres (top slope and side slopes), the maximum stormwater runoff would be 1.7 cubic feet per second. Based on a V-shaped channel (no bottom width) with 3:1 side slopes, minimum slope in the flowline of 1%, and a Manning “n” – a coefficient for open channel flow – of 0.04 (sluggish dirt channel), the maximum water depth calculated will be 0.60 foot. Therefore, a 2-foot berm should be adequate and has been constructed along the bottom and sides of the Landfill to control stormwater runoff (shown on Attachment 8). Topographically, the ground slopes away from the Landfill on all sides, so no stormwater run-on occurs.

5. Financial Assurance Plan

a. Cost Estimates for Closure

Closure of the Landfill will require placing and compacting two feet of onsite sand over the Landfill. All waste areas of the closed Class I facility were covered by 2 feet of soil before this facility opened as a Class IV Landfill. In January of 2003, fill and grade work was completed on top of the old portion of the Landfill, and slopes less than 2% received additional cover soils. Additional soil cover will be placed as needed to reach final slopes of 2% or greater. The Landfill will be operated so that the active area does not exceed 10,000 square yards in size. Attachment 9 presents estimates of the costs to perform closure and post-closure care of the Landfill. These cost estimates were calculated using UDEQ spreadsheets developed for cost estimating purposes and adjusted using a standard rate of inflation.

b. Financial Assurance Mechanism

The Landfill is owned jointly by the City of Moab and Grand County and is financially assured by them through a Joint Resolution of Financial Assurance, provided as Attachment 10).

6. Closure Plan

a. Installation of Final Cover

Final cover will consist of a minimum of two feet of onsite soil. During the first permit renewal process (2002), modeling confirmed that this final cover design meets UDEQ’s requirements for an alternative landfill cap. DSHW correspondence dated October 11, 2001 and referenced in the first permit renewal permit application (March 2002) concurs. Since conditions have not changed for this permit renewal application, no adjustments to the final cover design are being presented.

As described in the 2002 permit renewal application (March, 2002), slopes on top of the Landfill will be 2% or greater to promote precipitation runoff. Final contours are shown on Attachment 4. Approximately 770,000 cubic yards of Class IV waste and cover soil will be placed to achieve the final contours. Final side slopes will be graded at 3:1 slopes. All areas requiring

Grand County Solid Waste Management
Special Service District #1
1000 E. Sand Flats Road, P. O. Box 980, Moab Utah 84532
Phone 435-259-3867 ~ Fax 435-259-5218

Random Load Inspection – MOAB CLASS IV LANDFILL

Date _____ Landfill Operator _____

License # _____ Driver Name _____

Comments _____

Grand County Solid Waste Management
Special Service District #1
1000 E. Sand Flats Road, P. O. Box 980, Moab Utah 84532
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Random Load Inspection – MOAB CLASS IV LANDFILL

Date _____ Landfill Operator _____

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Comments _____

**Grand County Solid Waste Management
Special Service District # 1**

7 Mar 2002

Monthly Inspection Checklist

Performed by _____ Date _____

	Moab Class IVb Landfill		Old Moab Landfill (closed)	
	Satisfactory	Needs Work	Satisfactory	Needs Work
1. Tickets and Log-in Procedure				
2. Inspect any waste dumped but not yet covered				
3. Random Load Inspection Done License # _____ Driver _____				
4. Special Wastes/Diversion Areas				
a. Tires				
b. Bulky Items				
c. Animal Carcasses				
d. Metal or Recyclables				
5. Run On Diversion System				
a. Berms/Ditches				
b. Dams/Ponds				
Run Off Control System				
a. Berms/Ditches				
b. Dams/Ponds				
7. Roads				
8. Excavations				
9. Litter and Weed Control				
10. Security				
a. Gates				
b. Fences/Barriers				
11. Safety Equipment				
Fire Extinguishers _____, Radio or Phone _____,				
Ear Plugs _____, Safety Glasses _____, Gloves _____,				
Hard Hat _____, Safety Shoes _____, Overalls or				
Long Sleeve Shirt & Full Length Pants _____.				
12. Final Cover/Intermediate Cover				
a. Settling				
b. Vegetation				
c. Final Cover Integrity				

Specify recommended repairs and/or actions taken (by item line #)

m. Stormwater

Assuming a 25-year, 24-hour storm-total event of 2.0 inches (from NOAA Atlas), a soil runoff Curve Number of 85 (fine sand soils, no vegetation) and a total of 9 acres (top slope and side slopes), the maximum stormwater runoff would be 1.7 cubic feet per second. Based on a V-shaped channel (no bottom width) with 3:1 side slopes, minimum slope in the flowline of 1%, and a Manning “n” – a coefficient for open channel flow – of 0.04 (sluggish dirt channel), the maximum water depth calculated will be 0.60 foot. Therefore, a 2-foot berm should be adequate and has been constructed along the bottom and sides of the Landfill to control stormwater runoff (shown on Attachment 8). Topographically, the ground slopes away from the Landfill on all sides, so no stormwater run-on occurs.

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As described in the 2002 permit renewal application (March, 2002), slopes on top of the Landfill will be 2% or greater to promote precipitation runoff. Final contours are shown on Attachment 4. Approximately 770,000 cubic yards of Class IV waste and cover soil will be placed to achieve the final contours. Final side slopes will be graded at 3:1 slopes. All areas requiring

final cover at one time will be no greater than 10,000 square yards, and final cover will be placed as waste reaches final grades. Asphalt received at the Landfill may be used as road base, or as daily cover, but will not be used as final cover material.

For erosion control, the final cover will be seeded as follows:

1. Seed will either be broadcast or drilled; using whichever option will produce the best vegetative cover. The seed mixture shall contain no noxious weeds and shall meet the following specifications and :
 - Indian Race Grass: 10 lbs pure live seed (PLS)/acre broadcast
5 lbs PLS/acre drilled
 - 4-Wing Saltbush: 4 lbs PLS/acre broadcast
2 lbs PLS/acre drilled
2. Seed will be applied prior to snowfall when possible. When seed must be applied and no snowfall is anticipated, prepared areas will be moistened before planting if soil is dry. Area will be watered thoroughly and surface moisture will be allowed to dry before planting, avoiding muddy soil conditions. After seed has been applied the surface will be lightly worked (with harrow or tracked equipment) to maximum depth of about one inch.

b. Capacity of Site

The net airspace remaining at the site in 2002, as stated in the 2002 permit renewal application, was 496,000 cubic yards. Since that time, through the year 2013 (the most recent data available), 235,866 cubic yards of waste have been accepted. Assuming a 3:1 waste to cover soil ratio and two feet of final cover, the net airspace remaining at the site is approximately 233,251 cubic yards.

c. Closure Implementation Schedule

Closure of the Landfill will occur in stages as waste reaches final elevations. Final cover will be placed once per year over all areas that have reached final grades.

Final contours will be achieved in two phases. In the first phase, waste will be placed on the lower side slopes near the dry wash. Waste will be placed on the slopes up to the elevation of the first tier at 3:1 slopes. The City accepted approximately 16,000 cubic yards of construction and demolition debris and yard waste each year from 2003 through 2007 (the most recent data available). At an acceptance rate of 16,000 cubic yards/year, reaching final grades in Phase 1 will take between two and five years. During Phase 2, waste will be placed to the top of the second tier. Waste will be placed on the sides at 3:1 slopes. Reaching final grades in Phase 2 will take between 15 and 20 years, following completion of Phase 1. Currently, final closure is projected for year 2027.

d. Closure Cost Estimates

Using the costs calculated in the 2013 annual report to the UDEQ (the most recent data available), adjusting those values for inflation according the US Bureau of Labor Statistics Consumer Price Index Inflation Calculator for 2008 dollars, the total estimated closure cost is \$99,128 in dollars. The cost estimate is detailed in Attachment 9.

e. Final Inspection by Regulatory Agencies

The District has filed a certification with the Grand County Recorder's Office that the old landfill site was closed in accordance with the approved closure plan.

Upon closure of the Moab Class IV Landfill, the District will provide certification that the site has been closed in accordance with the approved closure plan. The DSHW will have the opportunity to inspect the Landfill before it closes as a Class IV facility.

f. Changes to Records of Title, Land Use, and Zoning Restrictions

The District will notify the DSHW and the Grand County Recorder's Office if there is a change in record of title, land use, or zoning restrictions at the site. Within 60 days of closure, the District will submit the required plats and a statement of fact concerning the location of the disposal site to the county recorder to be recorded as part of the record of title, and submit proof of the record of title filing to the Executive Secretary (R315-302-2(6)UAC).

7. Commercial Class IV Landfill Requirements

Not Applicable.

8. Post-Closure Plan

a. Monitoring

Landfill gas monitoring will be performed for 30 years after Landfill closure to assess potential impacts of the Landfill on the environment. The possible lateral migration of landfill gases will be monitored quarterly at each corner of the Landfill perimeter fence. The percent of explosive gas (expressed as a percentage of the LEL for methane) will be recorded at each location. If readings exceeding 100% of the LEL are noted at any location, appropriate regulatory agencies will be notified and corrective action will be initiated.

b. Maintenance of Monitoring Systems and Facility Structures

After closure, no Landfill facilities or physical monitoring systems will remain at the site. The Landfill perimeter fence and gate will be inspected when conducting quarterly Landfill gas monitoring.

c. Maintenance of Cover and Drainage Systems

A post-closure maintenance program will be implemented at the Landfill in order to maintain the integrity of the Landfill's final cover. The final cover areas will be inspected quarterly for evidence of erosion, ponded water, odor, exposed refuse, cracks, settlement, slope failure, and leachate seeps. The Landfill's final grades will be inspected and maintained in order to maintain their integrity. Areas where water has collected (ponded) will be re-graded. Erosion damage resulting from heavy rainfall will be repaired.

Cracks in the final cover will be scarified and re-compacted or sealed with bentonite slurry. Any erosion damage, which may be caused by extremely heavy rainfall, will be repaired. Temporary berms, ditches, and straw mulch will be used to prevent further erosion damage to soil cover areas until site conditions permit the final cover to be re-established and vegetation to be re-seeded. Preventive maintenance for the final cover should preclude problems regarding leachate generation from infiltration of surface water, gas venting through the cover, and vectors attracted by exposed refuse.

d. Schedule of Post-Closure Care

After closure, the Landfill will be monitored and maintained quarterly.

e. Post-Closure Costs

Using the costs calculated in the 2013 annual report to the DSHW (the most recent data available), adjusting those values for inflation according the US Bureau of Labor Statistics Consumer Price Index Inflation Calculator for 2008 dollars, the total estimated 30-year post-closure maintenance cost is \$48,784.00. The cost estimate is detailed in Attachment 9.

9. Contact Person/Office

During the post-closure period, correspondence should be directed to:

District Manager
Solid Waste Special Service District #1
PO Box 980
Moab, UT 84532

