



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

L. Scott Baird
Interim Executive Director

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

September 11, 2019

Derrick Radke, Public Summit County Director
1755 South Hoytsville Road
Coalville, UT 84017

RE: Henefer Class IVb Landfill Permit
Summit County

Dear Mr. Radke:

Enclosed is the approved permit for the Henefer Class IVb Landfill. The public comment period for the permit ended on August 19, 2019. No comments were received.

The final permit has an effective date of September 11, 2019 and expiration date of September 10, 2029. Periodic inspections of the landfill will be conducted by representatives of the Division of Waste Management and Radiation Control and the Summit County Health Department to assess compliance with permit conditions and applicable Solid Waste Rules.

If you have any questions, please call Matt Sullivan at (801) 536-0241.

Sincerely,

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

TLH/MBS/kl

Enclosures(s): DSHW-2007-007072, DSHW-2018-012182, DSHW-2018-012183 and DSHW-2018-012184

c: Bullough, Health Director, Summit County Health Department
Phil Bondurant, Deputy Health Director, Summit County Health Department
Nate Brooks, Environmental Health Director, Summit County Health Department

DSHW-2019-008784

UTAH DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL
SOLID WASTE LANDFILL PERMIT

CLASS IVb SOLID WASTE PERMIT

Henefer Class IVb Landfill

Pursuant to the provisions 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*, Utah Administrative Code R315-301 through 320 adopted thereunder, a Permit is issued to

Summit County
as permit owner and operator

to own and operate the Henefer Class IVb Landfill located in Summit County, Utah as shown in the Permit Renewal Application that was determined complete on January 20, 2019.

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 September 11, 2019.

This Permit shall expire at midnight September 10, 2029.

Closure Cost Revision Date: September 11, 2024.

Signed this 11 day of September, 2019.



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

FACILITY OWNER/OPERATOR INFORMATION

LANDFILL NAME: Henefer Class IVb Landfill

OWNER NAME: Summit County

OWNER ADDRESS: 1755 South Hoytsville Road, Coalville, Utah, 84017

OWNER PHONE NO.: (435) 336-6970

OPERATOR NAME: Same as above

OPERATOR ADDRESS: Same as above

OPERATOR PHONE NO.: Same as above

TYPE OF PERMIT: Class IVb Landfill

PERMIT NUMBER: Permit number 9612R3

LOCATION: Landfill site is located in Township 4 North, Range 4 East, Section 33, SLMB; Summit County, Lat. 41° 1' 51", Long. 111° 29' 50"
The landfill is on Henefer Landfill Road off of E. Henefer Road on the east side of I-84 and between Harris and Anderton Canyons. It is approximately 1.5 miles northeast of Henefer, Utah.

PERMIT HISTORY Permit renewal signed **September 11, 2019**

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.

Attachments to this Permit are hereby incorporated into 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 has a scale house and a maintenance shop.

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 operation of the landfill.

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. This Permit does not authorize any injury to private property or any invasion of personal rights, or 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. A. General Operation

I.A.1. 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.

I.B. Acceptable Waste

I.B.1. Construction/demolition waste as defined in R315-301-2(17) of the Utah Administrative Code;

I.B.2. Yard waste as defined in R315-301-2(87) of the Utah Administrative Code;

I.B.3. Inert waste, as defined in R315-301-2(37) of the Utah Administrative Code;

I.B.4. Waste tires, when the requirements of R315-320 of the Utah Administrative Code are met; and

I.B.5. Dead animals when placed in a separate area and covered each day or placed in the working face and covered with waste immediately.

I.C. Prohibited Waste

I.C.1. Hazardous waste as defined by R315-1 and R315-2 of the Utah Administrative Code;

I.C.2. PCBs as defined by R315-301-2(53) of the Utah Administrative Code, except PCB's specified by R315-315-7(2)(a) and (c) of the Utah Administrative Code;

I.C.3. Household waste, except waste resulting from the abatement, rehabilitation, renovation and remodeling of homes and other residences;

I.C.4. Petroleum contaminated soils as allowed in R315-315-8(3) of the Utah Administrative Code;

I.C.5. Municipal waste;

I.C.6. Asbestos waste;

I.C.7. Grease by-products;

I.C.8. Sewer sludge;

I.C.9. Special waste except as specified in this Permit;

I.C.10. Regulated asbestos-containing material;

- I.C.11. Industrial solid waste as defined in R315-301-2(35) of the Utah Administrative Code;
- I.C.12. Commercial solid waste as defined in R315-301-2(14) of the Utah Administrative Code;
 - I.C.12.a 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; and
 - I.C.12.b 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.

I.D. Inspections and Inspection Access

- I.D.1. The Permittee shall allow the Director of the Division of Waste Management and Radiation Control or an authorized representative, or representatives from the Summit County Health Department, to enter at reasonable times and:
- I.D.2. 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.3. 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.4. 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
- I.D.5. 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, including the day the event occurred or the day it was discovered;

- I.E.3.b Notify the Director of the Utah Division of Waste Management and Radiation Control 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.3.d 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. After 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.3.e 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 may be revoked 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 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. 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

II.A. Design and Construction

- II.A.1. The landfill is currently in operation. Any future construction shall be done according to the area designated in the Attachment 1 including landfill cells, fences, gates, and berms.
- II.A.2. 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.
- II.A.3. 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.

II.A.4. 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.

II.B. Run-On and Run-Off Control

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

III. LANDFILL OPERATION

III.A. Operations Plan

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

III.B. Security

III.B.1. The Permittee shall operate the Landfill so that unauthorized entry to the facility is restricted. The Permittee shall:

III.B.2. Lock all facility gates and other access routes during the time the landfill is closed.

III.B.3. Have at least one person employed by the Permittee at the landfill during all hours that the landfill is open.

III.B.4. Construct all fencing and any other access controls as shown in Attachment 2 to prevent access by persons or livestock by other routes.

III.C. Training

III.C.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.

III.D. Burning of Waste

III.D.1. 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.

III.E. Cover

- III.E.1. The Permittee shall cover the waste as necessary to prevent fires and to control vectors, blowing litter, odor, scavenging, and fugitive dust.
- III.E.2. 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.
- III.E.3. The Permittee shall use a minimum of six inches of earthen cover no less than once each month for all wastes received at the landfill. This cover shall consist of soil; no alternative may be used.
- III.E.4. 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.

III.F. Waste Inspections

- III.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 day. The Permittee shall select the loads to be inspected on a random basis.
- III.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.
- III.F.3. The Permittee shall inspect all loads that the Permittee suspect may contain a waste not allowed for disposal at the landfill.
- III.F.4. The Permittee shall conduct complete random inspections as follows:
 - III.F.4.a The Permittee shall conduct the random waste inspection at the working face or an area designated by the Permittee.
 - III.F.4.b The Permittee shall direct that loads subjected to complete inspection be unloaded at the designated area;
 - III.F.4.c Loads shall be spread by equipment or by hand tools;
 - III.F.4.d Personnel trained in hazardous waste recognition and recognition of other unacceptable waste shall conduct a visual inspection of the waste; and
 - III.F.4.e The personnel conducting the inspection shall record the results of the inspection on a waste inspection form as found in Attachment 3. The Permittee shall place the form in the daily operating record at the end of the operating day.
- III.F.5. The Permittee or the waste transporter shall properly dispose of any waste that is not acceptable at the facility at an approved disposal of that type of waste.

III.G. Self Inspections

III.G.1. 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, compaction, adequate cover, fences and access controls, roads, run-on/run-off controls, final and intermediate cover, litter controls, and records. The Permittee shall record 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.

III.H. Recordkeeping

III.H.1. The Permittee shall maintain and keep on file at the scale 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:

III.H.1.a Records related to the daily landfill operation or periodic events including:

III.H.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;

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

III.H.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;

III.H.1.a.(iv) Records of all inspections conducted by the Permittee, results of the inspections, and corrective actions.

III.H.1.b Records of a general nature including:

III.H.1.b.(i) A copy of this Permit including Attachments;

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

III.H.1.b.(iii) Closure and Post-closure care plans; and

III.H.1.b.(iv) Records of employee training.

III.I. Reporting

III.I.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, a re-application for approval of the financial assurance mechanism, and all training programs completed.

III.J. Roads

III.J.1. 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.

III.K. Litter Control

III.K.1. 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:

III.K.1.a Reduce the size of the tipping face;

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

III.K.1.c Orient vehicles to reduce wind effects on unloading and waste compaction;

III.K.1.d Reconfigure tipping face to reduce wind effect;

III.K.1.e Use portable and permanent wind fencing as needed; and

III.K.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.L. Disposal of Special Wastes

III.L.1. Permittee may dispose of animal carcasses may at the landfill working face and shall cover them with other solid waste or earth by the end of the operating day on which the carcasses are received. Alternatively, the Permittee may dispose of animal carcasses in a special trench or pit prepared for the acceptance of dead animals. If a special trench is used, the Permittee shall cover animals placed in the trench with six inches of earth at the end of each operating day.

IV. CLOSURE REQUIREMENTS

IV.A. Closure

IV.A.1. The Permittee shall perform closure at the landfill in accordance with the Closure Plan in Attachment 4. The Permittee shall place the final cover of the landfill as shown in the Attachment 1. 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.

IV.B. Title Recording

IV.B.1. The Permittee shall meet the requirements of R315-302-2(6) of the Utah Administrative Code by recording a notice with the Summit 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 after recordation.

IV.C. Post-Closure Care

IV.C.1. The Permittee shall perform post-closure care at the closed landfill in accordance with the Post-Closure Care Plan in Attachment 4. 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.

IV.D. Financial Assurance

IV.D.1. 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 mechanisms 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.

IV.E. Financial Assurance Annual Update

IV.E.1. 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. The Permittee shall submit the information as required in R315-309-8 of the Utah Administrative Code and shall meet the qualifications for the "Local Government Financial Test".

IV.F. Closure Cost and Post-Closure Cost Revision

IV.F.1. 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

V.A. Permit Modification

V.A.1. Modifications to this Permit may be made upon application by the Permittee or by the Director following the procedures specified in R315-310-11-2 of the Utah Administrative Code. The Permittee shall be given written notice of any permit modification initiated by the Director.

V.B. Permit Transfer

V.B.1. This Permit may be transferred to a new Permittee in accordance with R315-310-11 of the Utah Administrative Code.

V.C. Expansion

V.C.1. This Permit is for the operation of a Class IVb Landfill according to the design and Operation Plan described and explained in Attachment 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.

V.C.2. 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 R315-310 of the Utah Administrative Code.

V.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.

V.D. Expiration

V.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 submits a timely 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.

3.0 – OPERATIONS PLAN

The Operation Plan for the Landfill has been written to address the requirements of Utah State Solid Waste Regulations and describes the proposed operations of Summit County Class IVb Landfill (Henefer Landfill). A copy of this Operations Plan will be kept on file at the Summit County Public Works Office.

The general arrangement of the Landfill is as indicated on Drawing 1 (Appendix A). The following section details the operational specifics of the Landfill. Forms used to document the operations of the Landfill are included in Appendix C.

3.1 SCHEDULE OF CONSTRUCTION

This landfill is an existing landfill and it has been used since 1996. Access to the facility is a gravel road, the perimeter of the property is fenced, and the end of the access road is gated. Structures at the facility include a landfill office and equipment shed, scale house shed, and a used oil storage shed.

The operational life of the landfill will be broken up into five phases. The actual length of time that a phase remains operational will depend on the waste stream; the most recent yearend report shows just that 11,405 tons were received in 2017. The life of the landfill has been projected assuming that waste is placed at a density of 0.8 ton/yd³. Drawings 4 in Appendix A show graphical representation of the landfill development. The following table shows the available airspace and expected closure year of the various phases.

Phase	Area in Acres	Airspace (yd ³)	Airspace (Tons)	Projected Closure
I	6.41	265,300	212,240	2029
II	4.9	186,700	149,360	2035
III	2.49	65,100	52,080	2037

IV	3.89	116,000	92,800	2040
V	5.0	242,500	194,000	2057

3.2 DESCRIPTION OF WASTE HANDLING PROCEDURES

3.2.1 General

The Landfill is open for public and private disposal. Signs are posted along the Landfill access road to clearly indicate (1) the types of wastes that are accepted at the facility; (2) the types of wastes not accepted at the site; and (3) the penalty for illegal disposal.

As mentioned in Section 1.3, the facility accepts construction and demolition waste, yard wastes, untreated wood, dead animals, and other inert wastes.

The facility will accept (for temporary storage) appliances, furniture, and car bodies for either recycling or transfer to Summit County Three Mile Class I landfill. The waste storage and recycling areas (for temporary storage of appliances, furniture, and car bodies) are separated from the active and future Class IVb landfill pits by the perimeter gravel road.

The landfill has waste control program designed to detect and deter attempts to dispose of hazardous, municipal solid waste or other unacceptable wastes at the Landfill. The program is also intended to protect the health and safety of employees, customers, and the general public, as well as to protect against the contamination of the environment. The landfill waste handling procedures are as follows:

- All vehicles delivering wastes to the site must go through the scale house facility and the Landfill Attendant at the scale house will inquire as to the contents of each incoming load and enter the description of the vehicle and waste content into the Daily Log. The vehicle will be directed to either the general working face, recycling drop off area, dead animal pit, or rejected due to unacceptable materials.

- Any vehicle suspected of carrying unacceptable materials (liquid waste, sludges, or hazardous waste) will be prevented from entering the disposal areas unless the driver can provide evidence that the waste is acceptable for disposal at the site. Henefer landfill reserves the right to refuse service to any suspect load. Vehicles carrying unacceptable materials will be required to exit the site without discharging their loads.
- Loads will be regularly surveyed at the tipping area. If a discharged load contains inappropriate or unacceptable material, the discharger will be required to reload the material and remove it from the Landfill. If the discharger is not immediately identified, the area where the unacceptable material was discharged will be cordoned off. Unacceptable material will be moved to a designated area for identification and preparation for proper disposal.

No open burning or smoking is allowed near the work face. Occasional burning of tree branches will be conducted on landfill support areas away from the working face as the need arises. The burning of tree branches is expected to be infrequent and in limited quantities.

3.2.2 Waste Acceptance Records

A daily record of all landfill transactions will be created and kept on file at the Landfill. Any or all transactions may be retrieved as necessary.

3.2.3 Waste Disposal

The width of the working face will be restricted by the size of the disposal pits. The working cell will typically be a maximum of 50 feet wide by 50 feet long. Once an area of pit 50 feet by 50 feet is filled to the surface, the waste will be covered with at least six inches of soil. The geometry of the Landfill is such that the waste will be pushed upslope into place. The wastes will be dumped at the toe of the work face when possible and spread up the slope in one to two foot lifts, keeping the slope at a typical five to one (horizontal to vertical) configuration.

Work face dimensions will be kept narrow enough to minimize blowing litter and reduce the amount of soil needed for cover while allowing safe vehicular access. Typically the track dozer is operated with the bucket facing uphill. Equipment operations across the slope are avoided to minimize the potential of equipment tipping over. In addition to safety concerns, a toe of slope to crest of slope working orientation provides an increase in compaction, better visibility and more uniform waste distribution.

The wastes will be compacted by making three to five passes up and down the slope. Compaction reduces litter, differential settlement, and the quantities of cover soil needed. Compaction also extends the life of the site, reduces unit costs, and leaves fewer voids to help reduce vector problems. Care is taken that no holes are left in the compacted waste. Voids are filled with additional waste as they develop. Cover soils will be applied to all areas of the active cell at a minimum of every 30 days.

3.2.4 Special Wastes – Wastes Excluded from the Landfill

3.2.4.1 Used Oil and Batteries

Used Oil and Batteries are not accepted at the Landfill. However, the landfill has a used oil storage tank on site to allow the public to dispose used oil.

3.2.4.2 Appliances

Appliances are accepted at the Landfill and stored separated for recycling. All appliances containing refrigerants are further segregated and the refrigerant is removed before the appliances are loaded into the metal bin for recycling.

3.2.4.3 Tires

The Landfill accepts small quantities of tires from the general public. Commercial haulers are prohibited from disposing of tires. A total of four passenger tires are accepted from the public with each load and are incorporated into the working face.

3.2.4.4 Dead Animals

Dead animals are accepted at the Landfill and are placed in a prepared dead animal pit. The dead animal pit is covered with six inches of soil at the end of the day dead animals are received.

3.2.4.5 Asbestos Waste

Asbestos waste is not accepted at the Landfill.

3.2.4.6 Furniture

Furniture is accepted at the Landfill and stored on site in a roll-off bin. Once the roll-off bin is full, it is transported to the Summit County Three Mile Class I landfill for disposal.

3.2.4.7 Grease By-Products

Grease By-Product wastes are not accepted at the Landfill.

3.2.4.8 Sewer Sludge

Sewer sludge of any nature (wet or dry) is not accepted at the Landfill.

3.3 WASTE INSPECTION

3.3.1 Landfill Spotting

Learning to identify and exclude prohibited and hazardous waste from the Landfill is required to maintain the Class IVb classification and necessary for the safe operation of the Landfill. The Landfill Attendants are required to receive initial and periodic hazardous waste screening inspection training. Waste screening certificates of the training received are kept in the personnel files.

3.3.2 Random Waste Screening

Random inspections of incoming loads are conducted according to the schedule established by the Landfill Superintendent. If frequent violations are detected, additional random checks are scheduled at the discretion of the Landfill Superintendent.

If a suspicious or unknown waste is encountered, the Landfill Attendant proceeds with the waste screening as follows:

- The driver of the vehicle containing the suspect material is directed to the waste screening area.
- The suspect material is spread out with landfill equipment or hand tools and visually examined. Suspicious marking or materials, like the ones listed below, are investigated further:
 - Containers labeled hazardous
 - Material with unusual amounts of moisture
 - Biomedical (red bag) waste
 - Unidentified powders, smoke, or vapors
 - Liquids, sludges, pastes, or slurries
 - Asbestos or asbestos contaminated materials
 - Batteries
- The waste screening form (Appendix C) is completed.

The Landfill Superintendent is called if unstable wastes that cannot be handled safely or radioactive wastes are discovered or suspected. Consequently, the hauler of the waste is prohibited from the landfill or subjected to additional inspection to the loads he/she delivers to the landfill.

3.3.3 Removal of Hazardous or Prohibited Waste

Should hazardous or prohibited wastes be discovered during random waste screening or during tipping, the waste is removed from the Landfill as follows:

- The waste is loaded back on the hauler's vehicle. The hauler is then informed of the proper disposal options and the consequences of bringing hazardous waste.
- If the hauler or generator is no longer on the premises and is known, they are asked to retrieve the waste and informed of the proper disposal options and the consequences of bringing hazardous waste
- The Landfill Superintendent arranges to have the waste transported to the proper disposal site and then bill the original hauler or generator.

A record of the removal of all hazardous or prohibited wastes will be kept in the site operational records.

3.3.4 Hazardous or Prohibited Waste Discovered After the Fact

If hazardous or prohibited wastes are discovered at the Landfill after the hauler has left the premises, the following procedure will be used to remove them:

- Access to the area is restricted.
- The Landfill Superintendent is immediately notified.
- The Landfill operator removes the waste from the working face if it is safe to do so.
- The waste is isolated in a secure area of the Landfill and the area cordoned off.
- Local authorities are notified as appropriate.

The DSHW, the hauler (if known), and the generator (if known) will be notified within 24 hours of the discovery. The generator (if known) is responsible for the proper cleanup, transportation, and disposal of the waste.

3.4 FACILITY MONITORING AND INSPECTION

3.4.1 Groundwater

The Landfill is not required to monitor groundwater.

3.4.2 Surface Water

Run-on diversion structures have been installed around the perimeter of the Landfill site during the initial construction. The diversion structures include both ditches and berms. Potential run-on waters will be diverted away from the working face of the Landfill.

In general, surface water that falls within the landfill excavation will naturally be routed into the bottom of the excavation. Run-off from the final cover will be managed by a combination of berms and ditches once the landfill elevation extends above the existing site grade. Figure 2 in Appendix A illustrate the location of the run-off control structure and storm water ponds.

Summit County Henefer Landfill staff will inspect the drainage system monthly. Temporary repairs will be made as required to any observed deficiencies until permanent repairs can be scheduled.

3.4.3 Leachate Collection

The Landfill is not required to collect or monitor leachate.

3.4.4 Landfill Gas

The Landfill is not required to monitor landfill gas.

3.4.5 General Inspections

Routine inspections are necessary to prevent malfunctions and deterioration, operator errors, and discharges that may cause or lead to release of wastes to the environment or a threat to human health. Landfill Equipment operators and Landfill Attendants are responsible for conducting and recording routine inspections of the landfill facilities according to the following schedule:

- Landfill Operators (when operating equipment) will perform pre-operational inspections of all equipment daily. A post-operational inspection is performed at the end of each shift while equipment is cooling down.

- All equipment is on a regular maintenance schedule. A logbook is maintained on each piece of equipment and any repairs and comments concerning the inspection are contained in the log. Oil samples are pulled when each machine is serviced and results are recorded in the machine log.
- Facility inspections are completed on a quarterly using the inspection Form in Appendix C. Any needed corrective action items are recorded and the Landfill personnel will complete needed repairs. If a problem is of an urgent nature, the problem is corrected immediately.

3.5 CONTIGENCY AND CORRECTIVE ACTION PLANS

The North Summit Fire District will be contacted in all cases where hazardous materials are suspected to be involved. The following sections outline procedures to be followed in case of fire, explosion, run-on/run-off contamination, or suspected groundwater contamination.

3.5.1 Fire

The potential for fire is a concern in any landfill. The Landfill follows a waste handling procedure to minimize the potential for a landfill fire. If any load comes to the landfill on fire, the driver of the vehicle is directed to a pre-designated area away from the working face. The burning waste is unloaded, spread out, and immediately covered with sufficient amounts of soil to smother the fire. Once the burning waste cools and is deemed safe, the material will then be incorporated into the working face. Some loads coming to the landfill may be on fire but not detected until after being unloaded at the working face. If a load of waste that is on fire is unloaded at the working face, the load of waste is immediately removed from the working face, spread out, and covered with soil.

The North Summit Fire District is called if it appears that landfill personnel and equipment cannot contain any fire at the landfill. The North Summit Fire District is also called if a fire is burning below the landfill surface or is difficult to reach or isolate.

In case of fire, the Landfill Superintendent is notified immediately. A written report detailing the event is placed in the operating record within seven days, including any corrective action taken.

3.5.2 Explosion

If an explosion occurs or seems possible, all personnel and customers are accounted for and the Landfill is evacuated. Corrective action is immediately evaluated and implemented as soon as practicable.

The Landfill Superintendent is notified immediately and the North Summit Fire District is called. The Utah Division of Waste Management and Radiation Control Executive Secretary is notified immediately.

3.5.3 Failure of Run-On/Run-Off Containment

The purpose of the run-on/run-off control systems is to manage the stormwater falling in or near the Landfill. Were possible, water is diverted away from the Landfill by utilizing ditches and berms. These ditches are inspected on a regular basis and repaired as needed. All precipitation falling near the Landfill will flow around the perimeter towards the two detention ponds to be constructed in the southeast and southwest of the landfill.

If a run-off ditch or berm fails, temporary berms or ditches will be constructed until a permanent run-off structure can be repaired. Any temporary berms or other structures are checked at least every 4 hours during the storm event until storm water flow has stopped. Permanent improvements or repairs are made as soon as practicable.

The Landfill Manager is notified immediately if a failure of the run-off systems is discovered. The event is fully documented in the operating record, including corrective action within 14 days.

3.5.4 Groundwater Contamination

The Landfill has no ground water monitoring wells. If ground water contamination is ever suspected, studies to evaluate the potential contamination will be conducted and the

existence and/or extent of contamination will be documented. This program may include the installation of ground water monitoring wells. A ground water monitoring program would be developed and corrective action taken as deemed necessary, with the approval of The Utah Division of Waste Management and Radiation Control Executive Secretary.

3.6 CONTINGENCY PLAN FOR ALTERNATIVE WASTE HANDLING

The most probable reason for a disruption in the waste handling procedures at the Landfill will be weather related. The Landfill may close during periods of inclement weather such as high winds, heavy rain, snow, flooding, or any other weather-related condition that would make travel or operations dangerous. The Landfill may also close for other reasons like fire, natural disaster, etc. In general, the Henefer staff minimizes the possibility of disruption of waste disposal services from an operational standpoint.

In case of equipment failure, replacement equipment will be mobilized from other County operations, or leased to continue operations while repairs are being made. If the Landfill is closed for any reason, all waste will be diverted to Summit County Three Mile Class I landfill.

3.7 MAINTENANCE PLAN

3.7.1 Groundwater Monitoring System

The Landfill is currently exempt from requirements for groundwater monitoring. As a result, no groundwater monitoring system is planned.

3.7.2 Leachate Collection and Recovery System

The Landfill is currently exempt from requirements for leachate collection. As a result, no leachate collection and recovery system is planned.

3.7.3 Gas Monitoring System

The Landfill is currently exempt from requirements for a landfill gas monitoring system. No gas collection system is planned.

3.8 DISEASE AND VECTOR CONTROL

The vectors encountered at the Landfill are flies, birds, mosquitoes, rodents, skunks, and snakes. Due to the rural location of the landfill, stray house pets are occasionally encountered at the landfill. The program for controlling these vectors is as follows:

3.8.1 Insects

The elimination of breeding areas is essential in the control of insects. Landfill will minimize the breeding areas by covering the waste with soil at a minimum of every 30 days and maintaining surfaces to reduce ponded water.

3.8.2 Rodents

Reducing potential food sources minimizes rodent populations at the landfill. Due to the nature of the landfill wastes, no significant numbers of mice or rats have been observed.

In the unlikely event of a significant increase in the number of rodents at the landfill, a professional exterminator will be contacted. The exterminator would then establish an appropriate protocol for pest control in accordance with all county, state and federal regulations.

3.8.3 Birds

The Landfill has had minimal problems with birds. Good landfilling practices of waste compaction, daily covering of working faces, the minimization of ponded water, and the nature of the waste at the site has alleviated most of the bird problems. If the occasional need arises, the birds will be encouraged to leave by using cracker and whistler shells.

3.8.4 Household Pets

Because of the Landfills location, some stray cats and dogs may wander onto Landfill property. When stray animals are encountered (and can be caught), they are turned over to the animal shelter. If the Landfill Technicians are unable to apprehend the animals, they are chased off the property.

3.8.5 Wildlife

The Landfill has a variety of wildlife located on or near the landfill property. Wildlife includes deer, snakes, foxes, skunks, and coyotes. If problem skunks or snakes are encountered, they will be exterminated. If other type of wildlife becomes a problem, the Landfill will coordinate with the Division of Wildlife Resources to provide methods and means to eliminate the problem.

In the event that any of these vectors become an unmanageable problem, the services of a professional exterminator will be employed.

3.8.6 Fugitive Dust

The roads leading to the landfill are paved, however; access roads to the Landfill are improved dirt/gravel roads and will need occasional dust control measures. General landfill activities, site access by vehicles compounded by the occasional high wind may present a fugitive dust problem. If the dust problem elevates above the “minimum avoidable dust level”, the landfill applies water to problem areas.

3.8.7 Litter Control

The nature of the wastes (no MSW) received at the Landfill is such that the waste is not typically windblown. However; due to the nature of landfilling operations, blowing litter will still be an occasional problem. Landfill personnel perform routine litter cleanup to keep the landfill and surrounding properties clear of windblown debris.

Whenever possible, the working face is placed down wind so that blowing litter is worked into the landfill face. During windy conditions, landfill personnel minimize the spreading of the waste to reduce the amount of windblown debris.

3.9 RECYCLING

Currently, recycling activities are conducted in conjunction with the ongoing Landfill operations. Metals, junk cars, and appliances are accepted at the Landfill and are either

recycled by a contract salvage company or disposed of at the Summit County Three Mile Class I landfill.

3.10 TRAINING PROGRAM

As part of the initial training of new employees all personnel are required to review the approved permit and permit application annually.

All personnel associated with the operation of the landfill receive site-specific training annually. Certificates of completion are kept in personnel files. Throughout the year regular safety and equipment maintenance training sessions are held to ensure that employees are aware of the latest technologies and that good safety practices are used at all times.

3.11 RECORDKEEPING

An operating record is maintained as part of a permanent record on the following items:

- Number of vehicles entering the landfill and types of wastes received on a monthly basis.
- Deviations from the approved Operations Plan.
- Personnel training and notification procedures.
- Random load inspection log.

3.12 SUBMITTAL OF ANNUAL REPORT

Henefer Landfill will submit a copy of its annual report to the Executive Secretary by March 1 of each year for the most recent calendar or fiscal year of facility operation. The annual report will include facility activities during the previous year and will include, at a minimum, the following:

- Name and address of facility.
- Calendar or fiscal year covered by the annual report.

- Annual quantity, in tons or volume, in cubic yards, and estimated in-place density in pounds per cubic yard of solid waste.
- Annual update of required financial assurances mechanism pursuant to Utah Administrative Code.
- Training programs completed.

3.13 INSPECTIONS

The Landfill Superintendent, or his/her designee, will inspect the facility quarterly to minimize malfunctions and deterioration, operator errors, and discharges that may cause or lead to the release of wastes to the environment or to a threat to human health. These inspections are conducted on a quarterly basis, at a minimum. An inspection log (Appendix C) is kept as part of the operating record. This log includes at least the date and time of inspection, the printed name and handwritten signature of the inspector, a notation of observations made, and the date and nature of any repairs or corrective actions. Inspection records are available to the Executive Secretary or an authorized representative upon request.

3.14 RECORDING WITH COUNTY RECORDER

Plats and other data, as required by the County Recorder, will be recorded with the Summit County Recorder as part of the record of title no later than 60 days after certification of closure.

3.15 STATE AND LOCAL REQUIREMENTS

The Landfill will maintain compliance with all applicable state and local requirements including zoning, fire protection, water pollution prevention, air pollution prevention, and nuisance control.

3.16 SAFETY

Landfill personnel are required to participate in an ongoing safety program. This program complies with the Occupational Safety and Health Administration (OSHA), and the National Institute of Occupational Safety and Health (NIOSH) regulations as applicable. This program is designed to make the site and equipment as secure as possible and to educate landfill personnel about safe work practices.

3.17 EMERGENCY PROCEDURES

In the event of an accident or any other emergency situation, the Landfill Operator immediately contacts the Landfill Superintendent and proceeds as directed. If the Landfill Superintendent is not available, the Landfill Operator will call the appropriate emergency number posted by the telephone. The emergency telephone numbers are:

Emergency	911
Tim Loveday, Landfill Superintendent	(801) 712-7476/435-336-3970
Fire District	(435) 336-4316
Sheriff's Department	(435) 615-3500
Hospital	(435) 658-7000
Summit County Health Department	(435) 333-1500
Executive Secretary, DSHW	(801) 538-6170

**SUMMIT COUNTY LANDFILL
Load Inspection Form**

DATE: _____ TIME: _____

COMMERCIAL Residential TRUCK #/LICENSE PLATE _____

Driver's Name _____

SUMMIT COUNTY INSPECTOR'S NAME _____

LOCATION WHERE INSPECTED: DROP OFF BINS CELL
 GREENWASTE HHW

ORIGIN OF MATERIAL _____

- | <u>WASTE DESCRIPTION</u> | | <u>HHW</u> | |
|---|-------------------------------------|---|-------------------------------------|
| <input type="checkbox"/> Appliances | <input type="checkbox"/> Food | <input type="checkbox"/> Acids | <input type="checkbox"/> Antifreeze |
| <input type="checkbox"/> Auto Parts | <input type="checkbox"/> Pipe | <input type="checkbox"/> Batteries | <input type="checkbox"/> Poisons |
| <input type="checkbox"/> Barrels | <input type="checkbox"/> Paint Cans | <input type="checkbox"/> Fuels | <input type="checkbox"/> Oils |
| <input type="checkbox"/> Cardboard | <input type="checkbox"/> Insulation | <input type="checkbox"/> Paint | <input type="checkbox"/> Solvents |
| <input type="checkbox"/> Carpet | <input type="checkbox"/> Glass | <input type="checkbox"/> Pesticides | |
| <input type="checkbox"/> Carpet Pad | <input type="checkbox"/> Furniture | <input type="checkbox"/> Fluorescent Lights | |
| <input type="checkbox"/> Cloth | <input type="checkbox"/> Sheetrock | <input type="checkbox"/> Stains/Sealer | |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Sod | <input type="checkbox"/> Freon Containing Systems | |
| <input type="checkbox"/> Containers | <input type="checkbox"/> Toys | <input type="checkbox"/> Miscellaneous | |
| <input type="checkbox"/> Dead Animals | <input type="checkbox"/> Electrical | | |
| <input type="checkbox"/> Manure | <input type="checkbox"/> Wire | | |
| <input type="checkbox"/> Plastic bags | <input type="checkbox"/> Wood | <u>UNACCEPTABLE WASTE</u> | |
| <input type="checkbox"/> Dirt | <input type="checkbox"/> Yard Waste | <input type="checkbox"/> Asbestos | <input type="checkbox"/> PCB's |
| <input type="checkbox"/> Rock | <input type="checkbox"/> Tree Limbs | <input type="checkbox"/> Medical Waste (red bags) | |
| <input type="checkbox"/> Asphalt | <input type="checkbox"/> Metal | <input type="checkbox"/> Wet Loads | |
| <input type="checkbox"/> Sewer Plant Grit | <input type="checkbox"/> Tires | <input type="checkbox"/> 55 gallon drums | |
| <input type="checkbox"/> E-Waste | <input type="checkbox"/> _____ | | |

ACTIONS TAKEN: _____

Comments: _____

Inspector's Signature _____

Driver's Signature _____

**SUMMIT COUNTY LANDFILL
Load Inspection Form**

DATE: _____ TIME: _____

COMMERCIAL Residential TRUCK #/LICENSE PLATE _____

Driver's Name _____

SUMMIT COUNTY INSPECTOR'S NAME _____

LOCATION WHERE INSPECTED: DROP OFF BINS CELL
 GREENWASTE HHW

ORIGIN OF MATERIAL _____

- | <u>WASTE DESCRIPTION</u> | | <u>HHW</u> | |
|---|-------------------------------------|---|-------------------------------------|
| <input type="checkbox"/> Appliances | <input type="checkbox"/> Food | <input type="checkbox"/> Acids | <input type="checkbox"/> Antifreeze |
| <input type="checkbox"/> Auto Parts | <input type="checkbox"/> Pipe | <input type="checkbox"/> Batteries | <input type="checkbox"/> Poisons |
| <input type="checkbox"/> Barrels | <input type="checkbox"/> Paint Cans | <input type="checkbox"/> Fuels | <input type="checkbox"/> Oils |
| <input type="checkbox"/> Cardboard | <input type="checkbox"/> Insulation | <input type="checkbox"/> Paint | <input type="checkbox"/> Solvents |
| <input type="checkbox"/> Carpet | <input type="checkbox"/> Glass | <input type="checkbox"/> Pesticides | |
| <input type="checkbox"/> Carpet Pad | <input type="checkbox"/> Furniture | <input type="checkbox"/> Fluorescent Lights | |
| <input type="checkbox"/> Cloth | <input type="checkbox"/> Sheetrock | <input type="checkbox"/> Stains/Sealer | |
| <input type="checkbox"/> Concrete | <input type="checkbox"/> Sod | <input type="checkbox"/> Freon Containing Systems | |
| <input type="checkbox"/> Containers | <input type="checkbox"/> Toys | <input type="checkbox"/> Miscellaneous | |
| <input type="checkbox"/> Dead Animals | <input type="checkbox"/> Electrical | | |
| <input type="checkbox"/> Manure | <input type="checkbox"/> Wire | | |
| <input type="checkbox"/> Plastic bags | <input type="checkbox"/> Wood | <u>UNACCEPTABLE WASTE</u> | |
| <input type="checkbox"/> Dirt | <input type="checkbox"/> Yard Waste | <input type="checkbox"/> Asbestos | <input type="checkbox"/> PCB's |
| <input type="checkbox"/> Rock | <input type="checkbox"/> Tree Limbs | <input type="checkbox"/> Medical Waste (red bags) | |
| <input type="checkbox"/> Asphalt | <input type="checkbox"/> Metal | <input type="checkbox"/> Wet Loads | |
| <input type="checkbox"/> Sewer Plant Grit | <input type="checkbox"/> Tires | <input type="checkbox"/> 55 gallon drums | |
| <input type="checkbox"/> E-Waste | <input type="checkbox"/> _____ | | |

ACTIONS TAKEN: _____

Comments: _____

Inspector's Signature _____

Driver's Signature _____

**Summit County Landfill
Quarterly Inspection Report
Henefer C&D Landfill**

Date: _____

Time: _____

Others Attending the Inspection

Inspectors Name: _____

<u>ITEM</u>	<u>SATISFACTORY</u>	<u>NEEDS REPAIR</u>
<i><u>Upper Landfill Area:</u></i>		
Storm Water/Run-off, Run-on Controls	_____	_____
Access Road Conditions	_____	_____
Upper Area Litter	_____	_____
Litter Fence Condition	_____	_____
Monitor Wells Condition	_____	_____
<i><u>Lower Area/Scale/Convenience Center:</u></i>		
Security Gate Condition	_____	_____
Scale Condition/Drainage	_____	_____
Lower Area Litter	_____	_____
Household Hazardous Waste Area	_____	_____
Re-Use Area	_____	_____
Convenience Center Condition	_____	_____
Metal, Tires, E-Waste Area	_____	_____
Tree Pile	_____	_____

Describe items that need repair: _____

Inspectors Signature _____

HENEFER LANDFILL CLOSURE COSTS

HENEFER LANDFILL CLOSURE COST ESTIMATE

Section 1.0 - Engineering

AREA 1

(ESTIMATED DATE OF CLOSURE: 2016, AREA: 117,176 FT SQ)

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
1.1	Topographic Survey	LS	\$5,000	1	\$5,000
1.2	Boundary Survey for Closure	NA			
1.3	Site Evaluation	NA			\$0
1.4	Development of Plans	LS	\$5,000	1	\$5,000
1.5	Contract Administration - (Bidding and Award)	LS			\$0
1.6	Administrative Costs - (Certification of Final Cover and Closure Notice)	LS	\$1,000	1	\$1,000
1.7	Project Management - (Construction Observation and Testing)	LS	\$2,500	1	\$2,500
1.8	Monitor Well Consultant Cost	NA			\$0
1.9	Other Environmental Permit Costs	NA			\$0
Engineering Subtotal					\$13,500

Section 2.0 - Construction

AREA 1

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
2.1	Final Cover System				
	area	279,220			
2.1.1	Site Preparation/ Site Regrading	ACRE	\$1,500	6.4	\$9,615
2.1.2	Gas Collection Layer Pipes	Included below			\$0
2.1.3	Low permeability Layer (Soil - If Applicable)				
a	Soil Purchase	NA			\$0
b	Soil Processing (load)	NA			\$0
c	Soil Transportation	NA			\$0
d	Soil Placement	NA			\$0
e	Soil Amendment (compact)	NA			\$0
2.1.4	Low permeability Layer (Synthetic - If Applicable)				
a	Geotextile	NA			\$0
b	GCL	SQ FT	\$0.60	0	\$0
c	Geomembrane (HDPE, PVC, LLDPE, etc.)	SQ FT	\$0.55	0	\$0
2.1.5	Drainage Layer (Soil - If Applicable)				
a	Geotextile	NA			\$0
b	Sand/Gravel	NA			\$0
2.1.6	Drainage Layer (Synthetic - If Applicable)				
a	Geotextile	NA			\$0
b	Geonet/Geocomposite	SQ FT	\$0.55	0	\$0
2.1.7	Erosion Protection Soil Layer				
a	Soil Purchase	NA			\$0
b	Soil Processing (load)	CY	\$1.00	15,512	\$15,512
c	Soil Transportation	CY	\$2.00	15,512	\$31,024
d	Soil Placement	CY	\$1.00	15,512	\$15,512
e	Soil Amendment (compact)	CY			\$0
2.1.8	Topsoil Layer				
a	Soil Purchase	NA			\$0
b	Soil Processing (load)	CY	\$1.00	5,171	\$5,171
c	Soil Transportation	CY	\$2.00	5,171	\$10,341
d	Soil Placement	CY	\$1.00	5,171	\$5,171
e	Soil Amendment	NA			\$0
2.1.9	Revegetation				
a	Seeding	ACRE	\$1,200	6.4	\$7,692
b	Fertilizing	ACRE	\$500	6.4	\$3,205
c	Mulch	ACRE	\$200	6.4	\$1,282
d	Tackifier	ACRE	\$200	6.4	\$1,282
2.2	Stormwater Protection Structures				
a	Culverts	LA		2,500	\$2,500
b	Pipes	LA		2,000	\$2,000
c	Ditches/Berms	FT	\$5	1,282	\$6,410
d	Detention Basins	NA			\$0
2.3	Gas Collection System				
a	Design				\$0
b	Additional Gas Collection Wells and Connection	NA			\$0
2.4	Leachate Collection System				
a	Design	NA			\$0
b	Additional Equipment Installation	NA			\$0
2.5	Groundwater Monitoring System				
a	Monitor Well Installation	NA			\$0
b	Monitor Well Abandonment	NA			\$0
2.6	Site Security				
a	Lighting, signs, etc.	NA			\$0
b	Fencing and Gates	NA			\$0
2.7	Miscellaneous				
a	Bonds	LS			\$0
b	Contract/Legal fees	LS	\$5,000	1	\$5,000
Construction Subtotal					\$121,718

Total **\$135,218**

LS - LUMP SUM
 NA - NOT APPLICABLE
 EA - EACH
 CY - CUBIC YARD
 FT - FEET

ASSUMPTIONS

Ditch to be graded in by grader
 Final Cover Thickness - 2' (6" topsoil, 18" general soil)

**HENEFER LANDFILL CLOSURE COST ESTIMATE
AREA 4**

(ESTIMATED DATE OF CLOSURE: 2028, AREA: 181,645 FT SQ)

Unit Measure	Cost/Unit	No. Units	Total Cost
LS	\$5,000	1	\$5,000
LS			\$0
LS			\$0
LS	\$5,000	1	\$5,000
LS			\$0
LS	\$1,000	1	\$1,000
LS	\$2,500	1	\$2,500
NA			\$0
NA			\$0
Engineering Subtotal			13,500

AREA 4

Unit Measure	Cost/Unit	No. Units	Total Cost
169,448			
ACRF	\$1,500	3.9	\$5,835
Included below			\$0
NA	\$0.60	0	\$0
NA	\$0.55	0	\$0
NA			\$0
NA			\$0
NA			\$0
NA	\$0.55	0	\$0
NA			\$0
CY	\$1.00	9,414	\$9,414
CY	\$2.00	9,414	\$18,828
CY	\$1.00	9,414	\$9,414
CY			\$0
NA			\$0
CY	\$1.00	3,138	\$3,138
CY	\$2.00	3,138	\$6,276
CY	\$1.00	3,138	\$3,138
NA			\$0
ACRF	\$1,200	3.9	\$4,668
ACRF	\$500	3.9	\$1,945
ACRF	\$200	3.9	\$778
ACRF	\$200	3.9	\$778
NA			\$0
FI	\$0	0	\$0
FI	\$4	778	\$3,112
NA			\$0
			\$0
NA			\$0
LS			\$0
LS	\$5,000	1	\$5,000
Construction Subtotal			\$72,323

Total \$85,823

**HENEFER LANDFILL CLOSURE COST ESTIMATE
AREA 5**

(ESTIMATED DATE OF CLOSURE: 2032, AREA: 182,952 FT SQ)

Unit Measure	Cost/Unit	No. Units	Total Cost
LS	\$5,000	1	\$5,000
LS	\$5,000	1	\$5,000
LS			\$0
LS	\$5,000	1	\$5,000
LS			\$0
LS	\$2,000	1	\$2,000
LS	\$4,000	1	\$4,000
NA			\$0
NA			\$0
Engineering Subtotal			21,000

AREA 5

Unit Measure	Cost/Unit	No. Units	Total Cost
217,800			
ACRF	\$1,500	5.0	\$7,500
Included below			\$0
NA	\$0.60	0	\$0
NA	\$0.55	0	\$0
NA			\$0
NA			\$0
NA			\$0
NA	\$0.55	0	\$0
NA			\$0
NA			\$0
CY	\$1.00	12,100	\$12,100
CY	\$2.00	12,100	\$24,200
CY	\$1.00	12,100	\$12,100
CY			\$0
NA			\$0
CY	\$1.00	4,033	\$4,033
CY	\$2.00	4,033	\$8,067
CY	\$1.00	4,033	\$4,033
NA			\$0
ACRF	\$1,200	5.0	\$6,000
ACRF	\$500	5.0	\$2,500
ACRF	\$200	5.0	\$1,000
ACRF	\$200	5.0	\$1,000
NA			\$0
FI	\$0	0	\$0
FI	\$4	1,000	\$4,000
NA			\$0
			\$0
NA			\$0
LS			\$0
LS	\$5,000	1	\$5,000
Construction Subtotal			\$91,533

Total \$112,533

Total Cost for all Phase \$498,470

Annual closure reserve over 20 year \$24,924

HENEFER LANDFILL POST-CLOSURE COSTS (30 YEARS)

Section 1.0 - Engineering

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
1.1	Post-Closure Plan	NA			\$0
1.2	Annual Report (including results from gas, leachate, and ground water sampling - details of maintenance performed)	LS	\$5,000	0	\$0
a	Semiannual Site Inspections	LS	\$500	60	\$30,000 (1 day of time)
b	Plan Update	LS	\$500	30	\$15,000
Engineering Subtotal					\$45,000

Section 2.0 - Gas Collection System - Sampling

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
2.1	Sample Collection	LS	\$320	0	\$0
2.2	Sample Analysis	NA			\$0
2.3	Report (Part of Annual Report)				
Gas Collection System - Sampling Subtotal					\$0

Section 3.0 - Leachate Collection System - Sampling

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
2.1	Sample Collection	LS	\$160	0	\$0
2.2	Sample Analysis	NA	\$400	0	\$0
2.3	Report (Part of Annual Report)				
Leachate Collection System - Sampling Subtotal					\$0

Section 4.0 - Ground Water Monitoring System - Sampling

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
3.1	Sample Collection	LS	\$1,280	0	\$0
3.2	Sample Analysis	LS	\$50,000	0	\$0
3.3	Report (Part of Annual Report)				
Ground Water Collection System - Sampling Subtotal					\$0

Section 5.0 - Facility Operations and Maintenance

Item	Description	Unit Measure	Cost/Unit	No. Units	Total Cost
4.1	Cover				
a	Soil Replacement	LS	\$400	60	\$24,000
b	Vegetation Reseeding	LS	\$200	60	\$12,000
4.2	Storm Water Protection Structures				
a	Ditch and Culvert Maintenance	LS	\$500		\$0
b	Berm and Basin Maintenance	LS	\$500		\$0
4.3	Gas Collection System				
a	System Operation	NA	\$240	0	\$0
b	System Repair	LS	\$2,000	0	\$0
4.4	Leachate Collection System				
a	System Operation	NA		0	\$0
b	System Repair	NA		0	\$0
4.5	Ground Water Monitoring System				
a	System Operation	NA		0	\$0
b	System Repair	LS	\$500	0	\$0
4.6	Site Security				
a	Lighting, signs, etc	LS	\$500	30	\$15,000
b	Fencing and Gates	LS	\$500	30	\$15,000
4.7	Miscellaneous				
a					
b					
Facility Operations and Maintenance Subtotal					\$66,000

Total \$111,000

Annual post closure reserve over 30 year period \$5,550