



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

L. Scott Baird
Executive Director

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

April 17, 2020

Rob Reynolds, Facility Manager
6891 South 700 West, Suite 100
Midvale, UT 84047

RE: Finding Completeness of Permit Application
SW315

Dear Mr. Reynolds:

The Division of Waste Management and Radiation Control has completed its review of the permit renewal request for the Construction Waste Management, Class VI Landfill Permit. The permit renewal has been determined to be complete.

Notice of the public comment period will be published on April 20, 2020 in the Salt Lake Tribune and Deseret News. The required public comment period will begin on April 21, 2020 and will end on May 21, 2020. Following the public comment period and resolution of any comments, final action will be taken on the draft permit.

Enclosed is a copy of the draft permit and associated attachments for your review.

If you have any questions, please call Bryan Woolf at (801) 536-0227.

Sincerely,

T. Allan Moore, Solid Waste Program Manager
Division of Waste Management and Radiation Control

(Over)

TAM/BMW/ar

Enclosure(s): Draft Permit (DSHW-2020-002126)

Attachment 1 Landfill Design and Construction (DSHW-2020-003923)

Attachment 2 Operations Plan (DSHW-2020-003925)

Attachment 3 Waste Inspections (DSHW-2020-003927)

Attachment 4 Closure and Post-Closure (2020-003929)

c: Gary Edwards, MS, Health Officer, Salt Lake County Health Dept.

Dorothy Adams, Deputy Director, Salt Lake County Health Dept.

Royal DeLegge, MPA, EHS, Environmental Health Director, Salt Lake County Health Dept.

DIVISION OF WASTE MANAGEMENT
AND RADIATION CONTROL
SOLID WASTE LANDFILL PERMIT

CLASS VI SOLID WASTE PERMIT *RENEWAL*

Construction Waste Management – Central Valley 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

Construction Waste Management
as owner and operator,

to own and operate the Construction Waste Management – Central Valley Landfill located in Salt Lake County, Utah as shown in the Permit Renewal Application that was determined complete.

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 (INSERT DATE SIGNED), 2020.

This Permit shall expire at midnight (INSERT DATE SIGNED MINUS ONE DAY), 2030.

Closure Cost Revision Date: (INSERT DATE SIGNED), 2025.

Signed this _____ day of _____, 2020.

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

FACILITY OWNER/OPERATOR INFORMATION

LANDFILL NAME: Construction Waste Management – Central Valley
Class VI Landfill

OWNER NAME: Construction Waste Management

OWNER ADDRESS: 6891 S 700 W Suite 100
Midvale, UT 84047

OWNER PHONE NO.: 801-449-9779

OPERATOR NAME: Jeremy Bland

OPERATOR ADDRESS: Same as owner

OPERATOR PHONE NO.: 801-449-9779

TYPE OF PERMIT: Class VI Landfill

PERMIT NUMBER: 0905R1

LOCATION: Landfill site is located in Township I North, Range 2
West, Section 9, SLMB; Salt Lake County, Lat. 41° 10'
20", Long. 112° 4'00"
7213 West California Avenue, Salt Lake City, Utah

PERMIT HISTORY: Permit renewal effective date (INSERT DATE
SIGNED)

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.

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 and the permit application consists of scale house, maintenance building, disposal cell for all permitted waste, prohibited waste storage bunker, and areas for storage and sorting of recyclable materials. 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. 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 125 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, may be accepted and managed in accordance with the requirements of R315-320 of the Utah Administrative Code; and

I.B.5. Petroleum contaminated soils as allowed in R315-315-8(3) of the Utah Administrative Code.

I.C. Prohibited Waste

I.C.1. Hazardous waste as defined by R315-261 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. Municipal waste;

I.C.5. Special waste except as specified in this Permit;

I.C.6. Regulated asbestos-containing material;

I.C.7. Industrial solid waste as defined in R315-301-2(35) of the Utah Administrative Code;

I.C.8. Commercial solid waste as defined in R315-301-2(14) of the Utah Administrative Code;

I.C.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, or;

- I.C.10. Dead animals.
- I.C.11. 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 Salt Lake County Health Department, to enter at reasonable times and:
 - I.D.1.a Inspect the landfill or other premises, practices or operations regulated or required under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;
 - I.D.1.b Have access to and copy any records required to be kept under the terms and conditions of this Permit or R315-301 through 320 of the Utah Administrative Code;
 - I.D.1.c Inspect any loads of waste, treatment facilities or processes, pollution management facilities or processes, or control facilities or processes required under this Permit or regulated under R315-301 through 320 of the Utah Administrative Code; and
 - I.D.1.d Create a record of any inspection by photographic, video, electronic, or any other reasonable means.
- I.E. Noncompliance
 - I.E.1. If monitoring, inspection, or testing indicates that any permit condition or any applicable rule under R315-301 through 320 of the Utah Administrative Code may be or is being violated, the Permittee shall promptly make corrections to the operation or other activities to bring the facility into compliance with all permit conditions or rules.
 - I.E.2. In the event of noncompliance with any permit condition or violation of an applicable rule, the Permittee shall promptly take any action reasonably necessary to correct the noncompliance or violation and mitigate any risk to the human health or the environment. Actions may include eliminating the activity causing the noncompliance or violation and containment of any waste or contamination using barriers or access restrictions, placing of warning signs or permanently closing areas of the facility.
 - I.E.3. The Permittee shall:
 - I.E.3.a Document the noncompliance or violation in the daily operating record, 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.4. Within thirty days after the documentation of the event, the Permittee shall submit to the Director a written report describing the nature and extent of the noncompliance or violation and the remedial measures taken or to be taken to protect human health and the environment and to eliminate the noncompliance or violation. 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.5. In an enforcement action, the Permittee may not claim as a defense that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with R315-301 through 320 of the Utah Administrative Code and this Permit.

I.F. Revocation

I.F.1. This Permit 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 shall be constructed and maintained according to the design outlined in Attachment #1 and in 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.A.5. All engineering drawings submitted to the Director shall be stamped by a professional engineer with a current registration in Utah.

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

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

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

III.B.1.b Have at least one person employed by the Permittee at the landfill during all hours that the landfill is open.

III.B.1.c Construct and maintain all fencing and any other access controls 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.

III.D.2. 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.4.f 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 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.2. Records related to the daily landfill operation or periodic events including:

III.H.2.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;

III.H.2.b Major deviations from the approved plan of operation recorded at the end of the operating day the deviation occurred;

III.H.2.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;

III.H.2.d Records of all inspections conducted by the Permittee, results of the inspections, and corrective actions.

III.H.3. Records of a general nature including:

III.H.3.a A copy of this Permit, including Attachments;

III.H.3.b Results of inspections conducted by representatives of the Director and representatives of the local Health Department, when forwarded to the Permittee;

III.H.3.c Closure and Post-closure care plans; and

III.H.3.d 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, 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. 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.

IV. CLOSURE REQUIREMENTS

IV.A. Closure

IV.A.1. The Permittee shall place the final cover of the landfill as shown in the Attachment #4. 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 Salt Lake County Recorder as part of the record of title that the property has been used as a landfill. The notice shall include waste disposal locations and types of waste disposed. The Permittee shall provide the Director the notice 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 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.

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.

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 R315-311-2 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 VI 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.

Attachments:

- 1 – Landfill Design and Construction
- 2 – Operations Plan
- 3 – Waste Inspections
- 4 – Closure and Post-Closure

Attachment #1
Design & Construction

DRAFT

DIVISION of WASTE MANAGEMENT and RADIATION CONTROL
APPLICATION for a PERMIT to OPERATE a CLASS VI LANDFILL

January 2020

I. FACILITY INFORMATION

A. General Information

1. General description of the facility

The owner Construction Waste Management owns and operates this Class VI commercial landfill, (a construction and demolition waste landfill), in accordance with Utah Administrative Code R315 through 320 as revised February 1, 2007. The facility will largely service population centers along the Wasatch Front from Ogden to Provo and from Park City to Tooele. As a Class VI landfill the facility will not accept waste from a conditionally exempt small quantity generator of: hazardous waste. The facility will accept all types of: construction and demolition waste materials that will be placed and compacted in the landfill as it is received. At closure, the top surface will have an elevation of: about 4,434 feet above Mean Sea Level (msl) or an average of: 210 feet above the existing grades.

Construction and demolition waste includes materials, such as, concrete, asphalt paving, asphalt roofing, lumber, gypsum board, soil, rock and fines as well as general composite construction and demolition waste materials that would be difficult to separate. Generally speaking, the construction and demolition waste stream represents about 12 percent of: the community's total municipal solid waste (msw).

The site is located at 7213 West California Avenue (1300 South), adjacent to the future extension of: 7200 West. The landfill is in the landfill zone which is in close proximity to several other landfills. These currently operating waste facilities include the City/County landfill and composting operations, Waste Management landfill and ET Technologies soil remediation facility. To the west there are a number of: closed landfills and the Kennecott tailings pond. Located to the east are the Lee Kay Waterfowl Management Area wetlands that were constructed as a mitigation measure for construction predecessor of: the Salt Lake City and county landfill.

2. Legal description of the property

Following is a surveyor's legal description of the property:
"Beginning at a point North 89°52'16" West 55.00 feet from the East Quarter Comer of Section 16, Township 1 South, Range 2 West, Salt Lake Base and Meridian, and running thence North 89°52'16" West 1261.24 feet to the East 1/16 comer of said Section 16; thence North 00°00'54" West 2643.87 feet; thence North 89°54' 19" East 924.35 feet; thence South 87°13'56" East 160.20 feet; thence North 89°54'19" East 150.00 feet; thence South 45°03'44" East 36.79 feet; thence South 00°01'47" East 1273.96 feet; thence South 00°02' 13" East 1340.80 feet to the point of the beginning.

Containing 3,334,023.91 square feet equaling 76.593 acres."

3. Proof of ownership

The property contains two parcels that are listed (parcels 14-16-200-013-4001, 14-16-200-013-4002) with the Salt Lake County Recorder's Office. As indicated by the Recorder's most recent records, the property is owned by CVWRF. Total acreage of these three parcels is about 76.6 acres.

4. Demonstration that the facility is proposed as a Class VI commercial facility.

The construction and demolition waste (Class VI) landfill will be owned by Construction Waste Management, LLC (CWM). This Class VI facility will be also operated and managed by Construction Waste Management, LLC (CWM).

5. Waste type and anticipated daily volumes

As a Class VI landfill, the only waste types that are acceptable are concrete, asphalt paving, asphalt roofing, lumber, gypsum board, soil, rock and fines, general composite construction and demolition waste materials that would be difficult to separate. Estimates of the volume of construction and demolition waste materials that will be received on a daily basis range from 1,000 tons to 3,000 tons per day. The landfill will operate six (6) days per week 7:00 a.m. to 7:00 p.m. or as necessary to meet waste hauler demands.

6. **Anticipated schedule of construction**

The construction and demolition landfill will be constructed over the next 40 plus/minus years depending on the economy, new construction replacing old facilities, such as schools, hospitals, and state and county road construction projects. Current planning is for the landfill to be constructed in five (5) phases. This will permit individual closure of each phase to provide a more aesthetic appearance as the land filling process is accomplished.

7. **Historical survey documentation**

During February 2008, P-III Associates conducted an intensive cultural resources inventory of the proposed landfill site. The scope of work included both a file search and field investigations. There were no sites that could be considered significant on the parcel; therefore, the consultant recommended that no additional cultural resource investigations be conducted. The consultant's final report was submitted to the State Historic Preservation Officer and no comments were received. A complete copy of Cultural Resources Report 5305-01-20803 is included as Appendix B.

8. **Names and addresses of all property owners within 1,000 feet of the proposed Class VI landfill are given in Table 1**

As noted above, the project is located in a relatively open space environment. Actually, there are no domestic dwellings with a half-mile of this site. The Salt Lake County Records Office lists nine property owners within the application permit 1,000-foot notification specification. Major property owners include the State of Utah and Kennecott Utah Copper. The 1,000-foot perimeter line is also indicated on Figure 1.

9. **Notification of the permit application to neighboring property owners; Renewal Application Jan. 2020 N/A prior as below.**

Documentation that a notice of intent to apply for a Class VI Landfill Permit was performed by sending the nine (9) property owners a letter indicating CVWRF's intent to construct a Class VI landfill by registered/returned mail receipt. Copies of the mailing are included in Appendix C.

10. **Name of the local governing body with jurisdiction over the Class VI landfill site**

The landfill site falls within the jurisdiction of Salt Lake City, Utah.

II. LOCATION STANDARDS

A. Location of 100-year floodplain

Location of the 100-year floodplain was taken from the Flood Insurance Rate Map (FILM Number 49035C0275 E; effective date September 21, 2001 published by the Federal Emergency Management Agency FEMA). This map indicates a 100-year flood can occur along the Lee Creek channel. Areas of the 100-year floodplain are shown in the vicinity of the northwest corner of the landfill site, but the FILM does not give actual base flood elevations. However, the culvert crossing the intersection at 1300 South 7200 West could represent a hydraulic flow restriction causing some flooding in this area. Based on the FILM a floodplain elevation of 4222.5-feet above msl is expected which is about 2-feet below the lowest final grade at the landfill site. The FILM 100-year floodplain is shown on Figure 2.

B. Wetlands and endangered species determinations

~~Determine whether any portion of the property may be considered~~
~~Wetland delineation was conducted on the proposed landfill site to~~

wetlands, as defined by Section 404 of the Clean Water Act (CWA). The results of the delineation indicate that there may be approximately 9.59 acres of "suspect" wetlands on the property. Of the "suspect" wetlands it appears that approximately 7.71 acres may be considered jurisdictional and the remaining 1.88 acres may be considered isolated by the US Army Corps of Engineers (ACOE). A final decision as to the jurisdiction will be made by the ACOE after its field verification of the site. The Wetland Delineation Report is included as Appendix D.

A decision has been made by the owner to fill the "suspect" wetlands to maximize the capacity of the landfill site. In doing so, the owner acknowledges that it will need to negotiate with the ACOE as to the extent and type of wetlands replacement, i.e. wetland banking, necessary to be in compliance with the CWA. This is a long and complicated process and in order to forward with this application for a permit to operate a Class VI landfill, the owner agrees to comply with any final determination by the ACOE as to the extent and nature of mitigations required.

C. Groundwater separation from bottom fill layer

Historical groundwater contour elevations at the proposed landfill site range from about 4219.50 at the north end to 4216.500 near the south end of the property². These elevations were further verified during installation of six (6) groundwater-monitoring wells required by the Salt Lake County Health Department (see Table 2 for depth to groundwater at the six (6) groundwater monitoring well locations). Due to the sloping nature of the ground surface, an average depth to groundwater from existing grade is about five (5) to seven (7) feet at the present time.

To permit initial excavation of the site to clear surface vegetation and poor soils, an exemption from the customary 10-foot (R302-2(e) (B)) separation between groundwater and the lowest elevation of the fill materials was requested from the Salt Lake Valley Health Department (SLVHD). The exemption was granted largely due to the poor quality of groundwater in the vicinity of the landfill site and the low moisture content of construction and demolition waste materials. However, the depth of excavation will be limited to the extent of the five-foot separation between the waste and groundwater is maintained.

D. Site hydrogeology

The landfill project site lies between two (2) drainage areas: Lee Creek and Kersey Creek. Both act as drainage conduits for storm water in the area of State Highway 201 and 5600 West (storm water from Salt Lake City and West Valley City). Of the two creeks, Lee Creek has the largest capacity for winter flows at about 100 cubic feet per second (cfs) whereas Kersey Creek winter flows typically do not exceed 40 cfs³. Due to the northeasterly slope of the site, about one half of the storm water runoff will ultimately drain into Lee Creek. The remainder will flow toward Kersey Creek which ties into the East C-7 Ditch before entering the Great Salt Lake.

Surface water quality is mostly poor due to the alkaline nature of the surface soils. Studies of surface water quality were obtained during the Kennecott Tailings Pond Expansion Environmental Impact statement (EIS)⁴ and over twenty years of Storret⁵ water quality data for Lee and Kersey creeks are summarized in Table 3.

E. Neighboring land uses

Neighboring land uses with 0.25-mile of the landfill site include open space, agricultural, and mining. Several active as well as closed landfills border the site. The proposed landfill site is also within Salt Lake City's Landfill Overlay District as indicated on Figure 3. The only active neighbor within the 0.75-mile criteria is Waste Management's construction and demolition wastelandfill.

F. Distance to nearest local turbojet as well as piston-type airport

The nearest regional airport capable of accommodating turbojet engines as well as piston-type aircraft is the Salt Lake International Airport. This airport is located to the northeast of the proposed landfill site at a line-of-sight distance of about 8.96-miles or 47,310-feet. Propeller type aircraft also fly in and out of the Salt Lake International Airport.

III. FACILITY TECHNICAL INFORMATION

A. Topographic features

The existing site is a rectangular shaped parcel located in the upper half-quarter section of Section 16 Township 1, Range 2 East at about 1300 South 7300 West in Salt Lake City, Utah. The site is relatively flat with areas of seasonal ponds (winter only) and some potentially "suspect" wetlands areas. Overall slope across the site is from south to north at about 0.15 feet per 100 feet.

CVWRF currently operates the site as a Class VI landfill and chipping compost manufacturing facility. The site has a large concrete pad (900- feet x 450-feet) and a 100-foot x 60-foot metal building used for equipment storage. The remaining portions of the site are undeveloped and vegetated with native grasses, sagebrush and weeds. This site is also located within the Salt Lake City Landfill Overlay District.

Topographic features as well as contour elevations are shown on Figures 4 and 5.

B. Hydro-geologic assessment

As discussed in the section on water quality, hydrology at this site was highly influenced by the sedimentary deposits of Lake Borneville. These sediments have overlaid bedrock over millions of years. There are three (3) principal aquifers in the Great Salt Lake area: the Bedrock Aquifer, the confined Principal Aquifer and the unconfined/confined Shallow Aquifer. All aquifers are present at the proposed construction and demolition waste landfill site. The Bedrock Aquifer is overlain by more than 1,200 feet of sediment in the vicinity of the Kennecott tailings pond. The Shallow Aquifer also extends at least 100 feet below ground surface as reported in the Geotechnical Report.

The principal water supply wells and the source protection zones together with the recharge areas adjacent the Oquirrh Mountain Range is shown on Figure 6. The protected zones include: 1) 100-foot critical zone, 2) bacteriological zone (250-feet), 3) the monitoring required zone and 4) the

15-year pollutant travel zone. These protected zones are well outside the project's area of influence and as a result, the project will not have any impact on drinking water resources.

Overall groundwater flow in the Shallow Aquifer is to the northwest, towards the Great Salt Lake; however, some local groundwater to and discharges into topographic lows that occur in the vicinity of the site, which is reflected in the presence of evaporative flats, wetlands, ponds and drainage canals. The average horizontal hydraulic conductivity in the area of the Great Salt Lake is at least two to three times greater than the vertical hydraulic conductivity. Groundwater flow gradient in the vicinity of the landfill site is shown on Figure 7 included in the Groundwater Monitoring Plan.

Estimated hydraulic conductivities in the Bedrock Aquifer range from 1×10^{-4} to 1×10^{-1} centimeters per second (cmls)⁴. An average hydraulic conductivity of 6×10^{-6} cm/s⁴ has been reported for the Principal Aquifer in the Great Salt Lake area. The Shallow Aquifer vertical permeabilities range from about 2×10^{-8} cm/s to 4×10^{-5} cm/s⁴.

Groundwater quality is generally poor below the site. TDS typically ranges between 4,000 and 28,000 mg/l well about Utah standards for beneficial uses and wells (less than 1,000 mg/l⁵) that usually only draw water from just above the bedrock layer near Magna. A summary of groundwater quality characteristics is given in Table 4.

C. Plans, specifications and calculations

Design of the construction and demolition waste landfill consists of plans, specifications and engineering calculations necessary to support the design. The plan set includes general, civil and landscape drawings (full set of 33 full-size drawings plus two 3-D sheets to show the visual aspects of the project). Calculations are provided for hydrology, slope stability and total volume of each phase of construction are provided in Appendix E.

D. Unit design features

1. Liquefaction, seismic slope stability and erosion potential

The landfill design will be an elevated mound. Basic seismic design criteria were established in the geotechnical report by Y² Geotechnical, P.C. A generalized dynamic response analysis was performed using commonly accepted geotechnical ground acceleration values. These design

criteria were subsequently to calculate liquefaction and slope stability

- **Liquefaction:** According to the Salt Lake County liquefaction map, this site is in an area classified as having high potential for liquefaction. A preliminary analysis of liquefaction by Y² Geotechnical, P.C. indicates a potential for up to 4.5-inches of differential settlement at the surface at closure.
- **Seismic slope stability:** The Initially, site fill was analyzed for a slope of 2H:1V (horizontal to vertical) extending to an elevation of 300-feet above ground surface. The 2H:1V slope was determined to have a stability safety factor of 1.44 (typically an FS of 1.3 is considered safe), which is actually conservative since the total fill high is only 200-feet.
- **Erosion potential:** Erosion potential of the proposed vegetative soil cover layer of the final cover at the end of the 30-year post-closure period was estimated using the Universal Soil Loss Equation (USLE). The USLE estimates soil loss in tons per acre. The results of these calculations are presented in Table 5 for both 3H:1V and 2H:1V slopes. The projected erosion, approximately of 0.6 inches of over 30-years, would be relatively small amount of the proposed 24-inches of final soil cover layer.

2. Fill methods

Construction and demolition waste materials will be placed and spread in layers not exceeding two-feet in compacted total thickness. Each layer of waste materials will be compacted into the active face of the fill at the end of each operating day. A clean stockpile of soil material (about 5,000 yd³) will be maintained on-site to address fires, odors,

litter, and vector problems, if they occur.

The landfill will be constructed in phases (five phases total) starting from the southern end of the property and progressing northward. The initial phases will increase a final elevation of about 4,334-feet above msl at which time final cover layers will be placed over the final grade on slopes of the completed initial fill. Final cover will also be placed on each interim phase as they reach final grades. This

will facilitate closure in a progressive manner and minimize the unsightliness of uncompleted final cover areas.

3. Final cover design

Design of the final cover for the construction and demolition waste landfill is based on regulations of the permitting agencies. Both agencies with permitting authority in Salt Lake County, i.e., the State Department of Solid and Hazardous Waste (SDSHW) and the Salt Lake Valley Health Department (SLVHD) having differing requirements for construction and demolition landfills. For example, cover specification cited in the SDSHW regulations for a construction and demolition landfill requires that the landfill be closed by 1) leveling the waste to extend practicable, 2) covering the waste with a minimum of two-feet of soil, including six-inches of topsoil, 3) contouring the cover as specified in Subsection R3150303-3(4)(a)(i)(b), and 4) seeding the cover with grass other shallow rooted vegetation or other native vegetation approved by the Executive Secretary.

On the other hand SLVHD (Regulation #1, subpart 4.1.5(ii) p,q,r and s) requires that 6-inches of compacted cover to be placed daily, or as often as required by the Director, after compaction of the waste material to smallest practical volume. Cells that will not have additional waste placed on them for 30 days will be covered with 12-inches of compacted cover material. At final closure, or within 12-months after receiving the last load of waste materials within a particular phase of construction, the operator will cover the completed section with at least 2-feet of compacted final cover material. The final cover layer of the landfill on any completed portion of the landfill will also be vegetated to minimize erosion and maximize evapotranspiration.

Following discussions with both agency staff members, the following cover design criteria were established;

- Since the waste is construction and demolition materials that are less susceptible to the problems posed by MSW, such as, vectors, odors, dust, etc., daily cover at the exposed face of the landfill will not be required,

- Total cross section of the final cover will consist of a layer of native material which has hydraulic conductivity of 1×10^{-5} cm/sec as determined by field tests. Compacting the native soils for the final cover layer to 90 - 95 percent relative density will ensure a final permeability of 1×10^{-8} . Total thickness of the final cover layer will be 24-inches.
- A soil amendment (composted biosolids) will be incorporated into the top 6-inches and seeded with native grasses (see specification on Drawing L1001) to minimize infiltration and erosion of the final cover layer.

A cross-section of the final cover design is on Figure 8. The cover layers will be placed into two separate operations. First, a layer of low hydraulic conductivity material of 18-inches will be placed covering the fill. To obtain this level of permeability of 10^{-8} cm/s, final cover material will be compacted to 90 percent to insure that surface water (precipitation) does not enter the fill material and become trapped in construction and demolition waste material above the foundation (bottom) layer. The initial final cover layer will be placed on completed sections/phases as the landfill phases are completed.

For protection from erosion, a second and final vegetative cover layers will be placed on top of the impermeable layer. This layer will consist of a mix of soil, for stability, and organic material (biosolids) to support vegetative growth. The final vegetative cover layer will be placed and seeded after final grading, compaction and testing of the low hydraulic conductivity layer is completed at closure of each phase of the project.

Sufficient quantities of both soil materials are available on site from the excavation of the original grade. Quantities of the final cover layers are given in Table 6.

E. Design and location of run-on/run-off control systems

Proposed elevations of new landfill site along the perimeter fencing will be above existing ground elevation. Consequently, run-on will not be an issue for this project. Conversely, run-off, especially due to the impervious nature of the final cover must be addressed. Initially, until phases 1, 2, and 3 have been completed, all run-off will be collected and conveyed to a storm water retention pond at the north end of the site. This will provide containment of any sediment and pollutants from discharging

from the perimeter of the site as well as collection and treatment of storm water draining from any active fill areas. During the initial phases of the project, Drainage channels and temporary piping will convey storm water run-off to the retention pond.

All drainage facilities will be designed to convey peak flows from a 25-year storm event with 30-minute duration at the landfill site. Since data was not available for 25-year design event storm event, 10 and 100-year storms⁷ were adjusted to provide an equivalent value of 0.835 inches per 30-minute period.

Design calculations are included in Appendix E. Table 7 shows the sizing of hydraulic conduits required for drainage of the site.

Upon completion phases 1, 2, and 3 surface run-off from the top surface and side slopes will be conveyed to Lee Creek and Kersey Creek as shown on Drawings C1004, C1005, and C1006. Storm water retention ponds designed to control sediments are included in the final site plan (this design is consistent with Storm Water Pollution Plans for construction projects over five-acres as required by the Clean Water Act).

F. Anticipated facility life

is due to the variability of incoming waste volumes and the amount of Anticipated life of the proposed landfill facility is difficult to gauge. This

recycling that can be accomplished on site. Current estimates of incoming materials from the service area are about 6 pounds per person per day⁸ of which 12 percent represents construction and demolition waste. Using figure as a guide and the population the Wasatch Front area, a daily volume of construction and demolition waste that could be generated was estimated. Obviously, there are other choices for disposal of this material, such, as other landfills, recycling and deconstruction. The owner/operator indicates that this landfill may experience a daily input volume of between 1,000 and 3,000 tons of construction and demolition waste per day. Converting this figure to volume represents between 2,025 yd³ and 4,050 yd³, an average of 3,040 yd³ per day.

Calculations of fill volumes and life for each of the five phases are summarized in Table 8. These estimates and time lines are also subject to the construction and demolition activity along the Wasatch Front as well as the amount of recycling that can be accomplished.

G. Identification of borrow material (impermeable layer and soil) for final cover

Borrow material (impermeable layer and vegetative soil) for final cover is available on-site from the initial excavation of existing grade materials. Design of the final cover is discussed in the previous section. Clean fill materials will also be accepted at the landfill to provide an additional assurance that sufficient materials will be available for the final cover layers. The landfill site will be excavated from existing grade to a depth of about 2-3-feet. A separation (five feet) between the lowest layer of construction and demolition waste material and the highest groundwater level will be maintained during the initial excavation phases. Due to the phased nature of the landfill development, excavated cover material will be stockpiled on-site until it will be incorporated into the side slopes and top deck of each phase of construction filling.

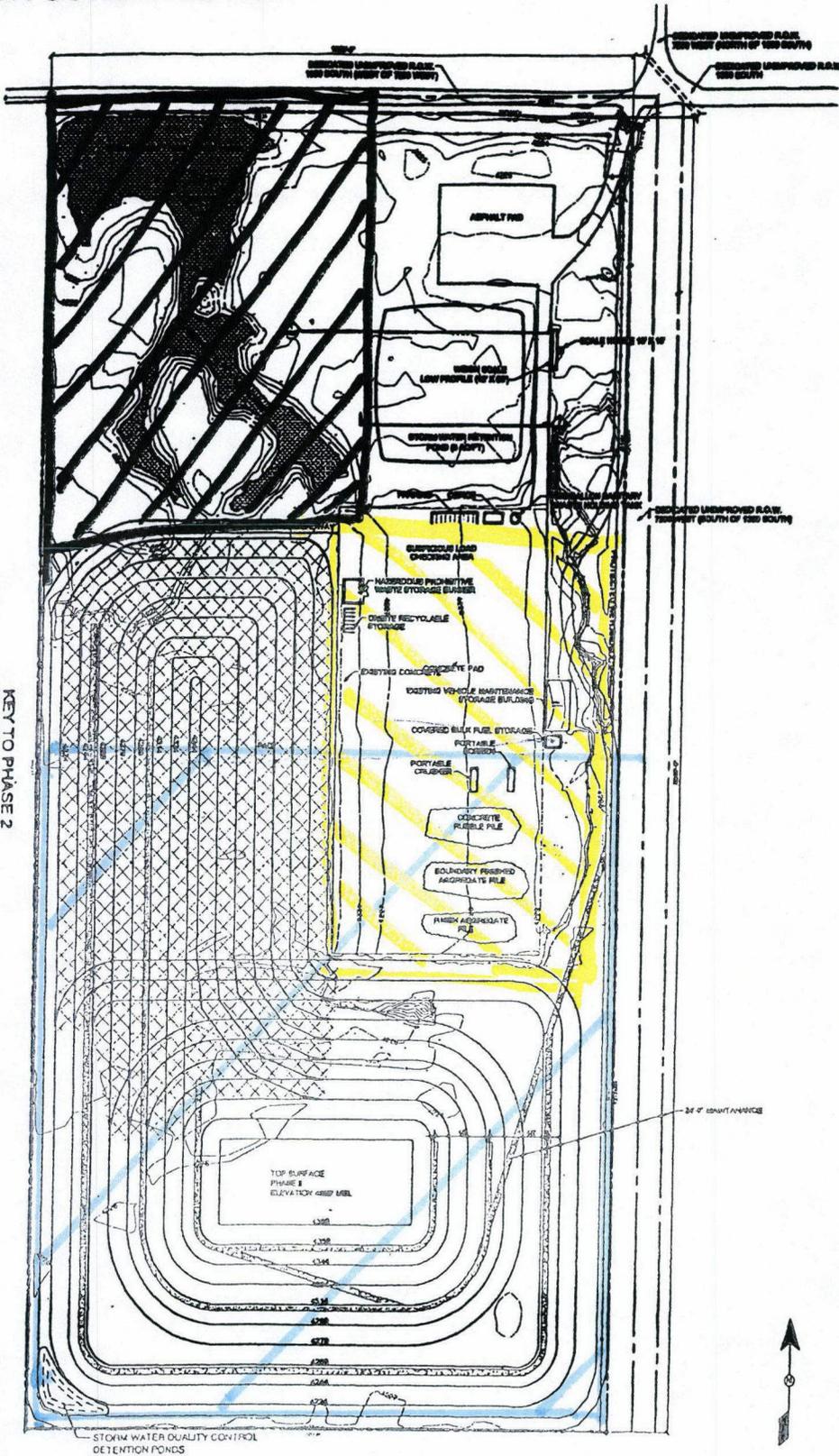
Exhibit A

NOT FOR CONSTRUCTION

Location & Original PLAN 1100 Phase 3
 Desired Revised Location Phase 3
 S1 Road Location Phase 3A

INTERIM GRADING PLAN PHASE 2
 SCALE: 1" = 100'
 SLOPE: 1/2% H

KEY TO PHASE 2
 PHASE 1
 PHASE 2



NOT FOR CONSTRUCTION

PROJECT NUMBER: EASP 1006 PROJECT DATE: 07/2008 SHEET NUMBER	SHEET DESCRIPTION INTERIM GRADING PLAN PHASE 2	DATE	DESCRIPTION	NUMBER	PROJECT: CONSTRUCTION DEMOLITION WASTE LANDFILL 7301 WEST 1300 SOUTH SALT LAKE CITY UTAH, 84104 CENTRAL VALLEY WATER	 BAY AREA SOIL PRODUCTS SAN LUIS OBISPO, CA
C1008						

Attachment #2
Operations Plan

DRAFT

IV. **PLAN OF OPERATIONS**

A. **On-site waste handling procedures**

The CVWRF construction and demolition Class VI landfill will be under the direction of Jeremy Bland, Landfill Manager for Construction Waste Management (CWM). He will have overall responsibility for the site including monitoring and reporting.

The minimum area needed to accommodate the unloading of the anticipated daily construction and demolition waste materials is approximately 100 feet by 150 feet. The active working face will be about 150 feet wide. The landfill will use the area fill method of operation. Incoming waste material will be compacted using a landfill compactor or bulldozer. The compaction equipment actually spreads out the waste material and compacts in 2-foot lifts to ensure maximum density, especially on side slopes. Due to the largely non-degradable nature of construction and demolition waste the active face will not be covered. However, as the fill increases in elevation, side slopes will be covered with a final cover layer of 2-feet to minimize the potential for infiltration into the landfill contents.

All traffic coming into the landfill for disposal purposes will be weighed and counted at the scale house. Signs at the entrance of the facility will direct traffic to the proper unloading areas for each material type. A spotter then will control traffic at the active face and will direct vehicles where to unload. In general, the spotter/load checker will observe all loads (contractors, general public, municipal delivers, etc.) randomly at the working face. However, in addition to the random inspection, the spotter/load checker will make an effort to inspect "suspicious" loads (i.e., loads from haulers with a history of containing hazardous and/or prohibited waste loads, loads from business that generate hazardous wastes, loads that look unusual in any way, etc.) A Waste Inspection Report as showing in Appendix G will be submitted to SLVHD, if suspicious or hazardous/prohibited loads are observed entering the landfill. The spotter/load checker will be a full time employee of Construction Waste Management and will inspect at least five loads at random each week.

B. **Schedule for inspection and monitoring**

Incoming construction and demolition waste materials will be inspected on random basis. The waste hauler vehicles will initially be given a cursory check as they enter the landfill and pass the weigh scale. In addition to the random checks, at least five vehicles each week will be subject to a detailed inspection. The next level of inspection occurs at the

landfill active face where in the spotter directs the hauler to the disposal location and performs a second visual inspection. At this time the spotter will be able to actually observe the contents of the hauler's load and determine whether or not any hazardous and/or prohibited wastes have been brought into the landfill. The spotter will also check ten random loads per week as they are deposited at the face to ensure that no wastes other than construction and demolition waste materials are disposed of at the landfill.

Monitoring consists of ensuring that the landfill is operated in conformance with this plan as efficiently as possible. Monitoring functions include, compaction reports, daily/monthly summary of waste materials volumes (yards and tons) disposed of in the landfill, groundwater and surface water monitoring, reporting to the directors of SDSHW and SLVHD, and documentation of employee training and reports of any accidents occurring at the site.

C. Contingency plans for fire and explosion

The landfill will employ common measures for fire control (explosion is not considered an issue as explosive wastes are prohibited from entering the landfill). Large earth moving equipment and an abundance of earthen material should be sufficient to contain any fire that could occur as most of the combustible wood materials will be pulled out of the waste stream and recycled. Water for fire protection will also be supplied by an extension of the 10-inch main from Magna water and an on-site 4,000-gallon water truck will be available at all times. The Salt Lake County Unified Fire Protection District has determined that these five prevention measures are adequate.

In addition, for fire protection the landfill equipment and vehicles will be provided with portable fire extinguishers. The office and maintenance facility will also be equipped with fire extinguishers for dealing with small fires. All site personnel will be trained in proper use of on-site fire fighting equipment. Small fires occurring on the landfill will be extinguished using soil materials or the on-site water truck.

D. Dust and fugitive emissions control plan

Dust will be controlled by: 1) grading and watering the haul and maintenance roadways, 2) applying a fine water spray on soil cover work areas when conditions might cause the formation of fugitive dust, 3) using low dust emission materials when construction roadways and pads, 4) Applying water or planting temporary vegetative cover where conditions

might cause recurrent problems with fugitive dust and erosion and 5) planting and maintaining vegetative cover on compacted fill slopes.

Other fugitive emissions are usually present in the form of: odors. MSW landfills are notorious for the unique smell of: organic material decomposition. However, in the case of: a construction and demolition waste landfill, organic materials should be minimal. Some wood and green waste from small construction sites may enter the landfill, but most of: these degradable materials will be diverted to the CVWRF composting facility for use as a bulking agent. In the event of: unlikely odors, an odor-masking agent will be kept on-site and used as appropriate to control fugitive odors.

E. Litter control plan

The construction and demolition waste landfill processes waste material quite different from that of: a municipal solid waste landfill. Materials typically are heavier and bulkier so they tend to remain in place after discharge from the hauler's vehicle. However, litter control is important to maintain a well-operated site and eliminated unsightly conditions. Therefore, the following litter control measures will be implemented at the CVWRF construction and demolition waste landfill:

- prevent the site from becoming unsightly, and litter catch screens and other means or necessary, if: required, to
- Routine litter collection programs both within the landfill perimeter (daily), as well as off-site (weekly), and
- Special operating practices may be required to control wind blown litter during high winds which can occur at the site, i.e., the working face may require soil cover to prevent litter from escaping from the landfill.

F. Procedures from excluding hazardous and restricted waste from entering the landfill

Construction and demolition waste materials may contain materials unsuitable for disposal in an unlined landfill. Regulations prohibit the disposal of: the following materials to a construction and demolition waste landfill:

- Hazardous wastes
- PCBs
- Bio-hazardous wastes
- Lead-acid batteries

- Used oil/filters
- Yard trash
- Whole tires
- Household wastes
- Food wastes
- Asbestos
- Mercury containing lamps and devices
- Cadmium containing batteries

It is important that the operator as well as employees at the site learn recognition of these types of waste materials and prevent them from being disposed of in the landfill. Incoming waste materials will undergo load checking (as described above) to insure that physical contaminants such as, hazardous and prohibited wastes are less than one percent of the construction and demolition waste material received at the landfill. Load checking will include both visual observations of incoming loads and load sorting to qualify the percentage of hazardous and prohibited waste materials. Proper recognition of these types of prohibited waste materials is discussed in the following sections of this plan.

1. Load checking activities:

- Waste hauler notification (including public customers)

Load checking activities fall into three categories:

- Site surveillance
- Load inspections

Hauler notification: A key component of the non-conforming load checking program will be notifying waste haulers that certain wastes are unacceptable for disposal at the landfill. This will be accomplished through fliers and casual discussions with the waste haulers. Waste haulers will also be notified that they retain responsibility for any prohibited wastes detected in their loads. Additional notification procedures include signs posted at the front gate and verbal communication (such as the scale house operator inquiring about the waste hauler's load).

Site surveillance: All employees have a duty to ensure that prohibited waste do not enter the landfill. As such they must pay attention to all loads entering the site and report any unusual wastes containers, covered loads and suspicious loads. If an employee notices any prohibited waste he/she will immediately notify the site manager and the load will be inspected again. The waste hauler must then demonstrate to the site manager's and/or site foreman's satisfaction that the waste is acceptable by

presenting material safety data sheets (MSDS), laboratory tests, or other proof of acceptability. If a more detailed review of the waste load is required, a more thorough inspection will be performed. As the hauler's vehicle leaves the facility, the spotter/equipment operator may survey the load again to ensure that prohibited wastes identified earlier were not unloaded.

Load inspections: Load inspections involve a more thorough examination of the waste stream than surveillance. Waste inspections will be conducted on a random day each week or as required by the appropriate regulating agency. All inspections will be documented on the Waste Inspection Report Form. Waste loads can also be randomly or intentionally selected for inspection. The load checker instructs the hauler to unload the vehicle contents onto a designated area. The load checker will then inspect and carefully examine the waste for the presence of prohibited wastes. Any material suspected of being prohibited or hazardous will be returned to the hauler for proper disposal. If the waste hauler is not on-site, or if the waste is from an unknown or recalcitrant generator, the waste will be stored in the landfill's hazardous materials storage containers until removal.

Procedures for handling alternative (special) wastes

- G. The CVWRF will not be accepting any alternative (special) wastes.
- H. Training and safety plans

The operator will insure that competent and well-trained personnel operate the construction and demolition waste facility. The operator will maintain records that document the training and examination of facility personnel. Following are guidelines for training of operations personnel at the landfill site:

- Site manager: The site manager referred to in the industry as the Manager of Landfill Operations (MOLO) will be responsible for all activities at the site including supervision of employees, record keeping, safety, training, as well as the day-to-day operation of the facility. The site manager may be required to demonstrate to the SDSHW and SLVHD that he/she has the competence and skill to operate the facility in full compliance with its permit and operating plan. The site manager should be required to take management and waste handling training courses to ensure that he site will be operated in accordance with all laws and regulations for a Class VI landfill site.

The Solid Waste Association of North America (SWANA) offers several training and certification courses. These courses are offered at several locations through the country and provide essential knowledge for the MOLO. The owner/operator should also consider having its MOLO certified by SWANA or any state offering MOLO training. In today's world, not enough emphasis can be placed on training.

- Other construction and demolition on-site employees (scale house operators, equipment operators, spotters, and laborers) should also receive training in landfill operations including health and safety issues, the importance of the plan of operation, equipment operation and maintenance and proper sanitation practices.
- All on-site personnel will be required to take safety training. This training should be designed to assist landfill personnel how to identify, and correct landfill health and safety issues. The training should include topics, such as, response to medical emergencies, safe equipment operation, public safety, first aid, contingency plans, and OSHA issues.

Copies of the landfill safety plans and emergency preparedness plan are included in Appendix F.

I. Plans for recycling

The volume of recyclable materials generated in the service area will vary considerably over time. Therefore, the quantity of recyclable materials shipped off-site will also vary. The types of recyclable materials expected to arrive at the landfill include: metal, such as, rebar, structural steel and white metal, concrete and asphalt aggregate materials, wood waste and dimensional lumber, asphalt shingles and sheet rock. Recycling plans for each type of material are as follows;

- Metals. Metals and other ferrous materials will be segregated from the construction and demolition waste stream and stored in 35 yd³ bins. When about 70 yd³ accumulates on-site, the material will be delivered to a metal recycler. The maximum volume stored on-site will be 70 yd³. Maximum storage time will be one year, and
- Concrete and asphalt. Concrete and asphalt will be diverted from the waste stream and stockpiled on-site in the recycling yard. Rock crushing and screening equipment will be used to make a uniform aggregate material. Concrete and asphalt materials will be used on-site for construction of all weather roadways, such as, tipping pads and access roads. If market conditions exist, these materials will be taken off-site and sold for alternative purposes, and

- Wood waste. Wood will be accepted and recycled as possible. Dimensional lumber may be salvaged if a commercial value for this type of waste material can be developed. Wood stored on-site will not be allowed to accumulate consistent with local fire codes. The Salt Lake County Unified Fire District regulates combustible waste piles and limits any on-site storage of these types of material to less than 10,000 yd³. Piles should not be greater than 20-feet high, or 40-feet wide and 125-feet long with a minimum distance between piles of 20-feet.
- Dimensional lumber. Dimensional lumber will only represent a small fraction of the recycled materials received at the landfill. This is largely due to demolition contractors recycling at their job site. A designated area will be maintained for any dimensional lumber received and it will be removed off-site as soon as possible, and
- Asphalt shingles and sheet rock. Currently there are no plans to recycle these two types of materials. They will be disposed of in the landfill as received.

V. CLOSURE REQUIREMENTS

A. Closure schedule:

A detailed closure schedule will be prepared as part of the final closure and post-closure maintenance and monitoring plan. The following provides a summary of the currently anticipated closure schedule.

- Signage posted at all points of access consistent with regulatory requirements at the time of closure. These signs will be placed at least 60-days prior to closure, state the date of closure, identify alternative waste disposal locations, and remain for at least 180 days after receiving the final load of construction and demolition waste materials, and,
- A public notice will be placed in a local newspaper with general circulation at least 6 days prior to closure, and
- Preparation and completion of construction and quality assurance (QC/QA) activities will likely occur at the time each phase of closure takes place. Assuming that each closure phase will cover approximately 15 to 20 acres, it is anticipated that it will require about three to four months to complete. Due to Utah's weather climate, closure activities will commence in May and continue over the summer of the same year until complete, and

Attachment #3
Inspection Form

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Waste Inspection Report

Inspector: _____ Date: _____ Time: _____

Vehicle License Number: _____ Vehicle Description: _____

Vehicle Weight Gross: _____ Tare: _____ Net: _____

Vehicle Owner: _____ Phone Number: _____

Owner Address: _____
Street City State Zip

Driver/s Name: _____ Driver/s Signature: _____

Waste Generator Name: _____

Waste Generator Address: _____
Street City State Zip

Inspector Load Description: _____

Waste Type

Household: _____ Commercial: _____ Industrial: _____ Medical: _____ Ash: _____ Sludge: _____ Wood: _____
Asbestos: _____ Contaminated Soil: _____ C/D Debris: _____ Tires: _____ PCBs (<50 ppm): _____
Household or Conditionally Exempt Hazardous Waste: _____ Other: _____
(Describe material, pre-authorization, and/or disposal method)

Suspicious Load (check potential for hazardous material content)

Sealed Containers: _____ Dry Chemicals: _____ Liquid: _____ Radioactive: _____ PCBs: _____
Flammable Material: _____ Oxidizers: _____ Other: _____

Field Tests Performed: _____ By: _____
Test Results: _____

Generator Non-Hazardous Certification Not Needed: _____ Requested: _____

Inspection Results

Load Accepted: _____ Load Rejected: _____

Follow-up (if needed): _____

Division of Solid and Hazardous Waste notified of hazardous waste load rejected: _____

Inspector's Signature: _____

Attachment #4
Closure & Post-Closure

DRAFT

- [Faint, illegible text]
- [Faint, illegible text]
- [Faint, illegible text]

V. CLOSURE REQUIREMENTS

A. Closure schedule:

A detailed closure schedule will be prepared as part of the final closure and post-closure maintenance and monitoring plan. The following provides a summary of the currently anticipated closure schedule.

- Signage posted at all points of access consistent with regulatory requirements at the time of closure. These signs will be placed at least 60-days prior to closure, state the date of closure, identify alternative waste disposal locations, and remain for at least 180 days after receiving the final load of construction and demolition waste materials, and,
- A public notice will be placed in a local newspaper with general circulation at least 6 days prior to closure, and
- Preparation and completion of construction and quality assurance (QC/QA) activities will likely occur at the time each phase of closure takes place. Assuming that each closure phase will cover approximately 15 to 20 acres, it is anticipated that it will require **about three to four months to complete. Due to Utah's weather climate, closure activities will commence in May and continue over the summer of the same year until complete, and**

- The QA/QC report for each phase of closure construction will be submitted within 30 days of the SDSHW for approval prior to actual construction..

Closure activities proposed for the construction and demolition waste materials landfill include:

- Complete the final filling of the particular phase of the project (five phases are contemplated), and
- Perform final grading on the landfill slope, and
- Install final cover materials (final cover materials include two types of soil materials; 1) the low-hydraulic conductivity (1×10^{-8} cm/s) compacted soil layer and 2) the erosion (vegetative) control final cover material, and
- Installation of erosion and run-off controls and convey run-off to the surface water discharge sites, i.e., Lee Creek and Kersey Creek, and
- Removal of any remaining structures and facilities that will not be required for closure and post-closure activities, and
- Installation of final site security measures, such as, signs posted at all points of access, locked perimeter gates, and fencing around the entire site.

B. Final cover design

A final cover system will be completed as part of the landfill's closure activities. However, as the operator plans to construct the landfill in five separate phases, the outer perimeter slopes of the landfill will be covered as they are completed.

C. Final site capacity

Final site capacity of the landfill is indicated by the sum of the separate phases of construction as detailed in Table 8.

D. Final inspections

Key aspects of the closure inspection program include the following;

- **Final cover integrity inspection.** Qualified personnel will inspect the final cover for signs of settlement and/or subsidence, erosion, cracking or other items that could adversely affect the integrity and effectiveness of the final cover. Items requiring corrective action will be repaired, and
- **Vegetative cover inspection:** Qualified personnel will inspect the vegetative cover for signs of erosion, degradation, and areas that lack vegetative growth. Items that require corrective action will be addressed and resolved, and
- **Run-off control system inspection:** Qualified personnel will inspect the drainage system to insure that all hydraulic conduits and drop inlets are in place and functioning. Inspections will be performed prior to the commencement of the wet weather season. Any malfunctions, such as separated pipes due to differential settlement, sediment buildup in pipes and/or drop inlets and low points causing water ponding will be corrected weather permitting.

VI. POST-CLOSURE CARE PLAN

A. Changes in title, land use, or zoning restrictions

CVWRF will file a detailed description of the closed site to the County Recorder's Office. Upon closure of the construction and demolition waste materials site, the site description will include:

- A map and description of the closed site, and
- Date closure was completed, and
- Locations where the Closure and Post-closure maintenance plans can be obtained, and
- Boundaries of each phase of construction and height and depth of construction and demolition waste materials, and
- A statement the site is restricted to open space uses only in accordance with the post-closure maintenance plan.

B. Maintenance of final cover, vegetative cover and erosion control, and run-off control systems

Post-closure inspection and maintenance activities will include the final cover, the final site storm water run-off system, environmental controls, and security systems. Written notification of any unusual incidents observed during

inspections will be reported to the owner, SDSHW, and the SLVDH. Unusual incidents that require reporting include: vandalism, erosion of the vegetative cover layer, flooding, overflow of the storm water retention ponds; surface drainage problems; and any other incidents threatening the release of waste material to the environment or deleterious to the public health.

A semi-annual inspection report will be submitted to all permitting agencies (a sample annual report form is included in Appendix G).

- **Final Cover Maintenance**

Consistent with the final cover design, final grades will reach elevation 4,434-feet above msl and maintain a maximum side slope inclination of 2H:1V (horizontal to vertical). To facilitate drainage and erosion control, 25-foot wide benches are incorporated into the side slopes at a maximum of every 45-foot in elevation gain. The top surface will be initially graded for a 5 percent fall from centerline of the top final cover layer to the edge of slopes to accommodate post-closure settlements and maintain positive drainage (the final slope of the top layer will be about 2 percent), and

- Vegetative cover and erosion control. The integrity of the final cover side slope will be maintained by the placement of a vegetative cover layer to provide erosion control. The final slopes will be re-vegetated with an application of drought tolerant seed mixes that can survive under normal precipitation conditions without irrigation and fertilizers as specified on the landscape plans after the final grading is complete, and
- Run-off velocities will be reduced on side slopes by installing wattles at 15-foot intervals in elevation gain. Drainage will be conveyed along the top deck and side slopes benches to down drains along the sides of the landfill. The down drains will be fitted with diffuser tees to mitigate high energy velocities in the pipe before the conveyed surface water enters drop inlets located at the low points in the benches. Maintenance roadways with upslope "V" ditches will be installed to assist in conveying run-off down the slope to the primary collection and discharge conduits located around the perimeter of the landfill. These primary hydraulic conduits will be completed during the individual phases of the landfill construction to convey surface water run-off to the storm water retention ponds or at closure both Lee Creek and Kersey Creek. All surface water run-off pipes will be inspected prior to and following the wet weather season for water tightness, settlement and sediment deposits and corrective action taken, as required, ensuring the integrity of the run-off collection and discharge system.

C. Contact information during the post-closure care period:

As during the construction phases of the landfill the primary contact will be the owner, CWM LLC, Attention Mr. Rob Reynolds, General Manager, 6891 So. 700 W. #100, Midvale, UT 84047, 801-449-9779.

VII. FINANCIAL ASSURANCES

Bond and financial assurance cost estimates are based on a third party performing closure and post-closure care at any time during the active life of the facility and adjusted for inflation until final closure.

Closure disposal costs will be prepared to include the maximum amount of waste material that will be stored on-site at any time during the life of the facility. This is interrupted to be the maximum volume of waste on-site during any of the five phases of the project.

A. Closure cost estimate

The current closure cost estimate is \$393,607 as revised in Table 9. **Work** envisioned in the closure cost estimate includes final grading of ditches and swales, final cover placement, hydro seeding, QA/QC testing, deed recording, final cleanup and removal of any on-site structures, and final fencing and security improvements.

B. Post-closure-care period cost estimate

The current revised estimate for post-closure maintenance activities is \$623,466 plus inflation at \$181,027 also shown in Table 11 for a total post-closure care period cost estimate of \$1,087,600. Post-closure care activities include drainage system maintenance, vegetative cover reseeding, groundwater and surface water monitoring, and annual reporting.

C. Financial assurances

Closure and post-closure maintenance funding for the CVWRF landfill complies with SLVHD Regulation #1 (subpart 4.1.1 (iv) c.). An irrevocable letter of credit will be provided to SLVHD to cover the completion of all work specified in the approved plans for closure and post-closure activities for the largest closure phase of the project. The final bond estimate is based on the total closure and post-closure maintenance cost to enable a third party to complete the work. The following key assumptions were made in compiling these estimates.

- The source of final cover material including the 6-inch topsoil layer is available from on-site sources, and if short will be imported as needed.
- All closure activities will be observed and documented by a registered civil engineer or a certified engineering geologist.
- The maximum area that could be closed at any one time is about 20 acres, Phase 5 closure.