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## 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 ( $1 \times 10^{-8}$  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.