Section 4. Implementation

This section discusses the potential environmental impacts and mitigation measures needed during construction; summarizes the preliminary cost estimate, which includes costs of all elements and operation and maintenance of the RD; and summarizes the CQA Plan prepared for the RA; the complete CQA Plan is provided in Appendix G.

4.1. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This section describes environmental protection measures and BMPs to be implemented during construction of the multilayer cap system and French drain expansion at OU-1. The contractor will prepare an Environmental Protection Plan that discusses the BMPs to be implemented during construction. The contractor will be responsible for responding to any violations noted during inspections by the LRWQCB Inspection Monitor and will also pay any fines if any violations are identified.

4.1.1. Stormwater Erosion and Sediment Control Plan

Prior to the start of construction activities, the contractor will prepare and submit a SWPPP for review by the Forest Service.

The SWPPP will include:

- An outline of the areas of vegetative soil cover or native vegetation on site that will remain undisturbed during the construction project.
- An outline of all areas of soil disturbance, including cut or fill areas, that will be stabilized during the rainy season by temporary or permanent erosion control measures, such as seeding, mulch, or blankets, etc.
- An outline of the areas of soil disturbance, cut, or fill that will be left exposed during any part of the rainy season, representing areas of potential soil erosion where sediment control BMPs are required to be used during construction.
- A proposed schedule for the implementation of erosion control measures.

The SWPPP will include a description of the BMPs and control practices to be used for both temporary and permanent erosion control measures. BMPs will include, but not be limited to, silt fence, straw wattle, and temporary sediment retention ponds, as needed. The SWPP will also include a list of native species appropriate for revegetation (see Appendix F) and will reference the decontamination plan to ensure that noxious weeds or non-native invasive species (NNIS) are not introduced or spread during construction activities.

4.1.2. Air Pollution Prevention Plan

The contractor will conduct air monitoring to ensure that site workers and the public are not being exposed to unacceptable concentrations of chemicals released from the landfill waste. Monitoring data will be used to evaluate proper levels of protection for workers in the excavation area.

The contractor will prepare an Air Pollution Prevention Plan that documents the different measures that will be implemented to mitigate potential air pollution from construction, excavation, transportation, and grading activities. This is intended to alleviate potential adverse impacts to nearby residents and the environment. The contractor will be responsible for complying with local, state, and federal regulations and permitting.

Dust suppression measures will be used during all earthmoving activities, including road grading; loading, transporting, and dumping. In addition, dust suppression will be used for all unimproved roads that are slated for use by heavy equipment and will be maintained during use. Dust suppression measures will involve use of a water mist or spray from water trucks and hoses attached to water trucks. Excessive water application will be avoided so as not to cause subsequent leaking from truck beds.

Dust suppression measures will be performed in a manner to minimize runoff of water from the site.

4.1.3. Traffic Control Plan

The contractor will prepare a Traffic Control Plan (TCP) to document the control procedures that will be employed to manage potential impacts to surface traffic patterns as truck traffic travels along Pioneer Trail (Figure 1). The TCP will describe the procedures for controlling traffic along Pioneer Trail, during hauling activities, and for posting appropriate signage along Pioneer Trail and Garbage Dump Road during mobilization and demobilization. Garbage Dump Road currently receives significant pedestrian and bicycle traffic. The TCP will describe procedures for closing Garbage Dump Road to all foot and bicycle traffic during construction activities.

Traffic control devices placed and maintained on all streets and highways in California are required by Section 21400 of the California Vehicle Code to conform to the *California Manual of Temporary Traffic Controls for Construction and Maintenance Work* (California Department of Transportation, 2006). The TCP will ensure that adequate consideration will be given for the safety and convenience of residents, motorists, pedestrians, bicyclists, and workers during construction.

4.1.4. Decontamination Plan

The contractor will prepare a Decontamination Plan prior to the start of construction work. During active site operations, trucks leaving the site will be inspected for soil adhered onto their tires to prevent tracking of sediment onto public roads. If sediment is present, prior to leaving the site, the tires will be cleaned at a vehicle decontamination pad.

One area of the site (Figure 2) contains an infestation of noxious weeds (Forest Service, 2008b). The decontamination plan will ensure that all site personnel are trained, prior to the start of work, to watch for,

identify, and treat NNIS and noxious weeds. To the degree practicable, any NNIS identified on site during construction work will be removed or treated during the clearing and grubbing phase of work.

Prior to the start of project work, the Forest Service will compile a list of known and potential noxious weed and NNIS, locations, and sources within the site vicinity. This information will be made available to all contractors and site workers. If warranted, the Forest Service may choose to inventory infestations of noxious weeds or NNIS both on site and in the adjacent area before initiating any ground-disturbing activities. A preliminary list of noxious weeds and NNIS is presented in Appendix H.

In addition to BMPs to prevent tracking sediment or soil to or from the site, BMPs will be incorporated into the Decontamination Plan to minimize the potential transport of NNIS or noxious weeds.

To avoid tracking NNIS or noxious weeds onto the site during construction work, equipment is required to be cleaned prior to mobilization. Since a known infestation of noxious weeds is present on site, equipment must also be cleaned prior to leaving the infestation area and prior to demobilization from the site. Heavy equipment and light-duty vehicles entering the site will be inspected for sediment prior to entering the site. Observed sediment will be swept or washed from the equipment before it enters the site. Post-construction activities, including operation and maintenance inspections, should also include monitoring construction work areas for newly established noxious weeds or NNIS.

4.1.5. Noise Control Plan

The nearest residences are located approximately 1,500 feet north on Hekpa Drive and 1,100 feet west of the site on Busch Way. As a courtesy to nearby residences, noise levels will be minimized when operating heavy equipment during daytime hours of non-holiday weekdays, between 7:00 am and 6:00 pm. All sound control devices on construction equipment will be maintained to a level of effectiveness of the original equipment.

4.1.6. Spill Control Plan

Spill prevention entails the use of administrative controls, careful work practices, and engineering controls to prevent hazardous substance from releasing to the environment. The contractor will prepare a spill response and control plan that provides procedures to contain the spread of contaminants and clean up contaminated environmental media if hazardous substance releases occur at the site.

4.1.7. Waste Management Plan

The contractor will prepare a Waste Management Plan that provides information on the identification of wastes, evaluation of disposal alternatives, preparation of waste profiles and manifests, transportation of wastes, and preparation of documentation. Generation of the following waste is anticipated during the OU-1 remedy:

- **Green Waste**. Green waste will be generated during clearing and grubbing. Green waste will be either placed in areas designated for the temporary stockpiling of green waste or immediately loaded into trucks for off-site transport and disposal. Stockpiles, if used, will be inspected at the end of each day to ensure that all green waste is properly controlled. At the end of the clearing and grubbing, mechanical chippers will chip the green waste. The chipped materials will be hauled off site to a licensed green waste acceptance facility for recycling, composting, or reuse as landscaping materials. A log will be maintained documenting the amount of green waste removed from the site for off-site disposal. No formal manifests or disposal records will be generated.
- **Waste Soil or Gravel**. The construction is not expected to generate a large amount of waste soil or gravel, because most of the soil or gravel will be reused for site grading. Any waste soil or gravel generated will be stockpiled temporarily in designated areas until incorporated into the site where needed. Soil stockpiles will be bermed by straw bales and covered with plastic sheets whenever soil is not being added or removed.
- **Construction Debris**. Construction debris, which includes demolished and scrap piping, will be stockpiled as the piping is removed. Upon completion of these activities, the material will be transported to a Class III landfill for disposal with nonhazardous waste bills of lading.
- **Municipal Waste**. Municipal wastes (refuse such as paper, plastic sheeting, etc.) will be placed in a municipal waste bin located on site for the duration of the project. All municipal waste will be controlled and placed into this bin as it is generated. The site will be inspected at the end of each day to ensure that all trash is properly controlled and the job site is maintained in a tidy condition. The contractor will arrange for a municipal waste bin with the local municipal waste company who will periodically dispose of the contents of the bin. No manifesting or documentation is required for this waste.
- **Personal Protective Equipment (PPE)**. Disposable PPE consists of items such as disposable gloves, Tyvek clothing, and boot covers. PPE will be disposed of as municipal waste unless it has been generated during a hazardous substance release response and has been contaminated by the released material.
- **Excavated Waste Requiring Off-Site Disposal**. It is anticipated that all waste excavated during waste relocation activities will be consolidated on site (see Subsection 3.4). During excavation and prior to placement, waste will be inspected to ensure that it does not contain oversized materials (such as appliances, automobiles, large rocks, concrete, etc) or materials that cannot be disposed of on site (such as batteries, hazardous chemicals, tires, etc). Any unsuitable materials will be segregated, characterized, profiled, transported, and disposed of at an appropriately permitted recycling or disposal facility.
- **Hazardous Waste**. It is not anticipated that any hazardous waste will be generated during this project. However, in the event that hazardous waste is generated, the contractor will place the wastes in appropriate containers, label them, and accumulate them temporarily pending waste profiling for proper off-site disposal. Once profiled and approved for disposal at an appropriately permitted off-site facility, the contractor will arrange for transportation and disposal. The contractor will complete or assist the Forest Service with the completion of any required hazardous waste disposal documents (i.e., waste profiles and manifests), which typically require the owner's ("generator's") signature to comply with state and federal hazardous waste regulations.

The contractor will maintain a tracking log and disposal records as stated above for the various types of waste.

4.1.8. Contaminant Prevention Plan

The contractor will prepare a Contaminant Prevention Plan detailing the following, if applicable:

- Fuel and oil storage tanks to be used at the site during construction
- Fueling of vehicles and equipment
- Equipment repair procedures
- Chemical storage and use (pipe lube and cement); small volumes of hazardous materials such as fuel, oil, paint, pipe cleaner and glue will be stored securely when not being used

Material safety data sheets (MSDS) for all hazardous materials expected to be used on site will be located on site throughout the project. MSDS for actual materials brought on-site must be obtained from the suppliers or manufacturers and maintained in site office trailer for review and reference by all site personnel.

4.1.9. Resource Protection Plan

The contractor will prepare a plan summarizing the historical, archeological, cultural, biological, and wetland resources of the site. According to the ROD (Forest Service, 2007):

- OU-1 does not contain any historic properties included or eligible for inclusion on the National Register of Historical Places.
- No scientific, prehistoric, or archeological artifacts have been identified at OU-1.
- No threatened or endangered species have been identified at OU-1, and the site is not identified as critical habitat essential to the conversation of threatened or endangered species.
- OU-1 is not designated as part of the National Wildlife Refuge System, is not within a federally owned wilderness area, is not near wild, scenic, or recreational rivers, and is not on or near jurisdictional wetlands.

If archeological remains are uncovered during construction, the contractor will stop all work in the immediate vicinity of the find and the Forest Service will be notified. The Forest Service will arrange for a qualified archaeologist to evaluate the find. If the find is determined to be an important cultural resource, the contractor will develop and implement recovery or avoidance plans. In the event human remains are encountered, the contractor will stop all excavation or disturbance of the site, or any nearby area suspected to overlie adjacent human remains. Work will not resume until it has been cleared with the County coroner, or if the remains are of Native American origin, the descendents of the deceased. Any such finds will be promptly reported to the Forest Service.

4.1.10. Contingency Plan

The contractor will prepare a plan summarizing all contingency actions to be implemented during construction should they be required. Contingency planning will include, but not be limited to,

procedures and protocols for unanticipated inclement weather, excavation dewatering, and emergency and contingency actions to be implemented should the STPUD sewer line be damaged or severed.

As discussed in Subsection 3.4, all excavation work in the vicinity of the sewer line will be completed in compliance with STPUD requirements (STPUD, 2008). STPUD will be consulted in the development of the contingency plan and will, at a minimum, be provided with a copy of the contingency plan for review prior to the start of work. The contingency plan will establish the proper chain of command and notification process in the event that accidental damage to the sewer line occurs. The plan will also establish chain of command, notifications, and emergency actions to be taken should the sewer line be inadvertently cut.

During construction work in the vicinity of the line, all practical precautions will be taken to protect the sewer line from accidental damage. If minor damage occurs during excavation (e.g., a minor hole or crack), the damaged section of pipe will be repaired with a full-circle, stainless steel rubber-lined band or other appropriate material (as specified by STPUD). If the pipe is broken, it will be replaced with a section of appropriate sewer pipe as specified by STPUD. If the pipe is damaged within 2 feet of a joint or coupling, the coupling will be cut out and replaced with a section of pipe, as described above. Following any repairs, the pipe will not be backfilled until the repair has been inspected and approved by STPUD. Inflatable pipe plugs and appropriately sized bypass pumps (e.g., 6-inch trash pump with 25-foot lift capabilities) and at least 1,000 feet of appropriately sized temporary piping (e.g., 6-inch layflat piping) will be on hand during excavation activities in case pipe damage requires bypassing a portion of the line.

4.2. CONSTRUCTION QUALITY ASSURANCE PLAN

The RA contractor will prepare a CQA Plan describing protocols for daily activity summaries and project progress tracking, as well as quality control monitoring of all construction activities to ensure they meet the requirements of the contract. The project QA requirements are described in the project specifications (Appendix F). QA requirements are associated with confirming that products and materials used in constructing the multilayer cap meet project specifications, and that the installation of those products and materials conforms to manufacturer instructions and project specifications. The complete CQA Plan is provided in Appendix G.

Documentation associated with the QA process will be provided to the Forest Service following completion of all site work, as part of the construction completion report. The Forest Service's site representative will be notified of any issues identified during the QA process within 24 hours. Notification will include identification of the issue, presentation of resolution alternatives, and a discussion of the resolution proposed or implemented.

4.3. ENGINEER'S PRELIMINARY COST ESTIMATE

The preliminary cost estimate includes an evaluation of the costs of all elements of the RD, as well as a preliminary estimate of the OM&M costs of the OU-1 remedy. The estimate is considered accurate to within plus 15 percent and minus 10 percent. The cost estimate details and assumptions are provided in Appendix I. All applicable project management, construction management and technical service costs are included in each category. A summary of the preliminary costs for the OU-1 remedy is provided in the table below.

Cost Type	Year	Total Cost	Present Value
Capital Cost	0	$5,500,298	$5,500,298
Annual Operation and Maintenance Cost	1-2	$212,300	$203,705
Annual Operation and Maintenance Cost	3-5	$248,850	$222,882
Annual Operation and Maintenance Cost	6-30	$673,750	$418,023
Periodic Cost	5	$47,150	$41,069
Periodic Cost	10	$57,200	$43,398
Periodic Cost	15	$45,200	$29,870
Periodic Cost	20	$99,450	$57,246
Periodic Cost	25	$3,550	$22,663
Periodic Cost	30	$55,250	$24,129
TOTAL PRESENT VALUE OF SELECTED REMEDY			**$6,563,282**