CENTINELA SOLAR ENERGY, LLC
DECOMMISSIONING AND RESTORATION PLAN

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Acronyms and Abbreviations

BLM – Bureau of Land Management, United States Department of Interior
BUOW – Burrowing Owl (*Athene cunicularia*)
CDFG – California Department of Fish and Game
Cal-IPC – California Invasive Plant Council
CAISO – California Independent System Operator
CSE – Centinela Solar Energy, LLC
FT HL – Flat-Tailed Horned Lizard (*Phrynosoma mcallii*)
Gen-tie Line – 230kV above-ground electric line
IID – Imperial Irrigation District
kV – Kilovolt
POD – Plan of Development
ROW – Right of Way
SDG&E – San Diego Gas & Electric
1.1 Project Description

Centinela Solar Energy, LLC (CSE) has been authorized by the U.S. Department of the Interior Bureau of Land Management (BLM) to build, operate and maintain a double-circuit, 230 kilovolt (kV) aboveground electric line and associated facilities (referred to as the “Gen-tie Line”) that will electrically connect CSE's photovoltaic (PV) electricity generating facilities located on private land in Imperial County (the “CSE Facility”) with the nearby Imperial Valley Substation (“IV Substation”) located on federal land managed by the BLM. The portion of the Gen-tie Line to be located on federal land is referred to herein as the “Project.”

The Gen-tie Line transsects three distinct property segments, originating at the CSE Facility substation, located immediately south of Highway 98 and approximately 0.5 mile east of Pulliam Road, and extending approximately 1.5 miles generally west through the CSE Facility site. From the western boundary of the CSE Facility site, the Gen-tie Line will extend across the Westside Main Canal and continue approximately 1.25 miles through private agricultural lands south of Highway 98. The 125-foot wide BLM right-of-way (ROW) for the Gen-tie Line encompasses the segment from Mount Signal Road south of Highway 98 and traverses approximately 1.25 miles of native desert to a location just north of State Route 98, where the Gen-tie line will undercross the existing 230-kV lines and interconnect with a radial line owned by San Diego Gas and Electric (SDG&E) to provide an electrical connection to the Imperial Valley Substation. The approved Gen-tie Line includes a switchyard that will be constructed on the CSE Facility site (on private land) east of the Westside Main Canal.

The Project will require vehicular access for construction, operation, and maintenance. CSE will use existing access roads where practicable and will construct new bladed roads as necessary as reflected in the Plan of Development (POD) for the Project. The physical specifications of the proposed Project are summarized in the list below:

- Electric Line Length: Up to approximately 1.25 miles on federal lands managed by BLM
- Electric Line Tower Structure Types: single-pole tubular steel, 3-pole tubular steel, steel-pole H-frame
- Structure Heights (typical): 100 to 130 feet typical
- Average Distance between Tower Structures (typical): 1,000 to 1,200 feet
- Total Number of Permanent Structures on federal land: Up to 15

1.2 Purpose of the Plan

The purpose of this Decommissioning and Restoration Plan (“Plan”) is to provide an outline of the timing, sequence, and types of activities that would occur when the BLM ROW granted to CSE is no longer required and the permitted facilities are removed from BLM-managed lands, and an
anticipated baseline of biological conditions at that time with prescriptions for habitat restoration. This Plan is an Appendix to the Plan of Development (POD) submitted by CSE, which outlines the engineering design, construction procedures, and general environmental mitigation measures for the Project on BLM-managed lands. Construction of the Project is anticipated to be completed on BLM-managed lands in 2012/2013, and the Gen-Tie line is expected to provide utility beyond the anticipated productive life of the CSE Facility (i.e., CSE’s PV solar power generation facility on adjacent private lands) (e.g., approximately 30 years). When the CSE Facility reaches the end of its operational life, the Gen-tie Line components will be evaluated for decommissioning and deconstruction. Components of the Gen-tie Line that have become an integral part of the utility power grid will continue to be maintained and operated. Components that are not part of the utility power grid will be decommissioned and deconstructed as outlined in this Decommissioning and Restoration Plan (which is expected to be updated prior to decommissioning activities for consistency with then-current BLM regulations and policy).

This Plan outlines the anticipated facilities removal activities and appropriate site-specific methods to ensure that the impacts to the vegetation (and associated wildlife habitats) within the Project’s permanent impact areas are restored as near as practicable to their original condition, and that any temporary impacts to vegetation and wildlife habitats that may occur during the removal of the permitted facilities from BLM-managed lands within the ROW are minimized and/or avoided to the maximum extent practicable. The permanent Project impact areas discussed in this Plan include the concrete footing(s) for each of the tower structures located within the ROW, as well as the permanent access roads (spur and ROW centerline roads) that provide long-term operations and maintenance (O&M) access for each of the Project tower structures. If changes to the Gen-tie Line route are implemented prior decommissioning and restoration, this Plan would be updated to reflect the final configuration of the Project prior to decommissioning.

1.3 Roles and Responsibilities

A number of entities will be involved with carrying out the Plan described herein. Table 1 below summarizes the roles and responsibilities of CSE and the various environmental specialists and agency representatives.

<table>
<thead>
<tr>
<th>Role/Title</th>
<th>Employed by if Individual</th>
<th>Responsibility/Description</th>
<th>Reports to under this Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE</td>
<td>--</td>
<td>ROW holder responsible for complying with this Plan, BLM ROW terms and conditions, and other applicable regulations.</td>
<td>BLM</td>
</tr>
<tr>
<td>Decommissioning Contractor</td>
<td>--</td>
<td>Will implement the decommissioning activities detailed in Section 2 of this Plan.</td>
<td>CSE</td>
</tr>
<tr>
<td>Restoration Contractor</td>
<td>--</td>
<td>Will implement the restoration activities detailed in Section 3 of this Plan.</td>
<td>CSE</td>
</tr>
<tr>
<td>Role/Title</td>
<td>Employed by if Individual</td>
<td>Responsibility/Description</td>
<td>Reports to under this Plan</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>BLM Authorized Officer</td>
<td>BLM</td>
<td>Responsible for administering applicable BLM regulations and guidance with respect to the BLM ROW and the provisions of this Plan and other Project protocols. Will review Designated Biologist qualifications.</td>
<td>BLM Management</td>
</tr>
<tr>
<td>BLM Field Office Archaeologist</td>
<td>BLM</td>
<td>Responsible for administering applicable regulations, guidance, and protocols related to protection of cultural resources; will coordinate with CSE and the Cultural Monitor(s) regarding any unanticipated discoveries.</td>
<td>BLM Management</td>
</tr>
<tr>
<td>CDFG</td>
<td>--</td>
<td>CDFG will evaluate Project performance with respect to protocols for protection of BUOW and streambed habitat and will authorize resource specialists in accordance with CDFG policy.</td>
<td>CDFG Management</td>
</tr>
<tr>
<td>Designated Biologist</td>
<td>CSE’s Environmental Monitoring Firm</td>
<td>The Designated Biologist must be approved by the BLM’s Authorized Officer and must hold the requisite training and authorizations from the BLM and CDFG to monitor/survey for and re-locate as necessary flat-tailed horned lizard (FTHL), burrowing owl, migratory birds and raptors. The Designated Biologist will have the authority to ensure compliance with the conservation measures for biological resources and will be the primary agency contact for the implementation of these measures. The Designated Biologist will organize and oversee the work of the biological monitors and have the authority and responsibility to halt activities that are in violation of the conservation measures.</td>
<td>CSE</td>
</tr>
<tr>
<td>Biological Monitor(s)</td>
<td>CSE’s Environmental Monitoring Firm</td>
<td>The Biological Monitor(s) will work under the supervision of the Designated Biologist and will assist with implementing the mitigation and monitoring measures related to biological resources (e.g., preconstruction raptor surveys, FTHL clearance surveys, etc.). Biological Monitors assisting with FTHL mitigation measures must have experience conducting FTHL field monitoring, have sufficient education and field experience to understand FTHL biology, be able to identify FTHL scat, and be able to identify and follow FTHL tracks. The Designated Biologist will submit the resume, at least three references, and contact information of the proposed biological monitors to the BLM for approval.</td>
<td>Designated Biologist</td>
</tr>
<tr>
<td>Role/Title</td>
<td>Employed by if Individual</td>
<td>Responsibility/Description</td>
<td>Reports to under this Plan</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Cultural Monitor(s)</td>
<td>CSE’s Environmental Monitoring Firm</td>
<td>Cultural Monitor(s) will be responsible for implementing the mitigation and monitoring measures related to cultural resources (e.g., installation of fencing/barricading cultural sites adjacent to work areas, monitoring for avoidance of resources during construction, dealing with unanticipated discoveries, etc.). Cultural Monitor(s) must possess the requisite Cultural Use Permit from the BLM State office.</td>
<td>CSE</td>
</tr>
</tbody>
</table>

### 1.4 Biological and Cultural Resources Monitoring

CSE will provide biological monitoring during Project decommissioning and restoration activities. Similarly, cultural resources monitoring will occur during earthmoving activities within the ROW during decommissioning and restoration. CSE shall comply with the applicable provisions of the mitigation and monitoring terms and conditions from Exhibit B of ROW Grant CACA-52092 for the Gen-tie Line related to biological and cultural resources monitoring.
Chapter 2
Project Decommissioning and Restoration Areas and Activities

2.1 Project Decommissioning Areas

The Project decommissioning areas will consist of all areas that are described as “permanent” impacts in the final POD for the Project. Permanent impact areas include structure bases and access roads that will provide long-term operations and maintenance (O&M) access for each of the Project structures.

Each of the tower structures included in the Project ROW on BLM-managed lands will be placed on concrete piers that are expected to be poured in-place during Project construction. These tower structures, as they are ultimately configured within the Project ROW, may include single pole or three-pole tubular steel tower structures with one to three piers (one for each pole base) or H-Frame undercrossing tower structures with two piers (one for each pole base). For the purposes of the Project permanent impact calculations, the piers with the largest footprint (or impact area) have been assumed to be used at each of the tower structure locations.

This assumption includes placement of one (1) pier four to six-feet in diameter at each tangent structure location, and three (3) piers each seven-feet in diameter at all angle and dead-end structure locations. Project access roads will have a finished width of 20 feet, including a 16-feet wide travel area and two (2) two-foot wide berms on each side of the access road. These Project structure and access road locations, which together are the decommissioning and restoration locations for the Project, are summarized in Table 2 below.

<table>
<thead>
<tr>
<th>Project Feature</th>
<th>Description</th>
<th>Anticipated Site Condition at Termination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tower Structure Bases</td>
<td>For each structure location: up to three (3) concrete piers, up to seven (7)-feet each in diameter</td>
<td>All vegetation removed and concrete piers in place approximately two feet above existing grade.</td>
</tr>
<tr>
<td>ROW Access Roads</td>
<td>Unpaved roads extending a total of approximately 5,300 feet inside and partially outside the Project ROW</td>
<td>All vegetation removed through grading. Finished 20-feet wide, including 16-feet wide road with 2-feet wide berms on each side of access road.</td>
</tr>
</tbody>
</table>

2.2 Decommissioning and Restoration Area Vegetation

The Project decommissioning and restoration areas (i.e., areas affected by decommissioning and requiring restoration in accordance with Section 3 of this Plan) occur within five distinct native desert scrub vegetation communities as described by Sawyer, Keeler-Wolf, Evens (2009) and reported by Heritage (2010) for the Project ROW on BLM-managed lands. The total Project impacts to native vegetation communities within the decommissioning/restoration areas are summarized in Table 3 below.
Table 3. Permanent Impacts to Vegetation Communities by Engineering Feature

<table>
<thead>
<tr>
<th>Permanent Impact Type</th>
<th>Vegetation Code</th>
<th>Vegetation Community</th>
<th>Impact in Acres¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure Bases</td>
<td>CBS</td>
<td>Creosote Bush – White Bursage Scrub</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>WBS-D</td>
<td>White Bursage Scrub – Disturbed</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Structure Base Subtotal</td>
<td>0.03</td>
</tr>
<tr>
<td>Access Roads</td>
<td>CBS</td>
<td>Creosote Bush – White Bursage Scrub</td>
<td>2.17</td>
</tr>
<tr>
<td></td>
<td>WBS-D</td>
<td>White Bursage Scrub – Disturbed</td>
<td>0.26</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Access Road Subtotal</td>
<td>2.43</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Permanent Disturbance Area</td>
<td>2.46</td>
</tr>
</tbody>
</table>

¹ – Additional temporary impacts may occur to vegetation located adjacent to the tower structure removal areas. Any temporary vegetation impacts resulting from Project decommissioning will be restored in accordance with the procedures outlined in this Plan.

The Project will result in direct impacts to native vegetation communities, which will be restored after project decommissioning as outlined in this Plan. Note that additional temporary impacts to native vegetation communities may occur during Project decommissioning (e.g., during tower structure removal). However, these impacts (if they occur) cannot be quantified because the specific equipment required and/or methods and work areas used for decommissioning may differ from the equipment, methods, and areas planned for Project construction. Any temporary impacts to native vegetation communities resulting from Project decommissioning will be restored as outlined in this Plan.

The majority of tower structures and access roads occur within the most common desert vegetation community in the Project area, creosote bush-white bursage scrub (CBS) and a disturbed form of the same community (CBS-D). In general, this community is co-dominated by creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*), with Mormon tea (*Ephedra* sp.), cheesebush (*Ambrosia salsola*), and narrow leaf oligomeris (*Oligomeris linifolia*) as the most common associates (Heritage 2010). The absolute cover of the co-dominant shrubs and associated plant species in this vegetation community vary from approximately five percent (or less) to over 20 percent. These impacts are represented graphically in Figure 1 on the following page.
Figure 1
Reclamation/Revegetation and Decommissioning/Restoration Plans
Centinela Solar Energy, LLC

Legend
- Gen-tie Centerline
- Gen-tie Structures
- Permanent ROW-125'
- Tower Construction Pad
- Pulling & Tensioning Site
- Temporary Guard Structure

Access Roads
- Use Existing
- New Bladed Road
- Temporary Bladed Road
- Existing 230 kV

Vegetation
- AG - Agriculture
- CBS - Creosote Bush - White Bursage Scrub
- CBS-D - Creosote Bush - White Bursage Scrub - Disturbed
- CBS/AD - Creosote Bush - White Bursage Scrub/Alkali Dep
- DP - Desert Pavement
- Dev / DH - Developed / Disturbed Habitat
- NVSW - Non-Vegetated Sandy Wash
- WBS-D - White Bursage Scrub - Disturbed

Source: ESRI Aerial Imagery (NAIP 2010); ESRI StreetMap North America (2008)
2.3 Decommissioning Activities

Project decommissioning would occur when CSE (or its designee) determines that the permitted facilities with the Project ROW on BLM-managed lands will no longer be required. Note that the Gen-tie line on BLM-managed lands would be expected to provide utility beyond the anticipated productive life of the CSE Facility constructed on adjacent private lands (e.g. approximately 30 years). One year prior to the planned Project decommissioning within the BLM ROW (Project decommissioning), CSE (or its designee) would contact the appointed BLM Authorized Officer to arrange a joint inspection of the ROW. This inspection will be held to agree on an acceptable Decommissioning and Restoration Plan. This Plan provides as much information as possible to facilitate that agreement, by describing the activities that would be expected to occur to complete Project decommissioning, and the outlining the appropriate habitat restoration approach and techniques based on the existing vegetation conditions within and adjacent to the Project ROW and the anticipated conditions at the time of Project decommissioning.

The decommissioning of the Gen-tie Line will essentially occur in the reverse order of the construction process and is expected to generally include the following steps:

1) The Gen-tie Line “loop-in” connection to the SDG&E radial line just north of Highway 98 would be disconnected and removed;

2) Electric wires would be removed from the tower structures (and recycled or sold). This would require placement of a crane on crane pads (e.g., adjacent access roads) at each tower structure site, as well as utilizing flatbed, wire puller, water, and crew trucks, loaders, and other equipment to remove wire from tower structures and transport offsite. This work would occur within developed areas and disturbed habitat to the extent practicable;

3) Tower structures used to support the electric wires would be removed (and recycled or sold). Afterwards, concrete foundations (piers) would be removed and demolished at or below ground level at each tower structure site. The waste concrete would be removed (and would be recycled, used as fill on private land, or disposed of in accordance with applicable regulations). This work would require the same equipment outlined under item 2 above, and would occur within developed areas and disturbed habitat to the extent practicable;

4) Access roads and areas disturbed by the equipment and infrastructure removal process would be restored consistent with this Plan and as agreed to by the BLM Authorized Officer.

Once project decommissioning activities have ceased, restoration work would proceed as outlined in Chapter 3 below.
Chapter 3

Project Restoration Areas and Activities

3.1 Anticipated Baseline Conditions at Decommissioning

The majority of the Plan restoration activities will occur within creosote bush scrub and disturbed creosote bush scrub, with the remaining work conducted within white bursage scrub, encelia-white bursage scrub, Mesquite Bosque, and disturbed habitat.

Following project decommissioning, the former Project ROW within BLM managed lands is expected to be dominated by undisturbed native desert scrub vegetation communities, with former tower structure sites and temporary work areas supporting potentially lower cover or different dominant species of perennial native shrubs than the surrounding undisturbed vegetation. The previously disturbed Project areas will generally support the same species and cover of annual native herbs and perennial succulents as the surrounding undisturbed vegetation. This anticipated condition assumes 50 years or more of active Gen-tie Line use and no additional development located adjacent to the project ROW on BLM managed lands. This applies for creosote bush scrub and disturbed creosote bush scrub, as well as bursage scrub, encelia-white bursage scrub, and Mesquite Bosque.

Passive restoration techniques outlined in the CSE Site Reclamation and Revegetation Plan (ICF 2012) are expected to stabilize soils and facilitate native plant regeneration in all Project temporary impact areas. Where creosote bush is not the dominant shrub, white bursage, which can function as a nurse plant, would be expected to dominate. Bursages are vitally important to the desert scrub vegetation in the Project area as nurse plants, and are among the few plants that can pioneer exposed sites and shelter the seedlings of other plant species (Dimmit 2000). One year after removal of the pole structures and associated concrete piers (above ground portion), the tower structure decommissioning and restoration areas would be expected to be indistinguishable from the surrounding vegetation since any damage to annual plants during decommissioning would likely be undetectable at that time. In addition, complete shrub re-growth would be expected to occur within the anticipated lifespan of the Gen-tie Line in the minimally impacted Mesquite Bosque (several individual trees/shrubs in each).

In contrast, former Project access roads are expected to be devoid of vegetation and retain some physical indication of maintenance (e.g. berms along road edges) so that the original 20-feet wide road footprint is evident. These decommissioning and restoration areas will require decompaction, recontouring, and placement of vertical and/or horizontal mulch to discourage ongoing vehicle use. These sites would be expected to be dominated by native annual and occasional perennial shrub cover for many years following restoration as outlined below in Section 3.2. This slow progression on disturbed sites has been documented within the same vegetation communities in the Sonoran Desert after construction of the 500 kV Navajo Project Southern Transmission Line at two sites in Arizona from 1972 through 1977. At sites where all vegetation was removed from the top several inches of soil (e.g., graded access roads), annual plants dominated after five years. In contrast, at sites where large trees and shrubs including creosote were removed but small shrubs were left in place, passive revegetation occurred with triangle-leaf bursage (*Ambrosia deltoidea*) and annual...
herbs dominating years after the initial disturbance (Hessing and Johnson 1982). Through time, white bursage would be expected to colonize the restored roads, eventually followed by creosote bush and Mormon tea.

3.2 Anticipated Project Restoration Activities

The restoration activities would include soil decompaction and re-contouring, and placement of vertical and/or horizontal mulch, so Restoration timing would be expected to occur outside of the annual precipitation season and during the maximum activity period for FTHL, which is currently defined as March 1 through September 30 annually, or when ground temperatures are between 24°C (75°F) and 38°C (100°F). This assumes the BLM Yuha Management Area (MA) boundary had not changed since the Project was initiated, and current BLM avoidance and minimization regulations within the MA were still being enforced. Additionally, all applicable provisions of U.S. Army Corps of Engineers Nationwide Permit No. 12 would be implemented during earthwork activities associated with access road decommissioning and restoration within the jurisdictional ephemeral wash south of Highway 98.

3.2.1 Soil Decompaction

Decompaction of soils following Project decommissioning is anticipated to be required in former road areas only (e.g., not at former tower structure sites). After completion of Project decommissioning activities, the Restoration Contractor will determine what temporary impact areas may require decompaction based on the results of a simple steel or wooden stake test. A stake will be driven with a small sledge first into undisturbed soils, and second into former access roads; if significantly more force or more repeated blows are required to drive the stake in the former access roads, then compaction during decommissioning will be assumed to have occurred (alternatively, a cone penetrometer test may be performed). Decompaction of the soils in these areas will improve water infiltration and allow for plant root growth in site decommissioning and restoration areas. These Project restoration areas will be decompacted by ripping to a depth of at least 12-inches with a three-tine ripping implement attached to a tractor. Ripping improves infiltration and percolation, and facilitates rapid root growth (Bainbridge and Virginia 1990). Ripping also increases surface roughness, which facilitates deposition of blowing soil, organic material, seeds, mycorrhizal fungi and nitrogen-fixing bacteria (Bagley 1999). After the compacted soil surface is broken up, implements to smooth the rough surface and return it to its original contour (e.g., skid-steer with bucket and link-chain harrow) will be utilized. The two-foot wide berms on either side of the former access roads will also be broken up and leveled to provide continuity of the surface grade to undisturbed adjacent areas and facilitate natural drainage throughout the restored areas.

3.2.2 Soil Recontouring

As described above, the restoration areas will be decompacted through ripping to a minimum depth of 12-inches. Soil recontouring will occur with a skid-steer outfitted with a flat bucket, which will be utilized to deposit and finish grade the areas to match the existing, undisturbed grade on each side of the restoration areas. Hand raking of soils will provide the final grade where recontoured areas meet undisturbed soil surfaces, and will subsequently be covered with native mulch/slash as described below.
3.2.3 **Vertical and Horizontal Mulch Application**

Vertical mulching involves installing plants or dead and downed plant materials into the ground in site decommissioning and restoration areas. Placing vertical mulch (e.g., shrubs, cacti, grasses, and other plant material either dead or alive) is one of the best methods for protecting denuded desert areas and encouraging plant establishment, and can reduce wind speed, slow water erosion, facilitate deposition of blowing soil and organic litter, and provide moisture and a source of organic matter to the below-ground soil ecosystem. Vertical mulch can help obscure closed roads or barren ROWs and discourage traffic, walking or driving by providing a visual and physical barrier (Bagley 1999, Bainbridge 1994). Experiments have also shown that vertical mulch can increase soil moisture storage substantially (>20%, Fairbourne 1975). Some "planted" individuals survive, providing an additional benefit of vertical mulching (Bainbridge 1994); however, replanted plants for vertical mulch will not be irrigated, are not subject to revegetation success criteria and may be allowed to expire (Patterson 1997).

After vertical mulch application, horizontal mulch will be installed as the final reclamation/restoration process. All remaining slash will be cut with loppers into flat pieces and placed into small piles or distributed evenly over the finished soil surface. The slash can be combined with rocks, existing woody debris, and/or raked into the soil/sediment to prevent blowing or washing away during storm events. Application of this material into the soil and along slope gradients has been demonstrated to increase water infiltration in desert vegetation communities by increasing soil nutrients, moderating temperatures, decreasing evaporative moisture loss, increasing soil fauna (ants, mites, spiders, etc.), creating favorable sites for perennial plants, protecting plants from grazing and browsing, creating safe sites for plants and animals during drought, and increasing rates of biological processes (Parsons 2009).

3.2.4 **Weed Control**

Short-term weed control might be required for any of the five non-native plant species that occur throughout the Project ROW. Such weed control activities would be conducted in accordance with the approved weed control plan for the Project.
Chapter 4

Maintenance, Monitoring, and Reporting Requirements

4.1 Maintenance, Monitoring, and Reporting Period

The maintenance, monitoring, and reporting period will begin with implementation of the decommissioning and restoration work (as specified in Section 3 above) and will continue for a maximum of five years. CSE or its Decommissioning Contractor would designate a Restoration Contractor to provide maintenance, annual monitoring, and reporting in accordance with this Plan. After decommissioning and restoration activities are complete and the Decommissioning Contractor has demobilized, on-going annual monitoring and reporting will be completed by CSE or the Restoration Contractor.

4.2 Maintenance Activities and Schedule

Maintenance activities within the restoration areas are expected to be minimal, consisting of non-native and invasive plant (weed) control in accordance with the approved weed control plan for the Project, installation or replacement of BMPs as necessary, and/or collection and application of additional vertical or horizontal mulch into the Project site decommissioning and restoration areas throughout the five-year maintenance, monitoring, and reporting period as needed. Additional maintenance items may include occasional repair, replacement, or installation of BMPs, and/or collection and installation of additional vertical or horizontal mulch. If either of these activities is required, the Restoration Contractor would specify the location and materials required. All maintenance activities would be performed consistent with the schedule present in Table 4 below.

<table>
<thead>
<tr>
<th>Period</th>
<th>Maintenance Frequency</th>
<th>Maintenance Activities</th>
<th>Remedial Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Year Long-Term</td>
<td>Once per year in spring (February-April) as directed by the Restoration Contractor. One additional visit per year as conditions require(^1).</td>
<td>Weed control in accordance with the approved weed management plan, replacement or installation of BMPs, collection and installation of additional vertical or horizontal mulch (all as required only).</td>
<td>Collection and installation of additional vertical or horizontal mulch in areas with off-road activity.</td>
</tr>
</tbody>
</table>

\(^1\) – Additional annual site visit(s) would be conducted after significant reported rain events, fire, off-road activity or vandalism, etc.

4.3 Monitoring and Reporting Activities and Schedule

Annual qualitative maintenance and quantitative performance monitoring will be conducted by the Restoration Contractor to determine the effectiveness of maintenance activities on the decommissioning and restoration sites and prescribe any additional maintenance activities that may be required. Performance monitoring will be completed by the Restoration Contractor to
document the decommissioning and restoration site progress relative to the established performance criteria (e.g., target conditions), and prescribe any remedial measures that may be required to ensure that each restoration site meets the performance criteria within the five-year maintenance, monitoring, and reporting period. Both maintenance and performance monitoring will be completed on the site decommissioning and restoration sites consistent with the schedule summarized in Table 5 below.

Table 5. Anticipated Monitoring and Reporting Schedule

<table>
<thead>
<tr>
<th>Period</th>
<th>Monitoring Frequency</th>
<th>Submittals</th>
<th>BLM</th>
<th>CSE</th>
<th>Reporting Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>During decommissioning and restoration</td>
<td>As needed to complete soil decompaction, recontouring, and vertical mulch installation.</td>
<td>Letter Report with photos summarizing the reclamation-restoration activities as installed.</td>
<td>✓</td>
<td>✓</td>
<td>Once.</td>
</tr>
<tr>
<td>5-Year long-term maintenance and performance monitoring</td>
<td>One visit in spring (February - April) annually. One additional visit per year as conditions require 1.</td>
<td>Letter Report with photos summarizing the site conditions and recommending any maintenance or remedial work required.</td>
<td>✓</td>
<td>✓</td>
<td>Once per year for five years.</td>
</tr>
</tbody>
</table>

1 – Additional annual site visit(s) would be conducted after significant reported rain events, fire, off-road activity or vandalism, etc.

Following each annual qualitative maintenance inspection, the Restoration Contractor will submit a maintenance monitoring report to CSE and the BLM Authorized Officer. A standardized qualitative monitoring report form will be utilized for maintenance monitoring and reporting. The ultimate purpose of the maintenance monitoring reports is to advise CSE and the BLM of the decommissioning and restoration site conditions and any required maintenance items needing to be completed to ensure conformance with this Plan. Any decommissioning and restoration site deficiencies will be noted in the monitoring report, with accompanying recommendations for maintenance and/or remedial actions. Maintenance monitoring and reporting will be performed annually during the five-year maintenance, monitoring, and reporting period as specified in Tables 4 and 5 above.

Annual quantitative performance monitoring will also be conducted by the Restoration Contractor to assess the effectiveness of the vertical and horizontal mulching efforts, the native plant vigor and development within the decommissioning and restoration sites, document any seedling recruitment from natural sources, the presence/absence of plant pests or diseases, the presence/absence of non-native or invasive plant species, trash or debris accumulation, wildlife presence/absence including FTHL, and project erosion control BMP conditions. Quantitative monitoring visits to the decommissioning and restoration sites will be documented within an annual report, which will be forwarded to CSE and the BLM Authorized Officer. Any project deficiencies will be communicated to the Restoration Contractor and be noted in the annual report, with accompanying recommendations for maintenance or remedial actions. Quantitative performance monitoring will include quantification of vegetative cover and the establishment of a series of fixed photo-points throughout the decommissioning and restoration areas. All quantitative monitoring will be conducted using permanent vegetation quadrants, and the resulting data will be compared with performance criteria.
(e.g., target conditions) for the Project to be determined in conjunction with the BLM Authorized Officer prior to decommissioning and restoration based on then-current site conditions.

Annual performance monitoring will be completed by the Restoration Contractor beginning one year after installation of vertical and horizontal mulch, and will continue annually throughout the five-year maintenance, monitoring, and reporting period. Quantitative monitoring will be conducted to determine total bare ground cover, total native species cover and composition, total non-native species cover and composition, vertical stratification of native herb, shrub, and tree species on each of the decommissioning and restoration sites, and overall plant species diversity.

### 4.4 Completion of Site Reclamation and Revegetation

#### 4.4.1 Notification of Completion

The Restoration Contractor will notify the BLM upon submitting the annual report for the final year that the five-year reporting period has terminated and that all performance criteria have been met, and request acceptance of the decommissioning and restoration sites and release from the ROW permit conditions.

#### 4.4.2 BLM Confirmation

Following receipt of the notification of completion, the BLM may designate personnel visit the decommissioning and restoration sites to confirm the successful completion of the efforts and will issue formal letters of success prior to acceptance and release the CSE performance bond.
Chapter 5
References


