******You must use this template directly when developing a restoration plan. Edit this document with track changes on and return in word document form to BLM. Any other format or deletions will be rejected and the plan will be sent back to you for revisions and this could result in project delays.******

RESTORATION & DECOMMISSIONING PLAN TEMPLATE

Southern Nevada District Office
Bureau of Land Management

1. PROJECT INFORMATION

1.1. Project Area and Project Description

Candela Renewables, LLC (Applicant) proposes to construct, operate and decommission the Rough Hat Clark County Solar Project (Project). The Project would be a up to 400-megawatt (MW) alternating current (AC) solar photovoltaic (PV) power generating facility on approximately 2,433 acres of federal land managed by the Bureau of Land Management (BLM) land located in Clark County, Nevada. The Project would include energy storage up to approximately 700 MW. The Project would interconnect from the Project substation via a 230 kilovolt (kV) transmission line (gen-tie) into the existing Gridliance Trout Canyon Substation pursuant to an Interconnection Agreement where the renewable generation would be delivered into the electrical transmission system. The energy storage component of the Project would optimize the delivery of power to the grid. The proposed Project's legal description is:

Township	Range	Sections	Quarter Sections / Lots
Solar Field			
21 South	55 East	Section 18	SW¼SE¼, SE¼SW¼, Lots 3 and 4
		Section 19	SE¼, NE¼, E ½ NW¼, E ½ SW¼, Lots 1, 2, 3, and 4
		Section 20	SW¼, SE¼SE¼, NW¼SE¼, SW¼SE¼, SW¼NW¼
		Section 27	SW¼SW¼
		Section 28	SW¼, SE¼, SW¼NE¼, SE¼NW¼, NW¼NW¼, SW¼NW¼
		Section 29	All
		Section 30	All
Gen-Tie Line			
21 South	55 East	Section 34	NE¼NW¼, NE¼SE¼, SE¼NE¼, NW¼NE¼, SW¼NE¼, NW¼NW¼
		Section 35	NW¼SW¼, SW¼SW¼
22 South	55 East	Section 2	SW¼NW¼, Lot 4
Based on Mount Diablo Meridian			

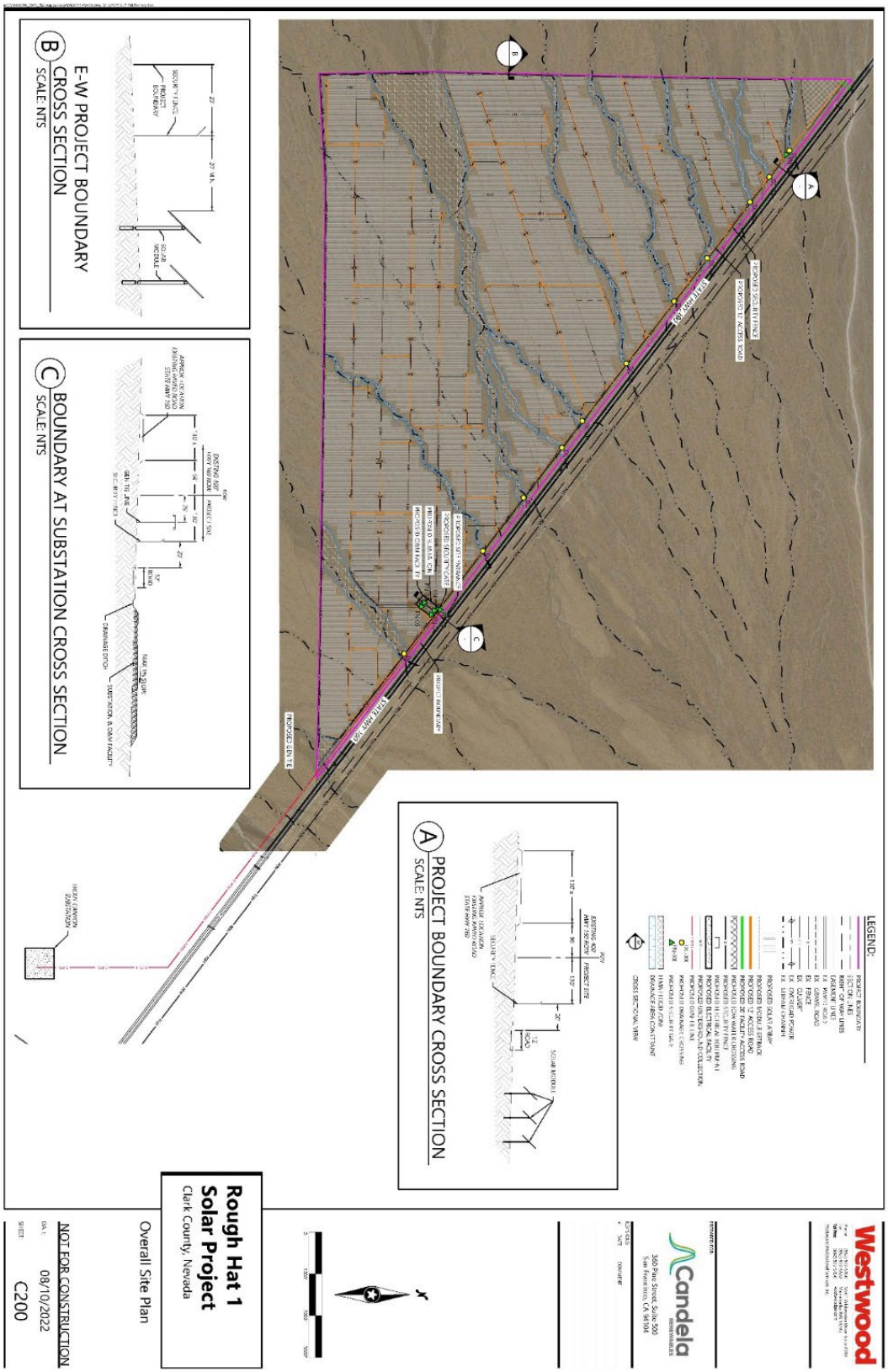

Figure 1. Map of Project Area (include all temporary and long-term disturbance areas and attach shapefile).

1.2. Type of Use

This plan defines three broad types of disturbance conditions - temporal, spatial structure, and previous disturbances.

1.2.1. Temporal Use

- **Long Term Use /Disturbance Areas (Long-Term ROW)**
  The use of these areas is long-term, and the landscape is altered through the removal of vegetation, site leveling, modifying natural drainages, fencing, and constructing facilities, towers, and other structures. Long-term disturbance also includes constructing access roads needed for regularly scheduled maintenance of facilities and structures. These areas are defined as D-3 "Clear and Cut with Soil Removal" (see Section 1.3).
- **Temporary Use/Disturbance Areas (Long-Term ROW)**
  Temporary use or disturbance areas within a long-term ROW are within large site-type ROWs where "Less Impact Construction Techniques" meeting the definitions of D-1 "Overland Travel" and D-2 "Drive and Crush" (see Section 1.3) are used to minimize disturbance to soils, seedbanks, and vegetation. These could include areas within solar panel arrays and along fence lines within a solar facility. These areas may be disturbed during construction but have restoration requirements if they are not meeting restoration standards as compared to reference conditions. Shrubs and vegetation will have up to two years to recover within each area after construction is completed or commercial operations for an area commences (whichever is shorter), which will allow time for shrubs to resprout and regrow after being crushed.
- **Temporary Use/Disturbance Areas (Short-Term ROW)**
  Temporary use or disturbance is defined as using an area only for the amount of time it takes to construct the project. Examples include utilizing various types of heavy equipment to install towers or pipelines, driving across public land to gain access to the project site, and parking vehicles, equipment, and materials in designated staging areas.

1.2.2. Spatial Structure

Understanding the spatial structure of the disturbances is important for restoration considerations, weed management and risk of spread, and monitoring methodology. Many projects are a mix of these disturbance types.

a. Linear - Short (< 5 miles)
b. Linear - Long (> 5 miles)
c. Small Area (< 1 acres)
d. Large Area (≥ 1 acre < 20 acres)
e. Very Large Area (> 20 acres)

Spatial or Temporal Use	*Avoidance Areas*	*Panel Array Blocks*	*Facilities, Substation, Laydown, Roads*	Project Total

	Acres	Acres	Acres	Acres
Temporary (short-term ROW)	0	0	0	0
Temporary (long-term ROW)*	542	1440	26	2008
Long-Term (long-term ROW)	0	281	121	402
Totals	542	1721	170	2433
Linear-Short (< 5 miles)	0	0	33	33
Linear-Long (> 5 miles)	0	0	0	0
Small Area (< 1 acre)	0	0	0	0
Large Area (> 1 acre)	0	0	0	0
Very Large Area (> 20 acres)	542	1721	137	2400
Totals	542	1721	170	2433

*Applies to "Less Impact Construction Techniques" used within utility scale solar facilities where vegetation is expected to recover – these areas are considered temporary disturbance within a long-term ROW grant.

1.3. Disturbance Levels

The disturbance levels are the intensity of disturbance that will be caused by the methods used in construction, maintenance, and decommissioning. These varying levels of soil compaction, vegetation removal, and soil removal will dictate the level of restoration required. Vegetation and soil removal will result in restoration efforts that are in order of magnitude more expensive and lengthier, potentially requiring upwards of 10 years until the bond will be released. Using less impactful construction techniques (D-1) are highly encouraged whenever possible in order to minimize restoration time.

Table 2. Disturbance Definitions.

	D-0	D-1	D-2	D-3

Definition	**No Impacts/ Avoidance**	**Overland Travel**	**Clear and Cut/ Drive and Crush**	**Clear and Cut with Soil Removal**
Disturbance Qualifier	No Disturbance	Minimal to Moderate Disturbance	Moderate to Heavy Disturbance	Heavy Disturbance
Metrics	No vehicle passes	Approx. ≤3 vehicle passes over any given area	Approx. ≥4 vehicle passes (drive and crush) or direct clearing of vegetation	N/A - unlimited vehicle passes
Examples/ Construction Types/ Construction Equipment	N/A	Accessing panel arrays using rubber-tired or rubber-tracked vehicles (tractors, side-by-sides, forklifts); could include mowing	Front end loader or similar used to clear vegetation; any repeated vehicle traffic that completely crushes vegetation	Disc and roll, grading and filling, trenching
Soils	No anticipated effects from construction	Soils are left in place; slight soil compaction	No soil removal or restructuring; soil is very compacted	Soils are removed, restructured, and extremely compacted
Vegetation	No anticipated effects from construction	If vegetation is crushed, it survives and regrows; seedbank is left in place	Crushed vegetation remains above soil surface; seedbank remains in place, albeit compacted.	Vegetation is displaced; seedbank is displaced
Cacti and Yucca	No anticipated effects from construction	Cacti and yucca within direct equipment travel paths and under arrays are impacted - less than 60% impacted	Most cacti and yucca removed	All cacti and yucca removed

Table 3. Project Permanent Use Totals by Disturbance Level				
Disturbance Level	*Avoidance Areas*	*Panel Array Blocks*	*Facilities, Substation, Laydown, Roads*	Project Total
	Acres	Acres	Acres	Acres
D0 - Avoidance	0	0	0	0
D1 – Overland Travel	0	0	0	0
D2 – Drive and Crush	0	0	0	0
D3 – Clear and Cut with Soil Removal	0	281	121	402
Totals	0	281	121	402

Table 4. Project Temporary Use Totals by Disturbance Level				
Disturbance Level	*Avoidance Areas*	*Panel Array Blocks*	*Facilities, Substation, Laydown, Roads*	Project Total
	Acres	Acres	Acres	Acres
D0 - Avoidance	542	0	26	568
D1 – Overland Travel	0	864	0	864

D2 – Drive and Crush	0	576	23	599
D3 – Clear and Cut with Soil Removal	0	0	0	0
Totals	542	1440	49	2031

1.4. Restoration Levels

This plan defines four levels of restoration effort required (R1 - R4) and is based on the following land management designations: 1) R1: National Conservation Areas, 2) R2: High Priority Recovery Areas, 3) R3: Medium Priority Recovery Areas, 4) R4: Multiple Use Managed Areas. It should be clarified that special and unique habitats can occur in any of the above areas and may require a higher effort of restoration to ensure their long-term viability. Additionally, these restoration categories pertain to authorized actions for approved projects and do not include trespass or unauthorized land-disturbing actions. Details of each area are provided below.

Restoration will be considered successful if identified measures of native perennial vegetation is equal to or exceeds a designated percentage of the values for these parameters in undisturbed reference areas. The standards required for the four land management designations are: 100 % for R1, 80% for R2, 70% for R3, and 60% for R4.

- *R1. Red Rock Canyon NCA and Sloan Canyon NCA.* Management of this land is oriented toward actions which promote its scenic, cultural, and biodiversity values. This area will require state-of-the-art restoration techniques and methodologies available to achieve a "no residual impact" level for projects. In this area, replanting would involve 100 percent cover and richness of shrubs and perennial grasses. Extensive plant salvage will be required, and the use of non-local seed sources will not be allowed.

- *R2. High Priority Recovery Areas.* Management on these lands is oriented toward actions which reduce human impacts to the landscape for the purposes of recovery of federally-listed or special-status species (e.g. Mojave desert tortoise, Las Vegas bearpoppy), preservation of scenic values, and protection of cultural property. Examples include visual resources classes 1 and 2, desert tortoise critical habitat, springs, riparian areas, xeroriparian areas, National Monuments, and Areas of Critical Environmental Concern. In the R-2 category, outplanting would be more limited and situated in areas that can be accessed for plant maintenance.

- *R3. Medium Priority Recovery Areas.* Management on these lands limit, either spatially or temporally, the range of uses on lands to protect sensitive resources. Examples include herd management areas for wild horses and burros and crucial habitat for desert bighorn and mule deer.

- *R4. Multiple Use Areas.* Multiple use areas are lands on which human activities are not precluded. Nonetheless, they support significant areas of undisturbed natural vegetation and provide important connectivity with more intensively managed areas. Additionally, at least six of BLM's most sensitive plant species occur in these multiple use areas, and their habitat will require a higher level of restoration.

Table 5. Project Long-term Impact Totals by Restoration Level

Restoration Level	*Avoidance Areas*	*Panel Array Blocks*	*Facilities, Substation, Laydown, Roads*	Project Total
	Acres	Acres	Acres	Acres
R1	N/A	N/A	N/A	N/A
R2	N/A	N/A	N/A	N/A
R3	N/A	N/A	N/A	N/A
R4	0	281	121	402
Totals	0	281	121	402

Table 6. Project Temporary Impact Totals by Restoration Level

Restoration Level	*Avoidance Areas*	*Panel Array Blocks*	*Facilities, Substation, Laydown, Roads*	Project Total
	Acres	Acres	Acres	Acres
R1	N/A	N/A	N/A	N/A
R2	N/A	N/A	N/A	N/A

R3	N/A	N/A	N/A	N/A
R4	542	1440	49	2031
Totals	542	1440	49	2031

The entire project site occurs in the R4, multiple use area category (Tables 5 and 6). Land in this category is required to be restored to 60% cover of perennial species, density, and species richness, number of dominant species, and annual species of undisturbed reference sites. Restoration will be considered successful if the identified measures of those parameters (e.g., perennial species richness) is equal to or exceeds the designated percentage of the value for the parameter in undisturbed reference areas. For example, if native perennial species richness in an undisturbed R4 area is 10, then the restoration success standard would be calculated as 0.6 x 10 = 6 species (success standard x species richness). See Section 5 for more details on success standards.

2. BASELINE DATA

A summary of original surveys – including habitat type, sampling results, baseline conditions to be used as the restoration standard (e.g. density, species composition, cover, diversity, etc.), species list, sensitive species found, weed inventories, and risk assessment, etc. is attached to this plan.

2.1. Mitigation Measures

The below list incorporates those environmental resource mitigation measures developed for the analysis. Additional mitigation measures may be incorporated pending publication of project Environmental Impact Statement. Wildlife (MM WILD-1): Reduced Project Footprint: During preparation of the final Plan of Development, the Applicant shall coordinate with the BLM to minimize the amount of ground disturbance needed to effectively construct and operate the facility. All disturbance areas shall be refined and designed to the minimum size needed to safely and legally operate the facility, including access roads. Justifications for disturbances, such as access road widths, substrates, locations, and frequency, shall be provided upon BLM request during review of the revised footprint.

Air Quality (MM-AIR-1): Other measures (in addition to PEIS AQC1-1 through AQC1-4, found within the PEIS) that shall be implemented to reduce emissions include the following:

- Develop and encourage a voluntary carpooling program to minimize employee trips to the Project site.
- Install a gravel pad or similar trackout control device to reduce mud/dirt trackout from unpaved truck exit routes.
- Stabilize long-term storage piles through the use of water, BLM-approved palliative, physical enclosures, or other means.

- Install and use real-time duct/air monitors or alternatively ensure that at least two properly trained dust monitoring personnel, under the requirements in Section 94.8 of the Clark County Air Quality Regulations, are on site during construction phase ground-disturbing activities. Develop a detailed response program as part of the Project's Dust Control Plan. The detailed response program shall include the following:
  - Notification procedures for construction crews if dusty conditions (as defined by Clark County opacity thresholds) are detected, as described in Section 94.9 of the Clark County Air Quality Regulations.
  - Activities that would be prohibited if dusty conditions are detected or if winds on the project site exceed 30 mph.
  - Response procedures if dusty conditions are detected. Response actions may include, but are not limited to, enhanced use of water, reductions in vehicular speed limits on site, and limits on construction activities.

Public Safety (MM PS-1): Fire Prevention and Safety Plan. The Applicant shall prepare and implement a Fire Prevention and Safety Plan to ensure the safety of workers and the public during Project construction, operation and maintenance, and decommissioning activities. The Fire Prevention and Safety Plan shall be submitted to the BLM and Clark County Fire for review and approval, and applicant shall demonstrate approval to the BLM prior to the issuance of the NTP. The plan shall incorporate the use of appropriate fire protection equipment, worker training, and consultation with local fire departments to identify appropriate protocols and procedures for fire prevention and early response to minor fires. The plan shall also address the following recommendations, with particular focus on suppressants for fires from lithium-ion battery cells, including inert gas, carbon dioxide, and Halon as well as measures to protect batteries against thermal abuse:

- Have a portable trailer-mounted water tank on site and available to workers at all times for use in extinguishing small human-caused fires.
- Implement fire watches during hot work on site (e.g., welding, soldering, cutting, drilling, grinding).
- Incorporate the use of appropriate fire protection equipment, worker training, and consultation with local fire departments to identify appropriate protocols and procedures for fire prevention and early response to minor fires.
- Limit where smoking can occur to minimize chances of igniting a fire and identify proper vehicle maintenance and use to minimize fire risks.
- Incorporate a battery-specific fire suppression section into the Fire Prevention and Safety Plan that identifies any specialized fire suppression techniques for the particular battery used and any specific trainings required for the Project staff and first responders.
- Ensure protocols are in place to quickly extinguish any transmission line breakages that could ignite a fire during construction.
- Comply with fire restrictions, such as red flag warnings, when they are in effect (43 CFR 9212). Fire restrictions are generally enacted from May through October. Fire restriction orders are available for review at the BLM district offices and on the BLM website.
- Practice standard fire prevention measures at all times.

- Explore providing access between shared or adjacent fences to allow quicker response times, in coordination with Clark County Fire and neighboring projects.
- Immediately report fires to 911 or (702) 631-2350 and make all accommodations to allow immediate safe entry for firefighting apparatus and personnel.
- BLM law enforcement or their designated representative shall conduct an Origin and Cause Investigation on any human-caused fire. To minimize disturbance of potential evidence located at the fire scene, the Applicant shall properly handle and preserve evidence in coordination with the BLM. The BLM shall pursue cost recovery for all costs and damages incurred from human-caused fires on BLM lands when the responsible party(s) has been identified and evidence of legal liability or intent exists. Legal liability includes, but is not limited to, negligence and strict liability (including statutory and contractual liability) and products liability.

Visual Resources (MM V-1): Provide advanced notification to the Clark County Department of Aviation regarding the glare that may be seen while operating aircraft near the Project such that the Department of Aviation can notify regional airport managers, if necessary.

Native American Concerns (MM NA-1): To facilitate continued communication and coordination with interested tribes, the Applicant/Proponent would develop and implement a tribal participation program to afford representatives designated by Indian tribes the opportunity to be on site during project construction to observe grading, trenching, or other excavation for facilities, roads, or other project components related to the undertaking near ESAs and in other areas determined appropriate.

Transportation and Traffic (MM TRAF-1): If construction schedules for Rough Hat Clark, Copper Rays, and/or Golden Currant solar projects overlap, the Applicant would continue to coordinate with NDOT and Clark County to fund any potential necessary improvements to the SR 160 and Tecopa Road intersection. These potential improvements may include:

- Restriping the northbound approach on Tecopa Road to include two lanes – one left-turn lane and one channelized right-turn lane.
- Adding pavement to accommodate trucks making the right-turn from Tecopa Road onto SR 160.
- Installing raised/striped median to channelize vehicles in the eastbound and northbound right-turn lanes on Tecopa Road.
- Maintaining stop control (stop sign) for the northbound left turn lane on Tecopa Road.
- Other necessary improvements that are determined through coordination with NDOT.

3. RESTORATION ACTIONS

This restoration plan is divided into three sections: 1) Pre-construction Actions, 2) During Construction Actions, and 3) Post-construction Actions. These are sequential actions for a

project that is in the development stages. The following is a description of actions that are implemented prior to or during the initiation of construction activities involved with D3 disturbance; some of these may not be required for D0, D1, and D2 disturbance (coordinate with BLM botanist).

3.1. PRE-CONSTRUCTION ACTIONS

The following is a description of restoration actions that are performed prior to the construction of the project. Some of these steps may not be needed if D-0, D-1, or D-2 methods are used.

3.1.2. Weed surveys

Surveys for non-native and noxious weeds were completed in the spring of 2021 and 2022. No major infestations were observed, but common species such as Mediterranean grass, and red brome were ubiquitous in medium densities along all roadways and through the survey area. Other weed species were observed in low densities throughout the survey area. A copy of the Project's Integrated Vegetation Survey Report is attached to this Plan. The Project shall follow avoidance and minimization measures detailed in the Project's Weed Management Plan.

3.1.3. Seed Collection

If the Project determines that seed collection is necessary for the restoration of the site seed collection activities may be conducted onsite prior to the commencement of construction activities by a qualified seed company or other BLM-approved method (e.g., trained volunteers). Standard seed collection protocol would be followed. Sites for seed collection would be coordinated in advance with the BLM botanist. All seed collected will be from the appropriate Mojave seed-transfer zone (coordinate with BLM botanist). Permits are necessary for seed collections outside of the ROW or if collected by a third-party contractor. Only mature seed will be collected. Pounds-of-seeds collected will be based on the approved seed mix and estimated acres of temporary disturbance for the project. Seeds will be collected, cleaned, tested for pure live seed (PLS), certified weed-free, and stored by the contractor until they are ready for use, unless other arrangements approved by BLM are made. Seeds will be stored dry in containers which will be labeled with exact location, date of collection, and collector. Containers must be located in a rodent and insect proof location.

3.1.4. Perennial Plant Salvage

Because the Project is located entirely in R4 areas, perennial plant salvage is not required, except for Cacti and Yucca as described in Section 3.1.5.

3.1.5. Cacti & Yucca Salvage

Cacti and Yucca surveys were completed in the spring of 2021. The Project Integrated Vegetation Report is attached to this Plan. The results of the transect surveys estimated a density of 4.4 cacti per acre (~13,055 across the entire site) and 19 yucca per acre (~56,818 across the entire site).

The following will be implemented regarding cacti and yucca by the Project:

- BMPs for cacti and yucca salvage are attached to this Plan.
- Within short-term temporary disturbance areas, cacti and yucca will be salvaged, held and maintained in an on-site nursery, and transplanted out into a natural pattern and density post-construction as part of the restoration.
  - Salvage is not required within areas where D0, D1, or D2 practices are employed. In these areas, cacti and yucca will be avoided where possible. Cacti and yucca in these areas that interfere with project construction or operations will be mowed (cholla) or knocked down or ground (yucca). Salvage fees would be paid for estimated impacts (based on the Project Integrated Vegetation Report) under the BLM forestry program.
- Within permanent disturbance and long-term temporary disturbance areas, the Project will pay salvage fees under the BLM forestry program, which are based on the estimated results of the Integrated Vegetation Report and the height classes of cacti and yucca. Salvage fees will only apply to impacted vegetation; cacti or yucca left in place without impacts or salvaged to the on-site nursey will not require salvage fees.
- Prior to site preparation, the number of cacti and yucca impacted by D1, D2, and D3 practices for both long-term and short-term disturbance will be estimated and a fee paid following the fee schedule outlined below in Table 7. Fees will be due only for impacted vegetation; fees will not be assessed on avoided or salvaged vegetation.
- Selection of Vegetation Salvage Contractor
  - A Vegetation Salvage Contractor would implement the nursery setup and salvage of the cacti and yucca from the short-term temporary disturbance areas. This contractor will be *approved by Nevada BLM and have a minimum of three* years of experience with transplanting and maintenance of Mojave plants.
  - Their responsibilities may include:
    - Set-up and maintenance of onsite plant nurseries;
    - Extraction of target plants from temporary disturbance areas;
    - Transport of target plants to the onsite nurseries;
    - Maintenance (watering) of plants; and
    - Transplantation of the target plants during rehabilitation.
- Nursery must be located on-site.

Table 7. Fee Schedule for Impacted Cacti and Yucca	
Height Class	Cost*

<3 feet	$3
3-6 feet	$6
6-10 feet	$12
> 10 feet	$24

3.1.6. Vertical Mulch Salvage

For short-term temporary disturbance areas that require clearing and cutting (D3), the vegetation will be mechanically windrowed to an area outside the disturbance boundary (vertical mulch). Large rocks and boulders will also be removed to the side. Care will be taken to prevent the disturbance of the natural patina or desert varnish of these rocks. Following completion of the work, the salvaged vertical mulch will be redistributed.

3.1.7. Biocrust Salvage

Biocrust surveys were completed in the spring of 2021. Results of transect surveys estimated approximately 1% cover of biocrust. Biocrust salvage is required within short-term temporary disturbance areas.

Significant stands of biological crust must be salvaged either by hand or with very small equipment (small backhoe or similar). The crust will be placed dry in plastic buckets, or in small (no more than 10x10 feet) covered piles and kept dry until ready to place back on the soil surface.

3.1.8. Soil Salvage

Where short-term D3 disturbance will occur, and after required plants have been salvaged from the site, topsoil salvage will be conducted by removing approximately the upper 6 inches of topsoil (If the bedrock close to the surface will not allow for full salvage, any available topsoil will be salvaged to the best of the ability of the equipment). This includes all small rocks and remaining non-salvaged vegetation. Rocks greater than 6 inches will be removed and stockpiled outside the disturbance areas but within the ROW. Any topsoil to be stockpiled for greater than one year will be spread in layers not to exceed two (2) feet maximum thickness and appropriately identified/signed as topsoil. These soil stockpiles will be seeded with a prescribed seed mixture or sterile cover crop (approved by the BLM), covered with mulch to reduce erosion and discourage weed invasion, and/or treated with a vegetal-based tackifier to a 2" wetting depth. Topsoils of different soil types will not be mixed together and would be maintained separately. Different soil types will be stockpiled separately (gypsum or sand, for example). This topsoil will be labeled as such and protected from erosion and inadvertent use as fill. Topsoil will never be mixed with subsoil. Subsoil piles can be stockpiled and signed separately and not limited to the two-foot-high limitation for topsoil. Overall handling will be kept to a minimum. If

grading does not require cutting 6 inches, the soil that is windrowed with vertical mulch will satisfy this requirement.

3.2. CONSTRUCTION ACTIONS

3.2.2. Weed surveys

Weed surveys are required and will be completed as described in the Project Weed Management Plan. Weeds will be surveyed for multiple times throughout the year during biologically meaningful periods identified for each weed species. Weeds will be treated or removed before they have gone to seed.

3.2.3. Biocrust and nursery maintenance and monitoring

Any salvaged plants (including cacti and yucca) or biocrust will be monitored. Salvaged plants will be watered periodically to meet success criteria. Biocrust would be managed with the topsoil on site, which would utilize current Project Design Features for that resource.

3.2.4. Seed Collection

Continue seed collection, if needed.

3.2.5. Soil Stabilization (Dust Palliatives).

See Appendix C for options for approved dust palliatives. Soil stabilization will occur as required in the Project Fugitive Dust Control Plan.

3.2.6. Reporting

A final report of restoration actions will be developed once Project construction is complete. Additional reporting will be conducted as described in the Weed Management Plan.

3.3. POST-CONSTRUCTION ACTIONS

The following is a description of actions to be implemented after the completion of construction activities within D3 disturbance areas; some of these may not be required for D0, D1, and D2 areas.

3.3.2. Recontouring

Includes burying subsurface soils (including caliche), applying surface soils, and de-compacting terrain. For underground utility projects that disturb surface and subsurface soil, the segregated material windrowed on either side of the trench should be replaced back into the trench in order, with the subsurface placed below the surface soils. If significant caliche is encountered during the excavation, it will be crushed into fine material before replacing back into the trench. Small amounts of caliche may be replaced into the trench, however, there must be a sufficient amount of finer material to achieve natural terrain contours. After re-contouring to natural grade and loosening the subsurface soil, surface soils will then be replaced over the top of the subsurface materials.

3.3.3. Decompaction

Where any compaction exists, the surface will be scarified, tilled, or harrowed to a depth of 6 inches, as appropriate (e.g. not applicable to rock faces, severe slopes, or cliff areas). Depth of compaction relief will depend on site-specific conditions, but in general will be shallow. Decompacting and ripping will be conducted in a manner which avoids "corn rows". Cross-ripping or a more natural ripping pattern (serpentine pattern) are preferable and care should be taken to prevent inverting the soil layers. The surface soil will be re-distributed following site recontouring and preparation (decompacting and ripping). Redistribution of soils will be spread mechanically using a grader or similar equipment. Alternatively, soils may be replaced manually to avoid compacting soils, as practicable. Small pieces of surface caliche may be buried to a minimum of 24" depth. Soil will be wetted to a depth of 2" (water only, no dust palliatives) to prevent further erosion. The site will be left adequately rough after surface soil placement to provide micro sites for seed germination and to reduce soil movement. Deep sandy soils do not need to be decompacted and will not be ripped.

3.3.4. Soil Replacement

Replaced surface soil will be left in an unscreened condition in an effort to minimize erosion. In case of shortage, it is better to replace a shallower depth in all areas than none in a few places. Additional erosion control and soil stabilization may be required to minimize soil movement, especially for heavily sloped areas or fine-textured soils. Dust palliatives/soil binders would be used on any steep subsoil stockpile (i.e. B, C, and/or D horizons) slopes to reduce movement and erosion. Surface soil will not be handled excessively during windy conditions.

3.3.5. Rocks and Vertical Mulch

3.3.6. For areas that have been cleared, vegetation that was windrowed to the outside of the disturbance boundary will be replaced back onto the site. Large rocks and boulders removed to the side of the disturbance will be placed back with the darkened side facing up in a natural appearing pattern. **Transplanting Succulents**

Salvaged cactus, yucca, and other nursery stock will be temporarily stored onsite during soil preparation. Cactus and yucca will be outplanted in a random "natural" arrangement (i.e., avoiding lines and checkerboard patterns). Yuccas will be arranged in groups of 3 to 4 individuals, loosely spaced. Cacti will be distributed randomly across the rehabilitation site and will not be planted in dense clumps. See attached BMPs in Appendix B.

3.3.7. Transplanting Perennial Plants

Methods for transplanting vegetation should be such that a success rate of at least 80 percent survival after 1 year is achieved. Vegetation will all be from onsite salvage, or from seed collected on site that has been grown out in a nursery. All plant pots must be certified free of invasive species before outplanting. The numbers and locations of vegetation to be outplanted will be determined by the Project Lead Botanist in

coordination with the BLM. No relocation of off-site shrubs (other than nursery stock) will be permitted due to the risk of spreading noxious weeds.

Failure to conduct adequate care for plant during and after transplantation will result in fees being assessed for the market value of those plants, or the plants being replaced by similar-sized plants from nurseries.

3.3.8. Seeding

Where seeding is implemented to help the Project reach its restoration goals, it will adhere to the following methodology:

- Seeding Methodology: Seeding will include pelletizing, imprinting, or hydroseeding based on BMPs, time of year, and new research. BLM will provide input on methodology used.
- Seeding Rate: A total live seed target rate of approximately 400 pure live seeds per square meter will be targeted. Final seed rate will be determined in coordination with the BLM botanist and based on final species selection.
- Seed Mix: Seed mix will be determined based on the dominant species found onsite during pre-construction surveys. The seed mix composition, rate, and origin must be approved by BLM prior to application. Seeds must be from the same provisional seed transfer zones (or empirical seed transfer zones, if available) as the project. Seed procured must come with origin information, including applicable permits if the seed originated on public lands. Seed must be tagged appropriately, tested for PLS, and be certified weed-free.

Table 8. Proposed Seed Mix

Species & Common Name	Pounds per Acre	Percent Purity	Approximate Weight (lbs per 40 acres)	Seed Transfer Zone (from and to)	Supplier
White bursage (*Amborsia dumosa)*	3.5	29	140	TBD	TBD
Fourwing Saltbrush (*Atriplex canescen)*	1.5	12	60	TBD	TBD
Nevada ephedra *(Ephedra*	1.5	12	60	TBD	TBD

nevadensis)					
Cresote bush (*Larrea tridentata*)	0.5	3	20	TBD	TBD
Big galleta grass *(Pleuraphis rigida)*	3.0	25	120	TBD	TBD
Apricot mallow *(Sphaeralcea ambigua)*	0.5	3	20	TBD	TBD
Indian ricegrass (*Stipa hymenoides)*	2.0	16	80	TBD	TBD

3.3.9. Signage

Restoration areas outside of the Project boundary fence (for example, the gen-tie) will have signs installed at regular intervals to deter vehicular damage to the site. If OHV incursions occur at a rate higher than five per month, additional fencing and signage may be added. Large rocks or boulders have also been used successfully to deter incursions. Designs and locations of fencing must be approved by the BLM and conform to BLM specifications.

3.3.10. Weed Management

See Weed Management Plan. Weed monitoring and reporting is an integral part of the restoration plan and restoration will not be successful without strict adherence to the Weed Management Plan. Sites will be delayed from release, at the discretion of the BLM botanist, if there is not compliance with the Weed Management Plan.

3.3.11. Reporting

A report will be provided by BLM once the initial restoration efforts are complete. Reporting will then follow the outline provided in Section 6 (Maintenance, Monitoring, and Reporting).

4. POST-CONSTRUCTION MAINTENANCE, MONITORING, AND REPORTING

4.1. Maintenance

Consistent maintenance and reporting are necessary for the eventual success of the rehabilitation project. Maintenance shall include, but is not limited to watering

transplants, removing weeds and trash, repairing fencing, and repairing erosion damage. These tasks will be reported to BLM with the annual report. Reporting will occur as described in Section 4.2 until success criteria have been met and/or the Project has been released by the BLM.

4.1.1. Watering transplants

If cacti, yucca, or other perennial plants were outplanted, they will be cared for to meet success criteria.

4.1.2. Weed Management

Adhere to Weed Management Plan.

4.1.3. Removing trash

The ROW will be kept free of trash, which can contain weeds and can lead to more disturbance.

4.1.4. Repairing fencing/installing boulders to prevent vehicle intrusions

4.1.5. Installing or removing plant shelters

Plant shelters are not included in the restoration efforts at this time.

4.1.6. Remediation

Additional restoration actions will be taken, as necessary, on sites that are not progressing towards meeting standards, and those sites will be re-evaluated in subsequent years. The contractor will use all reasonable methods, including container plantings, on-site waterings, additional seed collections, etc., to help ensure that the standards are met on all disturbed sites.

4.2. Monitoring & Reporting

4.2.1. As-Built Report

- An as-built report focused on restoration efforts will be prepared by the Project and submitted to the BLM within 60 days of completion of initial revegetation efforts. This as-built report will be considered the beginning of the reporting period.
- The as-built report will include:
  - Detailed maps of the re-vegetated areas
  - Geospatial data for all re-vegetated areas
  - Revegetation methods, numbers, and species of all outplanted individuals, areas, amounts, and species seeded
  - Copies of seed tags
  - Record of seed testing
  - Photos before, during, and after revegetation work
  - Dates of revegetation work
  - Personnel involved on each date
  - Problems encountered and how they were addressed
  - Any other relevant information

4.2.2. **Minimum Monitoring Time Period** (Table 9)

This section is a formula for calculating the years required to monitor a restoration project. More soil disturbance and larger areas will result in longer monitoring periods.

- Disturbance Level:
  - D1 - add 2 years
  - D2 - add 6 years
  - D3 - add 8 years
- Type of Area Use:
  - Linear - Short (< 5 miles) - add 0 years
  - Linear - Long (> 5 miles) - add 2 years
  - Small Area (< 1 acres) - add 0 years
  - Large Area (1 acres < ; < 20 acres) - add 1 year
  - Very Large Area (> 20 acres) - add 4 years
- Weed Risk Rating (from Weed Management Plan):
  - None (0) - add 0 years
  - Low (1-10) - if D2 or D3 - add 1 year
  - Moderate (11-49) - add 2 years (add additional 2 years for every year weeds are not treated appropriately)
  - High (50-100) - add 4 years (add additional 4 years for every year weeds are not treated appropriately)

Table 9. Monitoring Time Period Calculation

Acres of Temporary Use (from Table 4) by Disturbance Type	**568**	**864**	599	0
Disturbance	D0 (+**0**)	D1 (+**1**)	D2 (+**6**)	D3 (+**8**)
Long Linear (> 5 miles)? **Yes +2, No +0**	0	0	0	0
Large Area (>1 acres, <20 acres)? **Yes +1, No +0**	0	0	0	0
Very Large Area (>20 acres)? **Yes +4, No +0**	0	0	0	0
Weed Risk Rating: Low (1-10) **+1** *only for D2 or D3*			0	0

Weed Risk Rating: Moderate (11-49) +**2**	0	0	0	0
Weed Risk Rating: High (50-100) +**4**	0	0	0	0
Total Years Per Disturbance Type *(add all rows)*	0	1	6	0

4.2.3. Qualitative Monitoring

- Qualitative monitoring will be used to inform the Applicant, contractors, and the BLM to the progress of recovery and to identify potential problems at an early stage so that necessary adaptive management actions can be taken without affecting the overall project timeline.
- Qualitative monitoring will include repeated photo documentation at established points on the perimeter and interior of the project site, site inspections, and visual assessment of plant health and soil erosion. This monitoring will be performed by the Project Lead Botanist and/or staff.
- A site-specific monitoring data form will be developed and used consistently throughout the recovery period.
- The goal of qualitative monitoring is to record site conditions to determine the need for any additional remediation measures and to ensure that the site is continuing to progress towards meeting the success standards.
- Qualitative monitoring will include:
  - observations of germinating species included in the broadcast seed mix
  - estimates of perennial percent cover, density, and species richness
  - estimates of density and richness of native annuals
  - health and vigor of salvaged cacti and yucca, and transplanted nursery-grown shrubs
  - soil erosion
  - native plant recruitment
  - phenology (flowering, fruiting, etc.) of native plants
  - herbivory
  - plant disease or infestation
  - presence of non-native species
  - presence of native animals
  - vegetation patterns

4.2.4. Quantitative Monitoring

- Quantitative monitoring is used to objectively determine when a disturbed site has progressed sufficiently towards recovery of the natural ecosystem structure and

function and that it will continue to progress towards a self-sustaining system, such that the Applicant can be released from responsibility.

- To determine if rehabilitation success criteria have been met, performance standards will be measured on the project site before site sign-off. These measurements may be taken sooner if the site appears to be recovering more quickly. Measurements of percent cover, density, and species richness for perennial natives will be compared to baseline data taken prior to disturbance, or in reference sites with the same vegetation and soil types.
- Measurements for annual natives will be compared to measurements made from nearby, undisturbed reference areas because variation in growth of annual plants can be substantial between years.
- Quantitative monitoring will include line-point intercept, line intercept, or a modified AIM (Assessment, Inventory, and Monitoring) protocol, or some combination of the above. [The methodology will be outlined within this plan and approved by BLM].
    - Transect locations will be randomly selected both within the disturbed area and reference area.
    - Transects must adequately represent the entirety of the site, and enough transects must be measured to estimate means for the success criteria within a given confidence level.
    - If the mean for a given success criteria within the project site is less than the standard, a one-sample, one-tailed t-test will be performed.
    - Failure to reject the null hypothesis that the restored area cover and density values are greater than or equal to the percent cover of the restoration area compared to the baseline data or reference site data will indicate that the site has been successfully restored.
    - Species richness is evaluated by comparing the total number of native perennial species within the study area to the number of species found in the same surveyed area prior to disturbance or on the reference site. No statistical tests are performed on species richness data, as there is no measure of variance.

4.2.5. **Reporting Frequency** (Use Table 10)

- Site visits will be coordinated with BLM periodically (particularly if sites are not meeting restoration criteria) and before site sign-off.
- Deficiencies in Reporting
    - Reports not submitted in a timely manner may result in longer monitoring time periods (at the discretion of the BLM botanist)
- Please include this table, updated, in annual reports.

Table 10. Monitoring & Reporting Timeframes

Tasks	Year 1	Year 2	Years 3-4	Year 5	Year 6
As-Built Report	60 days post restoration completion				
Date Report Submitted					
Qualitative Monitoring	Year 1	Year 2	Years 3-4	Year 5	Year 6
Site inspection/visual assessment	Quarterly	Quarterly	Biannually	Annually	Annually
Photo monitoring	Annually	Annually	Annually	Annually	Annually
Date Report Submitted					
Quantitative Monitoring	Year 1	Year 2	Years 3-4	Year 5	Year 6
Transect/plot monitoring	Annually	Annually	Annually	Annually	Annually
Date Report Submitted					

*All formal annual reports will be submitted before December 15th of the same year.
**Qualitative monitoring will be increased where Weed Risk Ratings are Moderate or High - please revise table as necessary where this is applicable.

5. SUCCESS STANDARDS

Restoration will be considered successful if plant cover, density, and species richness of native perennial vegetation is equal to or exceeds a designated percentage of the values for these parameters in undisturbed reference areas. The standards required for the four land management designations are: **100 % for R1, 80% for R2, 70% for R3, and 60% for R4**. If these standards are met on a restored site in a six-year time period, the site may be released from further input and monitoring as long as cover, density, or diversity of weed species is not higher in the restoration areas than in reference conditions for a minimum of 2 years prior to proposed site release.

5.1. Success Standards:

- Cover of Perennial Species (*60*%* of reference site): This does not include cacti or yucca.
- Density of Perennial Species (*60*%* of reference site): This does not include cacti or yucca.
- Richness of Perennial Species (*60*%* of reference site): This does not include cacti or yucca.
- Number of Dominant Species (*60*%* of reference site): This does not include cacti or yucca.
- Annual Species (*60*%* of reference site)
- Survival of salvaged Cacti and Yucca (minimum 80% survival)
- Non-native Species Cover (Compared to reference site)
- Non-native Species Richness (Compared to reference site)
- Resistance to non-native species
- Seedling recruitment
- Lack of significant erosion

In areas under arrays reflecting D1 and D2 disturbance, only perennial plant density will be considered for meeting success standards. Rainfall conditions will be considered when assessing the above success standards; periods of drought may affect survival of vegetation, including salvaged yucca and cacti, and success criteria may be adjusted accordingly by the BLM. Sites will be released at the discretion of the BLM botanist. Any outplanted or transplanted shrubs will need to show survival over 1 full year without watering to get an accurate assessment of survivability. Remedial actions to meet restoration plan criteria will be taken when sites are not progressing towards meeting criteria in the scheduled time period. Monitoring timeframes will be extended, and may be intensified, until restoration criteria are met.

6. DECOMMISSIONING

Decommissioning addresses dismantling and removal of project components and reclamation of areas disturbed over the life of the project. Reclamation will primarily be accomplished through revegetation. Invasive weeds in the project area will also be controlled throughout the life of the project in accordance with the Weed Management Plan. This Decommissioning Section supplements and tiers to the rest of the components of the Restoration Plan, and the Weed Management Plan. Together, the two documents describe the overall approach to vegetation management, weed management, and site closure, reclamation, and revegetation to be implemented at the end of the project's lifespan.

6.1.1. Expected Lifespan of Project

The Project is anticipated to operate for a minimum of 30 years. At the discretion of the Project operator and the BLM, the Project may be repowered to extend its operation for an additional 30-40 years.

6.1.2. Objectives

The objectives of project decommissioning and reclamation is to remove any installed equipment and to return the site to a percentage of reference site conditions, per the success standards outlined in *Section 5.1*.

6.1.3. Final Decommissioning Plan

- Project decommissioning will be coordinated with BLM.
- A minimum of 5 years prior to decommissioning, a Final Decommissioning Plan will be submitted to BLM for approval detailing all decommissioning processes.
- This will follow any standard templates BLM has for this Plan at that time, but will, at a minimum, follow the standards outlined herein.
- The standards outlined in *Section 5.1* are the minimum reclamation standards, unless updated by a higher standard at the time the Final Decommissioning Plan is developed.

6.1.4. Removal of Structures

6.1.5. Project facilities will be removed as described in the Project's Plan of Development and Decommissioning Plan. **Post-Decommissioning Restoration**

- *Sections 3 – 5* will be followed during decommissioning.
- Decommissioning will adhere to the Project's Decommissioning Plan, which will include descriptions of structure removal and recontouring.
- BLM generally does not require the salvage of plant materials for long-term disturbances, so there are unlikely to be salvaged plant materials available at the end of the project's lifespan – however, the rest of the methodology and success criteria contained within these sections will be followed.
- Revegetation monitoring will be implemented as described in *Section 5* to ensure that revegetation efforts are successful. If revegetation does not meet these criteria, remediation measures will be implemented to meet revegetation standards outlined in *Section 5*.
- Prior to initiating decommissioning activities, the project owner will contract with a qualified Reclamation Specialist to evaluate and prescribe specific reclamation measures throughout the project area. The Reclamation Specialist will coordinate with the designated Project Biologist and with the project owner to ensure that the measures are implemented as written.

6.1.6. Reclamation Bond

- As required by BLM, the project owner will purchase a performance bond or similar security, which will be issued either by an insurance company or a financial institution to guarantee the satisfactory decommissioning and restoration of the project site. The bond will be obtained prior to the start of project construction and will be structured so the funds will be returned to the project owner upon completion of decommissioning and restoration activities (with an amount held in reserve until

restoration monitoring is completed). It will also be structured in such a manner that BLM will be able access those funds to pay for the decommissioning and restoration of the site, in the event that the project owner becomes insolvent.

APPENDIX A

Sample Perennial Seed Mix for Temporary Disturbance Areas			
Species & Common Name	Pounds per Acre	Percent Purity	Approximate Weight (lbs per 40 acres)
Ambrosia dumosa (white bursage)	3.5	29	140
Atriplex canescens (four-winged saltbush)	1.5	12	60
Ephedra nevadensis (Nevada ephedra)	1.5	12	60
Hilaria rigida (galleta grass)	3.0	25	120
Larrea tridentata (creosote bush)	0.5	3	20
Sphaeralcea ambigua (desert globemallow)	0.5	3	20
Stipa hymenoides (Indian ricegrass)	2.0	16	80

*All amounts are based on weight of pure live seed.

APPENDIX B

CACTI & YUCCA SALVAGE/TRANSPLANT BMPS

- Success Criteria:
  - 80% survival overall for R4 areas. Any outplanted or transplanted cacti and yucca will need to show survival over 1 full year without watering to get an accurate assessment of survivability. ~~Drought conditions will be considered when evaluating survival of salvaged cacti and yucca.~~
- Methods for Extraction, Handling, and Transplanting
  - All salvage activities will take place in fall, winter, or early spring to minimize plant stress. It is assumed that an experienced Vegetation Salvage Contractor will already have proven strategies for successful transplantation in hand, including proprietary techniques developed from their own experience; however, they will be provided a copy of Salvage, Stockpiling, and Final Transplanting of Cacti and Yucca, BLM 2013 (Appendix 1) for guidance and reference, and all salvage methods must be consistent with these BLM guidelines. A summary of these measures are provided in this section below.
- Extraction Procedures
  - Yuccas will be extracted with heavy equipment (backhoes/front-end loaders), taking care not to damage roots, stems, or lower part of the plants. Salvaged yucca will be transplanted immediately. Large, widely-spaced yucca clones will inevitably break apart during extraction. These clones will be cleaned up by clipping the roots to approximately 1' length and then transplanted as individuals. Yuccas have extremely sharp and stiff leaves which can easily penetrate deep into human flesh and potentially cause profound internal organ damage. Extreme care will be taken in handling this hazardous plant, including the use of eye protection and gloves. Yuccas will be handled using heavy machinery, using long pitchforks to help with moving and positioning. Salvage workers will keep a safe distance from any yucca elevated above head-level on machinery.
  - Cacti will be extracted by hand using conventional tools (shovels and picks). Cacti will be handled with long pitchforks, and loose soil will be shaken off of the rootball. Roots will be cleanly clipped to about the diameter of the plant, taking care to avoid lacerating the roots. Cacti will be transplanted immediately or stored under shade cloth to prevent sunburn. Cacti have sharp and vicious spines but are mostly a nuisance hazard. Heavy gloves are only moderately effective at blocking spines. Whenever practical, handling cacti will be performed with long pitchforks. Eye protection will be worn at all times while handling cacti.
- Transplanting to Plant Nurseries

- The nursery will be prepared before transplanting begins. Parallel trenches will be dug into the salvaged topsoil with wide-enough spacing to accommodate loaders, backhoes, and watering trucks. Each trench will be at least approximately 18" deep and 3' wide. Immediately before transplanting, each trench will be soaked deeply with water and allowed to drain. It is recommended to plant similar cactus species together, with individuals of similar size class kept together. This helps in controlling watering rates for different species and sizes of plants (Baker, pers. com.). Cactus and yucca will be transplanted directly into moist trenches, maintaining their original north-facing orientation. Yucca will be planted at least one foot apart. Long pitchforks will be used to hold plants in place while backfilling with trench soil. Soil will be carefully tamped down to reduce air pockets, and a shallow berm will be created around each plant for watering. Watering Guidelines are as follows:
    - Water thoroughly immediately after transplant;
    - Water thoroughly 2 weeks after transplant;
    - Water additionally as needed, but no more frequently than every two months to avoid root rot; and
    - Remove or minimize any air pockets and assure proper soil compaction. Care should be taken to properly compact all soil around the roots of plants that are directly transplanted.
- Cacti will be extracted from the nurseries using hand tools, carefully shaking off loose soil and clipping roots to about the diameter of the plant. Transplanting holes will be dug approximately 1' deep and 2' wide. Immediately before transplanting, each hole will be filled with water and allowed to drain. Cacti will be positioned within the holes, maintaining their original north-facing orientation. One worker will hold the cacti in place while the other worker carefully backfills with loose soil. Soil will be tamped down lightly, and a watering berm will be formed around each plant. Plants will be watered thoroughly after transplanting.
- For yuccas, transplanting holes will be dug approximately 2' deep and 3' wide or larger for clones and larger plants. Yuccas will be carefully extracted using backhoes or loaders, being careful to avoid damaging the roots and lower stems. Immediately before transplanting, the holes will be filled with water and allowed to drain. The holes will then be refilled with water and backfilled halfway with soil to create a muddy slurry. Yuccas will be placed into this muddy slurry, maintaining their original north-facing-orientation, and the remainder of the holes will then be backfilled. A watering berm will be formed around each plant, and each plant will then be watered again thoroughly. After two weeks, soil water moisture will be checked with a probe

to determine if additional watering is needed. Transplanted cacti and yucca will be watered in this sequence:

- Water thoroughly immediately after transplant;
- Water thoroughly 2 weeks after transplant; and
- Water additionally as needed, but no more frequently than every two months to avoid root rot.

APPENDIX C

BLM-APPROVED DUST PALLIATIVES/SOIL BINDERS

	Water	Synthetic Polymer Derivatives (FSB-1000, Pas Tex, Soil Sement)
Attributes	• agglomerates the surface particles • readily available	• binds surface particles because of polymers' adhesive properties • stabilized product resists wash out from rain events • can be tilled in to create a compact surface in sandier soils
Limitations	• evaporates readily • controls dust generally for less than a day • generally the most expensive and labor intensive of the inorganic suppressants	• difficult to maintain as a completely hard surface • re-grading activity will cause the profile to break apart and destroy the products' bonding capacity
Application	• frequency depends on temperature and humidity • typically only effective from 1/2 to 12 hours	• generally 1 to 2 treatments per year • application rates vary significantly depending on the activity (traffic/non-traffic, soil conditions, etc.)
Origin	• any potable water source	• by-product of adhesive or paint manufacturing process
Environmental Impact	• none	• water quality impact: none • freshwater aquatic impact: generally low • plant impact: none

APPENDIX D

BACKGROUND AND AUTHORITIES

The purpose of this plan is to provide a clear and standardized restoration plan template that will be used for any project creating ground disturbance throughout the Southern Nevada District Office (SNDO). This plan gives direction for restoration actions required after a disturbance by Right-of-Way (ROW) Holders, which will be followed both for short-term restoration, and for eventual decommissioning of the site. The steps within this plan will be taken to achieve objectives in the most effective way. Implementation of this plan will ensure that all disturbances are held to the same standard, and that SNDO is meeting its objectives under its current Land Use Plan. This restoration plan does not address reclamation as required as part of 3809 Regulations under the General Mining Act of 1872.

The goal of this plan is to ensure restoration is completed in accordance with BLM policy, as outlined below. The intent of restoration is to re-establish a desirable perennial vegetation cover, minimize weed establishment, stabilize the soil, and recreate habitat usable for wildlife. Annual monitoring will occur until the restoration criteria outlined herein have been met. Remedial actions will be taken when sites are not progressing towards meeting restoration criteria. Sites will not be released until they have met restoration criteria.

Proponents are increasingly realizing the benefits of using Less Impact Construction methods or plant salvage to expedite restoration processes. Less Impact Construction methodologies should be incorporated into development whenever possible. Ground disturbance will result in greater restoration costs and longer monitoring times.

This plan will also be referenced when preparing decommissioning reports. The same standards and guidelines outlined here apply to decommissioning.

Authority for restoration is provided under the following:

43 CFR 2881.2

"The authorized officer shall impose stipulations which shall include, but not be limited to requirements for restoration, revegetation, and curtailment of erosion of the surface of the land [and] requirements designed to control or prevent damage to the environment (including damage to fish and wildlife habitat)..."

FLPMA Sec. 101(a)(8)

Requires that, "public lands be managed in a manner that will protect the quality of

scientific, scenic, historical, ecological, environmental, air and atmospheric, water resources, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition..."

Endangered Species Act of 1973, as amended Section 7(a)(2)
Requires that federal agencies ensure that any authorized action "will not result in the adverse modification" of critical habitat.

Las Vegas Field Office Resource Management Plan (RMP), Record of Decision

- VG2. Restore plant productivity on disturbed areas of the public lands.
- VS-1 Limit future impacts on the visual and aesthetic character of the public lands.
- RP-1-f. Use integrated weed management techniques to control and eradicate tamarisk, such as burning, chemical, biological, or mechanical treatments, where potential for treatment is good. Rehabilitate the area with native species to help reduce the potential for tamarisk re-establishment and improve ecosystem health.
- VG-1-a. Manage to achieve a Desired Plant Community or a Potential Natural Community.
- VG-2-a. Rehabilitate, reclaim, or revegetate areas subjected to surface-disturbing activities, when feasible. When rehabilitating disturbed areas, manage for optimum species diversity by seeding native species.
- SS-3-a (i). Require reclamation of disturbed lands resulting from activities that result in loss or degradation of tortoise habitat with habitat to be reclaimed so that pre-disturbance condition can be reached within a reasonable time frame. Reclamation may include salvage and transplant of cactus and yucca, recontouring the area, scarification of compacted soil, soil amendments, seeding, and transplant of seedling shrubs. Subsequent seeding or transplanting efforts may be required, if monitoring indicates that the original effort was not successful.
- SL-1. Reduce erosion and sedimentation while maintaining or where possible enhancing soil productivity through the maintenance and improvement of watershed conditions.

Clark County Multiple Species Habitat Conservation Plan

- No net unmitigated loss or fragmentation of habitat for covered species.

Desert Tortoise Recovery Plan

- Restoration of surface disturbance identified for all Desert Tortoise Recovery Units to pre-disturbance conditions.