Tri-State Montrose-Nucla-Cahone Transmission Line Improvement Project

Draft Plan of Development

Montrose, Ouray, San Miguel, and Dolores Counties, Colorado

Appendix P

Draft Reclamation Plan

Appendix P

Draft Reclamation Plan

The objective of this Draft Reclamation Plan is to detail practices designed to address temporary impacts resulting from construction of the Tri-State Montrose-Nucla-Cahone Transmission Improvement Project (Project). Tri-State Generation and Transmission Association, Inc. (Tri-State) has developed this plan as part of the Plan of Development (POD) that accompanies its application to the Bureau of Land Management (BLM) for a Right of Way (ROW) grant. . The final POD will be developed in coordination with federal agencies and landowners and will provide a detailed reclamation plan specific for the project. If the ROW grant is approved, the final POD and all appendices will be attached to the Decision Record.

Introduction

This reclamation plan provides a framework approach and various techniques and options that may be employed to successfully restore temporarily disturbed areas from construction of the project Revegetation would be considered successful if species composition, weed conditions, and vegetative cover was similar to preconstruction conditions three years following treatment. The Stormwater Management Plan requires that 70% of surrounding or pre-existing cover be established before the site is considered permanently stabilized. Tri-State's Stormwater Management Plans for the transmission lines and substations will address both temporary erosion control and long-term stabilization of disturbed soils and these plans are incorporated here by reference. Many of the environmental protection measures that Tri-State has committed to also contribute to successful reclamation and revegetation and are found in Chapter 3.0 of the POD. *Appendices A (Road Siting)* and *T (Operations, Maintenance and Vegetation Management)* of the POD also overlap with revegetation practices and should be reviewed along with this Appendix. More specific detail of the site specific reclamation treatment would be included in the final POD.

Reclamation of Temporarily Disturbed Areas Post-Construction

Permanent disturbance will occur primarily at each structure location and along new access routes. Temporary disturbance will include areas where additional cut and fill are needed to construct new access roads, improve existing access roads, pull sites, pad sites around structures where necessary, and staging areas. New disturbance also captures alignment changes including the proposed two (2) miles of new right-of-way for the proposed Dolores River crossing and nine (9) miles of disturbance for the Dry Creek Basin Alternative, if selected.

Pretreatment of Noxious Weeds

The ROW and access roads were surveyed in 2013 for noxious weeds and special status plant species. As part of the existing authorization, Tri-State routinely treats noxious weeds, usually through cooperative agreements with land management agencies; see *Appendix S (Noxious Weeds Management Plan)*. Tri-State will pretreat known locations of noxious weeds prior to construction in coordination with the agencies rangeland management/invasive species coordinators. Pre-treatment will occur at appropriate times, such as before blooming in spring or fall, depending on species phenology. Noxious weeds within the transmission ROW and associated administrative-only access roads would continue to be treated via existing agreements with the U. S. Forest Service (FS) and through ongoing coordination with the BLM post construction for the life of the ROW Grant. See *Appendix S* and Environmental Protection Measures (EPMs) NW-1 through 6.

Topsoil Salvage

Generally topsoil salvage is not proposed since most areas will not be extensively graded. The final reclamation plan will identify areas where topsoil salvage is warranted and feasible. Topsoil is identified

as the top 6-12 inches of soil containing organic matter. Salvaged topsoil would be protected and stabilized by practices identified in the *Stormwater Management Plan (SWMP), Appendix Q*. Salvaged topsoil would be re-spread before seeding.

During construction activity, some excess spoils; that is, subsoil and/or waste rock will be generated. Spoil will be spread close to the site of disturbance, in a uniform manner to match existing contours or will be hauled off-site. Where feasible spoils will be spread, covered with topsoil if available, mulched if needed and seeded.

ROW Reclamation

Re-contouring may be required for areas proposed for temporary disturbance as discussed above. Areas within the ROW, laydown or staging areas, or other areas with heavy vehicle traffic and exposure to water may become compacted. These areas will be 'de-compacted' on a case-by-case basis using appropriate equipment such as discs and rippers.

Shallow soils, steep slopes, rocks or exposed bedrock may not be seeded but would be treated to restore contours and visually blend with surrounding areas to the degree possible. Placement of boulders or special grading and contouring would be considered in visually sensitive areas.

Seed Bed Preparation

Re-contouring, surface roughening, and/or de-compaction will prepare a suitable rough surface with friable soils for seeding. Soil amendments are generally not proposed since they tend to favor weedy annual species that compete with native grasses. Soil amendments may be proposed on a case-by-case basis with agency or landowner approval.

Seeding Methods

Seeding will utilize a variety of methods depending on the timing of seeding and site conditions. Generally methods that apply the seed directly to the soil, such as with a drill seeder, broadcast spreader, or by hand, are preferred. The preferred method for seeding is drill seeding with a rangeland drill; however, if the areas of bare soil and disturbance are patchy and small, broadcast seeding would be used. Broadcast seeding rate would be double the drill seed rates. Broadcast seed would be covered by raking, harrowing, or dragging a chain over the surface.

In some cases, such as on steep, inaccessible slopes, hydro-seeding/mulching may be needed. Where possible, seed will be broadcast first before applying hydro-mulch, tackifier, or erosion blankets.

Timing

Reclamation and revegetation would begin as soon as construction is complete. The preferred timing of seeding is late fall before frost. Tri-State's goal and plan is to treat all areas on the Nucla-Cahone segment in fall 2017 and the Montrose- Nucla segment in fall 2018. However, given weather and other unforeseen conditions or delays some seeding may not be completed until the following spring. The federal land management agency and/or landowners will be consulted regarding timing and methods of seeding if seeding cannot be completed immediately following construction due to weather or site conditions.

Seed Mixes

Site specific seed mixes will be developed for different elevations, plant communities, and soils in coordination with a local seed bank. Tri-State will work with the Natural Resources Conservation Service (NRCS), BLM, Colorado Parks and Wildlife (CPW), FS, and landowners to develop seed mixes compatible with current conditions and land uses. These seed mixes will be comprised primarily of native species readily available for purchase or specifically collected locally for Tri-State (through the

Uncompahgre Partnership) for sensitive habitats such as Gunnison sage grouse habitat. Seed rates will be given in pounds per live seed (PLS). Proper testing, labeling, storage, handling and protection of seed will be required.

In some cases a sterile cover crop may be added to the mixes to ensure germination and cover on severe slopes, under erosion blankets, or sensitive sites. Cover crop seeding can serve as a nurse crop for native species. Many native species need a season to break dormancy. Cover crop provides quick vegetative cover, soil stabilization and competes well with invasive weedy species but not with native species.

Mulching

Mulch (primarily clean, certified weed-free straw) will be applied at one to two tons (2000-4000 pounds [lbs.]) per acre where deemed necessary by the agencies in coordination with the Environmental Monitor and Tri-State's reclamation contractor. These areas would be primarily on areas of steeper slope. Where practical, mulch will be crimped, tackified or otherwise incorporated into the soil to the degree possible. Crimping or anchoring of mulch will occur immediately following treatment, no longer than 24 hours after treatment. If machine crimping is not possible, straw may be spread by hand, anchored with shovel crimps, or sprayed with tackifier. Masticated brush or slash may be spread and used as a natural mulch layer. On steep slopes such as along roads or at substations, hydro-mulch may be sprayed with water to minimize erosion and help establish vegetation. Hydro-mulch would be applied at a rate of 2,000 lbs. /acre.

Monitoring Recovery/Maintenance

The reclaimed ROW and substations will be inspected after the first growing season to assess germination and reclamation success. Monitoring requirements will follow measures required in the *Stormwater Management Plan* (*Appendix Q*) until final stabilization is achieved. Following construction, inspection of site recovery will be done on a monthly basis, until 70% of pre-existing vegetation cover is achieved. Tri-State will consult with land management agencies and landowners regarding the relative success of reclamation and the potential need for additional treatment.