

APPENDIX Q  
FRAMEWORK RECLAMATION PLAN

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## ACRONYMS

ACEC	Area of Critical Environmental Concern
Applicant	TransWest Express LLC, also TransWest
BA	Biological Assessment
BE	Biological Evaluation
BLM	Bureau of Land Management
BMP	Best Management Plan
BO	Biological Option
DEIS	Draft Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FO	Field Office
NPS	National Park Service
NTP	Notice to Proceed
OHV	off-highway vehicle
Plan	Reclamation Plan
POD	Plan of Development
Project	TransWest Express Transmission Project, also TWE Project
Reclamation	Bureau of Reclamation
ROD	Record of Decision
TransWest	TransWest Express LLC, also Applicant
TWE Project	TransWest Express Transmission Project, also Project
USFS	United States Forest Service

## **Q1.0 INTRODUCTION**

### **Q1.1 Purpose**

TransWest Express LLC (TransWest or Applicant) has prepared this framework Reclamation Plan (Plan) for the TransWest Express Transmission Project (TWE Project or Project) to outline reclamation goals and objectives and the reclamation process, including soil management, site preparation, revegetation, monitoring, and reporting. This Reclamation Plan for the TWE Project provides an overview of the reclamation goals and standards that will be used to ensure successful reclamation of disturbed areas created by the Project. The reclamation procedures outlined in this document describe the methodologies, monitoring, and reporting requirements for reclaiming disturbances associated with the Project.

This Reclamation Plan describes the framework for the development of a final Reclamation Plan that will be a part of the Plan of Development (POD) provided with the Notice to Proceed (NTP). Final reclamation plan(s) will be developed by the Construction Contractor(s) based on the final selected location of all Project facilities and will be submitted to the appropriate agency prior to the issuance of the construction NTP. Final reclamation plan(s) are intended to be adaptive to changing conditions and technologies, and the federal Authorized Officer(s) will have discretion to update, modify, or change the procedures should it be deemed warranted due to site conditions or other factors.

The Project area contains federal lands administered by the Bureau of Land Management (BLM), U.S. Forest Service (USFS), National Park Service (NPS), and Bureau of Reclamation (Reclamation) (“federal lands”); state lands under the management of various state land boards and management agencies (the “state lands”); and private lands. The Reclamation Plan and the procedures and standards outlined herein will apply to federal lands within the Project area. While the preference will be to use the procedures and standards of the Reclamation Plan throughout the Project area, specific reclamation techniques, standards, and schedules on private lands and state lands may vary and will be developed in coordination with private landowners, state land boards or state management agencies.

### **Q1.2 Reclamation Goals and Objectives**

Reclamation objectives emphasize eventual ecosystem reconstruction to maintain a safe and stable landscape and meet the desired outcomes of the land use plan, which means returning the land to a condition approximate to or better than pre-disturbance conditions. For purposes of this Reclamation Plan, reclamation is defined as the rehabilitation of a disturbed area to make it acceptable for designated use. Reclamation objectives include initial stabilization and long-term reclamation to ensure biophysical conditions are maintained in the short term to achieve the long-term goals of revegetation and ecosystem reconstruction.

To achieve long-term reclamation, interim reclamation may be necessary to maintain viable, healthy ecosystems until decommissioning. Interim reclamation will likely be used on stabilized areas that may be re-disturbed during operation and maintenance. Interim reclamation goals and objectives include maintaining active topsoil, establishing erosion control measures, and minimizing habitat, visual resource, and forage loss. Final, long-term reclamation will take place on all surfaces that will not be disturbed during operations and maintenance activities, as well as during decommissioning of all areas.

Table Q1 provides the best management practices (BMPs) and mitigation measures identified in the Draft Environmental Impact Statement (DEIS) which may be applicable to this Plan. These BMPs

and mitigation measures have not been finalized at this time and may be updated, changed, or eliminated as the Plan is further developed.

**TABLE Q1 APPLICABLE AGENCY SPECIFIC MEASURES IDENTIFIED IN THE DEIS**

MEASURE CATEGORY	RECLAMATION BMP, DESIGN FEATURES, AND STATE AND BLM FIELD OFFICE-SPECIFIC STIPULATIONS, AND FOREST STANDARDS AND GUIDELINES
<b>West-wide Energy Corridor</b>	
General	GEN-1, GEN-3, GEN-7, GEN-12, GEN-14
Soils, Excavation, and Blasting	SOIL-1, SOIL-2, VEG-1, SOIL-3, SOIL-4
Mitigation and Monitoring	MIT-1
Surface and Groundwater Resources	WAT-7, WAT-9, WAT-10, WAT-11
Ecological Resources	ECO-1, ECO-2, ECO-4
Visual Resources	VIS-7
Public Health and Safety	PHS-3, PHS-7
Air Emissions	AIR-1
Restoration	REST-1, REST-2
<b>Applicant Committed Environmental Mitigation Measures</b>	
General Design Features (general, environmental training)	TWE-4
Project Design, Access, and Construction (general ROW, visual, access, vegetation management, restoration, erosion control, soils, clean-up)	TWE-10, TWE-11, TWE-13, TWE-14, TWE-15
Geology and Soils (drainage and soil control)	TWE-19
Groundwater, Surface Water, and Wetlands (water quality)	TWE-20, TWE-21, and TWE-22
Vegetation and Soils Management (vegetation management)	TWE-27
Ecological Resources (ecological, special status species and habitats)	TWE-33
Cultural Resources – Historic, Archeological, and Tribal Traditional (general, cultural)	TWE-37
Land Use and Visual Resources (land use, agriculture, ranching, access, gates)	TWE-41, TWE-43
Public Health and Safety (worker health and safety)	TWE-56
Hazardous Materials, Waste, and Wastewater Management (\ waste management)	TWE-60
Fire Protection	TWE-64
<b>Additional Mitigation Measures Prescribed for the TWE Project</b>	
Soil Resources	S-1, S-2, S-3, S-4, S-5, S-6, S-8, S-9, S-11, S-13, S-14, VG-1, VG-3, VG-4
Special Status Plant Species	SS-5, SS-6

MEASURE CATEGORY	RECLAMATION BMP, DESIGN FEATURES, AND STATE AND BLM FIELD OFFICE-SPECIFIC STIPULATIONS, AND FOREST STANDARDS AND GUIDELINES
Special Status Wildlife Species	SSWS-10
Special Status Aquatic Species	SSS-2, SSS-3, SSS-4
Land Use	RANGE-4, RANGE-6
Special Designations	SDA-2, SDA-4
<b>Wyoming BLM Field Offices</b>	
BLM Rawlins FO	OHV use limited to designated roads and vehicle routes.
BLM Rawlins FO	Surface disturbance avoided on unstable areas.
<b>Colorado BLM Field Offices</b>	
BLM Little Snake FO	Surface disturbing activities would be allowed on isolated sites that meet fragile soil criteria, under certain circumstances.
BLM White River FO	Surface occupancy not permitted on soils identified as unstable and subject to slumping.
BLM White River FO	Surface disturbing activities not permitted on fragile soils on slopes >35 percent, or saline soils derived from Manco shale without appropriate plan and approval by Area Manager.
BLM White River FO	Habitats having Blue Mountain Deciduous Browse/Aspen/Serviceberry/Chokecherry Communities may be prohibited, but if allowed would be avoided to the extent possible and use of special restoration measures to promote recovery.
BLM White River FO	To protect outstanding scenic and natural landscape values at select areas (VRM Class II and III), if construction is permitted, special design and reclamation measures may be implemented including transplanting trees and shrubs, fertilization, mulching, special erosion control structures, irrigation, site recontouring, low profile equipment, and painting to reduce visual contrasts.
BLM White River FO	Special restoration measures must be implemented for loss of prairie dog habitat.
<b>Utah BLM Field Offices</b>	
BLM Fillmore FO	All land disturbed by new ROW except authorized new access roads shall be rehabilitated to as close to natural conditions as possible.
BLM Price FO and BLM Vernal FO	If surface disturbance cannot be avoided on slopes of 21-40%, a plan would be required which includes an erosion control strategy, GIS modeling, survey by certified engineer, and adhere to surface operating standards in the BLM Gold Book (USDI and USDA 2007). For slopes >40%, there would be no surface occupancy unless there is a plan and a detailed analysis (e.g. Order I soil survey by soil scientist) finds that conditions would allow occupancy while adequately protecting area from accelerated erosion.
BLM Richfield FO	Avoid routing through areas with slopes of 30% or greater. If avoidance is not practical, an erosion control strategy, reclamation and site plan with detailed survey by certified engineer are required. Avoid soils having high potential for wind erosion.
BLM Richfield FO	Wetlands would additional measures, such as no surface

MEASURE CATEGORY	RECLAMATION BMP, DESIGN FEATURES, AND STATE AND BLM FIELD OFFICE-SPECIFIC STIPULATIONS, AND FOREST STANDARDS AND GUIDELINES
	occupancy areas, erosion control strategies, mitigation to protect surface from rutting, compaction, and displacement, and disruption of surface and subsurface function, mitigation or restoration measures to restore hydrologic function to site, survey requirements and design by certified engineer.
BLM Salt Lake FO	Avoid lands with slopes >30%. Surface disturbance only allowed on fragile soils with slopes >35% with appropriate engineering plan.
<b>Utah National Forests</b>	
Ashley NF	Would obtain at least 80% of original ground cover within five years after project completion
Ashley NF	Maintain adequate downed material and standing snags for wildlife habitat as identified below: Aspen: 70% of maximum population potential or 1.3 snags/acre Douglas-fir: 50% of maximum population potential or 1 snag/acre Lodgepole pine: 40% of maximum population potential or 0.7 snag/acre (Spruce-Alpine fir) Ponderosa pine: 80% of maximum population potential or 2.7 snags/acre Riparian (any species): 70% of maximum population potential or 1.3 snags/acre
Manti-La Sal NF	Manage down timber to provide habitat for wildlife and manage to provide at least two logs per acre in timber habitat types.
Manti-La Sal NF	Prompt restoration must be assured for approved activities.
Manti-La Sal NF	Obliterate and rehabilitate temporary roads within one season after planned use ends.
Manti-La Sal NF	Minimize significant soil compaction and disturbance in riparian ecosystems. Allow use of heavy construction equipment during period when soils are less susceptible to compaction or rutting.
<b>Nevada BLM Field Offices</b>	
BLM Las Vegas FO	In Mormon Mesa and Rainbow Garden ACECs for critical desert tortoise habitat, the following is required: reclamation to pre-disturbance conditions within reasonable timeframe, which may include salvage and transplant of cactus and yucca, recontouring of area, scarification of compacted soil, soil amendments, seeding and transplant of seedling shrubs. Subsequent revegetation measures may be required if monitoring indicates not successful the first time.
BLM Las Vegas FO	Reclamation of temporary roads required in ACECs.

ACEC = Area of Critical Environmental Concern; FO = Field Office; BLM = Bureau of Land Management; BMP = Best Management Practice; OHV = off-highway vehicle

### Q1.3 Plan Updates

The reclamation plan(s) will be updated for the Record of Decision (ROD) POD based on the Agency Preferred Alternative, and BMPs and mitigation measures identified in the Final Environmental Impact Statement (FEIS), Biological Assessment (BA), Biological Opinion (BO), Biological Evaluation (BE), and through consultation with federal and state agencies. Updates in the ROD POD

may include defined noxious weed areas, defined reclamation zones per region/line segment, applicable mitigation, pre-construction requirements, and post-construction monitoring.

The reclamation plan(s) will be updated as required for the Final NTP POD based on the final engineering and design and results of pre-construction field surveys. The updated reclamation plan(s) will outline actions to be applied by TransWest and its Construction Contractor(s) during reclamation planning, reclamation and post-construction monitoring.

## **Q2.0 SURFACE-DISTURBING ACTIVITIES**

Project surface-disturbing activities will be described in the NTP POD. Pre-disturbance assessments will provide the baseline information needed for construction planning. The NTP POD will include a Project layout, location and detail of surface-disturbing activities, and design documentation. This information will be used to determine specific reclamation techniques and reclamation timing for different disturbance elements and locations. Based on the level of disturbance, final reclamation standards and a monitoring schedule will be determined for each surface-disturbing activity. Soil stabilization will begin immediately following construction followed by interim reclamation.

## **Q3.0 SOIL MANAGEMENT**

Soil is constantly being weathered through biological processes, which develops the structure and function essential in sustaining vegetation communities and providing wildlife habitat. Thus, maintaining soil structure and function is critical for successful reclamation efforts. As described in the Framework Access Road Siting and Management Plan (Appendix A) TransWest will use existing roads and overland access (“drive and crush”) whenever practicable to avoid or reduce the need for reclamation. Where practicable, topsoil will be separated and handled differently than subsoil layers. Topsoil will be salvaged during construction to use for site preparation and to support future reclamation efforts. Soils on federal lands will be managed using measures approved by the appropriate federal agency. While the preference will be to use the same soil management practices on private lands and state lands, specific soil management practices on private lands and state lands may vary and will be developed in coordination with private landowners, state land boards or state management agencies as appropriate.

### **Q3.1 Soil Handling**

A critical component of reclamation is to maintain the biological, chemical, and physical integrity of the soil resource by establishing a series of guidelines for the proper handling of topsoil and subsoil. For each surface-disturbing activity, topsoil, and in some instances subsoil, will be salvaged and stockpiled. Components of soil handling will include the identification, erosion protection, placement, and incorporation of salvaged soil stockpiles.

### **Q3.2 Landscape Reconstruction**

Surface runoff and erosion control in areas exposed to surface-disturbing activities will be accomplished by reconstructing the landscape and maintaining soil stability. The landscape will be reconstructed to achieve a desired topography, slope stability, and surface stability, to the extent possible. Water courses and drainage features will be reconstructed, where practicable, to maintain the drainage pattern, profile, and dimension to approximate the natural features and hydrologic characteristics of pre-disturbance characteristics. Surface stability will be controlled by maintaining soil physical properties and treating compacted surfaces with accepted technologies.



## **Q4.0 RIGHT-OF-WAY RECLAMATION**

Reclamation restores the disturbed area by recreating the physical characteristics that approximate the landscape features of adjacent areas and pre-disturbance conditions. Components of reclamation include landscape reconstruction, site preparation and revegetation. Disturbed areas on federal lands will be revegetated in accordance with agency-approved measures and seed mixtures.

### **Q4.1 Erosion Control**

Erosion control measures will be implemented to avoid and minimize impacts from surface-disturbing activities. Erosion control measures will be installed prior to and immediately following surface-disturbing activities. Initial stabilization measures will be used to control surface runoff and erosion and to ensure biophysical conditions are maintained until long-term reclamation can be initiated. Long-term erosion control measures will be established with an overriding goal of revegetation and ecosystem reconstruction.

Immediately following surface-disturbing activities, temporary runoff and erosion control measures will be implemented where necessary to ensure soil stabilization. Measures may include mulching and netting of biodegradable blankets stapled firmly to the soil surface, applying sediment control, respreading scalped vegetation, and constructing water bars, diversion ditches, sediment fences, and energy dissipaters. Specific measures will be determined based on site-specific conditions.

Following soil stabilization, long-term measures will be applied to further stabilize disturbed areas and control surface runoff and erosion to meet reclamation standards. Long-term erosion control measures may include constructing sediment trapping devices, sediment filtering devices, water bars and revegetation of disturbed areas.

All runoff and erosion control structures will be inspected and properly maintained until the desired vegetation is established and soil stability is attained at the reclaimed area. Substandard or ineffective structures will be evaluated and replaced.

### **Q4.2 Seedbed Preparation**

The primary objective of revegetation is to establish the species composition, diversity, structure, and ground cover appropriate for the desired plant community. Seedbed preparation maximizes seeding efficiency and improves reclamation success and includes topsoil replacement, discing, and surface roughening techniques. Compacted areas will be treated with the most appropriate methods and technologies to improve soil aeration, water infiltration, and root penetration. Soil conditioning and amendments may be necessary to ameliorate poor topsoil and subsoil quality.

#### **Q4.2.1 Seeding Methods**

Following seedbed preparation, seed will be applied using a broadcast spreader, drill, and/or hydroseeder depending on site conditions and seed mix. Seeding will be done after ground-disturbing activities are complete and at the appropriate time of year (preferably in the fall or, if fall is not an option, the spring). TransWest will coordinate with the applicable BLM Field Office to determine the appropriate time of year for seeding. If there is a lag time between the end of ground-disturbing activities and seeding, appropriate erosion control measures will be implemented.

#### **Q4.2.2 Seed Mixes**

Proper seeding mixtures will be used to reclaim disturbed areas on federal lands. According to established criteria, the seed mixture selection process for federal lands will consider agency-specific

pick lists, seed availability and price, growth form, seasonal variety, and prevailing dominant species. To increase the likelihood of successful reclamation, locally adapted native plant materials based on the site characteristics and ecological setting (i.e., the pre-disturbance site characterization) will be selected when possible.

Seed mixtures will be tailored to establish species diversity, composition, and ground cover appropriate for each desired plant community. Only approved, certified weed-free seeds will be used. The local land management agency (i.e., BLM Field Office) will approve the seed mix to be used on their respective land. The seed mixture will contain the following elements.

- Species composition and diversity for the desired plant community, ecological setting, and current soil properties.
- Dominant herbaceous species (native where practical) that support or augment the post-disturbance land uses, including species-specific wildlife habitat, rangelands, and other public uses.
- Full shrub and/or sub-shrub species when these species are available and will help achieve reclamation objectives while supporting post-disturbance land uses and/or wildlife habitat needs.
- Forb species (native where practical) or other agency or landowner-approved plant species, as appropriate for management objectives.

### **Q4.3 Weed Management**

Noxious weed management for Project will occur as described in Appendix N of the POD, the “Noxious Weed Management Plan.” The focus of noxious weed control efforts is to prevent the spread of new infestations resulting from Project activities.

## **Q5.0 MONITORING AND REPORTING**

Reclamation monitoring will document the condition of reclaimed areas and reclamation progress across the Project. TransWest will conduct post-construction reclamation monitoring annually for a 2-year period or until reclamation goals are met following the conclusion of ground-disturbing activities.

### **Q5.1 Monitoring Activities**

Reclamation monitoring will occur annually in accordance with agency specific requirements on federal lands. Vegetation will be evaluated against reclamation goals and objectives (Section 1.2). Successful revegetation will be determined by monitoring reclaimed areas against existing conditions. Species and relative density will be assessed annually and compared to baseline data collected prior to the start of ground-disturbing activities. Reclamation will be determined successful if vegetation has become established in the seeded areas and are demonstrating that they will, over time, achieve a distribution and diversity similar to pre-construction conditions. If after a second growing season problem areas have been identified (e.g., seed germination is lower than expected; prevalence of noxious-weed species), the area will be treated and re-seeded. Treatment may include additional seedbed preparation, control of noxious weeds, use of soil amendments, and/or use of another appropriate seed mix.

## **Q5.2 Reporting**

TransWest will document pre-construction observations, construction reclamation activities, and post-construction monitoring on federally and state-managed lands in an annual report. Annual reports will be prepared for submittal to federal or state entities that administer federal lands in the Project area. The reports will provide a summary of Project reclamation activities and observations and include recommendations for additional corrective actions if necessary.

## **Q6.0 REFERENCES**

Bureau of Land Management (BLM). 2013. TransWest Express Transmission Project. Draft Environmental Impact Statement. BLM Wyoming State Office and Western Area Power Administration. June 2013.