

# Site Specific Reclamation Plan Template

## Introduction

\_\_\_\_\_ proposes this site-specific reclamation plan for the \_\_\_\_\_ location with associated access road and pipeline. At the time of the initial reclamation observation this site was in a constructed state.

This document provides details of the constructed site, as well as specific instructions for interim and long term or final reclamation. Interim reclamation will be applied to stabilize disturbed areas and to provide, to the best of our ability, the necessary conditions to achieve the long term reclamation goal. Our goal, at the time of final reclamation, is to facilitate eventual ecosystem reconstruction by returning the land to its near-original condition. With reference to the Green River District Reclamation Guidelines publication, this document has been carefully drafted to address the reconstruction and reclamation of disturbed ecosystems by returning the land to a condition approximate to that which existed prior to disturbance, or to a stable and productive condition compatible with the land use plan.

## *PRE-DISTURBANCE SITE INFORMATION*

### **Elevation and Slope**

The approximate elevation of this site is 4738 feet.

This general area contains 0% to 2% percent slopes.

The slope gradually decreases from north to south.

### **Contours and Drainages**

The site surface area contour is described as alluvial flats with none to minimal drainage impact. Potential for contour reclamation is rated high based on the simple contour of the site and likely sufficient topsoil available for salvage.

The contour of the landscape for the access road, prior to construction, is determined as simple. and requires no culverts and contains no low water crossings.

The pipeline will remain above surface with none to minimal disturbance. The contour of the landscape for the pipeline, prior to construction, is determined as simple.

### **Topsoil**

The surface soil horizon for this pad location with associated access road and pipeline is predominately sandy loam and stratified loamy sand.

Soil pits and visual inspection of the soil, within the site location area, determined a topsoil depth up to 6 inches.

The expected depth before reaching restrictive soil features is approximately 80 inches.

A likely sufficient supply of topsoil is expected to be available, however, below average precipitation may cause re-growth to be slowed.

### **Vegetation**

The Ecological Site Description.

The total vegetation ground cover is estimated to be ????. All seed mixes have been adjusted accordingly.

Seed life mortality is expected to be *moderate to high* based on an average annual precipitation of 5 to 8 inches annually.

Common names of the dominant species identified within this area are provided in Table 1.

## **TABLE 1 – EXISTING VEGETATION**

Species (Common Name)

### **Noxious Weeds**

They should take note of the weeds in the area. Both noxious and invasive need to be controlled while the area disturbed goes through reclamation. If they plan on using pesticides they are required to submit a PUP to our botanist at the BLM prior to use of the herbicide. Mechanical controls need to take place prior to the plants dropping seeds.

The following phases and steps should provide an overall understanding and guide for all parties involved to achieve optimal reclamation. The success of reclamation begins before the proposed site has been disturbed and throughout the entire construction, drilling, operations, and production phases until final reclamation is deemed necessary and successful.

## ***PHASE 1: CONSTRUCTION PHASE***

### ***Step 1: Surface Preparation and Topsoil Removal***

Topsoil should be removed from the access road, pipeline corridor areas and pad location including the areas of cut, fill, and soil and/or excess material storage. Whenever possible, at least 6 inches (preferably between 6-24 inches) of topsoil should be salvaged to maximize distribution during interim and final reclamation.

Topsoil should be kept separate from subsoil during construction and operation phases for this site and should be piled/stored at the corner areas nearest to the proposed interim reclamation, thereby reducing the travel and soil loss during reclamation (see plat package figures for soil and excess pile placement). Reasonable BMP's should be used to stabilize all stored topsoil from erosion, compaction, and contamination.

Topsoil should be marked or flagged as such to ensure the protection of topsoil during construction and operations. Topsoil is not to be used during construction or operations and should be preserved and protected for use during the reclamation process.

Where applicable, during construction, preservation of natural landscape resources such as trees, rocks, boulders, or other items specific to this site area should be kept intact and preserved, as much as possible, and stored near the pad for use during interim reclamation.

If any questions arise during the construction or operations period, regarding proper procedures to optimize future reclamation, please contact a third party representative or reclamation consultant familiar with this site specific reclamation plan before proceeding.

## ***PHASE 2: INTERIM RECLAMATION (most likely can skip if you are going directly to final reclamation).***

Objective: To ensure the overall location, landform, scale, shape, color, and orientation of major landscape features blends into the adjacent area and meets the needs of the planned post disturbance land use. The following guidelines and instructions will maximize effective and costly reclamation.

### **NOTE:**

The appropriate seed mix for the road cuts and edges and pipeline corridors will use the Final Reclamation Seed Mix.

### ***Step 1: Reclaim Slope and Contour***

Determine the maximum interim reclamation area and reconstruct the landscape to approximate the original contour and topographic diversity with the help of the onsite evaluation pre-disturbance photos (included in this document).

First, remove all waste and garbage from location and properly dispose. Next, backfill the reserve pit while ensuring that the pit lining is covered with a minimum of 36 inches of dirt. Re-distribute the excess material to create the general contour and shape of the proposed reclaimable area. During dirt distribution, attempt to keep slopes to a minimum for optimal seed and soil retention.

At this point, the re-contoured areas should be aesthetically pleasing as similar to pre-disturbance contours, now proceed with soil scarification running perpendicular to the slope in order to minimize compaction, erosion, and prevent improper drainage and/or seed loss.

### ***Step 2: Reclaim Water Courses and Drainage Features***

Where applicable, reconstruct drainage basins to have similar features found in nearby properly functioning basins. During construction, attempt to mitigate any potential erosion issues. Where applicable, drainages will be reconstructed to have similar hydraulic characteristics found in nearby properly functioning drainages.

### ***Step 3: Reclaim Topsoil for Optimal Vegetation***

Objective: To create a self-perpetuating plant community and provide benefits for wildlife.

Redistribute the topsoil to approximate pre-disturbance depth using the best practices to prevent soil contamination and minimize soil loss.

Soil should be scarified or pockmarked (6-12 inches deep), leaving small pits and piles which will maximize the use of precipitation and help to prevent seed loss and erosion.

Next, re-distribute any salvaged natural resources, (trees, rocks, etc.) among the reclaimed area similar to pre-disturbance manner and strategically placing them to help vegetation growth and prevent potential erosion or other issues.

### ***Step 4: Seeding***

The best potential seed mix, at this time, has been determined through a coordinated effort of the following resources (NRCS, BLM Vernal Field Office, and local/regional seed companies’).

Whenever possible, our seeding efforts will be conducted between October 15 and prior to winter freezing of the soil. In most cases, seeding can occur right before an early winter snow storm or even with minimal snow cover.

It may be advantageous to seed the remaining unused topsoil pile to maximize soil nutrient retention for final reclamation.

All seed utilized will be tested prior to application to ensure BLM specifications for PLS, purity, noxious weeds, etc. have been met. Seed tags will be provided, upon request, to the Authorized Officer prior to initiation of seeding activities.

Please review the *Seed Mix* Table 2 for specific interim reclamation seeding instructions.

### ***SEED MIX***

Table 2 provides the suggested seed mix to be used for **interim reclamation** for pad locations. For this site, interim reclamation seed distribution preferred method is by Drill Method, with overlap where needed, at the listed lbs/acre (based on the pre-disturbance vegetation cover of approximately 50

percent). When the Hand Broadcast method is the chosen than it suggested to DOUBLE the PLS lbs/acre rate and use precautionary seed protection measures as needed).

## **TABLE 2 – INTERIM RECLAMATION SEED MIX**

**Species (Common Name) PLS Rate (lbs/ac)**

**Total Rate to be Seeded: 13**

### **Additional Reclamation Notes**

#### **Step 5: Reclamation Monitoring**

#### ***PHASE 3: FINAL RECLAMATION***

Objective: Facilitate eventual ecosystem reconstruction by returning the land to its near-original condition after well production is complete. Estimated well production life is currently 30 years. Final reclamation will follow similar steps used during interim reclamation. At the time of final reclamation a review of this plan to determine current best practices is suggested.

It is expected that interim reclamation areas will be disturbed during the final reclamation process. Before proceeding, all topsoil and other natural resources that may be disturbed during final reclamation should be removed and preserved for use as required during this process.

#### ***Step 1: Reclaim Slope and Contour***

Landscape to approximate should be aesthetically pleasing and mimic the original contour and topographic diversity with the help of the onsite evaluation pre-disturbance photos (included in this document).

Remove all facilities and other debris from location and properly dispose.

Re-distribute the excess material to create the general contour and shape of the proposed reclaimable area. During dirt distribution, attempt to keep slopes to a minimum for optimal seed and soil retention.

At this point, the re-contoured areas should be aesthetically pleasing as similar to pre-disturbance contours, now proceed with soil scarification running perpendicular to the slope in order to minimize compaction, erosion, and prevent improper drainage and/or seed loss.

#### ***Step 2: Reclaim Water Courses and Drainage Features***

Where applicable, reconstruct drainage basins to have similar features found in nearby properly functioning basins. During construction, attempt to mitigate any potential erosion issues.

Where applicable, drainages will be reconstructed to have similar hydraulic characteristics found in nearby properly functioning drainages.

#### ***Step 3: Reclaim Topsoil for Optimal Vegetation***

Objective: To create a self-perpetuating plant community and provide benefits for wildlife.

Redistribute the topsoil to approximate pre-disturbance depth using the best practices to prevent soil contamination and minimize soil loss.

Soil should be scarified or pockmarked (6-12 inches deep), leaving small pits and piles which will maximize the use of precipitation and help to prevent seed loss and erosion.

Next, re-distribute any salvaged natural resources, (trees, rocks, etc.) among the reclaimed area similar to pre-disturbance manner and strategically placing them to help vegetation growth and prevent potential erosion or other issues.

#### ***Step 4: Seeding***

The best potential seed mix, at this time, has been determined through a coordinated effort of the following resources (NRCS, BLM Vernal Field Office, and local/regional seed companies’).

Whenever possible, our seeding efforts will be conducted between October 15 and prior to winter freezing of the soil. In most cases, seeding can occur right before an early winter snow storm or even with minimal snow cover.

It may be advantageous to seed the remaining unused topsoil pile to maximize soil nutrient retention for final reclamation.

All seed utilized will be tested prior to application to ensure BLM specifications for PLS, purity, noxious weeds, etc. have been met. Seed tags will be provided, upon request, to the Authorized Officer prior to initiation of seeding activities.

Please review the *Seed Mix* Table 3 for specific final reclamation seeding instructions.

#### ***SEED MIX***

Table 3 provides the suggested seed mix to be used for **final reclamation** and pipeline and power-line corridors. For this site, interim reclamation seed distribution preferred method is by Drill Method, with overlap where needed, at the listed lbs/acre (based on the pre-disturbance vegetation cover of approximately 50 percent). When the Hand Broadcast method is the chosen than it suggested to DOUBLE the PLS lbs/acre rate and use precautionary seed protection measures as needed).

#### **TABLE 3 – FINAL RECLAMATION SEED MIX**

**Total Rate to be Seeded:** 13 should be the target.

#### **Additional Reclamation Notes**

#### **Step 5: Reclamation Monitoring**

**Here they should talk about the Green River Data System. If they need access, they can contact me and we can get with USGS on a login. This is the approved method for reporting reclamation data for this office.**