

Specifications for Reclamation On BCPOS Agricultural Land

Boulder County Parks & Open Space *Contact and Revegetation Project Manager:*
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This document addresses guidelines for reclamation/revegetation of areas disturbed by O&G activities. Reclamation/revegetation includes the following activities:

1. Backfilling, Grading and Ripping
2. Seedbed Preparation
3. Seeding
4. Mulching
5. Reseeding and Repair

The agricultural tenant ("Tenant") will perform reclamation and monitoring operations on behalf of Foundation Energy Management ("Operator").

1.0 Backfilling, Grading and Ripping

Operator shall replace backfill material as close to the depth from which it was removed as possible. Compaction of the backfill must prevent settling that will cause the profile of the disturbed areas to be significantly lower than the grade of undisturbed adjacent land. Also, overall compaction of the top 24" of soil over the sewer line should not be restrictive to root growth of plants.

Following compaction of the backfill, the Revegetation Project Manager will determine if ripping and chiseling is necessary to relieve soil compaction in the root zone to accommodate root growth and soil water holding capacity. If it is deemed necessary Operator must rip and chisel the soil to relieve compaction. Operator must rip the entire length of the pipeline that is compacted to a minimum depth of 18 inches (deeper is desirable), with no more than 20 inches between ripped intervals. Operator shall follow ripping with chiseling to a minimum depth of 12 inches, with no more than 10 inches between chiseled intervals. At this point, depending upon the size of soil clods left after ripping, disking, culti-packing or other operations may be required to reduce the size of the clods. Operator shall consult with the revegetation project manager to inspect the site at this time to make that determination.

Final grading of areas that are irrigable cropland is of particular importance. The overall grade of land to be irrigated must provide for uniform coverage by flood irrigation.

2.0 Seedbed Preparation

Operator shall chisel the disturbed areas to a minimum depth of 10 inches, with no more than a 10 inch interval between chiseled furrow. If necessary, Operator shall perform additional seedbed preparation such as disking, harrowing and/or firming operations to reduce soil clods that are greater than 4" in diameter, and to provide a seedbed that is firm and friable. Final grading and seedbed preparation will be performed by the agricultural tenant on the Property.

Foundation Energy Management shall reimburse the tenant at a rate of \$_____ / hour to cover equipment and operator time. Reimbursement shall be made upon presentation of an invoice to Foundation Energy Management by the agricultural tenant.

3.0 Seeding

The agricultural tenant will perform seeding operations. Foundation Energy Management shall reimburse tenant for seeding operations at a rate of \$_____ per hour. _____ will provide seed planted by agricultural tenant according to specifications set forth below. Reimbursement for seeding operations shall be made upon presentation of an invoice to Foundation Energy Management by the agricultural tenant. Foundation Energy Management shall provide seed according to the specifications. Each bag of seed must have its original seed tag attached at time of delivery and the tag should remain attached until the seed is used. The test date shown on seed tags must be current. Operator must save and provide all seed tags to the revegetation project manager. Operator must also provide the revegetation project manager with seed certification papers from the seed dealer.

To drill seed, tenant shall use a drill capable of placing the specified seed at the specified rate at a 3/4" depth. The drill should have an 8" or less drill row spacing and be equipped with packer wheels to firm the soil over the drill row. Dragging chains behind the drill to cover seed is not an acceptable substitute. Operator shall complete seeding between **October 15, 2014 and February 15, 2015**. Seeding after this date must be approved by the revegetation project manager. Operator shall not seed in extremely windy conditions or when the soil is frozen or wet.

Areas that cannot be drilled may be broadcast seeded. The specified seeding rate in these areas shall be doubled. Hydroseeding is not acceptable. Broadcast seed shall be raked, harrowed or otherwise-covered by soil to a depth of 1/2" to 3/4".

Wise Seed Mix for Non-Crop Land

Common Name	Scientific Name	Variety	% of Mix	PLS #/Acre
Western wheatgrass	<i>Pascopyrum smithii</i>		35	8.0
Blue grama	<i>Chondrosum gracille</i>	Lovington or Hachita	30	3.5
Slender wheatgrass	<i>Elymus trachycaulus</i>		35	4.0
Total			100	15.5

PLS #/Acre = Pure Live Seed pounds per acre.

4.0 Mulching

Cropland

Mulching is not necessary.

Non-Crop Land

After Operator has completed seeding, Operator shall apply mulch within 24 hours to all seeded areas. Operator shall reseed, at its own expense, areas not properly mulched within 24 hours after seeding. Within 24 hours of reseeding, Operator shall apply mulch.

Operator shall use the following method for mulch:

Wood fiber hydromulch with guara gum tackifier: The hydromulch shall be of virgin wood cellulose fiber that is thermally produced and airdried. Operator shall apply a standard rate of 3000 lbs. per acre of hydromulch and 80 lbs. per acre of guara gum tackifier. Operator shall apply the hydromulch uniformly over the seeded areas according to the manufacturer's specifications. Operator shall not incorporate seed and apply it simultaneously with the hydromulch slurry.

5.0 Reseeding and Repair

As determined by Boulder County, Foundation Energy Management shall restore and re-seed eroded areas and areas lacking a satisfactory stand of grasses at the end of two growing seasons or 24 months following seeding, whichever is first. A satisfactory stand is defined as a minimal coverage of six healthy plants per square foot. Re-seeding and repair shall occur during the earliest seeding season. For grasses, the period is between October 15th and February 15th. Re-seeding and repair, if required, shall be at Foundation Energy Management's expense.

Exhibit C

Weed Management Plan

Introduction

Operator will be responsible for reclamation of all areas it disturbs. Operator also assumes responsibility for weed control of reclaimed lands for a period of two growing seasons.

Seed will be applied to all disturbed areas in accordance with the construction documents submitted separately for review by Boulder County. Infestation by voluntary undesirable plants will be managed as follows.

Post-Reclamation Weed Control

To prevent damage to young seedlings, no herbicides will be used through the first growing season following seeding. Reclaimed areas with slopes not exceeding 4:1 will be mowed to prevent flowering and weed seed development. Hand methods will be implemented on steep slopes. Mowing will be undertaken no more than twice during each growing season to prevent desiccation of the grass seedlings with an ideal mowing height of 6 to 8 inches.

Following the first year of growth, mowing will continue to be the primary weed control tool. As needed, however, a 2-4 D herbicide, or approved equivalent that is safe for use with seedlings, will be sprayed in reclaimed areas not associated with wetlands or waterways.

Monitoring

Foundation Energy Management will monitor all revegetated areas a minimum of once a month during the maintenance period to determine the need for weed control measures and to ensure that implementation will be accomplished in a timely manner.

Exhibit D
Crop Damage Form

Property: _____

Date: _____

Owner: Boulder County

Tenant Farmer: _____

Type of Crop _____

Yield/Unit _____

Value/Unit _____

Easement Size:

_____ Acres X _____ (Yield) = _____ (Production)

_____ (Production) X \$_____ (Value) = \$_____ Damage Value

[Yield and Crop Values based on negotiation and use of agricultural data, including Colorado Agricultural Statistics published by the State of Colorado Dept. of Agriculture, current farm market reports and the like]

1st Year @ [typically 100 %]

2nd Year @ [typically 66%]

3rd Year @ [typically 33%]

Additional Damages [any additional items, such as altered agricultural traffic patterns, tilling, reshaping, contouring, repair\replacement of irrigation structures would fall in here]

Total Compensation

For Crop Damages \$_____

Additional Damages \$_____

Amount of Check \$_____

Payable To: To be determined by Boulder County

Tenant

Date

Boulder County Agricultural Manager

Date