Appendix C

Reclamation Plan
And
Weed Control Plan

Reclamation Plan for Uintah County's Seep Ridge Road Paving Project

As a result of the proposed Seep Ridge Road Paving Project (Project Area), the Proposed Action will include the disturbance of approximately 722 acres of land within the Project Area. In addition to the newly disturbed areas, portions of the existing roadway will be abandoned (predominantly in areas where curve realignments will be implemented) and will require reclamation. This Reclamation Plan was developed in accordance with the *Green River District Reclamation Guidelines for Reclamation Plans* (BLM 2009) and outlines measures that will be implemented to reclaim disturbed areas resulting from the proposed road reconstruction project.

The objectives of this Reclamation Plan are to re-establish vegetation, reduce dust and erosion, compliment the visual resources of the surrounding area, and generally minimize impacts to the environment. Reclamation will be completed on all surface lands within the Project Area not physically covered by the final paved road except for an approximately 10-foot-wide strip located adjacent to both sides of the proposed roadway that will remain devoid of vegetation.

Reclamation and best management practices will be implemented during and after construction activities to minimize impacts on the environment to the greatest extent practicable. Reclamation methodologies to be implemented during and after construction are described in the following sections. In addition, monitoring will be implemented to ensure that reclamation techniques are successful and the monitoring protocol is also described below.

Construction

Surface Disturbance:
All surface disturbance will be kept to a minimum (i.e., road design that has been developed for the Proposed Action predominantly follows the existing Seep Ridge Road alignment).

Noxious Weeds:
Prior to surface disturbance, a weed inventory of areas proposed for disturbance will be completed.

To reduce the spread/introduction of noxious and invasive weed species via project-related vehicles and equipment, the selected contractors will power-wash all construction equipment and vehicles entering the Project Area from outside the Uinta Basin.

Fugitive Dust Control:
The selected contractor will use water or other approved dust suppressants in the Project Area during construction activities, as necessary, to abate fugitive dust.

Topsoil and Surface Preparations:
At all construction sites, topsoil will be segregated from the subsoil (without mixing them), stockpiled separately from other soil materials, and maintained for future use in rehabilitating the locations.

After road construction is complete, salvaged topsoil will be re-distributed evenly over disturbed surfaces.

Topsoil piles stored beyond one growing season will be stabilized and seeded to prevent erosion.

Topsoil storage areas will be identified with appropriate signage.

Post-Construction

Topsoil and Final Surface Preparations:
Following completion of road construction activities, all disturbed areas will be re-contoured back to the original contour or a contour that corresponds with the surrounding landform (i.e., areas where the existing Seep Ridge Road will be abandoned and lateral access roads impacted must also be reclaimed). Abandoned segments of the existing Seep Ridge Road would be barricaded to prevent unauthorized vehicle travel on the reclaimed areas. Barricades may include fencing and/or boulders of sufficient size to prevent vehicles from traveling on these closed and reclaimed road segments.

Salvaged topsoil will be re-distributed evenly and to pre-disturbance depths over the surfaces to be revegetated.

The soil surface will be prepared to provide a seedbed for re-establishment of desirable vegetation. Site preparation may include gouging, scarifying, dozer track-walking, mulching, or soil additives. The seedbed preparations will be determined by the appropriate surface managing agency (SMA) at the time of final reclamation.

Outside of the roadway embankment, soil compaction will be reduced to the anticipated root depth of the desired plant species (usually 18 to 24 inches in a cross hatch manner where practicable). Discing may be necessary to eliminate large soil clumps or clods.

Methods such as hydromulching, straw mat application on steeper slopes, soil analysis to determine the need for fertilizer, seed-bed preparation, contour furrowing, watering, terracing, water barring, and the replacement of topsoil will be implemented as directed by the SMA. If fertilization is determined to be necessary, fertilizer containing nitrogen will not be used in areas maintaining a high density of cheatgrass (*Bromus tectorum*).

Final Revegetation:
After road construction is complete, all disturbed areas and abandoned areas of the existing Seep Ridge Road will be reseeded. The seed mixtures to be used will be similar to the vegetation of the surrounding areas and may consist of grasses, forbs, or shrubs. Three recommended seed mixtures are provided in Tables 1, 2, and 3. The seed mixture in Table 1 will be used in the Wyoming big sagebrush vegetative communities; the seed mixture in Table 2 will be used in the mixed desert shrub vegetative communities; and the seed mixture in Table 3 will be used in the pinyon-juniper and montane brush/woodland vegetative communities.

The seeding contractor will provide all seed tags to the BLM-authorized officer or appropriate SMA prior to seeding efforts.

Private and state lands will be seeded with a similar seed mixture, unless the landowner requests a different seed mixture.

Seeding will occur after August 15 and prior to winter freezing of the soil.

Drill seeding will be used except in areas where topography or substrate composition (rock) precludes the use of the drill. If drill seeding is not possible, broadcast seeding will be implemented. If the broadcast method is used (such as on slopes of 40 percent or greater), the seed rates established for drill seeding will be doubled and seed will be immediately covered to prevent seed desiccation or predation by birds or

rodents. The seeds could be covered in several ways including spreading and crimping straw over the seeded area, raking the area by hand, or dragging a chain or chain-linked fence over the seeded area.

Starting prior to reclamation actions, the selected contractor will annually inspect the Project Area to identify, treat, and control noxious weed infestations. Any herbicide application on BLM lands will be applied in accordance with the BLM-approved Pesticide Use Proposal (PUP). A list of noxious weeds will be obtained from the BLM or the appropriate county Extension Office.

Monitoring

Revegetation

Prior to any surface disturbance, vegetative monitoring locations and reference sites will be identified by the Contractor and approved by the BLM Reclamation Specialist.

Vegetative monitoring protocol will be developed by the Contractor and approved by the BLM Reclamation Specialist prior to implementation of revegetation techniques.

The process of monitoring, evaluating, documenting/reporting, and implementing will be repeated until reclamation goals are achieved, as determined by the appropriate Authorized Officer.

Revegetated areas will be annually inspected and monitored to document location and extent of areas with successful revegetation, and areas needing further reclamation (for a period of 3 years after construction completion).

On BLM lands, monitoring methodology will be designed to monitor basal vegetative cover.

A reclamation report will be submitted to the Authorized Officer by March 31 of each year.

On federal lands, the reclamation objective will be a vegetation community that within 5 years is comprised of desired and/or seeded species, and where the basal vegetative cover is 75 percent of a similar undisturbed adjacent native vegetation community. If after 3 years basal cover is less than 30 percent, then additional seeding and reclamation efforts may be required.

Table 1. Wyoming Big Sagebrush Vegetation Community Seed Mixture

Common Name	**Scientific Name**	**Rate** [1,2]
GRASSES		
Crested wheatgrass	*Agropyron cristatum* 'Hycrest'[3]	1.0 lbs/acre
Bottlebrush squirreltail	*Elymus elymoides*	1.0 lbs/acre
Sand dropseed	*Sporobolus cryptandrus*	1.0 lbs/acre
Western wheatgrass	*Pascopyrum smithii*	1.0 lbs/acre
Needle and threadgrass	*Stipa comata*	1.0 lbs/acre
FORBS		
Globemallow	*Sphaeralcea parvifolia*	1.0 lbs/acre
Yellow beeplant	*Cleome lutea*	0.5 lbs/acre
Shaggy fleabane	*Erigeron pumilus*	0.5 lbs/acre

Table 1. Wyoming Big Sagebrush Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
Hoary aster	*Machaeranthera canescens*	0.5 lbs/acre
SHRUBS		
Wyoming sagebrush[4]	*Artemesia tridentate v. wyomingensis*	2.0 lbs/acre
Shadscale	*Atriplex confertifolia*	2.0 lbs/acre
Fourwing saltbush	*Atriplex canescens*	0.5 lbs/acre
	Pure Live Seed Total	**12.0 lbs/acre**

[1] Rate numbers are in Pure Live Seed (PLS).
[2] Seed rates are specific to the drill seeder method. If broadcasting is used to disperse the seed, the seed rates above should be doubled.
[3] The Hycrest variety will be used, or a more drought-tolerant variety.
[4] This species will be broadcast on the surface and left uncovered after the other seed is either drill-seeded or broadcast and covered. It is important to keep seeds of this species uncovered.

Table 2. Mixed Desert Shrub Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
GRASSES		
Crested wheatgrass	*Agropyron cristatum* 'Ephraim'[3]	1.0 lbs/acre
Bottlebrush squirreltail	*Elymus elymoides*	1.0 lbs/acre
Western wheatgrass	*Pascopyrum smithii*	2.0 lbs/acre
FORBS		
Scarlett globemallow	*Sphaeralcea coccinea*	1.0 lbs/acre
SHRUBS		
Shadscale	*Atriplex confertifolia*	2.0 lbs/acre
Fourwing saltbush	*Atriplex canescens*	3.0 lbs/acre
Pure Live Seed Total		**10.0 lbs/acre**

[1] Rate numbers are in Pure Live Seed (PLS).
[2] Seed rates are specific to the drill seeder method. If broadcasting is used to disperse the seed, the seed rates above should be doubled.
[3] The Ephraim variety will be used.

Table 3. Pinyon-Juniper and Montane Brush/Woodland Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
GRASSES		
Crested wheatgrass	*Agropyron cristatum* 'Hycrest'[3]	1.5 lbs/acre
Bottlebrush squirreltail	*Elymus elymoides*	1.5 lbs/acre
Western wheatgrass	*Pascopyrum smithii*	1.0 lbs/acre
Needle and threadgrass	*Stipa comata*	1.0 lbs/acre
FORBS		
Globemallow	*Sphaeralcea parvifolia*	0.5 lbs/acre
Evening primrose	*Oenethera caespitosa*	0.5 lbs/acre

Table 3. Pinyon-Juniper and Montane Brush/Woodland Vegetation Community Seed Mixture		
Common Name	**Scientific Name**	**Rate** [1,2]
Shaggy fleabane	*Erigeron pumilus*	0.5 lbs/acre
Hoary aster	*Machaeranthera canescens*	0.5 lbs/acre
SHRUBS		
Wyoming sagebrush[4]	*Artemesia tridentate v. wyomingensis*	2.0 lbs/acre
Black sagebrush[4]	*Artemisia nova*	1.0 lbs/acre
Pure Live Seed Total		**10.0 lbs/acre**

[1] Rate numbers are in Pure Live Seed (PLS).
[2] Seed rates are specific to the drill seeder method. If broadcasting is used to disperse the seed, the seed rates above should be doubled.
[3] The Hycrest variety will be used, or a more drought-tolerant variety.
[4] This species will be broadcast on the surface and left uncovered after the other seed is either drill seeded or broadcast and covered. It is important to keep seeds of this species uncovered.

References Cited

Bureau of Land Management (BLM). 2009. Green River District reclamation Guidelines for Reclamation Plans. Instruction Memorandum GR-2009-002. January 2009.

Weed Control Plan for Uintah County's Seep Ridge Road Paving Project

This Weed Control Plan outlines measures that will be implemented to effectively control noxious and invasive weed species within the Seep Ridge Road Paving Project (Project Area). The objective of this Weed Control Plan is to outline the methodology to be implemented concurrently with the Reclamation Plan to control noxious and invasive weed species in the Project Area. The following measures are required for all surface disturbance activities on BLM lands.

- Prior to surface disturbance, a weed inventory of areas proposed for disturbance will be completed.
- If noxious weeds are found, a report including: 1) location of weeds (GPS if possible); 2) species located; 3) cover percent or number of plants; 4) and size of infestation (estimate of square feet or acres) shall be provided to the BLM Weed Coordinator prior to disturbance occurring. Information can be recorded on a data sheet or by GPS using a data dictionary.
- To reduce the spread/introduction of noxious and invasive weed species via project-related vehicles and equipment, the selected contractors will power-wash all construction equipment and vehicles entering the Project Area from outside the Uinta Basin.
- Starting prior to reclamation actions, the selected contractor will annually inspect the Project Area to identify, treat, and control any noxious weed infestations. Any herbicide application on BLM lands will be applied in accordance with the BLM-approved Pesticide Use Proposal (PUP). All pesticide applications will be recorded on a Pesticide Application Record form within 24 hours of application. Pesticide Application Records and an annual report will be provided to the BLM Weed Coordinator by December 1 each year for all weed treatments occurring within BLM's fiscal year (October 1 –September 30).
- A Biological Control Agent Release Proposal and corresponding site-specific review, including additional NEPA compliance as appropriate, would be prepared and approved prior to releasing a biological control agent on BLM lands.
- An integrated weed management (IWM) plan utilizing chemical, mechanical, and biological control of noxious and invasive weed species will be implemented.
- Use certified noxious weed-free seed and mulch in all reclamation areas.
- Monitoring of the noxious/invasive plant species will also be implemented on an annual basis to ensure control efforts are effectively controlling target populations.
- Only BLM approved pesticides and adjuvants shall be used on BLM lands.

The following measures for surface disturbance activities are recommended for implementation of the road reconstruction project on BLM lands.

- Travel through weed infested areas shall be avoided or minimized to the greatest extent practicable.
- Sand, gravel, borrow, and fill material utilized for the road reconstruction project will be from noxious weed-free sources to prevent the introduction and spread of weeds.
- Staging areas for construction activities and construction equipment will be located in weed-free sites.

- The project area and stockpiled material will be maintained in a weed-free condition to prevent weed seed production. These include but are not limited to cut-fill slopes, topsoil reserves, roadsides, etc.
- Implement Early Detection and Rapid Response (EDRR) by reporting all new noxious weed infestations on BLM lands to the BLM Weed Coordinator and controlling new weed infestations when found and before seed set if possible.

Control and Management

The following measures are required for all surface disturbance activities on BLM lands.

- All herbicide treatments shall be applied by a Utah licensed Pesticide Applicator. If licensed in another state, a reciprocal license may be obtained through the Utah Department of Agriculture website.
- Control weeds within the disturbance areas, including borrow areas along roads. Reseed if feasible to promote competition with weeds.
- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of the project or until desirable vegetation is established. If weeds are located during the monitoring period, they will be treated.
- Mechanical dragging (before seed set), manual control, and biological control will be considered before implementing the use of chemical treatments to control weeds.

Chemical Control
Noxious and invasive weed species identified during the pre-construction weed inventory will be spot- or broadcast-sprayed with appropriate herbicides (according to BLM-approved PUP) during the first spring following commencement of construction activities, and again in the mid-summer. Chemical weed control will occur twice each year (spring and mid-summer) until BLM has determined that noxious and invasive weed infestations have been adequately controlled (three growing seasons after construction completion). After BLM has determined weed infestations have been controlled, the county will complete routine maintenance of the right-of-way (ROW) (including weed control) as required by the BLM ROW easement. Chemical control will commence simultaneously with road construction activities. Noxious and invasive species that are identified within or adjacent to the ephemeral drainages associated with the proposed roadway will be sprayed only with herbicides approved for use in riparian areas.

Mechanical Control
Prior to surface disturbance, noxious and invasive weed species identified during the pre-construction weed inventory that are located near ephemeral drainages or near known sensitive plant species locations and habitat (e.g., Graham beardtongue) will be mowed, and/or removed by hand/shovel. Mechanical control methods will be implemented concurrently with chemical treatment in the spring.

Biological Control
If BLM determines that biological control of weed species is appropriate for IWM, the following species could be utilized in accordance with BLM's Biological Control Agent Release guidelines. Field bindweed (*Convulvulus arvensis*) was identified along the existing roadway during initial biological investigations that were completed for preparation of the Environmental Assessment document. Field bindweed gall mites (*Aceria malherbae*) have proven effective as biological control of this species and may be utilized to reduce infestations of this species within the project area. If musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), or bull thistle (*Cirsium vulgare*) are identified, the musk thistle crown weevil (*Trichosirocalus horridus*) could be utilized to help control these species.

Standard Stipulations

- Spraying or application of herbicides/pesticides will not be completed when wind speeds exceed 10 miles per hour or if heavy rainfall or other adverse weather conditions exist.
- No herbicide/pesticide application will occur within the following distances of open water, such as springs, wetlands, streams, ponds, or lakes, unless otherwise specified on the herbicide/pesticide label:
    - 100 feet aerial application
    - 25 feet boom truck application
    - 10 feet backpack sprayer application
- Herbicide/pesticide applications within 1,500 feet of special status plants/populations will need to be coordinated with the BLM Weed Coordinator. Additional measures may be incorporated into application plans for control around special status plants/populations.
- All herbicide/pesticide applications will be in strict conformity with the label instructions.
- All commercial and private applicators of herbicides/pesticides will be currently licensed or hold reciprocal license with the State of Utah.
- Empty containers shall be disposed of in accordance with label instructions.
- Equipment shall not be washed or cleaned out near streams or open water.
- Herbicides/pesticides shall only be transported when properly secured and with containers properly sealed and labeled.

Invasive Plants To Be Controlled

- All federal listed noxious weeds (not currently in VFO).
- All state-listed noxious weeds.
- All neighboring stated-listed weeds as part of EDRR.
- All county-listed noxious weeds within the entire State of Utah.
- Other invasive plants deemed important for control by BLM, due to high risk of invasion and impacts to adjacent undisturbed vegetation areas. Currently halogeton (*Halogeton glomeratus*), Russian thistle (*Salsola kali*), and kochia (*Bassia prostrata*) are additional weeds needing control.