

Appendix D. Reclamation Objectives and Standards

Reclamation will be required for any surface-disturbing activity occurring on public lands. A reclamation plan appropriate in detail and complexity and tailored to a specific surface-disturbing activity will be required for this activity. This appendix details the reclamation objectives and standards necessary to achieve a timely and proper recovery according to management objects of the disturbed site and is consistent with the Wyoming Reclamation Policy.

The reclamation plan will provide comprehensive as well as detailed site-specific reclamation procedures, methods and actions to successfully meet the objectives and standards for any surface disturbance. The reclamation plan will also include sufficient monitoring requirements and reports to ensure reclamation success has been accomplished. Site-specific reclamation plans will identify the dominant Ecological Site Descriptions, referenced plant communities, and soil map units. The approved reclamation plan must adhere to federal, state and local requirements, which can be used by regulatory agencies in their oversight roles to ensure that the reclamation measures are implemented, are appropriate for the site, meet area resource objectives (such as for wildlife, including greater sage-grouse), and are ecologically functional.

Limited Reclamation Potential (LRP) areas as identified in the LRP Map (Map 11) will require site-specific measures in the reclamation plan and will address the critical characteristics associated with these sites. These critical characteristics include but are not limited to soil erosivity, chemical and physical soil restrictive characteristics, steep slopes, and inadequate affective precipitation.

Project level reclamation objectives and standards will be established prior to disturbance and must be consistent with the objective set forth. The objectives and standards may be modified by the Authorized Officer if site-specific situations are deemed necessary to meet the overall land management objectives. To ensure objectives are being met, they will identify metrics, with triggers such as plant composition, percent cover, or other site-specific factors. Reclamation objectives are as follows:

- The objective of interim reclamation in the Designated Development Areas (DDAs) is to rehabilitate disturbed sites during the interim phase of development to achieve landscape continuity, minimize non-designated invasive species, and stabilize the soil. Interim reclamation will emphasize native plant species and will be designed to minimize re-disturbance during final reclamation activities and to initiate and accelerate ecological succession.
- Nonnative plants are permissible only as an approved short-term and non-persistent alternative to native plant materials. Nonnatives will not hybridize, displace, or offer long-term competition to the endemic plants, and are designed to aid in the reestablishment of native plant communities.
- The objective of interim reclamation in non-DDAs is to rehabilitate disturbed sites during the interim phase of development to achieve landscape continuity, minimize non-designated invasive species, and stabilize the soil and to promote a diversified plant community with the end result of accelerating the vegetative successional process to meet wildlife habitat goals. Interim reclamation will emphasize native plant species and will be designed to minimize

re-disturbance during final reclamation activities and to initiate and accelerate ecological succession.

- The objective of final reclamation in DDAs is to rehabilitate disturbed sites to achieve landscape continuity, minimize non-designated invasive species, and provide for a stabilized ecologically diverse plant community. Final reclamation is successful when a state of ecological progressive succession is achieved which can eventually advance to full ecosystem restoration.
- The objective of final reclamation in the non-DDAs is to reclaim disturbed sites to achieve landscape continuity, minimize non-designated invasive species, and provide for a stabilized ecologically diverse plant community, which will support approximately similar composition and density of organisms that were originally present. Final reclamation is successful when a state of ecological progressive succession is achieved which can eventually advance to full ecosystem restoration.
- During predisturbance onsite, the Natural Resources Conservation Service Ecological Site Descriptions will be determined, and the operator may explain why a Vegetation Reference Area might be more appropriate for use than the Ecological Site Descriptions, and whether a return to baseline condition is appropriate. The reclamation standard to be applied in determining if interim or final reclamation has been achieved will be part of the National Environmental Policy Act analysis of the action, and the Vegetation Reference Area will be part of at least one alternative analyzed, if requested by the operator.

Interim Reclamation Standards for Designated Development Areas	
Reclamation will be considered successful 3 years after seeding if the following criteria are met:	
Site Characteristics	Standards
Percent Ground Cover	80 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	<ul style="list-style-type: none"> ● At least 65 percent total plant species must be from major grasses, forbs and/or shrubs listed in the Ecological Site Desired Plant Community and/or BLM authorized plant species from seeding mix ● No greater than 15 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 35 percent of a 500 square foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: <ul style="list-style-type: none"> ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups
BLM Bureau of Land Management NRCS Natural Resources Conservation Service	

Interim Reclamation Standards for non-Designated Development Areas	
Reclamation will be considered successful 5 years after seeding if the following criteria are met:	
Site Characteristics	Standards
Percent Ground Cover	At least 90 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	<ul style="list-style-type: none"> ● At least 75 percent total plant species must be from major grasses, forbs and shrubs listed in the Ecological Site Desired Plant Community and/or BLM authorized plant species from seed mix ● At least 5 percent of the total plant species must be woody plants as listed in the Ecological Site Desired Plant Community ● At least 5 percent of the total plant species must be forbs as listed in the Ecological Site Desired Plant Community ● No greater than 15 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 35 percent of a 500 square foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: <ul style="list-style-type: none"> ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups
BLM Bureau of Land Management NRCS Natural Resources Conservation Service	

Final Reclamation Standards for Designated Development Areas	
Reclamation will be considered successful after receipt of project abandonment if the following criteria are met:	
Site Characteristics	Standards
Percent Ground Cover	90 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	<ul style="list-style-type: none"> ● At least 80 percent total plant species must be from major grasses, forbs and/or shrubs listed in the Ecological Site Desired Plant Community and/or BLM authorized plant species from seeding mix ● At least 5 percent of the total plant species must be woody plants as listed in the Ecological Site Desired Plant Community ● At least 5 percent of the total plant species must be forbs as listed in the Ecological Site Desired Plant Community ● No greater than 10 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 25 percent of a 500 square foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: <ul style="list-style-type: none"> ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups
BLM Bureau of Land Management NRCS Natural Resources Conservation Service	

Final Reclamation Standards for non-Designated Development Areas	
Reclamation will be considered successful after receipt of project abandonment if the following criteria are met:	
Site Characteristics	Standards
Percent Ground Cover	100 percent of the Erosion indicator as listed on NRCS Reference Sheet for Ecological Site is met
Plant Species Composition (by weight)	<ul style="list-style-type: none"> ● At least 85 percent of total plant species must be from dominate grasses, forbs and woody plants listed in the Ecological Site Desired Plant Community and/or BLM authorized plant species from seed mix ● All major grasses must be present ● Major woody plant species will meet minimum percentage and/or total woody plants present will meet minimum percentage of growth form characteristics listed in the Ecological Site Desired Plant Community. ● At least 3 of the listed forb must be present and at least 5 percent of the total plant species must be forbs as listed in the Ecological Site Desired Plant Community ● No greater than 5 percent of the total reclaimed disturbance will be composed of non-designated invasive species ● No greater than 15 percent of a 500 square foot contiguous area within a reclaimed disturbance will be composed of non-designated invasive species ● No designated federal and state invasive plant species present
Site Stability, Erosion Potential, and other Variables	Meet NRCS Reference Sheet Indicators for Ecological Site with the following exceptions: <ul style="list-style-type: none"> ● Soil Surface Structure and Soil Organic Matter content ● Average Percent of Litter Cover and Depth ● Expected Annual Production ● Functional/Structural Groups
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Monitoring of reclaimed areas will be required and will ensure reclamation standards have been met. Reclaimed areas will be monitored annually by project proponent or BLM personnel if designated in the reclamation plan. Reclamation monitoring protocol will be included in the reclamation plan as approved by BLM.

Reclamation monitoring will be documented in an annual reclamation report submitted to the Authorized Officer by December 31 of each year after one full growing season following seeding. The report will document all aspects of the following:

- The 10 requirements of the Wyoming Reclamation Plan;
- The requirements of the Resource Management Plan reclamation objectives and standards;
- Requirements of the Onshore Oil and Gas Orders;
- Identify whether the reclamation objectives and standards are likely to be achieved in the near future without additional actions; and
- Identify actions that have been or will be taken to meet the objectives and standards.

The report will also include acreage figures for the following:

- Initial disturbed acres;
- Successful Interim Reclaimed Acres; and/or
- Successful Final Reclaimed Acres.

Annual reports will not be submitted for approval by the Authorized Officer as having fully met interim or final reclamation standards. Any time 15 percent or more of an interim reclaimed area is re-disturbed, monitoring will be reinitiated. Actions will be taken to ensure that reclamation

standards are met as quickly as reasonably practical. The Authorized Officer will be notified in a separate document by the project proponent when the reclamation operations have been completed that indicate the site meets reclamation standards and is ready for final inspection.