

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

**LAND RECONSTRUCTION, ABANDONED MINED LAND
(ac.)
CODE 543**

DEFINITION

Restoring land and water areas that are adversely affected by past mining practices and increasing the productivity of the areas for a beneficial use.

PURPOSE

Stabilize mined areas to support desired vegetation.

Reduce erosion and sedimentation.

Enhance water quality or quantity.

Maintain or improve landscape visual quality.

Protect public health, safety, and general welfare.

CONDITIONS WHERE PRACTICE APPLIES

On abandoned mined land that degrades the quality of the environment, prevents, or interferes with the beneficial use of land or water resources, or endangers the health or safety of individuals.

The standard applies to construction, grading, and reshaping of land that has been disturbed or adversely affected by past mining of various minerals and commodities.

CRITERIA

General Criteria Applicable to All Purposes.

Land reconstruction on abandoned mined lands shall include the components necessary to reclaim and stabilize the area and prevent further degradation of air, water, soil, and plant resources. Traditional practices such as terraces, grade stabilization structures, and critical area treatment components shall be used as appropriate.

Laws and regulations. This practice must conform to all federal, state, and local laws and regulations. Laws and regulations of particular

concern include those involving water rights, land use, pollution control, property easements, wetlands, preservation of cultural resources, endangered species, mining and reclamation.

Site preparation. Areas to be graded shall be cleared of trees, logs, brush, rubbish, and other undesirable materials that can prevent proper application of the practice. These materials shall be disposed of in a manner that will not interfere with water management practices, stabilization operations, or the operations associated with the planned use of the land.

Unsuitable soil material must be removed and buried so that it does not adversely affect water quality or plant growth. These materials must be disposed of in a manner that minimizes the potential for seepage, which can pollute surface and groundwater. Materials containing heavy metals must be buried to a depth below the root zone, or suitable kinds and amounts of soil amendments must be added.

Overhanging rocks and walls that are to be covered shall be sloped to one-half horizontal to one vertical slope (or flatter) unless a flatter slope is needed for stability. Unless otherwise specified, fill shall be placed in layers not more than two feet thick.

Removal and placement of material for final cover. Soil material on the site that is suitable for the intended final use shall be salvaged, stockpiled, and protected for use as final cover material.

The reconstructed soil must meet the requirements for the specified land use on at least 80 percent of the area. The rest of the area must be stabilized.

Spread materials as specified in the reclamation plan. Final slopes must permit application of planned conservation and management practices. Design final grading to accommodate expected settlement and

Conservation practice standards are reviewed periodically and updated if needed. The current version of this standard is posted on our web site at www.sd.nrcs.usda.gov or may be obtained at your local Natural Resources Conservation Service.

prevent interference with water management or planned uses of the land.

Use temporary seeding, mulching, water management, and similar measures as needed to control erosion.

Water management. Water management shall be included in the design as needed to control erosion during and after stabilization. Water management practices suitable for intensively farmed cropland are usually required for mined land reclamation and may be used to supplement local experience.

Establishment. The first effort may not completely stabilize the site. Provisions shall be made to:

Fill and vegetate areas of excessive settlement and repair and revegetate bare spots and eroded areas;

Add soil amendments or replace soils as needed for acceptable plant growth and development;

Install additional structural measures as needed.

Restoration of borrow area. Borrow areas must be graded and shaped to insure proper drainage and be revegetated to control erosion. Where appropriate, topsoil from borrow areas must be stockpiled separately and replaced after borrowing.

On prime farmland, A and B horizons (or the B and C horizons, if applicable) must be removed and stockpiled separately by horizon and then replaced in natural sequence on the borrow area.

Additional Criteria to Maintain or Improve the Visual Quality of the Landscape

The appearance of the reclaimed site must be compatible with the adjacent landscape. Designs shall consider the visual quality of areas of high public visibility.

Criteria to Protect Public Health, Safety, and General Welfare

Designs must reduce potential safety hazards, and erosion and pollution problems.

CONSIDERATIONS

A detailed soil survey should be made of the area to be reclaimed and the proposed borrow area to identify the types and extent of soil materials.

Consider the need for access roads that would facilitate final reclamation activities and operation and maintenance.

Reclamation has great potential for increasing or improving wildlife habitat in the reclaimed area. Avoid monocultures when developing vegetative specifications.

A special concern is the potential for uncovering or redistributing toxic materials from earth moving activities.

Consider the impact on cultural resources during planning, installation, and maintenance. This practice should be in compliance with 420, General Manual, Part 401, concerning cultural resources.

PLANS AND SPECIFICATIONS

Plans and specifications for reconstructing abandoned mined land shall meet this standard and shall include requirements needed to achieve the intended purpose. A reclamation plan must be developed for each site. The plan must specify the required procedures for reclamation.

OPERATION AND MAINTENANCE (O&M)

An O&M plan shall be prepared and discussed with the owner. The plan must provide specific details needed for installed conservation practices. The plan shall specify procedures for:

Filling areas where settlement may adversely affect drainage and land use;

Repairing and re-vegetating bare spots and eroded areas;

Adding soil amendments to soils that cannot support adequate vegetation or replacing them with suitable soil material;

Maintaining access roads;

Keeping drainage structures and channels clean and functional;

Applying fertilizer and lime;

Controlling noxious weeds;

Using proper grazing practices;

Controlling vehicular