

SOIL CONSERVATION SERVICE
KENTUCKY

LAND RECONSTRUCTION (Ac)
(New Mining)

544

STANDARD

- Definition -

Restoring land currently being mined to an acceptable form and planned use.

- Scope -

This standard applies to the identification, removal, stockpiling and replacement of soil materials on land being mined. It also applies to nearby areas that can be affected by the mining of various minerals or commodities.

- Purpose -

To prevent permanent damage to soil and water resources that might result from mining. To restore soil productive capacity to enable support of premining use or to a more intensive use. To control erosion, preserve the environment, and provide an economic use of the land.

- Conditions Where Practice Applies -

To areas that will be disturbed or affected by new mining.

- Planning Considerations -

Evaluate soil resources based on a soil survey including identification of prime farmlands. Evaluate water and other related resources. Consider storage locations for soil materials, placement of spoil, location of access roads, water disposal and potential for permanent impoundments, erosion and sediment control, replacement of soil materials and restoring their productivity and revegetation of the completed job.

A reclamation plan will be made before mining, which shows how land reconstruction will be conducted to meet the objectives of reclamation for the specific site.

SPECIFICATIONS GUIDE

Site Preparation for Mining

Designated areas shall be cleared of trees, logs, brush, rubbish and other materials. Areas designated for preservation, including existing vegetation, stream corridors, natural springs, or other important features, shall be marked.

Topsoil Removal

- A. All upper soil horizons to be used in soil reconstruction shall be removed from the immediate area prior to drilling for blasting, mining, or any other surface disturbance except removal of woody plants. Other soil materials may be substituted for upper soil horizons where substitute materials are of equal or higher quality for plant growth. Use of substitute materials is encouraged when the resulting reconstructed soil will be of higher quality than the original soil.
- B. All of the A horizon shall be removed according to paragraph A and then replaced on disturbed areas as the surface soil layer. Where the A horizon is less than 6 inches thick, a 6-inch layer that includes the A horizon and the material immediately below the A horizon, or the A horizon and all unconsolidated material, if the total available is less than 6 inches, shall be removed and the mixture segregated and replaced as the surface soil layer.
- C. Where necessary to obtain soil productivity consistent with post-mining land use, the B horizon or portions of the C horizon or other underlying layers demonstrated to have comparable quality for root development to the B or C horizons, shall be segregated and replaced as subsoil.
- D. Selected overburden materials may be substituted for or used as a supplement to the A or B horizon where the resulting soil medium is equal to or more suitable for vegetation, and if all the following requirements have been met:
 1. It has been demonstrated that the selected overburden materials or an overburden-topsoil mixture is more suitable for restoring land capability and productivity by the results of field trials and of chemical and physical laboratory analyses. Analyses may include determinations of pH, net acidity, phosphorus, potassium, texture class, and such other analyses as necessary. Field-site trials or greenhouse tests may be used to demonstrate the feasibility of using such overburden materials that may be required.
 2. The alternative material is removed, segregated and replaced as noted below.

Topsoil Storage

- A. The topsoil shall be stockpiled when it is impractical to redistribute the topsoil promptly on regraded areas.
- B. Stockpiles should be selectively placed and protected from wind and water erosion, unnecessary compaction, and contamination by undesirable materials either by an effective vegetative cover or by other methods demonstrated to provide equal protection. Stockpiled topsoil should not be moved until required for redistribution on regraded areas.

Topsoil Redistribution

- A. After final grading and before the topsoil is replaced, regraded land shall be scarified or otherwise treated where necessary to eliminate slippage surfaces and to promote root penetration.
- B. Topsoil shall be redistributed in a manner that --
 1. Achieves an approximate uniform thickness consistent with the original horizon in the undisturbed soil.
 2. Prevents excess compaction; and moist soil bulk density after soil reconstruction shall not be more detrimental to plant growth than the equivalent layer of the undisturbed soil; and
 3. Protects the topsoil from wind and water erosion before it is seeded and planted.

Nutrients and Soil Amendments

Nutrients and soil amendments in the amounts and analyses as determined by soil tests shall be applied to the redistributed surface soil layer so that it will support the approved postmining land use and associated vegetation.

Reference

Public Law 95-87, Surface Mining Control and Reclamation Act of 1977.