

## 405 KAR 18:050. Topsoil.

RELATES TO: KRS 350.151, 350.405, 350.415, 350.465

STATUTORY AUTHORITY: KRS Chapter 13A, 350.028, 350.151, 350.465

NECESSITY, FUNCTION, AND CONFORMITY: KRS Chapter 350 in pertinent part requires the cabinet to promulgate rules and administrative regulations establishing performance standards for protection of people and property, land, water and other natural resources, and aesthetic values, during underground mining activities and for restoration and reclamation of surface areas affected by underground mining activities. This administrative regulation sets forth requirements for the removal, storage and redistribution of topsoil and requirements for substitution of other materials for topsoil.

Section 1. General Requirements. (1) All topsoil, topsoil substitutes and supplements, and subsoils to be saved under Section 2 of this administrative regulation shall be removed as separate layers from the area to be disturbed and shall be segregated from other materials.

(2) After removal, such materials shall either be immediately redistributed in accordance with Section 4 of this administrative regulation or stockpiled pending redistribution in accordance with Section 3 of this administrative regulation.

(3) For surface areas which are without suitable topsoil as a result of previous surface coal mining operations, the cabinet shall approve and/or specify, on a site-specific basis, alternative practices designed to utilize those available materials which are most suitable for sustaining sufficient vegetation. Such materials shall be tested for their chemical and physical properties as set forth in Section 2(5) of this administrative regulation. The cabinet may require the application of nutrients and soil amendments as necessary for sustaining sufficient vegetation.

Section 2. Removal. (1)(a) For areas where topsoil is to be saved in accordance with this section, vegetative cover that would interfere with the salvage or use of the topsoil shall be cleared from those areas prior to topsoil removal; however, topsoil shall be removed from those areas as a separate layer and shall be segregated from other materials prior to any drilling, blasting, mining, or other surface disturbance of those areas.

(b) For situations in which the topsoil is of insufficient quantity or poor quality for sustaining sufficient vegetation, the materials approved by the cabinet in accordance with subsection (5) of this section shall be removed as a separate layer and segregated from other materials.

(2) Prior to placement of excess spoil or coal mine waste, construction of an embankment, or construction of any other structure for which stability is a concern, all topsoil and vegetative material shall be removed, either progressively or in a single set of operations, from all areas where failure to remove such materials would adversely affect the stability of the structure. For other areas disturbed by the structure and for all other areas disturbed by surface coal mining and reclamation operations, all topsoil shall be removed in accordance with subsection (1) of this section, unless the use of topsoil substitute materials is approved by the cabinet in accordance with subsection (5) of this section or unless topsoil removal requirements are waived pursuant to subsection (6) of this section.

(3) If the topsoil is less than six (6) inches in depth, a six (6) inch layer that includes the topsoil and the unconsolidated materials immediately below the topsoil or the topsoil and all unconsolidated materials, if the total available is less than six (6) inches, shall be removed and the mixture segregated and redistributed as the surface soil layer, unless topsoil substitutes are approved by the cabinet pursuant to subsection (5) of this section.

(4) The B horizon and portions of the C horizon and/or other underlying layers demonstrated to have qualities for comparable root development shall be removed, segregated, and replaced as subsoil if the cabinet determines that either of these is necessary to comply with the revegetation

requirements of 405 KAR 18:200 or to ensure soil productivity consistent with the approved postmining land use.

(5) Selected materials may be substituted for or used as a supplement to topsoil, if the applicant demonstrates to the satisfaction of the cabinet that the resulting soil medium is equal to or more suitable for sustaining sufficient vegetation than is the available topsoil and that the resulting soil medium is the best available to support sufficient vegetation. This demonstration shall be based on:

(a) The results of chemical and physical analyses of the substitute or supplement materials and the topsoil, which must be submitted in the permit application. These investigations shall include:

1. Analyses performed by a qualified soil scientist, qualified agronomist, or other qualified specialist consisting of evaluations of the thicknesses of the soil horizons, the thicknesses of the substitute or supplement materials, the total depths of the soils, the areal extents of the different kinds of soils, and the areal extents of the substitute or supplement materials;

2. Analyses performed by a qualified laboratory consisting of evaluations of pH, net acidity or alkalinity, phosphorus, potassium, texture, and percent coarse fragments; and

3. Other analyses performed by qualified individuals, if required by the cabinet, including but not limited to additional chemical and physical evaluations, field-site trials, greenhouse tests, and other investigations to establish the feasibility of using the substitute or supplement materials.

(b) A discussion from a qualified soil scientist or agronomist stating that: The proposed substitute or supplement materials are equal to or more suitable for sustaining sufficient vegetation than is the available topsoil; the resulting soil medium is the best available material to support sufficient vegetation; and the trials and tests were conducted using approved standard testing procedures.

(6) The cabinet may choose not to require the removal of topsoil for minor disturbances which:

(a) Occur at the site of small structures such as power poles, signs, and fence lines; or

(b) Will not destroy the existing vegetation and will not cause erosion.

Section 3. Storage. (1) Topsoil and/or other materials removed pursuant to Section 2 of this administrative regulation shall be stockpiled only when it is impractical to promptly redistribute such materials on regraded areas.

(2) Stockpiled materials shall be selectively placed on stable areas within the permit area; shall not be disturbed; and shall be protected from wind and water erosion, unnecessary compaction, and contaminants which lessen the capability of the materials to support vegetation when redistributed.

(a) Protection measures shall be accomplished either by:

1. An effective cover of nonnoxious, quick-growing annual and perennial plants seeded or planted during the first normal seeding or planting period after removal and resown as necessary thereafter; or

2. Other methods demonstrated to and approved by the cabinet to provide equal protection.

(b) Unless approved by the cabinet, stockpiled topsoil and/or other materials shall not be moved until required for redistribution on a regraded area.

(3) If such measures are demonstrated by the applicant to have no adverse effect on the topsoil and if approved by the cabinet, vegetative material may be used as mulch or may be included in the topsoil to control erosion, promote growth of vegetation, or increase the moisture retention of the soil.

(4) Where long-term surface disturbances will result from facilities such as support facilities and preparation plants and where stockpiling of materials removed in accordance with Section 2 of this administrative regulation would be detrimental to the quality or quantity of those materials, the cabinet may approve the temporary distribution of the materials so removed to an approved site within the permit area to enhance the current use of that site until needed for later reclamation provided that:

(a) Such action will not permanently diminish the capability of the topsoil and/or other materials of

the host site; and

(b) The materials will be retained in a condition more suitable for redistribution than if stockpiled.

Section 4. Redistribution. (1) After final grading and before final placement of topsoil and other materials segregated in accordance with Section 2 of this administrative regulation, the land shall be scarified or otherwise treated as required by the cabinet to eliminate slippage surfaces and to promote root penetration. If the permittee demonstrates through appropriate tests that no harm will be caused to the materials and vegetation and if approved by the cabinet, scarification may be conducted after redistribution of topsoil and/or other materials.

(2) Topsoil and/or other materials shall be redistributed in a manner that:

(a) Achieves an approximate uniform, stable thickness consistent with the approved postmining land uses, contours, and surface water drainage systems;

(b) Prevents excessive compaction of the topsoil and/or other materials; and

(c) Protects the topsoil and/or other materials from wind and water erosion before and after it is seeded and planted.

(3) The materials removed pursuant to Section 2 of this administrative regulation shall be redistributed at a time when the physical and chemical properties of the materials can be protected and erosion can be minimized.

(4) The cabinet may choose not to require the redistribution of topsoil and/or other materials on approved postmining embankments of permanent impoundments and of roads if it determines that:

(a) Placement of topsoil and/or other materials on such embankments is inconsistent with the requirement to use the best technology currently available to minimize sedimentation; and

(b) Such embankments will be otherwise stabilized.

Section 5. Nutrients and Soil Amendments. Nutrients and soil amendments, in the amounts determined by soil tests, shall be applied to the redistributed materials so that they are sufficient to sustain the approved postmining land use and to sustain vegetation which is sufficient to meet the revegetation requirements of 405 KAR 18:200. All soil tests shall be performed by a qualified laboratory using standard methods approved by the cabinet. (8 Ky.R. 1560; eff. 1-6-1983; 11 Ky.R. 1851; eff. 8-13-1985; Crt eff. 7-3-2018.)