

**WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DESIGN DIRECTIVE**

<p>DD-407 GUIDELINES FOR UNSUITABLE MATERIAL <i>December 23, 2005</i></p>

All topsoil shall be considered unsuitable material. The volume of topsoil that is to be removed prior to the roadway or drainage structure construction shall be determined from the soil profile.

Areas where the overburden soils have excessive moisture, which would require extensive manipulation by the contractor in order to dry the material to a suitable condition to compact in embankments, shall be identified based on laboratory test data as well as field notes and considered to be unsuitable material. Soils to be excavated from natural drains for channel changes or drainage structure excavation shall be considered unsuitable.

The volume of material excavated for the construction of the first lettered (i.e., lowest) fill bench of embankment shall be considered unsuitable material. This quantity shall include both the soil and rock portions, as well as, the volume of material required to daylight the fill bench. For the purpose of quantity calculations, the backslope of the first lettered bench shall be extended to the existing ground line.

All coal and material having 7.5% or more by weight of organic material shall be designated as unsuitable material.

All areas where existing pavement removal is specified in the plans, and pavement undercut is necessary to construct the new pavement structure, the excavated quantity of the pavement undercut shall be designated as unsuitable material. For small projects where information is available, the quantity of pavement removal shall be based on actual field conditions. For larger projects where information regarding the existing pavement is not available, the pavement undercut quantity shall be based on an average thickness. The average thickness shall be determined by the project review team at preliminary and final field reviews. A total pavement area of 10% may be reliable in most cases for quantity calculation purposes. The payment to remove the pavement undercut shall be included in Item 207001, Unclassified Excavation. The quantity shall be shown on grading summary as a separate line. If rock is not available in the contract, a rock borrow item (select embankment), shall be designated for backfill.

All areas and limits of the unsuitable material, other than topsoil, shall be delineated on the plans or cross sections.