

ITEM 160

TOPSOIL

160.1 Description. This Item shall govern furnishing and placing topsoil to the lines, grades and depth shown on the drawings or as directed by the Engineer.

160.2 References.

- ASTM D422 “Standard Test Method for Particle-Size Analysis of Soils”
- ASTM D1140 “Standard Test Methods for Amount of Material in Soils Finer Than the No. 200 (75-µm) Sieve”
- ASTM D2974 “Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils”
- ASTM D4972 “Standard Test Method for pH of Soils”
- AASHTO T194 “Standard Method of Test for Determination of Organic Matter in Soils by Wet Combustion”

160.3 Materials.

- A. Topsoil shall be capable of sustaining native plant growth, and it shall be easily cultivated, has high resistance to erosion, free from objectionable material including gravel, large roots, stumps, wood, brush, debris, hard clods, clay balls, hardpan, refuse or other deleterious materials and be of reasonably uniform quality.
- B. Import topsoil or provide from on-site source. If topsoil is from on-site source, topsoil is the surface layer of material containing decaying vegetable matter and roots. It is not necessary to strip all soil containing fine, hairline roots, only soil containing moderate to severe root mat.
- C. Imported Topsoil shall conform to the following requirements:

TABLE 1

SPECIFICATION	UNIT	VALUE	APPLICABLE STANDARD
Soil Reaction	pH	5.5-8 ^(a)	ASTM D4972
Passing No. 4 Sieve	%	95-100	ASTM D422
Sand Size, 2.0-0.05 mm	%	10-70	ASTM D422
Silt Size, 0.05-0.005 mm	%	0-40	ASTM D1140
Clay Size, <0.005 mm	%	20-50	ASTM D1140
Easily Oxidizable Organic Matter	%	2.5-10 ^(b)	ASTM D2974 AASHTO T194

NOTE:

- (a) Determine pH by Method A for on-site source and Methods A and B for import topsoil. If on-site source topsoil does not satisfy the specified pH range, achieve the desired pH by amending the soil as recommended by the certified agronomist's report of soil sample analysis.
- (b) Soil testing company shall identify test method used if different from the specified. The Engineer must approve alternate test methods.

D. Topsoil shall have Liquid Limit <50 and Plasticity Index <20

160.4 Topsoil Delivery, Storage and Handling. Deliver, stockpile and handle topsoil in such a way as to not contaminate the material with other soils or objectionable materials.

The stockpile or disposal site shall not be an environmentally sensitive area, in a floodway, wetlands, or in "Waters of the United States". If the stockpile or disposal site is in wetlands as defined in the plans, then the County shall be responsible for ensuring that the appropriate Department of the Army permit has been obtained for the activity.

160.5 Construction Methods.

- A. Strip topsoil as specified on the plans or as directed by the Engineer from area to be excavated or filled and stockpiled for use on the final grades and ditch slopes. Install and maintain proper Storm Water Pollution Prevention Best Management Practices (SWPPP BMP) to stockpiled topsoil at no additional cost to Harris County.
- B. Prior to placing topsoil, scarify or plow the subgrade to a minimum depth of 4 inches until it is loose and uncompacted to provide bonding of topsoil layer to subgrade. Remove vegetation and foreign inorganic material. Place topsoil on loosened material and roll lightly with appropriate lawn roller to consolidate topsoil.
- C. The Contractor shall place the topsoil to the lines and grades and to the depths shown on the drawings.
- D. Remove spilled topsoil from curbs, gutters, and paved areas and dispose of excess topsoil off-site.
- E. Place topsoil to promote drainage and compact with light roller. Water topsoil after placement until saturated for minimum specified depth, fill in and recompact areas of settlement.
- F. Do not place topsoil when it is excessively wet or dry.
- G. If the topsoil excavated from the site will be utilized for the construction of wetlands, then the Contractor shall store the material in piles less than 5 feet in height to ensure the survivability of the existing seed bank.

- 160.6 Submittal Required. Contractor shall furnish certification from their supplier that their topsoil meets the material requirements of Section 160.3.
- 160.7 Quality Control.
- A. The Contractor is required to submit the location of the pit(s) and a sample from which the material is to be taken, for Engineer's approval. The Contractor shall submit the vendor's technical description of the topsoil.
- B. The Engineer may question the quality of material at any stage of work or location if changes in characteristics are apparent.
- 160.8 Measurement. When topsoil has to be imported from sources other than the job site, topsoil shall be measured by the cubic yard of in place or per square yard of specified depth of furnished, delivered and placed, in accordance with these Standard Specifications.
- 160.9 Payment. Payment for this Item and SWPPP BMP's when shown in the plans shall be made at the contract unit price per cubic yard of in place or per square yard of specified depth of topsoil, which price shall be full compensation for all labor, materials, equipment and incidentals necessary to furnish, haul and place the topsoil.

There are line code(s), description(s), and unit(s) for this Item.

NOTE: This Item does not require a drawing

NOTE: This Item does not require other Standard Specifications

END OF ITEM 160