

SECTION 02709 - TOPSOIL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The WORK under this Section includes providing all labor, materials, tools and equipment necessary for furnishing and placing topsoil at the locations shown on the Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil furnished by the CONTRACTOR shall consist of a natural friable surface soil without admixtures of undesirable subsoil, refuse, or foreign materials. It shall be reasonably free from roots, hard clay, coarse gravel, stones larger than one inch in any dimension, noxious weeds, tall grass, brush, sticks, stubble or other material which would be detrimental to the proper development of vegetative growth.

Topsoil shall be obtained from naturally well drained sites where topsoil occurs at least 4-inches deep. Topsoil shall not be obtained from bogs or marshes.

- B. Topsoil shall conform to the following grading:

Sieve Sizes	Percentage Passing
1-inch	100%
1/2 inch	95% - 100%
No.4	75% - 100%
No.10	60% - 100%
No.200	10% - 60%

- C. Topsoil shall contain not less than 3%, or more that 20% organic matter, by weight as determined by loss-on-ignition of oven-dried samples in accordance with ATM T-6. Organic material shall be decomposed and free of wood.
- D. The ENGINEER shall be notified on the location from which the CONTRACTOR proposes to furnish topsoil at least 30 calendar days prior to delivery of topsoil to the Project from that location. The topsoil and its source will be inspected and tested by the ENGINEER before approval will be granted for its use.
- E. Topsoil sources lacking organic matter may be used if, prior to delivery to the Project, sufficient organic matter in the form of pulverized peat moss or rich organic soil from other sources is thoroughly mixed with the topsoil to provide a product meeting the above requirements.
- F. Organic material for incorporation into topsoil, if required, shall be partially decomposed fibrous or cellular stems and leaves of any of several species of Sphagnum mosses, or rotted manure. Organic material may require chopping to shredding to insure thorough mixing with the topsoil.

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- G. All topsoil shall be fertilized as follows: the application rates of the fertilizer and limestone per 1,000 square feet of ground area of topsoil furnished by the CONTRACTOR shall be determined by the ENGINEER, based on soil analysis tests so that the total natural and applied chemical constituents are as follows:

Nitrogen	1.0 lb. minimum - 1.5 lb. maximum per 1,000 square feet
Phosphoric Acid	1.0 lb. minimum - 2.0 lb. maximum per 1,000 square feet
Potassium	1.0 lb. minimum - 2.0 lb. maximum per 1,000 square feet
Limestone	Limestone requirements shall conform to the following table:

LIMESTONE REQUIREMENTS

Soil pH	Limestone Tons per Acre
Above 6.0	0
5.0 - 6.0	1.5
Below 5.0	3.0

PART 3 - EXECUTION

3.1 CONSTRUCTION

- A. All areas beyond the sidewalk or roadway shoulder that are disturbed during construction which are not covered with pavement, concrete, or base course, shall be graded to a neat, uniform gradeline and appearance, as determined by the ENGINEER, and covered with a neat uniform, three inch minimum thickness of topsoil and hydroseeded, unless otherwise shown on the Drawings, or directed by the ENGINEER.
- B. The topsoil shall be evenly spread on the designated areas to a depth, which, after settlement and compaction, shall be three inches, unless otherwise directed by the ENGINEER. Spreading shall not be done when the ground or topsoil is frozen, excessively wet, or otherwise in a condition detrimental to the WORK, as determined by the ENGINEER. Roadway surfaces shall be kept clean during hauling and spreading operations.
- C. After spreading has been completed, large clods, stones larger than one-inch in any dimension, roots stumps, and other litter shall be raked up and removed.
- D. The final grading of the topsoil prior to hydroseeding shall be to a tolerance that will not permit ponding of water in excess of one inch in depth.

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- E. Topsoil Finish Grading, if a pay item will not be approved for start-up until the topsoil has been graded to within the tolerances given above.
1. The CONTRACTOR shall provide labor personnel experienced with landscaping work that involves fine grading of topsoil for residential or commercial lawns.
 2. The ENGINEER will determine the location of those areas requiring finish grading and the time required to bring the graded topsoil to the desirable finish appearance.
 3. The CONTRACTOR shall remove and dispose of all excess materials resulting from the finish grading of the topsoil. The WORK required to remove and dispose of this excess material from piles placed along the roadway will be considered incidental to other WORK under the contract.

END OF SECTION