

SPECIFICATION SECTION 12300 - TOPSOILING

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SECTION 12300 - TOPSOILING

1. DESCRIPTION

This Specification Section prescribes the preparation of the ground for the spreading of topsoil, importing topsoil from approved sources on or off the Site, placing and spreading topsoil on prepared areas.

2. MATERIAL REQUIREMENTS

2.1 Reference Standards

The most recent edition of the following Standards shall be applied to the Works.

ASTM C117-04 Materials Finer than 75- μ m (No.200) Sieve in Mineral Aggregates by Washing.

2.2 Materials for Topsoil

- a) Topsoil shall be the surface layer of soil with no admixture of refuse or any material toxic to plant growth and it shall be reasonably free from subsoil, stumps, roots, brush, stones (50 mm or more in diameter), clay lumps or similar objects.
- b) Brush and other vegetation that will not be incorporated into the soil during handling operations shall be cut and removed.
- c) Ordinary sods and herbaceous growth such as grass and weeds are not to be removed but shall be thoroughly broken up and intermixed with the soil during handling operations.
- d) The topsoil or soil mixture, unless otherwise specified or approved, shall have a pH range of approximately 5.5 to 7.6.
- e) The organic content shall be not less than 3% but not higher than 20%.
- f) The proportion of material in top soil passing an 0.075 mm sieve shall be $\geq 20\%$ but $\leq 80\%$ as determined by the wash test in accordance with ASTM C117-04.
- g) The Contractor may treat natural topsoil with approved materials and methods to meet the above specifications.

2.3 Obtaining Topsoil

- a) Prior to the stripping of topsoil briars, stumps and large roots, rubbish or stones found on such areas, which may interfere with subsequent operations, shall be removed.

- b) Heavy sod or other cover, which cannot be incorporated into the topsoil by disking or other means shall be removed.
- c) The Contractor shall locate and obtain topsoil off the Site, which shall be subject to the approval of the Engineer. Topsoil shall be hauled to the site of the Works and placed for spreading or spread as required. Any topsoil hauled to the Site and stockpiled shall be handled as many times as necessary.

2.4 Cohesive Embankment Material

Cohesive embankment material shall be placed as sealing layer in the locations and to the depths indicated on the Drawings or as may be required by the Engineer and shall conform with the requirements of Specification Section 03400 Embankment.

3. CONSTRUCTION REQUIREMENTS

3.1 General

- a) The areas to be topsoiled are shown on the Drawings or will be indicated by the Engineer.
- b) The Contractor shall provide suitable equipment for the proper preparation and treatment of the ground surface and handling and placing of all required materials.

3.2 Preparing the Ground Surface

- a) Immediately prior to dumping and spreading the topsoil on any area (except directly on a rock surface), the surface shall be loosened by discs or spike tooth harrows or by other approved means to a minimum depth of 50 mm. The surface of the area to be topsoiled shall be cleared of all stones larger than 50 mm in any diameter and all litter or other material which may be; detrimental to bonding of the topsoil to the ground, the passage of moisture through capillary action, or the proper growth of the desired planting. Limited areas, as shown on the Drawings, which are too compact to respond to these operations, shall receive special scarification.
- b) Grades on the area to be topsoiled, which have been established by others as shown on the Drawings shall be maintained to a true and even condition. Where grades have not been established the areas shall be; contoured to a even finish, compacted and the surface left at the prescribed grades to prevent, insofar as practical, the formation of low places or pockets where water will stand.
- c) Areas to be topsoiled that require filling material to reach the lines and levels described on the Drawings shall be filled up to a level that top

soiling can be applied properly as specified in this Specification Section.

3.3 Placing Topsoil

- a) Topsoil shall be evenly spread on the prepared areas to a uniform depth of 150 mm after compaction, unless otherwise shown on the Drawings. Spreading shall not be done when the ground or topsoil is excessively wet or otherwise in a condition detrimental to the work. Spreading shall be carried out so that seeding operations can proceed with a minimum of soil preparation or tilling.
- b) After spreading, any large stiff clods and hard lumps shall be broken with a pulverizer or by other effective means and all stones or rocks (50 mm or more in diameter), roots, litter, or any foreign matter shall be raked up and disposed of by the Contractor. After spreading is completed topsoil shall be satisfactorily compacted by rolling or by other approved means. The compacted topsoil surface shall conform to the required lines, grades, and cross sections. Any topsoil or other dirt falling upon pavements as a result of hauling or handling of topsoil shall be promptly removed.

4. MEASUREMENT AND PAYMENT

4.1 Method of Measurement

- a) Topsoiling shall be measured in cubic meters (m³) of topsoil spread and compacted in accordance with the requirements of this Specification Section and to the approval of the Engineer.
- b) The Contractor shall be responsible for sourcing/supplying the topsoil, from on or off Site, including delivery to Site if necessary. This requirement shall be included in the unit prices.
- c) The Topsoiling provisions, material requirements and construction requirements identified in this Specification Section shall be measured for payment in pay items 12300-01.
- d) Any Topsoiling Works not specifically identified in this Specification Section but which are necessary for the performance of the Works shall be deemed to be included in pay items 12300-01.

4.2 Basis of Payment

The work under this Specification Section shall be paid for in accordance with the applicable unit prices as indicated in the Bill of Quantities and given below. Payment shall constitute full compensation for performing the requirements of the Contract for the item of work as specified including furnishing all necessary labor, materials, tools, equipment and incidentals.

<u>Pay Item</u>	<u>Description</u>	<u>Unit</u>
12300	Topsoiling	
12300-01	Topsoiling	m ³