

## ITEM 11613.0102 M - SPORTS FIELD TOPSOIL MIX

**DESCRIPTION:** The work shall consist of furnishing, mixing and placing a loamy sand mixture of topsoil in conformance with the lines, grades and thicknesses shown in the contract documents or as designated by the Engineer.

### **MATERIALS:**

All the requirements of 713-01 Topsoil shall apply except as follows:

1. The pH of the material shall be between 6.0 and 7.0.
2. The organic content shall be not less than 2% or more than 5%. The organic materials used to amend or manufacture topsoil shall be naturally occurring well composted leaf mold.

3. Gradation-

<u>MATERIAL</u>	<u>PARTICLE SIZE</u>	<u>ACCEPTABLE RANGE</u>
Rocks and Stones	>6.3 mm	(% by weight)
Gravel	6.3 mm-2.0 mm	0%
Sand	2.0 mm to 50 mm	70-80%
Silt	50 mm to 2mm	8 - 15%
Clay	<2mm	8-15%

At least 50% of the Sand fraction shall be medium sand or coarser (greater than .25 mm). No more than 1% of the soil shall contain expandable clay materials. The combined silt and clay shall be approximately 25 - 30% of the total weight of soil.

4. Prior to acceptance, the Contractor shall have the soil analyzed for chemical/nutrient levels using Morgan's Extraction procedure. Samples for this analysis shall be from a portion of the samples used for testing under 713-01. Level of the following nutrients shall fall within the following:

Nitrate	1 to 2.5 ppm
Phosphorus	0.1 to 0.3 ppm
Potassium	6 to 14 ppm
Magnesium	50 to 70 ppm
Manganese	2 to 5 ppm
Iron	0.5 to 2.0 ppm
Zinc	0.004 to 0.1 ppm
Calcium	400 to 800 ppm

If the soil is deficient in any nutrient, supplementary fertilizer shall be added to meet these requirements.

**CONSTRUCTION DETAILS:** Mixing shall uniformly blend the soil components in the

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approximate ratio indicated above. The Sports Field Topsoil Mix shall be placed in the locations specified in the contract documents . It shall be the Contractor's responsibility to properly compact the mixture. The Contractor shall determine the type, size, and weight of compactor best suited to the work, and select and control the lift thickness. The Contractor shall also exert proper control over the moisture content of the mixture, and other details necessary to obtain satisfactory results.

The Department will inspect the Contractor's operations and will permit the work to continue where:

1. Lift thickness is controlled and is consistent with the compaction equipment selected.
2. The compactive effort is uniformly applied.
3. The Engineer concludes from visual observation that proper compaction has been obtained.

When tests are performed, the tests shall indicate that not less than 95% of the Standard Proctor Maximum density is attained.

Whenever the Contractor's operations do not conform to the above criteria, the Engineer will prohibit placement of additional material until the Contractor takes corrective action.

When the Engineer determines density tests are necessary, the Contractor shall provide any assistance required to facilitate such tests. Such assistance shall include, but will not be limited to, excavation and backfill of test holes. This work shall be considered to be incidental to construction.

Topsoil placement shall be coordinated with the placement of the Composite Drainage Net and Underdrain System.

### **METHOD OF MEASUREMENT:**

Sports Field Topsoil Mix shall be measured per cubic meter measured in place.

### **BASIS OF PAYMENT:**

The unit price bid per cubic meter shall include the cost of all labor, materials and equipment including topsoil, water, transportation, testing, mixing, fertilizer, and all incidental necessary and required to complete the work in accordance with the plans and specifications and as directed by the Engineer.