

SECTION 320514 – TOPSOIL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to this section.

1.2 RELATED DOCUMENTS

- A. Provide all labor, materials and equipment as necessary to complete all work as indicated on the Drawings and specified herein.
- B. This section includes topsoil work for disturbed areas, as indicated on the Drawings, and by provisions in:
 - 1. Division 01 Section “General Requirements - Temporary Facilities and Controls.”
 - 2. Division 31 Section “Earthwork.”
- C. Related section includes Division 31 Section “Earthwork.”

1.3 QUALITY ASSURANCE

- A. Provide and pay for testing and inspection before and during topsoil operations. Testing laboratory shall be acceptable to the Project Representative.
 - 1. Approved Testing Laboratory:

Soil and Plant Nutrient Laboratory
A81 Plant and Soil Sciences
Department of Crop and Soil Sciences
Michigan State University
East Lansing, MI 48824-1325
(517) 355-0218
(Schedule a minimum of 14 days to complete the required tests.)
- B. Test representative material samples as follows:
 - 1. Test each topsoil stockpile by using 3 samples, sufficiently in advance of commencement of topsoil operations (to allow for testing additional stockpiles should the first stockpile test fail). 1 sample shall be taken from the surface, 1 sample half way into the stockpile and 1 sample in the center of the stockpile.
 - 2. During topsoil operations, test approximately every 200 CY of topsoil being placed from samples taken during topsoil placement. Owner may require that samples be taken from on site at a frequency that is determined by the Project Representative. The Owner reserves the right to witness the sample selections.

- C. Test Requirements:
 - 1. Routine Soil Fertility Test.
 - 2. Mechanical Analysis
 - 3. Percentage of organic content and loss by ignition.
- D. Submit test reports for approval prior to beginning topsoil placement.
- E. Submit a sample of screened and unscreened topsoil to the Landscape Services Department at Michigan State University at least three weeks prior to placing the soil on the Project. Sample size shall be a 5 gallon bucket.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Topsoil shall be provided by Contractor from off-site sources with the specified minimum quality specified herein.
- B. Topsoil proposed for use shall meet testing criteria results specified and conform to adjustments as recommended by the soil testing laboratory and the Project Representative.
- C. Provide sufficient quantity of topsoil as required to complete the Project.
- D. Testing, processing, cleaning and preparation of topsoil to render it acceptable for use is the responsibility of the Contractor.
- E. Topsoil shall meet the following requirements:
 - 1. Topsoil shall be fertile, friable and representative of local productive soil, capable of sustaining vigorous plant growth and screened free of clay lumps, subsoil, noxious weeds and other foreign matter such as stones greater than 1-inch in diameter in dimension, roots, sticks, and other extraneous materials and not frozen or muddy.
 - 2. Topsoil shall have a pH range between 5.0 and 7.5, adjusted to not more than 7.0 by additives as required by soil test.
 - 3. Topsoil shall be not less than 2% and not greater than 5% native organic matter, not compost material, as determined by a loss by ignition test at 360 degrees C.
 - 4. Topsoil shall have a soil textural classification of SANDY LOAM.
 - 5. Topsoil clay content as determined by Bouyoucous Hydrometer Test shall range between 5% and 20%.

6. Topsoil sand content shall be not less than 40% and not greater than 80%, as determined by a mechanical analysis as follows:

a. Screened Topsoil

<u>Passing</u>	<u>Retained On</u>	<u>Percentage</u>
1-Inch Screen		100%
1-Inch Screen	3/4-Inch Screen (Gravel)	Not More Than 3% and Not Greater Than 5%

b. Unscreened Topsoil

<u>Passing</u>	<u>Retained On</u>	<u>Percentage</u>
1-Inch Unscreened	3/4-Inch Screen (Gravel)	Not More than 10%

7. Phosphorus: Adjust as required by soil test and recommendations.
8. Potassium: Adjust as required by soil test and recommendations.
9. Magnesium: Adjust as required by soil test and recommendations.
10. Calcium: Adjust as required by soil test and recommendations.

PART 3 - EXECUTION

3.1 GENERAL

- A. Refer to Division 31 Section "Earthwork."

END OF SECTION 320514