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NEW YORK STATE DEPARTMENT OF TRANSPORTATION

SUBJECT: SAMPLING PROCEDURES FOR
TOPSOIL

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This Engineering Instruction transmits revisions to the Department's "Sampling Procedure for Stockpiled Topsoil," and is made necessary by two recent revisions to Section 713-01 of the Standard Specifications (see EI #91-27).

The first revision to Section 713-01 Topsoil emphasized that approved recycled and/or composted organic materials may be used as topsoil amendments. Secondly, after topsoil has been initially tested and shown to be deficient in organic content only, Contractors may amend the organic content of topsoil after it has been placed. This only applies to topsoil used for sodding and for establishing turf and wildflowers.

The revised "Sampling Procedures for Topsoil" provides guidance on resampling topsoil amended as stated above. The revised procedure also includes previously provided guidance on sampling topsoil that has been stockpiled.

All samples taken from topsoil that has been amended with approved sewage sludge (meeting all NYS Department of Environmental Conservation regulatory requirements) shall be clearly identified and labeled as such for safety and testing purposes.

It is expected that these revised procedures for sampling topsoil may lower the cost of amending topsoil and may result in lower bid prices.

This Engineering Instruction will be effective upon receipt, for procedure No. 1, Sampling Procedure for Stockpiled Topsoil. It will be effective with the letting of May 7, 1992 for procedure No. 2, Resampling Procedure for Topsoil In-Place. This is in conjunction with the effective date of EI #91-27, the Revised Topsoil Specification.

Questions regarding this Engineering Instruction may be directed to Mark Woods of the Landscape Architecture Bureau at (518) 457-4460.

SAMPLING PROCEDURES FOR TOPSOIL

These are the procedures to be used to sample topsoil for all Department projects. The procedures include:

1. SAMPLING PROCEDURE FOR STOCKPILED TOPSOIL
2. RESAMPLING PROCEDURE FOR TOPSOIL IN-PLACE

Topsoil sampling is done under the general direction of the Regional Landscape Architect (RLA).

Samples will be collected by a Department representative (the Sampler) designated by the RLA or the Engineer-in-Charge (EIC). The Sampler will collect topsoil samples in the presence of the EIC and the Contractor or their representatives.

NOTE: All samples taken from topsoil that has been amended with approved sewage sludge (meeting all NYS Department of Environmental Conservation regulatory requirements) shall be clearly identified and labeled as such on Form SM449-(1-5).

1. SAMPLING PROCEDURE FOR STOCKPILED TOPSOIL

Sampling from stockpiles involves the consideration of how much topsoil each sample represents. In the case of small stockpiles, each stockpile should be sampled. In the case of large stockpiles, involving thousands of cubic yards, at least one sample should be taken for each 1000 cubic yards (cy). The total samples from a stockpile should fully represent all the materials of that stockpile.

This procedure applies for each stockpile up to 1000 cy, or for each 1000 cy in larger stockpiles. Section 106-02 Samples, Tests and Cited Specifications, of the Standard Specifications permits the EIC to require the Contractor to furnish suitable excavation equipment, such as front end loaders, etc., necessary to properly sample a stockpile.

Once the number of samples to be taken has been determined, the following steps are to be followed for each sample:

A. The Contractor shall form a face for the full height of the stockpile at four locations to be specified by the Department's Sampler. A front end loader shall then be filled by channelling the full height of the face, from the bottom to the top, in one operation and the bucket shall then be lowered and emptied by rotation to form a small pile at each location.

B. The Sampler shall place a shovel full of soil from each of the four small piles into a large container.

- C. Thoroughly mix the contents of the container.
- D. Either by splitting or quartering, obtain enough material to fill the provided polyethylene bag and container with the soil from Step C.
- E. Material shall not be added to the stockpile after sampling. If material is added after the stockpile has been sampled, or the stockpile is otherwise tampered with, the Department's representative will declare the stockpile unacceptable.
- F. The polyethylene bag shall be inserted inside the quart size cylindrical container. The sample shall then be placed into the bag to a point where the bag can be tied and the top be placed and sealed on the container for shipment. The bags and containers will be furnished by the Regional Soils Engineer or the Soil Mechanics Bureau.
- G. After each sample has been taken, it shall be assigned a sample number and shipped to the Soil Mechanics Bureau for testing as soon as possible.
- H. A copy of Form SM449-(5) for each sample should be inserted in the container, but not in the bag. The remaining copies of the form and the container should be sent to the Soil Mechanics Bureau. Form SM449-(1-5) should be completely filled out so that the laboratory will have all necessary information. The Soil Mechanics Bureau will provide copies of the test results to the RLA.

2. RESAMPLING PROCEDURE FOR TOPSOIL IN-PLACE

NOTE: This procedure applies to topsoil in-place that was previously tested and found to be deficient in organic content only.

As in sampling from stockpiles, sampling topsoil that has been placed and amended for organic content involves the consideration of how much topsoil each sample represents. The sampling procedure for topsoil placed shall consist of the preparation of one composite sample for each acre of placed topsoil, or part thereof. Each composite sample shall represent full depth samples of placed topsoil from not fewer than ten individual locations per acre (or full depth samples of placed topsoil per 4000 square feet or part thereof).

Section 106-02 Samples, Tests and Cited Specifications, of the Standard Specifications permits the EIC to require the Contractor to furnish suitable excavation equipment necessary to properly sample topsoil that has been placed prior to amending the organic content.

Once the number of samples to be taken by this procedure has been determined, the following steps are to be followed for each sample:

- A. The Sampler shall prepare one composite sample of placed topsoil for each acre of placed topsoil, or part thereof.
- B. Each composite sample of placed topsoil shall represent full depth samples of placed topsoil from not fewer than ten individual locations per acre (or full depth sample of placed topsoil per 4000 square feet, or part thereof).
- C. The Sampler shall place a shovel full of soil from each of the ten individual locations into a large container.
- D. Thoroughly mix the contents of the container.
- E. Either by splitting or quartering, obtain enough material to fill the provided polyethylene bag and container with the soil from step C.
- F. The polyethylene bag shall be inserted inside the quart size cylindrical container. The samples shall then be placed into the bag to a point where the bag can be tied and the top be placed and sealed on the container for shipment. The bags and containers will be furnished by the Regional Soils Engineer or the Soil Mechanics Bureau.
- G. After each sample has been taken, it shall be assigned a sample number and shipped to the Soil Mechanics Bureau for testing as soon as possible.
- H. A copy of Form SM449-(5) for each sample should be inserted in the container, but not in the bag. The remaining copies of the form and the container should be sent to the Soil Mechanics Bureau. Form SM449-(1-5) should be completely filled out so that the laboratory will have all necessary information. Copies of the test results will be submitted by the Soil Mechanics Bureau to the RLA.

Contractors who feel that an error was made in sampling the topsoil shall, within one working day, indicate the alleged error in writing to the EIC, who will refer the letter to the RLA. A copy of the letter will be sent to the Director of the Landscape Architecture Bureau for resolution.

Contact the RLA for further guidance regarding topsoil sampling and these procedures.