

DESCRIPTION

This work shall consist of furnishing (including costs for testing and shipping) and installing Bioretention and Dry Swale Soil in accordance with the contract documents and as directed by the Engineer.

MATERIALS

The soil for Bioretention areas and Dry Swales shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than 50mm in diameter. No other materials or substances shall be mixed or dumped within the Bioretention area and Dry Swale that may be harmful to plant growth, or prove a hindrance to planting or maintenance operations. The Bioretention and Dry Swale soil shall be visibly free of noxious weeds.

Bioretention and dry swale soil shall meet the following characteristics:

Parameter	Characteristic
PH Range	5.2 to 7.0
Organic Content	1.5 to 4.0% by dry weight
Magnesium	4.0g/m ² minimum
Phosphorous	8.5g/m ² minimum
Potassium	9.5g/m ² minimum
Soluble Salts	≤ 500ppm

GRADATION	
Sieve Size	Percent passing by Dry Weight
50mm	100
9.5mm	95 to 100
2.0mm	80 to 100
75µm	0 to 30

Acceptance of Bioretention and Dry Swale soil will be based upon the test results.

TESTING

The material tests required by this specification will be done by submitting a sample(s) to the New York State College of Agriculture and Life Sciences, Cornell University. The requirements of §713-01 Topsoil shall be followed for Stockpiling and Sampling, with the exception that samples shall be 0.24 liter of dry soil (do not use heat to hasten drying) secured in a zip lock bag (supplied by the contractor). The Engineer will take the soil sample(s), and complete the “Cornell Nutrient Analysis Laboratory” order form.

The order form can be obtained from Cornell at:

<http://cnal.cals.cornell.edu/forms/submission/pdf/CNAL-Form-RS-Research-Soil-External.pdf>

The Engineer will mail the sample and order form to Cornell University. Payment (check payable to Cornell University) for the soil sample test, and all shipping costs shall be supplied by the contractor.

ITEM 616.2001--08M BIORETENTION AND DRY SWALE SOIL

The following test codes on the order form are applicable for the necessary testing (the "Outside CU" column shall be used for the payment column): pH & organic content– 1030; magnesium, phosphorous, potassium –2020; soluble salts – 1880; textural analysis – 1885.

Soil sample(s), a copy of the completed form, and the appropriate payment shall be submitted to:

Cornell Nutrient Analysis Laboratory
804 Bradfield Hall
Cornell University
Ithaca, N.Y. 14853

CONSTRUCTION DETAILS

Bioretention and Dry Swale Soil shall be furnished and placed at the locations and to the depth as shown in the contract documents. Placement of Bioretention and Dry Swale Soil shall be done in lifts of 300mm to 450mm. The soil shall be loosely compacted, such as by tamping lightly with a dozer or backhoe bucket.

METHOD OF MEASUREMENT

This work will be measured as the number of cubic meters of Bioretention and Dry Swale Soil installed.

BASIS OF PAYMENT

The unit price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work, including the cost for material testing and shipping.

DISAPPROVED BY E109-020