



**STATE HIGHWAY
ADMINISTRATION**

**Office of Materials Technology
Landscaping Soils Procedure**

**Soils and Aggregate Technology Division
7450 Traffic Drive
Hanover, Maryland 21076**

Landscaping Soils Eligibility Procedure and Producers List

Contacts

Dr. Intikhab Haider, *Division Chief*

443-572-5162 or ihaider2@mdot.maryland.gov

Amanuel Welderufael, *Assistant Division Chief Lab*

***Operations* 443-572-5276 or**

awelderufael@mdot.maryland.gov

Benjamin Knipe, EIT., *Soils Lab Team Leader*

443-572-5055 or bknipe@mdot.maryland.gov

Toll Free: 866-926-8501

Maryland Department of Transportation State Highway Administration

Landscaping Soils Eligibility Procedure

1. INTRODUCTION

Maryland Department of Transportation, State Highway Administration (the Administration) has the responsibility to effectively and efficiently assure the quality of landscaping soils used on the Maryland roadway system. Products placed must meet the system preservation, safety and environmental needs of the state's communities. The Administration publishes this Landscaping Soils Eligibility procedure as a tool for providing information and guidance on how, to become an MDOT SHA eligible producer of landscaping soils, and the quality of landscaping soils used on Maryland road projects can be assured.

This document contains a list of landscaping soil producers (producers) whose Furnished Topsoil and/or Bioretention Soil Mix (BSM) are qualified for use on the Administration' projects. The prequalified list will be updated and published on a quarterly basis. The eligibility of producers will be valid for one year; however, the nutrient management plan (NMP) will be valid for six months with an expiration date of September 30th and March 31st respectively. The products that are qualified will be listed in the producers' qualified list. Failure to meet the SHA specification after testing on three samples of same product (topsoil/BSM) will cause delisting of that product and/or producer from the list. The producer may be brought back in the eligibility list in next publication provided material (s) meets the MDOT SHA Specification.

The Administration encourages producers to keep track of their records, including due dates in order to submit their requests for renewal on time. Producers are responsible for informing the Soils and Aggregate Technology Division (SATD) of any changes to producer information, such as producer name, location of stockpiles, subsidiary producer's name, and contact information.

There will be an annual submittal period beginning forty-five days prior to the last day in July (i.e. June 15). You may become an eligible producer at any time in the year however your eligibility will expire on the last day in July regardless of when you submit your information.

2. PROCESS FOR PRODUCER LISTING AS AN ELIGIBLE SOURCE OF LANDSCAPING SOILS

2.1 PRODUCER REQUIREMENTS

2.1.1 Submission of Written Request

The producer shall submit a written request to be considered as an eligible source of landscaping soils to:

Dr. Intikhab Haider- Division Chief
Soils and Aggregate Technology Division
Maryland State Highway Administration
Office of Materials Technology
7450 Traffic Drive
Hanover, MD 21076 OR
ihaid2@mdot.maryland.gov

- A. The Administration requires producers to submit their written requests no later than 45 days prior to the next landscaping soils Eligibility List publication date. Failure to do so may cause delay in enlisting of producer in the next publication of eligibility list. ”
- B. Please refer to Appendix A for “Landscaping Soils Producer’s Information Form. Producers shall complete and submit this form for each landscaping material produced (i.e. Bioretention Soil Mix and Furnished Topsoil).

2.1.2 Material Sampling and Testing

- A. A soil sample shall be taken per ASTM D 75 to accurately represent the designated area within the site or stockpile. It is the producer’s responsibility to save a portion of this sample for QA testing by the Administration.
- B. The sample shall be labeled with the following information:
 - 1. Date of sampling.
 - 2. Name of the producer and contact phone number.
 - 3. Identify whether the sample is to be tested as furnished topsoil or BSM.
- C. The Producer shall submit the labeled landscaping soil sample to an accredited soil testing laboratory recognized by the Administration for testing.
- D. The list of recognized Soil Testing Laboratories can be found on the SHA Internet at the following address:
<https://www.roads.maryland.gov/mdotsha/pages/index.aspx?PageId=52>
- E. The testing laboratory may reduce the composite 10-pound sample, in accordance with AASHTO R-76 , to a minimum of one pound.

2.2 ADMINISTRATION RESPONSIBILITIES

- A. SATD will review the soil test results from the recognized lab of the producer's choice (see link above for recognized labs) to determine if the material conforms to the Administration's requirements (Table 1 and Table 2).

If the furnished topsoil/BSM test results are acceptable, SATD will send a response to the Producer indicating that the material is eligible to be tested for use on Administration projects. The response will also indicate the expiration date of that eligibility.

3 TESTING PROCEDURES

The soil testing laboratory recognized by the Administration shall determine the following:

- A. Grading Analysis (R 58)
- B. Textural Analysis (T 88)
- C. Soil pH (D 4972)
- D. Organic Matter (T 267)
- E. Soluble Salts (EC1:2 (V:V))

4 TEST RESULTS SUBMISSION

The sample information required in the "Material Sampling and Testing" shall be included in the outsource laboratory test report form when submitted to the Administration.

Results for each test listed in the TESTING PROCEDURES shall be included on the submitted test report.

A copy of the landscaping soil test results shall be submitted to SATD at the following address:

Dr. Intikhab Haider
Office of Materials Technology
Soils and Aggregate Technology Division
7450 Traffic Drive
Hanover, MD 21076
or
bknipe@mdot.maryland.gov

5 Quality Assurance Requirements

The administration will take two samples from the specified source and verify the test results as per requirements given in Tables 1 and 2. If a failure occurs in the first two samples a third sample will be obtained and tested. Failure to meet the MDOT SHA specification after testing on three samples of same product (topsoil/BSM) may result in delisting of that product and/or producer from the list. If the first two samples fail, that stockpile cannot be used until it is modified.

At the time of sampling, the producer should keep split samples for verification testing, if needed. The producer may use any independent laboratory approved by MDOT SHA as given in Section 2.1.2: Material Testing and Sampling, for verification of test results.

Table 1: Furnished Topsoil Test Value Specifications

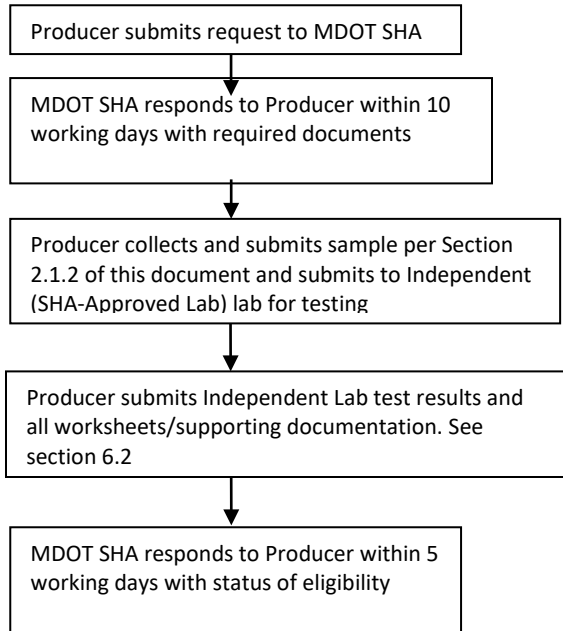
| COMPOSITION – FURNISHED TOPSOIL | | | | | |
|---------------------------------|--------------------------|---|---------------|-----------------------------|---------|
| TEST PROPERTY | TEST ¹ METHOD | TEST VALUE AND AMENDMENT | | | |
| Prohibited Weeds | — | Free of live stems and roots of species in 920.01.01 as well as live stems and roots of Bermuda grass, Quack grass, and Yellow Nutsedge. | | | |
| Debris | — | 1.0 % or less by weight of cement, concrete, asphalt, crushed gravel or construction debris when inspected. | | | |
| Grading Analysis | R-58 | Sieve Size | | Passing by Weight Minimum % | |
| | | 2 in. | | 100 | |
| | | No. 4 | | 90 | |
| | | No. 10 | | 80 | |
| Textural Analysis | T-88 | Particle | | % Passing by Weight | |
| | | Size | mm | Minimum | Maximum |
| | | Sand | 2.0 – 0.050 | 20 | 75 |
| | | Silt | 0.050 – 0.002 | Combined Silt and Clay | 75 |
| Clay | less than 0.002 | 25 | 30 | | |
| Soil pH | ASTM D 4972 | pH 6.1 to pH 7.4 | | | |
| Organic Matter | T-267 | 4.0 to 8.0% OM by weight | | | |
| Nutrient Content | — | Administration will assess. Apply fertilizer per NMP for nitrogen requirement and optimum fertility index values (FIV) for phosphorus and potassium. | | | |
| Soluble Salts | EC 1:2(V:V) | 500 ppm (0.78 mmhos/cm) or less. | | | |
| Harmful Materials | — | Topsoil shall not contain substances in concentrations that are harmful to human health, water quality, or plant growth. Industrial waste such as ash, slag, raw sludge, or similar materials shall not be soil components. | | | |

Table 2: Bioretention Soil Mix Test Value Specifications

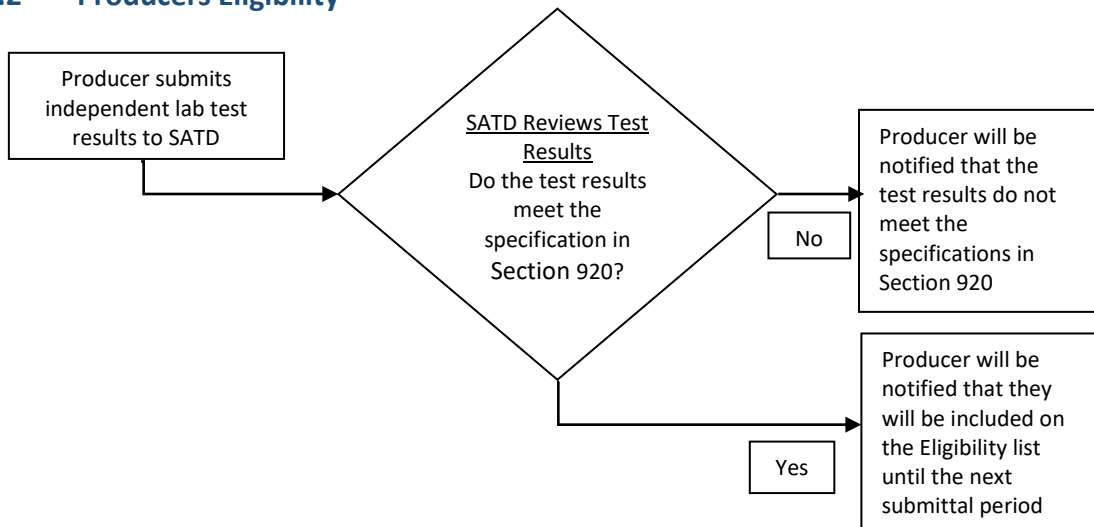
| COMPOSITION- BIORETENTION SOIL MIX (BSM) | | | | | | |
|--|--------------------------|--|-----------------|---------------------|---------|------------------------------|
| TEST PROPERTY | TEST ¹ METHOD | TEST VALUE | | | | |
| Weeds | — | Free of seed and viable plant parts of species in 920.06.02(a)(b)(c) when inspected. | | | | |
| Debris | — | No observable content of cement, concrete, asphalt, crushed gravel or construction debris. | | | | |
| Hardwood Mulch | — | 20% of the loose volume of BSM when inspected. | | | | |
| Textural Analysis | T-88 | Particle | | % Passing by Weight | | |
| | | Size | mm | Minimum | Maximum | |
| | | Sand | 2.0 – 0.050 | 79 | 94 | |
| | | Silt | 0.050 – 0.002 | 4 | 20 | Combined Silt and Clay 21 |
| | | Clay | less than 0.002 | 1 | 10 | |
| Soil pH | ASTM D4972 | pH of 5.7 to 7.4. | | | | |
| Organic Matter | T-267 | Minimum 1.5 % by weight. | | | | |
| Soluble Salts | EC 1:2(V:V) | 500 ppm (0.78 mmhos/cm) or less. | | | | |
| Harmful Materials | — | 920.01.01(a). | | | | |

6 PROCESS FLOW CHARTS

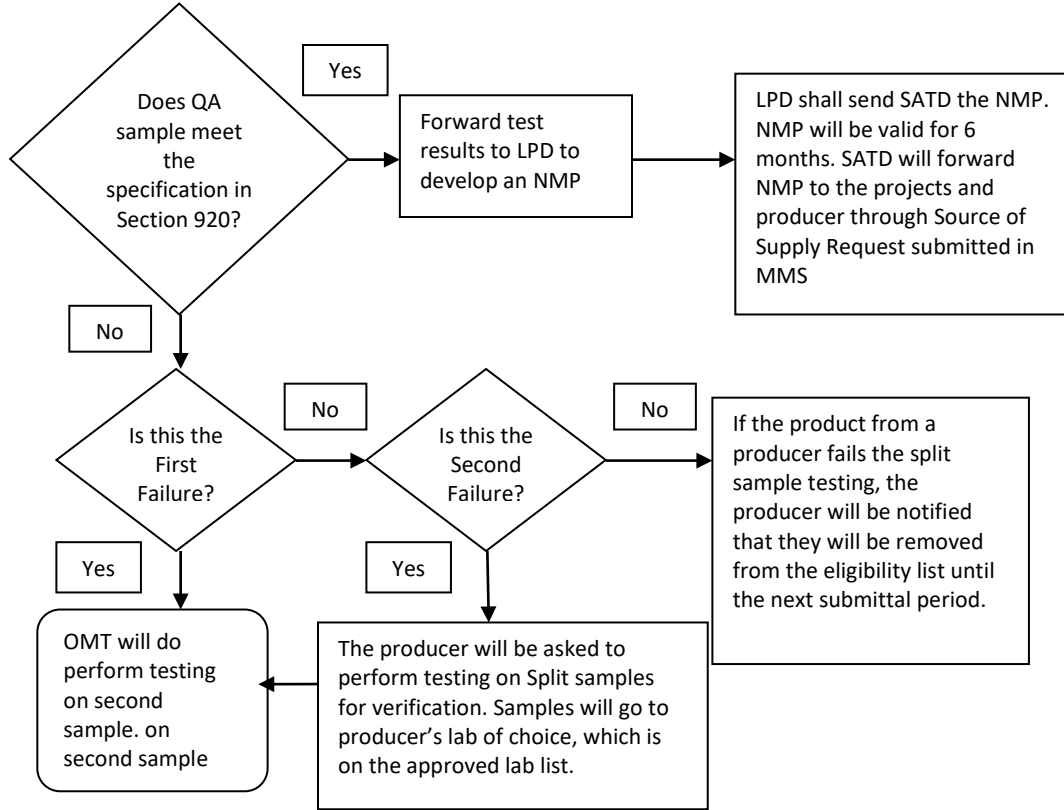
6.1 Landscaping Producer Annual Eligibility Testing Process



6.2 Producers Eligibility



6.3 Addressing Failures with Administration QA Testing



7 LANDSCAPING SOIL TESTING FREQUENCY

The frequency of testing landscaping soils shall be in accordance with Table 3.

Table 3: Landscaping Soil Testing Frequency

| Bi-annual | Sampling Month | NMP Prep. Month | NMP Expiration | Publication Date |
|------------------|-----------------------|------------------------|----------------------------|----------------------------|
| 1 | January/February | February/March | September 30 th | March 31 st |
| 2 | July/August | August/September | March 31 st | September 30 th |

Appendix A
Landscaping Soil Producer's Information

Office of Materials Technology
Soils and Aggregate Technology Division
Landscaping Soil Producer's Information Sheet

Name of Organization (Producer):

Office / Facility (Subsidiary Landscaping Soils Producer): *Same as above* _____
or _____

Supervising Office's Mailing Address:

Street or P.O. Box: _____

Town / City: _____

State: _____ Zip: _____

E-Mail Address: _____

Phone No(s): _____

Fax No.: _____

Stockpile Location (Name, If Applicable):

Street or P.O. Box: _____

Town / City: _____ State: _____ Zip: _____

Entitled Point of Contact: _____

Title / Position: _____

E-Mail Address: _____

Phone No(s): _____

Fax No.: _____

Landscaping Soil to supply(s): Topsoil _____ BSM _____

Do you want this location to be listed on the Eligibility List on MD Roads? Yes _____ No _____

Stockpile Location (Name, If Applicable):

Street or P.O. Box: _____

Town / City: _____ State: _____ Zip: _____

Entitled Point of Contact: _____

Title / Position: _____

E-Mail Address: _____

Phone No(s): _____

Fax No.: _____

Landscaping Soil to supply(s): Topsoil _____ BSM _____

Do you want this location to be listed on the Eligibility List on MD Roads? Yes _____ No _____

Note: Shaded areas will be published on-line.