INDIANA DEPARTMENT OF TRANSPORTATION
DIVISION OF MATERIALS AND TESTS

DETERMINATION OF THE QUALITY OF THE SOIL PLANT GROWTH LAYER ITM No. 515- 15

1.0 SCOPE.

1.1 This test method includes the sampling, and testing of the soil plant growth layer required for permanent vegetation. The plant growth layer consists of fertile, friable and uniform quality soil for the healthy growth of permanent vegetation in accordance with 327IAC 15-5.

1.2 This ITM may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the use of the test method. The user of the ITM is responsible for establishing appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

2.0 REFERENCES.

2.1 AASHTO Standards.

T 88 Particle Size Analysis of Soils

T 267 Determination of Organic Content in Soils by Loss on Ignition

T 289 Determining pH of Soil for use in Corrosion Testing

2.2 ITM Standards.

802 Random Sampling

2.3 Other.

North Central Regional Research Publication No. 221 (Revised), Chapter 6 (Total Phosphorus Determination) and Chapter 7 (Potassium Determination)

3.0 TERMINOLOGY. Definitions for terms and abbreviations shall be in accordance with the Department's Standard Specifications, Section 101, and the AASHTO and ASTM standards.

4.0 SIGNIFICANCE AND USE. This ITM shall be used to determine the quality of the soil plant growth layer which is required for the healthy growth of grass and plants in unpaved roadside areas.

5.0 APPARATUS.

5.1 Apparatus required for AASHTO T 88, T 267, and T 289.

5.2 Apparatus required for determination of potassium and total phosphorus content in accordance with the North Central Regional Research Publication No. 221, Chapters 6 and 7

5.3 pH meter

5.4 Container, one US cup measurement

5.5 Miscellaneous laboratory equipment as required

6.0 SAMPLING

6.1 Obtain 5 evenly distributed random samples of one US cup measurement from the top 2 in. of the plant growth layer in accordance with ITM 802 for each 10,000 yd^2

6.2 Combine the 5 samples into one composite sample of a minimum of 1.00 lb

7.0 TESTING

7.1 Testing shall be performed by a laboratory approved by the Geotechnical Engineering Division.

7.2 Tests for pH shall be performed in accordance with AASHTO T 289

7.3 Tests for soils classification shall be performed in accordance with AASHTO T 88, T 89, T 267, and T 289.

7.4 Tests for phosphorus and potassium content shall be performed in accordance with the North Central Regional Research Publication No. 221.

8.0 SUBMITTAL

8.1 All test results and a Type A certification in accordance with 916 shall be submitted to the Engineer for the acceptance of the soil plant growth layer**.**

8.2 If any of the tests for certification fail to meet the requirements specified, the Contractor shall provide a written plan for correction to the Engineer.

9.0 REPORT

9.1 The pH test results shall be reported to the nearest 0.1 unit

9.2 AASHTO tests results for soil classification shall be reported to the nearest 1 percent

9.3 Total phosphorus and potassium content shall be reported to the nearest 1 ppm