

**DEPARTMENT OF TRANSPORTATION**

**STATE OF GEORGIA**

**SPECIAL PROVISION**

**ATLANTA BELTLINE, INC.**

**BILL KENNEDY WAY INTERIM TRAIL**

**Section 893 – Miscellaneous Plant materials**

---

*Add the following:*

**893.2.01 Plant Topsoil**

E. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by an Engineer approved Soil-Testing Laboratory.

1. Take a minimum of three (3) samples per one quarter-mile length of corridor.
2. Report suitability of tested soil for plant growth.
  - a. State mechanical gradation (sieve analysis) compared to the USDA Soil Classification System; plot on a gradation curve.
  - b. State chemical analysis of nitrate nitrogen, ammonium nitrogen, phosphorus, potassium, calcium, magnesium, extractable aluminum, lead, zinc, cadmium, copper, soluble salts, pH, and buffer pH.
  - c. State recommendations for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
  - d. Report presence of low cation exchange capacity (CEC); if present provide additional recommendations for corrective action.
  - e. Report presence of problem salts, minerals, or heavy metals; if present, provide additional recommendations for corrective action.
3. Other soil testing requirements:
  - a. Preparation of Samples: Place the three soil samples for each quarter mile into a large, clean plastic container and mix thoroughly. Take one cup of this soil mixture and dry it at room temperature (do not use artificial means to dry samples). Once soil is dry, place soil in a one quart size, zip-top, clear plastic bag and close it tightly. Label sample on the outside of bag, identifying sample by location and date of sample. Provide a number for each sample, and a location key plan for samples; report results clearly indicating sample number.
  - b. Topsoil: Provide a one cubic foot sample for each 200 cubic yard proposed stockpile of topsoil for testing. All stockpile sampling shall be per ASTM D5435 -03(2008), Standard Test Method for Diagnostic Soil Test for Plant Growth and Food Chain Protection. Separate stockpiles into 200 cubic yard piles and labeled in the field with a numbering system referenced in all soil samples and test results. Stockpiles shall be formed sufficiently in advance so that pH, organic content, and carbon/nitrogen ratio have been stabilized. Additionally, provide up to three (3) samples per one quarter mile length of corridor from planting soil after topsoil has been spread and amended.

## Section 893 – Miscellaneous Plant Materials

---

Samples from spread and amended planting soils shall be taken from locations as directed by Engineer, and packaged as noted above in the presence of the Engineer.

4. All tests for gradation, organic content, soil chemistry, and pH shall be performed by the Soil Testing Laboratory at no expense to the Owner
5. Samples: For each bulk-supplied material, 1-gallon volume of each in sealed containers labeled with content, source, and date obtained. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of composition, color, and texture. Do not order materials until Engineer's approval has been obtained. Delivered materials shall closely match the approved samples.
6. Upon forty-five (45) days prior to the start of installation of items in this section, the Contractor shall provide submittals required in this section to the Engineer for review and approval.

*Delete the following:*

### 893.2.07 Prepared Plant Topsoil

#### B. Fabrication

1. Make prepared plant topsoil from the following:
  - Four parts plant topsoil, Subsection 893.2.01
  - At least one part organic soil additive, by volume, Subsection 893.2.09
  - A commercial fertilizer, grade 6-12-12, at the rate of 3 lb/yd<sup>3</sup> (1.8 kg/m<sup>3</sup>)
  - Lime at the rate of 5 lb/yd<sup>3</sup> (3 kg/m<sup>3</sup>)

*Replace with the following:*

#### B. Fabrication

1. Make prepared plant topsoil based on the results of soil tests. The composition of the planting soil will be dictated by these test results.

*Delete the following:*

### 893.2.09 Organic Soil Additives

#### A. Requirements

*Replace with the following:*

#### A. Requirements

1. Compost is the only acceptable organic soil additive. Matter for amending planting soils shall be a stable, humus-like material produced from the aerobic decomposition and curing of Leaf Yard Waste Compost, composted for a minimum of six months. The leaf yard waste compost shall be free of debris such as plastics, metal, concrete or other debris. The leaf yard waste compost shall be free of stones larger than 1/2", larger branches and roots. The compost shall be weed free. Wood chips over 1" in length or diameter shall be removed by screening. The compost shall meet the following criteria as reported by laboratory tests.
  - The ratio of carbon to nitrogen shall be in the range of 12:1 to 25:1.
  - Stability shall be assessed by the Solvita procedure. Protocols are specified by the Solvita manual (version 4.0). The compost must achieve a maturity index of 6 or more as measured by the Solvita scale.
  - Organic Content shall be at least 20 percent (dry weight). One hundred percent of the material shall pass a 1/2-inch (or smaller) screen. Organic content shall be determined by weight loss on ignition for particles passing a number 10 sieve.
  - Debris such as metal, glass, plastic, wood (other than residual chips), asphalt or masonry shall not be visible and shall not exceed one percent dry weight.

## Section 893 – Miscellaneous Plant Materials

---

- pH: The pH shall be between 6.5 to 7.4 as determined from a 1:1 soil-distilled water suspension using a glass electrode pH meter American Society of Agronomy Methods of Soil Analysis, Part 2, 1986.
  - Salinity: Electrical conductivity of a one to five soil to water ratio extract shall not exceed 2.5 mmhos/cm (dS/m).
  - The compost shall be screened to 1/2 inch maximum particle size and shall contain not more than 3 percent material finer than 0.002mm as determined by hydrometer test on ashed material.
2. Use compost that meets the following requirements:
- Be organic materials that have undergone biological decomposition
  - Be disinfected using composting or similar technologies
  - Be stabilized so it is beneficial to plant growth
  - Be mature, dark brown or black in color and have minimal odors
  - Contain no human pathogens
  - Provide to the Department a list of all the ingredients in the original compost mix in the order of their relative proportions on a weight basis.

*Add the following:*

### **893.2.10 Structural soil**

#### **A. Requirements:**

1. Lightweight aggregate soil shall be used as fill material within the critical root zone of specified trees. This soil shall consist of the following materials and ratios:
- 40% - expanded slate or expanded clay- size range between 1/4"-3/8"
  - 10% Coarse, natural quartzite river sand - Sand Processed with Dial/Autosplit Classifier with rising current recirculating system. No weed seeds or silt present.
  - 50% compost, worm castings, or pine bark humus
2. Samples: For each bulk-supplied material, 1-gallon volume of each in sealed containers labeled with content, source, and date obtained. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of composition, color, and texture. Do not order materials until Engineer's approval has been obtained. Delivered materials shall closely match the approved samples.

End of Section 893