

EXHIBIT J-1

MEDIAN BACKFILL

Taken from Land Development Code

DIVISION 2
SECTION 2930
MEDIAN BACKFILL / ACCEPTABLE TOPSOIL

PART 1- GENERAL

1.01 SUMMARY

1. This section specifies requirements for the preparation, supplying and spreading of acceptable topsoil at a minimum eighteen-inch (18") depth within all roadway medians.
2. Beneath the (18" depth) topsoil is a Select (S) Soil which follows FDOT Standard index #505.

SEE MEDIAN BACKFILL DETAIL

1.02 QUALITY ASSURANCE

A. Qualifications

- A. Testing Agency: Independent testing laboratory as approved by F.D.O.T. and Collier County.

B. Test Requirements

1. Prior to delivery to the construction site, submit a representative one pound sample of acceptable topsoil for analysis to an independent laboratory to ensure conformance to requirements specified in 2.01. Submit all test results to the Engineer for written approval before delivery.
2. After delivery of acceptable topsoil to the construction site, submit a representative one pound sample for analysis to an independent laboratory to ensure conformance to requirements specified in 2.01. Submit test results to the Engineer for approval. In the event that the delivered sample is not consistent with the sample approved prior to delivery, the Engineer will reject the delivered topsoil.

C. Certification:

1. Prior to delivery of acceptable topsoil to the construction site, furnish the Engineer with a written statement from topsoil supplier giving the certification of the soil analysis.
 - i. Manufacturer's certification and/or testing laboratory clarification that content of soil conditioners meet specification requirements.

- ii. Manufacturer's certificate of fertilizer's chemical composition including, but limited to, percentage and derivation of nitrogen, phosphorus, potassium, and micro-nutrients.
- iii. Submit all certification to Engineer/Landscape Architect a minimum of one week prior to installation of any material.

D. Test Reports:

- 1. Reports shall be identified by project name, date and soil mix type.
- 2. The following reports are required:
 - 1. ph range
 - 2. major and minor element analysis
 - 3. soluble salt concentrations
 - 4. sand fraction analysis
 - 5. % Calcium
 - 6. Testing laboratory recommendations as to suitability of soil for planting and drainage.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver the acceptable topsoil to the construction site until the Engineer has approved in writing the test results for the representative sample.

1.04 SUBMITTALS

A. Test Reports

Submit laboratory analysis of acceptable topsoil to the Engineer in accordance with 1.02 Section D.

B. Certification

Submit to the Engineer certification required by 1.02.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Topsoil

Topsoil shall be fertile, friable blended or native sandy soil.

- 1. Acceptable topsoil shall be of uniform quality, free from hard clods, stiff clay, hard pan, sods, partially disintegrated stone, lime, cement, ashes, slag, concrete, tar residues, tarred paper, boards, chips, sticks or any other undesirable material.
- 2. There shall be no exotic or noxious weeds or weed seeds (i.e. Nut grass, Bermuda grass, sedges and the like).
- 3. In no case shall there be more than 5% by volume of stones, coarse sand, gravel or clay lumps larger than one inch (1") in diameter.

4. Acceptable topsoil shall contain a minimum of 2.5% organic matter, not to exceed 4% as determined by loss on ignition of moisture-free samples and the ph range shall be 5.0 to 7.5 inclusive and shall contain no substance which will impede plant growth.
5. Maximum Soluble Salts: 300 ppm
6. Acceptable topsoil shall be graded as follows:

PASSING	RETAINED ON	PERCENTAGE
1" SCREEN		100%
1" SCREEN	2 mm (No. 10) Sieve	not more than 5%

7. The components of blended topsoil are peat moss and sand (.05-.002 mm) or Florida peat, sand (.05-.002mm), wood chips, and compost.
 - A. Test ph of topsoil and planting soil mixtures by method acceptable to current industry standards. If ph is not between 5.0 and 7.5, add approved soil conditioner/additive to bring ph within that range.
 - B. Within the select soil range subsurface drainage is required.
 - a. Good soil water infiltration and percolation. Water must be able to penetrate and move through the soil; one-inch per hour is considered optimal.
 - b. Good subsurface drainage should be present to a depth of 762 mm (30 inches) – 1,219 mm (48 inches) which is the normal critical rooting zone. There should be no impervious layer/hardpan, or soil interfaces to disrupt the flow of water downward and away from the roots.
 - c. Adequate aeration. Oxygen must be both able to diffuse in from the atmosphere and be able to move readily through the soil profile.
 - d. Desirable soil should have adequate available water holding capabilities. Soil should be able to retain 10 percent to 15 percent of the available water after gravitational water has drained away.
 - C. Physical Soil Characteristics and Infiltration Rates (Reference FDOT, "Florida Highway Landscape Guide", April 14, 1995)

PART 3 – EXECUTION

3.01 PREPARATION

SEE MEDIAN BACKFILL DETAIL

3.02 APPLICATION

SEE MEDIAN BACKFILL DETAIL

3.03 CLEANUP

- A. Immediately clean up spills, soil and conditioners on paved and finished surface areas.
- B. Remove debris and excess materials from project site daily.

END OF SECTION