Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

STEPHANIE KOPELOUSOS
INTERIM SECRETARY

February 28, 2007

Dr. Leslie McCarthy, PhD, P.E.
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 914
Proposed Specification: 9140000 Materials for Subgrade Stabilization

Dear Dr. McCarthy:

We are submitting, for your approval, two copies of a proposed Special Provision for Materials for Subgrade Stabilization.

This change was proposed by Tom Malerk of the State Materials Office for general clean-up and update of the specification.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or duane.brautigam@dot.state.fl.us.

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Signature on File

Duane F. Brautigam, P.E.
State Specifications Engineer

DFB/ft
Attachment
cc: General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

MATERIALS FOR SUBGRADE STABILIZATION.
(REV 11-1-06)

SECTION 914 (Pages 769 – 770) is deleted and the following substituted:

SECTION 914
MATERIALS FOR SUBGRADE STABILIZATION

914-1 General.

The specification requirements of the various materials as contained in this Section are to govern their use only when these materials are used in the stabilizing of the subgrade.

~~**914-2 Materials for Type C Stabilizing (Florida Soil Bearing Value)**~~

~~**914-2.1 General:** When Type C Stabilization is to be done and it is necessary that the materials for stabilizing be brought in from outside project limits, such materials shall meet the requirements of this Article.~~

~~**914-2.2 Types of Materials:** The materials to be used for Type C stabilizing may be soil, ground limestone, crushed limerock, oyster shell, coquina shell, rock screenings, or any other material, including recyclable materials, which is suitable. Organic soils such as muck or materials that may deteriorate over time, cause excessive deformations, contain hazardous substances, contaminates, or do not improve the bearing capacity of the stabilized material shall not be used as a stabilizer (see 914-4 for qualifying tests for these conditions).~~

~~**914-2.3 Admixture Materials:** Lime or other approved material which will reduce the plasticity by chemical reaction, may be mixed in with the stabilizing material or with the mixed stabilized section of the roadbed, where necessary to reduce the plasticity of the stabilized roadbed.~~

~~**914-2.4 Plasticity and Maximum Size:** Materials having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer. At least 97% of the stabilizing material shall pass a 3 1/2 inch sieve.~~

914-~~3~~2~~3~~ Materials for Type B Stabilizing (Limerock Bearing Ratio)

914-~~3~~2.1 Commercial Materials:

914-~~3~~2.1.1 General: Materials may be either limerock, shell rock, cemented coquina or shell base sources approved by the Department.

914-~~3~~2.1.2 Specific Requirements for Limerock: For limerock, carbonates of calcium and magnesium shall be at least 70%. Materials having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer. The gradation of limerock shall be such that 97% of these materials will pass a 3 1/2 inch sieve.

914-~~3~~2.1.3 Crushed Shell: Crushed shell for this use shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina). Steamed shell will not be permitted.

This shell shall meet the following requirements:

Material having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer.

At least 97% by weight of the total material shall pass a 3 1/2 inch sieve and at least 50% by weight of the total material shall be retained on the No. 4 sieve.

Not more than 20% by weight of the total material shall pass the No. 200 sieve. The determination of the percentage passing the No. 200 sieve shall be ~~by washing only~~*per FM 1-T 011*.

In the event that the shell meets the above requirements without crushing, crushing will not be required.

914-~~3~~*2*.2 Local Materials: Local materials used for this stabilizing may be soils or recyclable materials such as crushed concrete, roof tiles and asphalt coated base or reclaimed pavement. However, no materials that deteriorate over time, cause excessive deformations, contain hazardous substances, contaminates, or do not improve the bearing capacity of the stabilized material may be used. (see 914-~~4~~*3* for qualifying tests for these conditions.) The Contractor shall provide information or test results to the District Materials Engineer to substantiate these properties. At least 97% by weight of the total material shall pass a 3 1/2 inch sieve. Material having a plasticity index greater than ten or a liquid limit greater than 40 shall not be used as a stabilizer.

No blending of materials to meet these requirements will be permitted unless authorized by the District Materials Engineer. When blending is permitted blended material shall be tested to ensure the above requirements are met before being spread on the roadway.

914-*43* Testing of Materials for Use as Stabilizer.

No testing of any materials proposed to be furnished by the Contractor will be made by the Department prior to the determination of the successful bidder, and the bidder shall make his own arrangements for the preliminary determination of the suitability of the particular material he proposes to use. For evaluation of deterioration and excessive deformation, each material source shall not have an average organic content (minimum of three tests) greater than 2.5% and any individual test value more than 4.0%. The organic content shall be performed in accordance with *AASHTO*~~FM1~~ T 267~~ on the portion of a sample passing the No. 4 sieve~~. If toxic substances, elements or compounds are suspected at concentrations defined by EPA, qualifying tests shall be performed. Test methods for these substances shall be those mandated by EPA and analyzed by a certified laboratory. All test results of the proposed stabilizing material shall be submitted to the District Materials Engineer for approval at least 14 days prior to commencement of the field stabilizing operation. The District Materials Engineer may request samples of the stabilizing material and subgrade soil for verification tests.

MATERIALS FOR SUBGRADE STABILIZATION.
(REV 2-16-07)

SECTION 914 (Pages 769 – 770) is deleted and the following substituted:

SECTION 914
MATERIALS FOR SUBGRADE STABILIZATION

914-1 General.

The specification requirements of the various materials as contained in this Section are to govern their use only when these materials are used in the stabilizing of the subgrade.

914-2 Materials for Type B Stabilizing (Limerock Bearing Ratio)

914-2.1 Commercial Materials:

914-2.1.1 General: Materials may be either limerock, shell rock, cemented coquina or shell base sources approved by the Department.

914-2.1.2 Specific Requirements for Limerock: For limerock, carbonates of calcium and magnesium shall be at least 70%. Materials having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer. The gradation of limerock shall be such that 97% of these materials will pass a 3 1/2 inch sieve.

914-2.1.3 Crushed Shell: Crushed shell for this use shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina). Steamed shell will not be permitted.

This shell shall meet the following requirements:

Material having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer.

At least 97% by weight of the total material shall pass a 3 1/2 inch sieve and at least 50% by weight of the total material shall be retained on the No. 4 sieve.

Not more than 20% by weight of the total material shall pass the No. 200 sieve. The determination of the percentage passing the No. 200 sieve shall be per FM 1-T 011.

In the event that the shell meets the above requirements without crushing, crushing will not be required.

914-2.2 Local Materials: Local materials used for this stabilizing may be soils or recyclable materials such as crushed concrete, roof tiles and asphalt coated base or reclaimed pavement. However, no materials that deteriorate over time, cause excessive deformations, contain hazardous substances, contaminates, or do not improve the bearing capacity of the stabilized material may be used. (see 914-3 for qualifying tests for these conditions.) The Contractor shall provide information or test results to the District Materials Engineer to substantiate these properties. At least 97% by weight of the total material shall pass a 3 1/2 inch sieve. Material having a plasticity index greater than ten or a liquid limit greater than 40 shall not be used as a stabilizer.

No blending of materials to meet these requirements will be permitted unless authorized by the District Materials Engineer. When blending is permitted blended

material shall be tested to ensure the above requirements are met before being spread on the roadway.

914-3 Testing of Materials for Use as Stabilizer.

No testing of any materials proposed to be furnished by the Contractor will be made by the Department prior to the determination of the successful bidder, and the bidder shall make his own arrangements for the preliminary determination of the suitability of the particular material he proposes to use. For evaluation of deterioration and excessive deformation, each material source shall not have an average organic content (minimum of three tests) greater than 2.5% and any individual test value more than 4.0%. The organic content shall be performed in accordance with AASHTO T 267. If toxic substances, elements or compounds are suspected at concentrations defined by EPA, qualifying tests shall be performed. Test methods for these substances shall be those mandated by EPA and analyzed by a certified laboratory. All test results of the proposed stabilizing material shall be submitted to the District Materials Engineer for approval at least 14 days prior to commencement of the field stabilizing operation. The District Materials Engineer may request samples of the stabilizing material and subgrade soil for verification tests.