



Florida Department of Transportation

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605 Suwannee Street
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JIM BOXOLD
SECRETARY

July 21 2015

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
3500 Financial Plaza, Suite 400
Tallahassee, Florida 32312

Re: State Specifications Office
Section **120**
Proposed Specification: **1200702 Excavation and Embankment.**

Dear Mr. Nguyen:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

The changes are proposed by Rick Jenkins of the State Roadway Design Office to prevent the placement of reclaimed asphalt pavement and recycled concrete aggregate in stormwater management facility fill slopes. This change also includes administrative formatting changes.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to daniel.scheer@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Signature on file

Daniel Scheer, P.E.
State Specifications Engineer

DS/ot

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

EXCAVATION AND EMBANKMENT.**(REV ~~6-15-287-20-15~~)**

SUBARTICLE 120-7.2 is deleted and the following substituted:

120-7.2 General Requirements for Embankment Materials: Construct embankments of acceptable material including reclaimed asphalt pavement (RAP), ~~reclaimed~~ recycled concrete aggregate (RCA) and portland cement concrete rubble, but containing no muck, stumps, roots, brush, vegetable matter, rubbish, reinforcement bar or other material that does not compact into a suitable and enduring roadbed. Do not use RAP or RCA in the top 3 feet of slopes and shoulders that are to be grassed or have other type of vegetation established. ~~A minimum spacing of 50 feet is required between RCA and metal pipe culverts.~~ *Do not use reclaimed asphalt pavement (RAP) or recycled concrete aggregate (RCA) in stormwater management facility fill slopes.*

Remove all waste material designated as undesirable. Use material in embankment construction in accordance with plan details or as the Engineer directs.

Complete the embankment using maximum particle sizes (in any dimension) as follows:

1. In top 12 inches: 3-1/2 inches (in any dimension).
2. 12 to 24 inches: 6 inches (in any dimension).
3. In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.

Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with 120-9.2.

When and where approved by the Engineer, the Contractor may place larger rocks (not to exceed 18 inches in any dimension) outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Construct grassed embankment areas in accordance with 120-9.2.6. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3-1/2 inches in diameter within 3 feet of the location of any end-bent piling.

SUBARTICLE 120-8.2.1 is deleted and the following substituted:

120-8.2.1 General: Construct embankments to meet compaction requirements in Article 120-9 and in accordance with the acceptance program requirements in 120-10. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.

120-8.2.1.1 For A-3 Materials, and for A-2-4 Materials (with up to 15% fines): Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.

120-8.2.1.2 For A-1, Plastic materials (As-as designated in Design Standard Index 505) and for A-2-4 Materials (with greater than 15% fines): Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

Alternately, for A-1, Plastic material and *for* A-2-4 Materials (with greater than 15% fines), construct embankments using thick lift construction in successive layers of not more than 12 inches compacted thickness, after having demonstrated with a successful test section, the possession and control of compacting equipment sufficient to achieve density required by 120-10.2 for the full depth of a thicker lift, and if the Engineer approves the compaction effort. Notify the Engineer prior to beginning construction of a test section. Construct a test section of the length of one full LOT. Perform five QC tests at random locations within the test section. All five QC tests and a Department Verification test must meet the density required by 120-10.2. Identify the test section with the compaction effort and soil classification in the Density Log Book. In case of a change in compaction effort or soil classification, failing QC test or when the QC tests cannot be verified, construct a new test section. The Contractor may elect to place material in 6 inches compacted thickness at any time. Construct all layers approximately parallel to the centerline profile of the road.

The Engineer reserves the right to terminate the Contractor's use of thick lift construction. Whenever the Engineer determines that the Contractor is not achieving satisfactory results, revert to the 6 inch compacted lifts.

As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.

Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

120-8.2.1.3 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.

When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or on low swampy ground in accordance with 120-9.2.3.

EXCAVATION AND EMBANKMENT.**(REV 7-20-15)**

SUBARTICLE 120-7.2 is deleted and the following substituted:

120-7.2 General Requirements for Embankment Materials: Construct embankments of acceptable material including reclaimed asphalt pavement (RAP), recycled concrete aggregate (RCA) and portland cement concrete rubble, but containing no muck, stumps, roots, brush, vegetable matter, rubbish, reinforcement bar or other material that does not compact into a suitable and enduring roadbed. Do not use RAP or RCA in the top 3 feet of slopes and shoulders that are to be grassed or have other type of vegetation established. Do not use RAP or RCA in stormwater management facility fill slopes.

Remove all waste material designated as undesirable. Use material in embankment construction in accordance with plan details or as the Engineer directs.

Complete the embankment using maximum particle sizes (in any dimension) as follows:

1. In top 12 inches: 3-1/2 inches (in any dimension).
2. 12 to 24 inches: 6 inches (in any dimension).
3. In the depth below 24 inches: not to exceed 12 inches (in any dimension) or the compacted thickness of the layer being placed, whichever is less.

Spread all material so that the larger particles are separated from each other to minimize voids between them during compaction. Compact around these rocks in accordance with 120-9.2.

When and where approved by the Engineer, the Contractor may place larger rocks (not to exceed 18 inches in any dimension) outside the one to two slope and at least 4 feet or more below the bottom of the base. Compact around these rocks to a firmness equal to that of the supporting soil. Construct grassed embankment areas in accordance with 120-9.2.6. Where constructing embankments adjacent to bridge end bents or abutments, do not place rock larger than 3-1/2 inches in diameter within 3 feet of the location of any end-bent piling.

SUBARTICLE 120-8.2.1 is deleted and the following substituted:

120-8.2.1 General: Construct embankments to meet compaction requirements in Article 120-9 and in accordance with the acceptance program requirements in 120-10. Restrict the compacted thickness of the last embankment lift to 6 inches maximum.

120-8.2.1.1 For A-3 Materials and for A-2-4 Materials (with up to 15% fines): Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 12 inches. Ensure the percentage of fines passing the No. 200 US Standard sieve in the A-2-4 material does not exceed 15%.

120-8.2.1.2 For A-1, Plastic materials (as designated in Design Standard Index 505) and for A-2-4 Materials (with greater than 15% fines): Construct the embankment in successive layers with lifts up to a maximum compacted thickness of 6 inches.

Alternately, for A-1, Plastic material and for A-2-4 Materials (with greater than 15% fines), construct embankments using thick lift construction in successive layers of not more than 12 inches compacted thickness, after having demonstrated with a successful test

section, the possession and control of compacting equipment sufficient to achieve density required by 120-10.2 for the full depth of a thicker lift, and if the Engineer approves the compaction effort. Notify the Engineer prior to beginning construction of a test section. Construct a test section of the length of one full LOT. Perform five QC tests at random locations within the test section. All five QC tests and a Department Verification test must meet the density required by 120-10.2. Identify the test section with the compaction effort and soil classification in the Density Log Book. In case of a change in compaction effort or soil classification, failing QC test or when the QC tests cannot be verified, construct a new test section. The Contractor may elect to place material in 6 inches compacted thickness at any time. Construct all layers approximately parallel to the centerline profile of the road.

The Engineer reserves the right to terminate the Contractor's use of thick lift construction. Whenever the Engineer determines that the Contractor is not achieving satisfactory results, revert to the 6 inch compacted lifts.

As far as practicable, distribute traffic over the work during the construction of embankments so as to cover the maximum area of the surface of each layer.

Construct embankment in the dry whenever normal dewatering equipment and methods can accomplish the needed dewatering.

120-8.2.1.3 Equipment and Methods: Provide normal dewatering equipment including, but not limited to, surface pumps, sump pumps and trenching/digging machinery. Provide normal dewatering methods including, but not limited to, constructing shallow surface drainage trenches/ditches, using sand blankets, sumps and siphons.

When normal dewatering does not adequately remove the water, the Engineer may require the embankment material to be placed in the water or on low swampy ground in accordance with 120-9.2.3.