ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

Specification: 353

Subject: Concrete Pavement Slab Replacement

Origination date: October 3, 2010

Originator: Tom Malerk
Office/Phone: State Materials Office/352-955-6620

Problem statement: The State Materials Office is revising Section 353 to clarify that structural concrete used for applications covered by 353 must meet the requirements of Section 346; however, modifications made to Section 346 in Section 353 do not allow for the use of any of the specific classes of concrete shown in Section 346.

Proposed solution: Based on input from the District Materials Office concrete personnel, changes are being made to Section 353:

- Deleting the reference to Class I (Paving). The modifications to structural concrete in Section 353 makes the concrete used for Section 353 not correspond to any class of concrete in Section 346. While the concrete used in Section 353 must meet the general requirements of Section 346, Section 353 changes the slump target and other properties so that no class of concrete from 346 meets 353 requirements, including Class I or Class I Pavement.
- The current revision of Section 346 planned to be implemented in the July 2011 letting (along with this change to Section 353) requires the use of fly ash or slag in all structural concrete. Fly ash or slag will not be required for structural concrete used in Section 353, but can be included at the contractor's option.
- Minor changes were made to align Section 353 with the latest Section 346 and Section 105 language.

Information source: These changes were developed in conjunction with the District Materials Office concrete personnel. For more information, contact Mike Bergin at 352-955-6666.

Recommended Usage Note: All contracts

Estimated fiscal impact, if implemented: No fiscal impact. The requirement of the use of fly ash or slag in all structural concrete is not applied to Section 353.

Implementation of these changes, if and when approved, will begin with the July 2011 letting.

Florida Department of Transportation

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M E M O R A N D U M

DATE: November 15, 2010

TO: Specification Review Distribution List

FROM: Rudy Powell, Jr., P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **3530200 Concrete Pavement Slab Replacement.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

These changes are proposed by Susan Blazo of the State Materials Office to delete the reference to a specific class of concrete and to specify it is the contractor's option to use pozzolans and slag.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via email at SP965RP or rudy.powell@dot.state.fl.us. Comments received after **December 13, 2010**, may not be considered. Your input is encouraged.

RP/dt
Attachment

CONCRETE PAVEMENT SLAB REPLACEMENT.
(REV ~~10~~*11*-~~19~~*4*-10)

ARTICLE 353-2 (Page 363) is deleted and the following substituted:

353-2 Materials.

~~353-2.1 General:~~ Meet the following requirements:

Portland Cement Concrete ~~(Class I Paving)~~* .....Section 346
Coarse Aggregate.....Section 901
Fine Aggregate.....Section 902
Portland Cement.....Section 921
Water.....Section 923
Admixtures.....Section 924
Curing Materials .....Section 925
Epoxy Compounds.....Section 926
*Pozzolans and Slags***.....Section 929*
Embedded Items.....Section 931
Calcium Chloride..... AASHTO M-144, Type 1

~~* Concrete will meet the requirements of Section 346 (Class I Paving) with the changes described in this Section.~~

***For concrete pavement slab replacement, the use of pozzolans and slag is optional.*

Concrete pavement containing only dowel bars will be considered non-reinforced concrete.

ARTICLE 353-3 (Pages 363 – 364) is deleted and the following substituted:

353-3 Composition of Concrete.

353-3.1 Mixture Proportions: Designate the actual proportions to be used to produce a concrete with a minimum 6-hour compressive strength of 2,200 psi and a minimum 24-hour compressive strength of 3,000 ps.

Prior to producing concrete, submit the design mix for approval on a form acceptable to the Department. Ensure the 24-hour acceptance strength has a minimum over design of 400 psi. Indicate slump before and after addition of accelerator. Use mixes approved by the Department and from an approved concrete production facility meeting the requirements of ~~Chapter 9.2 of the Materials Manual - Concrete Production Facilities Guidelines~~*Section 105*.

When an accelerating admixture is used in solution, the amount of water in the solution is considered to be part of the mixing water. Make necessary adjustment to the concrete mix-water to account for the amount of water in the accelerating admixture solution. Test the concrete for consistency subject to the following values from the approved mix design values:

Slump Tolerance** ..... ±*plus or minus* 1.5 -inches
Entrained Air**.....1% to 6%
Temperature not to exceed 100 ºF

**For values as specified in the approved Design Mix prior to the addition of accelerating admixture.

353-3.2 Certification: Provide certification in accordance with *Section* 346~~-6.3~~.

353-3.3 Demonstration Slab: Prior to batching production concrete, demonstrate the ability to furnish replacement slabs by constructing a demonstration slab on site. Demonstrate production techniques for slab removal, dowel installation, concrete placement, finishing, slab curing, sample preparation and curing, and proper timing of joint sawing. Demonstrate the ability to achieve the required compressive strengths. Demonstrate the ability of the slabs to achieve the maturity needed for opening to traffic within the required time. Schedule construction of the demonstration slab during the same time period specified in the Contract Documents. If the Engineer determines that elements of the demonstration slab fail to meet requirements of the Contract Documents, propose adjustments to the construction processes and/or materials for the Engineer's approval. The Engineer may require additional demonstration slabs until a demonstration slab conforms with the Contract Documents.