



Florida Department of Transportation

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MEMORANDUM

DATE: November 5, 2015

TO: Specification Review Distribution List

FROM: Daniel Scheer, P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **4100401 Precast Concrete Box Culvert.**

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

This change was proposed by Amy Tootle of the State Construction Office to require all construction-related documentation to be submitted by electronic means for consistency with the State Construction Office e-Construction initiative.

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 online at <http://www2.dot.state.fl.us/ProgramManagement/Development/IndustryReview.aspx> . Comments received after **December 3, 2015**, may not be considered. Your input is encouraged.

DS/dt
Attachment

PRECAST CONCRETE BOX CULVERT.
(REV 10-14-15)

SUBARTICLE 410-4.1.3 is deleted and the following substituted:

410-4.1.3 Modified or Special Designs: ~~Provide~~ Submit Modified Designs which differ from the standard precast designs in 410-4.1.2 with modifications to the wall and slab thickness, or haunch dimensions. ~~Provide~~ Submit Special Designs for sizes, elements and loads other than those referenced in 410-4.1.2. Redesign box culverts using the same AASHTO design specification, live load, hydraulic opening, fill height, minimum concrete class and concrete cover as shown in the Contract Documents. Special Designs will be required for all two-piece concrete box culvert segments. Provide a minimum member thickness not less than 75% of the thickness of the corresponding member of an equivalent Index No. 292 box culvert, but not less than 7 inches for culverts with 2 inch concrete cover or 8 inches for 3 inch concrete cover. Perform a bridge load rating in accordance with the Structures Design Guidelines, for any redesign with a total span equal to or greater than 20 feet, when measure between the inside face of end supports, along the centerline of the roadway crossing.

SUBARTICLES 410-11.2 AND 410-11.3 are deleted and the following substituted:

410-11.2 Profile Rubber Gaskets: Install field joints in accordance with the joint manufacturer's instructions and meet the following:

1. Meet the requirements of ASTM C1677,
2. Store all gaskets in a cool place prior to use,
3. ~~Furnish~~ Submit to the Engineer written details regarding configuration of the joint and gasket required to create a soil-tight seal. Do not apply mortar, joint compound or other filler which would restrict the flexibility of the joint.

410-11.3 Preformed Flexible Joint Sealants: Install field joints in accordance with the joint manufacturer's instructions and meet the following:

1. Meet the requirements of ASTM C990,
2. ~~Furnish~~ Submit to the Engineer a written recommendation of the size (cross-sectional area) of joint sealant which will create a soil-tight seal. Ensure that this amount is the minimum quantity of bitumen sealant used. Do not brush or wipe joint surfaces which are to be in contact with the joint sealant with cement slurry. Fill minor voids with non-shrink grout,
3. Thoroughly clean and dry all joint surfaces which are to be in contact with the sealant material. When recommended by the sealant manufacturer, apply a primer of the type recommended to all joint surfaces which are to be in contact with the sealant material.
4. Apply sealant to form a continuous seal around each joint. The sealant must be protected by a removable wrapper. Do not remove the paper wrapper on the exterior surface of the preformed flexible joint sealant until immediately prior to joining the precast sections. Apply the joint sealant only to dry surfaces. When the atmospheric temperature is below 60°F, either store the joint sealant in an area above 70°F, or artificially warm the joint sealant to 70°F in a manner satisfactory to the Engineer. After assembly, ensure that there is full contact and compression of the sealant for the entire perimeter of the joint, as evidenced by the presence of

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minor bulging along any visible edges of the sealant. Neatly trim any extruded sealant flush with the concrete surface.