ORIGINATION FORM

Date: 2/2/2011
Originator: Steven Plotkin
Contact Information: Phone: (904) 360-5501

Specification Title: Field Testing (Testing of Anchors or Dowels)
Specification Section, Article, or Subarticle Number: 416-6.1

Why does the existing language need to be changed? The current frequency of testing does not require at least one test per day and since installation conditions can change significantly from day to day, at least one test per day is needed to be certain that anchors are reliably installed.

Summary of the changes: At least one test per day per LOT will be required.

Are these changes applicable to all Department jobs? Yes

Will these changes result in an increase or decrease in project costs? Yes **If yes, what is the estimated change in costs?** In the vast number of cases at least one test is performed per day because at least one LOT is installed per day and only on rare occasions is less than one LOT installed per day so on that occasion one additional test, not previously required, will be needed. The additional cost will be for one test per day but only on rare occasions; therefore, the additional cost will be small.

With who have you discussed these changes? Robert Robertson, State Structures Design Engineer

What other offices will be impacted by these changes? None

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? No

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? No

Contact the State Specifications Office for assistance in completing this form.
Rudy Powell 850-414-42820 rudy.powell@dot.state.fl.us
Frances Thomas 850-414-4101 frances.thomas@dot.state.fl.us
Debbie Toole 850-414-4114 deborah.toole@dot.state.fl.us
Andy Harper 850-414-4127 clifton.harper@dot.state.fl.us

Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

OFFICE OF THE
SECRETARY

M E M O R A N D U M

DATE: April 11, 2011

TO: Specification Review Distribution List

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

SUBJECT: Proposed Specification: 4160601 Installing Adhesive Bond Anchors and Dowels for Structural Applications – Testing of Anchors or Dowels**.**

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

This change was proposed by Steve Plotkin because installation conditions can change significantly from day to day, ensuring at least one test per day, to be certain that anchors are reliably installed.

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 e-mail at SP965RP or rudy.powell@dot.state.fl.us. Comments received after **May 9, 2011** may not be considered. Your input is encouraged.

RP/cah
Attachment

INSTALLING ADHESIVE-BOND ANCHORS AND DOWELS FOR STRUCTURAL APPLICATIONS –TESTING OF ANCHORS OR DOWELS.
(REV 2-24-11)

SUBARTICLE 416-6.1 (Pages 441-442) is deleted and the following substituted:

416-6.1 Field Testing: Provide an Independent Testing Agency to perform field testing of the installed anchors and dowels under the direction of a Professional Engineer registered in the State of Florida. Submit test reports for each LOT signed and sealed by the Professional Engineer. Perform restrained static tension tests to prevent damage to the surrounding concrete. A restrained test is defined as a test conducted in accordance with ASTM E 488 except that the test equipment support clearance requirements of ASTM E 488 do not apply. The reaction base shall be approximately equal to the drilled hole diameter for the anchor to preclude concrete or masonry failure, but allow bond failure. Displacement measurement for field testing is not required. Test individual anchors and dowels by proof loading in tension to 85% of the Specified Bond Strength in Section 937, based on the nominal anchor or dowel diameter and embedment depth, but not more than 90% of the yield strength of the anchor or dowel, unless otherwise shown in the Contract Documents.

Divide the anchors and dowels into LOTs for testing and acceptance. Each LOT must contain a maximum of 100 anchors or dowels, of the same diameter, embedment length and Adhesive Bonding Material System *installed on the same day*. Randomly select four of the anchors and dowels in each LOT for testing, except if there are three or less in the LOT, in which case, test all anchors, unless otherwise directed by the Engineer. If three consecutive LOTs have no failing tests, sample the next three LOTs at a 2% rate and if these LOTs have no failing tests, sample at a rate of 1% for the remaining LOTs unless there is a failure; however, regardless of LOT size ~~*or sampling frequency*~~, sample at least one dowel per LOT~~*, per day*~~. For every failed field test, perform two additional field tests on adjacent untested anchors or dowels within the LOT. Continue additional field tests until no more test failures occur, or all anchors and dowels within the LOT are tested. For the next LOT after a failed LOT, the sampling rate must be 4% but not less than one dowel per LOT and conform to the sampling rate procedure above including rate reductions as appropriate.