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December 5, 2023

DCE MEMORANDUM NO. 23-07

(FHWA Approved: 12/5/23)

TO: DISTRICT CONSTRUCTION ENGINEERS

FROM: Tim Lattner, P.E., Director, Office of Construction

COPIES: Dan Hurtado, Patrick Overton, Ananth Prasad (FTBA), Jose Ortiz (FHWA)

SUBJECT: RETROACTIVE IMPLEMENTATION OF JULY 2024 STANDARD

SPECIFICATION SECTIONS: 009, 300, 350, 353, 415, 522

The Department has implemented revisions to several Section of the July 2024 Standard Specifications, as listed below.

Section 009 – Measurement and Payment

Changes made to add ITS and signal components for partial payments.

Contact: Patrick Overton (850) 414-4273

Section 300 – Prime and Tack Coats

Changes made to address the specified conditions related to the application of a bituminous prime coat.

Contact: Rich Hewitt (386) 943-5305

Section 350 – Cement Concrete Pavement

Changes made to add flexibility in saw cutting time and lowering the strength for opening concrete pavement to traffic.

Contact: Rich Hewitt (386) 943-5305

<u>Section 353 – Concrete Pavement Slab Replacement</u>

Changes made to address temperatures for section 353 slab replacement mix designs.

Contact: Patrick Overton (850) 414-4273

<u>Section 415 – Reinforcing for Concrete</u>

Changes made to add an option to size of tie wire used for a given density of tied intersections throughout mats of deck reinforcement in an effort to further innovation in automated deck construction.

Contact: Patrick Overton (850) 414-4273

Section 522 – Concrete Sidewalks and Driveways

Changes made to clarify the density requirements for fill and cut areas and existing sidewalk and driveways to be replaced in the same location.

Contact: Patrick Overton (850) 414-4273

Revisions to the specifications listed above are attached.

If the contractor requests to use any of the above specifications on an existing project, the new Specification may be added to the Contract at no additional cost to the Department.

This memorandum serves as blanket approval to process a \$0.00 contract change to incorporate any of the above referenced revisions and should be attached to the Work Order or Supplemental Agreement.

If you have any questions, please contact the State Construction Office at (850) 414-4150.

TL/ac

009 MEASUREMENT AND PAYMENT. (REV 7-13-23) (FA 8-31-23) (FY 2024-25)

SUBARTICLE 9-5.5.2 is deleted and the following substituted:

- **9-5.5.2 Partial Payment Amounts:** The following partial payment restrictions apply:
 - 1. Partial payments less than \$5,000 for any one month will not be processed.
- 2. Partial payments for structural steel, ITS and signal components, and precast prestressed items will not exceed 85% of the bid price for the item. Partial payments for all other items will not exceed 75% of the bid price of the item in which the material is to be used.
- 3. Partial payment will not be made for aggregate and base course material received after paving or base construction operations begin except when a construction sequence designated by the Department requires suspension of paving and base construction after the initial paving operations, partial payments will be reinstated until the paving and base construction resumes.

300 PRIME AND TACK COATS. (REV 6-9-23) (FA 9-18-23) (FY 2024-25)

SUBARTICLE 300-7.1 is deleted and the following substituted:

300-7 Application of Prime Coat.

300-7.1 General: Clean the surface to be primed and ensure the moisture content of the base does not exceed the optimum moisture. Heat the prime coat material to the temperature recommended by the prime coat manufacturer. Apply the material with a pressure distributor. Determine the application amount based on the character of the surface. Use an amount sufficient to coat the surface thoroughly and uniformly with no excess.

The Contractor may elect to omit application of bituminous prime coat on previously prepared or exposed bases when an asphalt lift is placed within 24 hours of final preparation of such bases. Keep base moisture content within acceptable range. Protect finished base from rain and ensure base bonds adequately to the new lift of asphalt pavement. Apply prime to base when asphalt is not placed within 24 hours of final preparation of base. Apply prime to full depth reclamation and cement stabilized bases.

350 CEMENT CONCRETE PAVEMENT. (REV 7-26-23) (FA 8-14-23 (FY 2024-25)

SUBARTICLE 350-13.3.3 is deleted and the following substituted:

350-13.3.3 Transverse Contraction Joints: Construct transverse contraction joints at the interval in accordance with the Standard Plans, Index 350-001.

Ensure that the sawing equipment does not damage the pavement and saw the transverse contraction joints as soon as the pavement has hardened to the degree that tearing and raveling are not excessive and before uncontrolled shrinkage cracking begins.

Accomplish the joint sawing in two steps. Make the initial cut 1/8 inch wide by a depth at least 1/3 of the pavement thickness and as soon as possible but in no case longer than 24 hours after placing the concrete. Upon approval of the Engineer, the Contractor may extend initial saw cutting time to avoid raveling at joint due to sawing too soon or reduce initial saw cutting time to avoid slab cracking due to sawing too late. Make a second saw cut, to provide the joint dimensions indicated in the Plans, just prior to final grinding and sealing the joint.

Repair any uncontrolled cracks at no expense to the Department by removing and replacing the pavement across the full width of all affected lanes or shoulders and to the nearest transverse joint in each direction.

ARTICLE 350-18 is deleted and the following substituted:

350-18 Opening Pavement to Traffic.

Construct an earth berm along longitudinal free edges of the pavement within 36 hours, when newly placed concrete pavement is constructed on a granular base of an erodible material. Build the berm to the full height of the pavement and at least 18 inches wide. Sufficiently compact the berm to prevent underwash of the pavement. Maintain the berm until the final shoulders are complete.

Keep the pavement closed to traffic, including construction operations until one of the following has been met:

- 1. Fourteen calendar days after placement of the concrete.
- 2. Test cylinders, made in accordance with ASTM C31 and tested in accordance with ASTM C39, indicate a compressive strength of at least 2,000 psi (cure these test cylinders in a manner identical to the corresponding section of pavement).
- 3. Provide a strength-maturity relationship curve as outlined by FM 3-C1074 for opening to traffic determined during design mix verification. Use the maturity method specified in this Section to:
 - a. Determine if the concrete has achieved 2,000 psi and can be opened to traffic.
 - b. Verify the strength of the last slab of each day's placement.

Fabricate three test cylinders for strength and maturity curve correlation testing. The compressive strength cylinders and maturity curve correlation testing will be performed at the first day of production or at the discretion of the Engineer.

353 CONCRETE PAVEMENT SLAB REPLACEMENT. (REV 7-10-23) (FA 10-4-23) (FY 2024-25)

ARTICLE 353-6 is deleted and the following is substituted:

353-6 Concrete Slab Acceptance and Testing.

Reject any Concrete not meeting the plastic property requirements of Section 346. Concrete pavement slab replacement mix designs are exempt from the requirements for concreting in hot weather. Reject concrete pavement slab replacement mix designs exceeding 100°F. Acceptance will be based on achieving a 1,600 psi compressive strength prior to opening the slab to traffic, and a 28 day compressive strength of 3,000 psi. Determine opening to traffic strength using the maturity method or concrete cylinder testing, and determine 28 day strength using concrete cylinder testing.

Perform Quality Control (QC) tests for temperature, slump, and density, and prepare compressive strength cylinders once per LOT. A LOT is defined as one day's production.

The Engineer will evaluate the particular circumstances in each instance where a strength deficiency occurs. Strength deficiencies will be addressed in accordance with Section 346.

Lost quality control cylinders and payment reductions for low strength concrete will be addressed in accordance with Section 346.

Controlled cracks are cracks designed to occur at specific locations based on the pavement design. All other cracks in the pavement are uncontrolled cracks. Repair uncontrolled cracked slabs, which occur during the life of the contract, by removing and replacing the pavement across the full width of all affected lanes or shoulders and to the nearest transverse joint in each direction. Investigate and implement immediate effective solutions to eliminate further cracks, in consultation with, and subject to the approval of, the Engineer.

415 REINFORCING FOR CONCRETE. (REV 8-7-23) (FA 10-25-23) (FY 2024-25)

SUBARTICLE 415-5.10.3 is deleted and the following substituted:

415-5.10.3 Tying: Tie all reinforcing bars in each layer with a double-strand single tie at every intersection on the periphery and at every third intersection in the interior area. Alternatively, at the Contractor's option, tie all reinforcing bars in each layer with a single-strand single tie at every intersection on the periphery and at every other intersection within the interior area. Alternatively, at the Contractor's option, if annealed soft-iron wire with uncoated diameter equivalent or greater than 16 gauge (0.062 in.) is used, tie all reinforcing bars in each layer with a single-strand single tie at every intersection on the periphery and at every third intersection in the interior area. If encountering difficulty in maintaining the reinforcing bars in position during the placing of concrete, tie additional intersections as necessary to hold the reinforcing bars secure.

522 CONCRETE SIDEWALKS AND DRIVEWAYS. (REV 11-13-23) (FA 11-20-23) (FY 2024-25)

ARTICLE 522-4 is deleted and the following substituted:

522-4 Foundation.

Shape and compact the foundation materials with suitable equipment to a firm, uniform, smooth, even surface, true to grade and cross-slope that is free of debris and irregularities.

For the following conditions proof roll the graded areas with a vibratory roller or mini plate compactor in such manner that a firm and unyielding foundation is established within 1 foot beyond each side of the sidewalk or driveway, when right-of-way conditions allow:

- 1. For all fill areas not exceeding 6 inches.
- 2. All cut areas.
- 3. Existing sidewalk and driveways to be replaced in the same location, horizontal alignment, profile grade, and cross slope.

For fill areas 6 inches or greater, compact the foundation below the bottom of the concrete and 1 foot beyond each side of the sidewalk or driveway when right-of-way conditions allow, to a density not less than 95% of the maximum density as determined by FM 1-T099 for the following conditions:

- 1. For fill areas not exceeding 2 feet, take densities for the entire fill height.
- 2. For fill areas 2 feet or greater, take densities on the last (upper) 2 feet of fill height.

Meet the testing frequency and maximum lift thickness requirements of Section 120. Record density test results in the Earthwork Records System (ERS) section of the Department's database. Compact the material in the remaining fill areas to match the adjacent area density.