Florida Department of Transportation

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GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

September 10, 2026

Daniel Holt, PE, PTOE
Director, Project Delivery
Director, Technical Services
FHWA
400 West Washington Street, Suite 4200
Orlando, FL 32801

Re: State Specifications Office
Section: 931
Proposed Specification: **9310100 Metal Accessory Materials for Concrete Pavement and Concrete Structures**
Associated Specification: **4150100 Reinforcement for Concrete**

Dear Mr. Holt:

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

The changes are proposed by Mateo Carvajal to remove duplicative acceptance requirements for steel bars, wire reinforcement, and welded wire reinforcement that are now addressed in Section 415. Certification language is updated to align with the revised acceptance approach

Please review and transmit your comments, if any, within two weeks (10 business days). Comments should be sent via email daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at (850) 414-4130.

Sincerely,

Signature on File

Daniel Strickland, P.E.
State Specifications Engineer

DS/am
Attachment
cc: Florida Transportation Builders' Assoc.
State Construction Engineer

METAL ACCESSORY MATERIALS FOR CONCRETE PAVEMENT AND CONCRETE STRUCTURES
(REV 6-15-26)

ARTICLE 931-1 is deleted and the following substituted:

931-1 Steel Reinforcement ~~Steel (for Pavement and Structures)~~.

931-1.1 ~~Steel Bars~~General:

Reinforcing Steel manufacturers will be listed as an AASHTO Product Evaluation & Audit Solutions compliant producer. Unless otherwise specified in the contract documents, all reinforcing bars will be deformed except for spiral ties in precast/prestressed piles.

931-1.1.1 Carbon Steel Bars: Carbon steel bars for concrete reinforcement shall conform to the requirements of ASTM A615 Grades 60 ~~or~~, 80, or 100. Low-alloy steel bars conforming to the requirements of ASTM A706 will be considered equivalent to ASTM A615 steel of the corresponding size and grade.

931-1.1.2 Stainless Steel Bars: Stainless steel bars for concrete reinforcement shall conform to the requirements of ASTM A955, Grades 60 ~~or~~, 75~~; or ASTM A276~~, or 80, UNS S32205, S32304, S31653, or S31803.

931-1.1.3 Low-Carbon Chromium Steel Bars: Low-carbon chromium steel bars for concrete reinforcement shall conform to the requirements of ASTM A1035 Grade 100.

~~**931-1.1.4 Special Requirements:** The following special requirements shall apply:~~

~~1. Unless otherwise specified or shown in the Plans all reinforcing bars No. 3 and larger shall be deformed bars.~~

~~2. Twisted bars shall not be used.~~

~~3. Wherever in the Specifications the word "purchaser" appears it shall be taken to mean the Department.~~ **931-1.1.4 Stainless Steel-Clad Bars:** Stainless steel-clad bars for concrete reinforcement will conform to the requirements of AASHTO M 329, Grades 60 and 75.

931-1.1.5 ~~Acceptance~~Certification of Steel Bars: ~~Acceptance~~Certification of reinforcing steel shall be based on the ~~manufacturer being on the AASHTO Product Evaluation & Audit Solutions list of compliant producers, samples taken by the Department, and~~ manufacturer's certified mill ~~analysis~~test report certifying that~~.~~ ~~T~~the test results shall meet the specification limits of the ASTM or AASHTO designation for the size, grade, and any additional requirements. The certification must include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6. ~~The manufacturer's certified mill analysis for each heat, size, and grade per shipment of reinforcing steel shall be provided to the Engineer prior to use.~~

~~The Engineer will select samples representing each LOT of reinforcing steel. A sample is defined as the reinforcing steel and the certified mill analysis corresponding to the sample. A LOT is defined as the weight of all bars, regardless of size, grade or pay item in consecutive shipments of 100 tons or less. Samples shall be cut from bundled steel that is shipped to the jobsite.~~

~~Projects with less than two tons of bars do not require Department sampling.~~

931-1.2 Wire Reinforcement:

931-1.2.1 General: Wire Reinforcement manufacturers will be listed as an AASHTO Product Evaluation & Audit Solutions compliant producer.

931-1.2.1.1 Carbon Steel Wire Reinforcement: Plain and deformed carbon steel wire reinforcement shall meet the requirements of ASTM A1064. ~~Deformed carbon steel wire shall be Grade 75.~~

931-1.2.1.2 Stainless Steel Wire Reinforcement: Plain and deformed stainless steel wire reinforcement shall meet the requirements of ASTM A276, UNS S30400.

931-1.2.1.3 ~~Acceptance~~Certification of Wire Reinforcement: ~~Acceptance~~Certification of wire reinforcement shall be based on the manufacturer's certified mill ~~analysis~~test report certifying that the test results meet the specification limits of the ASTM designation for the sizes, grade, and any additional requirements. ~~Prior to use, submit to the Engineer the manufacturer's certified mill analysis for each heat and size per shipment.~~ The certification must include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6.

931-1.3 Carbon Steel Welded Wire Reinforcement:

931-1.3.1 General: Welded Wire Reinforcement manufacturers will be listed as an AASHTO Product Evaluation & Audit Solutions compliant producer.

931-1.3.1.1 Carbon Steel Welded Wire Reinforcement: Welded wire reinforcing steel shall meet the requirements of ASTM A1064.

931-1.3.1.2 ~~Acceptance~~Certification of Carbon Steel Welded Wire Reinforcement: ~~Acceptance~~Certification of welded wire reinforcement shall be based on the manufacturer's certified mill ~~analysis~~test report certifying that the test results meet the specification limits of the ASTM designation for the type, sizes, and any additional requirements. ~~Prior to use, submit to the Engineer the manufacturer's certified mill analysis for each heat and size per shipment.~~ The certification must include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6.

931-1.4 Couplers for Steel Bars:

931-1.4.1 Approved Product List (APL): ~~The c~~Couplers ~~used~~ shall be a product included on the Department's APL.

Manufacturers ~~seeking approval of their product shall~~seeking evaluation of products for inclusion on the APL shall submit an application in accordance with Section 6 and must submit product photo and drawings, technical data sheets, and demonstrate the performance of their product in accordance with the requirements in ~~931-1.4.2 through 931-1.4.4 as applicable and 931-1.4.5~~this section.

931-1.4.2 Couplers for Carbon Steel Bars: Couplers for use with carbon steel bars ~~shall~~must be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.1.1.

931-1.4.3 Couplers for Stainless Steel and Stainless-Clad Bars: Couplers for use with stainless steel and stainless clad bars shall be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.1.2.

931-1.4.4 Couplers for Low-Carbon Chromium Steel Bars: Couplers for use with low-carbon chromium steel bars shall be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.1.3.

931-1.4.5 Special Requirements: Couplers shall develop at least 125% of the specified yield strength of the bar being spliced.

ARTICLE 931-2 is deleted and the following substituted:

931-2 ~~Metal~~ Materials for Joints in Concrete Pavement.

931-2.1 Sheet Metal Bottom Strips: ~~For concrete pavement using the special select soil base option, the s~~Sheet metal strip for protecting the bottom and side edges of transverse expansion joints shall be composed of galvanized sheet metal of 0.0157 inches minimum thickness and shall conform to the requirements of ASTM A653 coating designation G90. The sheets shall be furnished in accordance with the dimensions shown in the Plans. They may be in one continuous piece, or spliced. When splicing is used the metal shall be lapped not less than 3 inches and securely fastened, by welding or otherwise, in such manner as to leave the spelter undamaged and produce a smooth sliding surface in contact with the pavement slab. ~~The splices shall be spaced not less than 10 feet apart and not less than 5 feet from either end.~~ The complete sheet shall not vary from a straight line by more than 1 inch from end to end.

~~The Contractor shall submit to the Engineer~~ Certification of sheet metal bottom strips will be based on the manufacturer's ~~a~~ certified mill ~~analysis~~test report certifying that the test results meet the specification limits of the ASTM designation ~~from the manufacturer of the sheet metal bottom strips including test results~~ for thickness, dimension, grade, length, size, ~~and and~~ spacing, and any additional requirements. Each certified mill ~~analysis~~test report shall cover only one type of metal material for joints.

931-2.2 Bars ~~and Chairs~~ for Longitudinal Joints: Transverse reinforcing ~~steel~~ across the longitudinal joint shall be deformed ~~steel~~ bars conforming to the requirements of 931-1.1 ~~except that the bars may be any grade shown in ASTM A615~~.

~~These bars, and the chairs to hold them in place, shall be of the type and spacing as indicated in the Plans.~~

931-2.3 Dowel Bars: Dowel bars must meet the requirements of Table 931-1. ~~They shall be of the length, size and spacing as shown in the Plans.~~

~~The Contractor shall submit to the Engineer a certified~~Certification of ~~test report from the manufacturer of the~~ dowel bars will be based on the manufacturer's certified mill test report certifying that the test results will meet the specification limits of the ASTM or AASHTO~~confirming that the requirements of this Section are met. The certified test report shall conform to the requirements of Section 6 and include metallurgical mill analysis~~ designation for the size, grade, length, and any additional requirements ~~and size~~. ~~Each certification shall cover only one LOT for dowel bars.~~ The certification must include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6.

931-2.4 Chairs and Metal Expansion Caps: The chairs and metal expansion caps shall be of an approved type as shown in the Plans.

~~Dowel bars for expansion joints shall have a metal cap on one end so placed to provide ample space for movement of the slab. Continuous sleeves covering one half of the length of the bar will not be permitted. Other fasteners may be approved. Dowel bars shall be coated with an approved material to break the bond.~~

ARTICLE 931-3 is deleted and the following substituted:

931-3 ~~Metal~~ Dowel Bar Assemblies for Joints in Concrete Pavement.

931-3.1 Approved Product List (APL): The dowel bars and basket assembly must meet the requirements of Table 931-1 and shall be a product included on the Department's APL.

Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6 and shall submit product photo and drawings, technical data sheets, and certifications that demonstrate the performance of their products in accordance with the requirements in ~~931-3.1 thru 931-3.5~~Table 931-1 and this Section.

Table 931-1 Material Requirement for Dowel Bar and Basket Assemblies		
Component	Base ~~Metal~~Material	Coating
Dowel Bar	~~ASTM A615~~931-1.1	ASTM A775 or SSPC Paint 20 or Epoxy ≥ 1.25% self-healing microcapsules (by weight)
Wire Basket Assembly	ASTM A1064	ASTM A775 or SSPC Paint 20 or Primer with ≥ 40% Solids (by weight) or Asphaltum Protective Coating or Modified Wax Coating or Corrosion Preventative Compound

~~Produce d~~Dowel bars will be coated in the shop. Wire basket assemblies may be coated in the shop or the field. For welded wire basket assemblies fabricated after coating, apply touch-up coating in the shop ~~or field~~ over all welded connections. ~~All field applied coatings must have a volatile organic compound (VOC) content ≤ 420g/L.~~

931-3.2 Rigidity: The dowel bars shall be supported by an approved welded assembly possessing sufficient rigidity to hold the dowel bars in position to such accuracy that error or deviation from its required position in any bar in the entire installation after the pavement has been finished shall be no greater than 1/2 inch.

The assembly shall have continuous parallel spacer bars and two continuous parallel bearing members of no less than 1/4 inch diameter wire. One spacer bar shall be located at or near each end of the dowel. Alternate ends of dowels shall be welded to a spacer bar in such a manner as to maintain the dowels parallel to each other and permit sliding movement in the joint.

The free ends of each dowel shall be retained securely in place by means of wire loops or metal tubes welded to the other spacer bar. ~~An expansion cap shall be installed on one end of each bar if the dowels are being used in an expansion joint.~~

Suitable struts or ties shall be provided to hold the assembly in correct position during installation.

The assembly shall have an upright support welded to the spacer bar and continuous bearing member at the end of each dowel and a continuous bearing member.

If the upright support consists of a single vertical wire, the support shall be no less than 5/16 -inch diameter wire. Otherwise, the support shall be no less than 1/4 inches in diameter.

931-3.3 Sand Plates: Sand plates, if required, shall be made from no less than 3/8 inch sheet steel. Each plate shall have no less than 0.1 square feet of bearing area. The plates shall be furnished in sufficient number to provide uniform support for the complete assembly. They may be furnished separate from the assembly units or attached thereto by welding, suitable clips, or other approved means.

931-3.4 Welds: The welds of the assembly shall be made securely. A broken weld will be cause for rejection of the length of section of the assembly where it occurs.

931-3.5 Assembly Placement: When the dowel bar assembly is in place, it shall act as a rigid unit with each component part securely held in position relative to the other member of the assembly.

The entire assembly shall be held securely in place during placing, consolidating, and finishing the concrete by means of metal pins. Pins used on granular subbase or cold mixed bituminous stabilized subbase shall penetrate at least 12 inches below the dowel bar assembly. The pins shall be of no less than 1/4 inch diameter wire and shall be provided with a hook or arm welded to the pin in such a manner that it shall secure the assembly in place.

Nail securing systems may be used as an anchoring device on hot bituminous stabilized subbase. The nail shall be no less than 1/8 inch in diameter, no less than 2 inches in length and the nail head or attached washer shall be not less than 1/2 inch outside diameter. The nail shall be driven through both ends of a metal strap after it has been placed around one of the lower transverse bars on the dowel bar assembly.

At least eight pins or nails shall be used for each 12 foot section (a lane width) of assembly. Sand plates, if required, shall be drilled to receive the pins.

The Contractor shall provide the equipment and personnel necessary to verify dowel bar location after the concrete is placed and has received the initial screeding.

METAL ACCESSORY MATERIALS FOR CONCRETE PAVEMENT AND CONCRETE STRUCTURES
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ARTICLE 931-1 is deleted and the following substituted:

931-1 Steel Reinforcement.

931-1.1 General: Reinforcing Steel manufacturers will be listed as an AASHTO Product Evaluation & Audit Solutions compliant producer. Unless otherwise specified in the contract documents, all reinforcing bars will be deformed except for spiral ties in precast/prestressed piles.

931-1.1.1 Carbon Steel Bars: Carbon steel bars for concrete reinforcement shall conform to the requirements of ASTM A615 Grades 60, 80, or 100. Low-alloy steel bars conforming to the requirements of ASTM A706 will be considered equivalent to ASTM A615 steel of the corresponding size and grade.

931-1.1.2 Stainless Steel Bars: Stainless steel bars for concrete reinforcement shall conform to the requirements of ASTM A955, Grades 60, 75, or 80, UNS S32205, S32304, S31653, or S31803.

931-1.1.3 Low-Carbon Chromium Steel Bars: Low-carbon chromium steel bars for concrete reinforcement shall conform to the requirements of ASTM A1035 Grade 100.

931-1.1.4 Stainless Steel-Clad Bars: Stainless steel-clad bars for concrete reinforcement will conform to the requirements of AASHTO M 329, Grades 60 and 75.

931-1.1.5 Certification of Steel Bars: Certification of reinforcing steel shall be based on the manufacturer's certified mill test report certifying that the test results shall meet the specification limits of the ASTM or AASHTO designation for the size, grade, and any additional requirements. The certification must include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6.

931-1.2 Wire Reinforcement:

931-1.2.1 General: Wire Reinforcement manufacturers will be listed as an AASHTO Product Evaluation & Audit Solutions compliant producer.

931-1.2.1.1 Carbon Steel Wire Reinforcement: Plain and deformed carbon steel wire reinforcement shall meet the requirements of ASTM A1064.

931-1.2.1.2 Stainless Steel Wire Reinforcement: Plain and deformed stainless steel wire reinforcement shall meet the requirements of ASTM A276, UNS S30400.

931-1.2.1.3 Certification of Wire Reinforcement: Certification of wire reinforcement shall be based on the manufacturer's certified mill test report certifying that the test results meet the specification limits of the ASTM designation for the sizes, grade, and any additional requirements. The certification must include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6.

931-1.3 Carbon Steel Welded Wire Reinforcement:

931-1.3.1 General: Welded Wire Reinforcement manufacturers will be listed as an AASHTO Product Evaluation & Audit Solutions compliant producer.

931-1.3.1.1 Carbon Steel Welded Wire Reinforcement: Welded wire reinforcing steel shall meet the requirements of ASTM A1064.

931-1.3.1.2 Certification of Carbon Steel Welded Wire Reinforcement: Certification of welded wire reinforcement shall be based on the manufacturer's

certified mill test report certifying that the test results meet the specification limits of the ASTM designation for the type, sizes, and any additional requirements. The certification must include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6.

931-1.4 Couplers for Steel Bars:

931-1.4.1 Approved Product List (APL): Couplers shall be a product included on the Department's APL. Manufacturers seeking evaluation of products for inclusion on the APL shall submit an application in accordance with Section 6 and must submit product photo and drawings, technical data sheets, and demonstrate the performance of their product in accordance with the requirements in this section.

931-1.4.2 Couplers for Carbon Steel Bars: Couplers for use with carbon steel bars must be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.1.1.

931-1.4.3 Couplers for Stainless Steel and Stainless-Clad Bars: Couplers for use with stainless steel and stainless clad bars shall be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.1.2.

931-1.4.4 Couplers for Low-Carbon Chromium Steel Bars: Couplers for use with low-carbon chromium steel bars shall be fabricated from an alloy that is electrochemically compatible with bars that meet the requirements of 931-1.1.1.3.

931-1.4.5 Special Requirements: Couplers shall develop at least 125% of the specified yield strength of the bar being spliced.

ARTICLE 931-2 is deleted and the following substituted:

931-2 Materials for Joints in Concrete Pavement.

931-2.1 Sheet Metal Bottom Strips: Sheet metal strip for protecting the bottom and side edges of transverse expansion joints shall be composed of galvanized sheet metal of 0.0157 inches minimum thickness and shall conform to the requirements of ASTM A653 coating designation G90.

The sheets shall be furnished in accordance with the dimensions shown in the Plans. They may be in one continuous piece, or spliced. When splicing is used the metal shall be lapped not less than 3 inches and securely fastened, by welding or otherwise, in such manner as to leave the spelter undamaged and produce a smooth sliding surface in contact with the pavement slab. The complete sheet shall not vary from a straight line by more than 1 inch from end to end.

Certification of sheet metal bottom strips will be based on the manufacturer's certified mill test report certifying that the test results meet the specification limits of the ASTM designation for thickness, dimension, grade, length, size, spacing, and any additional requirements. Each certified mill test report shall cover only one type of metal material for joints.

931-2.2 Bars for Longitudinal Joints: Transverse reinforcing across the longitudinal joint shall be deformed bars conforming to the requirements of 931-1.1.

931-2.3 Dowel Bars: Dowel bars must meet the requirements of Table 931-1. Certification of dowel bars will be based on the manufacturer's certified mill test report certifying that the test results will meet the specification limits of the ASTM or AASHTO designation for the size, grade, length, and any additional requirements. The certification must

include compliance with the AASHTO Product Evaluation & Audit Solutions work plan and the source of supply requirements specified in Section 6.

931-2.4 Chairs and Metal Expansion Caps: The chairs and metal expansion caps shall be of an approved type as shown in the Plans.

ARTICLE 931-3 is deleted and the following substituted:

931-3 Dowel Bar Assemblies for Joints in Concrete Pavement.

931-3.1 Approved Product List (APL): The dowel bars and basket assembly must meet the requirements of Table 931-1 and shall be a product included on the Department's APL.

Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6 and shall submit product photo and drawings, technical data sheets, and certifications that demonstrate the performance of their products in accordance with the requirements in Table 931-1 and this Section.

Table 931-1 Material Requirement for Dowel Bar and Basket Assemblies

Component	Base Material	Coating
Dowel Bar	931-1.1	ASTM A775 or SSPC Paint 20 or Epoxy ≥ 1.25% self-healing microcapsules (by weight)
Wire Basket Assembly	ASTM A1064	ASTM A775 or SSPC Paint 20 or Primer with ≥ 40% Solids (by weight) or Asphaltum Protective Coating or Modified Wax Coating or Corrosion Preventative Compound

Dowel bars will be coated in the shop. Wire basket assemblies may be coated in the shop or the field. For welded wire basket assemblies fabricated after coating, apply touch-up coating in the shop over all welded connections.

931-3.2 Rigidity: The dowel bars shall be supported by an approved welded assembly possessing sufficient rigidity to hold the dowel bars in position to such accuracy that error or deviation from its required position in any bar in the entire installation after the pavement has been finished shall be no greater than 1/2 inch.

The assembly shall have continuous parallel spacer bars and two continuous parallel bearing members of no less than 1/4 inch diameter wire. One spacer bar shall be located at or near each end of the dowel. Alternate ends of dowels shall be welded to a spacer bar in such a manner as to maintain the dowels parallel to each other and permit sliding movement in the joint.

The free ends of each dowel shall be retained securely in place by means of wire loops or metal tubes welded to the other spacer bar. Suitable struts or ties shall be provided to hold the assembly in correct position during installation.

The assembly shall have an upright support welded to the spacer bar and continuous bearing member at the end of each dowel and a continuous bearing member.

If the upright support consists of a single vertical wire, the support shall be no less than 5/16-inch diameter wire. Otherwise, the support shall be no less than 1/4 inch diameter.

931-3.3 Sand Plates: Sand plates shall be made from no less than 3/8 inch sheet steel. Each plate shall have no less than 0.1 square feet of bearing area. The plates shall be furnished in sufficient number to provide uniform support for the complete assembly. They may be furnished separate from the assembly units or attached thereto by welding, suitable clips, or other approved means.

931-3.4 Welds: The welds of the assembly shall be made securely. A broken weld will be cause for rejection of the length of section of the assembly where it occurs.