Florida Department of Transportation

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GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JOSÉ ABREU
SECRETARY

May 24, 2005

Mr. Donald Davis
Program Operations Engineer
Federal Highway Administration
545 John Knox Road
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 415
Proposed Specification: 4150513.d01-Reinforcing Steel-Metal Chairs and Bolsters

Dear Mr. Davis:

We are submitting, for your approval, two copies of a proposed Supplemental Specification for Reinforcing Steel-Metal Chairs and Bolsters.

This change was proposed by Robert Robertson of the State Structures Office to specify the use of plastic chairs and bolsters throughout structures located in extremely aggressive environments.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or duane.brautigam@dot.state.fl.us.

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Duane F. Brautigam, P.E.
State Specifications Engineer

DFB/sh
Attachment
cc: General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

REINFORCING STEEL-METAL CHAIRS AND BOLSTERS.
(REV ~~4-13-05~~*~~4-20-05~~* *5-23-05*)

SUBARTICLES 415-5.13.1 and 415-5.13.2 (of the Supplemental Specifications) is deleted and the following substituted:

415-5.13.1 General: Provide reinforcing steel bar supports manufactured in accordance with all requirements of the CRSI Manual of Standard Practice. Use chairs and bolsters of adequate strength to withstand a 300 pound [1.3 kN] concentrated load without permanent deformation or breakage, with the deformation under a 300 pound [1.3 kN] load being less than 5% of the support height.

Ensure that no more than 5% of the reinforcing steel bar supports exhibit unsatisfactory performance, breakage, or permanent deformation during rebar tying and/or concrete placement operations. If a bar support does not achieve this level of performance, reduce the average spacing between bar supports by 15%, or remove that product from use on the job.

Ensure that bar supports, both chair and bolster, do not move during concrete placing operations. To prevent movement, tie supports to the reinforcing steel.

When using bar supports on corrugated metal stay-in-place forms, use supports specifically designed for the form being used.

For structural elements located in extremely aggressive environments, do not use metal chairs and bolsters in contact with forms or floor surfaces to support reinforcing steel.

415-5.13.2 Metal Chairs and Bolsters: ~~*For structuresstructural elements located in extremely aggressive environments, do not use metal chairs and bolsters to support reinforcing steel against forms.*~~~~Do not use metal chairs and bolsters for substructures in extremely aggressive environments.~~ For metal bar supports in contact with steel stay-in-place forms and metal bar supports in contact with boundary surfaces of concrete to be cast, provide supports constructed with molded plastic legs or plastic protected steel legs. Do not allow any portion of the bar support other than the molded plastic leg or plastic protected portion of the steel leg to be closer than 1/2 inch [13 mm] from the boundary surface of concrete to be cast.

Certify that all metal bar supports meet the following requirements:

(1) That they are manufactured from cold drawn steel wire in accordance with the wire sizes and geometrical dimensions shown in the CRSI Manual of Standard Practice, Chapter 3, Table II.

(2) That the plastic used for protection of the steel legs has a thickness of 3/32 inch [2.5 mm] or greater at points of contact with the form work.

Provide plastic protection by a dipping operation, by adding premolded plastic tips to the legs of the support or by molding plastic to the top wire of the support. Ensure that the plastic material used for protection of steel legs does not chip, crack, deform, or peel under ordinary job conditions. Provide molded plastic legs that have sufficient strength to carry the weight of the supported reinforcing steel in its required position without deformation and relaxation under job conditions.

REINFORCING STEEL-METAL CHAIRS AND BOLSTERS.
(REV 5-23-05)

SUBARTICLES 415-5.13.1 and 415-5.13.2 (of the Supplemental Specifications) is deleted and the following substituted:

415-5.13.1 General: Provide reinforcing steel bar supports manufactured in accordance with all requirements of the CRSI Manual of Standard Practice. Use chairs and bolsters of adequate strength to withstand a 300 pound [1.3 kN] concentrated load without permanent deformation or breakage, with the deformation under a 300 pound [1.3 kN] load being less than 5% of the support height.

Ensure that no more than 5% of the reinforcing steel bar supports exhibit unsatisfactory performance, breakage, or permanent deformation during rebar tying and/or concrete placement operations. If a bar support does not achieve this level of performance, reduce the average spacing between bar supports by 15%, or remove that product from use on the job.

Ensure that bar supports, both chair and bolster, do not move during concrete placing operations. To prevent movement, tie supports to the reinforcing steel.

When using bar supports on corrugated metal stay-in-place forms, use supports specifically designed for the form being used.

For structural elements located in extremely aggressive environments, do not use metal chairs and bolsters in contact with forms or floor surfaces to support reinforcing steel.

415-5.13.2 Metal Chairs and Bolsters: For metal bar supports in contact with steel stay-in-place forms and metal bar supports in contact with boundary surfaces of concrete to be cast, provide supports constructed with molded plastic legs or plastic protected steel legs. Do not allow any portion of the bar support other than the molded plastic leg or plastic protected portion of the steel leg to be closer than 1/2 inch [13 mm] from the boundary surface of concrete to be cast.

Certify that all metal bar supports meet the following requirements:

(1) That they are manufactured from cold drawn steel wire in accordance with the wire sizes and geometrical dimensions shown in the CRSI Manual of Standard Practice, Chapter 3, Table II.

(2) That the plastic used for protection of the steel legs has a thickness of 3/32 inch [2.5 mm] or greater at points of contact with the form work.

Provide plastic protection by a dipping operation, by adding premolded plastic tips to the legs of the support or by molding plastic to the top wire of the support. Ensure that the plastic material used for protection of steel legs does not chip, crack, deform, or peel under ordinary job conditions. Provide molded plastic legs that have sufficient strength to carry the weight of the supported reinforcing steel in its required position without deformation and relaxation under job conditions.