Florida Department of Transportation

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GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

July 8, 2014

Khoa Nguyen
Director, Office of Technical Services
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: State Specifications and Estimates Office
Section **700**
Proposed Specification: **7000202 Highway Signing.**

Dear Mr. Nguyen:

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

These changes were proposed by Andre Pavlov of the State Structures Design Office to modify the installation requirements for strain poles, mast arms and monotube assemblies.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to SP965DS or daniel.scheer@dot.state.fl.us.

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

Sincerely,

Signature on file

Daniel Scheer, P.E.
State Specifications Engineer

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

HIGHWAY SIGNING.

(REV ~~2-14~~*195-28*~~7~~*7-8*~~-8~~-14)

SUBARTICLE 700-2.2.3 is deleted and the following substituted:

700-2.2.3 Installation: Install nuts on anchor bolts in accordance with Section 649 with the following exception. For cantilever overhead sign structures, after placement of the upright and prior to installation of the truss, adjust the leveling nuts beneath the base plate to achieve the back rake shown on the Camber Diagram. If the top surface of the base plate has a slope that exceeds 1:40, use beveled washers under the top nuts. *For span overhead sign structures, install a screen around the base plate in accordance with 649-6. For cantilever overhead sign structures, install a structural grout pad in accordance with 649-7.*

Use ASTM A325 bolt, nut and washer assemblies for all installations other than anchor bolts as follows. Use bolt, nut and washer assemblies that are free of rust and corrosion and ~~that~~ are lubricated properly as demonstrated by being able to easily hand turn the nut on the bolt thread for its entire length. Tighten nuts to a snug-tight condition to bring the faying surfaces of the assembly into full contact which is referred to as snug-tight. Snug-tight is defined as the maximum nut rotation resulting from the full effort of one person ~~on~~ *using* a 12 inch long wrench or equivalent. After bringing the faying surfaces of the assembly into full contact and to a snug-tight condition, tighten nuts to achieve the minimum torque as specified in Table 700-1 unless the connection is an alternate splice connection of a span sign structure, in which case, tighten nuts in accordance with ~~the turn-of-nut method of~~ Table 460-7~~, in Section 460~~ *Nut Rotation from the Snug Tight Condition*. Maintain uniform contact pressure on the faying surfaces during snugging and the subsequent final tightening process~~,~~ by using a bolt tightening pattern that balances the clamping force of each bolt, as closely as possible, with the equal clamping force of a companion bolt. Within 24 hours after final tightening, the Engineer will witness a check of the minimum torque using a calibrated torque wrench for three bolts or a minimum of 10% of the bolts, whichever is greater, for each connection. However, do not perform this check on alternate splice connections of span sign structures.

Table 700-1	
Bolt Diameter (in~~.~~*ches*)	Minimum Torque (ft.-lbs.)
3/8	15
1/2	37
5/8	74
3/4	120
7/8	190
1	275
1~~-~~1/8	375
1~~-~~1/4	525

HIGHWAY SIGNING.
(REV 7-8-14)

SUBARTICLE 700-2.2.3 is deleted and the following substituted:

700-2.2.3 Installation: Install nuts on anchor bolts in accordance with Section 649 with the following exception. For cantilever overhead sign structures, after placement of the upright and prior to installation of the truss, adjust the leveling nuts beneath the base plate to achieve the back rake shown on the Camber Diagram. If the top surface of the base plate has a slope that exceeds 1:40, use beveled washers under the top nuts. For span overhead sign structures, install a screen around the base plate in accordance with 649-6. For cantilever overhead sign structures, install a structural grout pad in accordance with 649-7.

Use ASTM A325 bolt, nut and washer assemblies for all installations other than anchor bolts as follows. Use bolt, nut and washer assemblies that are free of rust and corrosion and are lubricated properly as demonstrated by being able to easily hand turn the nut on the bolt thread for its entire length. Tighten nuts to a snug-tight condition to bring the faying surfaces of the assembly into full contact which is referred to as snug-tight. Snug-tight is defined as the maximum nut rotation resulting from the full effort of one person using a 12 inch long wrench or equivalent. After bringing the faying surfaces of the assembly into full contact and to a snug-tight condition, tighten nuts to achieve the minimum torque as specified in Table 700-1 unless the connection is an alternate splice connection of a span sign structure, in which case, tighten nuts in accordance with Table 460-7, Nut Rotation from the Snug Tight Condition. Maintain uniform contact pressure on the faying surfaces during snugging and the subsequent final tightening process by using a bolt tightening pattern that balances the clamping force of each bolt, as closely as possible, with the equal clamping force of a companion bolt. Within 24 hours after final tightening, the Engineer will witness a check of the minimum torque using a calibrated torque wrench for three bolts or a minimum of 10% of the bolts, whichever is greater, for each connection. However, do not perform this check on alternate splice connections of span sign structures.

Table 700-1

Bolt Diameter (inches)	Minimum Torque (ft.-lbs.)
3/8	15
1/2	37
5/8	74
3/4	120
7/8	190
1	275
1-1/8	375
1-1/4	525