ORIGINATION FORM

Date: **1/24/14**
Originator: **Andre Pavlov**
Contact Information: **(850) 414.4293**

Specification Title: **HIGHWAY SIGNING**
Specification Section, Article, or Subarticle Number: **700**

Why does the existing language need to be changed? **Grout pads are necessary to properly transfer the torsional loads on the pole, through the anchor bolts and into the foundation.**

Summary of the changes:

Are these changes applicable to all Department jobs? **YES**
If not, what are the restrictions?

Will these changes result in an increase or decrease in project costs? **Negligible cost increase.**
If yes, what is the estimated change in costs?

With who have you discussed these changes? **Researchers, Structures Design, Roadway Design, Construction, and Maintenance.**

What other offices will be impacted by these changes? **Construction and Maintenance.**

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? **YES**

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? **To be determined.**

Contact the State Specifications Office for assistance in completing this form.
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ANANTH PRASAD, P.E.
SECRETARY

M E M O R A N D U M

DATE: May 28, 2014

TO: Specification Review Distribution List

FROM: Daniel Scheer, P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **7000202 Highway Signing.**

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

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

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 SP965DS, or daniel.scheer@dot.state.fl.us. Comments received after **June 25, 2014,** may not be considered. Your input is encouraged.

DS/dt
Attachment

HIGHWAY SIGNING.

(REV ~~2-14~~*19*~~*5*~~*-28*-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 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