

7000000 HIGHWAY SIGNING
COMMENTS FROM INDUSTRY REVIEW

Jose Danon
813-975-6130

Comments:

First, I believe nobody cares that those aluminum ground signs are being stolen. Second, please review the use of Contractor’s Engineer and Specialty Engineer in Section 700-2.4.2, I believe that the Specialty Engineer shall be prequalified too, if we are to satisfy those definitions in the specs. Also in the same section, it is not clear if it is the Contractor’s responsibility to provide the OVH sign structure or if it is just his/hers option when the OVH is not detailed in the plans.

If there questions, please give me a call. Thanks & take care

Response: (per Robert Robertson) I have to disagree with this request. When we were deciding when to have an Contractor’s EOR versus specialty engineer we decided that products that were typically designed by a vendor, sign trusses, poles, MSE walls, etc, did not have to be prequalified as they were truly “specialty” engineers.

Gordon L. Johnson
Highway Safety Devices, Inc.
Phone: (813) 759-1559

Comments:

In reviewing the Highway Signing proposed spec. change, my concern is that if all overhead signs are to be presumed lighted, how will the contractor know how many luminaries to provide? Will we be required to perform photometric calculations in order to bid this item?

Response:

Edward T. Gassman, P.E.
Dist. 3 Structures Maintenance Engineer
Phone No.: 850.415.9601

Comments:

While reviewing this spec., I thought about the Standard Index 410 page 3 of 22 section CC “Independent Barrier and Sign Pedestal”. In this standard drawing, the over-lane sign’s foundation is buried under fill and a concrete cap between two barrier walls. Could this standard

be changed to extend the foundation up and make it level with the top of the barrier wall? This would allow for more thorough structure inspections and easier maintenance of the structure.

Response:

Julio A. Alegre, P.E., P.T.O.E.
Senior Traffic Engineer
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Comments:

We have been using fluorescent yellow-green (FYG) sheeting for pedestrian related warning signs such as W11-2, W16-7P and W16-9P signs. The proposed 2009 MUTCD **recommends** FYG for W11-1, w11-2 and W15-1 signs and **requires** FYG for school related signs. I think we should include FYG sheeting in all pedestrian related warning signs as part of **700-2.5 Sign Reflective Sheeting**.

Response:

Bob Dion
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Comments:

700-1 mentions 'all overhead signs are to be lighted unless otherwise noted in the plans.' Is it your intent to include span wire signs in this? If not, suggest adding 'except span wire signs in the 3rd paragraph of 700-1, where you define overhead signs or restrict this to cantilever and truss mounted signs.

Response:

Karen Byram
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Comments:

In section 2.3.1 your are referencing the QPL. Did mean to state that aluminum would be the standard and you would allow alternatives if they were listed on the QPI? If so, the language "and listed onthe QPL " needs to be changed to "or listed on the QPL". Also, there is no criteria referenced on how you will review and accept products for the QPL. It is my understanding that the criteria is listed in the Design Standards, if so, this needs to be added.

Response:

Stefanie Maxwell
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Comments:

Article 700-1: Change last sentence of first paragraph back to original language with a small insertion: “Retroreflectorize all signs, and when so specified in the plans, provide overhead signs with lighting.” Not all overhead signs are lighted, i.e. regulatory signs on mast arms (No Right Turn on Red, Left only Symbol, No U-Turn, No Left Turn, Street name signs, etc.). Also, keeping the statement to retroreflectorize all signs adds value.

Subarticle 700-2.3.1: Remove the requirement from the first sentence that the sign supports are to be listed on the QPL: “700-2.3.1 Frangible Supports: Provide posts for all frangible sign assemblies consisting of aluminum tubes up to 3 1/2 inches outside diameter with 3/16 inch wall thickness, or galvanized steel U-Channel up to 3 lb/ft as and listed on the Qualified Products List (QPL).” Aluminum tubes sign supports are not required to be listed on the QPL.

Subarticle 700-2.5: Add “retro” in front of the word reflective (2 locations). “700-2.5 Sign Retroreflective Sheeting: Meet the requirements of Section 994. Use Type III, IV, V or VII sheeting for background sheeting, white legends, borders and shields on all signs, excluding STOP, DO NOT ENTER, and WRONG WAY. Use Type VII sheeting for STOP, DO NOT ENTER and WRONG WAY signs. Use Type III, IV, V or VII yellow-green fluorescent sheeting for S1-1 school advance signs and supplemental panels used with S1-1, S3-1 and S4-5 school signs. Do not mix signs having fluorescent yellow-green sheeting with signs having yellow retroreflective sheeting.”

Subarticle 700-4.1.1: Add “retro” in front of the word reflective. “Subarticle 700-4.1.1 General: Prior to the application of retroreflective sheeting, use any of the methods shown below to de-grease and etch the aluminum sign blanks.”

Subarticle 700-4.2: Add “retro” in front of the word reflective (2 locations): “700-4.2 Drying: Dry the panels using a forced-air drier. Use a device or clean canvas gloves, to handle the material between all cleaning and etching operations and the application of retroreflective sheeting. Do not allow the metal to come in contact with greases, oils or other contaminants prior to the application of retroreflective sheeting.”

Subarticle 700-4.3: Add “retro” in front of the word reflective. “700-4.3 Fabrication of Sign Blanks: Fabricate all metal parts to ensure a proper fit of all sign components. Complete all fabrication, with the exception of cutting and punching of holes, prior to metal de-greasing and applying the retroreflective sheeting.”

Article 700-5: Add “retro” in front of the word reflective (6 locations), and add “r” to the word manufacture: “700-5 Fabrication of **Retro**reflectorized Sign Faces. 700-5.1 Application of Sheeting: Apply **retro**reflective sheeting to the base panels with mechanical equipment in a manner specified for the manufacturer of traffic control signs by the sheeting manufacturer. Ensure that sheeting applied to extruded aluminum sections adheres over and around the side legs of all panels to a minimum distance of 1/16 inch beyond the radius of top edge. Match sign

faces comprising two or more pieces of retroreflective sheeting for color and retroreflectivity at the time of sign fabrication. Reverse and apply consecutively alternate successive width sections of either sheeting or panels to ensure that corresponding edges of sheeting lie adjacent on the finished sign. The Engineer will not accept nonconformance that may result in non-uniform shading and an undesirable contrast between adjacent widths of applied sheeting. 700-5.2 Finish: Seal retroreflective sheeting splices and sign edges with materials the sheeting manufacturer supplies in a manner the sheeting manufacturer specifies for traffic control signs. 700-5.3 Screening-on Message: Screen message and borders on retroreflective sheeting in accordance with the recommendations of the ink or overlay manufacturer. Process either before or after applying the sheeting to the base panels.”

Response:

Ken Zinck
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Comments:

Comments from Allen Mattox D5-Leesburg Operations Maintenance Administrator (352) 326-7721: **On the proposed spec change 7000000, we are going to have a problem if we do away with u-channel. Current standards still allow us to use this for some of our maintenance sign applications. If we do away with it, we will then be required to do sign structure footers and posts to install our signing which is a huge cost to us. Currently we run the multi-post sign program for any signs 4 feet wide and over. The program then gives us options on the type of post required. If the sign is small enough, 3 or 4 pound u-channel can be used. Summarizing comments for 7000000 from Mike Heffinger, Orlando Maintenance Engineer (407) 858-5900: **recommend in 700-1 Stating “All overhead signs shall use highly reflectorized sheeting (Reflectivity to be determined) unless otherwise stated on the plans”

Response:

Gautam Ghosh, P.E
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Comments:

Some tolerance (tilt angle from vertical position) for sign installation needs to be specified.

Response:

Chris Wood
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Comments:

To accommodate the changes to 700-2.6 and 700-5.5 the following changes will need to be made to section 102-9.2 to insure the requirement for stenciling of temporary construction signs is still required and that the right reference regarding the sheeting requirements is met. If no changes are made to section 102-9.2 then the reference section for sheeting requirements will be wrong and the requirement for stenciling will be gone. Is this the direction we want to go?

102-9.2 Work Zone Signs: Provide signs in accordance with the plans and Design Standards. Meet the requirements of 700-2.65 and 700-5.5. **Mark the back of the Work Zone signs finished panels at the bottom edge with the date of fabrication and the fabricator's initials. Make the markings unobtrusive, but legible enough to be easily read by an observer on the ground when the sign is in its final position. Apply the markings in a manner that is at least as durable as the sign face.** Provide Federal Highway Administration's (FHWA) accepted sign substrate for use with accepted sign stands on the National Highway System (NHS) under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

Response:

(by Stefanie Maxwell) Christopher, We will not be adding this language to Section 102, because it provides no value. Whether the sign was fabricated yesterday or 10 years ago, a date on the back does not make it pass or fail. The same applies to the fabricator's initials. The initials tell me that Bob's Barricades fabricated the sign, so what.

However, effective with the January 2009 letting, the contractor is responsible for permanently marking **all temporary traffic control devices**. Also, if the work zone sign and other devices do not meet the ATSSA standards, the contractor needs to remove it from the job or bring the device into compliance. See excerpt from the specs below.

102-9 Temporary Traffic Control Devices.

102-9.1 Installation and Maintenance: Install and maintain temporary traffic control devices as detailed in the plans, Index 600 of the Design Standards and when applicable, in accordance with the approved vendor drawings, as provided on the QPL. Erect the required temporary traffic control devices to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing to protect the traveling public, workers, and to safeguard the work area. Use only those devices that are on the Qualified Products List (QPL) or the Approved Products List (APL). Immediately remove or cover any devices that do not apply to existing conditions.

All temporary traffic control devices must meet the requirements of National Cooperative Highway Research Program Report 350 (NCHRP 350) and current FHWA directives. Manufacturers seeking evaluation must furnish certified test reports showing that their product meets all test requirements set forth by NCHRP 350. Manufacturers seeking evaluation of Category I devices for inclusion on the QPL shall include the manufacturer’s self-certification letter. Manufacturer’s seeking evaluation of Category II and III devices for inclusion on the QPL shall include the FHWA WZ numbered acceptance letter with attachments and vendor drawings of the device in sufficient detail to enable the Engineer to distinguish between this and similar devices. For devices requiring field assembly or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation and must be signed and sealed by a Professional Engineer registered in the State of Florida. Manufacturers seeking evaluation of Category IV devices for inclusion on the QPL must comply with the requirements of Section 990 and include detailed vendor drawings of the device along with technical information necessary for proper application, field assembly and installation.

Ensure that the QPL number is permanently marked on the device at a readily visible location.

Notify the Engineer of any scheduled operation, which will affect traffic patterns or safety, sufficiently in advance of commencing such operation to permit his review of the plan for the proposed installation of temporary traffic control devices.

Ensure an employee is assigned the responsibility of maintaining the position and condition of all temporary traffic control devices throughout the duration of the Contract. Keep the Engineer advised at all times of the identification and means of contacting this employee on a 24-hour basis.

Keep temporary traffic control devices in the correct position, properly directed, clearly visible and clean, at all times. Ensure that all traffic control devices meet acceptable standards as outlined in American Traffic Safety Services Association (ATSSA’s) “Quality Standards for Work Zone Traffic Control Devices”. Immediately repair, replace or clean damaged, defaced or dirty devices.

I think this better than what we had. As always, thanks for your comments, and please let me know if you would like to discuss further.

Chris Sweitzer
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Comments:

Suggest changing the new wording in section 700-1 to read "All overhead cantilever, truss and bridge mounted signs are to be lighted unless otherwise noted in the plans." as there are unlighted signs meeting the definition of overhead signs in the last paragraph of this section, such as blank-out signs, span wire mounted signs, mast arm mounted signs, dynamic message signs, internally illuminated signs, variable lane control, etc. *** 700-2.2 it appears this section could be circumvented by 700-3.5.2, which would appear to allow the substitution of galvanized steel for this application, among others. It is also not applicable to internally illuminated street signs and conflicts with the last paragraph of Min Spec A699-2. *** 700-2.5 (currently 700-2.6)

Section 102-9.2 refers to 700-2.6 and will have to be updated. *** 700-5.5 section 102-9.2 refers to this section. The proposed deletion would appear make this reference moot.

Response:

Chris Papastratis
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Comments:

Section 700-1 appears to indicate that all overhead signs are to be lighted in general. Our practice in District 4 is to light overhead signs on the interstate and the interstate guide signs on the arterial system. If there is ambient street lighting on the arterial system, then lighting the arterial overhead guide signs is not required. Requiring all overhead signs to be lighted is unnecessary.

Response:
