

Design Standards Letter

Letter Number: P-2004-03

Letter Date: 11/01/2004

Effective Date: 04/01/2005

Section/Plan No.: Revisions to 502.05H, 502.10G, 606.22R, 606.23H, 608.10M, 609.00N, 731.10Q, 806.10F, 901.00W, 901.30F, 902.10Q, 902.70N, 903.05H, 903.06H, 903.70H, 903.80G, 903.10Z, 903.12U, Errata Changes to 606.00AR, 606.01E, 732.00N

Subject: Supplemental Revisions to Missouri Standard Plans for Highway Construction

Body

Questions concerning the distribution of this edition of the Missouri Standard Plans for Highway Construction should be directed to General Headquarters, Keith L. Smith (573) 751-4659 or Joe Jones (573) 751-3813.

These revisions will be effective with the April 2005 bid opening. Below are the revisions to the Missouri Standard Plans for Highway Construction since the last Standard Plans letter was issued July 2, 2004.

| NOTE | EXPLANATION |
|----------------|--|
| 1 | The following revisions are effective with the April 2005 bid opening. |
| STD. PLAN NO. | DESCRIPTION OF REVISION |
| 502.05H | <i>Sheet 3 of 4.</i> For the past few months Central Office has been adding special sheets for projects including concrete shoulders. The "Joint Plan and Spacing for Contraction Joints" diagram now more accurately reflects the placement of the new joints that were on those special sheets. The new C2 joints on concrete shoulder transverse joints do not have dowel bars. The L2 Joint diagram was corrected to show the two concrete panels. |
| 502.10G | <i>Sheets 1 through 3 of 3.</i> This standard plan was formerly comprised of only one sheet. To reflect MoDOT's new standard for concrete shoulder transverse joints without dowel bars, several labels on the Types A, B and C diagrams were revised. References to PCC shoulder (tied and reinforced) were replaced with "longitudinal joint". Also, the second General Note on Sheet 1 of 3 was deleted since it referred to dimensions |

| | |
|----------------|--|
| | already adequately addressed in the diagrams. |
| 606.22R | <i>Sheet 2 of 4.</i> The majority of the fifth General Note, pertaining to rectangular washers, was removed. The rectangular washers do not aid in the performance of the bridge rail when a vehicle strikes it. |
| 606.23H | <i>Sheet 2 of 5.</i> The majority of the sixth General Note, pertaining to rectangular washers, was removed. The rectangular washers do not aid in the performance of the bridge rail when a vehicle strikes it. |
| 608.10M | <i>Sheet 2 of 2.</i> The “Truncated Domes Spacing” diagram was revised to bring the distance between the domes into compliance with the latest version of American with Disabilities Accessibility Guidelines. The new spacing is a range from 1.6" (41 mm) to 2.4" (61 mm). |
| 609.00N | This plan is now comprised of two sheets. Minor corrections to the legend notes. |
| 731.10Q | <i>Sheet 1 of 5.</i> The word "depths" in the "S" and "T" dimensions of the "Precast Foundation Slab" diagram was replaced with "D" so as to avoid any confusion. <i>Sheets 2 through 5 of 5.</i> These diagrams and tables were formerly located on Sheets 2 through 4 of 4. The section diagrams (such as Section F-F) have been re-labeled so that letters are not repeated. Sheet 3 of 5 is a new sheet and is comprised of information formerly located on Sheet 2 of 4. |
| 806.10F | <i>Sheet 2 of 7.</i> A General Note stating Type I ditch check may be removed when the vegetation is sufficient to protect the ditch or after the concrete ditch liner has been constructed was added. <i>Sheet 3 of 7.</i> The note under the “Rock Ditch Check” diagram was revised to state the Type II ditch check shall be removed after the vegetation is sufficient to protect the ditch or after the concrete ditch liner has been constructed. <i>Sheet 7 of 7.</i> Note number 3 under Section A-A was revised to include instructions to install Type C berm prior to soil disturbance or placement of fill in the drainage area of the berm. |
| 901.00W | <i>Sheet 4 of 4.</i> In the “Details of Concrete Foundation”, the 90-degree bend in the anchor bolt is now replaced with a headed bolt or tack welded nut in order to comply with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals 2001 and Interims through 2003. |
| 901.30F | <i>Sheet 1 of 2.</i> In the “Side View” diagram and on the “List of Materials” item number 12, the 90-degree bend in the anchor bolt is now replaced with a headed bolt or tack welded nut in order to comply with AASHTO Standard Specifications for Structural Supports for Highway Signs, |

| | |
|----------------|--|
| | Luminaries and |
| | Traffic Signals 2001 and Interims through 2003. |
| 902.10Q | In all of the “Controller Cabinets and Base Types” diagrams and in the new note number 5, the 90-degree bend in the anchor bolt is now replaced with a headed bolt or tack welded nut in order to comply with AASHTO Standard |
| | Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals 2001 and Interims through 2003. |
| 902.70N | <p><i>Sheet 1 of 2.</i> Two General Notes were added: one referencing the current AASHTO specifications and the other pertaining to the maximum span length. The messenger wire in the “Wood Pole Span Wire Signals” was labeled and note number 5 was revised to clarify the guy wire design. The revisions on this sheet and Sheet 2 of 2 bring the standard plan into compliance with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals 2001 and Interims through 2003.</p> <p><i>Sheet 2 of 2.</i> Two General Notes were added: one referencing the current AASHTO specifications and the other pertaining to the maximum span length. Note number 2 was revised to clarify the guy wire design and Note number 12 was revised to reference a bolt head or tack welded nut on the embedded end of the anchor bolt.</p> |
| 903.05H | <i>Sheet 1 and 2 of 2.</i> This standard plan was formerly comprised of only one sheet. The “5' (1.5 m) min.”, “21' 9" (6.6m)” and “1 or 2 Signs” labels in the main diagram were removed since they are not necessary or not reproducible. The electrical features in the left post were moved to the right post in order to comply with Form D-34. Other revisions include adding the label “Length equal to sign height” to the sign bracket assembly diagram and moving a note pertaining to vertically centering signs to the General Notes. The General Note referencing Std Plan 903.09 was removed since that standard plan was deleted. |
| 903.06H | <i>Sheet 1 and 2 of 2.</i> This standard plan was formerly comprised of only one sheet. The “22' (6.7 m)” label in the “Beam Splice Detail” (formerly the “Center Joint Detail”) diagram was removed since this dimension is not reproducible. The electrical features in the left post were moved to the right post in order to comply with Form D-34. Other revisions include adding the label “Length equal to sign height” to the sign bracket assembly diagram, and clarifying the “Spans 76' (23.2 m) & Over” title to “Spans 76' (23.2 m) to 90' |
| | (27.5 m)”. The General Note referencing Std Plan 903.09 was removed since that standard plan was deleted. |
| 903.07H | <i>Sheet 1 and 2 of 2.</i> This standard plan was formerly comprised of only |

| | |
|----------------|--|
| | one sheet. The General Note referencing Std Plan 903.09 was removed since that standard plan was deleted. The General Note “Design for 10’ sign height” was also removed. The General Note “All signs centered vertically on arm” was revised to “All signs centered vertically.” The “Single Arm Cantilever” |
| | diagram had several clarifications and the “22’ 3” (6.8 m) minimum” label was removed since it is neither necessary nor reproducible. The “Double Arm Cantilever” diagram had two clarifications and the “21’ 9” (6.6 m) minimum” label was removed since it is neither necessary nor reproducible. |
| 903.08G | <i>Sheet 1 and 2 of 2.</i> This standard plan was formerly comprised of only one sheet. The General Note referencing Std Plan 903.09 was removed since that standard plan has been deleted. Other revisions include adding the label “Length equal to sign height” to the sign bracket assembly diagram and the removal of the “21’ 9” (6.6 m) minimum” label since it is neither necessary nor reproducible. |
| 903.10Z | <i>Sheet 1 of 6.</i> In the Metric version only, the sample solution and note pertaining to the “P” load were corrected. |
| 903.12U | <p>Many of the following revisions were to achieve compliance with the AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals 2001 and Interims through 2003.</p> <p><i>Sheet 1 of 5.</i> The vertical truss member at the column was strengthened to 3 x 8 (75 x 9). Various top and bottom chords were strengthened to avoid metal fatigue. The spread footing in the “Elevation” diagram was replaced with a drilled shaft. A General Note referencing the current AASHTO specifications was added.</p> <p><i>Sheet 2 of 5.</i> Various top and bottom chords were strengthened to avoid metal fatigue. In Detail 2, a required 3” (75 mm) overlap is now shown and in Detail 5 a groove weld is now shown as a field weld.</p> <p><i>Sheets 3 and 4 of 5.</i> The spread footings in the diagram were replaced with drilled shafts and a note pertaining to encountering rock or a water table during excavation was added. Type I and II posts are obsolete so they have been removed from the table while Types III through VIII were added or revised for</p> |
| | drilled shafts. A new General Note pertaining to minimum clearance to reinforcement was added and another General Note was revised to allow the substitution of A 106 Grade B for A 53 Grade B pipe. Three General Notes pertaining to quantities were deleted since they are no longer relevant. |

Sheet 5 of 5. In the “Typical Elevation of Sign Components” diagram, a note was added pertaining to maximum spacing between sign supports for sign heights greater than 17' (5.2 m) and up to 20' (6.1 m). Another note added to the Section C-C diagram pertaining to welding the steel plate to the bottom chord. Steel and aluminum plate thicknesses in Detail 2 were also corrected to avoid metal fatigue.

| ERRATA | |
|--------------------------|---|
| STD. PLAN NO. | DESCRIPTION OF REVISION |
| 606.00AR | <i>Sheet 6 of 16.</i> Minor clarification in a note pertaining to the diameter of washer holes. |
| 606.01E | <i>Sheets 1 and 2 of 7.</i> A minor correction and a clarification. |
| 732.00N | <i>Sheet 2 of 2.</i> Minor errata correction in the English edition. |