NOTES
1. Sign bridge, sign support structure and signal bridge foundation shall be designed by the Engineer of Record for all installations (at grade, mounted on a bridge structure or on a wall structure).
2. Typical view shown: See Contract Plans for quantities and locations of signal heads, EVP detectors, cameras, and signs.
3. Route signal cable(s) from terminal cabinet along inside bottom of the Signal Bridge to the Tenon(s) connector(s) at hand hole(s). Provide sufficient slack wire to allow the connector or cable to be pulled a minimum of 18" (in) outside the Signal Bridge at the nearest hand hole to the equipment connection point.
4. All conduits shall be labeled in accordance with Standard Specification 5-20.3(8). Labels shall be provided at the terminal cabinet (at the terminal board and conduits), equipment terminals, and at the hand hole nearest equipment connection point.
5. All RMC conduits embedded in foundation shall be terminated with a grounding end bushing and bonded to the structure grounding terminal. All PVC conduits embedded in foundations shall be terminated with end bell bushing.
6. Hand holes shall be designed by the Engineer of Record and installed at the time of fabrication.
7. Install hand hole on outside of the post at beam level when foundation is cast at grade. Install hand hole on traffic side of post when signal bridge is mounted on bridge, retaining wall or other structure.
8. Equipment grounding conductor shall be non-insulated # 4 AWG copper with 3' (ft) minimum slack. Clamp to horizontal steel reinforcing with a listed connector suitable for use embedded in concrete. For details, see Foundation Detail View Signal Bridge Hand Hole Placement on Standard, Sheet 2. Or see Foundation Detail in Bridge Deck or Bridge Deck Island, Sheet 2.
9. Equipment grounding conductor shall be non-insulated # 4 AWG copper with 3' (ft) minimum slack. Clamp to vertical steel reinforcing with a listed connector suitable for use embedded in concrete. For details, see Partial Foundation Detail, Sheet 2.
10. Variable Message Signs (VMS) shall not be installed on signal bridge.
11. No sign larger than 12' (ft) long x 4' (ft) tall shall be installed on signal bridge.

DESIGN CRITERIA

ELEVATION VIEW

SIGNAL BRIDGE STANDARD ELECTRICAL DETAILS
STANDARD PLAN J-75.41-01
SHEET 1 OF 4 SHEETS

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
**Signal Bridge Standard Electrical Details**

**STANDARD PLAN J-75.41-01**

**Sheet 3 of 4 Sheets**

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**SECTION A TERMINAL CABINET**

**SQUARE MONOTUBE CABINET MOUNTING DETAIL**

- **5/8" (IN) MAX. - SEAL WITH APPROVED SEALANT AT INSTALLATION OF HAND HOLES ON TOP OF BEAM ONLY**
- **1/8" (IN) GAP WITH 1/8" (IN) NICKEL NYLON BUSHING WASHER FOR SPACER - FOUR LOCATIONS**
- **2" (IN) DIAM. NIPPLE WITH THREADED CONDUIT AND LOCK NUT (TYP.)**

**EXAMPLE HAND HOLE DETAIL**

- **6" (IN) x 11" (IN) HAND HOLE W/ GASKET & REIN. RING CENTERED OPPOSITE NEMA TERMINAL CABINET (TYP.) SEE NOTE 8**
- **6" (IN) x 11" (IN) HAND HOLE WITH WASHER & REINFORCING RING (TYP.)**

**SIGNAL BRIDGE STANDARD ELECTRICAL DETAILS**

- **APPROVED FOR PUBLICATION**
- **Washington State Department of Transportation**
- **STATE DESIGN ENGINEER**
- **ELECTRICAL DETAILS**
- **SIGNAL BRIDGE STANDARD**
- **STANDARD PLAN J-75.41-01**
- **SHEET 3 OF 4 SHEETS**

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**KEY NOTES**

1. **5 x 8.2 LBFT CHANNEL - HOT-DIP GALVANIZED**
2. **TWO EACH:**
   - 1/2-13 NC X 2 1/2" (IN) HEX HEAD BOLT
   - LOCK WASHERS (DRILL AND TAP POLE TO ACCEPT)
3. **WIREWAY (SEE DETAIL THIS SHEET)**
4. **METAL POST**
5. **CABINET**
6. **END BUSHING (TYP.)**
7. **SEALING LOCKNUT (TYP.)**
8. **POLE WALL DRILLED SO BUSHING WILL PASS THROUGH (TYP.)**
9. **CABINET WITH BACK WALL DRILLED 1/8" (IN) OVERSIZE OF NIPPLE (TYP.)**
10. **CHANNEL DRILLED 1/8" (IN) OVERSIZE OF NIPPLE (TYP.)**
11. **2" (IN) DIAM. x 4" (IN) NIPPLE (UNLESS OTHERWISE NOTED) (TYP.)**

**SIGNAL BRIDGE STANDARD ELECTRICAL DETAILS**

**STANDARD PLAN J-75.41-01**

**Sheet 3 of 4 Sheets**

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**DRAWN BY BILL BERENS**

**DESIGNED BY JOSEPH BERNIER**

**WASHINGTON STATE DEPARTMENT OF TRANSPORTATION**

**APPROVED FOR PUBLICATION**

**Carondelet, MT**

Jan 25 2014 11:56 AM

[Washington State Department of Transportation Logo]
**Electrical Details**

**Signal Bridge Standard**

**Standard Plan J-75.41-01**

**Sign Mounting Notes**

2. Hot dip galvanize all non-stainless parts.
3. For sign lighting details, see Standard Plans J-75.40 (for Monotube) and J-75.45 (for Round or Multi-sided) structures.
4. Each sign shall be supported by a minimum of two support structures.
5. This detail conceptual sign support and bracing. Engineer of Record shall design and analyze sign support in accordance with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signal - Latest edition.

**Sign Mounting Details**

- Round or multi-sided beam
- Plan view
- Elevation view
- Isometric view

**Metal Fabrics**

- Steel channel or steel member (TYP.)
- Steel end plate (TYP.)
- Washer (TYP.)
- Hardened washer (TYP.)
- Bolt with washers and nut
- Hex nut
- Bolt detail
- Wide flange or steel member (TYP.)
- Steel channel or steel member (TYP.)

**Special Provisions**

- Standard Specification Section 9-28.11
- Hot dip galvanize all non-stainless parts.

**Dimensional Tolerances**

- 1/16" (in) tolerance
- 3" (in) from edge of sign to bracket top & bottom

**Sign Mounting Notes**

- Sign face perpendicular to traveled lane
- Sign face perpendicular to traveled lane
- Wide flange or steel member (TYP.)
- Steel channel or steel member (TYP.)

**Steel Fabrics**

- Steel channel or steel member (TYP.)
- Steel end plate (TYP.)
- Washer (TYP.)
- Hardened washer (TYP.)
- Bolt with washers and nut
- Hex nut
- Bolt detail
- Wide flange or steel member (TYP.)

**Structural Supports**

- Steel channel or steel member (TYP.)
- Steel end plate (TYP.)
- Washer (TYP.)
- Hardened washer (TYP.)
- Bolt with washers and nut
- Hex nut
- Bolt detail
- Wide flange or steel member (TYP.)

**Material Grades**

- Steel
- Stainless steel
- Hot dip galvanize

**Note**

- "A" dimensions shall match
- Note: "A" dimensions shall match

**Elevation View**

- Plan view
- Elevation view
- Isometric view

**Oblique View**

- View is from below looking up

**Regulatory Lanes**

- Control sign only

**Traffic Signal**

- Latest edition

**Specifications**

- For structural supports for highway signs, luminaires and traffic signal - latest edition

**Design and Analysis**

- Engineer of Record shall design and analyze sign support in accordance with AASHTO Standard Specifications.