SPAN SIGN STRUCTURE

1. Work this Index in conjunction with SPAN SIGN STRUCTURE DATA TABLES in the Plans and Index 11300.

2. Handholes at the pole base are required for DMS Structures. Refer to Index 18300 for Handhole Details.

3. Shop Drawings are required. Obtain Shop Drawing approval prior to fabrication. Include the following:
   A. Field verification of all upright lengths.
   B. Foundation elevations. Ensure minimum vertical clearances of the sign panel over the roadway.
   C. Height of the foundation above adjacent ground.
   D. Anchor bolt orientation with respect to centerline of truss and the direction of traffic.
   E. Method to be used to provide the required parabolic camber (see Camber Diagram).
   F. Handholes at pole base (when required).  

4. Materials:
   A. Sign Structure:
      a. Upright and Chords (Steel Pipe): API 5L-X42, 42 ksi yield or ASTM A500, Grade B (Min.)
      b. Steel Angles and Plates: ASTM A572 grade 36
      c. Weld Material: E70XX
   B. Bolts, Nuts and Washers:
      a. High Strength Bolts: ASTM A325, Type 1
      b. Nuts: ASTM A563, Grade DH Heavy-Hex
      c. Washers: ASTM F436, Type 1, one under turned element
   C. Anchor Bolts, Nuts and Washers
      a. Anchor Bolt: ASTM F1554 Grade 55.
      b. Nuts: ASTM A563 Grade A Heavy-Hex (5 per bolt)
      c. Plate Washers: ASTM A36 (2 per bolt)
   D. Concrete: Class IV (Drilled Shaft)
   E. Reinforcing Steel: Specification Section 415
   F. Hot Dip Galvanize after fabrication.
   G. Shop assemble the entire structure after galvanizing to validate/document alignment and clearance for bolted connections as well as contact between connecting plates. Take remedial action, if necessary, prior to shipment.
   H. Disassemble as necessary and secure components for shipment.

5. Fabrication:
   A. Welding: Specification Section 460-6.4
   B. Chord Splices: Minimum splice spacing is three truss panel lengths apart and three truss panel lengths from the uprights. Chord Splices may be either the Standard Splice or the Alternate Splice but not both on the same structure.
   C. Structural Steel: Not allowed
   D. Structural bolt hole diameters: Bolt diameter plus 1/16”.
   E. Anchor bolt hole diameters: Bolt diameter plus 1/2”.
   F. Not dip galvanize after fabrication.
   G. Shop assemble the entire structure after galvanizing to validate/document alignment and clearance for bolted connections as well as contact between connecting plates. Take remedial action, if necessary, prior to shipment.
   H. Disassemble as necessary and secure components for shipment.

6. Coatings:
   A. Bolts, Nuts and Washers: ASTM F3229
   B. All other steel, including Plate Washers, not dip galvanize: ASTM A123

7. Construction:
   A. Construct foundation in accordance with Specification Section 495 Drilled Shaft, except payment is included in the cost of the structure.
   B. Prior to erection, record the as-buil anchor locations and submit to the Engineer.
   C. Provide a parabolic camber with the maximum upward deflection as shown on the Camber Diagram.
   D. Tighten nuts and bolts in accordance with Specification Section 700. Split-Lock Washers are not permitted.
   E. Install Aluminum Sign Panels as shown on the Elevation drawing.
   F. After installation, place wire screen between top of foundation and bottom of baseplate in accordance with Specification Section 649-6.

CAMBER DIAGRAM
Anchor Bolts
Equally Spaced between 'BD' Stiffner Plates
For Left Upright and Upright Center of Drilled Shaft
equally Spaced
Anchor Bolts 'CB' For Right Upright 'BB' For Left Upright
Bolt Circle 'CH' For Right Upright 'BH' For Left Upright
See Upright Cap Detail
1.5 x 'F' OD + ('H' or 'J') OD + 2"
Truss Web Angle
Gusset Plates
See Detail D
Truss Web Angles
Back Truss Chord
Base Plate
PLAN VIEW
BASE PLATE
VIEW B-B
UPRIGHT-TRUSS CONNECTION DETAIL
RIGHT UPRIGHT SHOWN
(LEFT UPRIGHT SIMILAR)
DETAIL D
SECTION C-C
(With Gusset Plate and Angles omitted for clarity)
NOTE:
Abbreviation
OD = Outside Diameter
SPAN SIGN STRUCTURE

SECTION E-E

VIEW F-F

VIEW C-C Similar
(Out-of-Plane Members not shown for clarity)

Span Length, 'K', comprised of 'D' Equal Panels

\[ \frac{1}{2} \text{The Number Of Panels} \]

FRONT OF TRUSS ELEVATION
(Back Truss Chord and attached Angles not shown for clarity)

BACK-SIDE SIGN MOUNTING DETAIL

Attach Luminaire to angle with
4 ~ 10" x 4" bolts at each location
where required

Produce this Detail for Back Mounted Signs
at all Sign Hanger Locations

Aluminum Zee Sign Hanger

2 ~ 1/2" Ø Bolts (Typ.)
Truss Chord 'F' (Typ.) 'GA' ℅ 'GD' x 'GC' Spans: 5 2/16" for 1 1/4" Ø Bolts 3 3/8" for 1 1/4" Ø Bolts 2 9/16" for 1 1/4" Ø Bolts

See Detail I for Edge Distance

Truss Web Angles (Typ.)

See Detail H

Section N-N

UPRIGHT CAP DETAIL

CENTERS OF ANGLES AND CHORDS INTERSECT (Typ.)

Section O-O

UPRIGHT CAP DETAIL

PLUG DETAIL (Each end of Back Truss Chord)

'?8" Pipe

1/2" Hole
Tack Weld 1/2" Hex Nut
(Chase Threads after Galvanizing)

1/4" Plate (Cap)

1/8" Hex Bolt
w/ Rubber Washer (Top)

1/4" Plate (Cap)

1/8" Hex Head Bolt
w/ Rubber Washer (Top)

1/8" Thick Neoprene Gasket (Glued to Cap)