STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 9

GENERAL NOTES DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs,

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum)

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B with a minimum yield of 35,000 p.s.i., or A500 Grade B or C with a minimum yield of 46,000 p.s.i. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.

All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.

The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO MI64 (ASTM A325), or approved alternate, and must have matching

Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM

Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP")

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material

acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent

to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A

lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts.

A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240

Luminaires and Traffic Signals. ("AASHTO Specifications")

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

Provisions. ("Standard Specifications") LOADING: 90 M.P.H. WIND VELOCITY

fy = 60,000 p.s.i. (reinforcement)

and the Standard Specificiations.

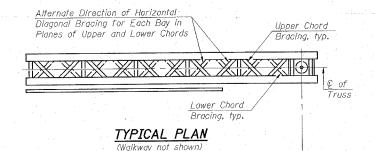
testing of bolts will not be required.

DESIGN STRESSES:

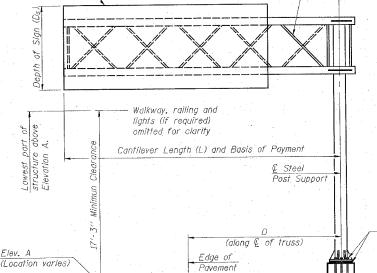
 $f'_c = 3,500 \text{ p.s.i.}$

Field Units

SECTION COUNTY. :60-(10,11)RS MADISON /56 138 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



Alternate Vertical Diagonal Bracing for Each Bay in Planes of Front and Back Chords



Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

TYPICAL ELEVATION

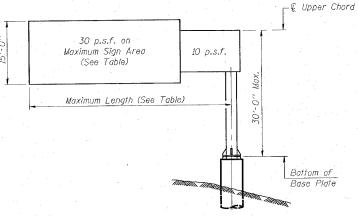
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Looking in Direction of Traffic

Sign support structures may be subject to damaging vibrations and oscillations when sign panels are not in place during erection or maintenance of the structure. To avoid these vibrations and oscillations, consideration should be given to attaching temporary blank sign panels to the structure.

Structure Number	Station	Design Truss Type	Cantilever Length (L)	Elev. A	Dim. D	D_s	Total Sign Area
8C060I270R014.8	862+15 (FAI-270)	III-C-A	32'-0":	584.80	18'-0"	10'-0"	150 s.f.
					1		
		-					
	-						
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Truss Type	Maximum Sign Area	Maximum Length
I-C-A	170 Sq. Ft.	25 Ft.
II-C-A	340 Sq. Ft.	30 Ft.
III-C-A	400 Sq. Ft.	40 Ft.



DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards Installations not within dimensional limits shown require special analysis for all components.

(1) After adjustments to level truss and insure adequate vertical clearance, all top and leveling nuts shall be tightened against the base plate with a minimum torque of 200 lb.-ft. Stainless steel mesh shall then be placed around the perimeter of the base plate. Secure to base plate with stainless steel banding.

Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of the trusses.

* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

CANTILEVER SIGN STRUCTURES GENERAL PLAN & ELEVATION ALUMINUM TRUSS & STEEL POST

FAI ROUTE 70 SECTION 60-(10,11)RS MADISON COUNTY

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE I-C-A	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE II-C-A	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE III-C-A	Foot	32
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	Foot	18
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	8.0

Johnson, Depp & Quisenberry

Springfield, Illinois SJS CDB. DRAWN: DESIGNED: CDB/DCD CHECKED: CHECKED: OSC-A-1 7/01/2006

stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Evebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO MIII. Painting is not permitted.

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 55 with a minimum Charpy V-Notch (CVN) energy of 15 lb.-ft. at 10° F.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.