

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

FAI Route 74  
D2 OVD SIN STR REPL 2008-18  
Rock Island County  
Sheet 1 of 16  
Contract Number 44989

PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY

FAI ROUTE 74  
D2 OVD SIN STR REPL 2008-18  
ROCK ISLAND COUNTY  
C-60-024-08

INDEX OF SHEETS

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STANDARDS

701401-04  
701406-04  
701411-04  
720021-01  
701400-02  
701901

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED 12/17 20 07  
PASSED

Joe Hill  
ENGINEER OF OPERATIONS

February 1 20 08  
Eric E. Harn  
ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED February 1 20 08

Christine M. Reed  
DIRECTOR DIVISION OF HIGHWAYS

CONTRACT NO. 44989

JOINT UTILITY LOCATING INFORMATION FOR  
EXCAVATIONS PHONE: 800-892-0123



**GENERAL NOTES**

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

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

LOADING: 90 M.P.H. WIND VELOCITY

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

DESIGN STRESSES:

Field Units  
f<sub>c</sub> = 3,500 p.s.i.  
f<sub>y</sub> = 60,000 p.s.i. (reinforcement)

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) and the Standard Specifications.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. 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 M164 (ASTM A325), or approved alternate, and must have matching 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. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM 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 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) of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

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

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 36 or 55 with a minimum Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° 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 Seal Sealer in accordance with the Standard Specifications.

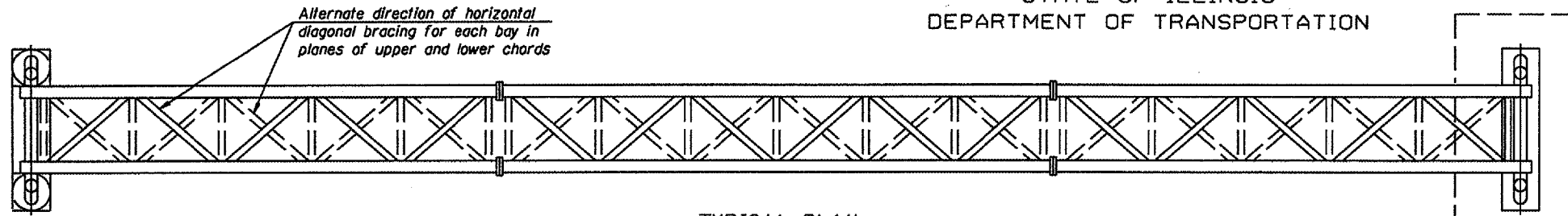
REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for Concrete Foundations and Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

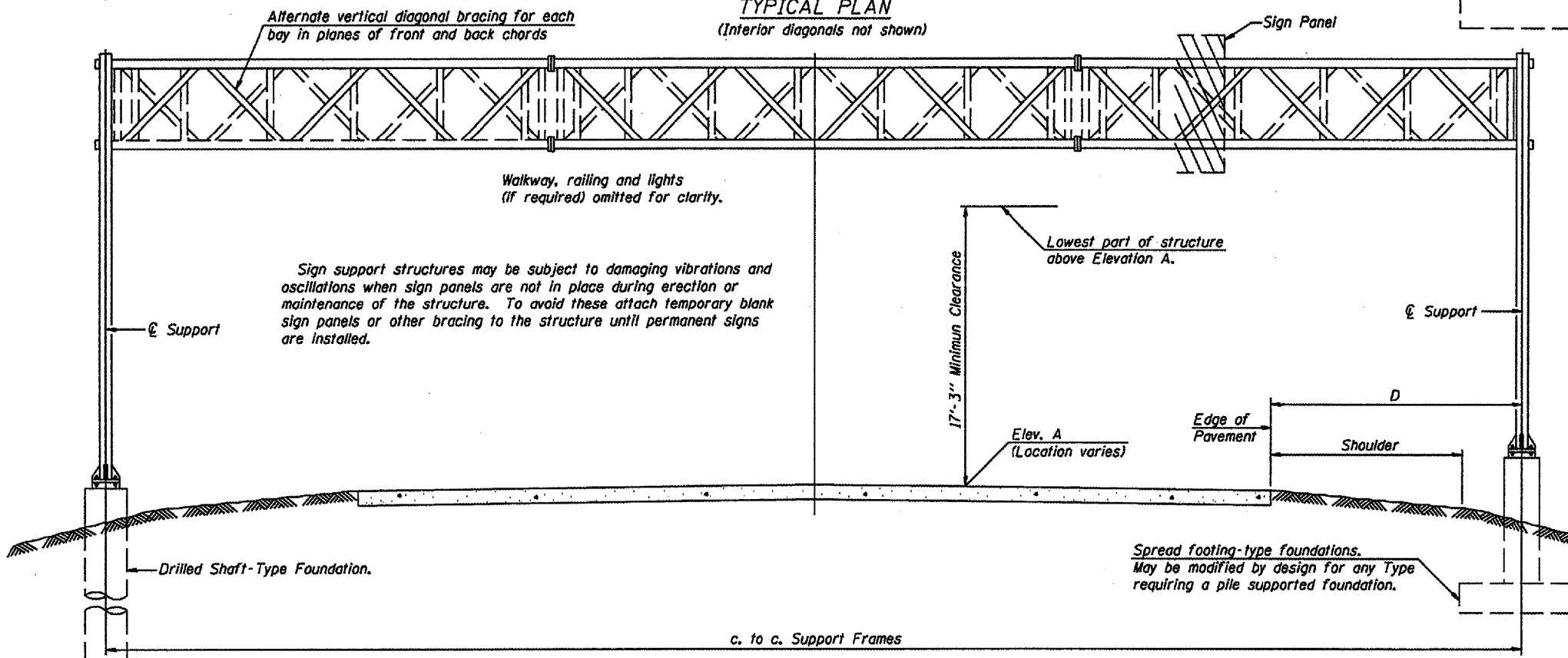
\* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

OVERHEAD SIGN STRUCTURES  
GENERAL PLAN & ELEVATION  
ALUMINUM TRUSS & STEEL SUPPORTS

District 2  
I-74 Overhead Sign  
Structure Replacement



TYPICAL PLAN  
(Interior diagonals not shown)



TYPICAL ELEVATION  
(Looking at Face of Signs)\*\*

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

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
2S0811074R000.5	254 + 72	I-A	58' - 9"	612.97	2' - 0"	8' - 0"	339.0
2S0811074R000.8	269 + 70	II-A	125' - 0"	602.70	2' - 0"	8' - 6"	341.25

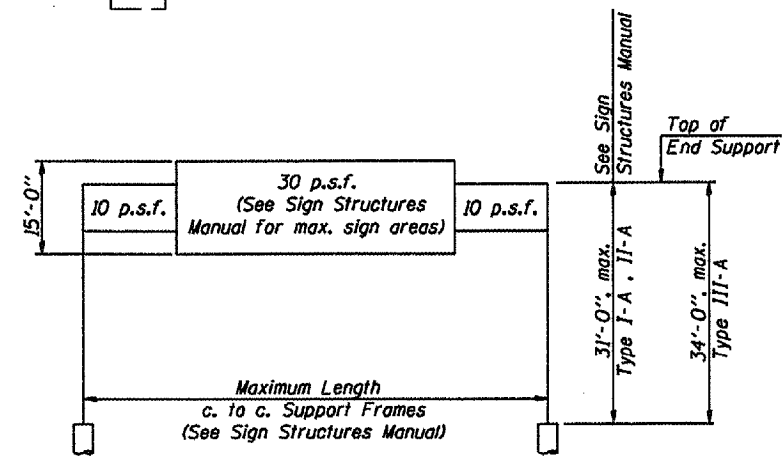
\*\*Looking upstation for structures with signs both sides.

The Contractor and the Engineer shall field verify the length of the replacement truss prior to fabrication of the new truss.

TOTAL BILL OF MATERIAL

NUMBER	REVISION	DATE

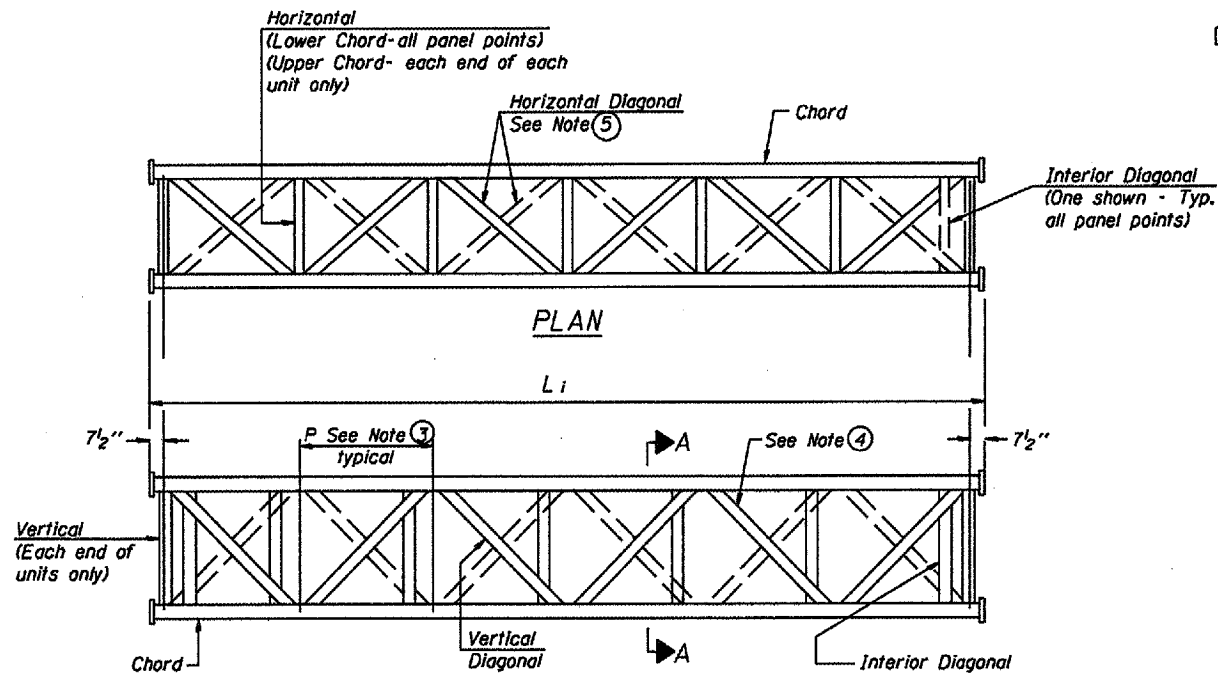
ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot	
OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	
CONCRETE FOUNDATIONS	Cu. Yds.	
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	



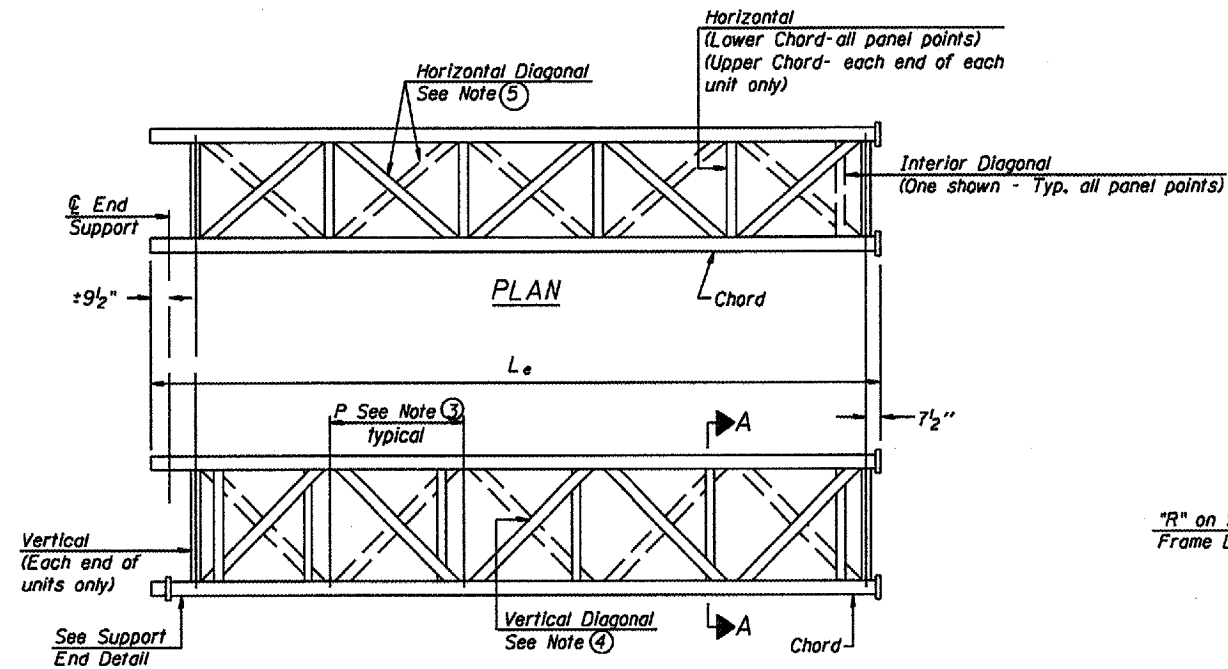
DESIGN WIND LOADING DIAGRAM

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

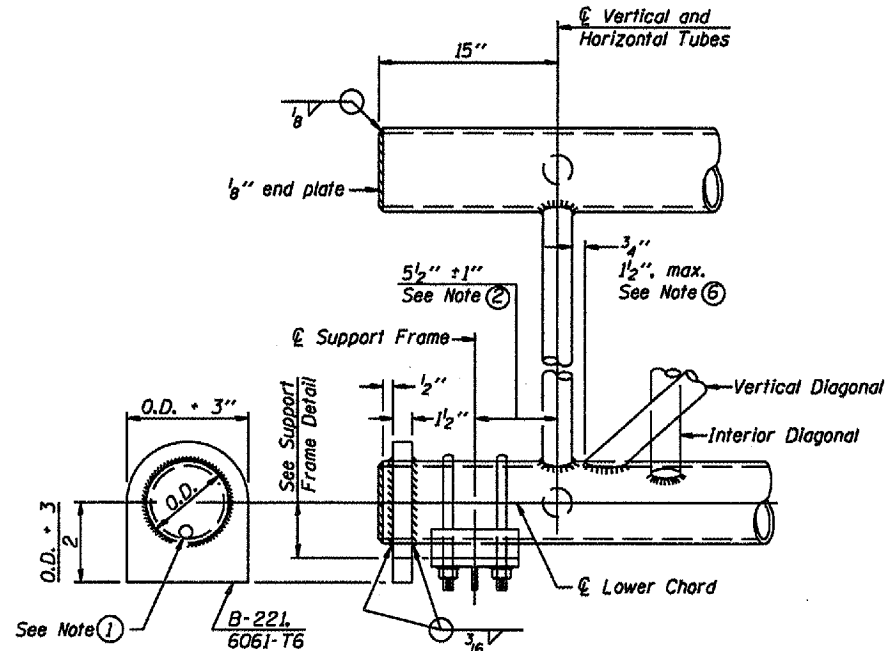
DESIGNED -	20
EXAMINED	
CHECKED -	ENGINEER OF BRIDGE DESIGN
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES



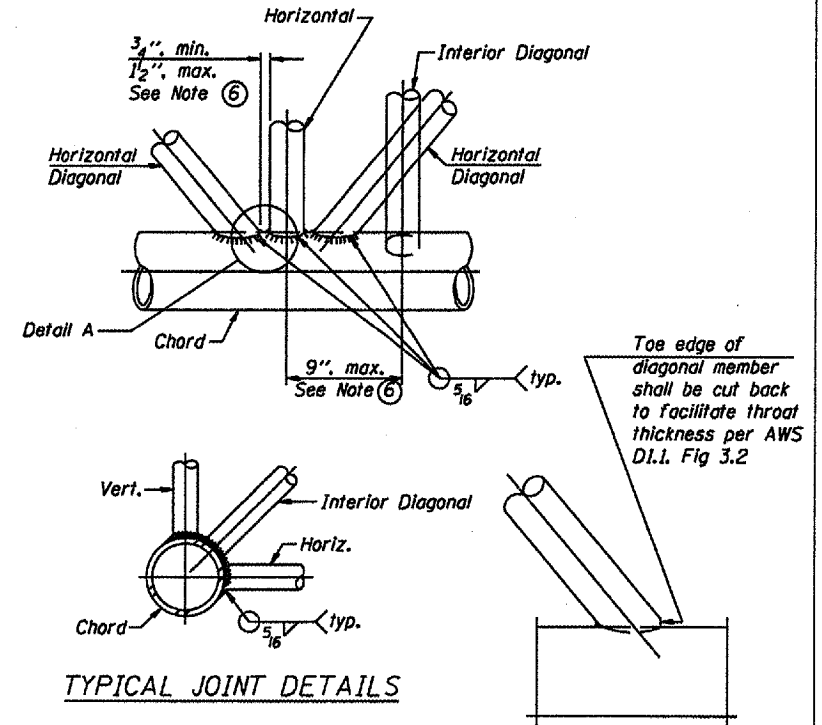
**ELEVATION  
TYPICAL INTERIOR UNIT**  
Even number of panels/interior unit required.



**ELEVATION  
TYPICAL EXTERIOR UNIT**  
Even or odd number of panels/exterior units allowed.



**SUPPORT END DETAIL FOR EXTERIOR UNIT**

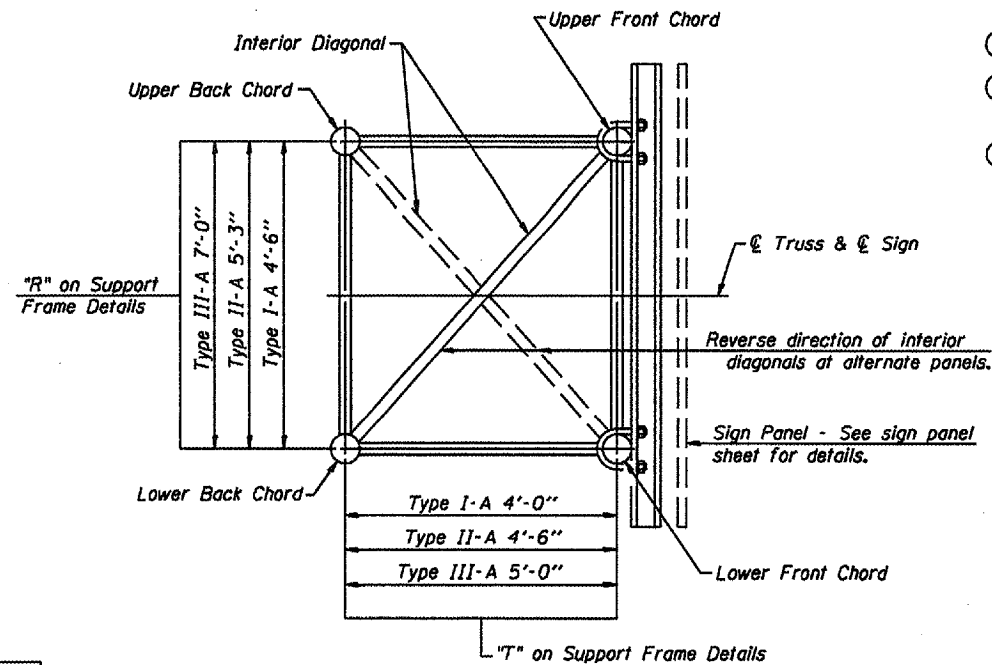


**TYPICAL JOINT DETAILS**

**DETAIL A**

**NOTES**

- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" diameter drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.



**SECTION A-A**

**OVERHEAD SIGN STRUCTURES  
ALUMINUM TRUSS DETAILS  
FOR TRUSS TYPES I-A, II-A AND III-A**

District 2  
I-74 Overhead Sign  
Structure Replacement

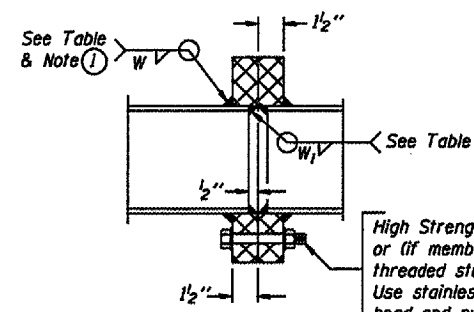
DESIGNED -	20
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	

ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

NUMBER	REVISION	DATE

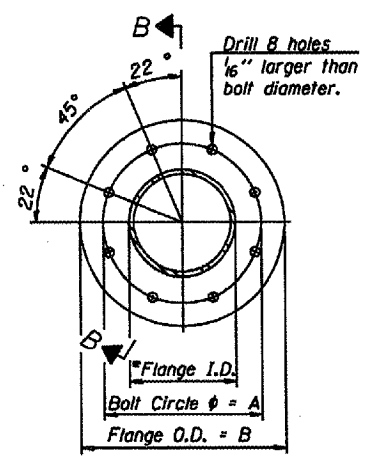
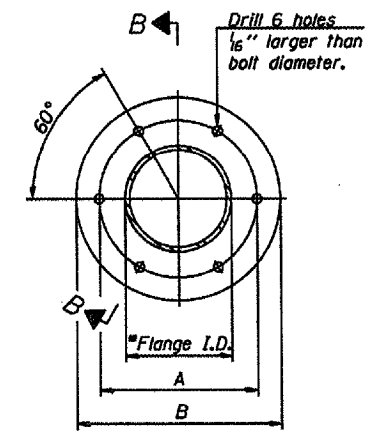
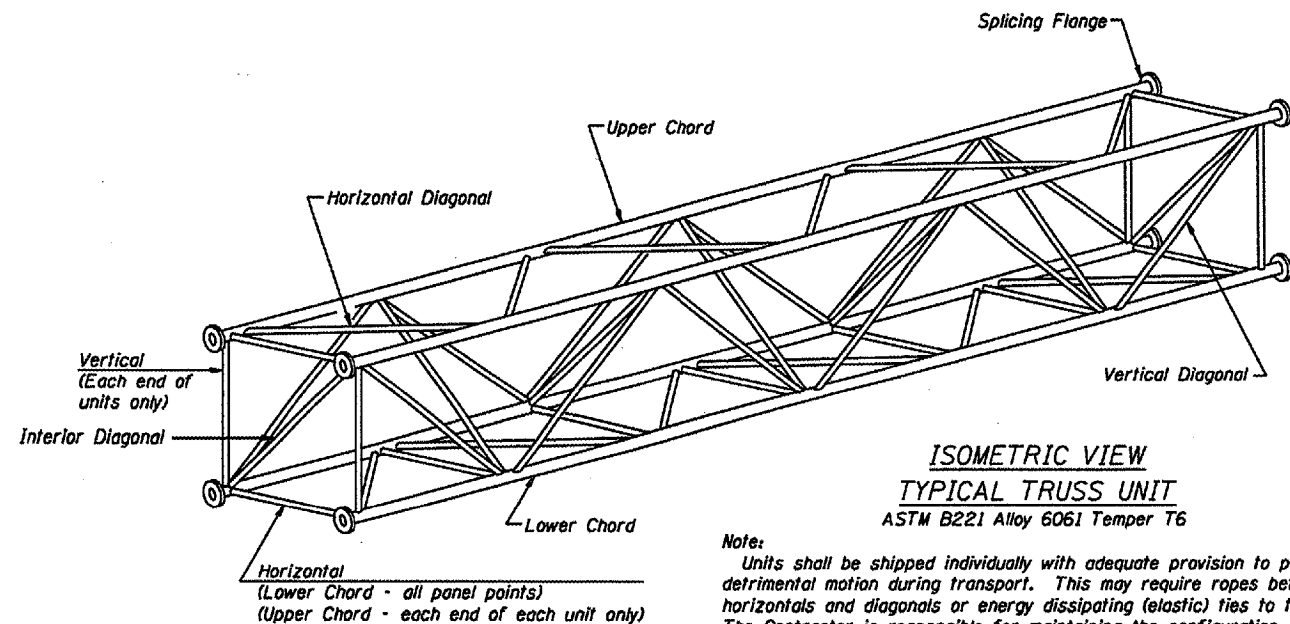
TRUSS UNIT TABLE

Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange					
			No. Panels per Unit	Unit Lgth.(L <sub>e</sub> )	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(L <sub>i</sub> )	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B
															No./Splice	Dia.	W	W <sub>1</sub>		
2S0811074R000.5	254 + 72	I-A	6	30' - 3 3/4"	8 3/4"				5"	1/4"	2 1/2"	1/4"	1"	6	7/8"	5/16"	1/4"	8 3/4"	11 3/4"	
2S0811074R000.8	269 + 70	II-A	6	32' - 0 5/8"	1 1/4"	2	6	31' - 4 1/2"	5' - 1 1/4"	7"	3/8"	3"	5/16"	4 1/2"	8	1"	7/16"	5/16"	11 1/2"	15"

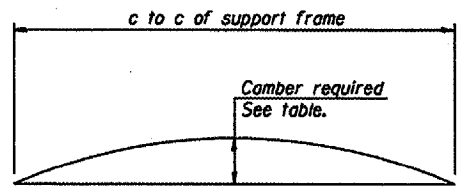


SECTION B-B

① Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.



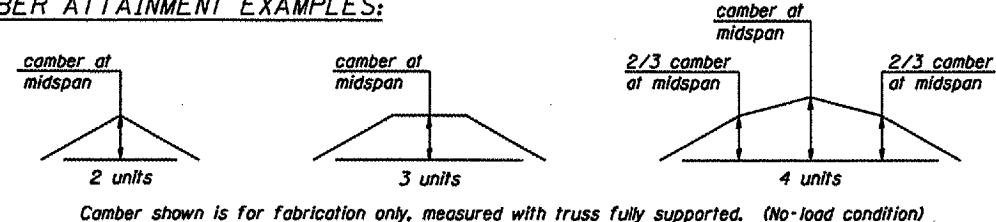
SPLICING FLANGES  
ASTM B221, Alloy 6061-T6  
or ASTM B209, Alloy 6061-T651  
\*To fit O.D. of Chord with maximum gap of 1/16".



CAMBER DIAGRAM

Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

CAMBER ATTAINMENT EXAMPLES:



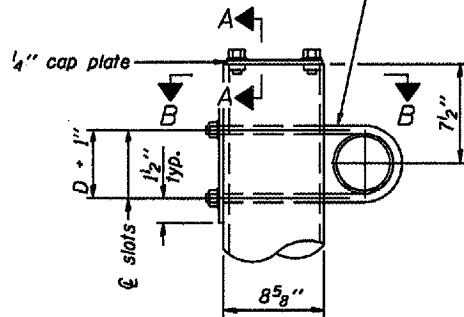
NUMBER	REVISION	DATE

DESIGNED -	20
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

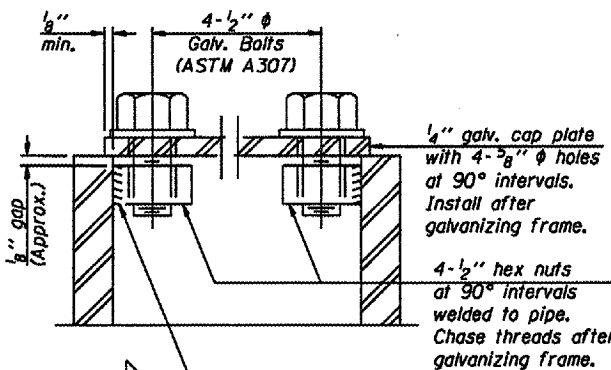
OVERHEAD SIGN STRUCTURES  
ALUMINUM TRUSS DETAILS  
FOR TRUSS TYPES I-A, II-A AND III-A

District 2  
I-74 Overhead Sign  
Structure Replacement

3/4"  $\phi$  stainless steel U-bolt.  
Provide two washers and two hexagon locknuts. (4)  
1/8" x 2" slots on  $\phi$  8"  $\phi$  pipe.  
(4 slots required per pipe)

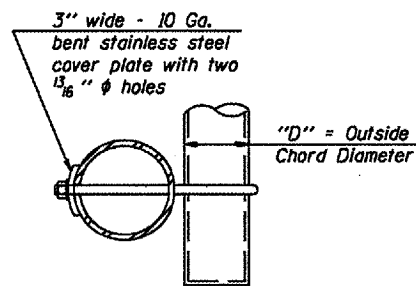


DETAIL A

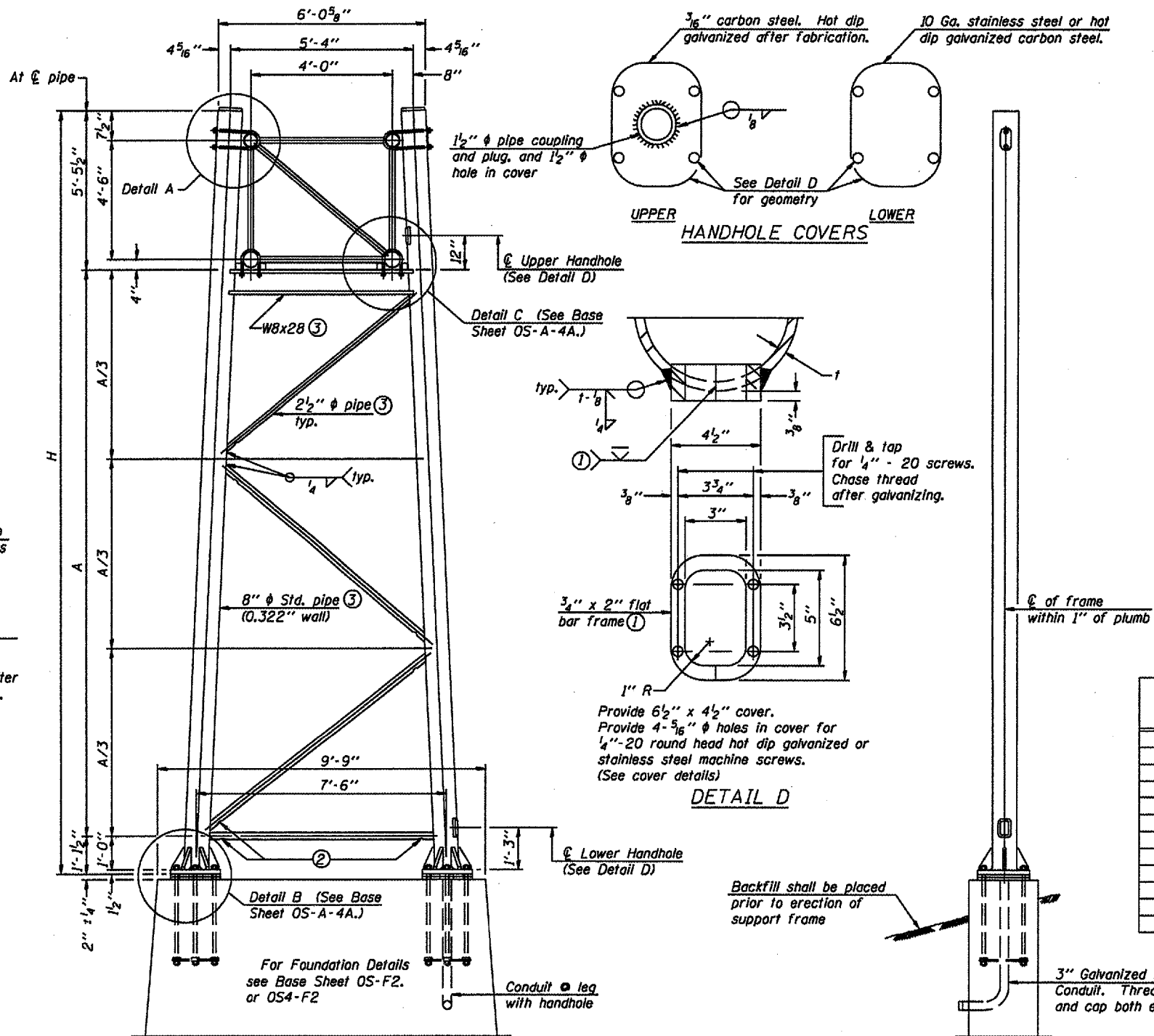


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.

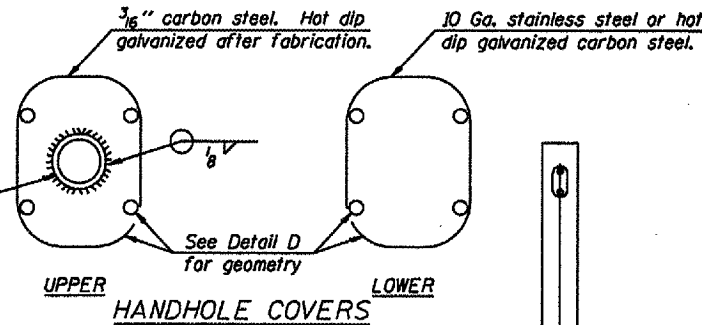


SECTION B-B

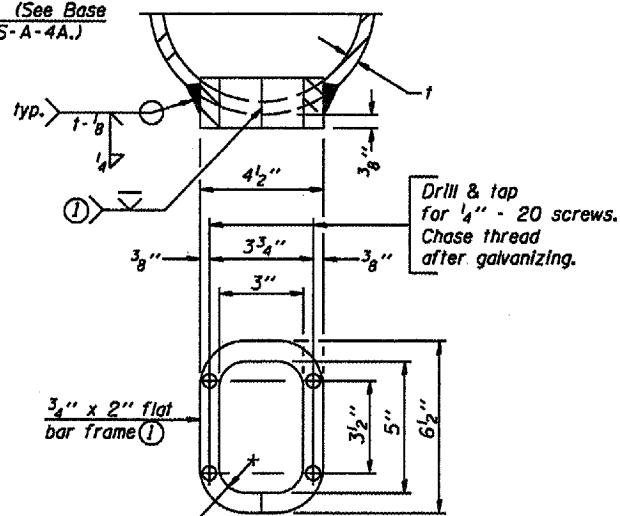


SIDE ELEVATION

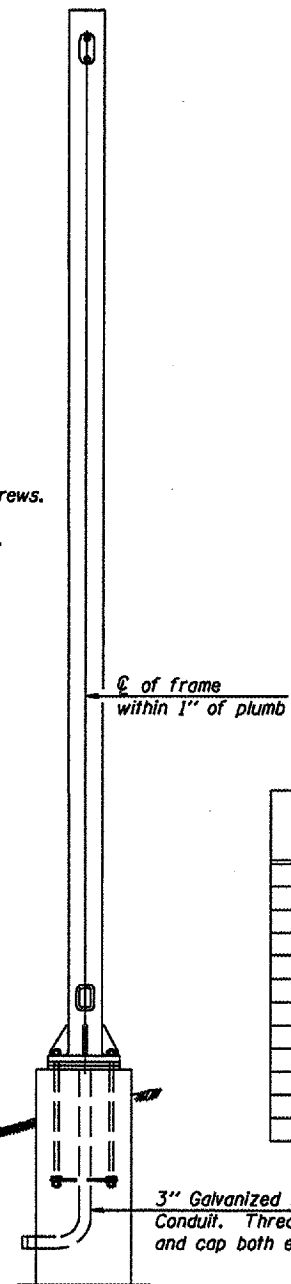
8"  $\phi$  PIPE TRUSS SUPPORT FRAME



UPPER HANDHOLE COVERS



DETAIL D



END ELEVATION

Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.  
Load combinations checked include deadload plus:  
a) 100% wind normal to sign, 20% parallel to sign  
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500  $\mu$ in or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-A-1.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

Structure Number	Station	Support		H ⑥	A
		Left	Right		
2S0811074R000.5	254 + 72	X		23'-11 1/2"	17' - 3"
			X	25'-8 1/2"	19' - 0"

DESIGNED	20
CHECKED	EXAMINED
DRAWN	PASSED
CHECKED	ENGINEER OF BRIDGES AND STRUCTURES

NUMBER	REVISION	DATE

OVERHEAD SIGN STRUCTURES  
SUPPORT FRAME FOR TYPE I-A ALUMINUM TRUSS

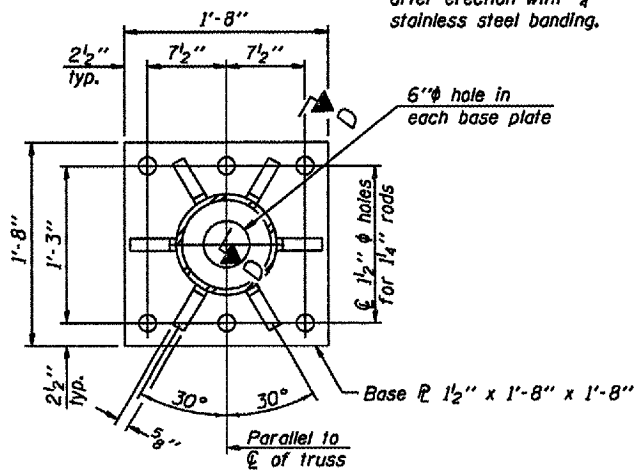
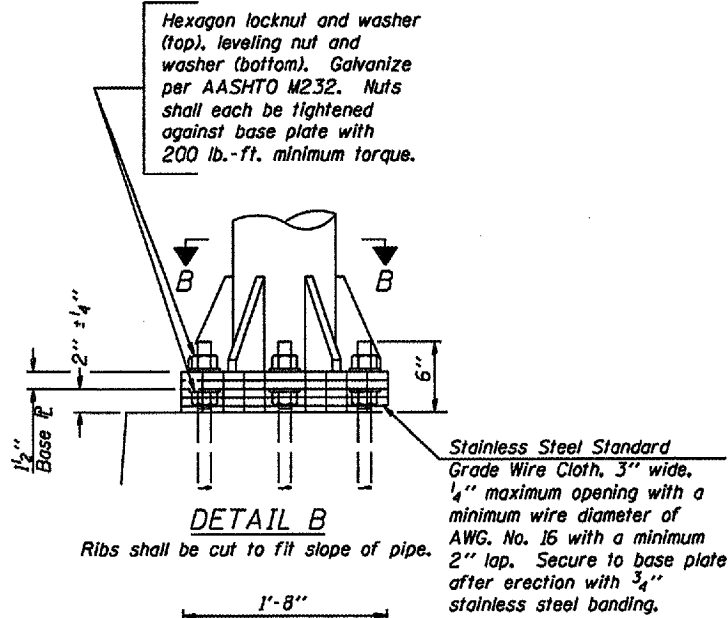
District 2  
I-74 Overhead Sign  
Structure Replacement



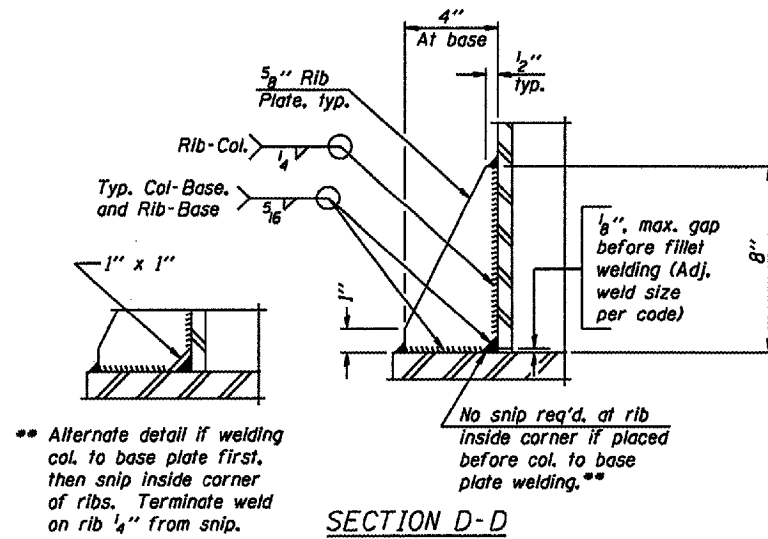






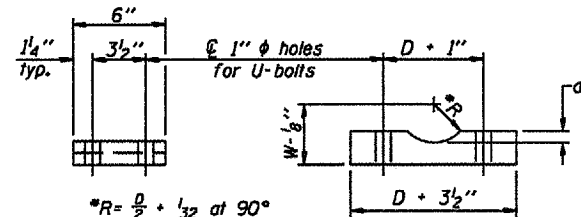


SECTION B-B



SECTION D-D

\*\* Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

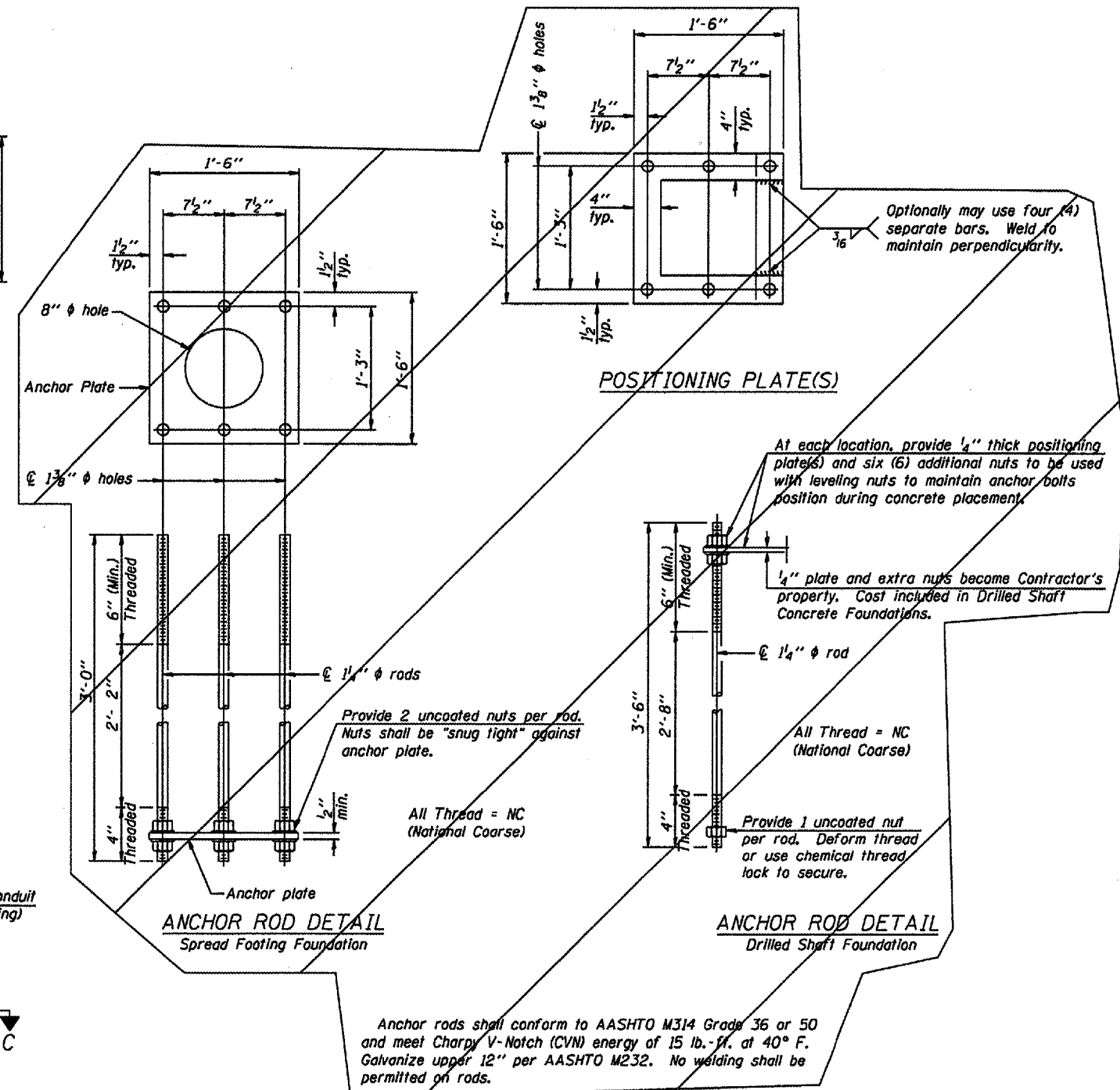


D = Outside Diameter of Chord.  
For W, see Base Sheet OS-A-6.

SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F  
or  
ASTM B209 Alloy 6061-T651  
(4 required per sign truss)

Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	13/16"
6"	7/8"
6 1/2"	15/16"
7"	1"



ANCHOR ROD DETAIL  
Spread Footing Foundation

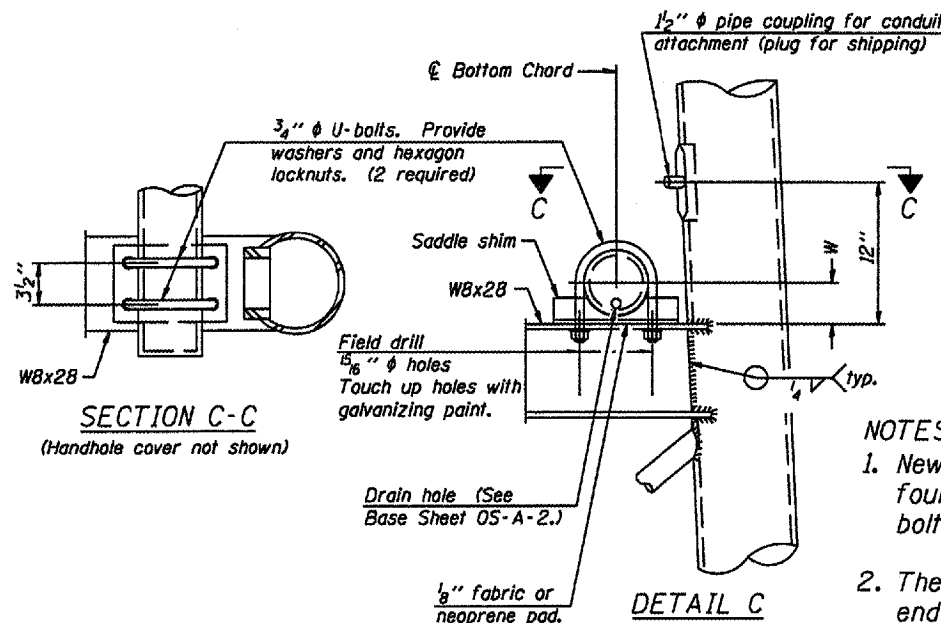
ANCHOR ROD DETAIL  
Drilled Shaft Foundation

Anchor rods shall conform to AASHTO M314 Grade 36 or 50 and meet Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. Galvanize upper 12" per AASHTO M232. No welding shall be permitted on rods.

10" PIPE SUPPORT FRAME DETAILS

NOTES:

1. New End Supports to be installed on existing concrete foundations with existing anchor bolts. Provide new anchor bolt nuts and washers as necessary.
2. The Contractor and the Engineer shall field verify the existing end support dimensions and the existing anchor bolt dimensions prior to fabrication of the new end supports.



SECTION C-C

(Handhole cover not shown)

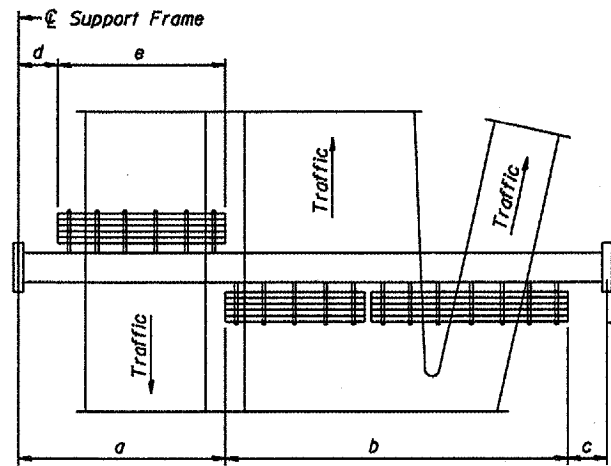
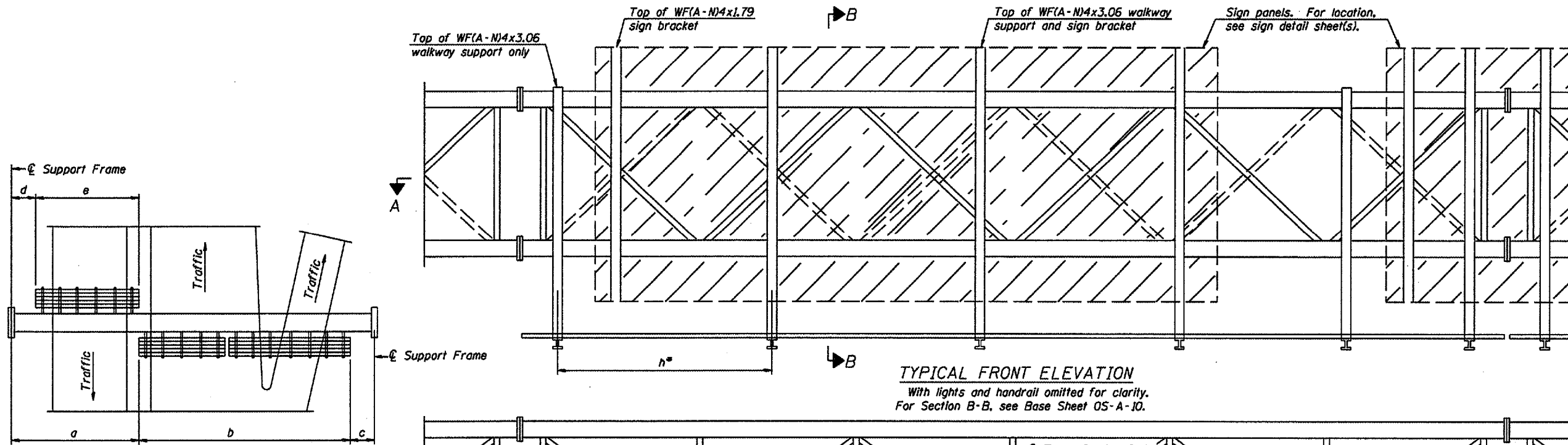
DETAIL C

NUMBER	REVISION	DATE

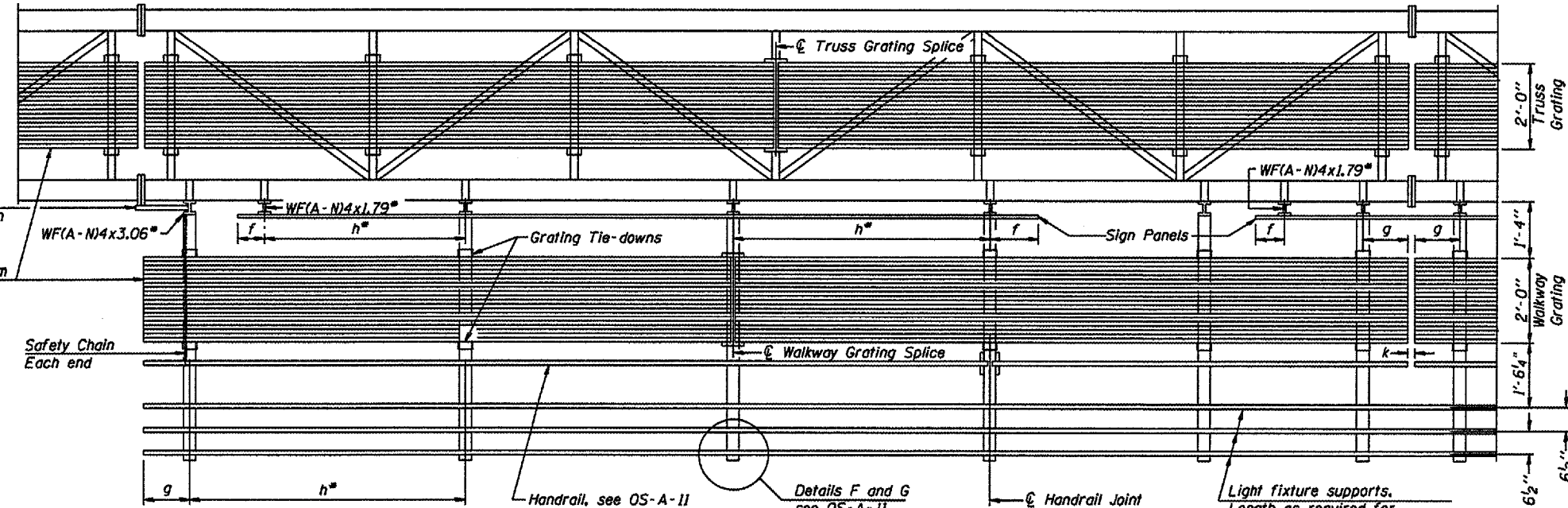
DESIGNED -	20
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

OVERHEAD SIGN STRUCTURES  
SUPPORT FRAME DETAILS ALUMINUM TRUSS

District 2  
I-74 Overhead Sign  
Structure Replacement



PLAN  
WALKWAY AND HANDRAIL SKETCH  
(Road plan beneath truss varies)



TYPICAL FRONT ELEVATION  
With lights and handrail omitted for clarity.  
For Section B-B, see Base Sheet OS-A-10.

BRACKET TABLE

Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

WF(A-N)4x1.79 or WF(A-N)4x3.06  
ASTM B308, Alloy 6061-T6

Notes:

- Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:
- f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)
- g = 12" maximum, 4" minimum (End of walkway grating to center of nearest support bracket)
- h = 6'-0" maximum (center to center of sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
- k = 2" maximum gap between adjacent walkway grating sections and handrail ends
- If walkway bracket at safety chain location is behind sign, add angle to bracket, see Alternate Safety Chain Attachment on Base Sheet OS-A-11.
- For Details T and W, Section B-B and Grating Splice Details see Base Sheet OS-A-10.  
For Handrail Details see Base Sheet OS-A-11.

\*\* Alternate angle  
For safety chain  
attachment

Standard Aluminum  
Grating, see  
Details T and W

Safety Chain  
Each end

SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints. Place all sign and walkway brackets as close to panel points as practical. Handrail joints, grating, and light support splices placed as needed.

Truss grating to facilitate inspection shall run full length (center to center of support frames) ±12" on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths
2S0811074R000.5	254 + 72	N/A	N/A	N/A	N/A	N/A	58' - 0" *
2S0811074R000.8	269 + 70	N/A	N/A	N/A	N/A	N/A	127' - 0" *

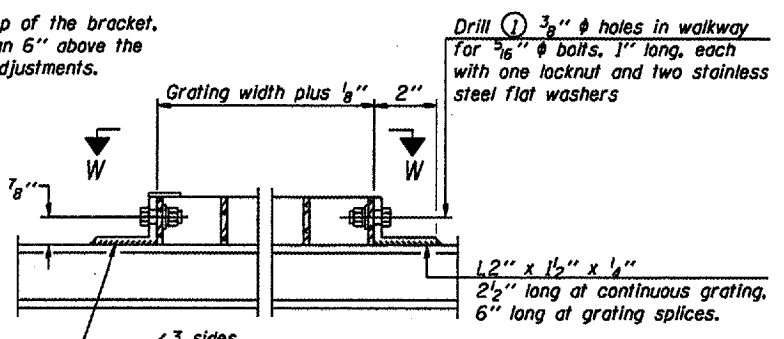
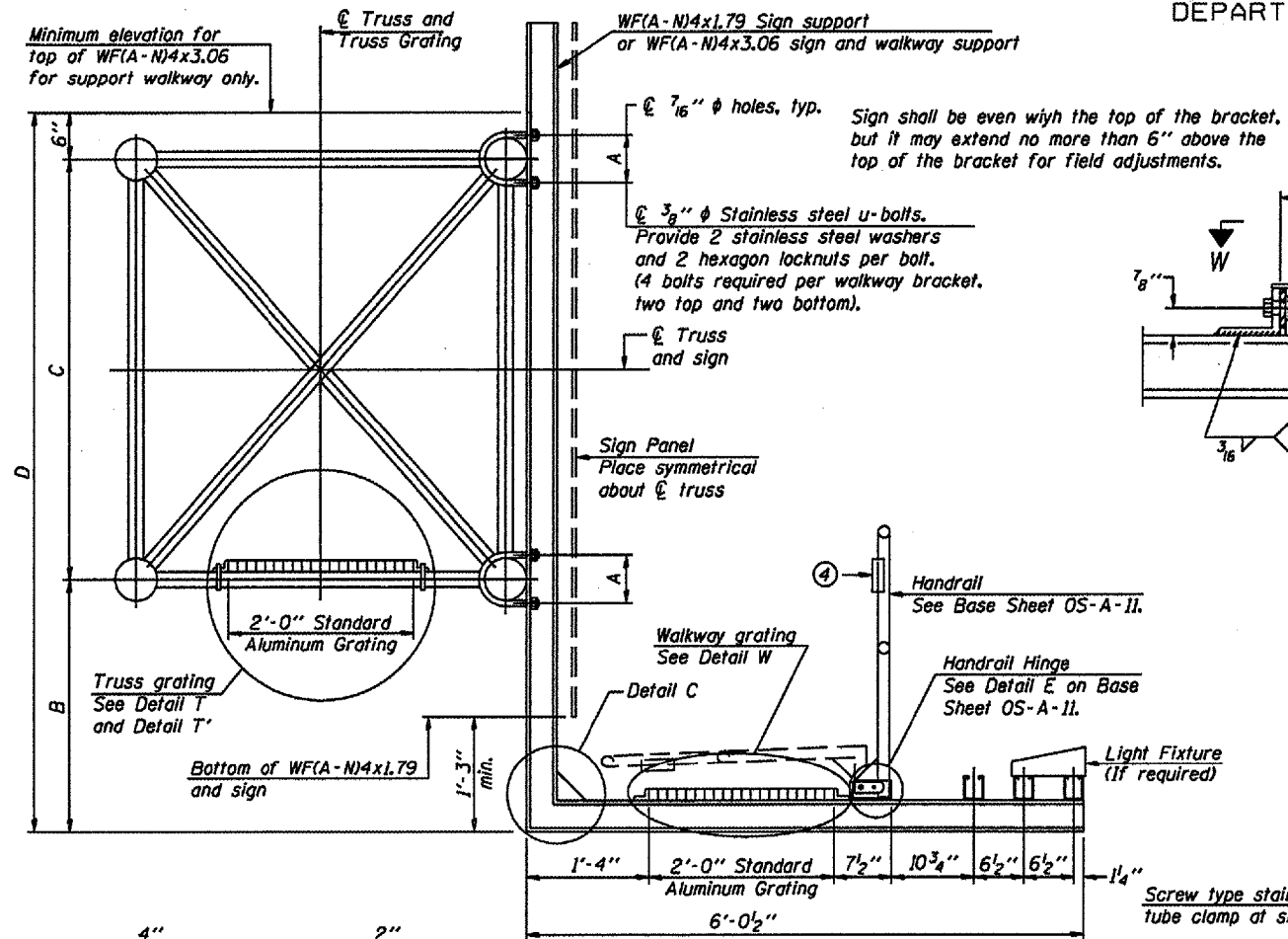
\* Length shown is for internal truss grating to be installed.

OVERHEAD SIGN STRUCTURES  
ALUMINUM WALKWAY DETAILS

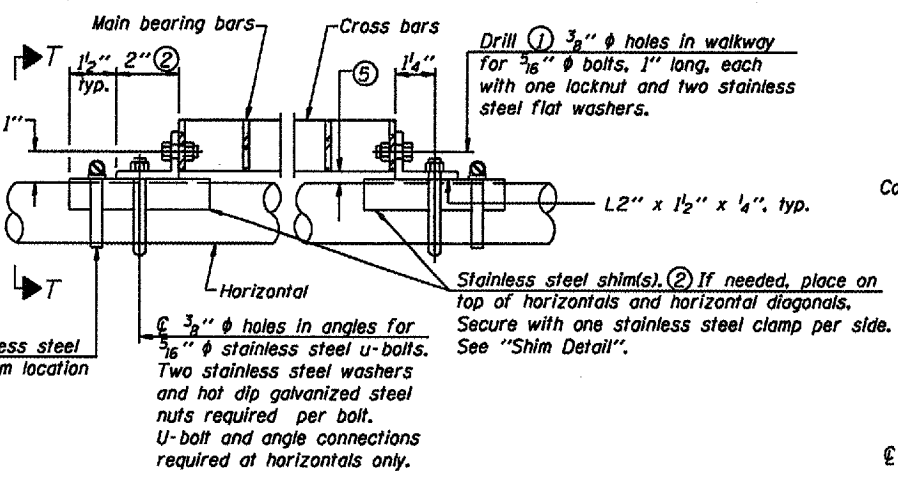
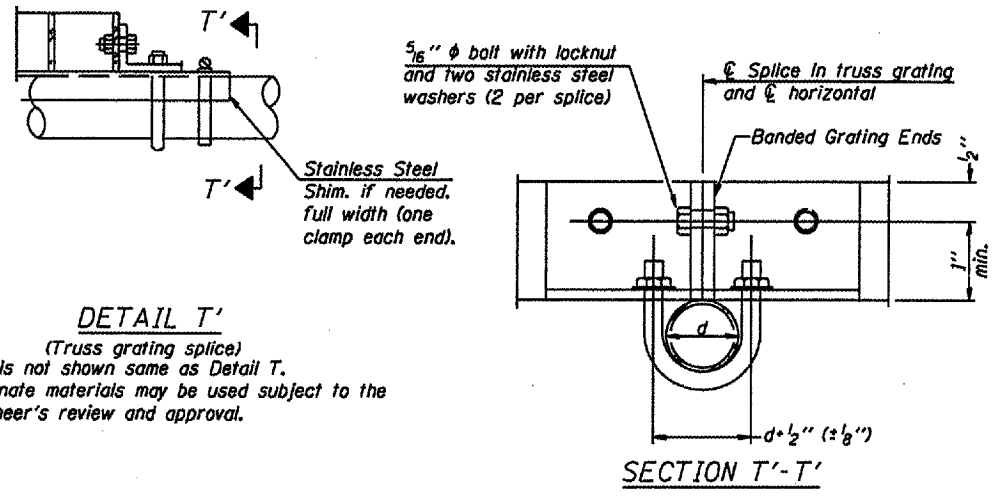
District 2  
I-74 Overhead Sign  
Structure Replacement

DESIGNED -	20
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

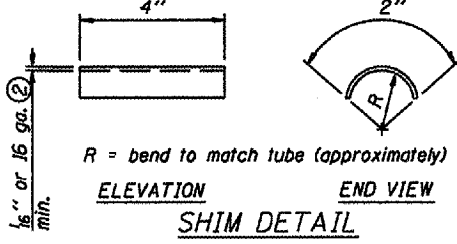
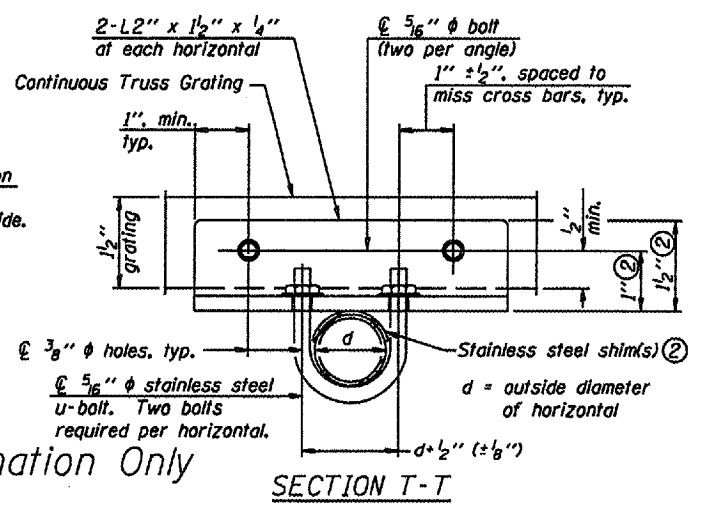

NUMBER	REVISION	DATE



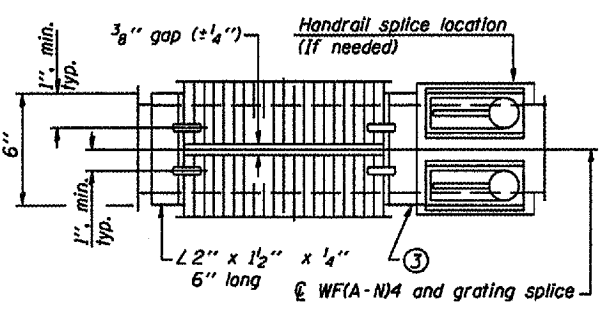
**DETAIL W**  
(Walkway grating)



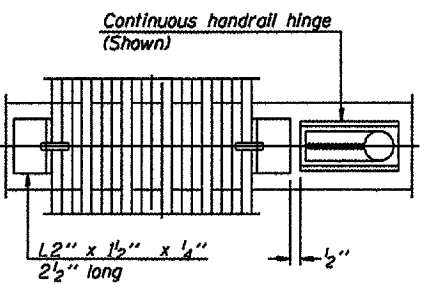
**DETAIL T**  
(Continuous Truss grating)



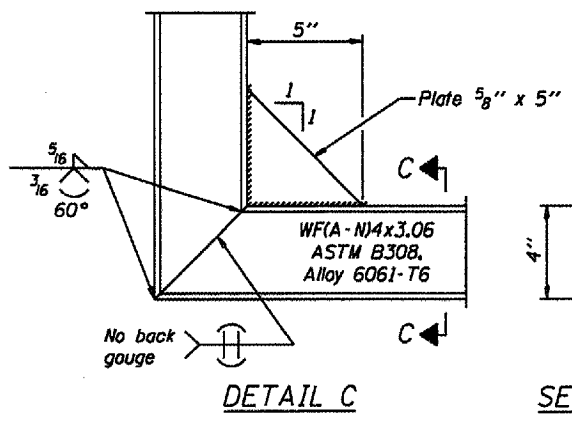
**SECTION B-B**



(AT WALKWAY GRATING SPLICE)



**SECTION W-W**



This Sheet For Information Only

**SPECIFICATIONS FOR STANDARD ALUMINUM GRATING**

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.  
Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "I" sections for main bearing bars shall meet the following requirements:  
Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.<sup>3</sup> per bar, a depth of 1 1/2", spaced on 1 3/16" centers.  
Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Structure Number	Station	A	B	C	D

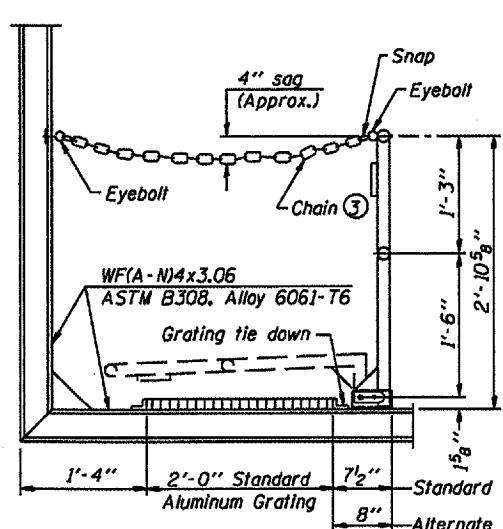
- 1 Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- 2 Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- 3 If Handrail Joint present, weld angle to WF(A-N)4 and 1/4" extension bars. (See Base Sheet OS-A-II.)
- 4 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- 5 Tube to grating gap may vary from 0 to 1/2", max, to align walkway, allow for camber, etc.

**OVERHEAD SIGN STRUCTURES  
ALUMINUM WALKWAY DETAILS**

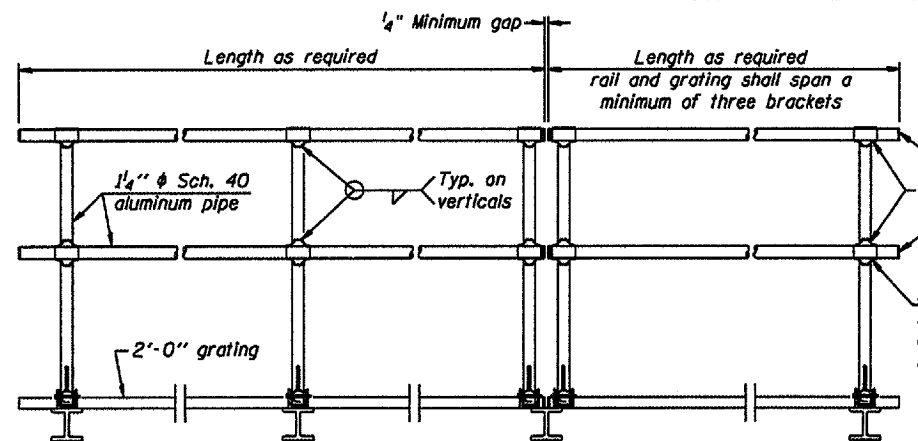
District 2  
I-74 Overhead Sign  
Structure Replacement

DESIGNED	20
CHECKED	ENGINEER OF BRIDGE DESIGN
DRAWN	PASSED
CHECKED	ENGINEER OF BRIDGES AND STRUCTURES

NUMBER	REVISION	DATE



**SIDE ELEVATION**  
(Showing safety chain w/o sign)



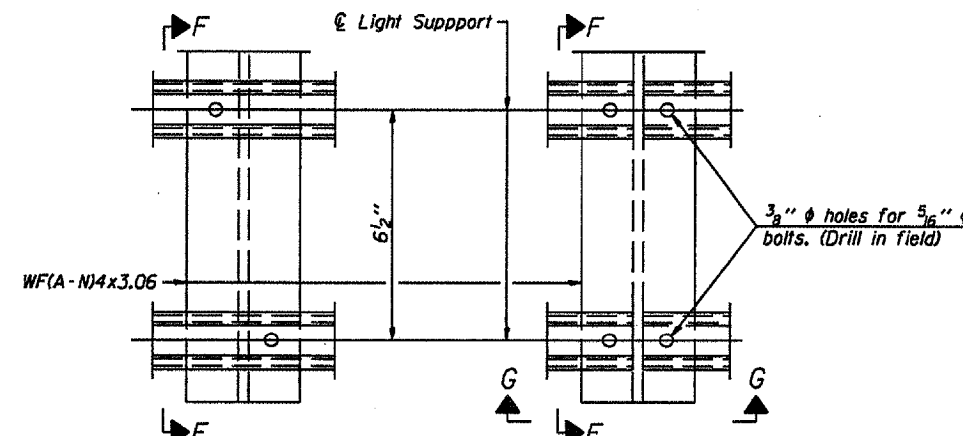
**FRONT ELEVATION**

**HANDRAIL DETAILS**

Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

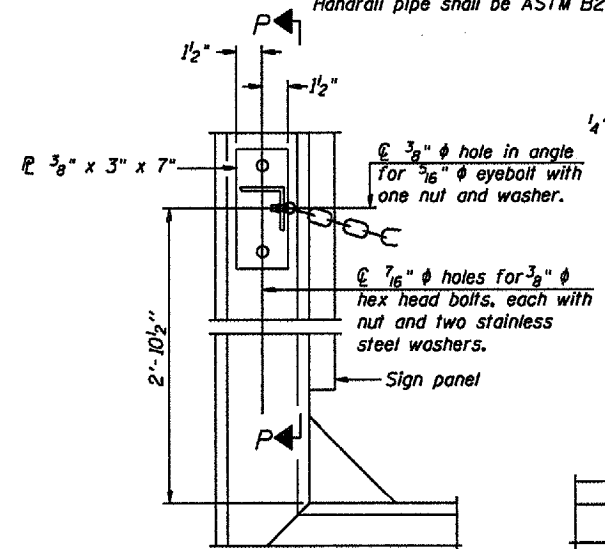
① Install standard force-fit end caps or weld 1/8" end plates with 3/8" c.f.w. and grind smooth. (All rail ends)

② Horizontal handrail member shall be continuous thru fitting. Provide 7/16" hole in fitting for 3/8" bolt. Field drill 7/16" hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" holes on top rail at ends only.)

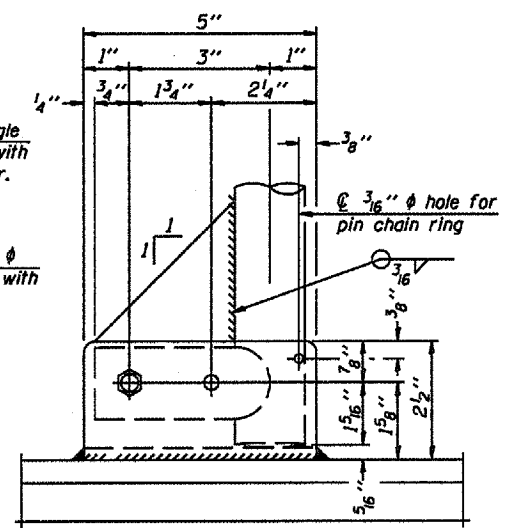


**DETAIL F**

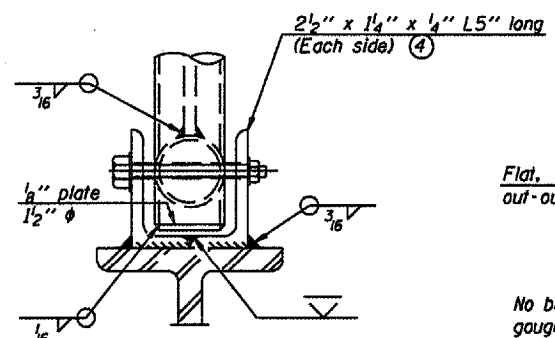
**DETAIL G**



**ALTERNATE SAFETY CHAIN ATTACHMENT**  
(With Sign Present)  
Items not shown same as "Side Elevation" of "Handrail Details"

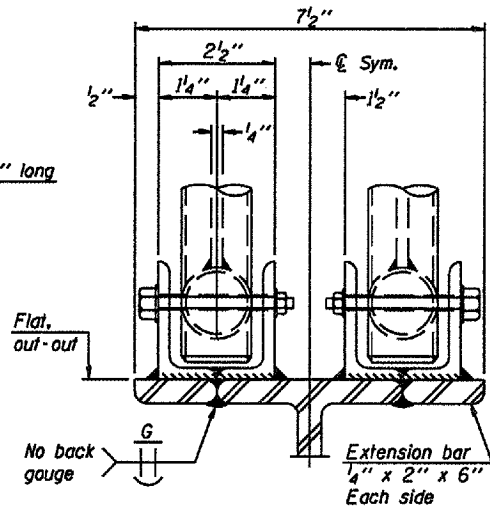


**SIDE ELEVATION**

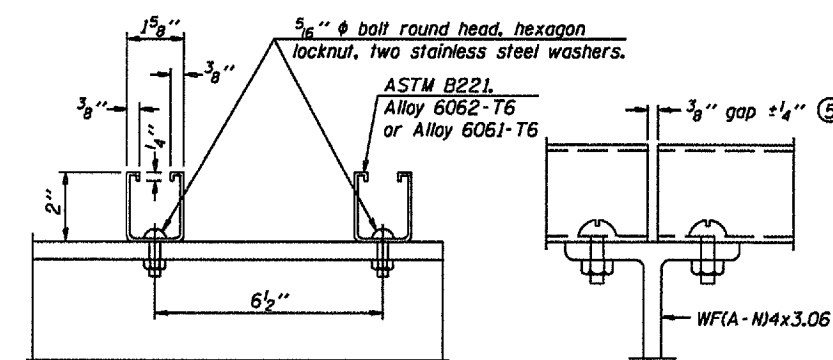


**FRONT ELEVATION**

See "Elevation" at right for dimensions.



**ELEVATION AT HANDRAIL JOINT** ④

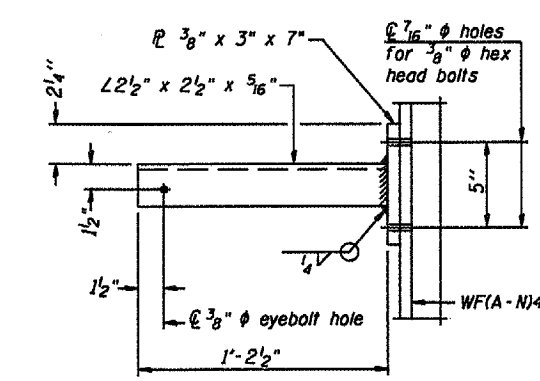


**SECTION F-F**

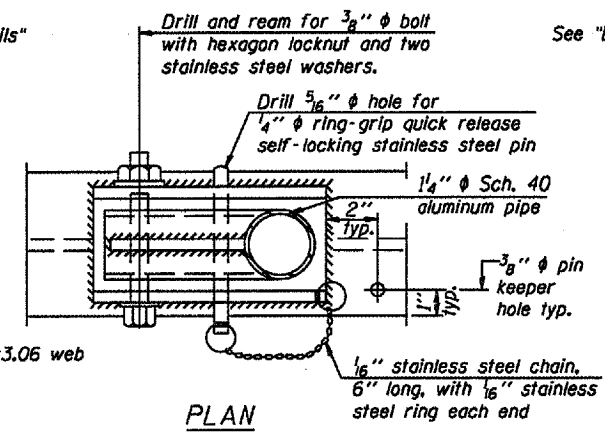
**SECTION G-G**

**LIGHTING FIXTURE MOUNTS (IF REQUIRED)**

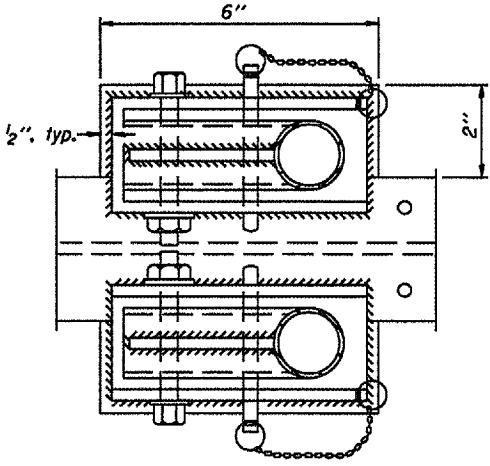
⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



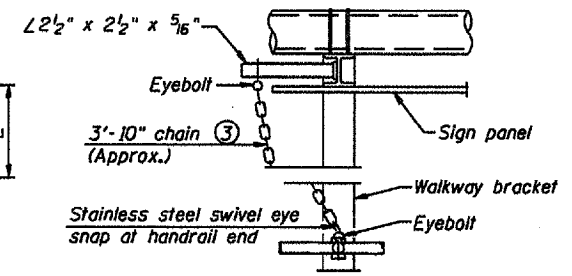
**SECTION P-P**



**PLAN**  
**DETAIL E HANDRAIL HINGE**

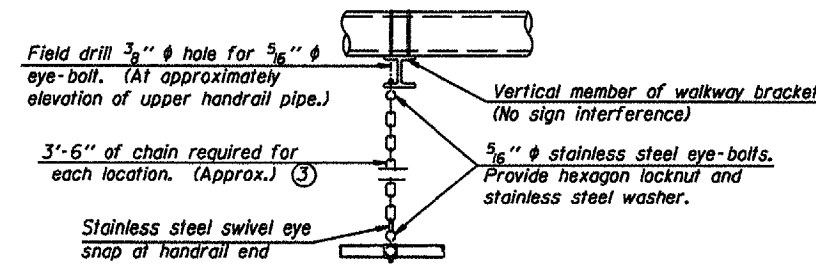


**PLAN AT HANDRAIL JOINT**  
Details not shown same as "PLAN"



**ALTERNATE SAFETY CHAIN ATTACHMENT**  
Details not shown similar to "Safety Chain" Details  
(Walkway omitted for clarity)

- ③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.
- ④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.



**SAFETY CHAIN**

One required for each end of each walkway.

*This Sheet For Information Only*

**OVERHEAD SIGN STRUCTURES  
ALUMINUM HANDRAIL DETAILS**

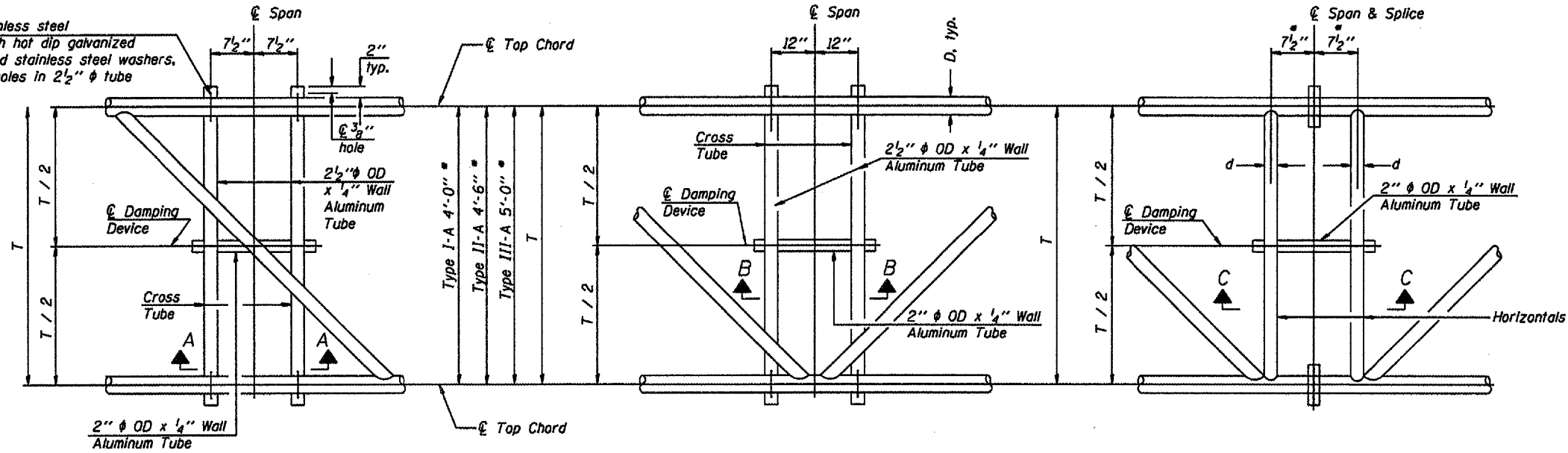
District 2  
I-74 Overhead Sign  
Structure Replacement

DESIGNED -	20
CHECKED -	ENGINEER OF BRIDGE DESIGN
DRAWN -	PASSED ENGINEER OF BRIDGES AND STRUCTURES
CHECKED -	

NUMBER	REVISION	DATE

\* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.

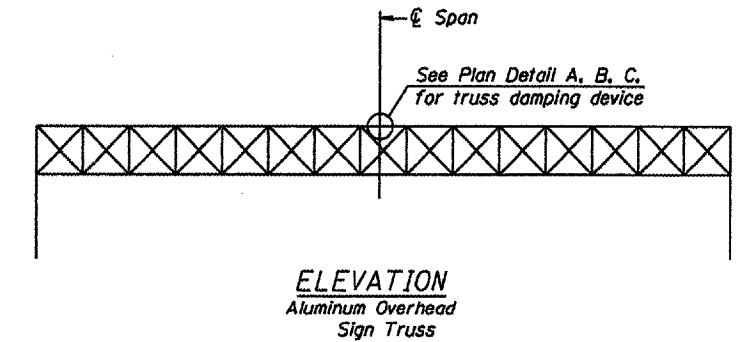
5/16" φ stainless steel  
U-bolt with hot dip galvanized  
locknuts and stainless steel washers,  
typ. 3/8" φ holes in 2 1/2" φ tube



PLAN DETAIL "A"  
Span between Panel Points

PLAN DETAIL "B"  
Span at Panel Point

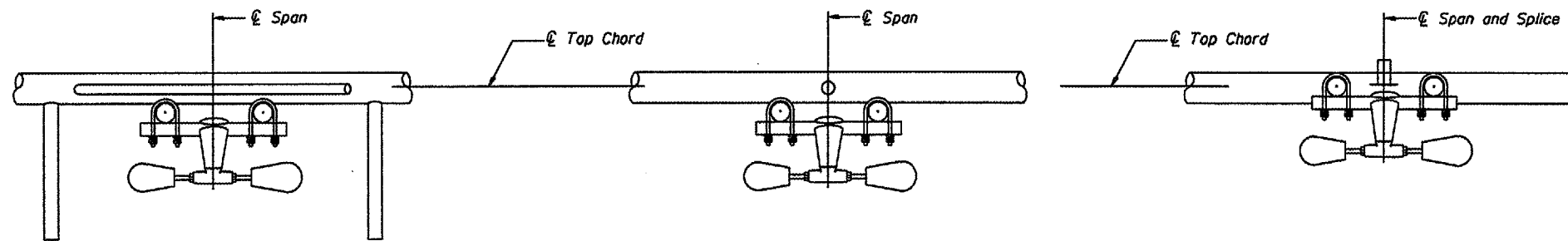
PLAN DETAIL "C"  
Span at Chord Splice



ELEVATION  
Aluminum Overhead  
Sign Truss

NOTES

- Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type Aluminum - 29" minimum between ends of weights) Cost included in Overhead Sign Structure...
- Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...

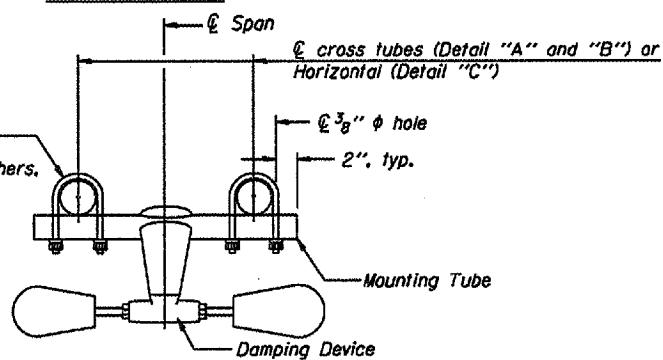


SECTION A-A

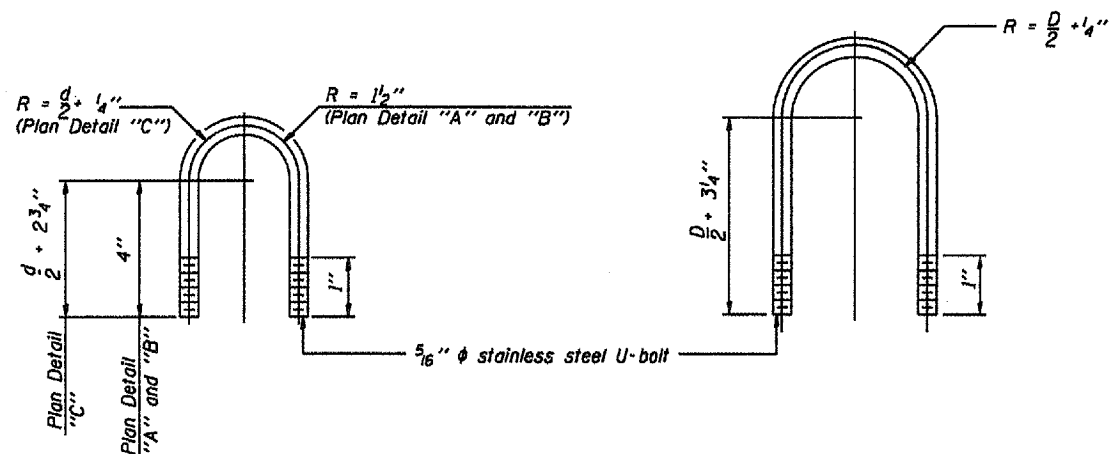
SECTION B-B

SECTION C-C

5/16" φ stainless steel  
U-bolt with hot dip galvanized  
locknuts and stainless steel washers,  
typ. 3/8" φ holes in mounting tube



TRUSS DAMPING  
DEVICE CONNECTION DETAIL  
(Typical)



DAMPING DEVICE MOUNTING  
TUBE U-BOLT DETAIL  
(Typical)

TOP CHORD TO CROSS TUBE  
U-BOLT DETAIL  
(Typical - Detail "A" and "B")

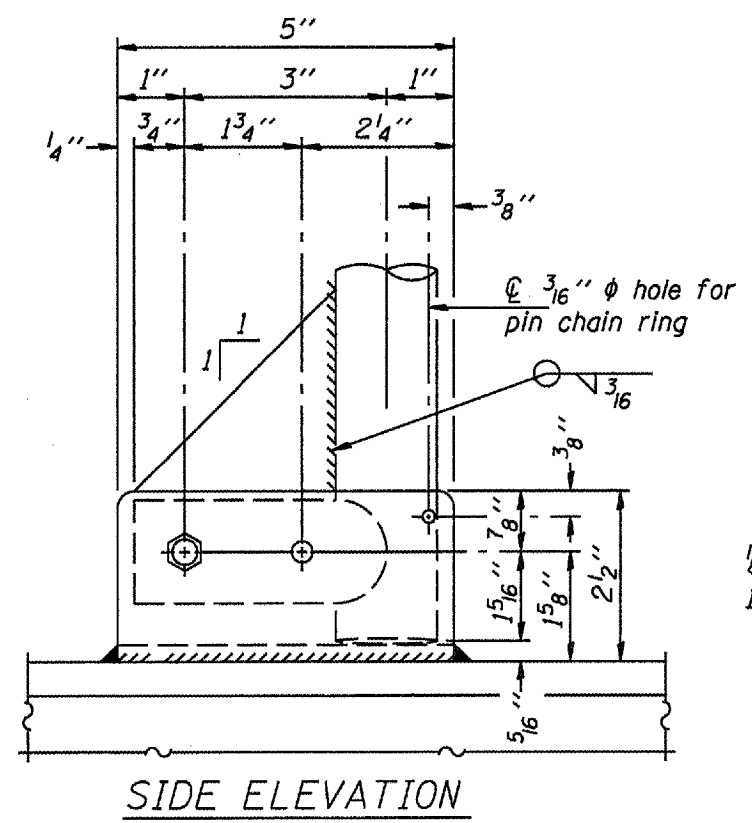
DESIGNED -	20
CHECKED -	EXAMINED
DRAWN -	PASSED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES

OS-A-D 6/01/2007

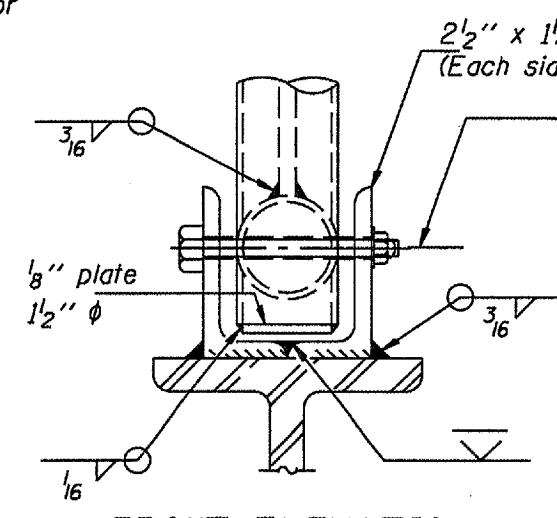
OVERHEAD SIGN STRUCTURE  
DAMPING DEVICE

District 2  
I-74 Overhead Sign  
Structure Replacement

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



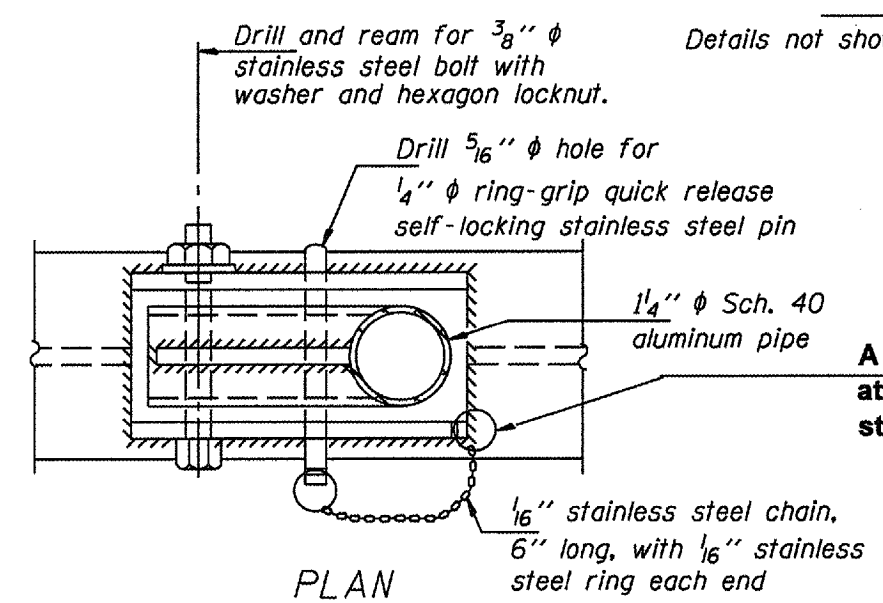
**SIDE ELEVATION**



**FRONT ELEVATION**

**The existing locking pin hole to be reamed for proper alignment and a new oversized stainless steel pin to be installed.**

Details not shown same as "ELEVATION" at right.

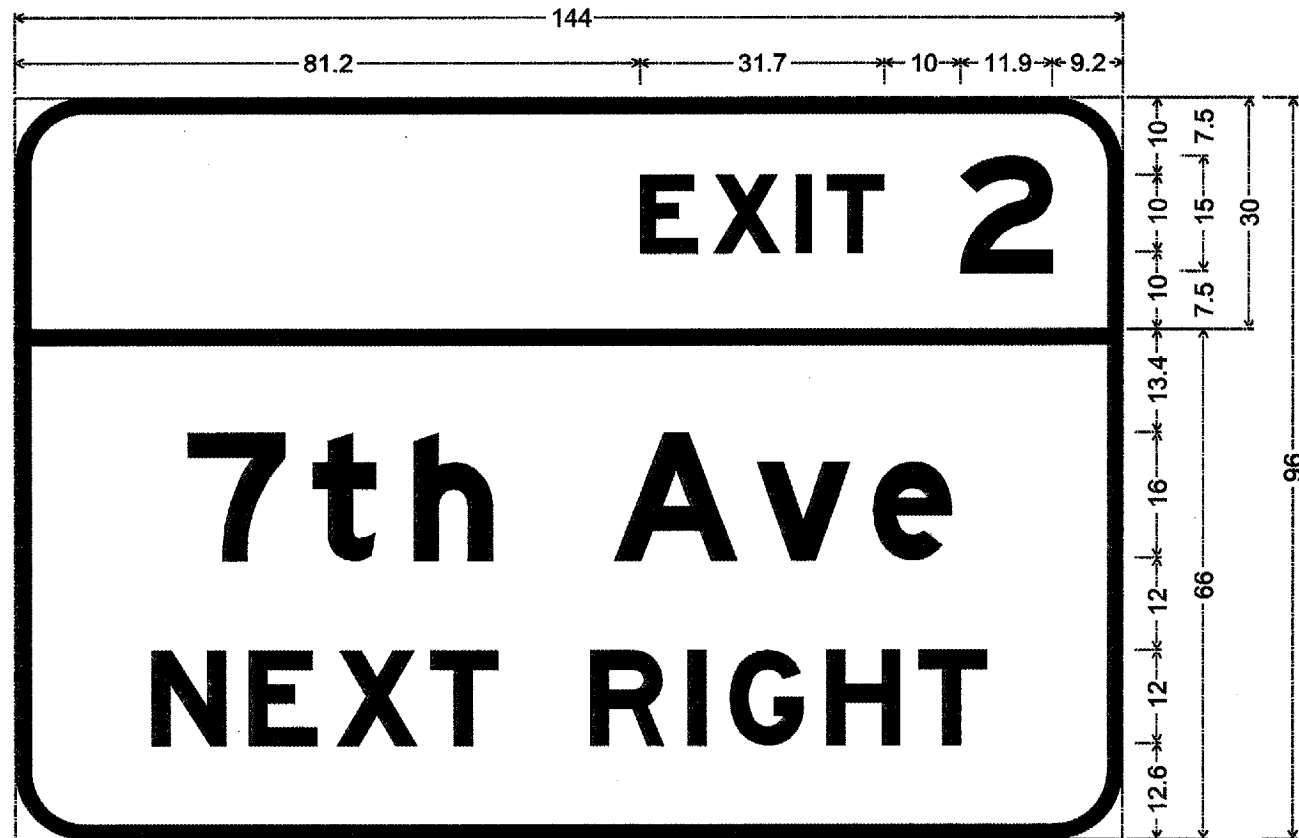


**PLAN  
 DETAIL E HANDRAIL HINGE**

**A new stainless steel chain shall be attached to the angle with a 1/16" stainless steel ring.**

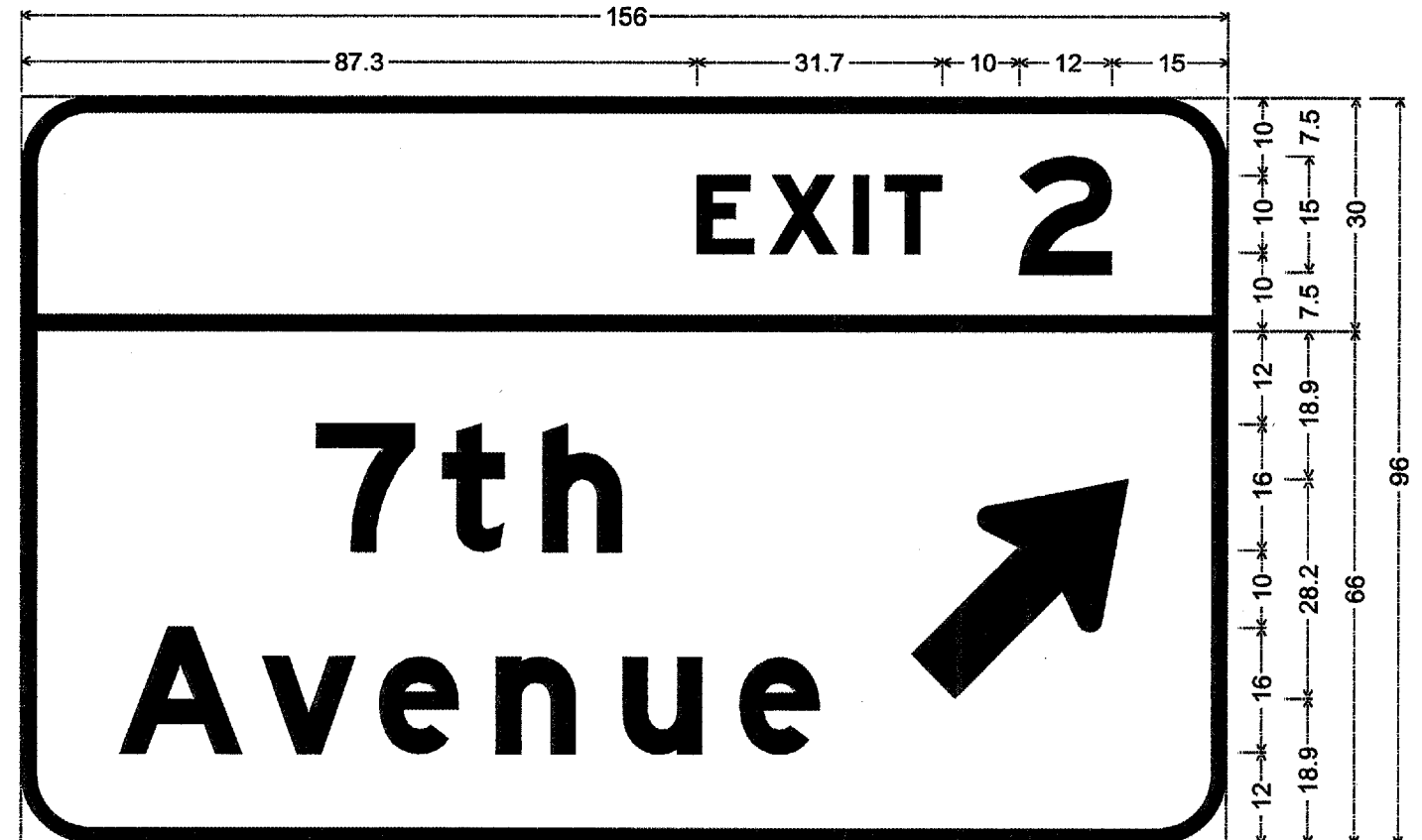
OVERHEAD SIGN STRUCTURES  
 HANDRAIL HINGE REPAIR DETAIL





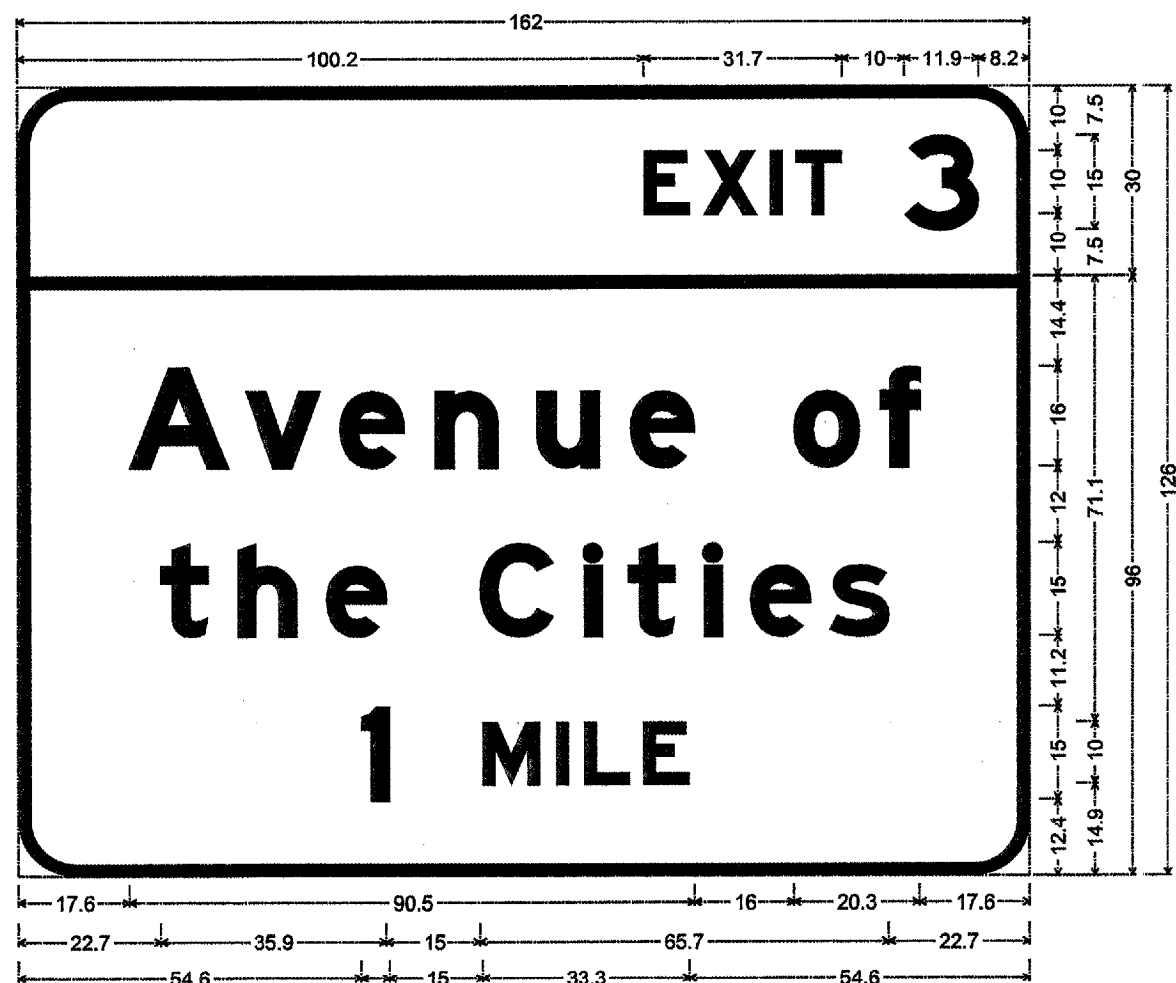
22.4 39.4 16 43.8 22.4  
17.6 45 12 51.8 17.6

9.0" Radius, 2.0" Border, White on Green;  
[EXIT 2] E Mod;  
9.0" Radius, 2.0" Border, White on Green;  
[7th Ave] E Mod; [NEXT RIGHT] E Mod;

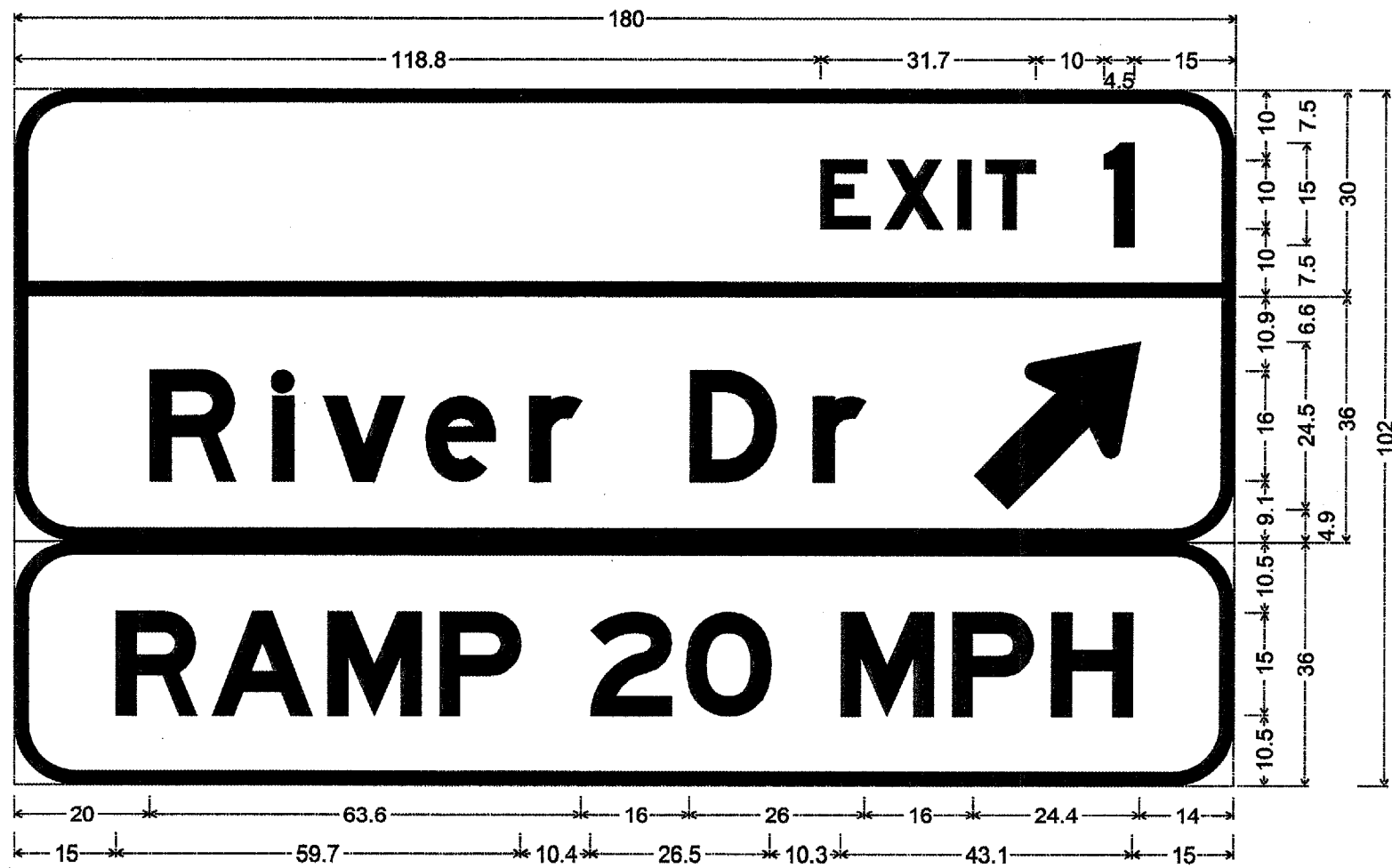


38.2 39.5 37.5 28.1 12.7  
12.7 90.5 52.8

9.0" Radius, 2.0" Border, White on Green;  
[EXIT 2] E Mod;  
9.0" Radius, 2.0" Border, White on Green;  
[7th] E Mod; [Avenue] E Mod; Standard Arrow Custom 35.8" X 21.6" 45°;



9.0" Radius, 2.0" Border, White on Green;  
[EXIT 3] E Mod;  
9.0" Radius, 2.0" Border, White on Green;  
[Avenue of] E Mod; [the Cities] E Mod; [1 MILE] E Mod;



9.0" Radius, 2.0" Border, White on Green;  
[EXIT 1] E Mod;  
9.0" Radius, 2.0" Border, White on Green;  
[River Dr] E Mod; Standard Arrow Custom 31.1" X 18.8" 45°;  
9.0" Radius, 2.0" Border, Black on Yellow;  
[RAMP 20 MPH] E Mod specified length;