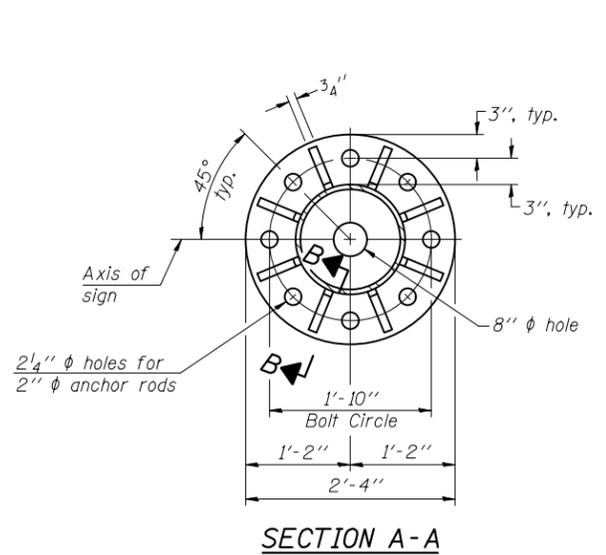


<b>CELL / MODEL NAME</b>	<b>DESCRIPTION</b>	<b>DATE</b>
OSC-S-1	General plan and elevation	08/21/2013
OSC-S-2	Truss details	06/01/2012
OSC-S-3	Juncture details	06/01/2012
OSC-S-4	Type I-C-S truss support post	06/01/2012
OSC-S-5	Type II-C-S and III-C-S truss support post	06/01/2012
OSC-S-6	Walkway details	06/01/2012
OSC-S-6S	Alternate steel walkway details	06/01/2012
OSC-S-7	Walkway details	06/01/2012
OSC-S-7S	Alternate walkway details	06/01/2012
OSC-S-8	Handrail details	06/01/2012
OSC-S-9	Drilled shaft	08/21/2013
OSC-S-D	Damping device	06/01/2012

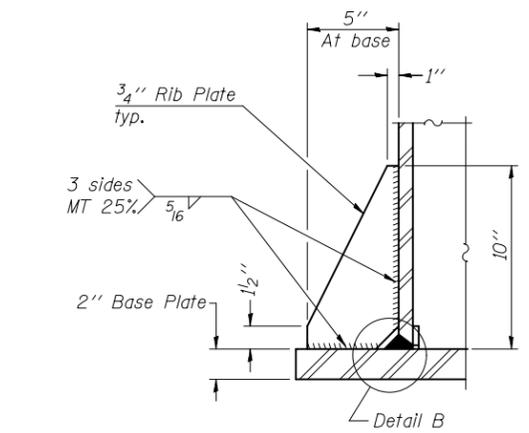




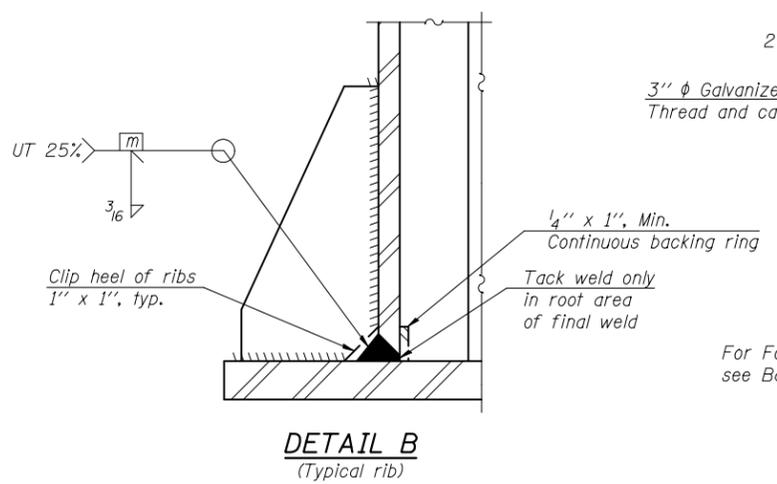




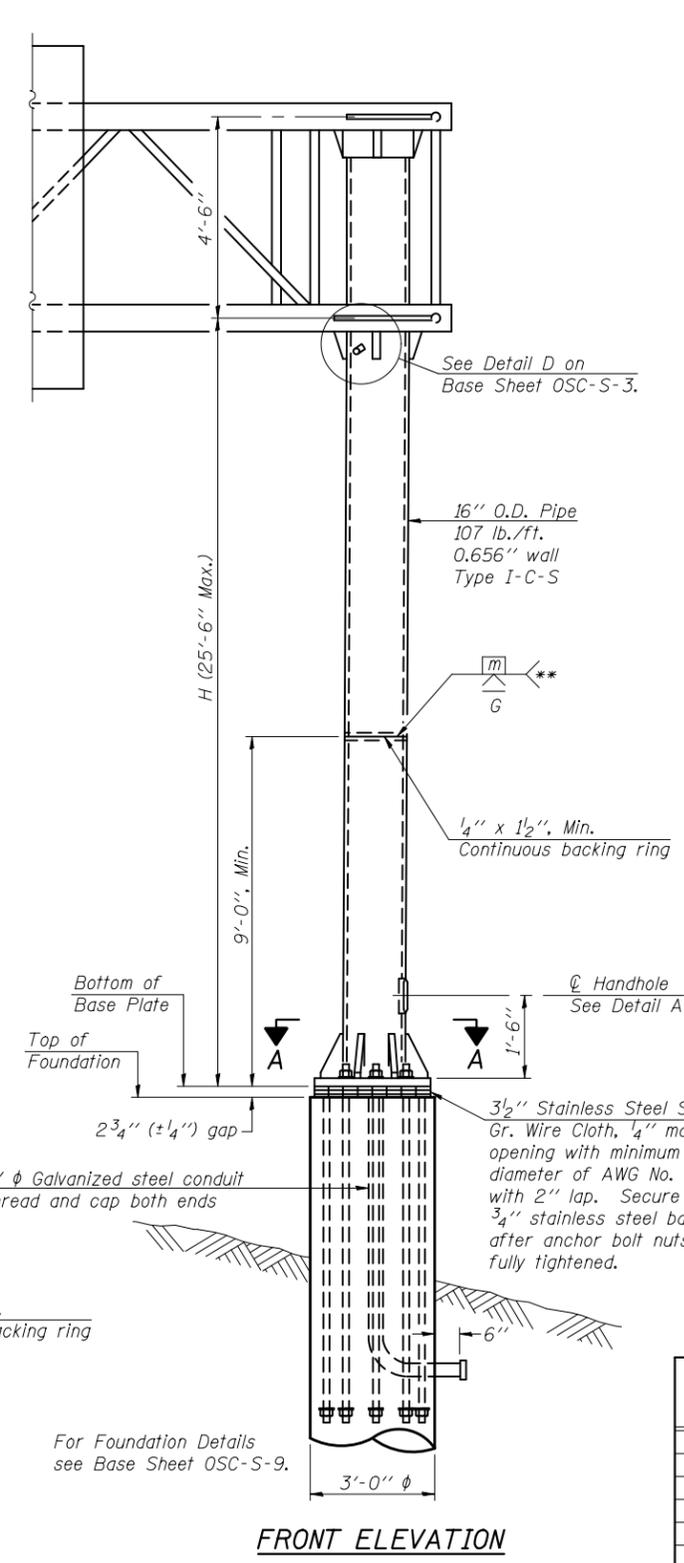
**SECTION A-A**



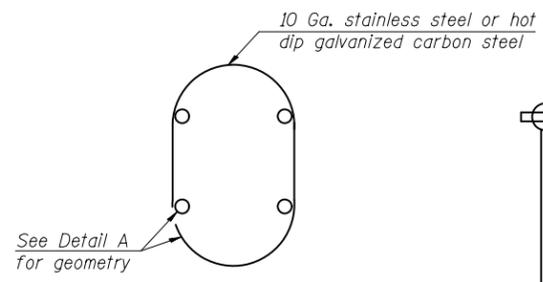
**SECTION B-B**



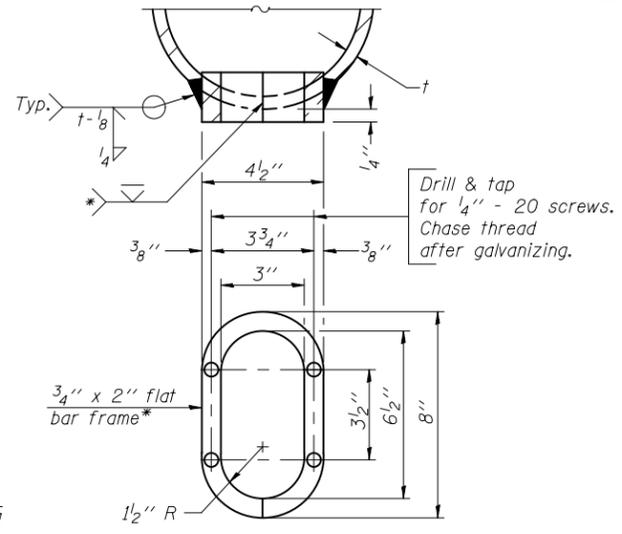
**DETAIL B**  
(Typical rib)



**FRONT ELEVATION**



**HANDHOLE COVER**



**DETAIL A**

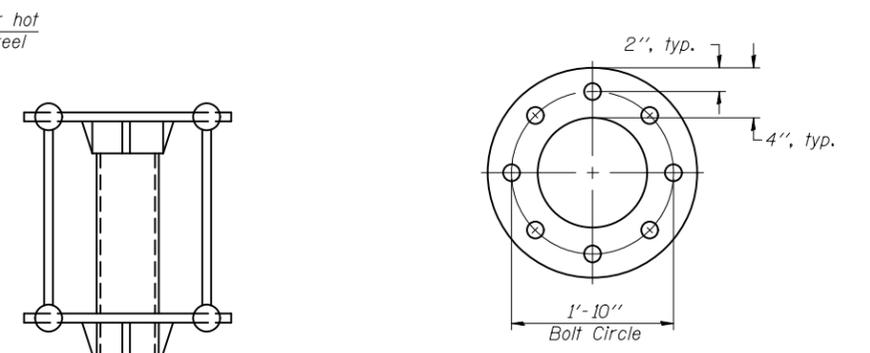
Provide 8" x 4 1/2" cover. Outside corners = 2 1/4" radius. Provide 4 - 5/16"  $\phi$  holes in cover for 1/4" - 20 round head hot dip galvanized or stainless steel machine screws. (See cover details.)

\* Bent bars may be butt welded top and bottom or bottom only. 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.

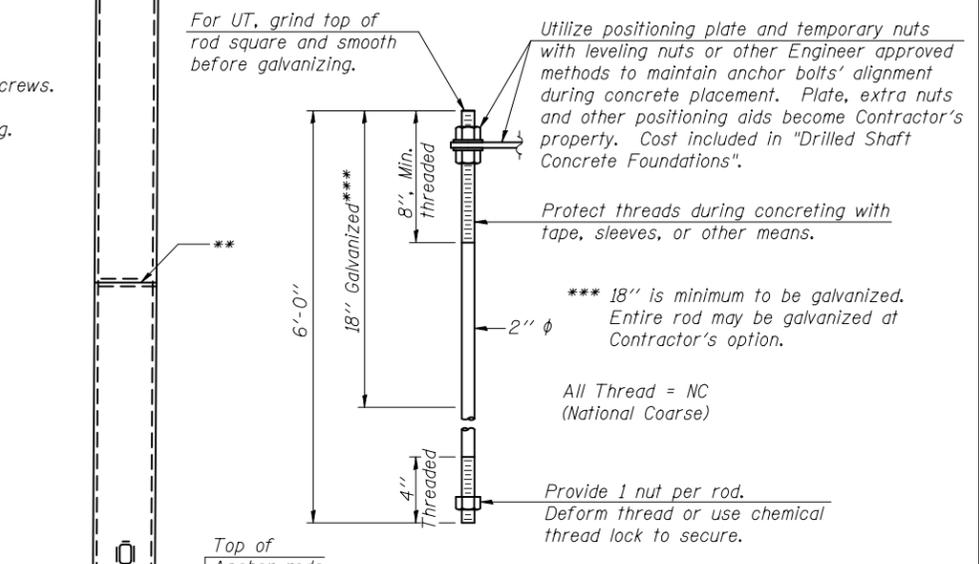
\*\* Butt welded joint in post is only allowed for post heights (H) over 20 ft. in length. If used, weld procedure must be preapproved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Structure Number	Station	H

Note: "H" based on 15'-0" or actual sign height, whichever is greater.



**SUGGESTED POSITIONING PLATE**



**ANCHOR ROD DETAIL**

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize the upper 18" (minimum\*\*\*) and associated AASHTO M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide a nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

Utilize positioning plate and temporary nuts with leveling nuts or other Engineer approved methods to maintain anchor bolts' alignment during concrete placement. Plate, extra nuts and other positioning aids become Contractor's property. Cost included in "Drilled Shaft Concrete Foundations".

Protect threads during concreting with tape, sleeves, or other means.

\*\*\* 18" is minimum to be galvanized. Entire rod may be galvanized at Contractor's option.

All Thread = NC (National Coarse)

Provide 1 nut per rod. Deform thread or use chemical thread lock to secure.

**SIDE ELEVATION**

OSC-S-4

6-1-12

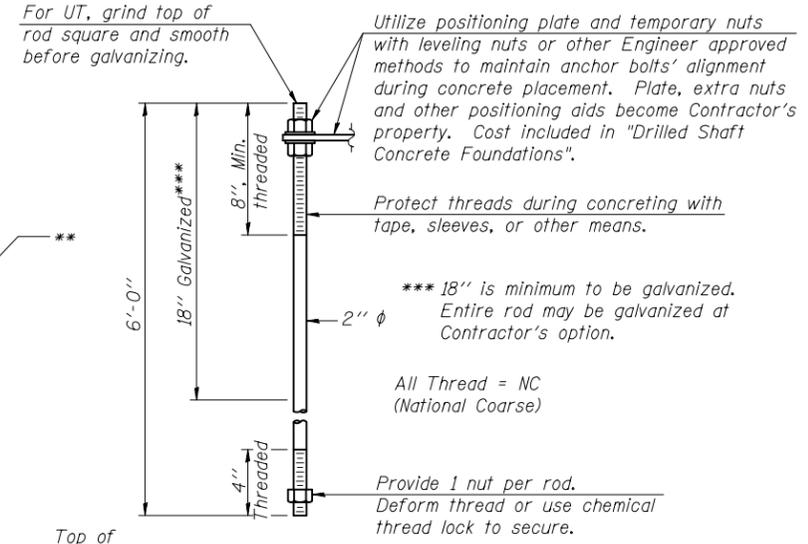
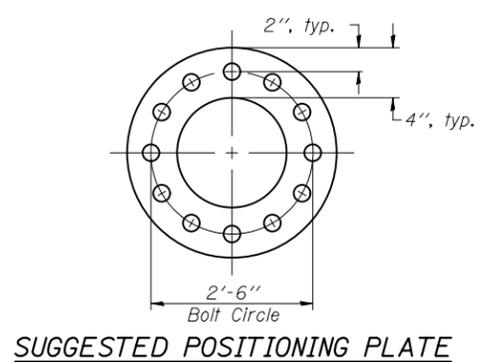
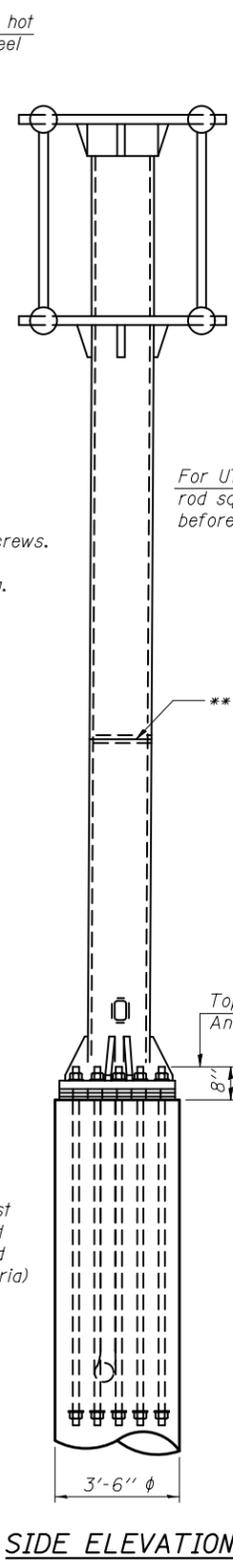
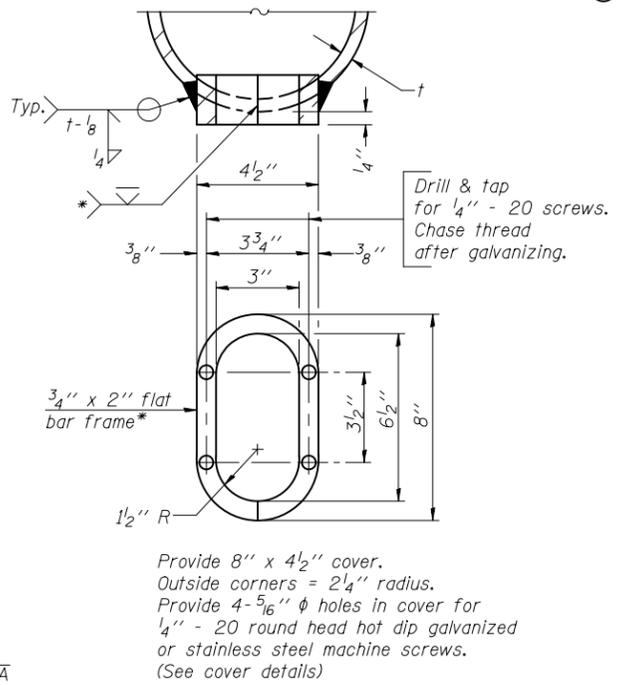
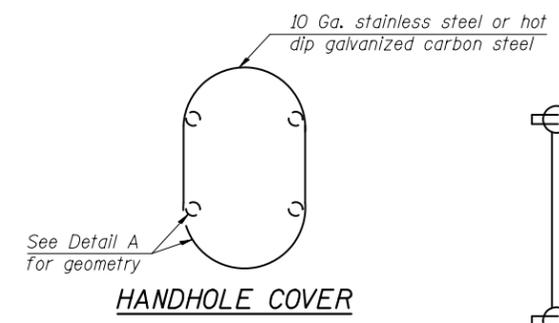
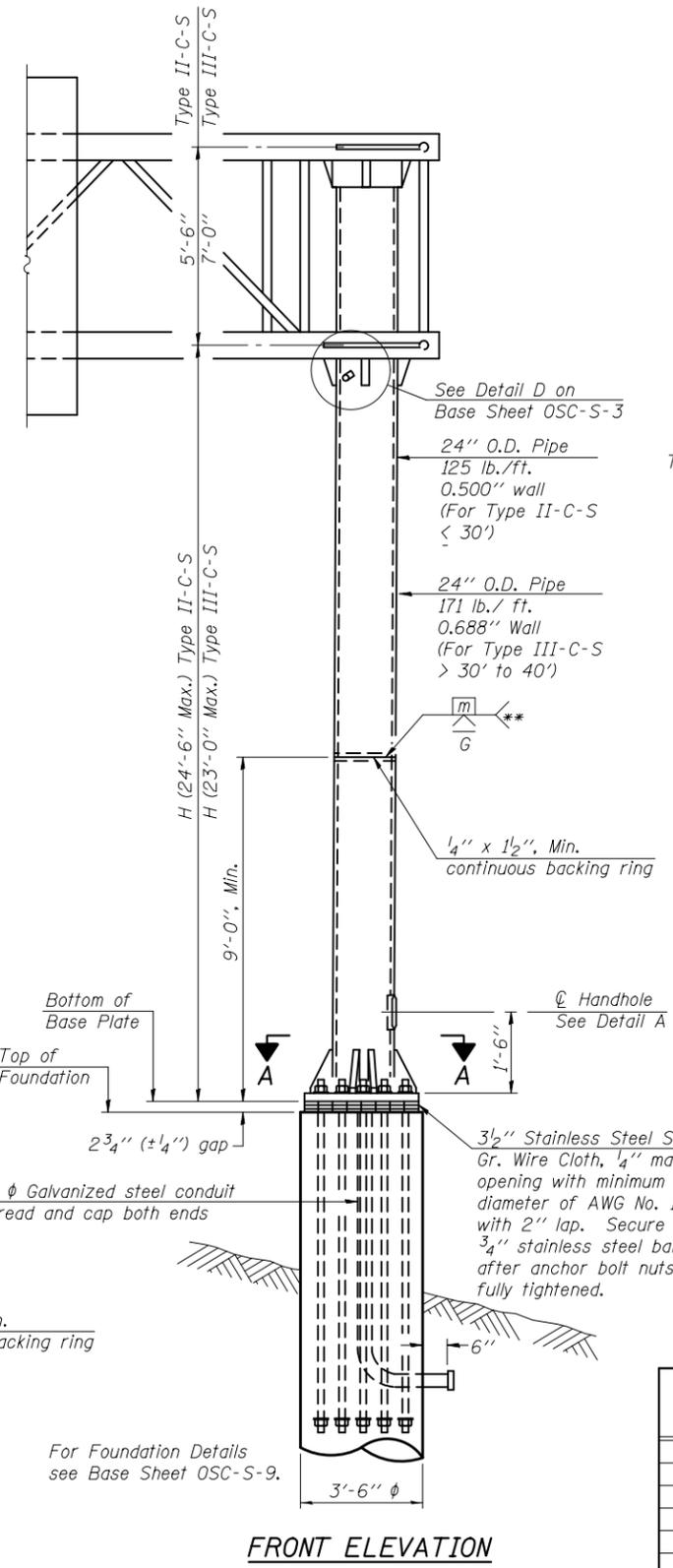
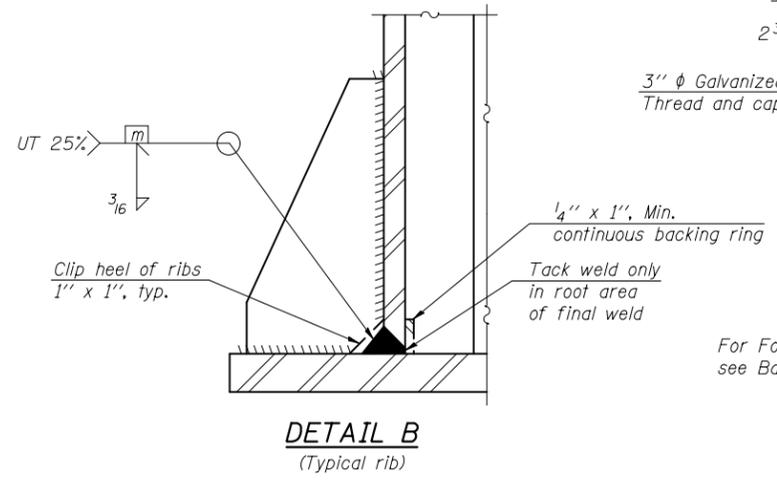
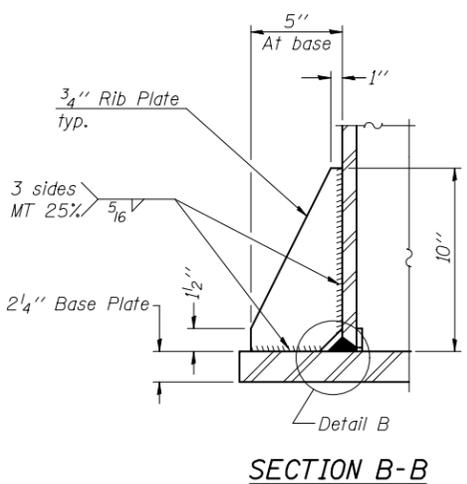
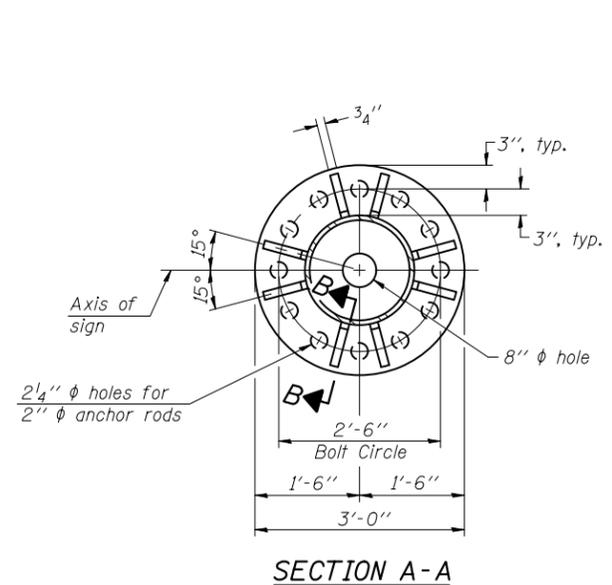
FILE NAME =	USER NAME =	DESIGNED -	REVISOR
		CHECKED -	REVISOR
		DRAWN -	REVISOR
		CHECKED -	REVISOR

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CANTILEVER SIGN STRUCTURES - TYPE I-C-S TRUSS**  
**SUPPORT POST - STEEL TRUSS & STEEL POST**

SHEET NO. OF SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize the upper 18" (minimum\*\*\*) and associated AASHTO M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide a nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

Structure Number	Station	H

Note: "H" based on 15'-0" or actual sign height, whichever is greater.

OSC-S-5

6-1-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED
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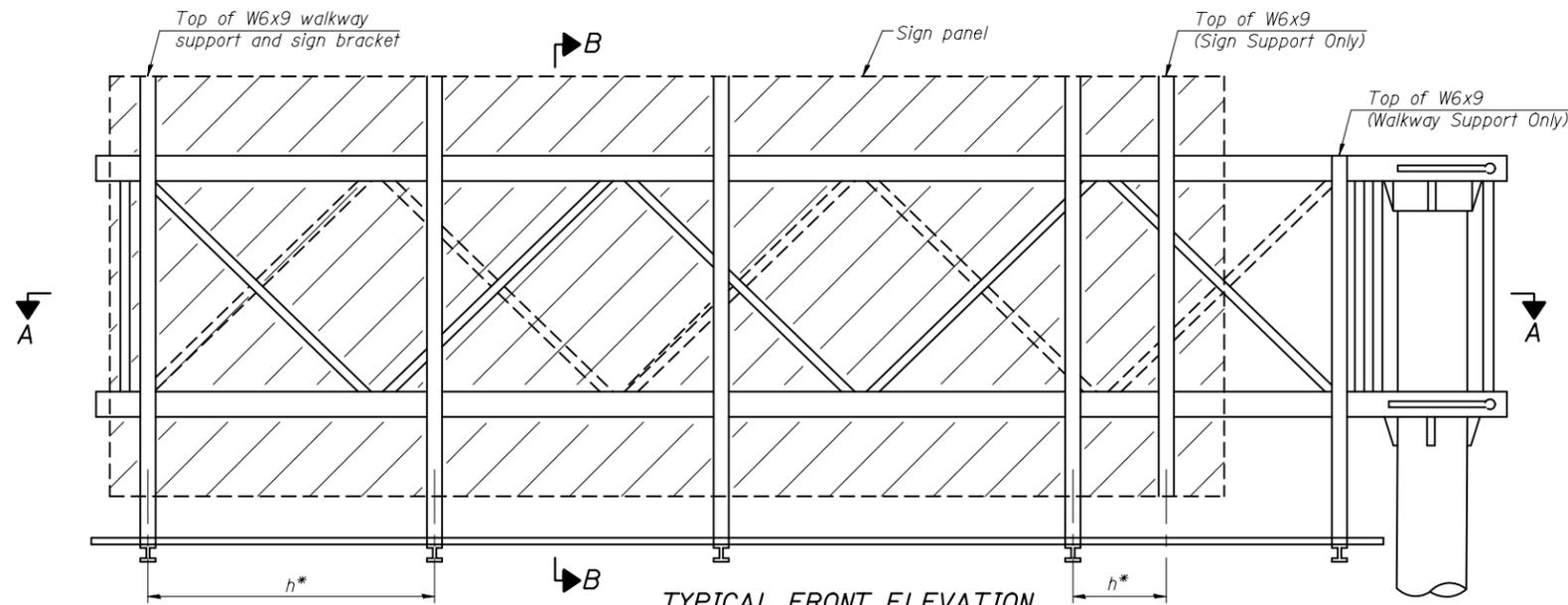
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - TYPE II-C-S & III-C-S  
TRUSS SUPPORT POST - STEEL TRUSS & STEEL POST

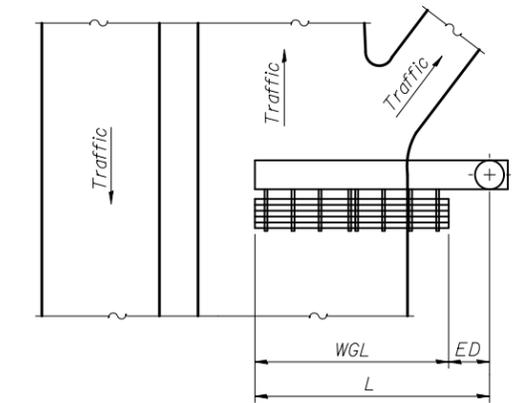
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				

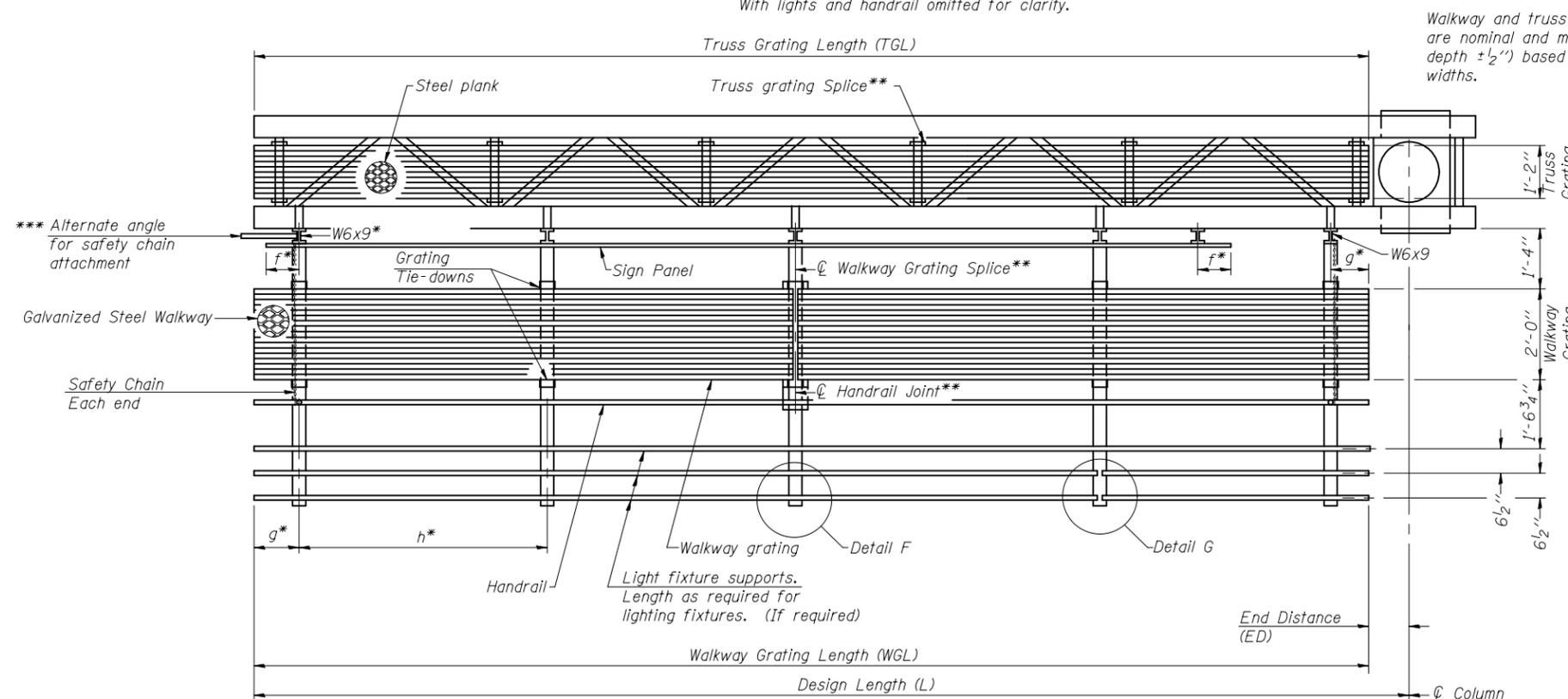




**TYPICAL FRONT ELEVATION**  
With lights and handrail omitted for clarity.



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



**SECTION A-A**

Walkway and truss grating dimensions are nominal and may vary (width ±1/2", depth ±1/2") based on available standard widths.

\*\*\* Alternate angle for safety chain attachment

Galvanized Steel Walkway

Safety Chain Each end

Notes:

- \* Space walkway brackets and sign brackets W6x9 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 to center of nearest bracket)
- h = 6'-0" maximum (center to center sign and/or walkway support brackets, W6x9)

\*\*\* If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-S-8.  
For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-S-7S.  
For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-S-8.

Structure Number	Station	WGL	ED	TGL

**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

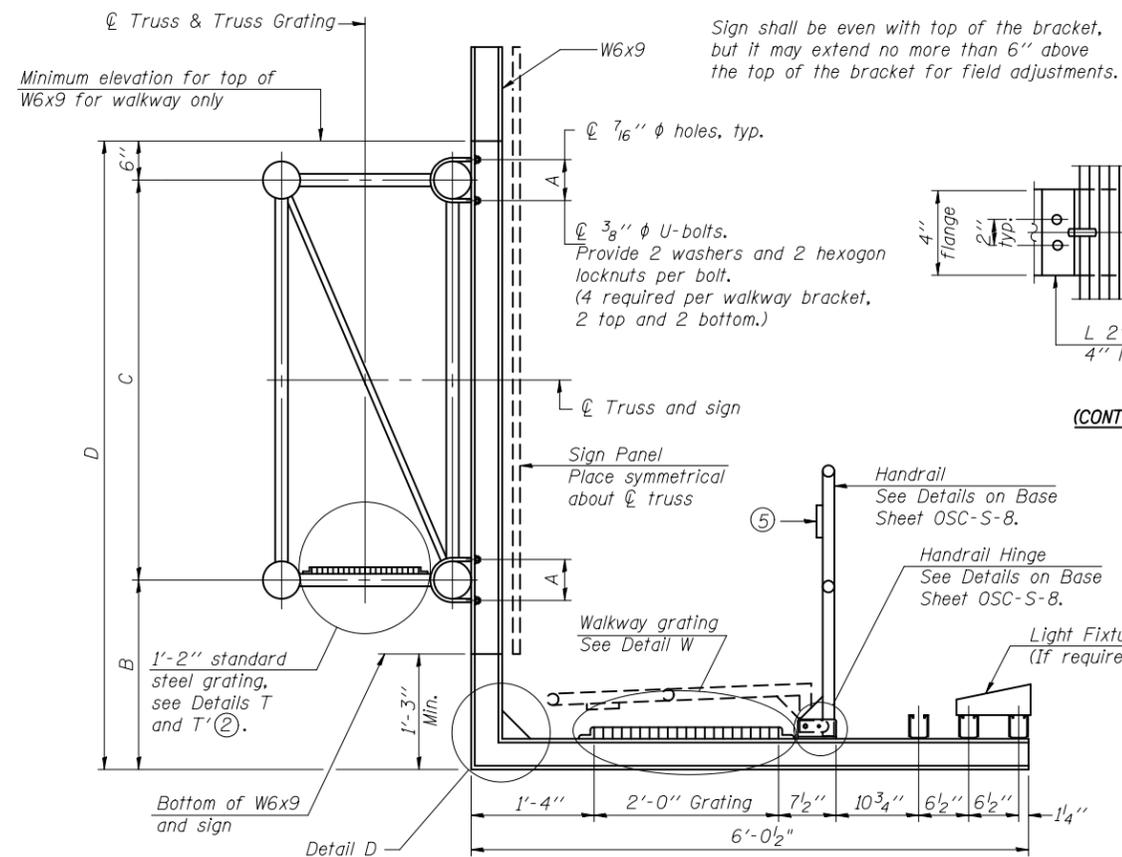
Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in "Overhead Sign Structure Cantilever".

Handrail and walkway grating shall span a minimum of three brackets between splices.  
\*\* Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.  
 $TGL = L - (\frac{Post\ O.D.}{2} + 6")$

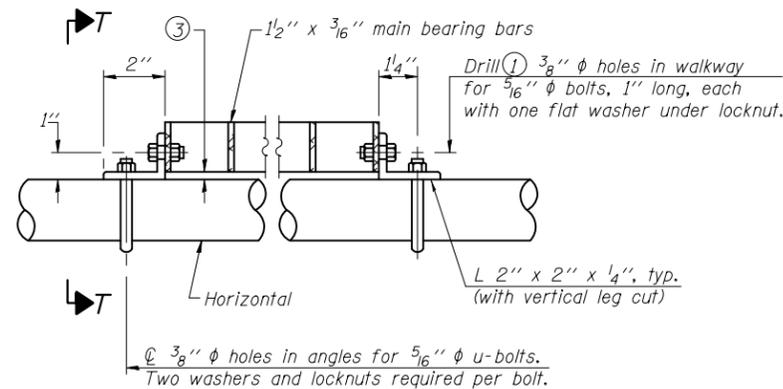
OSC-S-6S

6-1-12

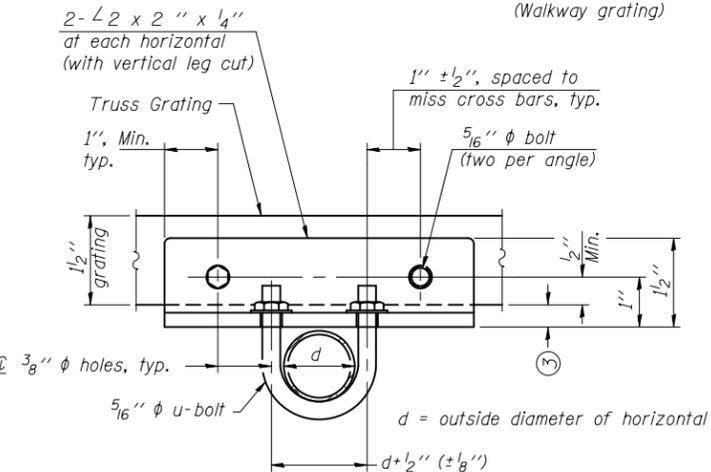
FILE NAME =	USER NAME =	DESIGNED -	REVISIONS	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CANTILEVER SIGN STRUCTURES - ALTERNATE STEEL WALKWAY DETAILS - STEEL TRUSS &amp; STEEL POST</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISIONS			CONTRACT NO.					
		DRAWN -	REVISIONS			SHEET NO. OF SHEETS					
		CHECKED -	REVISIONS			ILLINOIS FED. AID PROJECT					



**SECTION B-B**

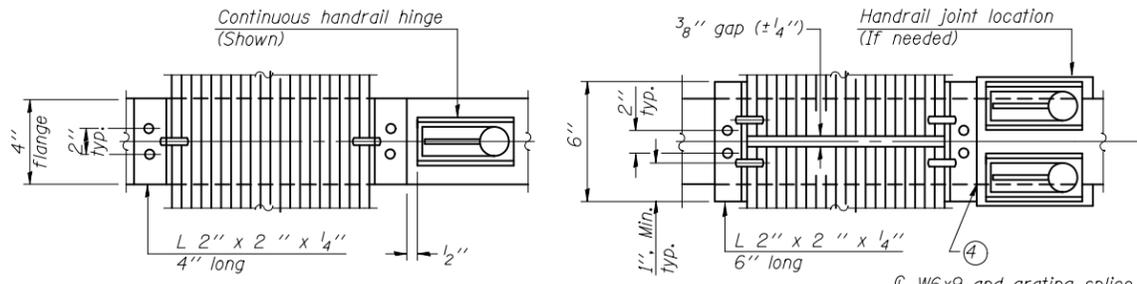


**DETAIL T**  
(Truss grating at horizontal)



**SECTION T-T**

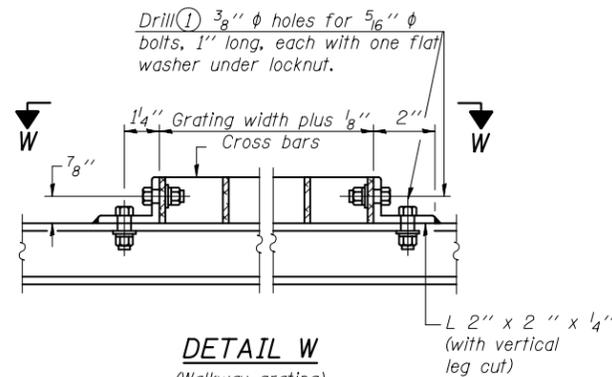
Structure Number	Station	A	⑥ B	C	⑥ D



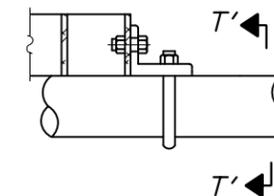
**(CONTINUOUS WALKWAY GRATING)**

**(AT WALKWAY GRATING SPLICE)**

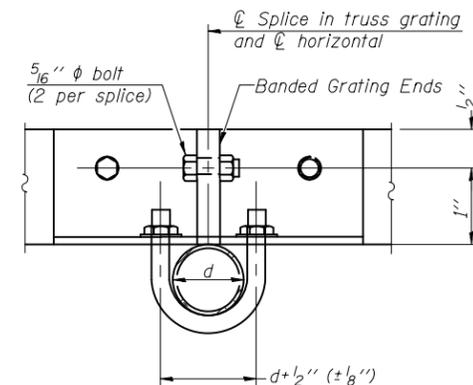
**SECTION W-W**



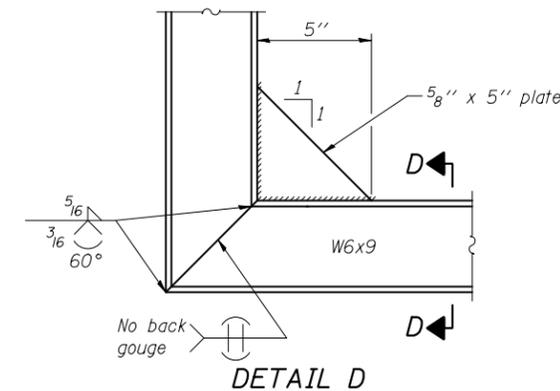
**DETAIL W**  
(Walkway grating)



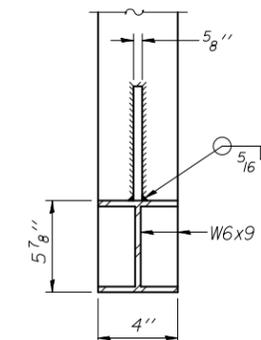
**DETAIL T'**  
(Truss grating splice)  
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



**SECTION T'-T'**



**DETAIL D**



**SECTION D-D**

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- When truss grating must be spliced, use suggested detail or other methods subject to the Engineer's review and approval. Locate splice to avoid interference between cross bars and bolt locations.
- Tube to grating gap may vary from 0 to 1/2" (max.) to align walkway, allow for camber, etc.
- If Handrail Joint present, weld angle to W6x9 and 1/4" extension bars. (See Base Sheet OSC-S-8)
- 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- Based on actual sign height, Ds, given on OSC-S-1.

**BAR SIZES FOR STANDARD STEEL GRATING**

TRUSS GRATING Main bearing bars 3/16" x 1 1/2" on 1 3/16" centers. Cross bars 3/16" x 1 1/2" on 4" centers.

WALKWAY GRATING Main bearing bars 3/16" x 1 1/2" on 1 3/16" centers. Cross bars 3/16" x 1 1/2" on 4" centers.

OSC-S-7

6-1-12

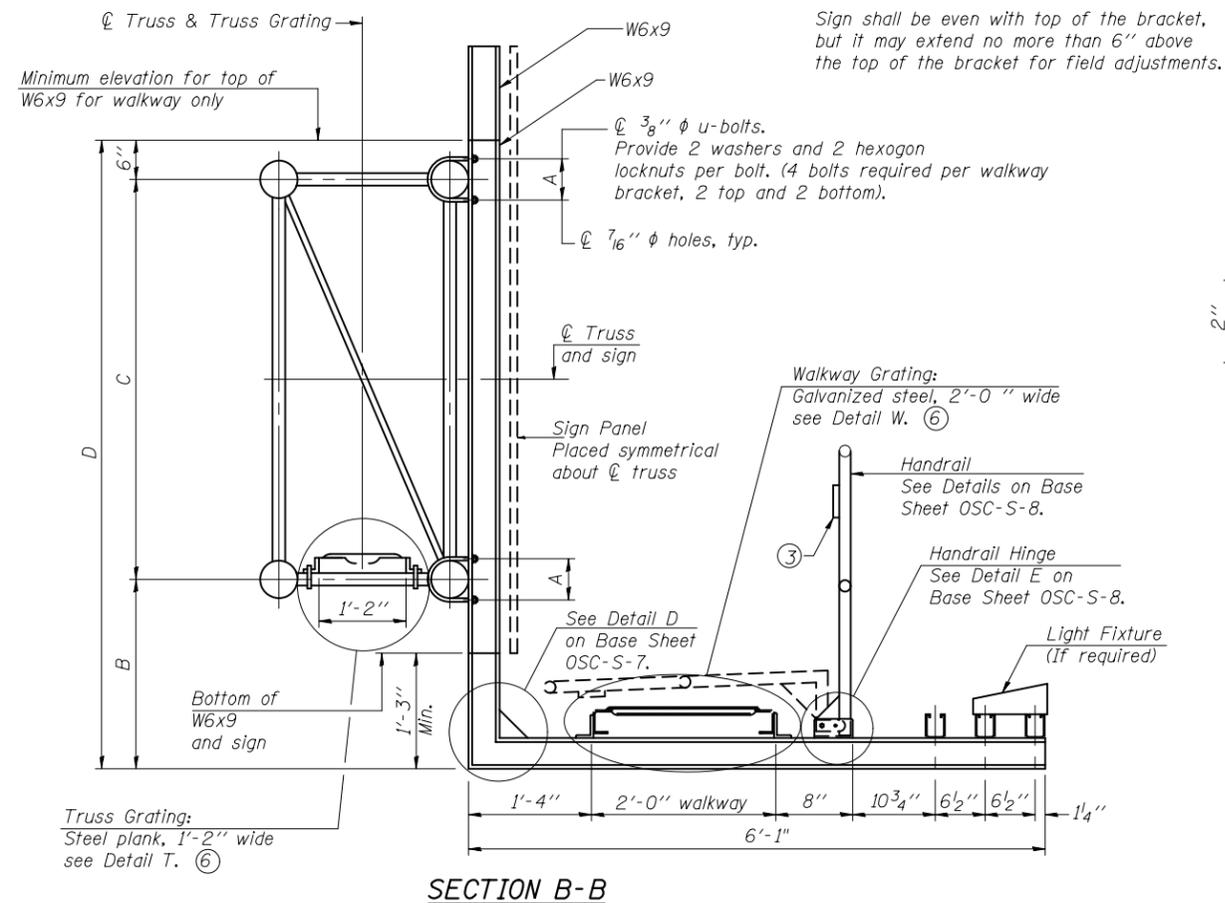
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

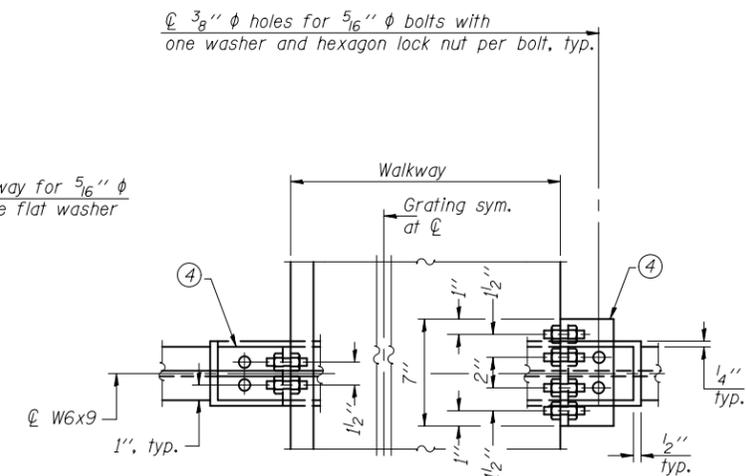
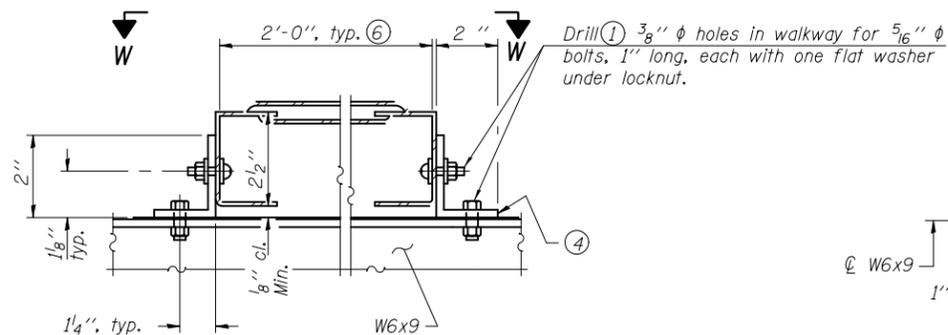
CANTILEVER SIGN STRUCTURES - WALKWAY DETAILS  
STEEL TRUSS & STEEL POST

SHEET NO. OF SHEETS

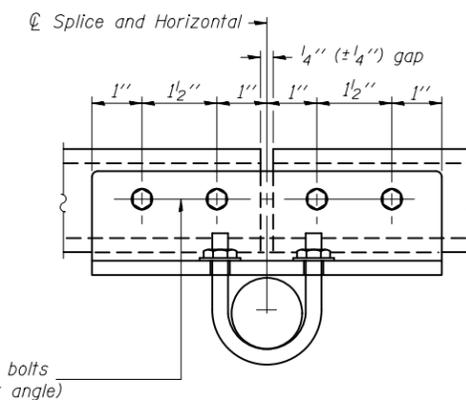
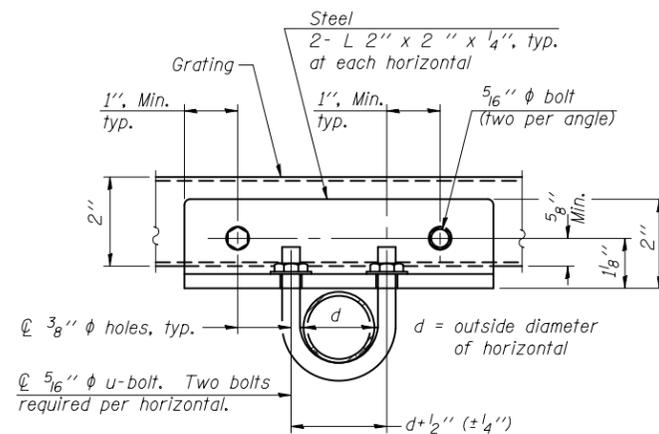
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



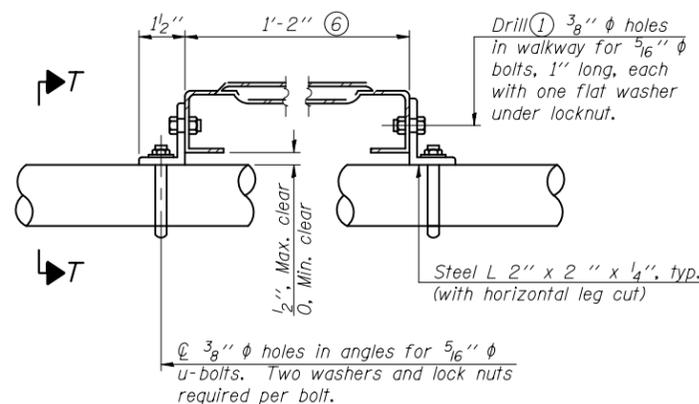
Sign shall be even with top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.



**DETAIL W**  
**GALVANIZED STEEL WALKWAY GRATING**



Details not shown same as Section T-T. Alternate splice details and locations may be used subject to the Engineer's review and approval.



- ① Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- ② When truss grating must be spliced, use suggested details or other methods in accord with grating manufacturer's recommendation and subject to the Engineer's review and approval.
- ③  $1/8'' \times 1/2'' \times 2''$  welded to handrail posts to protect locations that contact grating.
- ④ Galvanized steel L 2" x 2" x 1/4", 3 1/2" long with continuous grating 7" long at grating splice.
- ⑤ Details shown are considered equal alternatives to Standard Steel Walkway Details and may be substituted by Contractor at no charge in contract cost.
- ⑥ Perforated or expanded metal grating providing a skid resistant (non-serrated) surface and capable of supporting a 500 pound concentrated load with a 6'-0" clear span. Walkway and truss grating dimensions are nominal and may vary (width  $\pm 2''$ , depth  $\pm 1/2''$ ) based on available standard sizes. Cut ends of grating shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.
- ⑦ Based on actual sign height,  $D_s$ , given on OSC-S-1.

**STEEL TRUSS GRATING**

Structure Number	Station	A	⑦ B	C	⑦ D

OSC-S-7S

6-1-12

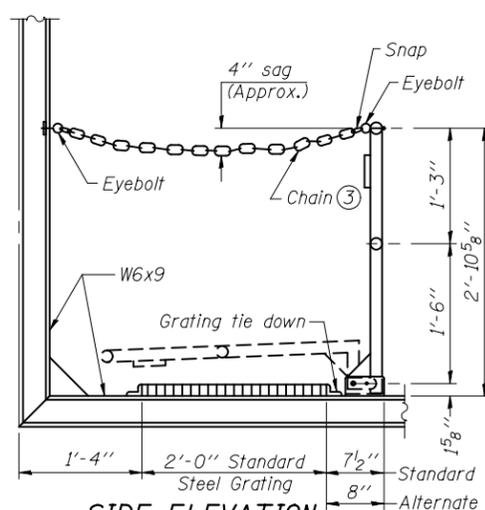
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		DRAWN -	REVISED
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES  
ALTERNATE WALKWAY DETAILS

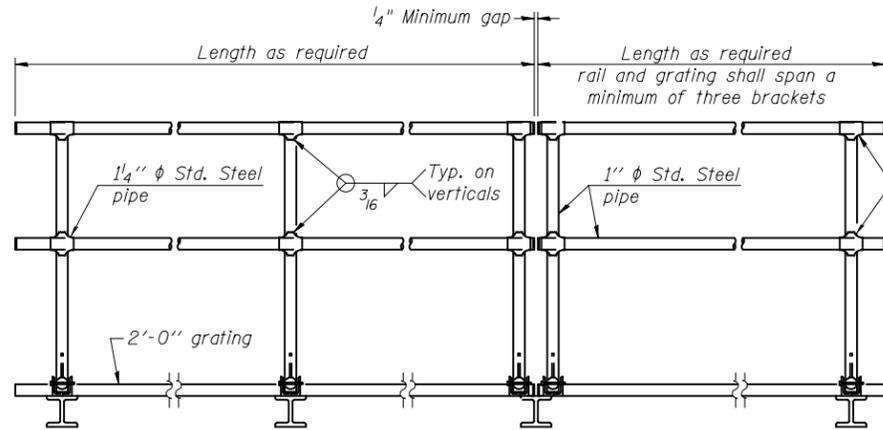
SHEET NO. OF SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



**SIDE ELEVATION**

(Showing Safety Chain W/O Sign)

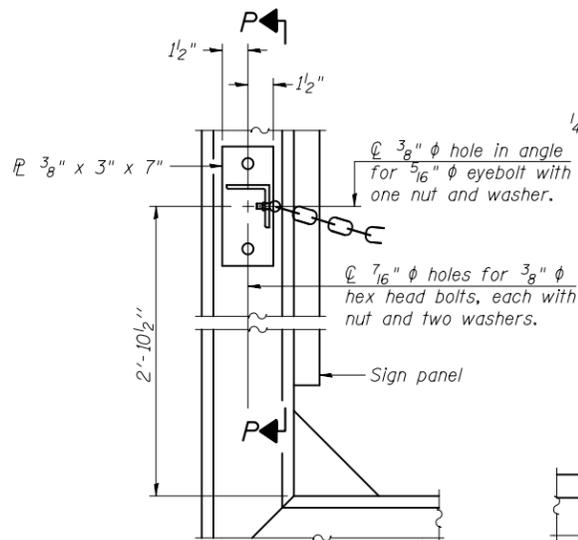
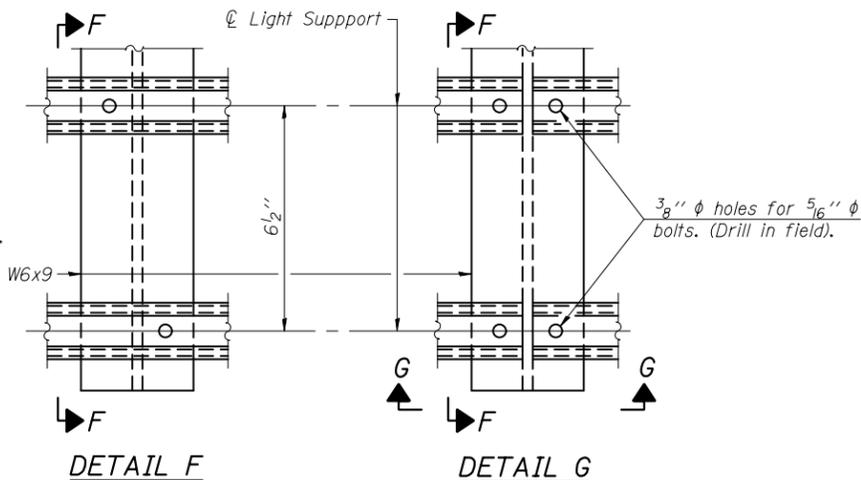


**FRONT ELEVATION**

**HANDRAIL DETAILS**

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

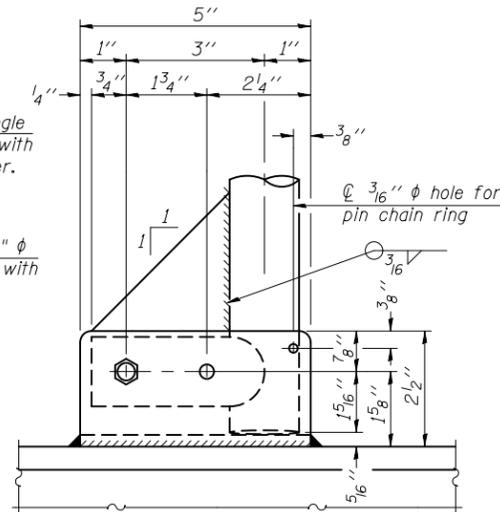
② Horizontal handrail member shall be continuous thru 1 1/4" φ pipe. Provide 7/16" φ hole in 1 1/4" φ pipe for 3/8" φ bolt. Field drill 7/16" φ hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 7/16" φ holes on top rail at ends only.)



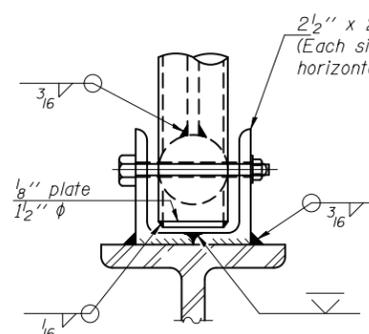
**ALTERNATE SAFETY CHAIN ATTACHMENT**

(With Sign Present)

Items not shown same as "Side Elevation" of "Handrail Details"

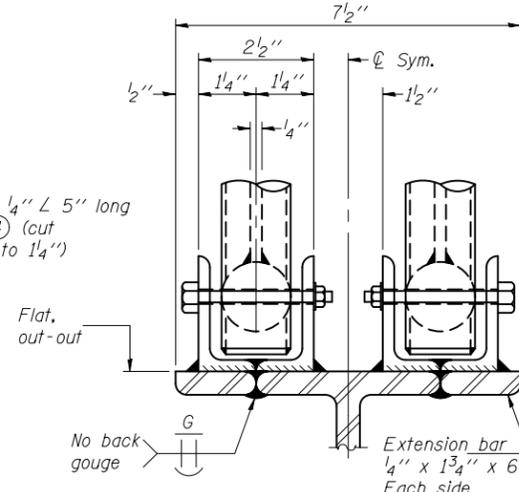


**SIDE ELEVATION**



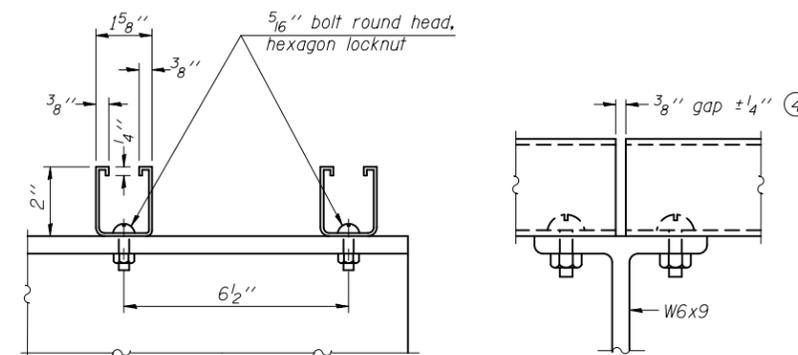
**FRONT ELEVATION**

Details not shown same as "ELEVATION" at right.



**ELEVATION AT HANDRAIL JOINT**

Details not shown same as "FRONT ELEVATION"

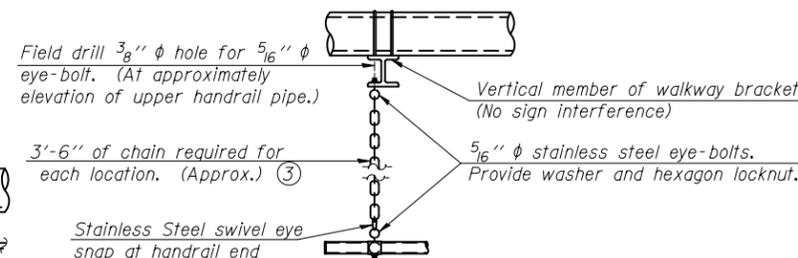


**SECTION F-F**

**SECTION G-G**

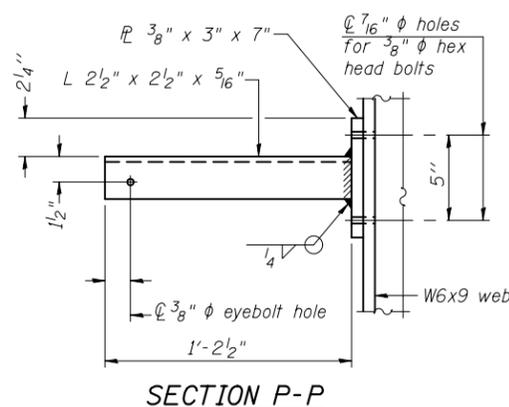
**LIGHTING FIXTURE MOUNTS (IF REQUIRED)**

④ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

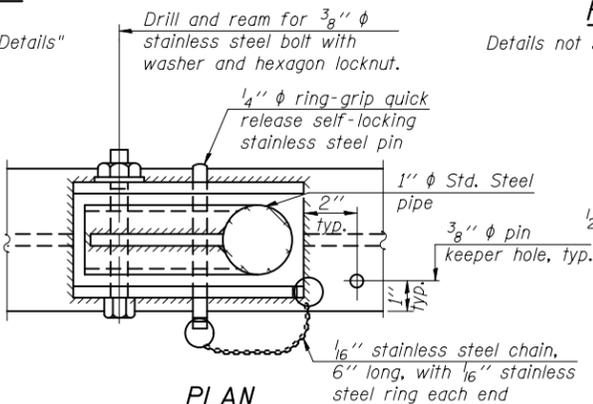


**SAFETY CHAIN**

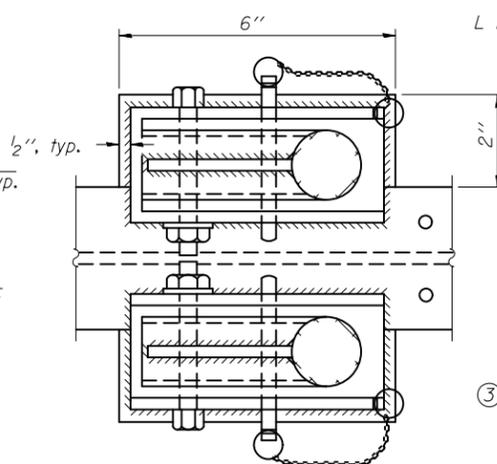
One required for each end of each walkway.



**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.

OSC-S-8

6-1-12

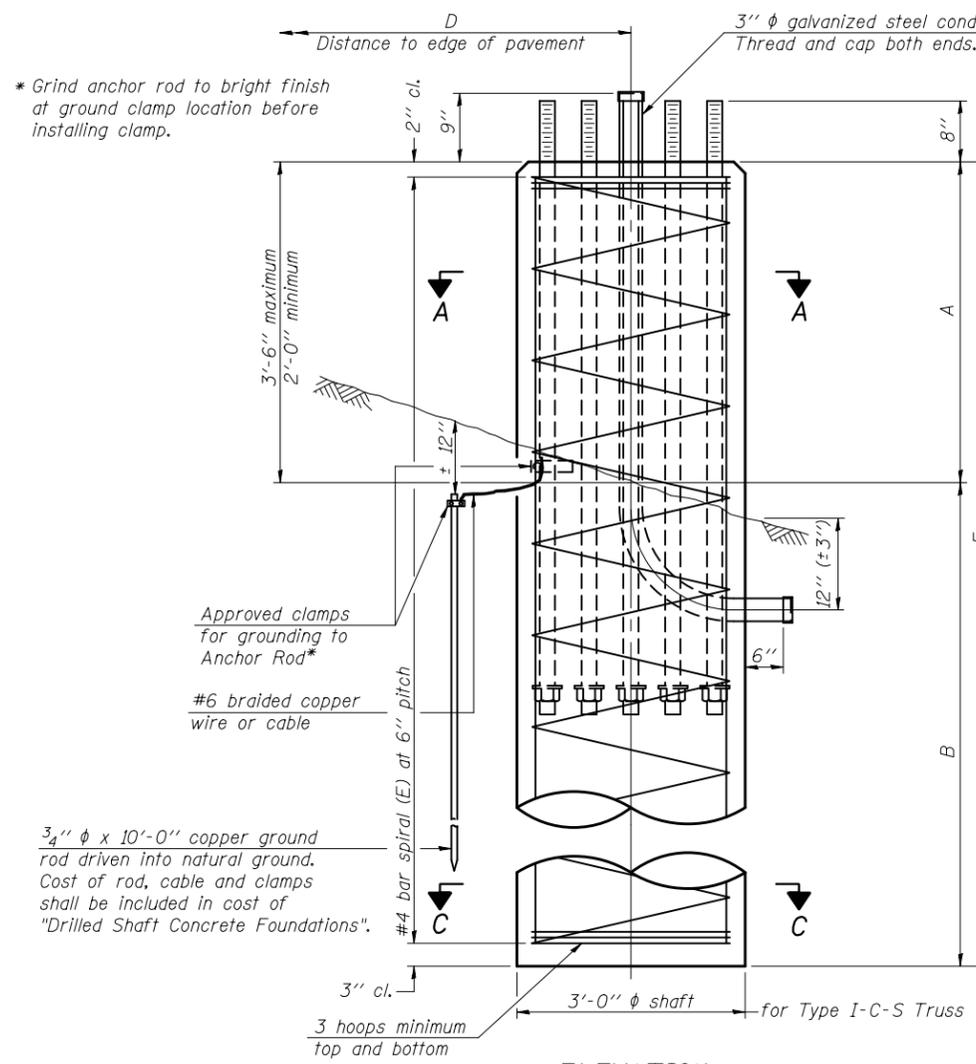
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

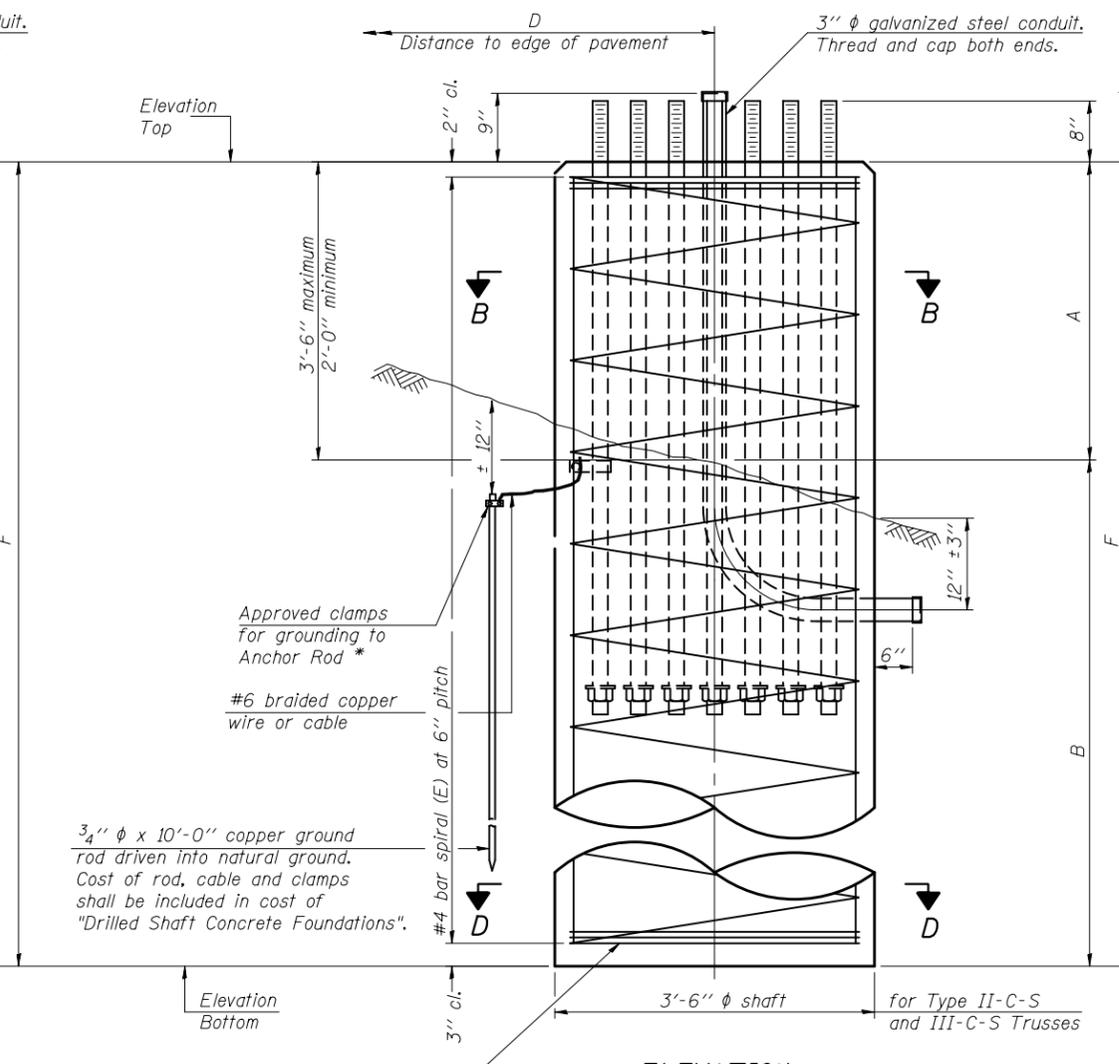
CANTILEVER SIGN STRUCTURES - HANDRAIL DETAILS  
STEEL TRUSS & STEEL POST

SHEET NO. OF SHEETS

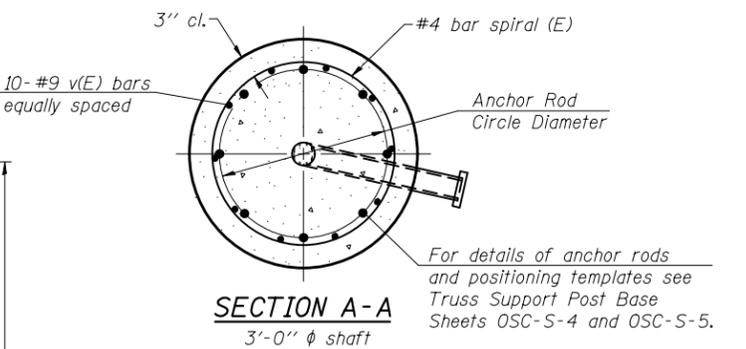
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				CONTRACT NO.
ILLINOIS FED. AID PROJECT				



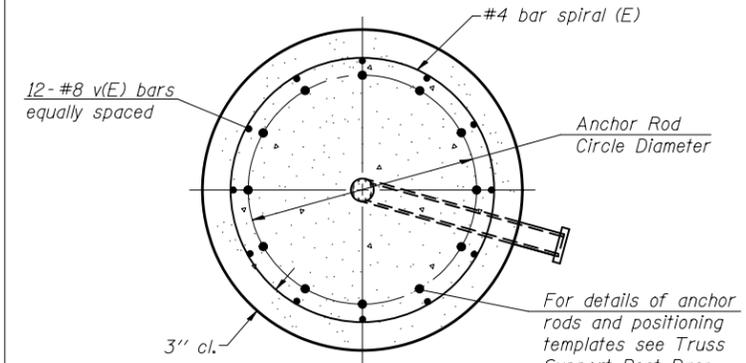
**ELEVATION**



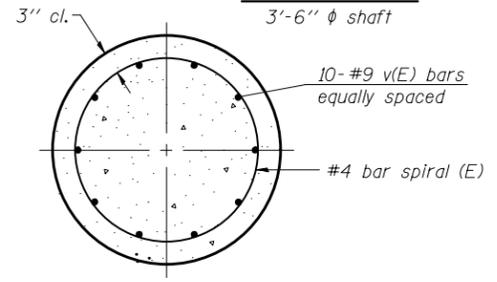
**ELEVATION**



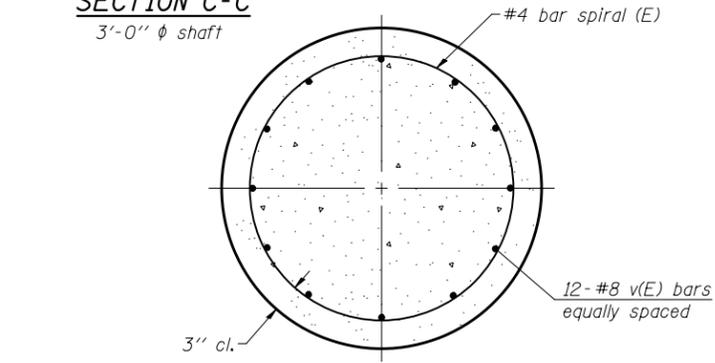
**SECTION A-A**  
3'-0"  $\phi$  shaft



**SECTION B-B**  
3'-6"  $\phi$  shaft



**SECTION C-C**  
3'-0"  $\phi$  shaft



**SECTION D-D**  
3'-6"  $\phi$  shaft

**NOTES:**  
 The foundation details shown are based on common cohesive soil conditions (silty or sandy clay) with an average  $Q_u \geq 1.25$  ton/sq. ft. for all strata within the "B" portion of the foundation. " $Q_u$ ", the soil's unconfined compressive strength, shall be determined by the Engineer from either hand penetrometer readings during construction or previous soil investigations at the site. For lower soil strengths or different soil types, the Engineer shall review pertinent data and determine any required revisions to the diameter, depth, reinforcement or configuration of the foundation. If changes are required by the Engineer, or if dimensions "B" and "F" are increased more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference. Actual "B", "Elevation Bottom", and average " $Q_u$ " values shall also be entered in the table on this sheet for permanent reference.  
 No sonotubes or decomposable forms shall be used below the lower conduit entrance. Permanent metal forms or other shielding may not be left in place below that elevation without the Engineers' written permission. Excavations shall be dewatered before concrete placement if directed by the Engineer at no additional cost.  
 Concrete shall be placed monolithically, without construction joints.  
 Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.  
 A normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.

FOUNDATION DATA								
Truss Type	Post Base Sheet	Maximum Cantilever Length (ft)	Maximum Total Sign Area (sq ft)	Shaft Diameter (in)	"B" Depth (ft)	Anchor Rods		Anchor Rod Circle Diameter (in)
						No.	Diameter (in)	
I-C-S	OSC-S-4	25	170	3.0	15.5	8	2	22
II-C-S	OSC-S-5	30	170	3.5	15.0	12	2	30
II-C-S	OSC-S-5	30	340	3.5	21.5	12	2	30
III-C-S	OSC-S-5	35	170	3.5	19.0	12	2	30
III-C-S	OSC-S-5	35	250	3.5	22.5	12	2	30
III-C-S	OSC-S-5	35	400	3.5	26.5	12	2	30
III-C-S	OSC-S-5	40	400	3.5	30.0	12	2	30

Structure Number	Station	Truss Type	Shaft Diameter	Elevation Top	Elevation Bottom	$Q_u$	A	B	F	Class DS Concrete Cubic Yards

$F = A + B$

OSC-S-9

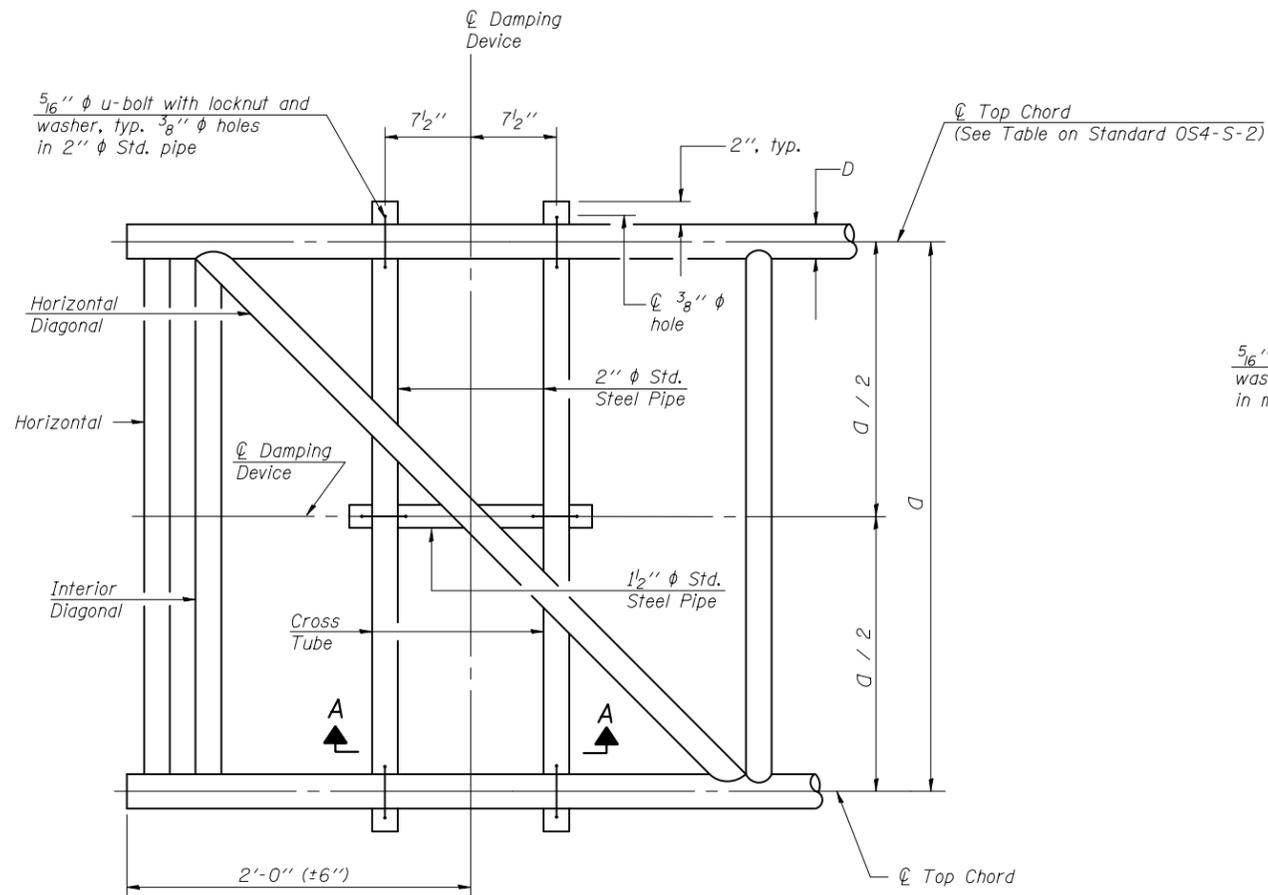
8-21-13

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
		PLOT SCALE =	REVISED -
		PLOT DATE =	REVISED -

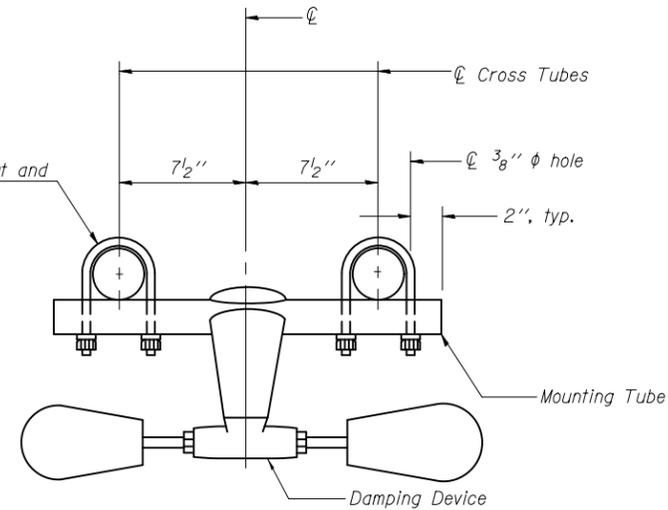
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - DRILLED SHAFT  
STEEL TRUSS & STEEL POST

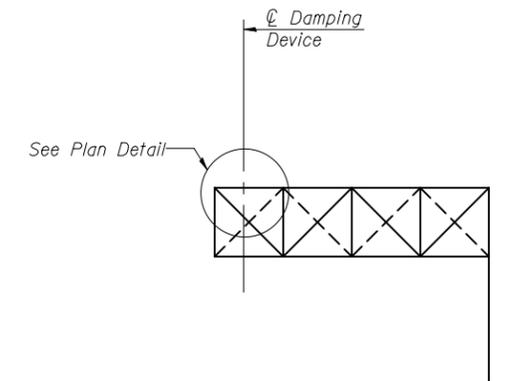
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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**PLAN DETAIL**

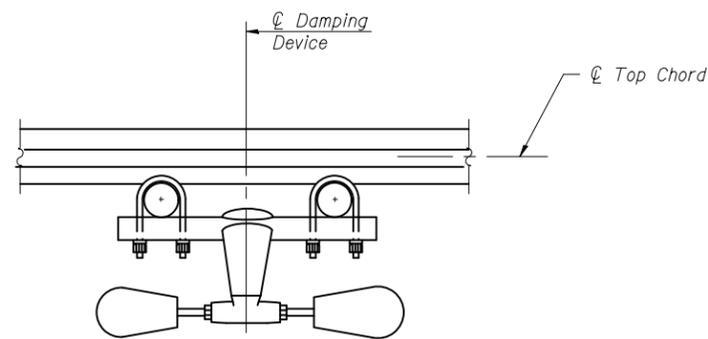


**TRUSS DAMPING DEVICE CONNECTION DETAIL**

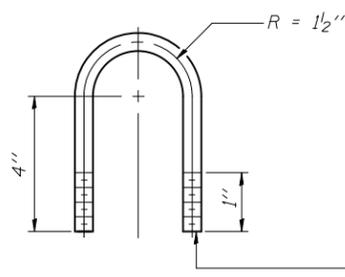


**ELEVATION**  
Steel Cantilever Sign Structure

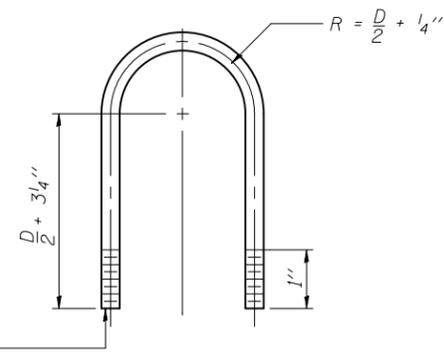
**GENERAL NOTES**  
Damper: One damper per truss. (31 Lbs. Stockbridge-Type - 29" minimum between ends of weights)



**SECTION A-A**



**DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL**  
(Typical)



**TOP CHORD TO CROSS TUBE U-BOLT DETAIL**  
(Typical)

OSC-S-D

6-1-12

FILE NAME =	USER NAME =	DESIGNED -	REVISED
		CHECKED -	REVISED
	PLOT SCALE =	DRAWN -	REVISED
	PLOT DATE =	CHECKED -	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CANTILEVER SIGN STRUCTURES  
DAMPING DEVICE**

SHEET NO. OF SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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