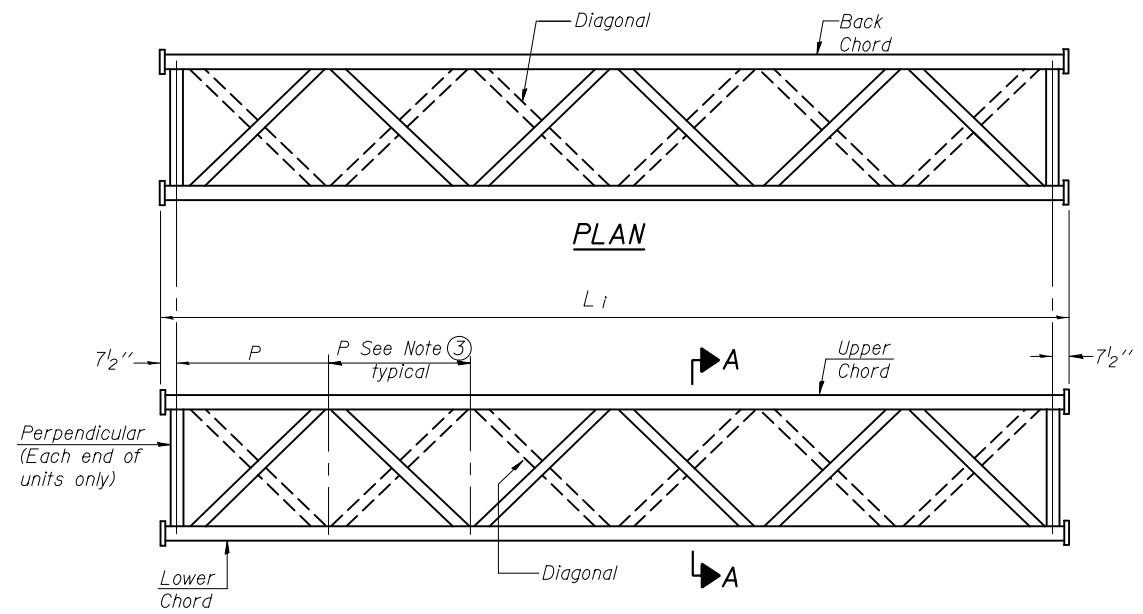
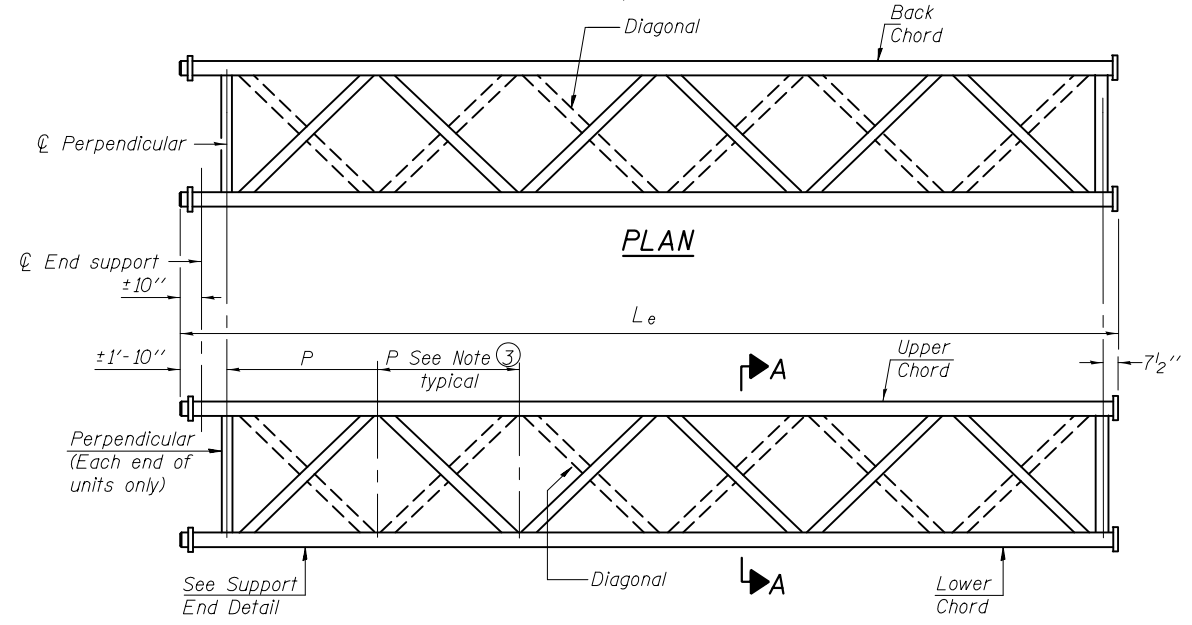


CELL / MODEL NAME	DESCRIPTION	DATE
TRI-S-1	General plan and elevation	06/01/2012
TRI-S-2	Steel truss details for truss types TRI-I-S, TRI-II-S and TRI-III-S	06/01/2012
TRI-S-3	Steel truss details for truss types TRI-I-S, TRI-II-S and TRI-III-S	06/01/2012
TRI-S-4	Damping device	06/01/2012
TRI-S-5	Truss support column	06/01/2012
TRI-S-6	Steel walkway details	06/01/2012
TRI-S-7	Steel sign bracket and walkway details	06/01/2012
TRI-S-8	Handrail details	06/01/2012
TRI-S-9	Drilled shaft foundation details	06/01/2012



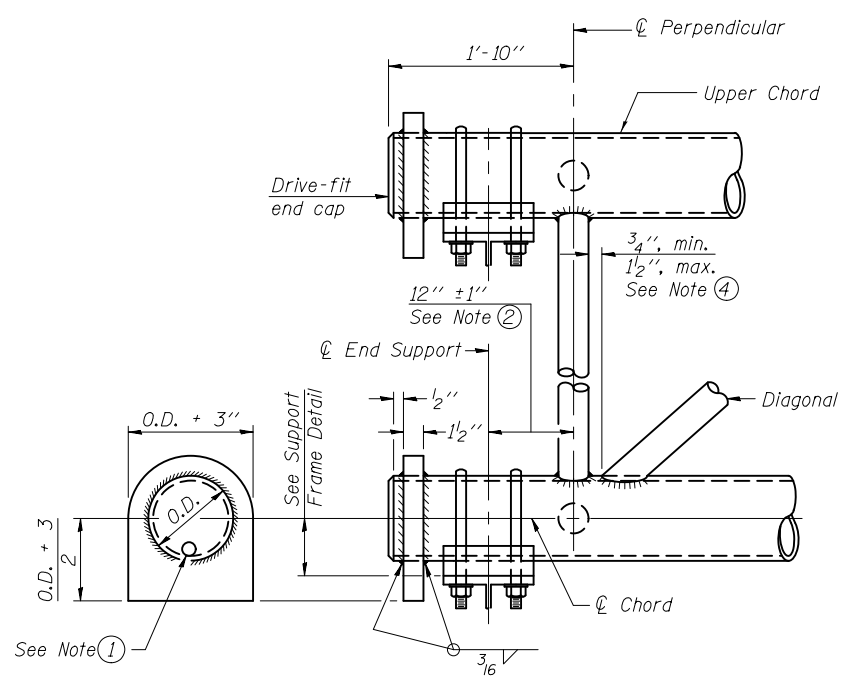
**ELEVATION
TYPICAL INTERIOR UNIT**

Even number of panels/interior unit required.
For two interior units, each unit may have even
or odd number of panels.

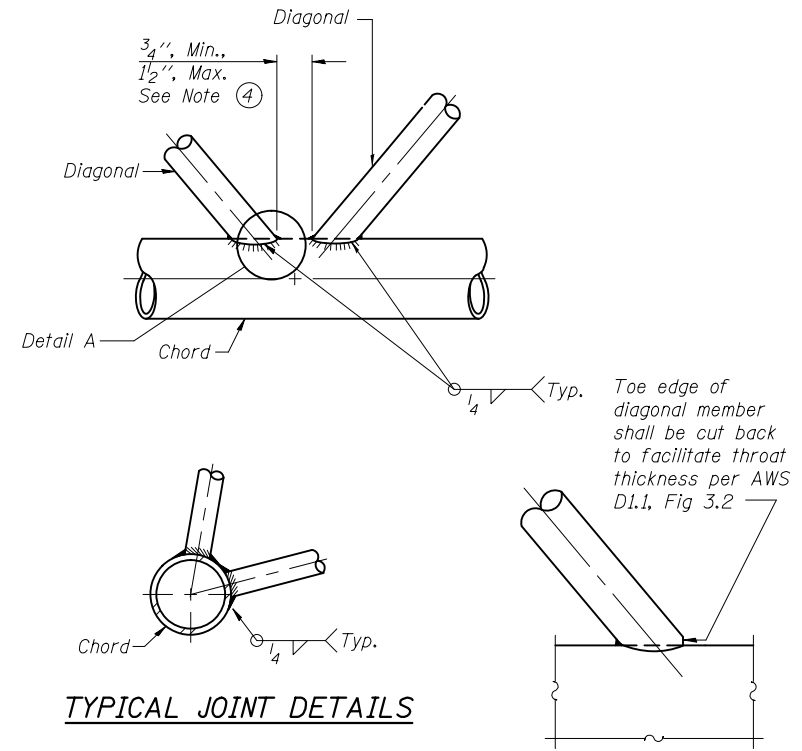


**ELEVATION
TYPICAL EXTERIOR UNIT**

Even or odd number of panels/exterior unit allowed.



SUPPORT END DETAIL FOR EXTERIOR UNIT

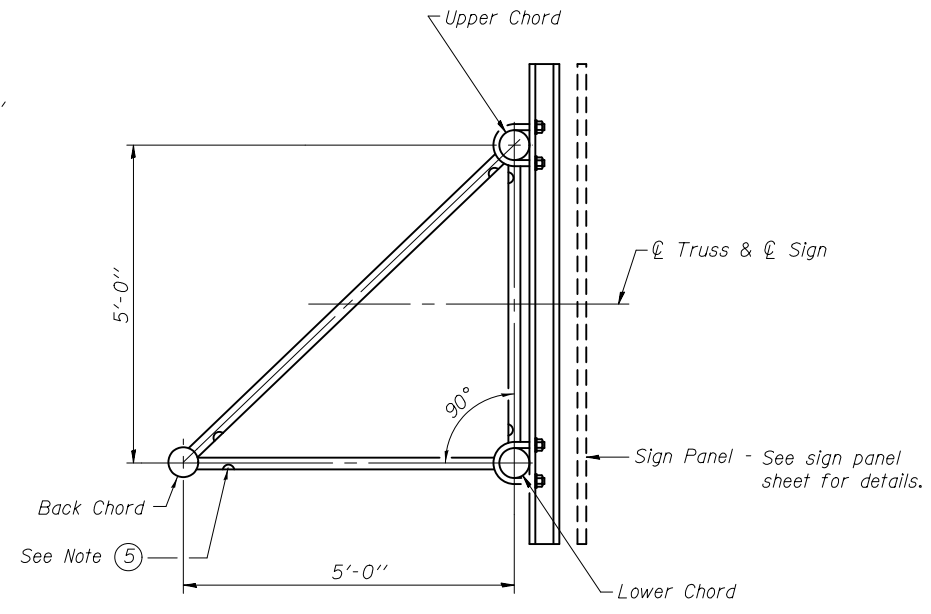


TYPICAL JOINT DETAILS

DETAIL A

NOTES

- ① Contractor must use standard drive-fit cap to close end. The drive-fit cap must have a 1/2" ϕ drain hole and must be installed after galvanizing. (Typ. at non-splice ends of chords)
- ② 1'-10" end dimension may vary by $\pm 1"$ to provide uniform panel spacing (P).
- ③ Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0". (Fabricator may vary for uniform diagonals).
- ④ All diagonals shall be offset from the panel point based on the following: offset shall provide a 3/4" minimum to 1 1/2" maximum clearance between diagonal and any other diagonal, or perpendicular member, and to provide clearance for U-bolt connections of signs or walkway brackets.
- ⑤ Galvanizing vent holes of adequate size must be provided at each end of truss members except chords. Place on underside of sloping members and truss side of vertical members. Alternately, holes may be provided in wall of chords. All vent holes must be drilled and de-burred, typ.



SECTION A-A

TRI-S-2

6-1-12

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

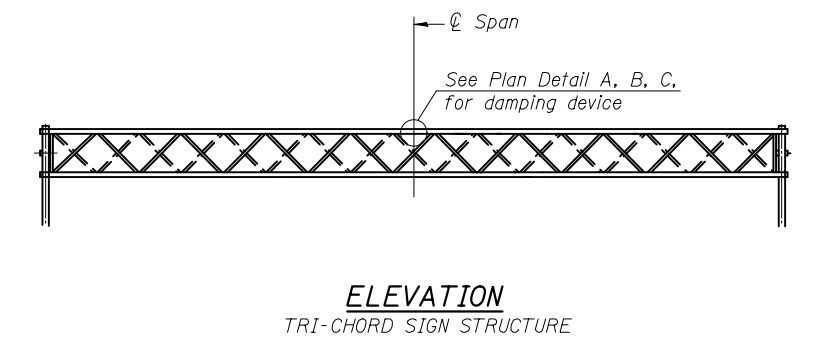
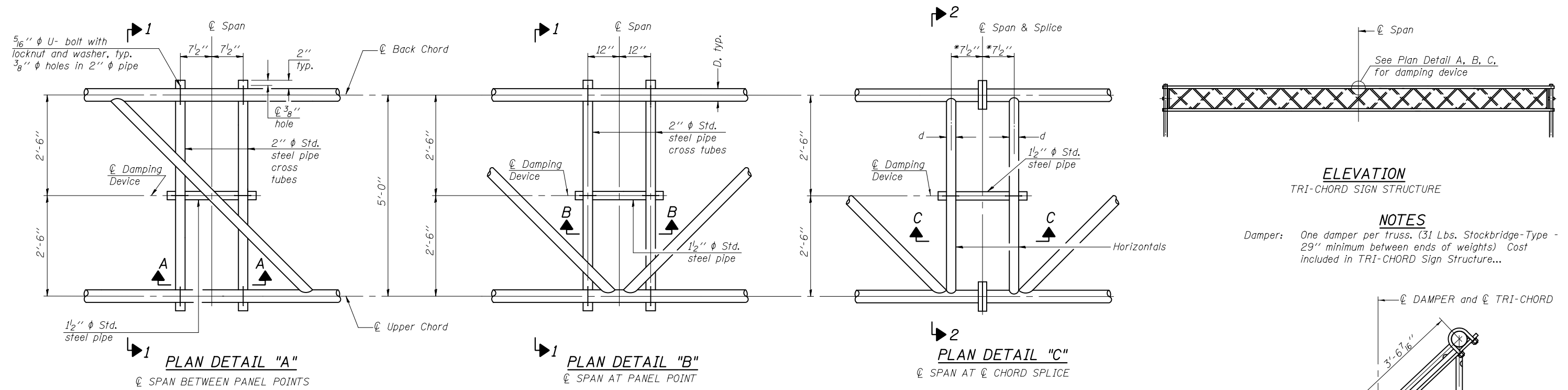
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRI-CHORD SIGN STRUCTURES - STEEL TRUSS DETAILS
FOR TRUSS TYPES TRI-I-S, TRI-II-S AND TRI-III-S**

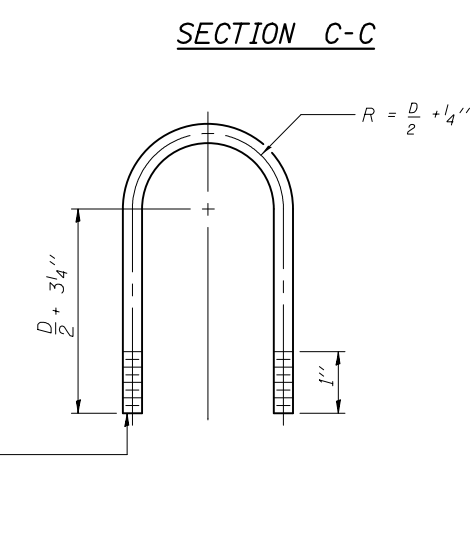
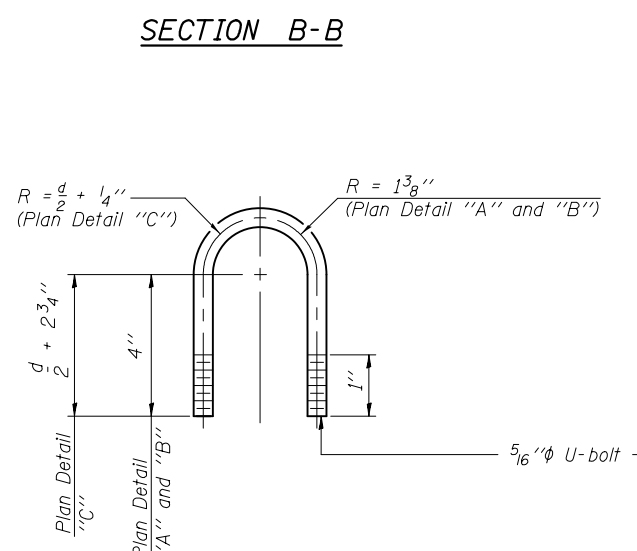
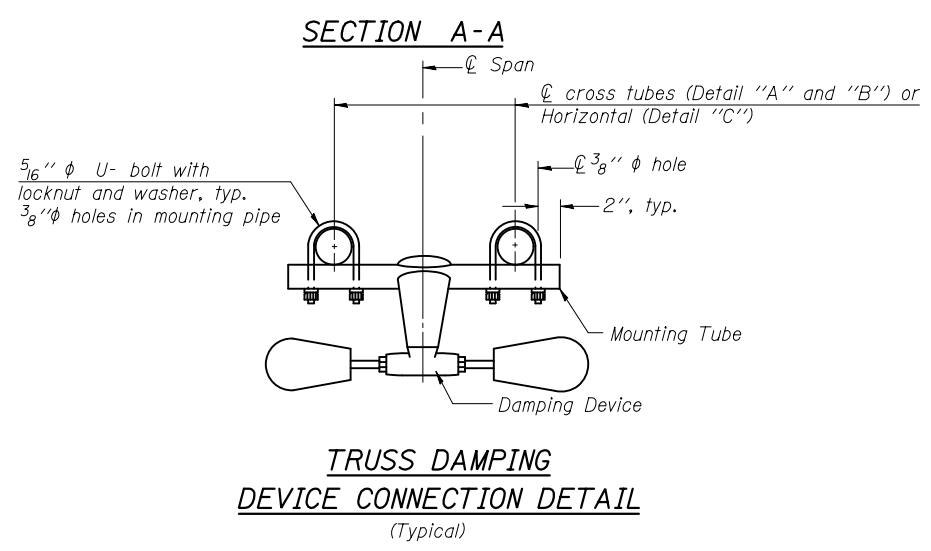
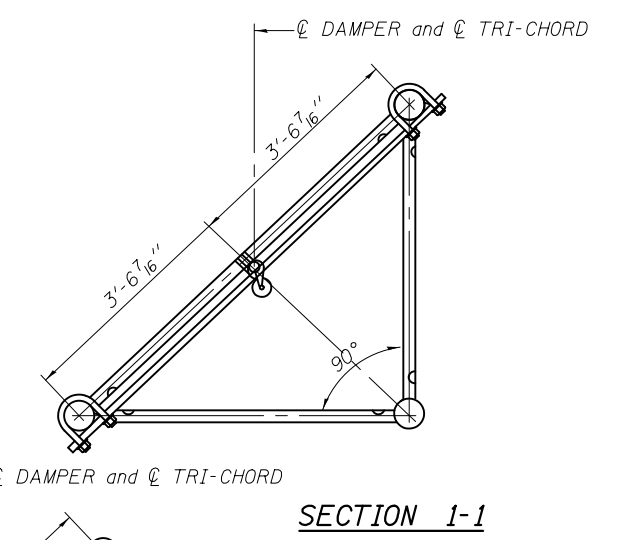
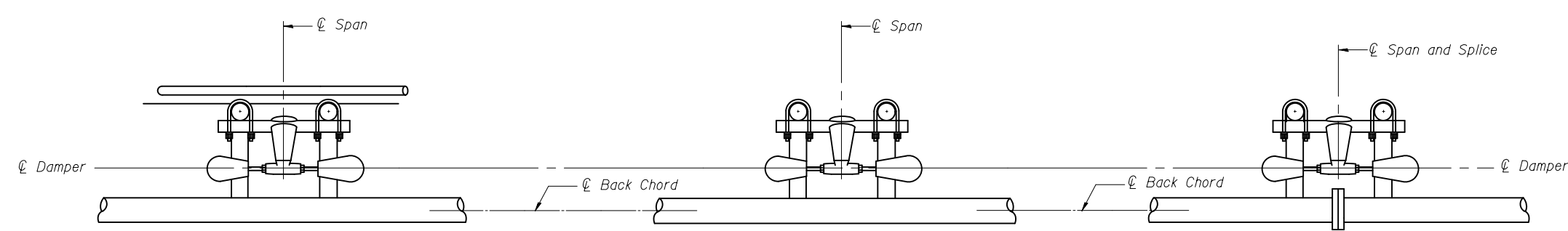
SHEET NO. OF SHEETS

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

ILLINOIS FED. AID PROJECT



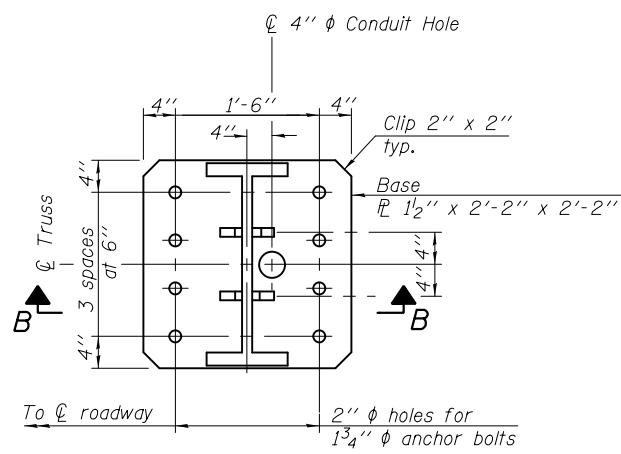
NOTES
 Damper: One damper per truss. (31 Lbs. Stockbridge-Type - 29" minimum between ends of weights) Cost included in TRI-CHORD Sign Structure...



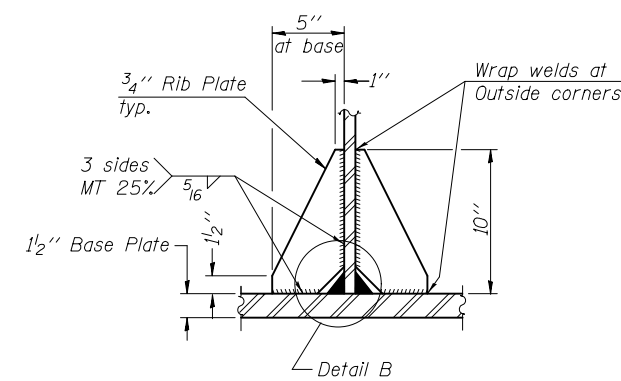
TRI-S-4

6-1-12

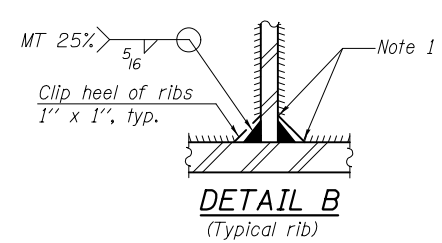
FILE NAME =	USER NAME =	DESIGNED -	REVISD	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRI-CHORD SIGN STRUCTURE DAMPING DEVICE	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		CHECKED -	REVISD								
		DRAWN -	REVISD			SHEET NO. OF SHEETS					
		CHECKED -	REVISD			CONTRACT NO.					
				ILLINOIS FED. AID PROJECT							



SECTION A-A

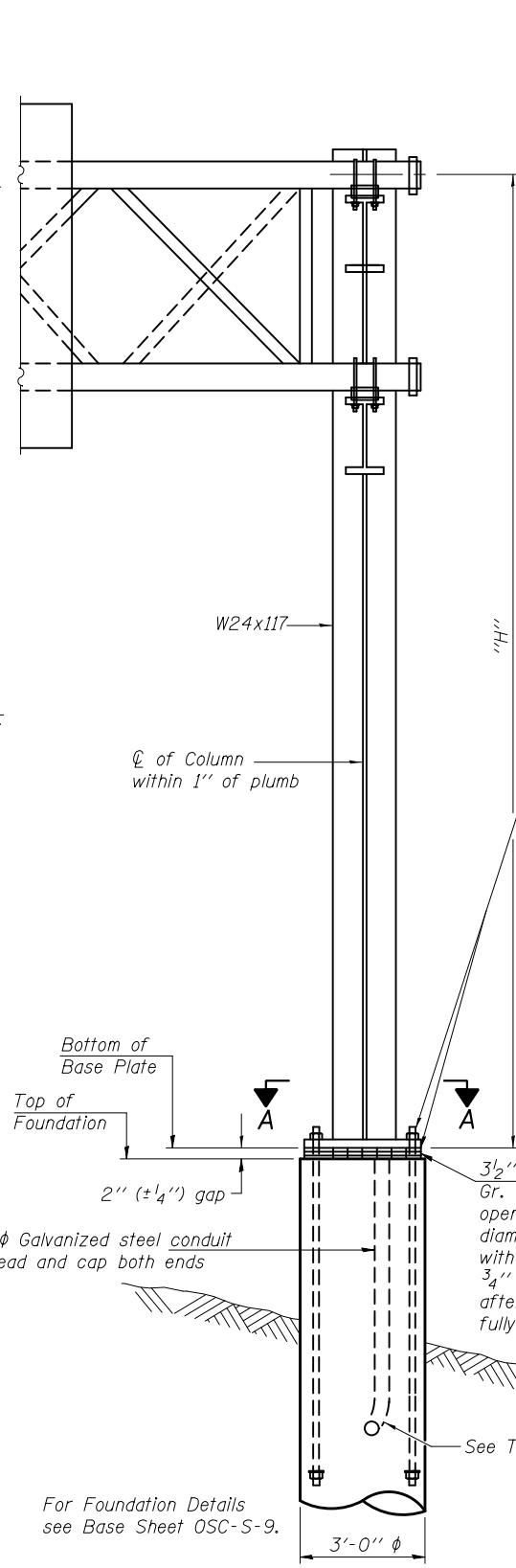


SECTION B-B

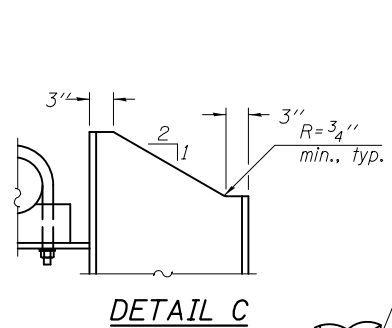


DETAIL B
(Typical rib)

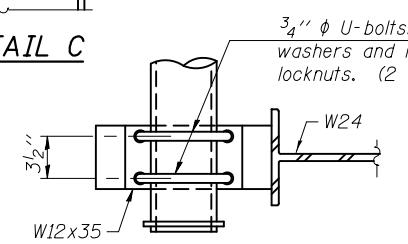
Note 1: Extend welds to clip to facilitate galvanizing.



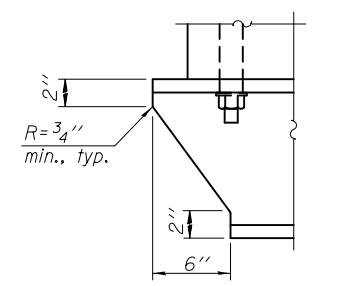
FRONT ELEVATION



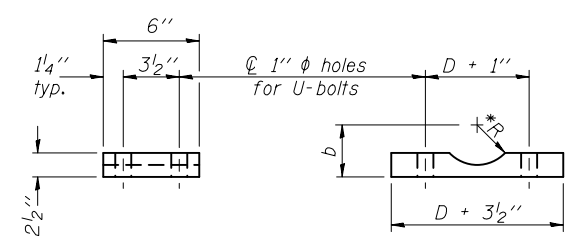
DETAIL C



SECTION C-C

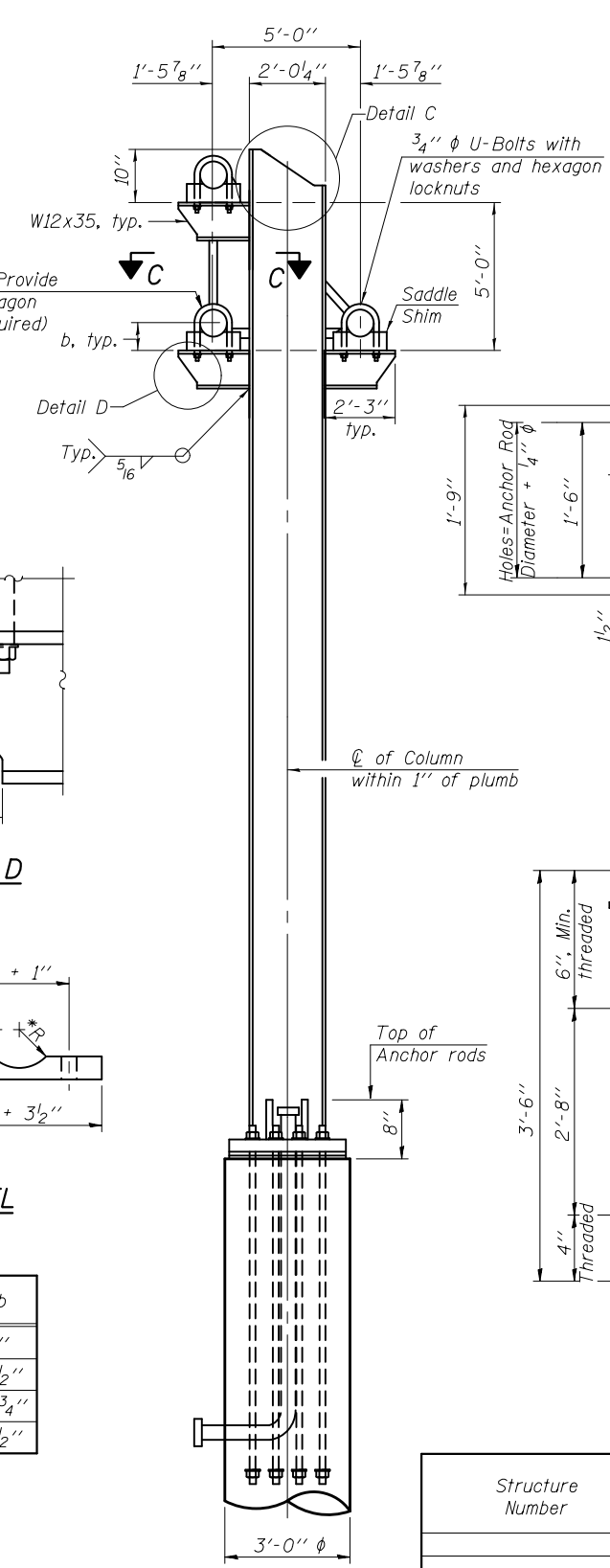


DETAIL D

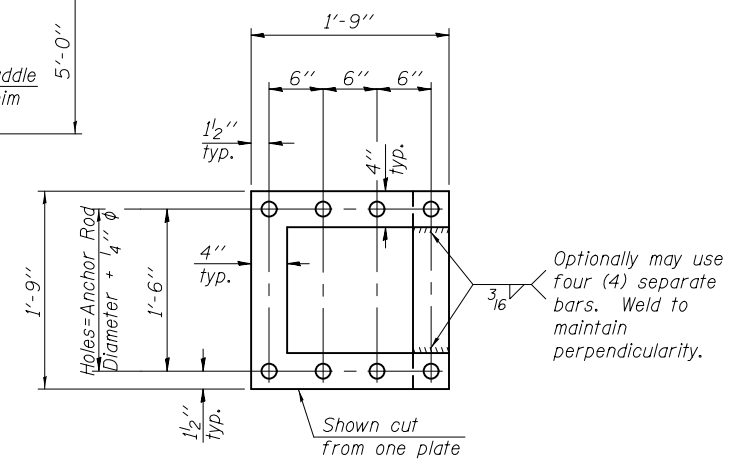


SADDLE SHIM DETAIL

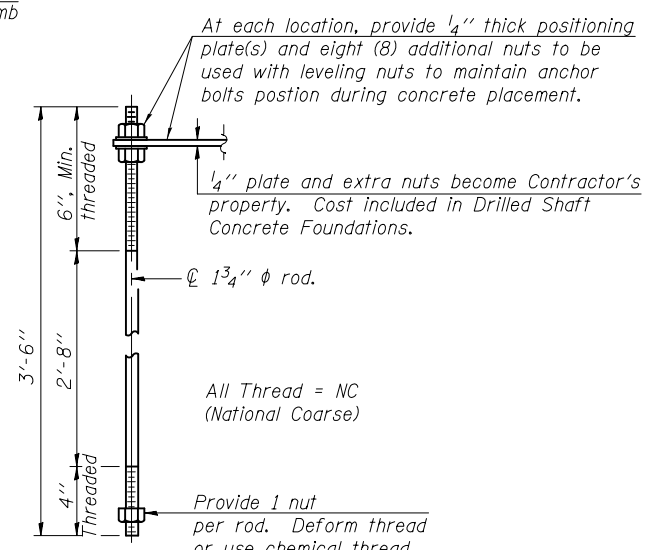
Chord Outside Diameter	R	b
4.500	2 5/16"	4"
5.563	2 7/8"	4 1/2"
6.625	3 3/8"	4 3/4"
8.625	4 3/8"	5 1/2"



END ELEVATION



POSITIONING PLATE(S)



ANCHOR ROD DETAIL
Drilled Shaft Foundation

Structure Number	Station	Column		H (ft.)	Anchor Rod Diameter (in.)
		Left	Right		

TRI-S-5

6-1-12

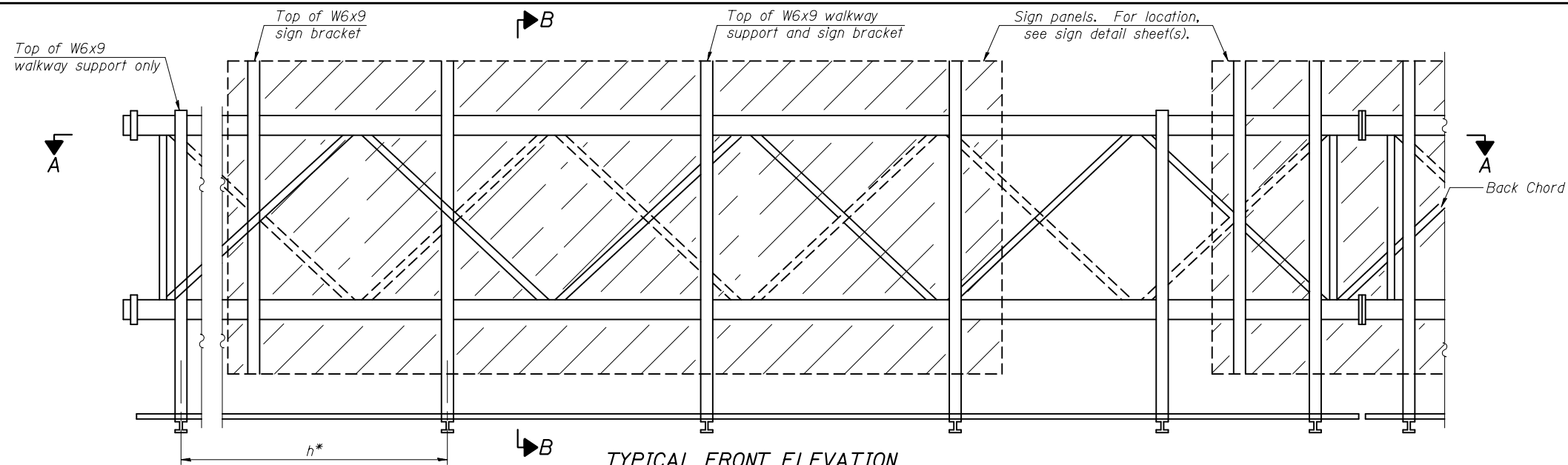
FILE NAME =	USER NAME =	DESIGNED -	REVISIONS
		CHECKED -	REVISIONS
		DRAWN -	REVISIONS
		CHECKED -	REVISIONS

STATE OF ILLINOIS
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TRI-CHORD SIGN STRUCTURES - TRUSS SUPPORT
COLUMN - STEEL TRUSS & STEEL POST

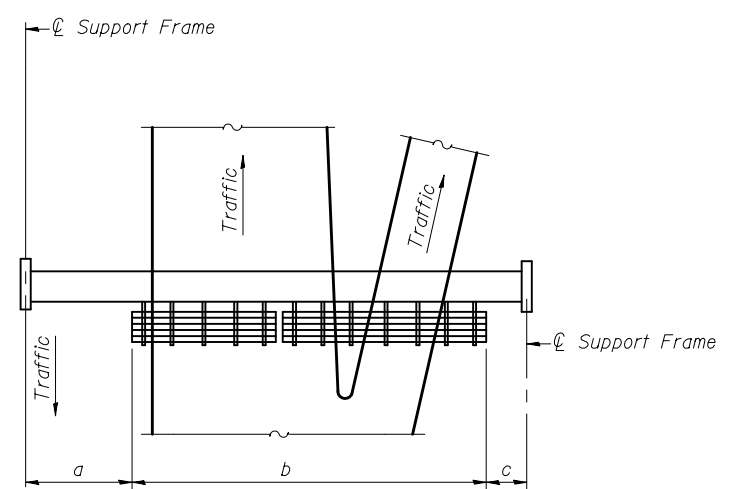
SHEET NO. OF SHEETS

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



TYPICAL FRONT ELEVATION

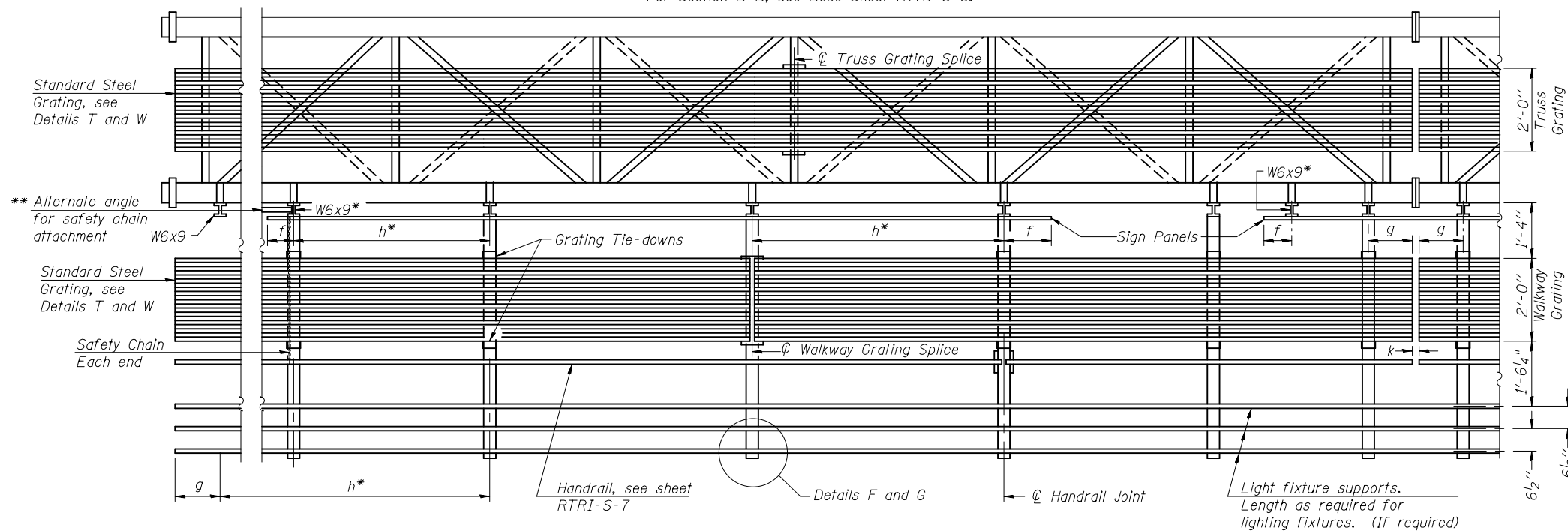
With lights and handrail omitted for clarity.
For Section B-B, see Base Sheet RTRI-S-6.



PLAN WALKWAY AND HANDRAIL SKETCH

(Road plan beneath truss varies)

Walkway Grating width dimensions is nominal and may vary $\pm 1/2$ " based on available standard widths.



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 joint, grating and light support splices placed as needed.

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

BRACKET TABLE

W6x9		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

Structure Number	Station	a	b	c	Walkway Grating and Handrail Lengths

Notes:

* Space W6x9 walkway brackets and sign brackets W6x9 for efficiency and within limits shown:

- f = 12" maximum, 4" minimum (End of sign to ϕ of nearest bracket)
- g = 12" maximum, 4" minimum (End of walkway grating to ϕ of nearest support bracket)
- h = 6'-0" maximum (ϕ to ϕ sign and/or walkway support brackets, W6x9)
- 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 RTRI-S-7

For Details T and W, Section B-B and Grating Splice Details, see Base Sheet RTRI-S-6. For Handrail Details see Base Sheet RTRI-S-7.

TRI-S-6

6-1-12

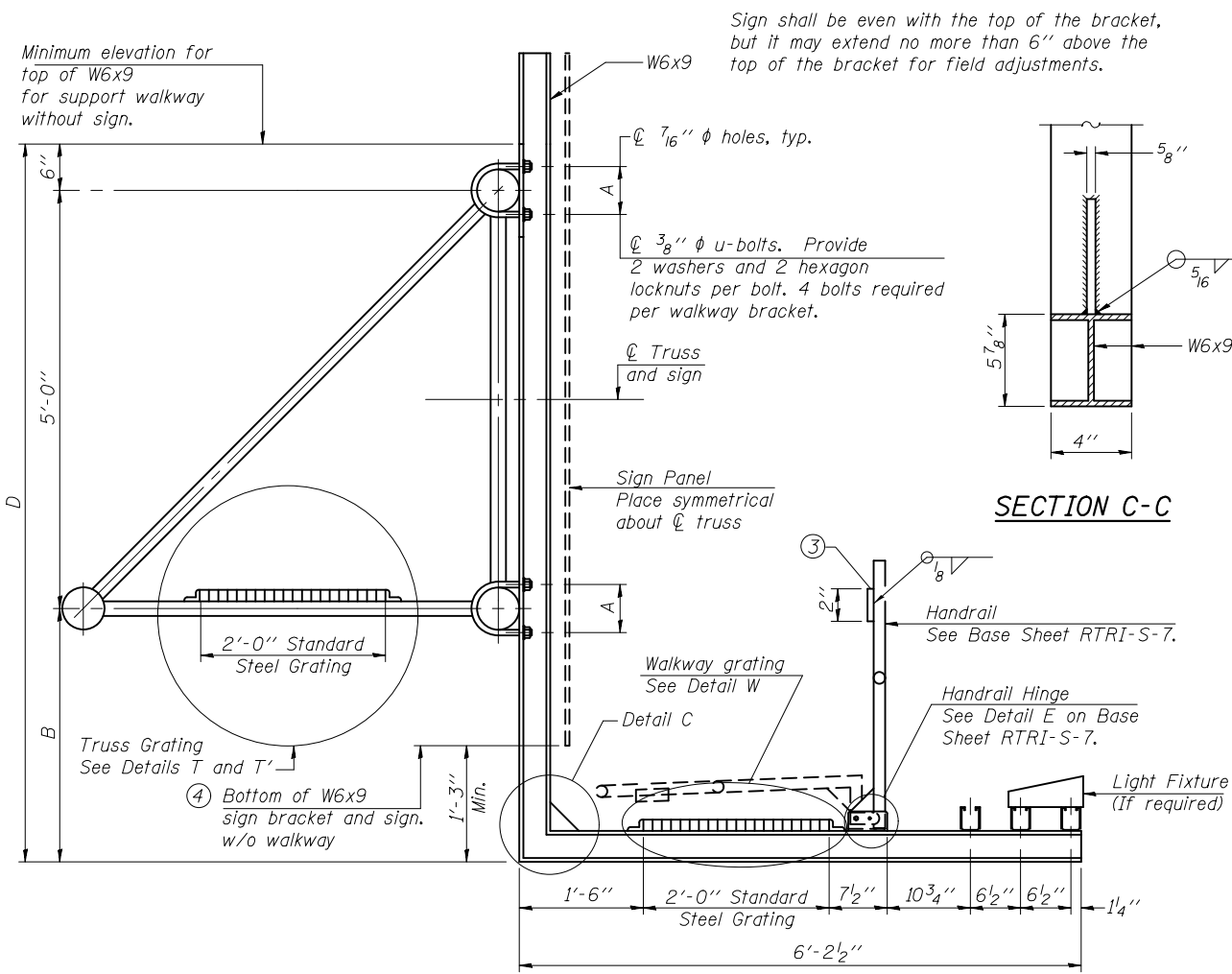
FILE NAME =	USER NAME =	DESIGNED -	REVISIONS
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		CHECKED -	REVISIONS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

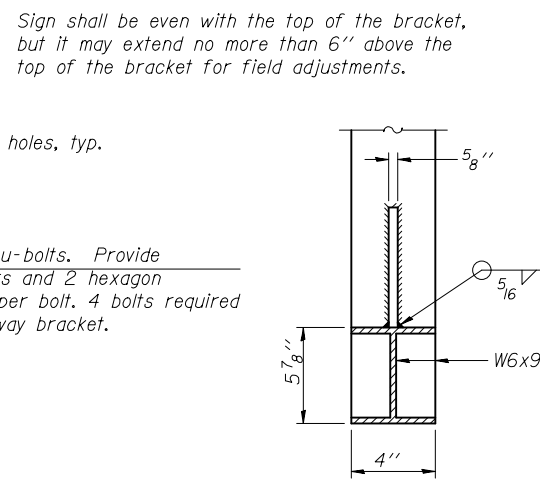
**TRI-CHORD SIGN STRUCTURES
STEEL WALKWAY DETAILS**

SHEET NO. OF SHEETS

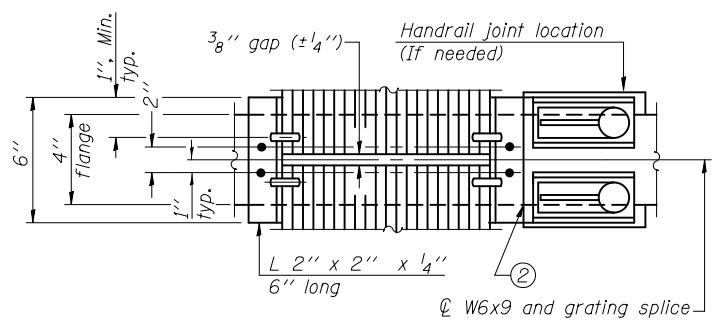
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



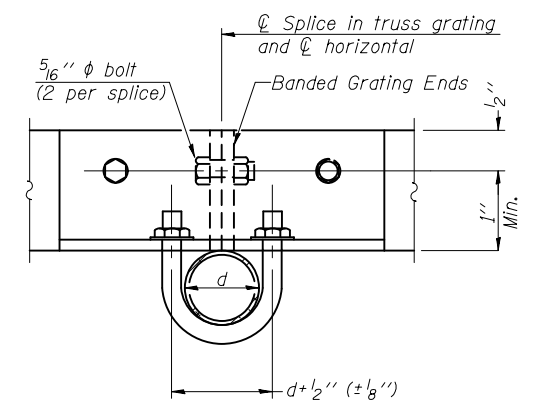
SECTION B-B



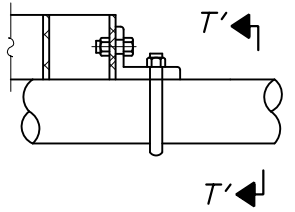
SECTION C-C



(AT WALKWAY GRATING SPLICE)

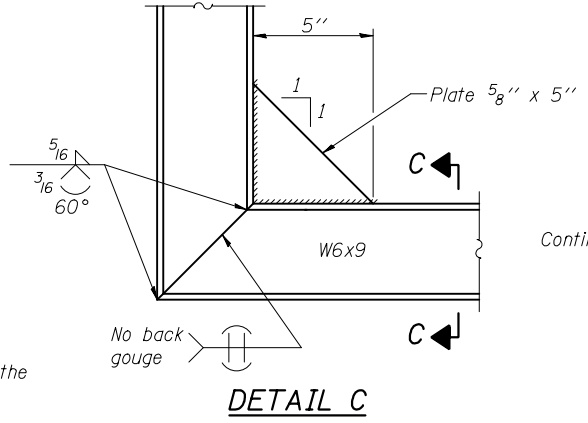


SECTION T'-T'

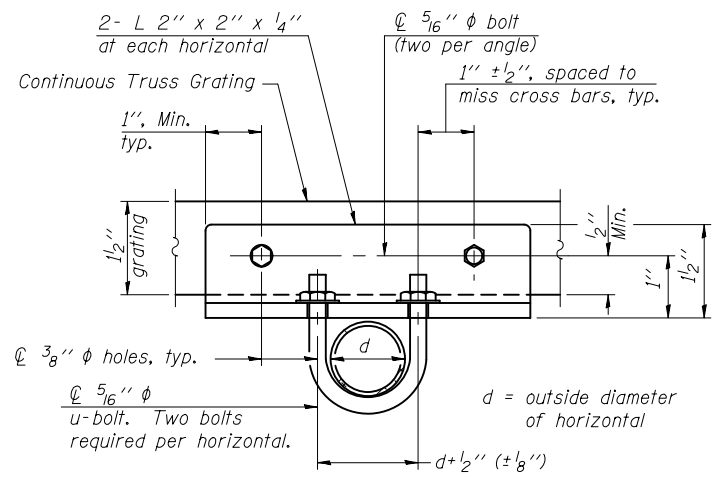


DETAIL T'

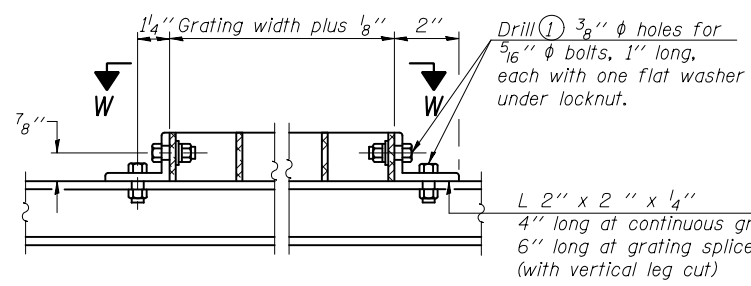
(Truss grating splice)
Details not shown same as Detail T.
Alternate materials may be used subject to the Engineer's review and approval.



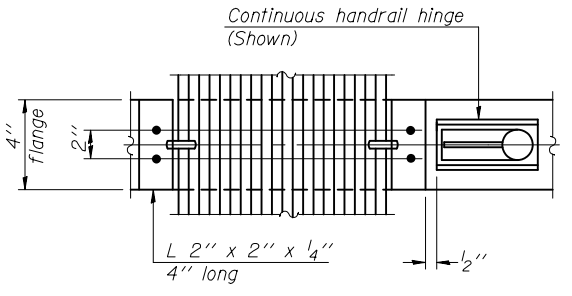
DETAIL C



SECTION T-T

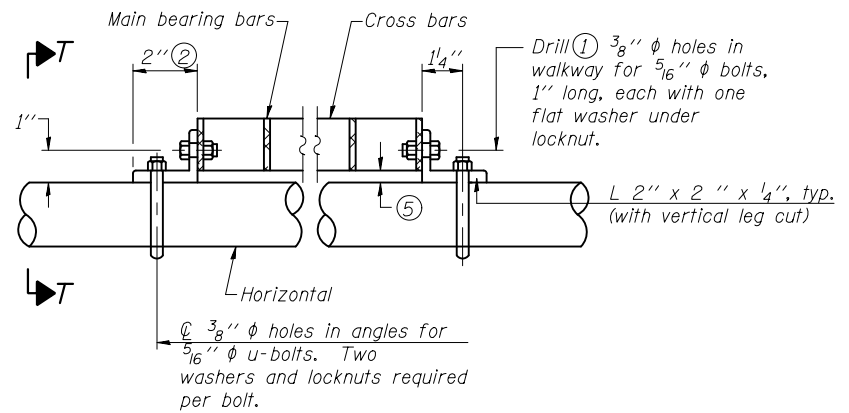


DETAIL W
(Walkway grating)



(CONTINUOUS WALKWAY GRATING)

SECTION W-W



DETAIL T

(Continuous Truss grating)

BARS SIZES FOR STANDARD STEEL GRATING

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. All intersects welded.

- ① Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- ② If Handrail Joint present, weld angle to W6x9 and 1/4" extension bars. (See Base Sheet TRI-S-7.)
- ③ 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- ④ For projects that don't require walkway and lighting.
- ⑤ Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.
- ⑥ Based on actual height of tallest sign given on TRI-S-1.

Structure Number	Station	⑥ A	B	⑥ D

TRI-S-7

6-1-12

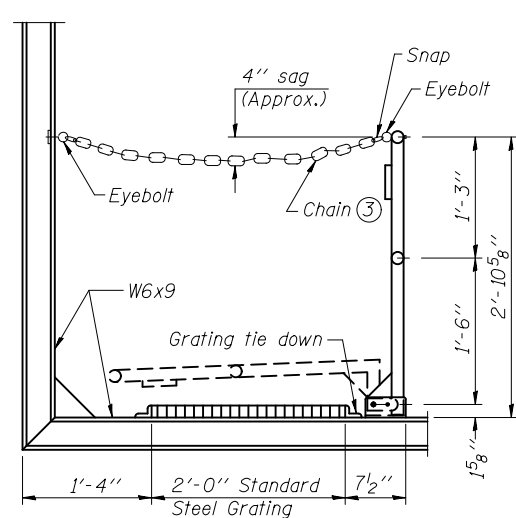
FILE NAME =	USER NAME =	DESIGNED -	REVISED
		CHECKED -	REVISED
		DRAWN -	REVISED
		CHECKED -	REVISED

STATE OF ILLINOIS
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TRI-CHORD SIGN STRUCTURES - STEEL
SIGN BRACKET AND WALKWAY DETAILS

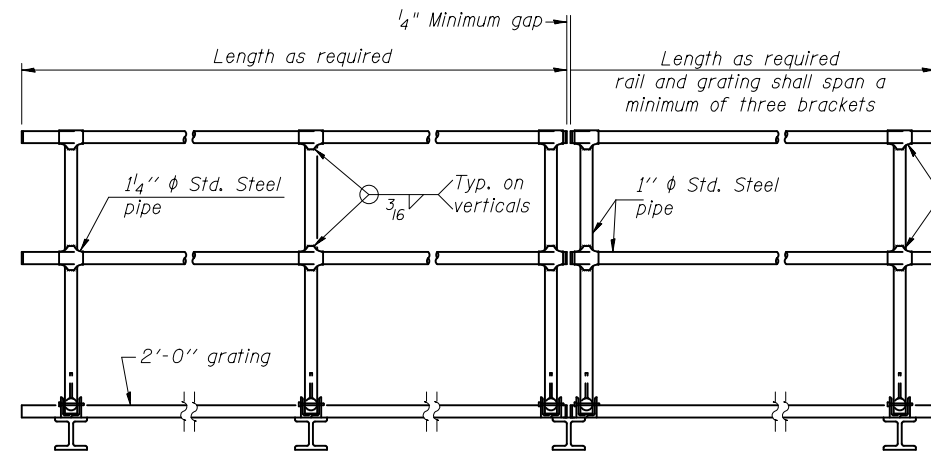
SHEET NO. OF SHEETS

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



SIDE ELEVATION

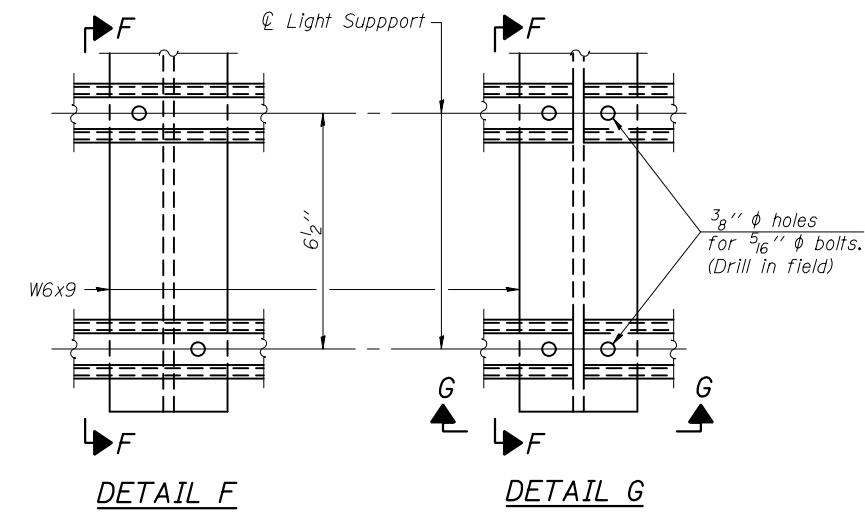
(Showing safety chain w/o sign)



FRONT ELEVATION

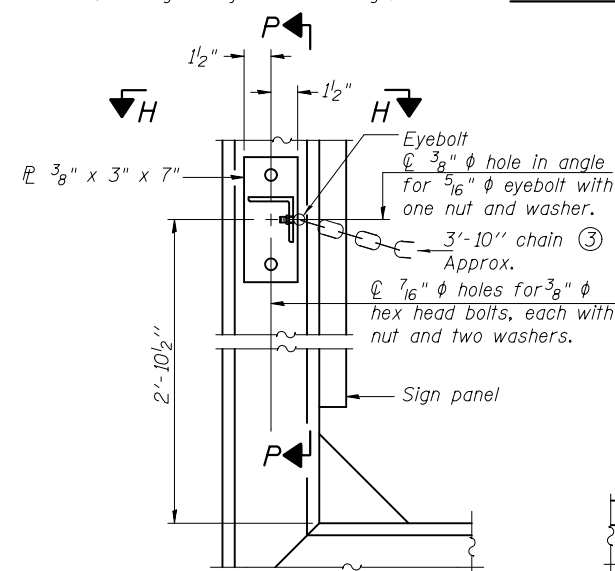
HANDRAIL DETAILS

- 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" pipe. Provide 7/16" diameter hole in 1 1/4" pipe for 3/8" diameter bolt. Field drill 7/16" diameter hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 7/16" diameter holes on top rail at ends only.)



DETAIL F

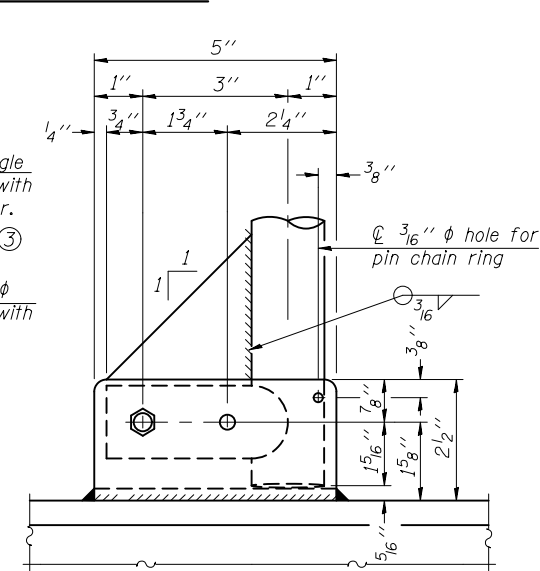
DETAIL G



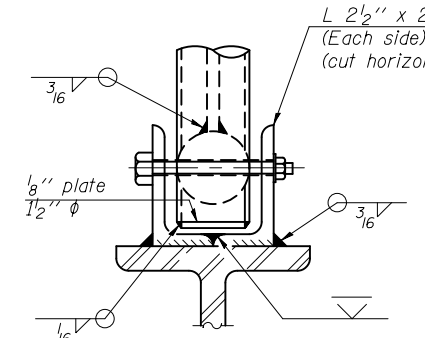
ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)

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

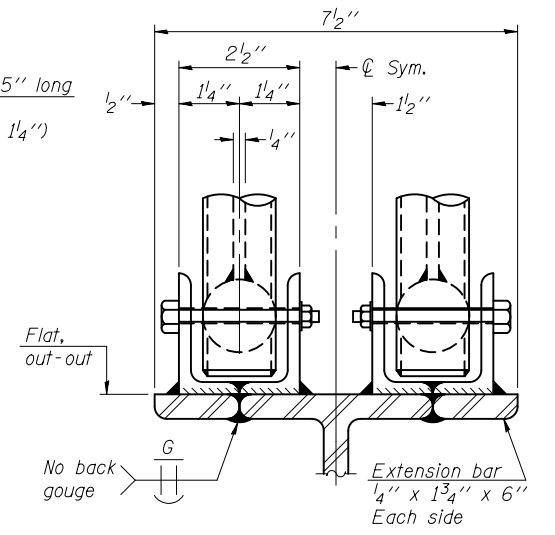


SIDE ELEVATION

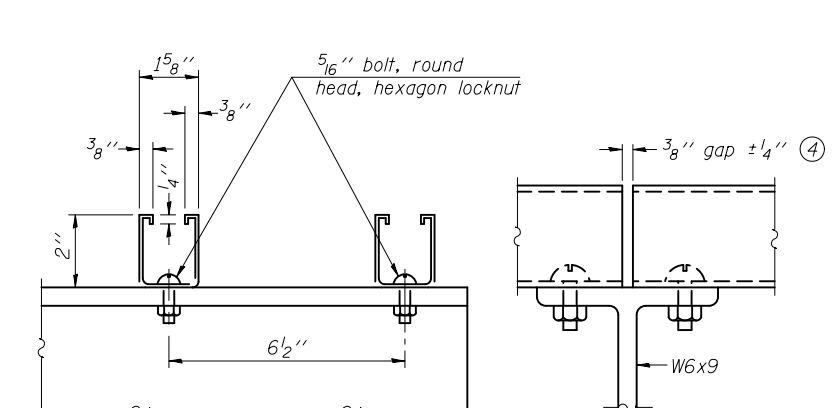


FRONT ELEVATION

See "ELEVATION" at right for dimensions.



ELEVATION AT HANDRAIL JOINT

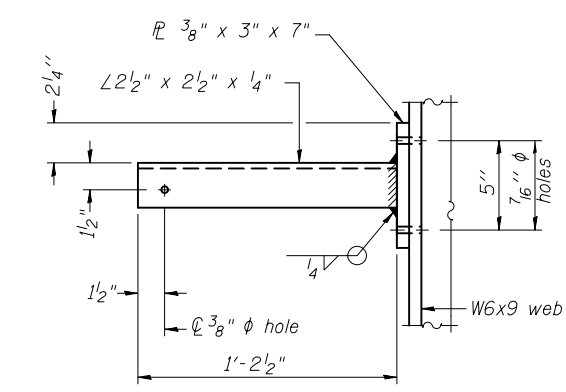


SECTION F-F

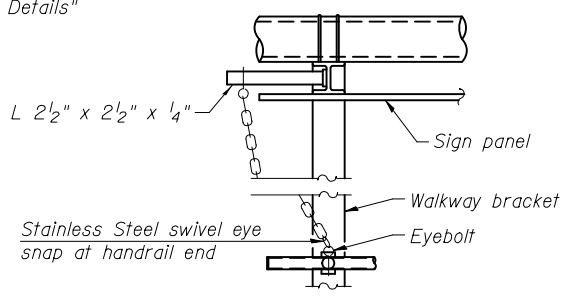
SECTION G-G

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.

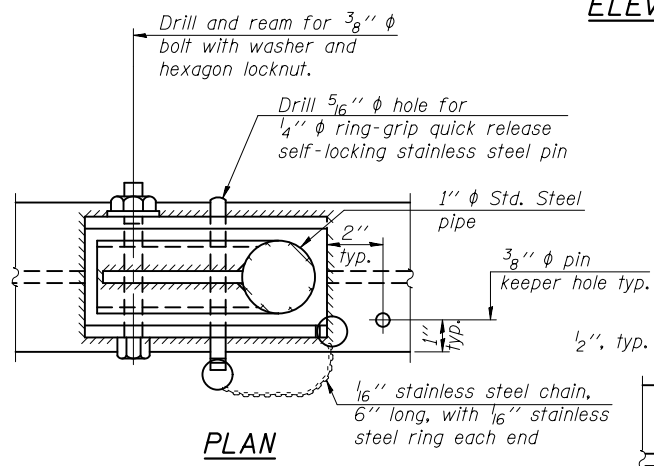


SECTION P-P

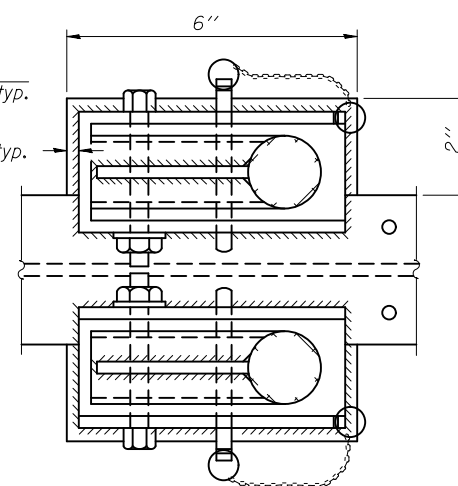


VIEW H-H

Details not shown similar to "Safety Chain" Details (Walkway omitted)

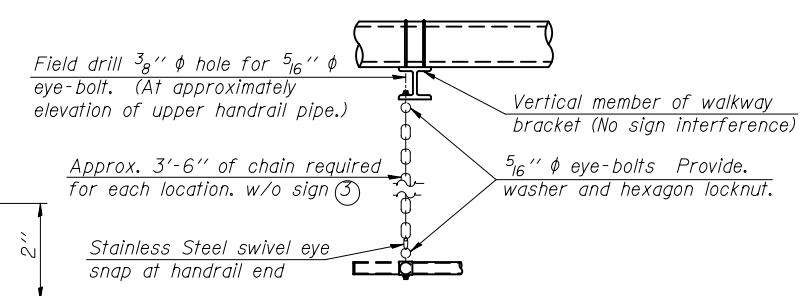


**PLAN
DETAIL E HANDRAIL HINGE**



PLAN AT HANDRAIL JOINT

Details not shown same as "PLAN"



SAFETY CHAIN

One required for each end of each walkway.

- ③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

TRI-S-8

6-1-12

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

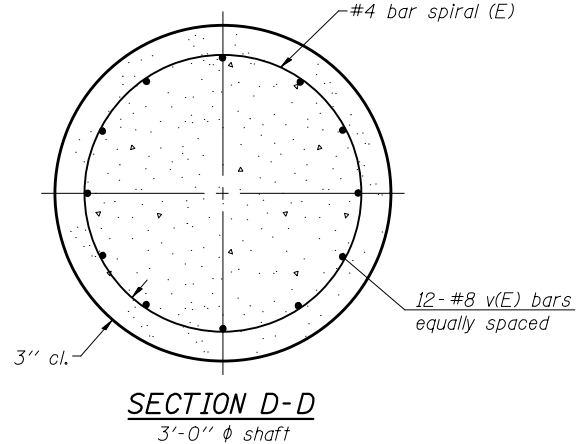
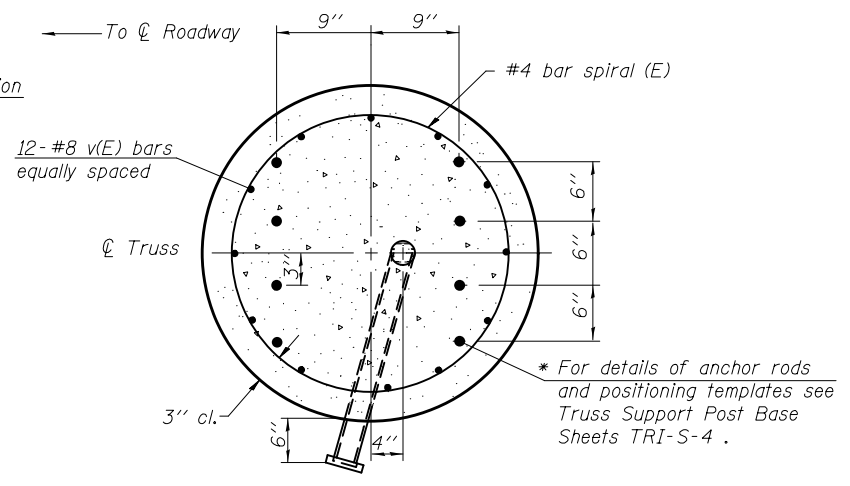
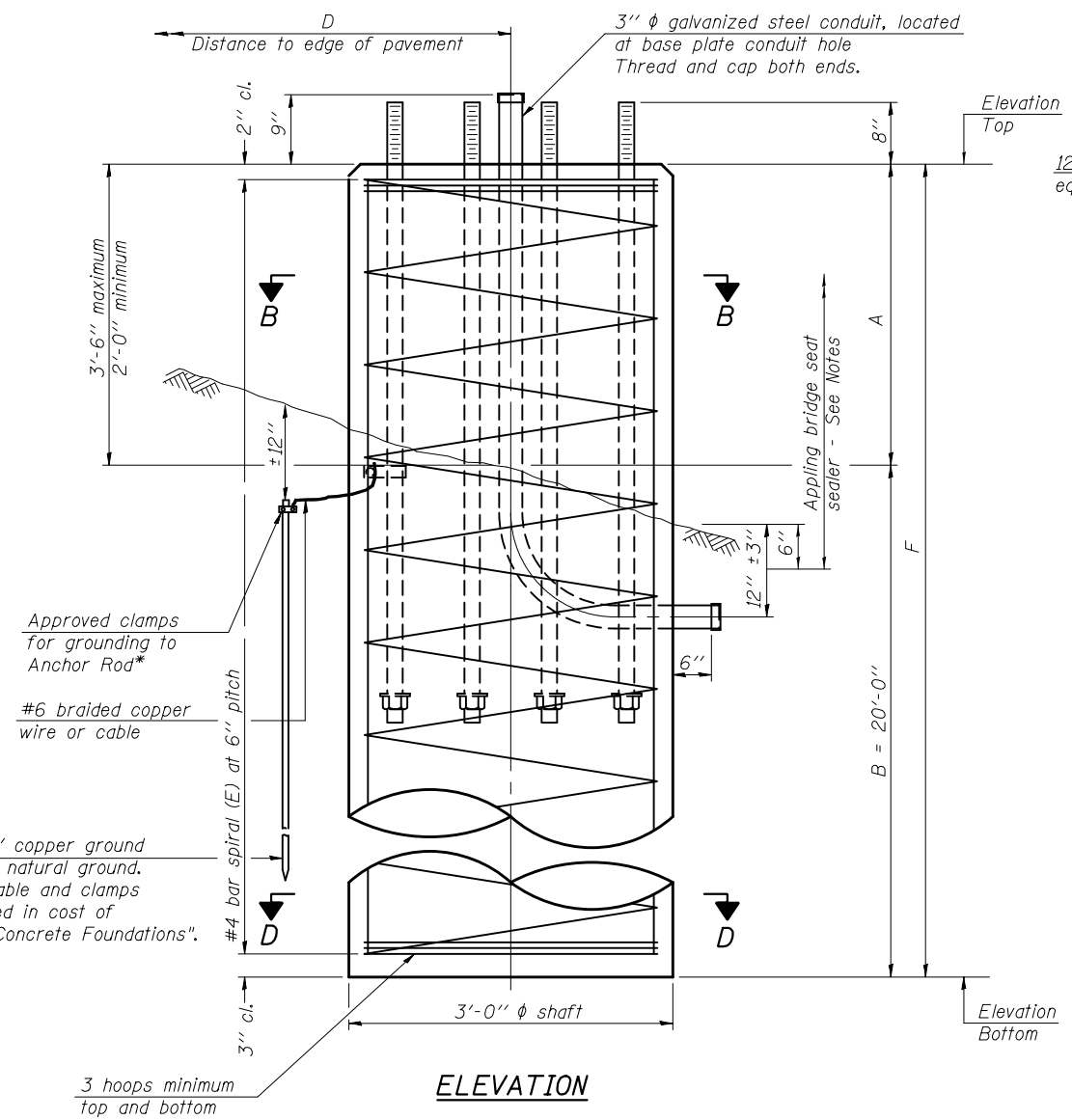
TRI-CHORD SIGN STRUCTURES
HANDRAIL DETAILS

SHEET NO. OF SHEETS

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

* Grind anchor rod to bright finish at ground clamp location before installing clamp.

NOTES:
 The foundation dimensions shown in the Foundation Design Table are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Q_u) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown in the Foundation Data Table will be the result of site specific designs.
 If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future 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 Engineer's written permission.
 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 Bridge Seat 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 TABLE											
Structure Number	Station	Truss Type	Left Foundation				Right Foundation				Class DS Concrete (Cu. Yds.)
			Elevation Top	Elev. Bottom	B	F	Elevation Top	Elev. Bottom	B	F	

TRI-S-9

6-1-12

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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRI-CHORD SIGN STRUCTURES - DRILLED SHAFT
STEEL TRUSS & STEEL POST

SHEET NO. OF SHEETS

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