

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D-3 OVD SIN STR REPL 11-34	VAR	16	1
ILLINOIS		CONTRACT NO. 46159		

INDEX OF SHEETS

1. COVER SHEET
2. GENERAL NOTES
3. SUMMARY OF QUANTITIES
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5. SCHEDULES OF QUANTITIES
6. TEMPORARY SIGNING
- 7 - 11. OVERHEAD SIGN TRUSS - CANTILEVER
- 12 - 16. OVERHEAD SIGN TRUSS - SPAN

STANDARDS

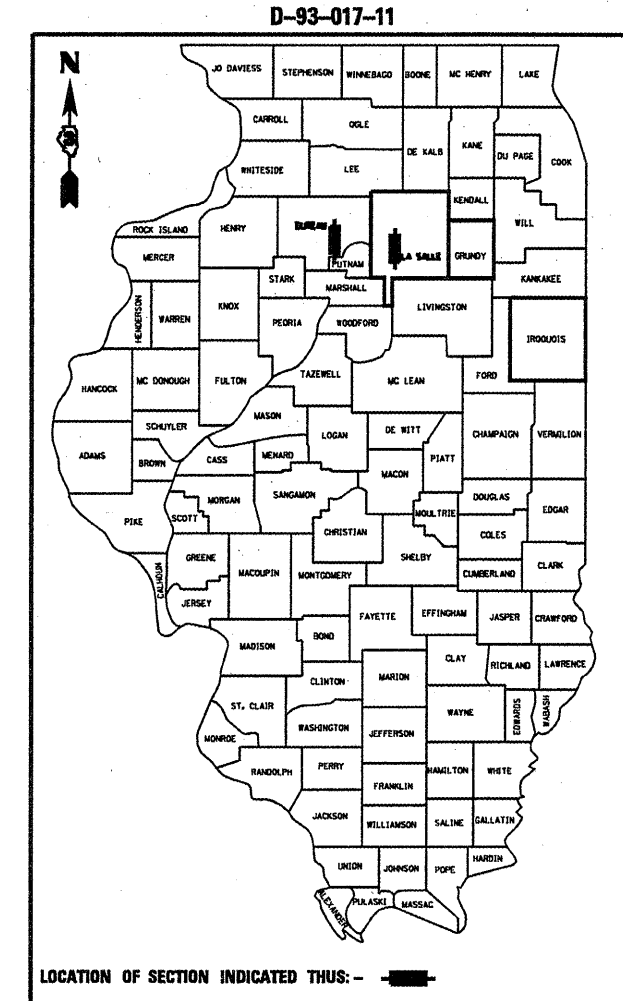
- | | |
|-----------|---|
| 000001-06 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS |
| 001006 | DECIMAL OF AN INCH AND OF A FOOT |
| 701101-02 | OFF-ROAD OPERATIONS MULTILANE, 15' (4.5 m) TO 24' (600 mm) FROM PAVEMENT EDGE |
| 701106-02 | OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 m) AWAY |
| 701400-05 | APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY |
| 701401-06 | LANE CLOSURE, FREEWAY/EXPRESSWAY |
| 701601-07 | URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN |
| 701901-01 | TRAFFIC CONTROL DEVICES |
| 720001-01 | SIGN PANEL MOUNTING DETAILS |
| 720006-02 | SIGN PANEL ERECTION DETAILS |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PROPOSED
HIGHWAY PLANS

VARIOUS ROUTES
SECTION D-3 OVD SIN STR REPL 11-34

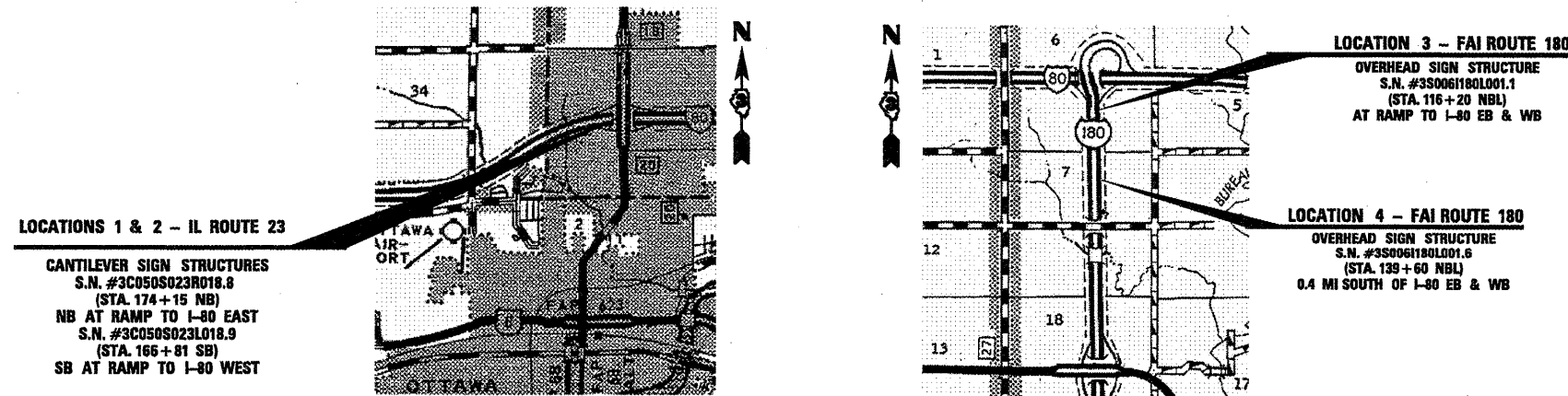
OVERHEAD SIGN TRUSS PRESERVATION
LASALLE & BUREAU COUNTIES

C-60-034-11



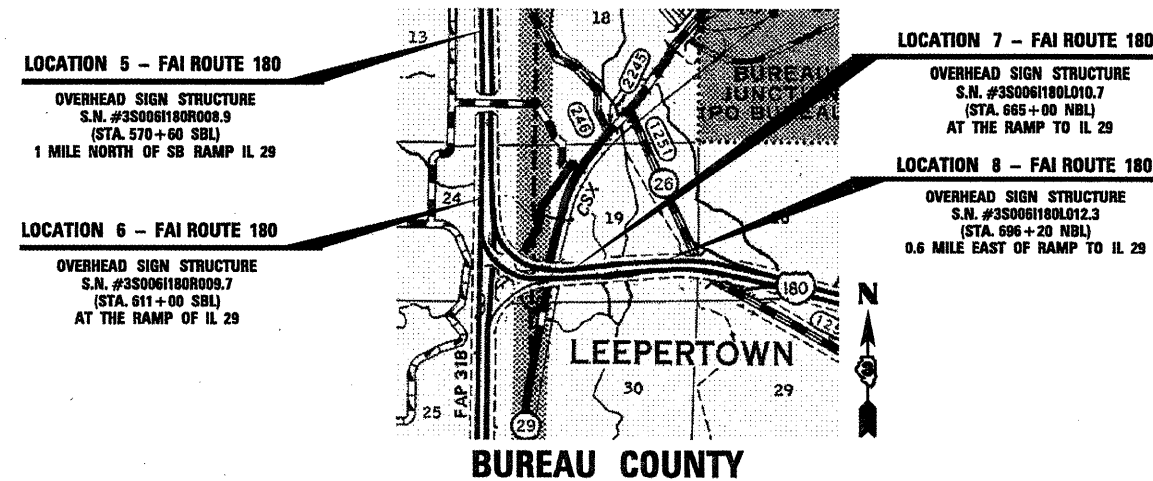
FUNCTIONAL CLASSIFICATION

OTHER PRINCIPAL ARTERIAL	RURAL INTERSTATE
IL ROUTE 23	FAI ROUTE 180
2009 ADT = 19500	2009 ADT = 3250
P.V. = 93.3%	P.V. = 83.1%
M.U. = 1.8%	M.U. = 13.1%
S.U. = 4.9%	S.U. = 3.8%



LASALLE COUNTY

BUREAU COUNTY



BUREAU COUNTY

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: JOE KANNEL
UNIT CHIEF: RON WOODSHANK
TOWNSHIP: VARIOUS

CONTRACT NO. 46159

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Nov. 9 2010
PASSED [Signature]
ENGINEER OF OPERATIONS

Feb 4 2011
Scott E. Still P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED Feb 4 2011
Christine M. Reeder
DIRECTOR DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

GENERAL NOTES

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER SHOWN IN THE LIST OF STANDARDS OR THE COPY INCLUDED IN THESE PLANS.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

THE CONTRACTOR SHALL BE REQUIRED TO SECURE WASTE CONTAINERS THAT REMAIN ON THE JOB SITE. THESE CONTAINERS CANNOT BE MOVED OR OPENED DURING NON-WORKING HOURS.

THE CONTRACTOR / SUBCONTRACTOR LICENSED TO DISPOSE OF LEAD PAINT RESIDUE MUST REMOVE THE WASTE MATERIAL FROM THE JOB SITE ACCORDING TO ALL FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES BY THE COMPLETION DATE.

THE SSPC-OP1 AND SSPC-OP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED FOR THIS PROJECT.

LOCATIONS 1 & 2:

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXPOSED STEEL SURFACES OF THE SUPPORT, TRUSS, WALKWAY AND ALL OTHER ASSOCIATED STEEL COMPONENTS SHALL BE CLEANED PER "NEAR WHITE BLAST CLEANING SSPC-SP10". ALL EXISTING STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF "PAINT SYSTEM OZ/E/U". THE COLOR OF THE FINAL FINISH COAT FOR ALL STEEL SURFACES SHALL BE "REDDISH BROWN, 2.5YR 3/4".

LOCATIONS 3 THROUGH 8:

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXPOSED STEEL SURFACES OF THE SUPPORTS AND ASSOCIATED STEEL COMPONENTS SHALL BE CLEANED PER "NEAR WHITE BLAST CLEANING SSPC-SP10". ALL EXISTING STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF "PAINT SYSTEM OZ/E/U". THE COLOR OF THE FINAL FINISH COAT SHALL BE "LIGHT GREY 10Y 7/1".

LOCATIONS 3 THROUGH 8:

THE EXISTING STRUCTURAL STEEL CONTAINS LEAD. THE CONTRACTOR SHOULD TAKE NECESSARY PRECAUTIONS TO DEAL WITH THE PRESENCE OF LEAD PAINT ON THIS PROJECT. SEE THE SPECIAL PROVISION FOR "CONTAINMENT AND DISPOSAL OF LEAD BASED CLEANING RESIDUES."

COMMITMENTS

NONE: DATE 10/27/2010

FILE NAME =	USER NAME = woodshankr1	DESIGNED - RON WOODSHANK	REVISED - -----
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES	
SCALE: -----	SHEET NO. 1 OF 1 SHEETS STA. ----- TO STA. -----

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D-3 OVD SIN STR REPL 11-34	VAR	16	2
			CONTRACT NO. 46159	
[ILLINOIS]				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				STATE FUNDS	
				100% STATE LASALLE COUNTY	100% STATE BUREAU COUNTY
				SIGN TRUSS 0040 URBAN	SIGN TRUSS 0040 RURAL
7100100	MOBILIZATION	L SUM	1	0.5	0.5
70104215	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 3	EACH	1		1
70104220	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 4	EACH	1		1
70104225	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 5	EACH	1		1
70104230	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 6	EACH	1		1
70104235	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 7	EACH	1		1
70104240	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 8	EACH	1		1
70106301	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601, LOCATION 1	L SUM	1	1	
70106302	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601, LOCATION 2	L SUM	1	1	
T9996300	OVERHEAD SIGN SUPPORT GROUT REPAIR	EACH	24		24
X0322780	TEMPORARY SIGNING	L SUM	1	1	
X0325220	REMOVE AND REINSTALL SIGN PANEL	SO FT	402	402	
X5060601	CONTAINMENT AND DISPOSAL OF NON-LEADPAINT CLEANING RESIDUES NO. 1	L SUM	1	1	
X5060602	CONTAINMENT AND DISPOSAL OF NON-LEADPAINT CLEANING RESIDUES NO. 2	L SUM	1	1	
X7330100	PAINT OVERHEAD SIGN SUPPORT	EACH	12		12
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SO FT	12.2		12.2
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1		1
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1		1
Z0007105	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 5	L SUM	1		1
Z0007106	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 6	L SUM	1		1
Z0007107	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 7	L SUM	1		1
Z0007108	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 8	L SUM	1		1
Z0010480	CLEANING AND PAINTING SIGN STRUCTURE No. 1	L SUM	1	1	
Z0010481	CLEANING AND PAINTING SIGN STRUCTURE No. 2	L SUM	1	1	
Z0010381	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 1	L SUM	1	1	
Z0010382	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 2	L SUM	1	1	
Z0010383	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 3	L SUM	1		1
Z0010384	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 4	L SUM	1		1
Z0010385	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 5	L SUM	1		1
Z0010386	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 6	L SUM	1		1
Z0010387	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 7	L SUM	1		1
Z0010388	SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NO. 8	L SUM	1		1

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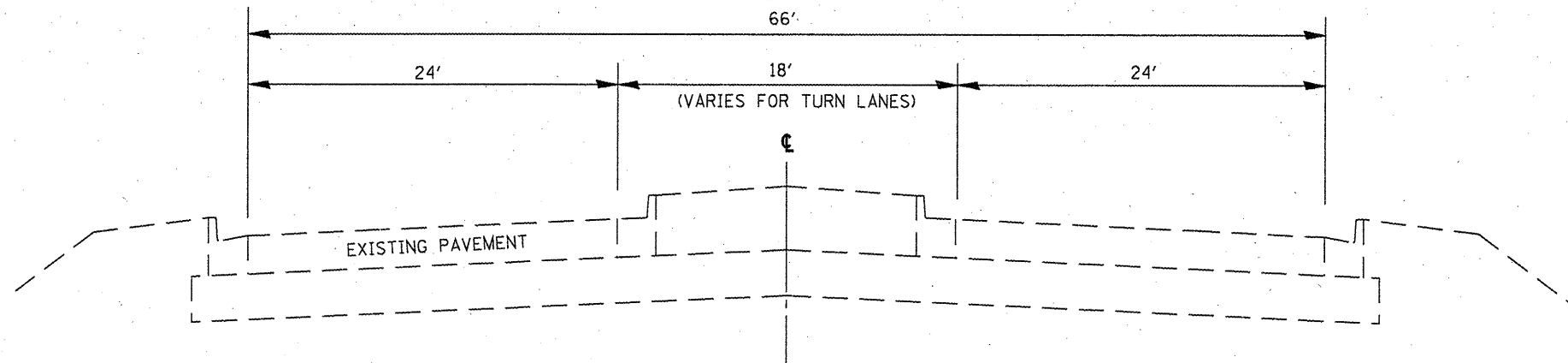
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

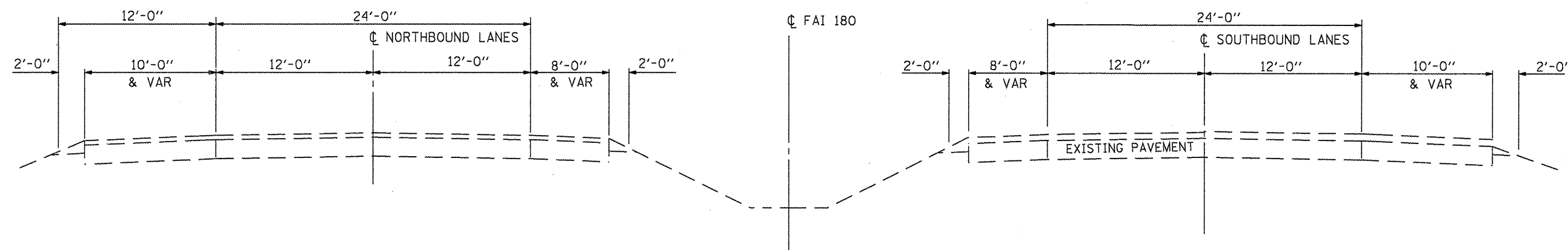
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F.A.I. RTE. VAR	SECTION D-3 OVD SIN STR REPL 11-34	COUNTY ILLINOIS	TOTAL SHEETS 16	SHEET NO. 3
			CONTRACT NO. 46159	

Rev.



TYPICAL SECTION
LASALLE COUNTY - IL ROUTE 23
LOCATIONS 1 & 2



TYPICAL SECTION
BUREAU COUNTY - FAI ROUTE 180
LOCATIONS 3 - 8

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

SCALE: SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D-3 OVD SIN STR REPL 11-34	VAR	16	4
CONTRACT NO. 46159			ILLINOIS	

LOCATION NO.	1	STATE I.D. NO.		3C050S023R018.8			
COUNTY	LASALLE	ROUTE	IL 23	OVER I-80	DIRECTION	NB	
DESCRIPTION OF WORK				UNIT	QUANTITY		
CLEANING AND PAINTING OVERHEAD SIGN STRUCTURE NO. 1				L SUM	1		
REMOVE AND REINSTALL SIGN PANEL				SQ FT	194		
TRAFFIC CONTROL AND PROTECTION, STANDARD 701601, LOCATION 1				L SUM	1		
CONTAINMENT AND DISPOSAL OF NON-LEADPAINT CLEANING RESIDUES NO. 1				L SUM	1		
OVERHEAD SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NUMBER 1				L SUM	1		

LOCATION NO.	3	STATE I.D. NO.		3S006I180L001.1			
COUNTY	BUREAU	ROUTE	FAI 180	M.P.	1.1	DIRECTION	NB
DESCRIPTION OF WORK				UNIT	QUANTITY		
PAINT OVERHEAD SIGN SUPPORT				EACH	2		
TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 3				EACH	1		
OVERHEAD SIGN SUPPORT GROUT REPAIR				EACH	4		
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)				SQ FT	5.8		
CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3				L SUM	1		
OVERHEAD SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NUMBER 3				L SUM	1		

LOCATION NO.	5	STATE I.D. NO.		3S006I180R008.9			
COUNTY	BUREAU	ROUTE	FAI 180	M.P.	8.9	DIRECTION	SB
DESCRIPTION OF WORK				UNIT	QUANTITY		
PAINT OVERHEAD SIGN SUPPORT				EACH	2		
TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 5				EACH	1		
OVERHEAD SIGN SUPPORT GROUT REPAIR				EACH	4		
CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 5				L SUM	1		
OVERHEAD SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NUMBER 5				L SUM	1		

LOCATION NO.	2	STATE I.D. NO.		3C050S023L018.9			
COUNTY	LASALLE	ROUTE	IL 23	OVER I-80	DIRECTION	SB	
DESCRIPTION OF WORK				UNIT	QUANTITY		
CLEANING AND PAINTING OVERHEAD SIGN STRUCTURE NO. 2				L SUM	1		
REMOVE AND REINSTALL SIGN PANEL				SQ FT	208		
TRAFFIC CONTROL AND PROTECTION, STANDARD 701601, LOCATION 2				L SUM	1		
CONTAINMENT AND DISPOSAL OF NON-LEADPAINT CLEANING RESIDUES NO. 2				L SUM	1		
OVERHEAD SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NUMBER 2				L SUM	1		

LOCATION NO.	4	STATE I.D. NO.		3S006I180L001.6			
COUNTY	BUREAU	ROUTE	FAI 180	M.P.	1.6	DIRECTION	NB
DESCRIPTION OF WORK				UNIT	QUANTITY		
PAINT OVERHEAD SIGN SUPPORT				EACH	2		
TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 4				EACH	1		
OVERHEAD SIGN SUPPORT GROUT REPAIR				EACH	4		
STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)				SQ FT	6.4		
CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4				L SUM	1		
OVERHEAD SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NUMBER 4				L SUM	1		

LOCATION NO.	6	STATE I.D. NO.		3S006I180R009.7			
COUNTY	BUREAU	ROUTE	FAI 180	M.P.	9.7	DIRECTION	SB
DESCRIPTION OF WORK				UNIT	QUANTITY		
PAINT OVERHEAD SIGN SUPPORT				EACH	2		
TRAFFIC CONTROL AND PROTECTION, STANDARD 701401, LOCATION 6				EACH	1		
OVERHEAD SIGN SUPPORT GROUT REPAIR				EACH	4		
CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 6				L SUM	1		
OVERHEAD SIGN STRUCTURE CLEANING AND PAINTING WARRANTY NUMBER 6				L SUM	1		

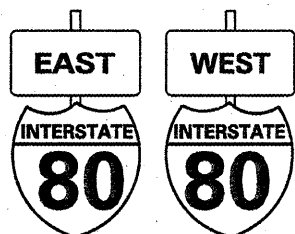
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

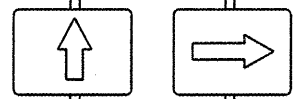
SCHEDULES

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D-3 OVD SIN STR REPL 11-34	VAR	16	5
SCALE: _____ SHEET NO. 1 OF 1 SHEETS STA. _____ TO STA. _____			CONTRACT NO. 46159	
[ILLINOIS]				

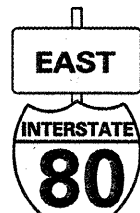
M3-2(O) 24"x12" EAST WEST M3-4(O) 24"x12"



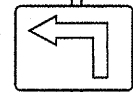
M6-3(O) 21"x15" M6-1(O) 21"x15"



M3-2 24"x12" EAST



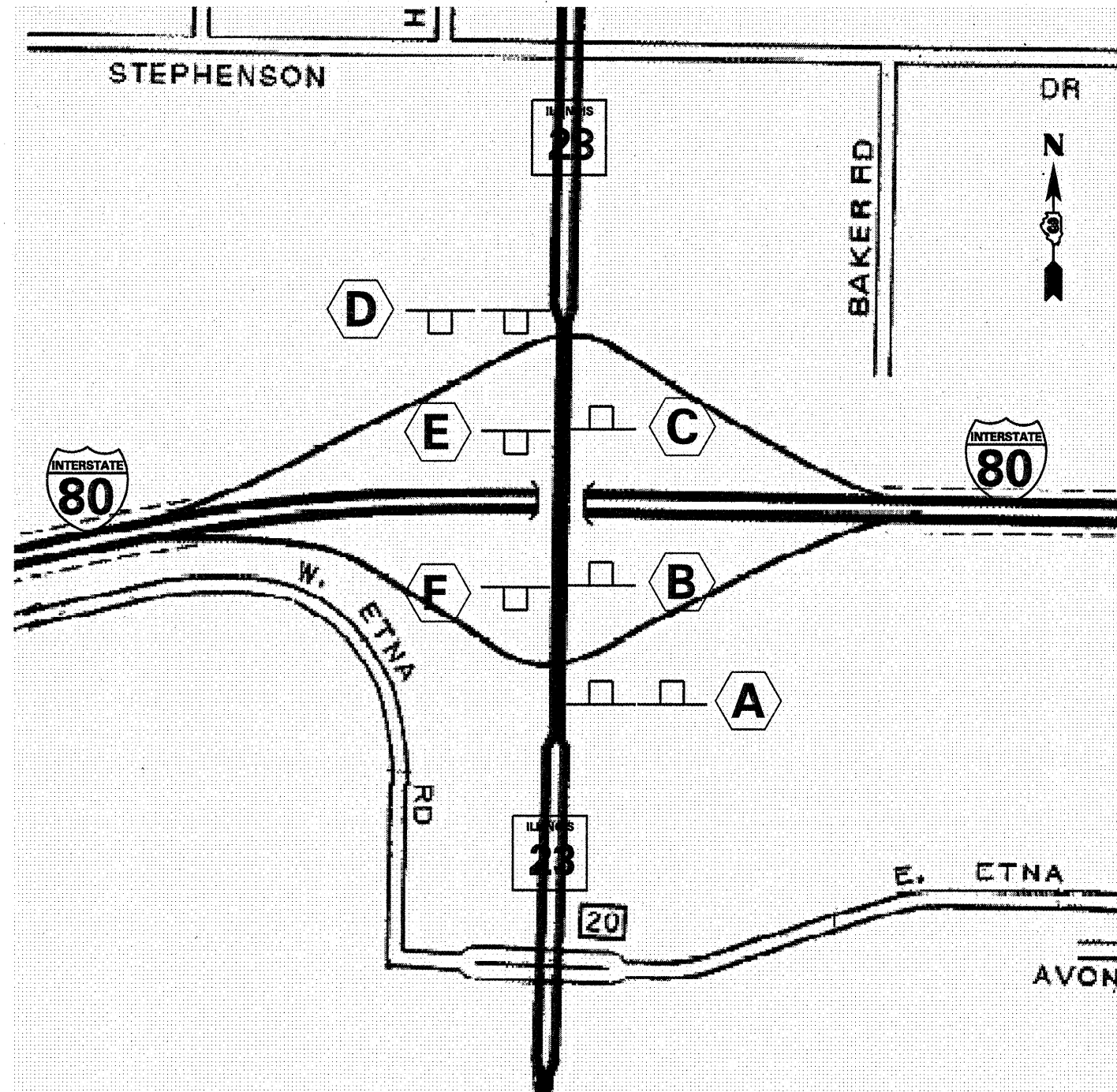
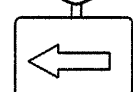
M5-1R(O) 21"x15"



M3-2 24"x12" EAST



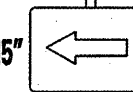
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M3-4(O) 24"x12" WEST



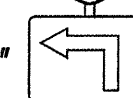
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M3-4(O) 24"x12" WEST



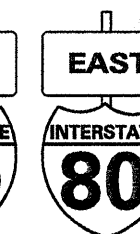
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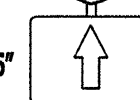
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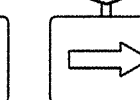
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M6-3(O) 21"x15"



M6-1(O) 21"x15"



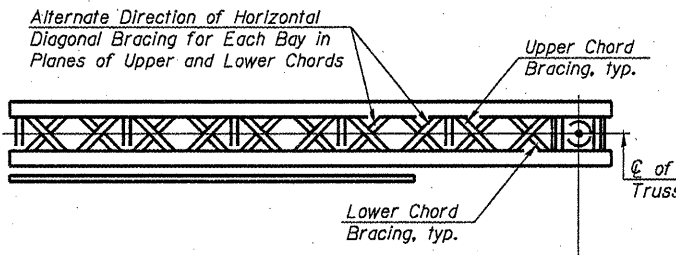
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY SIGNING DETAILS

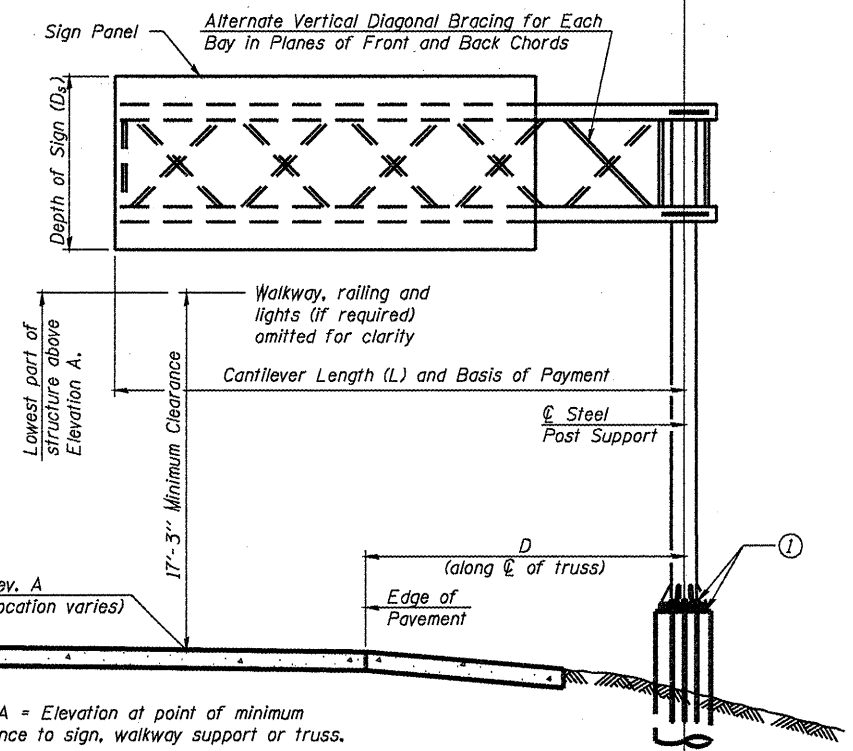
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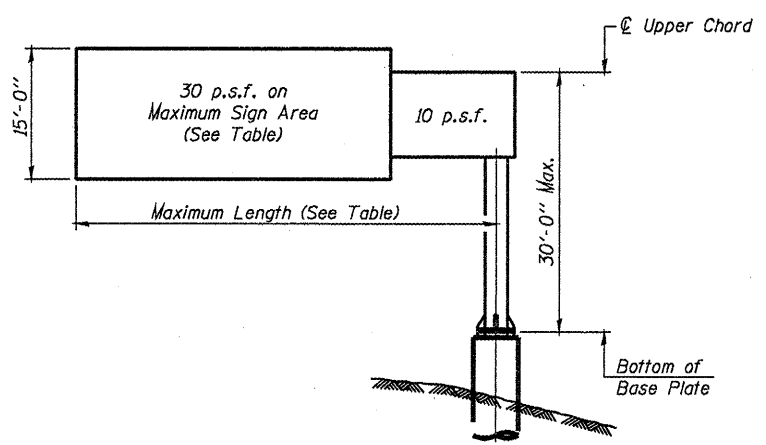
TYPICAL PLAN
(Walkway not shown)

Structure Number	Station	Design Truss Type	Cantilever Length (L)	Elev. A	Dim. D	D _s	Total Sign Area
3C050S023R018.8	174+15	II-C-A	42'-0"				194 Sq. Ft.
3C050S023L018.9	166+81	II-C-A	46'-0"				208 Sq. Ft.



TYPICAL ELEVATION
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.



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.

Note:
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.

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.

* 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.

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_c = 3,500 p.s.i.
f_y = 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)d 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. 105 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.

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

**LOCATION 1 AND 2
THIS SHEET FOR INFORMATION ONLY**

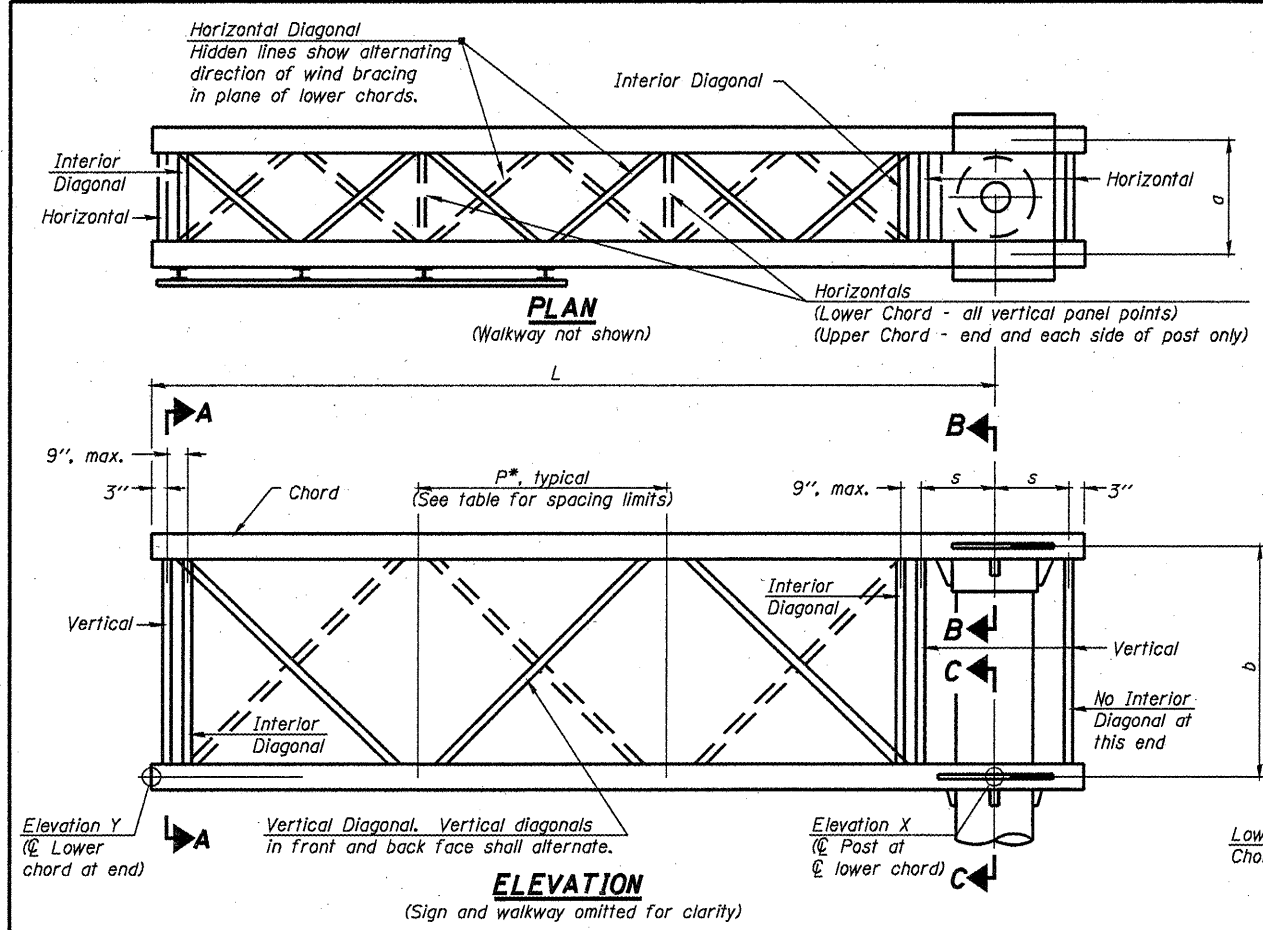
OSC-A-1 7-1-10

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - GENERAL PLAN & ELEVATION
ALUMINUM TRUSS & STEEL POST
SCALE: SHEET NO. 1 OF 5 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D-3 OVD SIN STR REPL 11-34	VAR	16	7
			CONTRACT NO. 46159	
ILLINOIS				



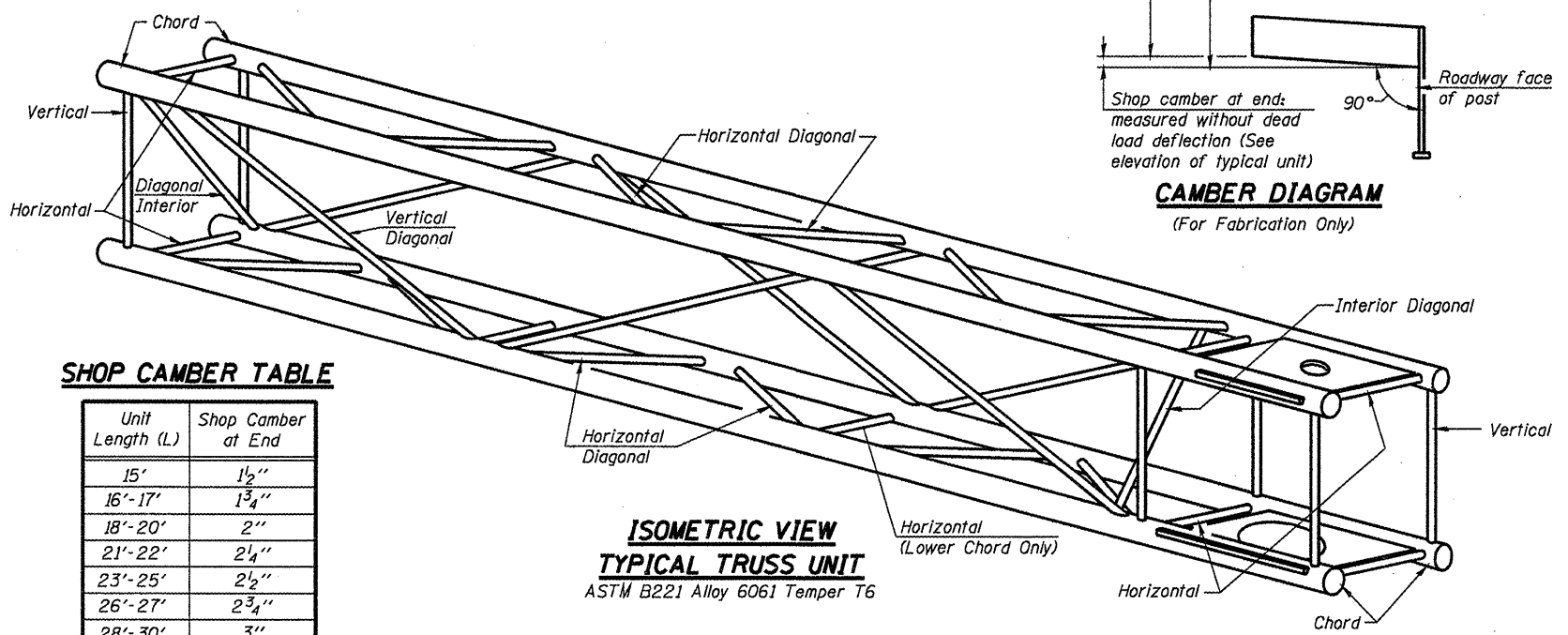
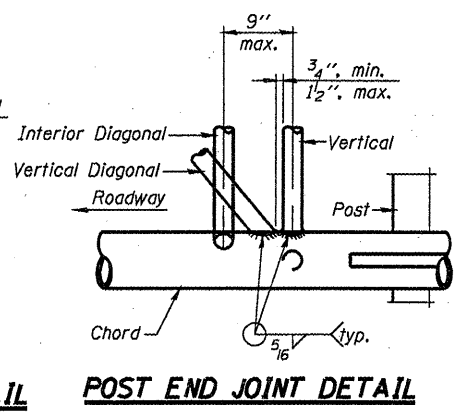
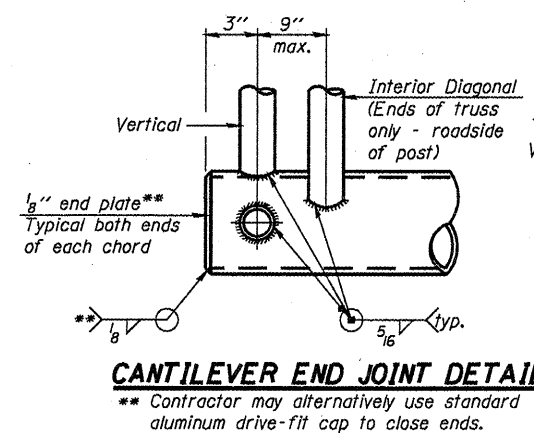
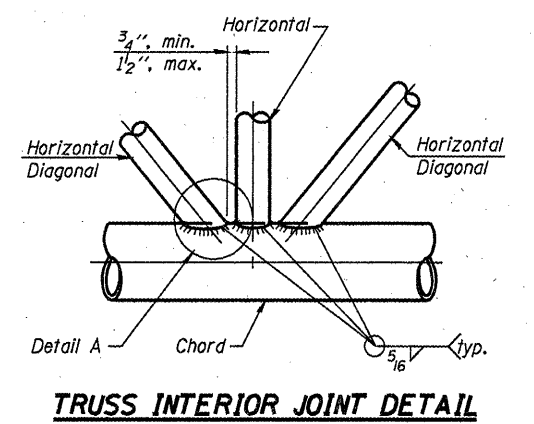
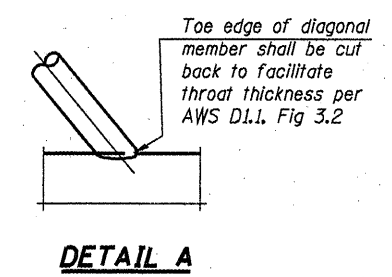
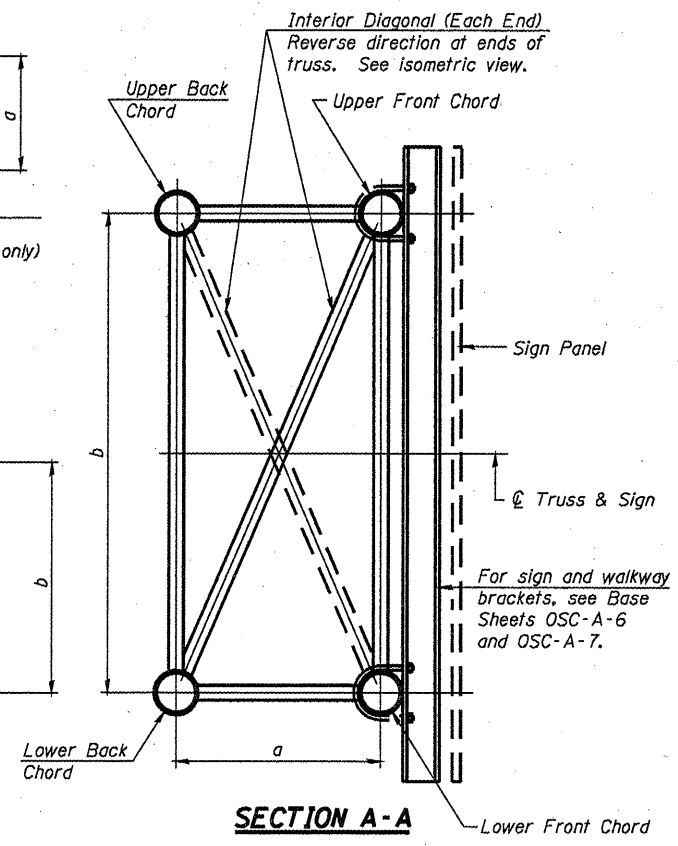
Note: There are twice as many horizontal diagonals as there are vertical diagonals.

TRUSS UNIT TABLE

Truss Type	Dimension "a"	Dimension "b"	Dimension "s"	Limits for Panel Spacing (P)*	Verticals, Horizontals, Vertical, Horizontal, and Interior Diagonals			
					Up. & Low. Chord O.D.	Wall	O.D.	Wall
I-C-A	24"	54"	16"	36" min. to 48" max.	5"	5/16"	2 1/2"	5/16"
II-C-A	36"	66"	21"	42" min. to 54" max.	6 1/2"	5/16"	3 1/4"	5/16"
III-C-A (35" Max.)	36"	84"	21"	48" min. to 66" max.	7"	3/8"	3 1/2"	3/8"
III-C-A (>35" to 40")	36"	84"	21"	48" min. to 66" max.	8"	3/8"	3 1/2"	3/8"

*P = $\frac{L-s-3"}{\# \text{ Panels}}$

Structure Number	Station	Truss Type	Design Length (L)	Number of Panels Per Unit	Panel Length (P)*
3C050S023R018.8	174+15	II-C-A	42'-0"	8	4'-11 1/8"
3C050S023L018.9	166+81	II-C-A	46'-0"	9	4'-8 5/16"



SHOP CAMBER TABLE

Unit Length (L)	Shop Camber at End
15'	1 1/2"
16'-17'	1 3/4"
18'-20'	2"
21'-22'	2 1/4"
23'-25'	2 1/2"
26'-27'	2 3/4"
28'-30'	3"
31'-32'	3 1/4"
33'-35'	3 1/2"
36'-37'	4"
38'-40'	4 1/2"

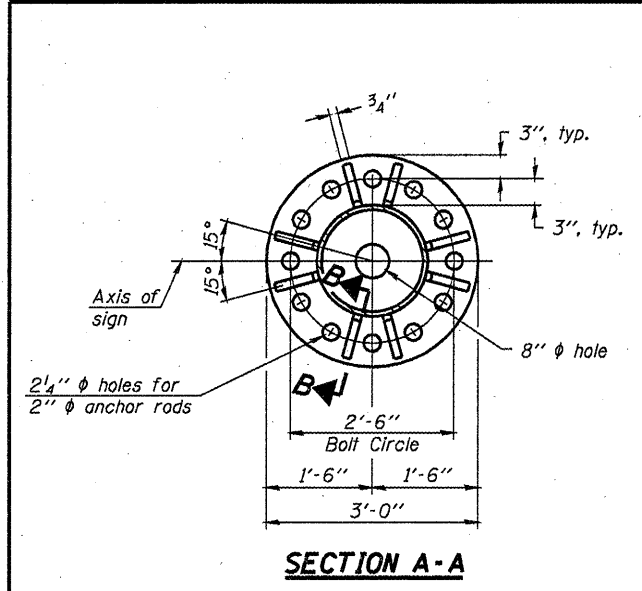
LOCATIONS 1 AND 2
THIS SHEET FOR INFORMATION ONLY

OSC-A-2 7-1-10

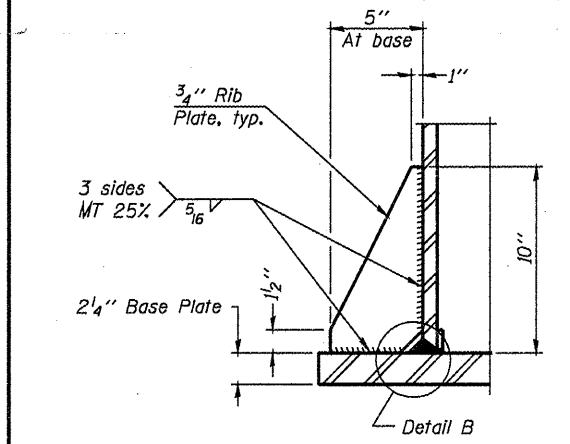
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

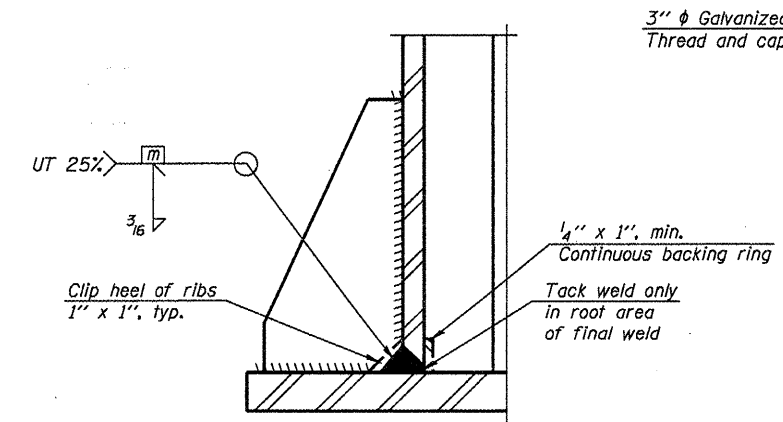
CANTILEVER SIGN STRUCTURES - TRUSS DETAILS		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ALUMINUM TRUSS & STEEL POST		VAR	D-3 OVD SIN STR REPL II-34	VAR	16	8
SCALE: _____	SHEET NO. 2 OF 5 SHEETS	STA. _____	TO STA. _____		CONTRACT NO. 46159	
				ILLINOIS		



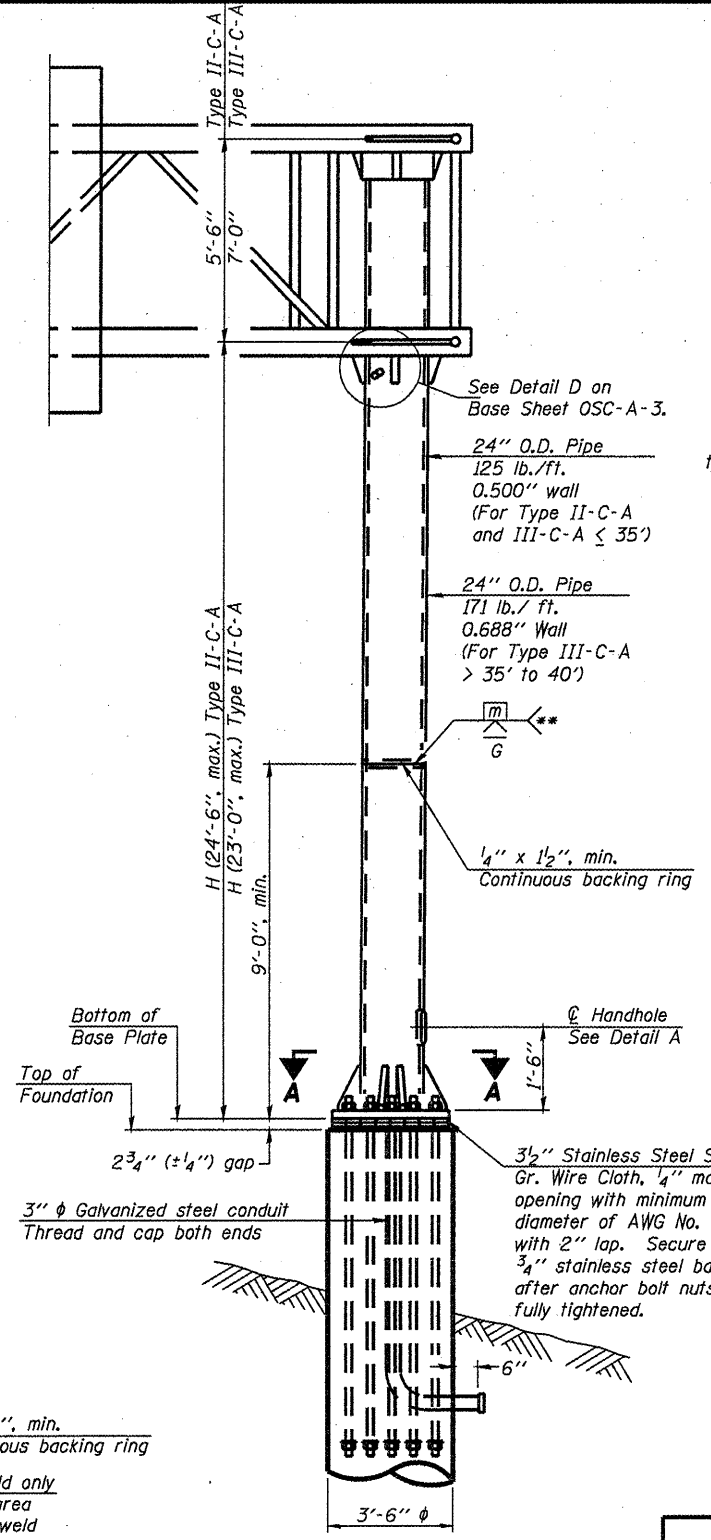
SECTION A-A



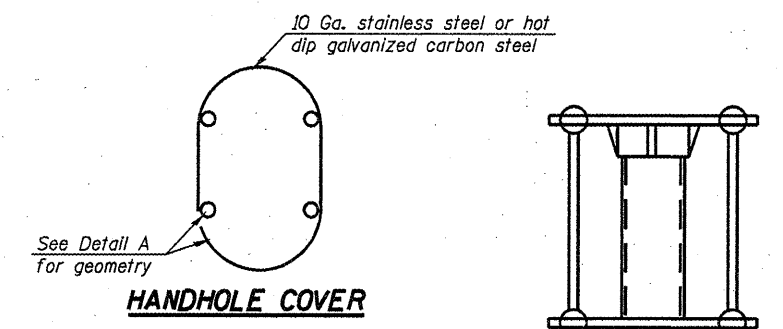
SECTION B-B



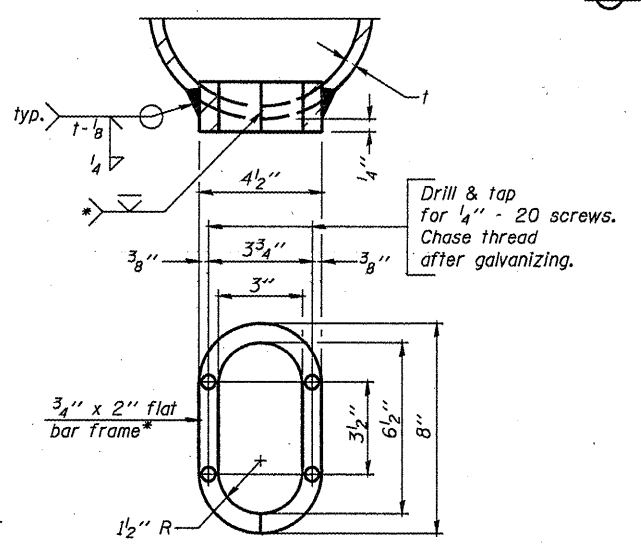
DETAIL B
(Typical rib)



FRONT ELEVATION
For Foundation Details see Base Sheet OSC-A-9.



HANDHOLE COVER



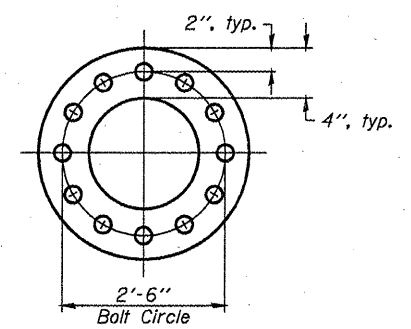
DETAIL A

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

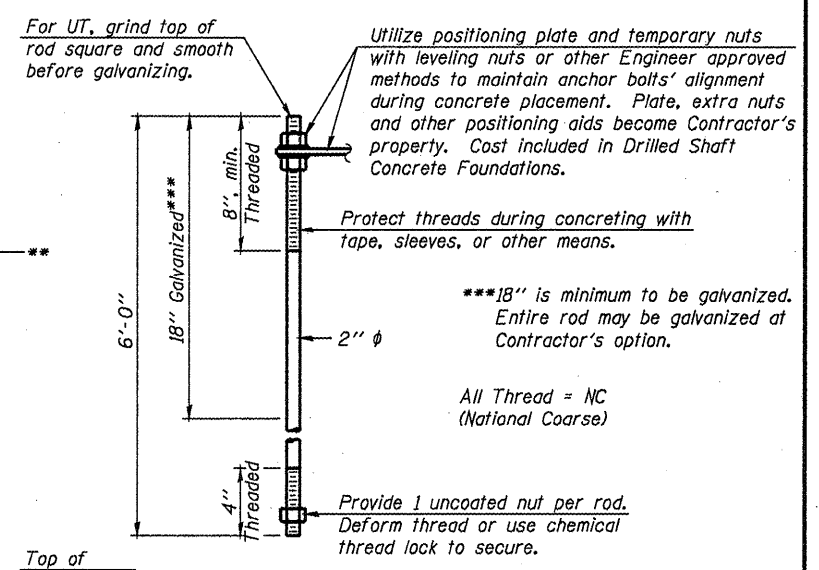
- * Bent bars may be butt welded top and bottom or bottom only. In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 min or less.
- ** Butt welded joint in post is only allowed for post heights (H) over 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
3C050S023R018.8	174+15	16'-6"
3C050S023L018.9	166+81	16'-6"

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



SUGGESTED POSITIONING PLATE



ANCHOR ROD DETAIL

Anchor rods shall conform to AASHTO M314 Grade 105 and meet Charpy V-Notch (CVN) energy of 15 lb.-ft. at 10° F. before galvanizing. Galvanize the upper 18" (minimum) and associated M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide an unfinished 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, using a straight beam, 1/2" φ 3.5 mhz. transducer, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

SIDE ELEVATION

LOCATIONS 1 AND 2
THIS SHEET FOR INFORMATION ONLY

OSC-A-5

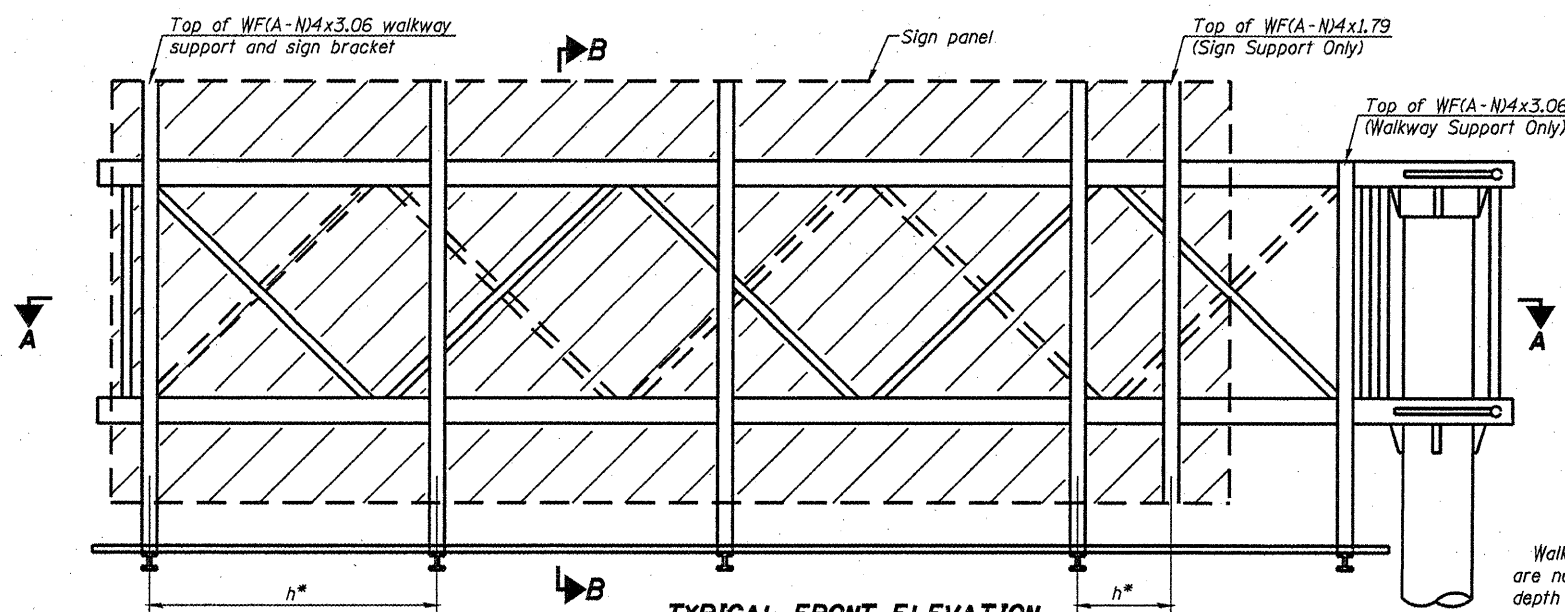
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

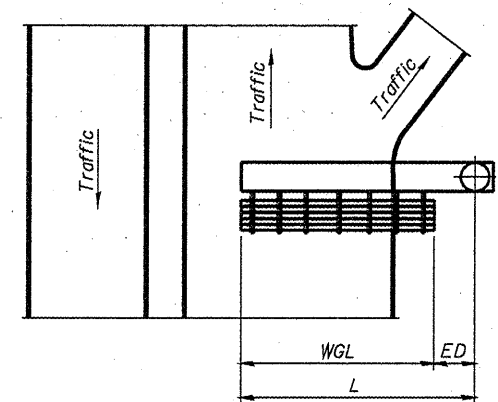
CANTILEVER SIGN STRUCTURES - TYPE II-C-A & III-C-A
TRUSS SUPPORT POST - ALUMINUM TRUSS & STEEL POST

F.A.I. RTE. VAR	SECTION D-3 OVD SIN STR REPL 11-34	COUNTY VAR	TOTAL SHEETS 16	SHEET NO. 9
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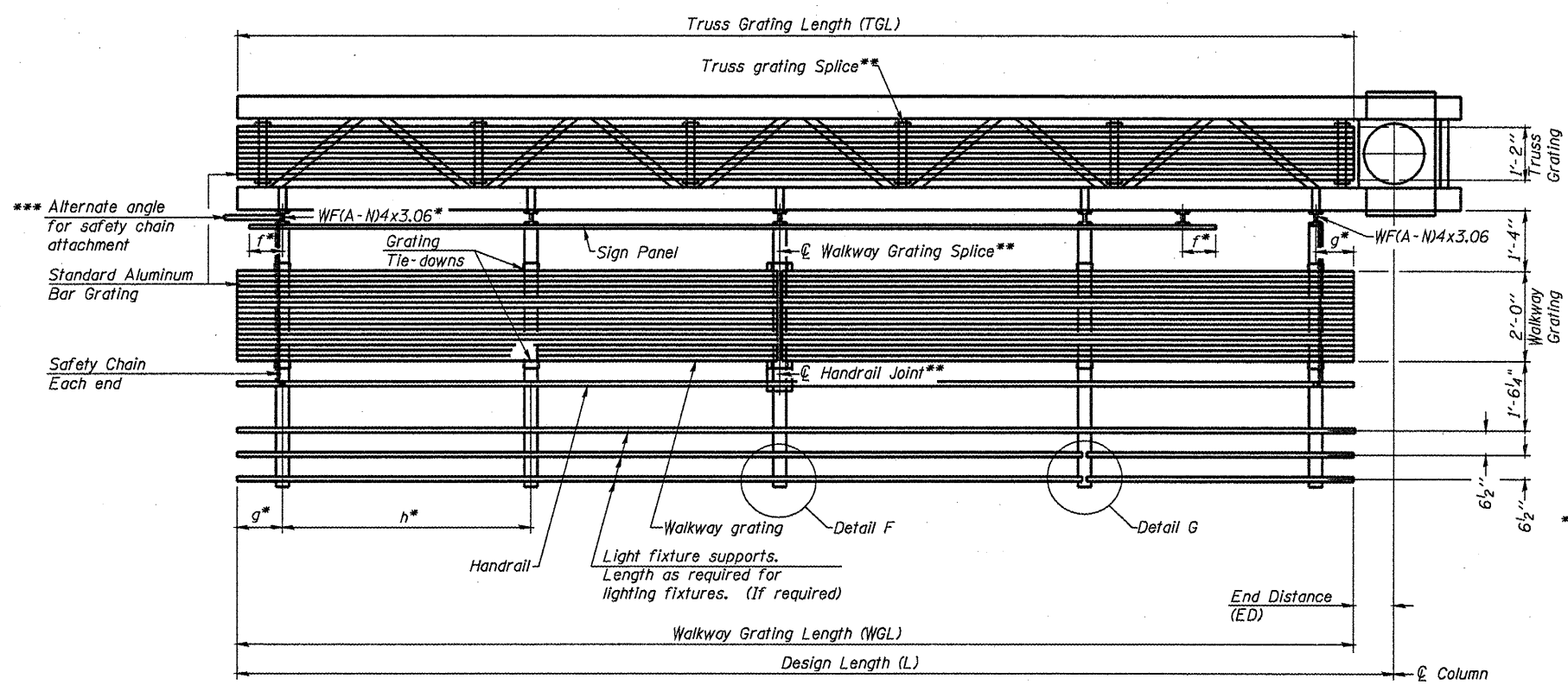


TYPICAL FRONT ELEVATION
With lights and handrail omitted for clarity.

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



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



SECTION A-A

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.

$$TGL = L - \left(\frac{\text{Post O.D.}}{2} + 6'' \right)$$

Structure Number	Station	WGL	ED	TGL
3C050S023R018.8	174+15	17'-0"	25'-0"	40'-6"
3C050S023L018.9	166+81	13'-0"	33'-0"	44'-6"

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 to center of nearest bracket)
 h = 6'-0" maximum (center to center sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
 *** If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-A-8.
 For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-A-7.
 For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-A-8.

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

LOCATIONS 1 AND 2
THIS SHEET FOR INFORMATION ONLY

OSC-A-6

7-1-10

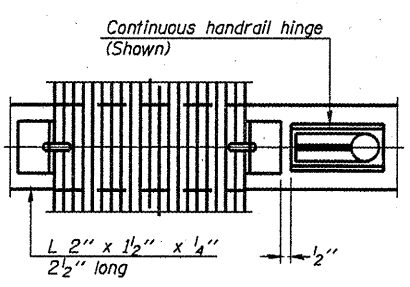
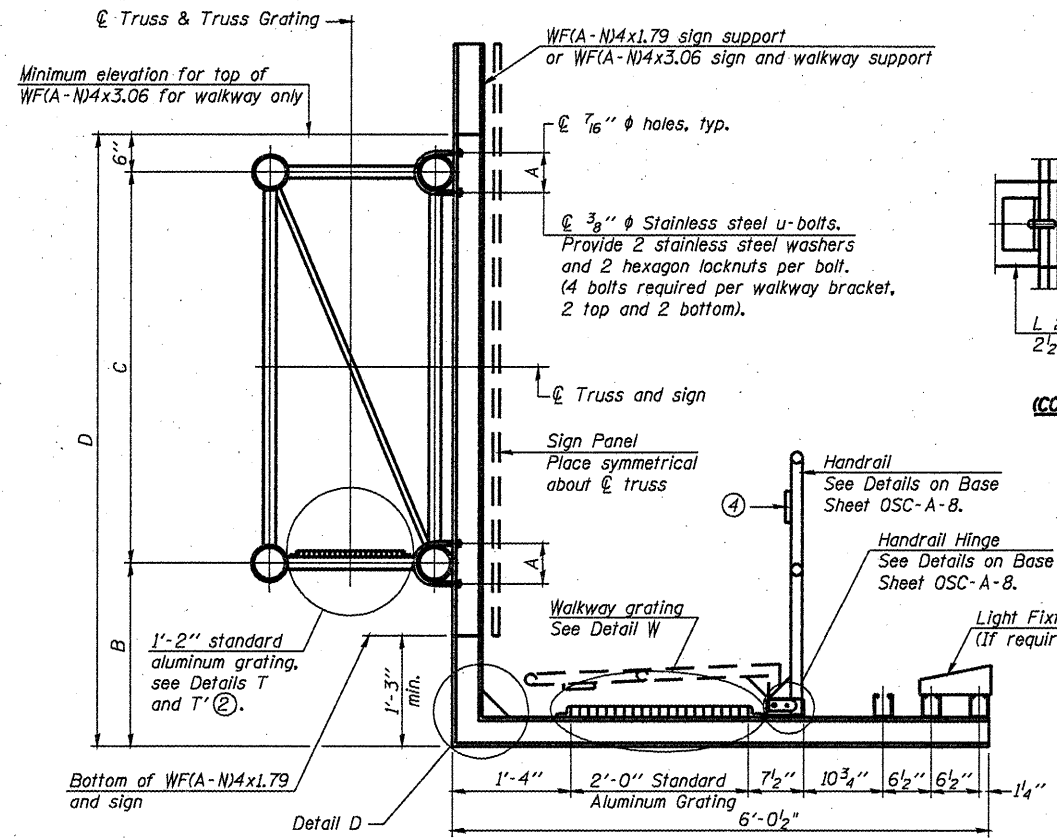
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - ALUMINUM WALKWAY
DETAILS - ALUMINUM TRUSS & STEEL POST

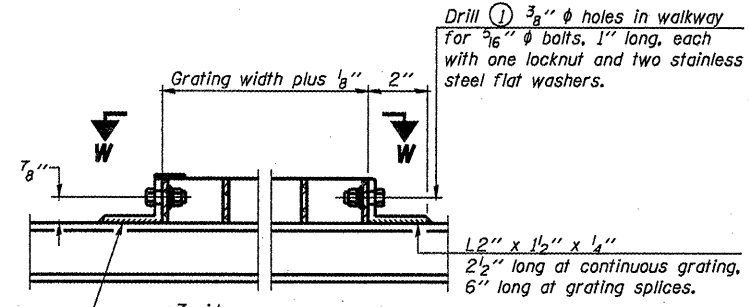
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ILLINOIS				

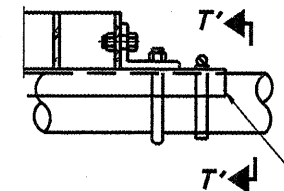


(CONTINUOUS WALKWAY GRATING)

SECTION W-W (AT WALKWAY GRATING SPLICE)

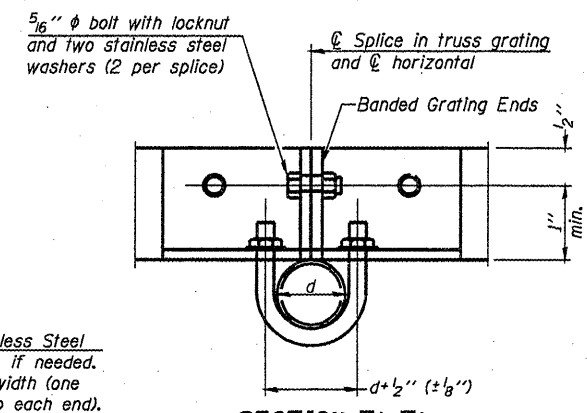


DETAIL W (Walkway grating)

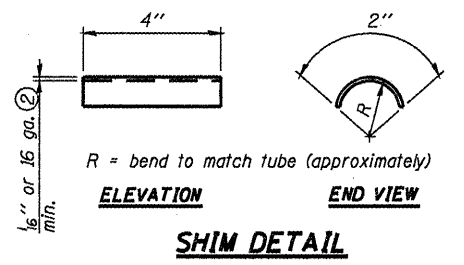


DETAIL T' (Truss grating splice)

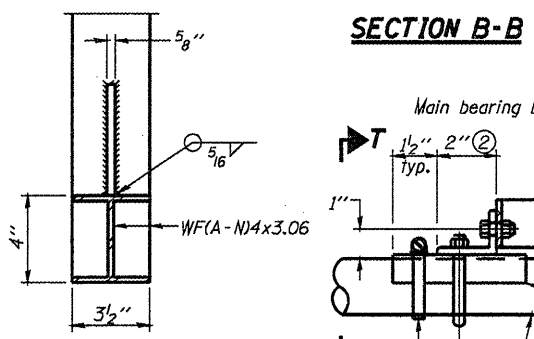
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



SECTION T'-T'

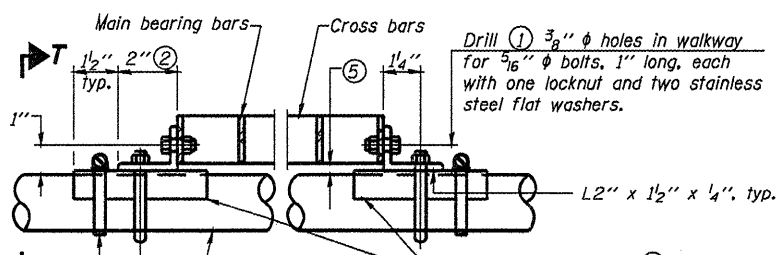


- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T' if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided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



SECTION B-B

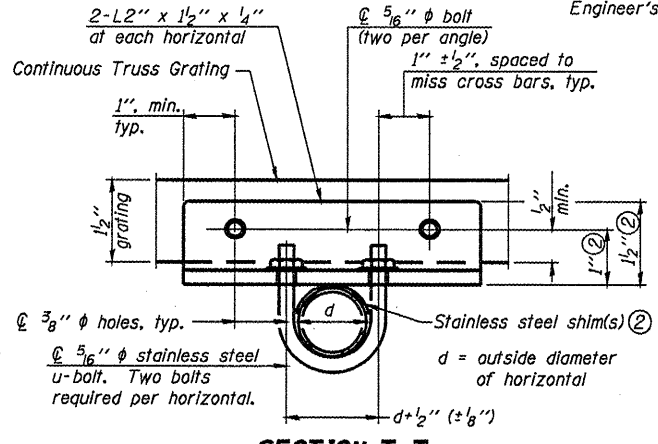
Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.



SECTION D-D

Screw type stainless steel tube clamp at shim location

DETAIL T (Continuous Truss grating)



SECTION T-T

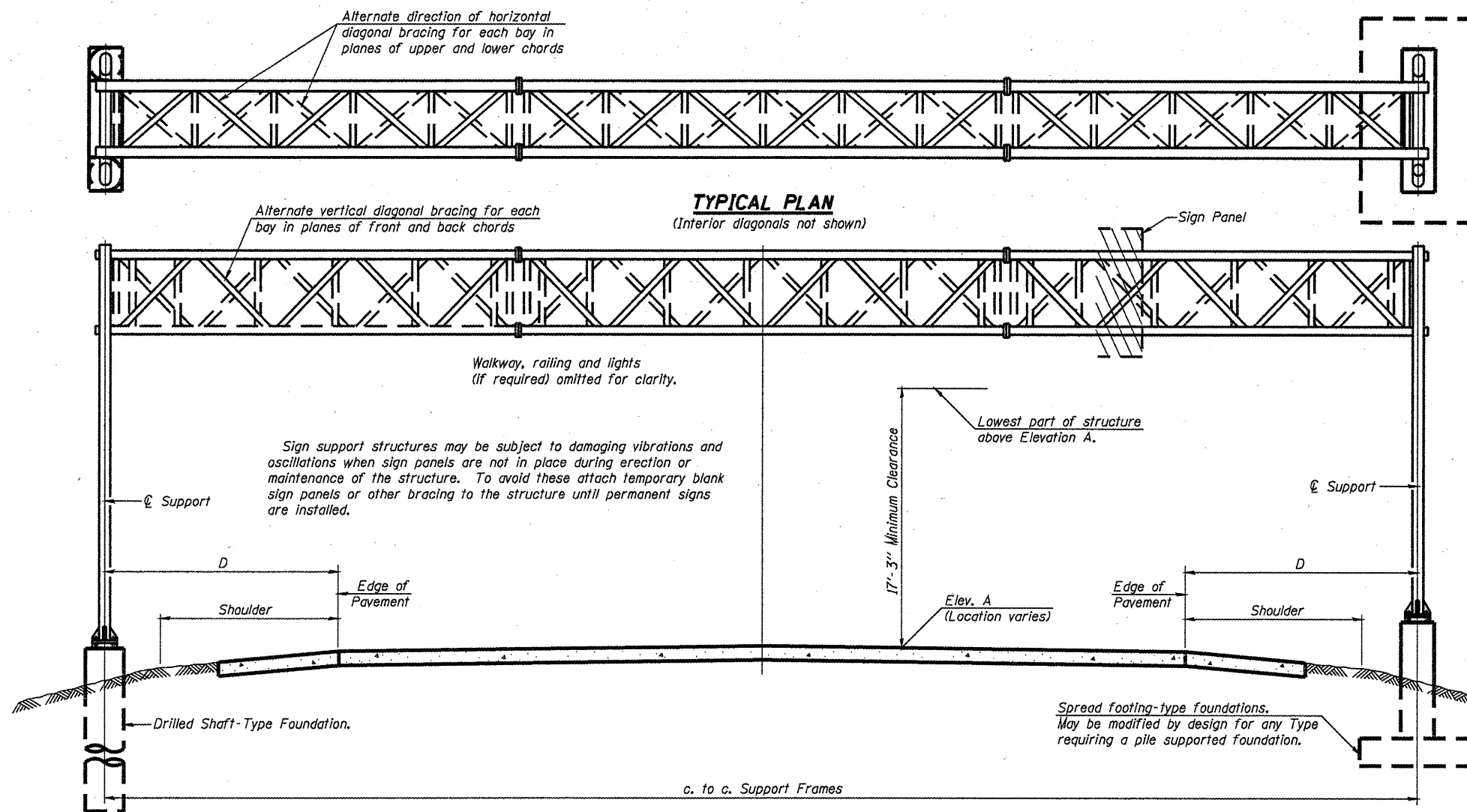
Structure Number	Station	A	⑥ B	C	⑥ D
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3C050S023L018.9	166+81				

LOCATIONS 1 AND 2
THIS SHEET FOR INFORMATION ONLY

FILE NAME =	USER NAME = woodshankr1	DESIGNED - RON WOODSHANK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CANTILEVER SIGN STRUCTURES - WALKWAY DETAILS ALUMINUM TRUSS & STEEL POST	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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PLOT DATE = Nov 05, 2010 - 09:09:16 AM		DATE -	REVISED -			ILLINOIS					

OSC-A-7

7-1-10



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
 $f_c = 3,500$ p.s.i.
 $f_y = 60,000$ 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)d 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.

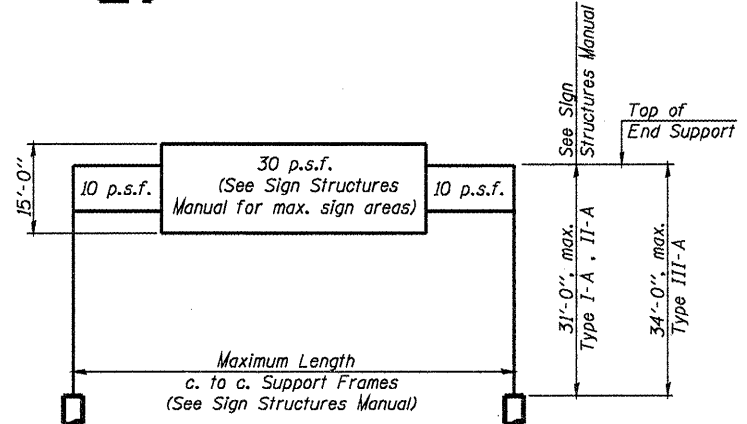
GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 36, 55 or 105 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.



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.

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
350061180L001.1	116+20	II-A	102'-0"				282 Sq. Ft.
350061180L001.6	139+60	II-A	90'-0"				245 Sq. Ft.
350061180R008.9	570+60	II-A	102'-0"				197 Sq. Ft.
350061180R009.7	611+00	II-A	112'-0"				323 Sq. Ft.
350061180L010.7	665+00	II-A	112'-0"				310 Sq. Ft.
350061180L012.3	696+20	II-A	90'-0"				264 Sq. Ft.

**Looking upstation for structures with signs both sides.

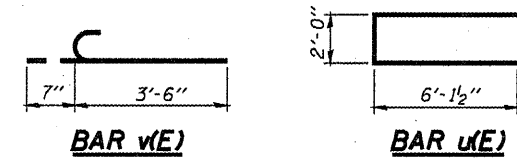
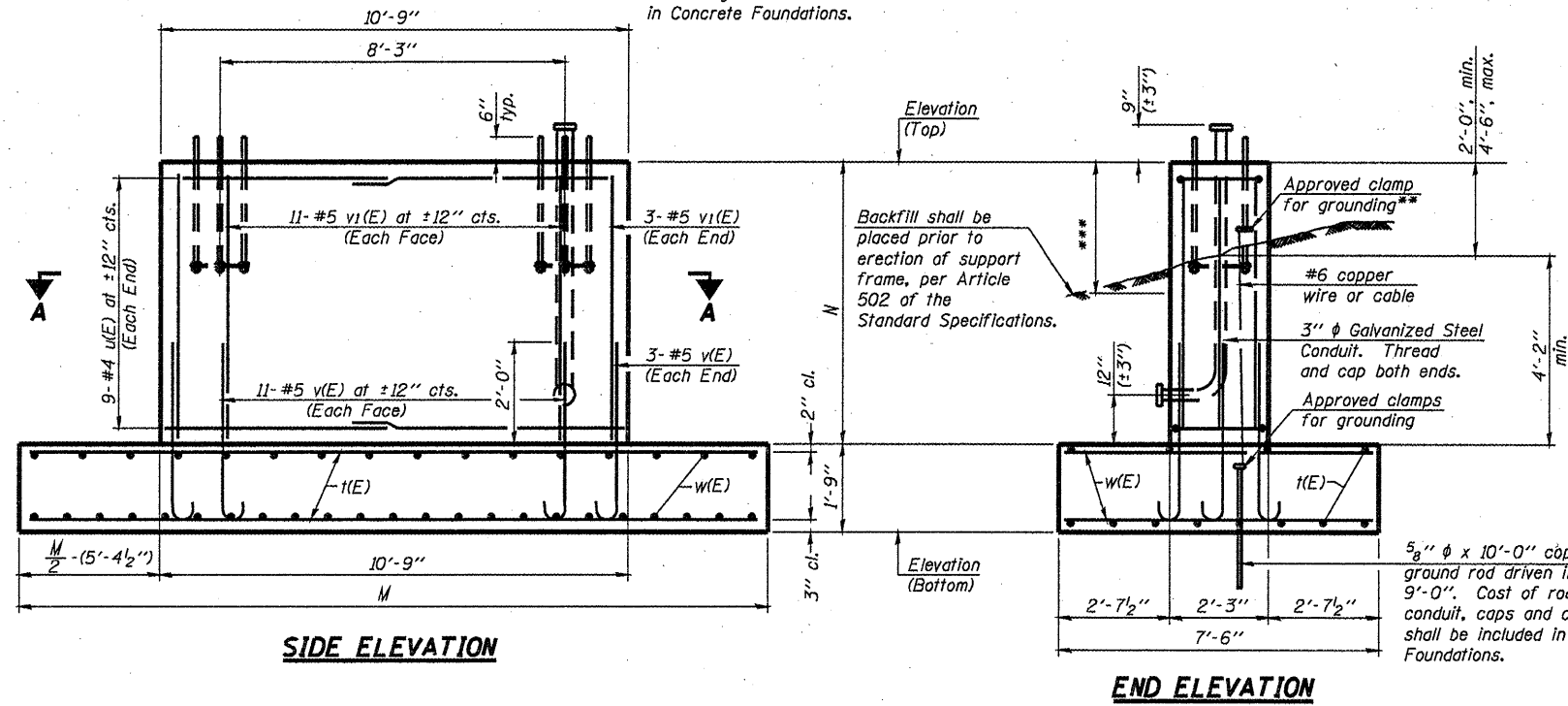
* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

**LOCATION 3 THROUGH 8
THIS SHEET FOR INFORMATION ONLY**

For anchor rod size and placement, see Support Frame Detail Sheet.

** Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

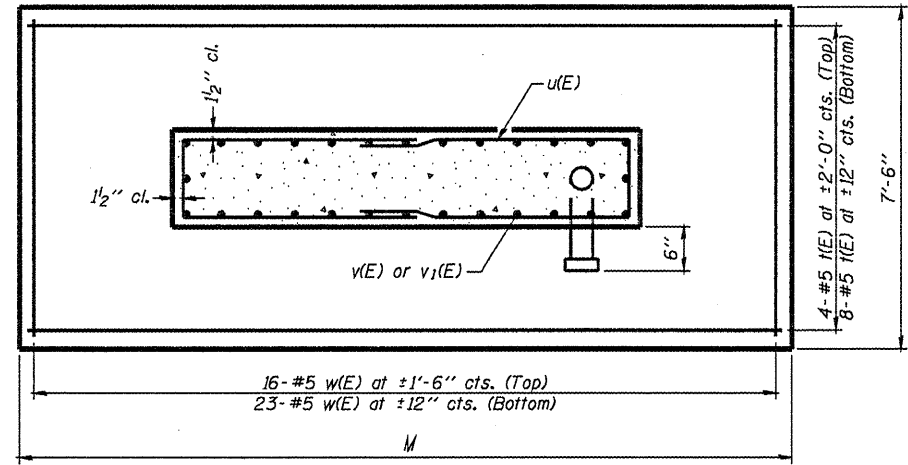
*** A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Concrete Foundations.



BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
v(E)	12	#5	*	—
u(E)	18	#4	14'-3"	—
v(E)	28	#5	4'-1"	—
v ₁ (E)	28	#5	*	—
w(E)	39	#5	7'-3"	—

*Length of v(E) bar = (Dim. M) - 6"
v₁(E) bar = (Dim. N) - 3"



SECTION A-A

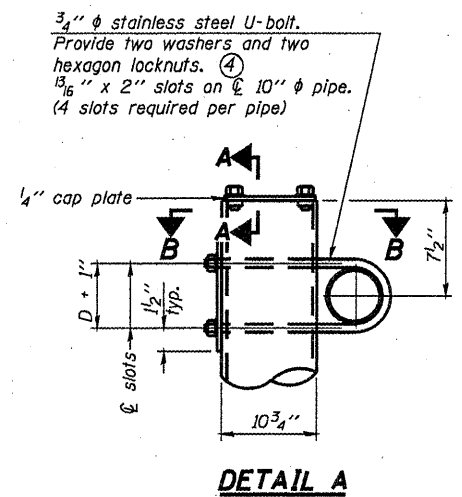
Structure Number	Station	Left Foundation				Right Foundation				Class SI Concrete (Cu. Yds.)
		Elevation Top	Elevation Bottom	N	M	Elevation Top	Elevation Bottom	N	M	
3S0061180L001.1	116+20									
3S0061180L001.6	139+60									
3S0061180R008.9	570+60									
3S0061180R009.7	611+00									
3S0061180L010.7	665+00									
3S0061180L012.3	696+20									

Note:
The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.0 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 will be the result of site specific designs.
During construction, if footing length or width or wall height change by more than 12", or if reinforcement is changed, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

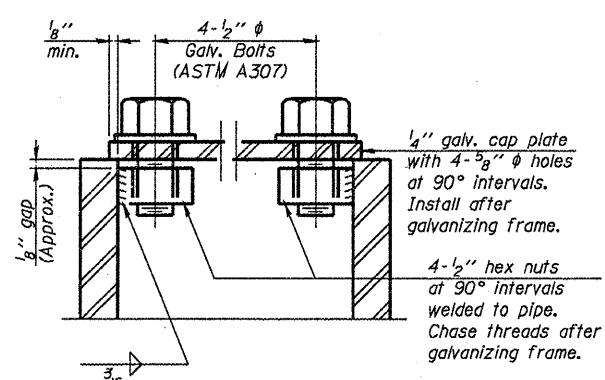
DETAILS FOR 10" Ø SUPPORT FRAME

**LOCATION 3 THROUGH 8
THIS SHEET FOR INFORMATION ONLY**

FILE NAME =	USER NAME = woodshankr1	DESIGNED - RON WOODSHANK	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES SPREAD FOOTING DETAILS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ca:\pwwork\pwwork\woodshankr1\d0239610	6189-Detail.dgn	DRAWN - RON WOODSHANK	REVISED -			VAR	D-3 OVD SIN STR REPL 11-34	VAR	16	13	
PLOT SCALE = 1/8" = 1'-0"		CHECKED -	REVISED -			SCALE: _____	SHEET NO. 2 OF 5 SHEETS	STA. _____ TO STA. _____	CONTRACT NO. 46159		
PLOT DATE = Nov 05, 2010 - 09:07:44 AM		DATE -	REVISED -			ILLINOIS					

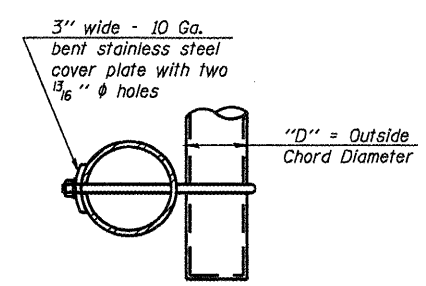


DETAIL A

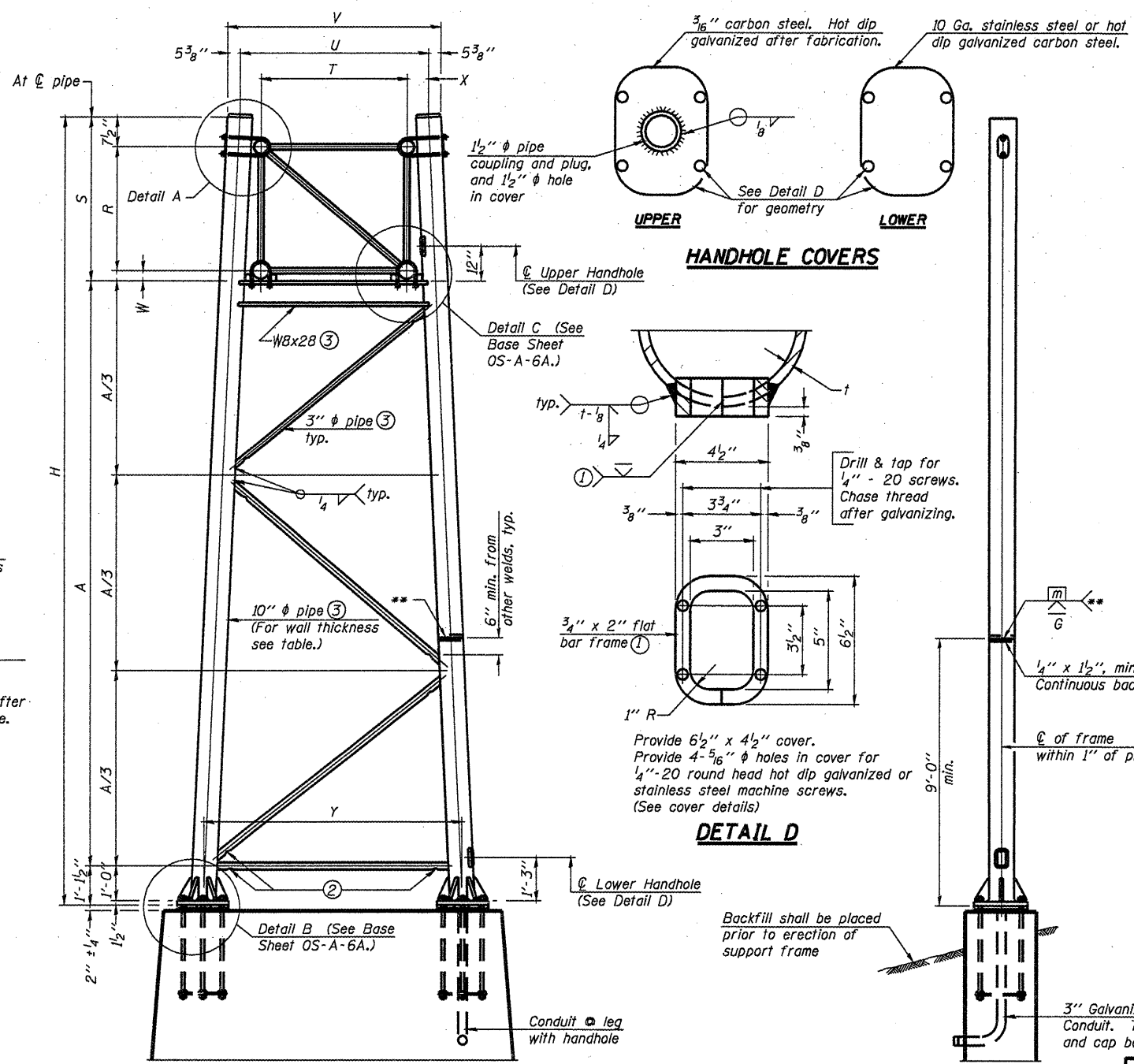


SECTION A-A

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



SECTION B-B



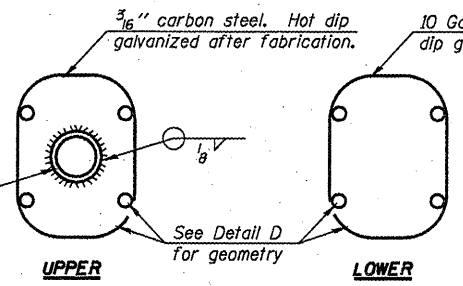
For Foundation Details, see base sheet OS-F3 (Spread Footing) or OS4-F3 (Drilled Shaft).

SIDE ELEVATION

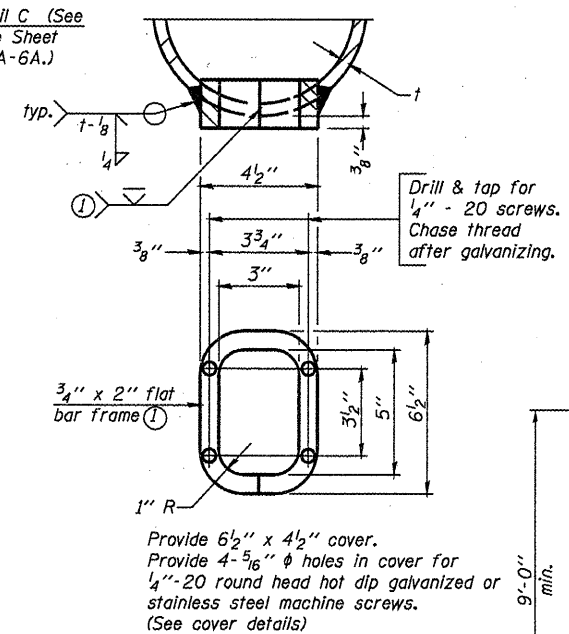
10" PIPE TRUSS SUPPORT FRAME

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

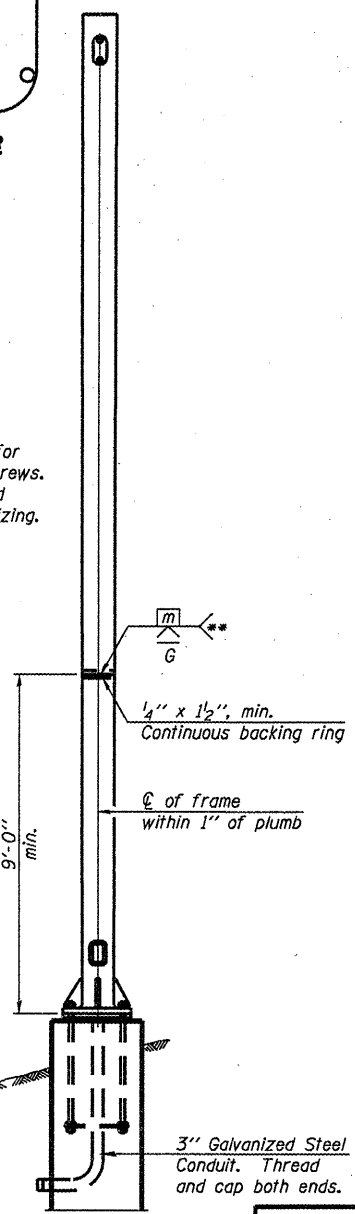
Truss Type	Dimensions							
	R	S	T	U	V	W	X	Y
I-A	4'-6"	5'-5 1/2"	4'-0"	5'-6"	6'-4 3/4"	4"	9"	8'-3"
II-A ⑤	5'-3"	6'-3 1/4"	4'-6"	6'-1"	6'-11 3/4"	4 3/4"	9 1/2"	8'-3"



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 min 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		Truss Type	Pipe Wall Thickness	H ⑥	A
		Left	Right				
3S0061180L001.1	116+20						
3S0061180L001.6	139+60						
3S0061180R008.9	570+60						
3S0061180R009.7	611+00						
3S0061180L010.7	665+00						
3S0061180L012.3	696+20						

**LOCATION 3 THROUGH 8
THIS SHEET FOR INFORMATION ONLY**

OS-A-6

7-1-10

FILE NAME =	USER NAME = woodshankr1	DESIGNED - RON WOODSHANK	REVISED -
ca:\pwr\work\pms\dot\woodshankr1\d0239610\6159-Detail.dgn	6159-Detail.dgn	DRAWN - RON WOODSHANK	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

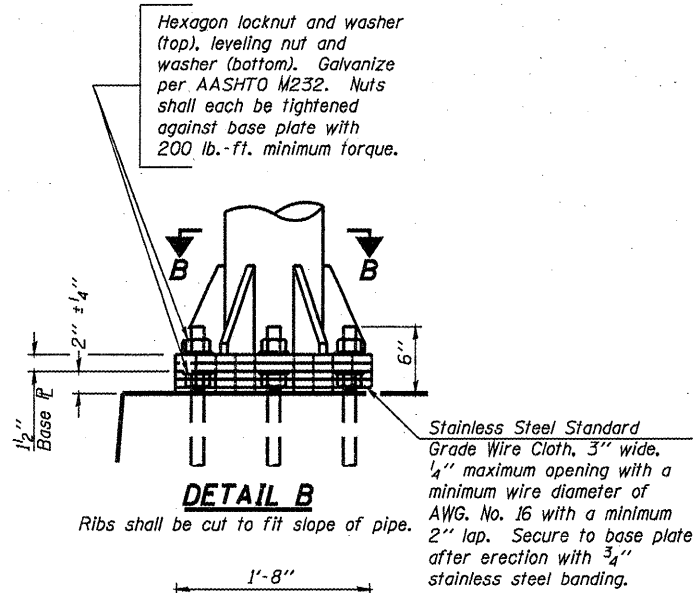
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR ALUMINUM TRUSS**

F.A.I. RYE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D-3 OVD SIN STR REPL II-34	VAR	16	14
			CONTRACT NO. 46159	

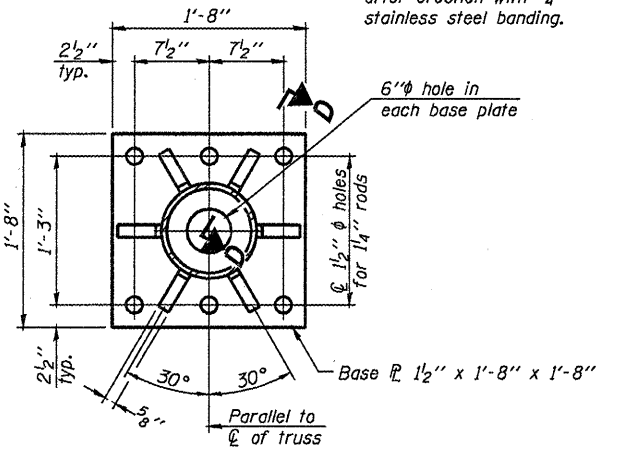
SCALE: SHEET NO. 3 OF 5 SHEETS STA. TO STA.

ILLINOIS

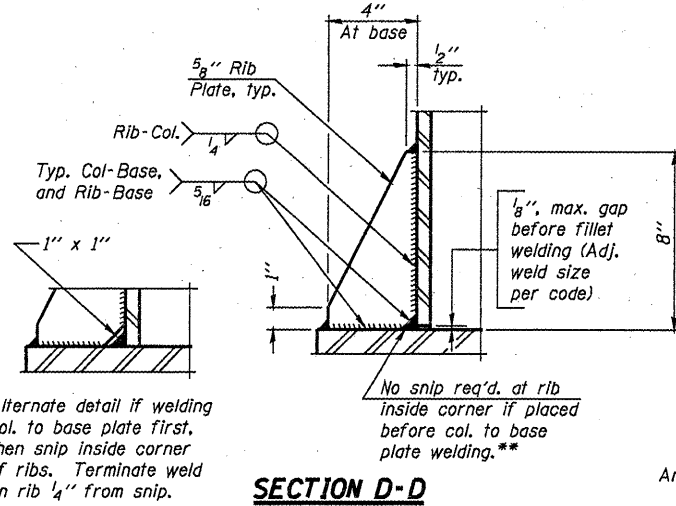


DETAIL B
Ribs shall be cut to fit slope of pipe.

Stainless Steel Standard Grade Wire Cloth, 3" wide, 1/4" maximum opening with a minimum wire diameter of AWG. No. 16 with a minimum 2" lap. Secure to base plate after erection with 3/4" stainless steel banding.

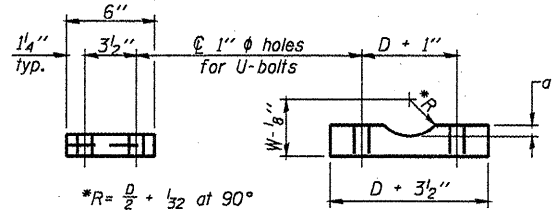


SECTION B-B



SECTION D-D

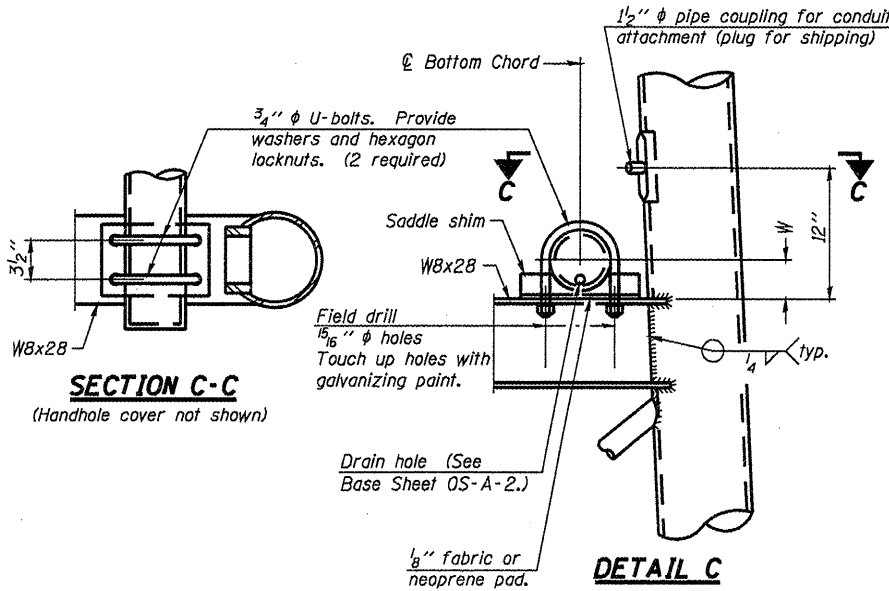
** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.



SADDLE SHIM DETAIL

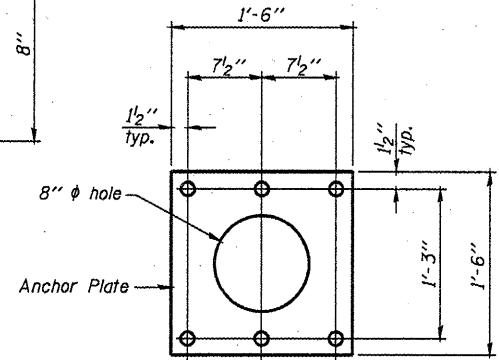
ASTM B26 Alloy 356-F
or
ASTM B209 Alloy 6061-T651
(4 required per sign truss)

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

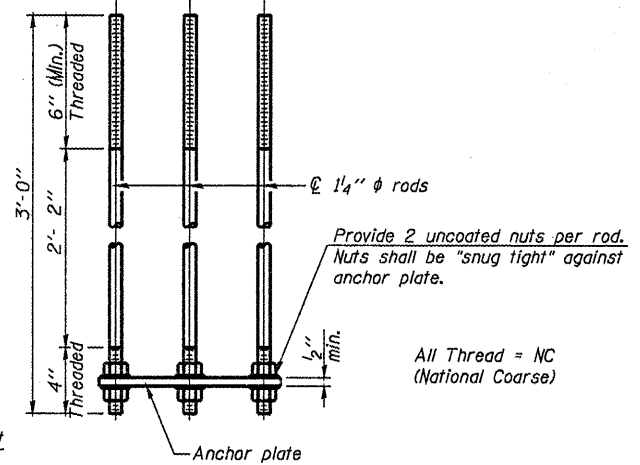


SECTION C-C
(Handhole cover not shown)

DETAIL C

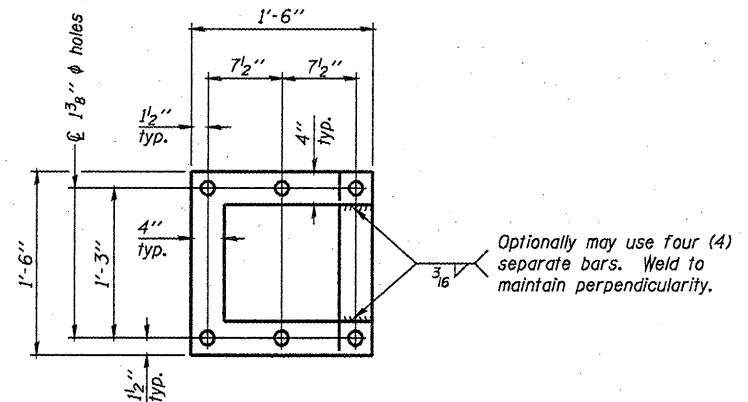


Anchor Plate



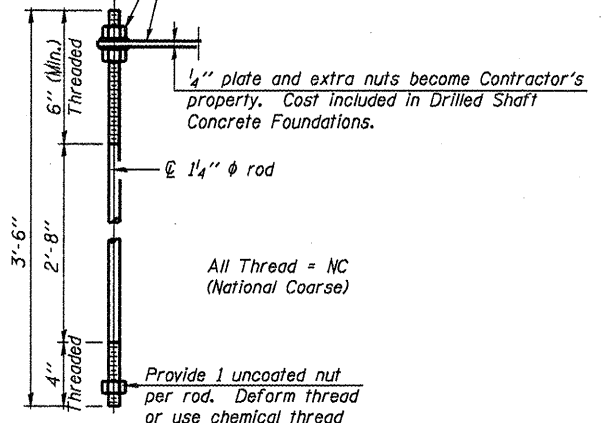
ANCHOR ROD DETAIL
Spread Footing Foundation

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.



POSITIONING PLATE(S)

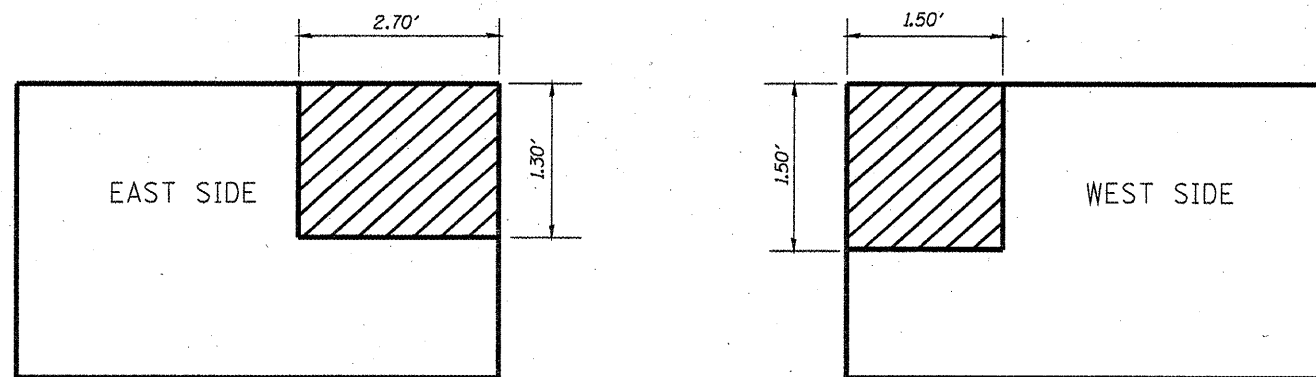
At each location, provide 1/4" thick positioning plate(s) and six (6) additional nuts to be used with leveling nuts to maintain anchor bolts position during concrete placement.



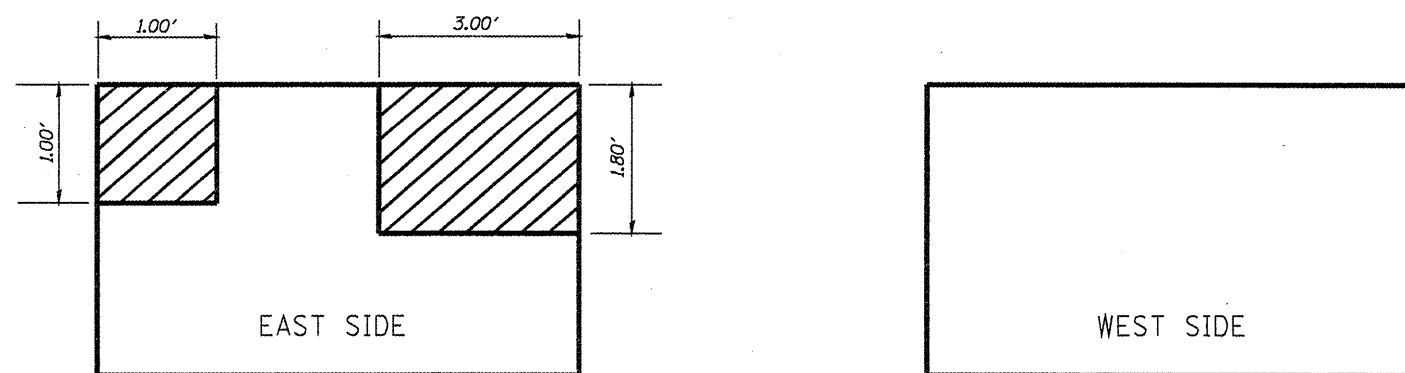
ANCHOR ROD DETAIL
Drilled Shaft Foundation

10" PIPE SUPPORT FRAME DETAILS

LOCATION 3 THROUGH 8
THIS SHEET FOR INFORMATION ONLY



SIDE ELEVATION - WEST FOUNDATION - 3S0061180L001.1



SIDE ELEVATION - EAST FOUNDATION - 3S0061180L001.6

Structure Number	Station	Structural Repair of Concrete (Depth ≤ 5") (Sq. Ft.)
3S0061180L001.1	116+20	5.8
3S0061180L001.6	139+60	6.4

LOCATIONS 3 & 4

FILE NAME =	USER NAME = woodshankr1	DESIGNED - RON WOODSHANK	REVISED - -----	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL REPAIR OF CONCRETE SIGN TRUSS FOUNDATIONS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ca:\pwr_work\pwr\dtd\woodshankr1\0239510\6159-Detail.dgn	DRAWN - RON WOODSHANK	REVISED - -----	VAR			D-3 OVD SIN STR REPL 11-34	VAR	16	16	
PLOT SCALE = 1/8" = 1'-0"	CHECKED - ----	REVISED - -----							CONTRACT NO. 46159	
PLOT DATE = Nov 05, 2010 - 09:10:29 AM	DATE - -----	REVISED - -----	SCALE: -----			SHEET NO. 5 OF 5 SHEETS	STA. ----- TO STA.	ILLINOIS		