

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

FAI 57 & FAI 74
D-5 OVD SIN STR REPL 2011-12
Champaign County
Sheet 1 of 37
Contract Number 46135

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

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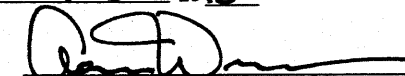
FAI 57 & FAI 74 (I-57 & I-74)
D-5 OVD SIN STR REPL 2011-12
CHAMPAIGN COUNTY
C-60-012-11

STANDARDS

701101-02
701106-02
701400-04
701401-05
701411-06
701421-02
701456
701901-01
720021-02
814001-02

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 30 2010
PASSED


ENGINEER OF OPERATIONS

October 1 2010

Scott E. Stitt, PE.
ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED October 1 2010

Christine M. Reader
DIRECTOR DIVISION OF HIGHWAYS

CONTRACT NO. 46135

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

SUMMARY OF QUANTITIES

CODE NUMBER	PAY ITEM	UNIT	0021 100% STATE TOTAL QUANTITY	I-74	I-57
28000510	INLET FILTERS	EACH	2.00		2.00
63400105	GUARD POSTS	EACH	20.00		20.00
63400205	GUARD POSTS REMOVAL	EACH	20.00		20.00
67100100	MOBILIZATION	L SUM	1.00	0.25	0.75
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	1.00		1.00
70100309	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	EACH	1.00	1.00	
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2.00	1.00	1.00
72000300	SIGN PANEL - TYPE 3	SQFT	1008.00	192	814
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	1061.50	135	926.5
73300100	OVERHEAD SIGN STRUCTURE - SPAN, TYPE I-A (4'-0" X 4'-6")	FOOT	128.00		128.00
73300200	OVERHEAD SIGN STRUCTURE - SPAN, TYPE II-A (4'-6" X 5'-3")	FOOT	90.00		90.00
73306100	TRICHORD SIGN STRUCTURE TYPE - TRI-S	FOOT	53.00	53	
73306500	TRICHORD SIGN WALKWAY TYPE - S	FOOT	40.00	40	
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	34.00	9	25
73800100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	4.00	1	3
73700300	REMOVE CONCRETE FOUNDATION OVERHEAD	EACH	4.00	2	2
73800100	STRUCTURAL STEEL SUPPORT FOR OVERHEAD SIGN STRUCTURE - SPAN	EACH	8.00	2	6
81400100	HANDHOLE	EACH	1.00		1.00
T9996300	OVERHEAD SIGN SUPPORT GROUT REPAIR	EACH	8.00		8.00
X7012617	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	EACH	2.00		2.00
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	14.00		14.00
X7330105	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	122.00		122.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	3.00		3.00
Z0002005	ATTENUATOR BASE	SQYD	102.00		102.00
Z0029999	IMPACT ATTENUATOR REMOVAL	EACH	2.00		2.00
Z0030150	IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.00		2.00

SCHEDULE OF QUANTITIES

PAY ITEM	UNIT	100% STATE TOTAL QUANTITY	5-01	5-02	5-03	5-04
			5S010 I057 R249.73	5S010 I057 L250.43	5S010 I057 L237.52	5S010 I074 R185.40
CHAMPAIGN COUNTY						
INLET FILTERS	EACH	2.00	-	-	2.00	-
GUARD POSTS	EACH	20.00	-	-	20.00	-
GUARD POSTS REMOVAL	EACH	20.00	-	-	20.00	-
MOBILIZATION	L SUM	1.00	0.25	0.25	0.25	0.25
TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	1.00	-	-	1.00	-
TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	EACH	1.00	-	-	-	1.00
TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2.00	-	-	1.00	1.00
SIGN PANEL - TYPE 3	SQFT	1006.00	138.00	138.00	538.00	192.00
REMOVE SIGN PANEL - TYPE 3	SQFT	1061.50	222.50	222.50	481.50	135.00
OVERHEAD SIGN STRUCTURE - SPAN, TYPE I-A (4'-0" X 4'-6")	FOOT	128.00	64.00	64.00	-	-
OVERHEAD SIGN STRUCTURE - SPAN, TYPE II-A (4'-6" X 5'-3")	FOOT	90.00	-	-	90.00	-
TRICHORD SIGN STRUCTURE TYPE - TRI-I-S	FOOT	53.00	-	-	-	53.00
TRICHORD SIGN WALKWAY TYPE - S	FOOT	40.00	-	-	-	40.00
DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	34.00	-	-	25.00	9.00
REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	4.00	1.00	1.00	1.00	1.00
REMOVE CONCRETE FOUNDATION OVERHEAD	EACH	4.00	-	-	2.00	2.00
STRUCTURAL STEEL SUPPORT FOR OVERHEAD SIGN STRUCTURE - SPAN	EACH	8.00	2.00	2.00	2.00	2.00
HANDHOLE	EACH	1.00	-	1.00	-	-
OVERHEAD SIGN SUPPORT GROUT REPAIR	EACH	8.00	4.00	4.00	-	-
TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	EACH	2.00	1.00	1.00	-	-
CHANGEABLE MESSAGE SIGN	CAL DA	14.00	-	-	14.00	-
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	122.00	34.00	34.00	54.00	-
ELECTRICAL SERVICE DISCONNECT	EACH	3.00	1.00	1.00	1.00	-
ATTENUATOR BASE	SQYD	102.00	-	-	102.00	-
IMPACT ATTENUATOR REMOVAL	EACH	2.00	-	-	2.00	-
IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.00	-	-	2.00	-

SCHEDULE OF QUANTITIES

INDIVIDUAL TRUSS LOCATIONS

Location No.	5-01		
Structure No.	5 S 010 1057 R249.73		
County / Route	CHAMPAIGN CO. - I-57 NB - Off Ramp to US 136		
Scope of Work	This overhead sign structure is being replaced on existing foundations.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
72000300	SIGN PANEL - TYPE 3	SQFT	138.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	222.50
73300100	OVERHEAD SIGN STRUCTURE - SPAN, TYPE I-A (4'-0" X 4'-6")	FOOT	64.00
73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	1.00
73800100	STRUCTURAL STEEL SUPPORT FOR OVERHEAD SIGN STRUCTURE - SPAN	EACH	2.00
T9996300	OVERHEAD SIGN SUPPORT GROUT REPAIR	EACH	4.00
X7012617	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	EACH	1.00
X7330105	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	34.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	1.00

Location No.	5-02		
Structure No.	5 S 010 1057 L250.43		
County / Route	CHAMPAIGN CO. - I-57 SB - Off Ramp to US 136		
Scope of Work	This overhead sign structure is being replaced on existing foundations.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
72000300	SIGN PANEL - TYPE 3	SQFT	138.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	222.50
73300100	OVERHEAD SIGN STRUCTURE - SPAN, TYPE I-A (4'-0" X 4'-6")	FOOT	64.00
73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	1.00
73800100	STRUCTURAL STEEL SUPPORT FOR OVERHEAD SIGN STRUCTURE - SPAN	EACH	2.00
81400100	HANDHOLE	EACH	1.00
T9996300	OVERHEAD SIGN SUPPORT GROUT REPAIR	EACH	4.00
X7012617	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	EACH	1.00
X7330105	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	34.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	1.00

Install HANDHOLE in ground around the backside of Lt. Fdn. to maintain electrical connection for highway lighting.

Location No.	5-03		
Structure No.	5 S 010 1057 L237.52		
County / Route	CHAMPAIGN CO. - I-57 SB - just North of I-74		
Scope of Work	This overhead sign structure is being replaced on new drilled shaft foundations.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
28000510	INLET FILTERS	EACH	2.00
63400105	GUARD POSTS	EACH	20.00
63400205	GUARD POSTS REMOVAL	EACH	20.00
70100205	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	EACH	1.00
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1.00
72000300	SIGN PANEL - TYPE 3	SQFT	538.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	481.50
73300200	OVERHEAD SIGN STRUCTURE - SPAN, TYPE II-A (4'-6" X 5'-3")	FOOT	90.00
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	25.00
73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	1.00
73700300	REMOVE CONCRETE FOUNDATION OVERHEAD	EACH	2.00
73800100	STRUCTURAL STEEL SUPPORT FOR OVERHEAD SIGN STRUCTURE - SPAN	EACH	2.00
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	14.00
X7330105	OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	FOOT	54.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	1.00
Z0002005	ATTENUATOR BASE	SQYD	102.00
Z0029999	IMPACT ATTENUATOR REMOVAL	EACH	2.00
Z0030150	IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2.00

Pay Item for Changeable Message Signs is for the advanced interstate notice only. CMS shown on Standards are included in the cost of the Standard.

Location No.	5-04		
Structure No.	5 S 010 1074 R185.40		
County / Route	CHAMPAIGN CO. - University Ave. / IL 130 at interchange to I-74 - East edge Urbana		
Scope of Work	This overhead sign structure is being replaced with a Tri-Chord on new foundations.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
70100309	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	EACH	1.00
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1.00
72000300	SIGN PANEL - TYPE 3	SQFT	192.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	135.00
73306100	TRICHORD SIGN STRUCTURE TYPE - TRI-I-S	FOOT	53.00
73306500	TRICHORD SIGN WALKWAY TYPE - S	FOOT	40.00
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	9.00
73600100	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	EACH	1.00
73700300	REMOVE CONCRETE FOUNDATION OVERHEAD	EACH	2.00
73800100	STRUCTURAL STEEL SUPPORT FOR OVERHEAD SIGN STRUCTURE - SPAN	EACH	2.00

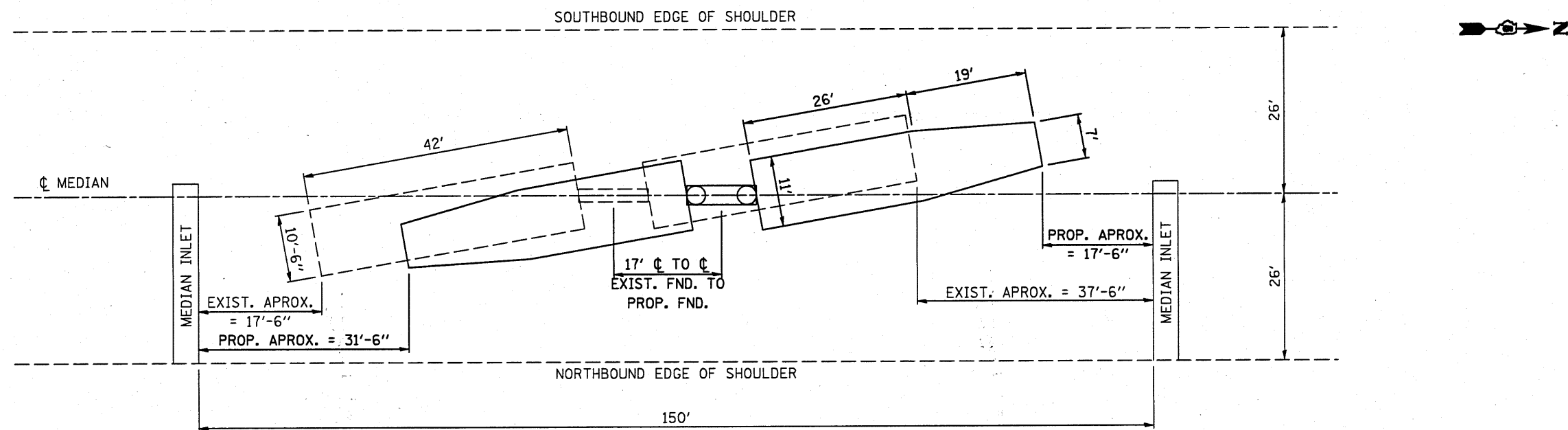
The Signage designating "END ILLINOIS 130" will be replaced by the District 5 Sign Shop

SCHEDULE OF QUANTITIES

X8040310 - ELECTRIC SERVICE DISCONNECT				
LOCATION NO.	STRUCTURE NO.	UNIT	QUANTITY	DESCRIPTION
5-01	5 S 010 I057 R249.73	EACH	1.0	Re-using foundations. Truss (circuit #15/601) is wired in series between light poles #15/101 & #15/501. Use new end supports as junction box to reconnect the electric circuit and keep highway lighting operational. See "ELECTRIC SERVICE DISCONNECT".
5-02	5 S 010 I057 L250.43	EACH	1.0	Re-using foundations. Truss (circuit #15/602) is wired in series between light poles #15/503 & #15/102. Foundation does not appear to have conduit. Use new HANDHOLE to reconnect the electric circuit and keep highway lighting operational. See "ELECTRIC SERVICE DISCONNECT". HANDHOLE to paid for as 81400100 - Handhole - 1.0 EACH. Place in ground on backside of LT. Foundation
5-03	5 S 010 I057 L237.52	EACH	1.0	Truss lighting # 49/605 is end of run stubbed from nearby light pole # 49/144. Disconnect electrical connection per "ELECTRIC SERVICE DISCONNECT". Unit Duct between light poles # 49/145 and # 49/144 appears to be several feet East of the proposed drilled shaft foundations - no conflict is evident. Contractor shall use caution during foundation removal.

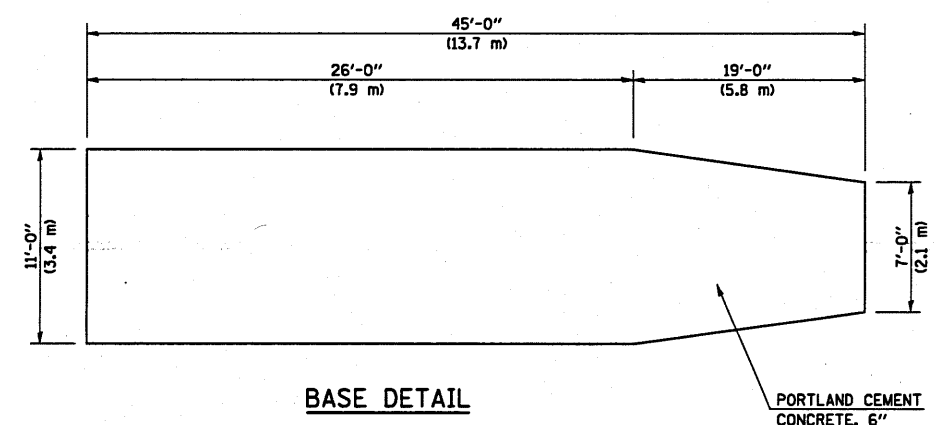
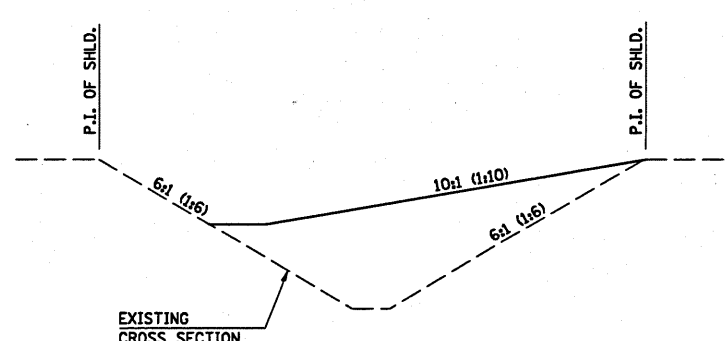
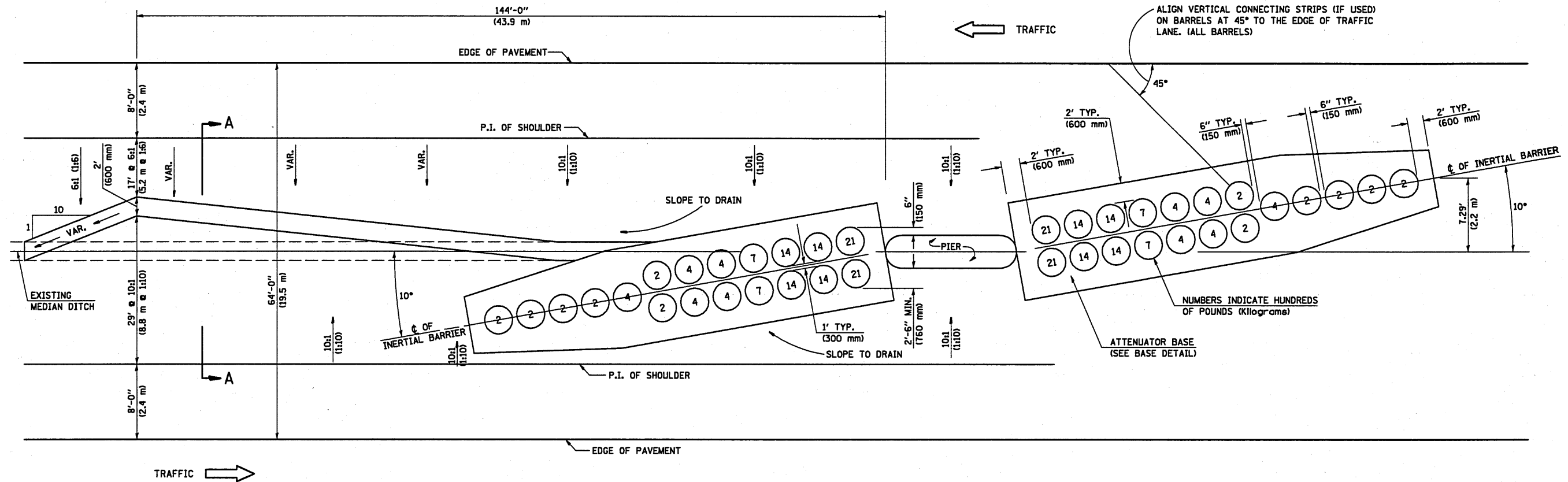
The information provided in this chart is the best guess based on "As-Built" plans and by looking in each foundation for the number of unit ducts. Contractor shall verify the existing path of the electrical circuit and adjust work as needed. The pay items X8040310 ELECTRICAL SERVICE DISCONNECT and 81400100 HANDHOLE shall cover all work needed to comply with "ELECTRICAL SERVICE DISCONNECT".

5 S 010 I057 L237.52 PROPOSED LOCATION vs EXISTING LOCATION



FILE NAME =	USER NAME = buckles_j	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
en\pwork\psidot\buckles_j\08212597\05	6135-shr-Detals.dgn	DRAWN -	REVISED -			57&74		Champaign	37	5	
	PLOT SCALE = 48.0000' / IN.	CHECKED -	REVISED -			D-5 OVD SIN STR REPL 2011-12		CONTRACT NO. 46135		ILLINOIS FED. AID PROJECT	
	PLOT DATE = 7/28/2010	DATE -	REVISED -			SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.

70 MPH (110 km/h) DESIGN - 64' (19.5 m) MEDIAN



GENERAL NOTES

- ALL 10:1 (1:10) SLOPES SHOWN ON THIS DETAIL SHALL BE CONSTRUCTED 10:1 (1:10) OR FLATTER.
- ANY EXISTING DRAINAGE STRUCTURES LOCATED WITHIN THE 80' (24.4 m) WORKING AREA SHALL BE MODIFIED OR LEFT IN PLACE AS SHOWN ON THE PLANS. WHERE THE EXISTING DRAINAGE STRUCTURES ARE TO REMAIN IN PLACE, THE SLOPES ARE TO BE CONSTRUCTED AS SHOWN AS MODIFIED SLOPES ON THIS DETAIL AND AS DIRECTED BY THE ENGINEER.
- THE SLOPES AS SHOWN ON THIS DETAIL SHALL APPLY TO BOTH ENDS OF THE BRIDGE PIERS.
- THE LENGTH X WIDTH OF MODULE LAYOUT IS 41.0' x 7.0' : 19 MODULES - 14,400 LBS. (12.5 m x 2.1 m : 19 MODULES - 6532 kg).
- IN AREAS OF 10:1 (1:10) SLOPES PRECEDING THE ATTENUATOR IN THE MEDIAN INSTALLATION, FOUR WOOD POSTS SHALL BE PLACED AT 5' (1.5 m) INTERVALS IN THE MEDIAN ϕ . SEE SPECIAL PROVISIONS.

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

DISTRICT 5 DETAIL NO. Z0030150D

FILE NAME =	USER NAME = buckles JJ	DESIGNED -	REVISED - 11/06
c:\pwork\p\dot\buclles JJ\d0212597\0546135-shd-Detail.dgn		DRAWN -	REVISED - 12/08
PLDT SCALE = 48.8888' / IN.		CHECKED -	REVISED -
PLDT DATE = 7/29/2018		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

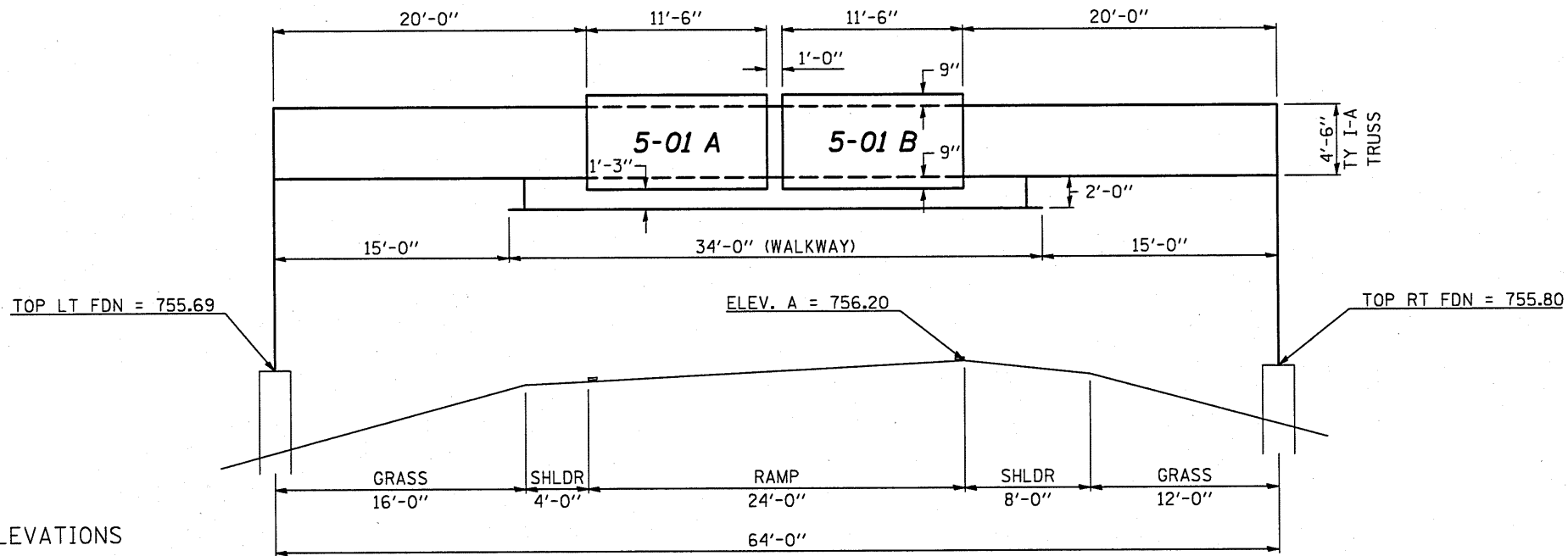
IMPACT ATTENUATORS (NON-REDIRECTIVE) TEST LEVEL 3

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74	*	Champaign	37	6
* D-5 OVD SIN STR REPL 2011-12			CONTRACT NO. 46135	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

SIGN TRUSS MOUNTING DETAIL

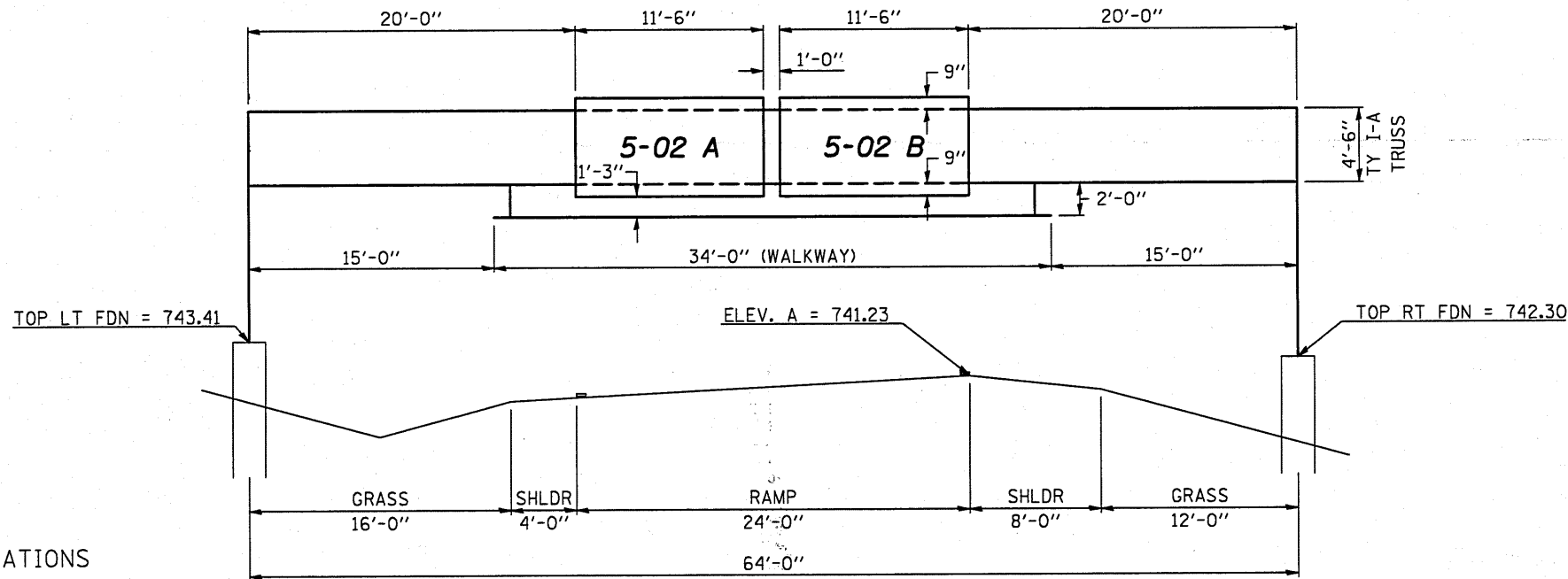
5 S 010 I057 R249.73



REUSE EXISTING FOUNDATIONS. ELEVATIONS ESTABLISHED FROM 1972 PLANS.

SIGN TRUSS MOUNTING DETAIL

5 S 010 I057 L250.43

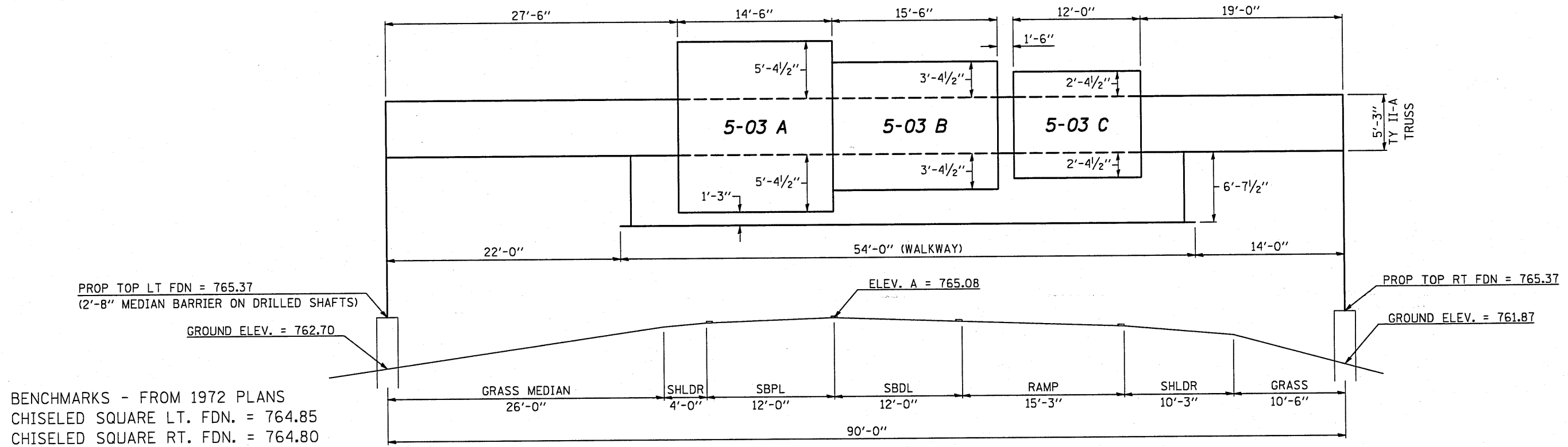


REUSE EXISTING FOUNDATIONS. ELEVATIONS ESTABLISHED FROM 1972 PLANS.

FILE NAME =	USER NAME = buckleeJJ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGN TRUSS MOUNTING DETAILS				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT SCALE = 48.0000' / IN.	CHECKED -	REVISED -	REVISED -		D-5 OVD SIN STR REPL 2011-12				CONTRACT NO. 46135				
PLOT DATE = 7/28/2010	DATE -	REVISED -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT			

SIGN TRUSS MOUNTING DETAIL

5 S 010 1057 L237.52

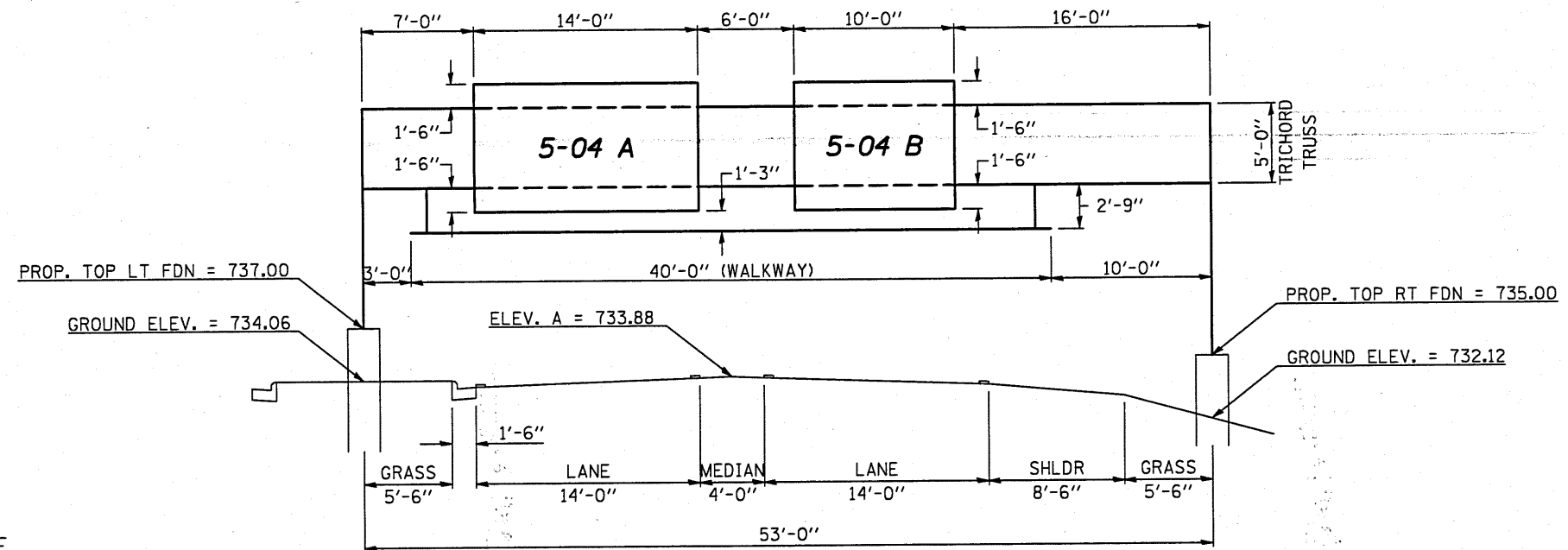


BENCHMARKS - FROM 1972 PLANS
 CHISELED SQUARE LT. FDN. = 764.85
 CHISELED SQUARE RT. FDN. = 764.80

SIGN TRUSS MOUNTING DETAIL

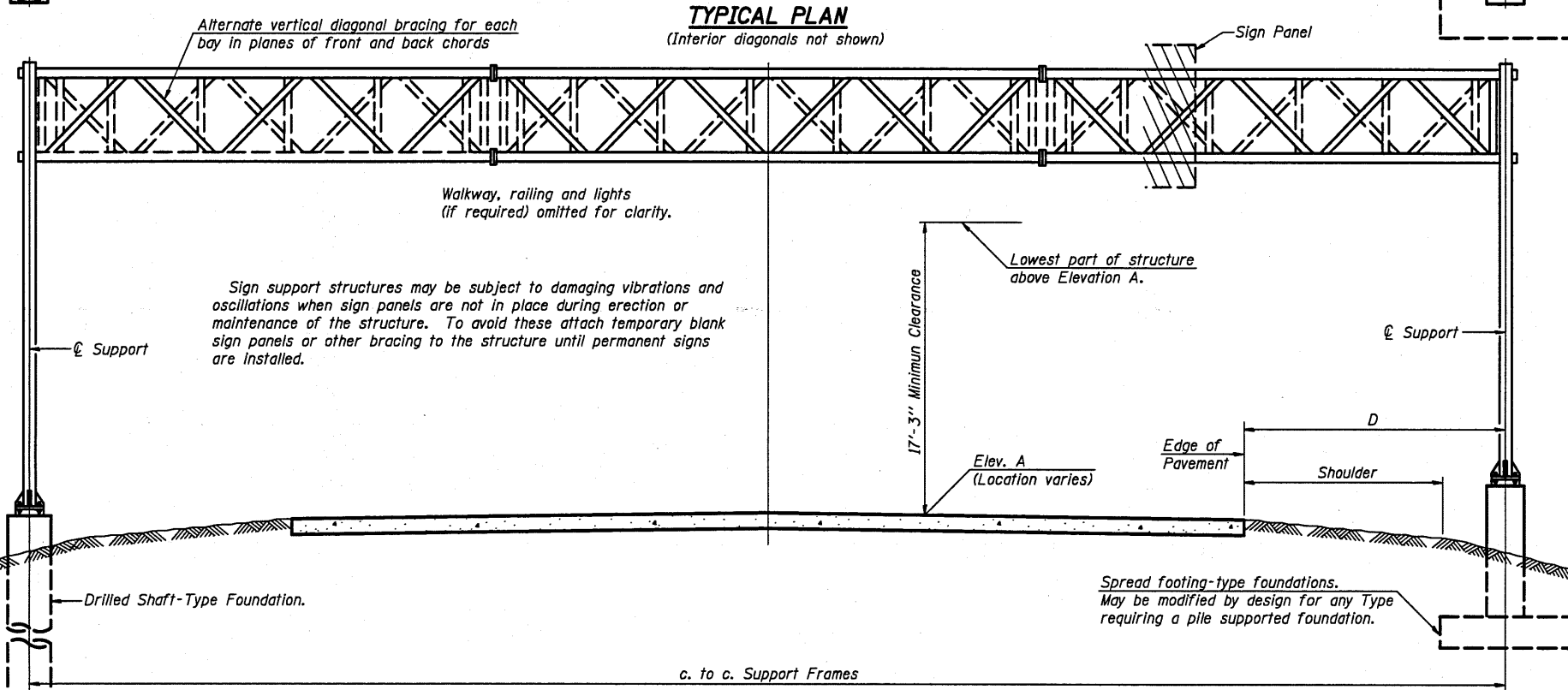
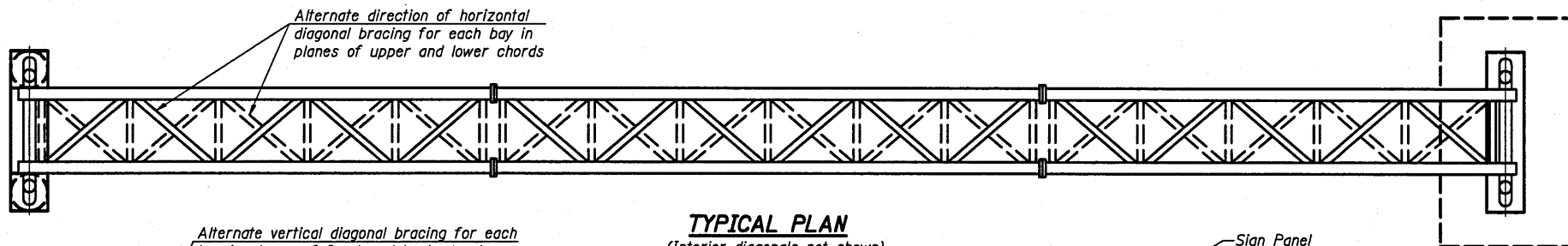
5 S 010 1074 R185.40

TRICHORD



BENCHMARK = CHISELED SQUARE MIDDLE
 OF RT. FDN. = 734.90 - FROM 1960 PLANS

FILE NAME =	USER NAME = bucklesJJ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGN TRUSS MOUNTING DETAILS			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\pwwork\pwwork\bucklesJJ\d0212597\054135-sht-Details.dgn	PLOT SCALE = 48.0000' / IN.	DRAWN -	REVISED -					57&74		Champaign	37	8
PLOT DATE = 7/28/2018	DATE -	CHECKED -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			D-5 OVD SIN STR REPL 2011-12 CONTRACT NO. 46135				
ILLINOIS FED. AID PROJECT												



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.

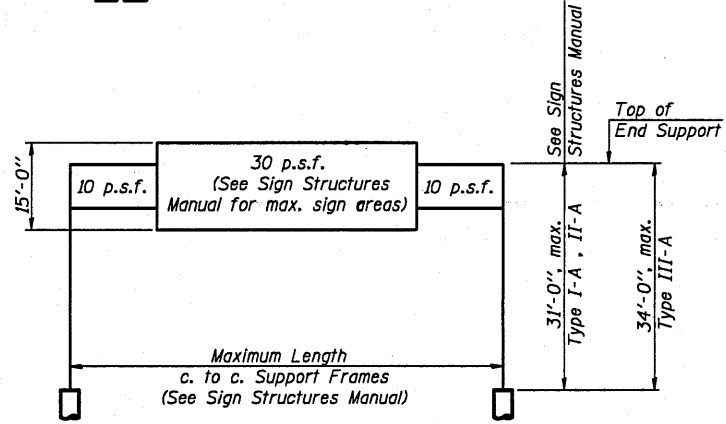
REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

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

* 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.

TYPICAL PLAN
(Interior diagonals not shown)

TYPICAL ELEVATION
(Looking at Face of Signs)**



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.

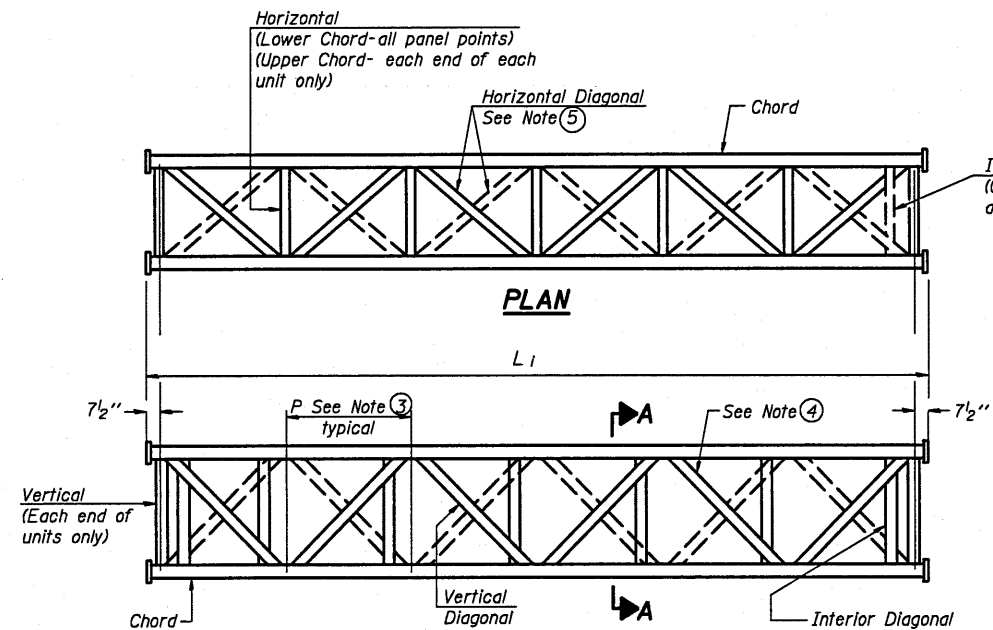
Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign ****	Total Sign Area
5 S 010 1057 R249.73	RAMP BD 15+00	I-A	64'-0"	756.20	***	6'-0"	138.0
5 S 010 1057 L250.43	RAMP AC 135+00	I-A	64'-0"	741.23	***	6'-0"	138.0
5 S 010 1057 L237.52	613+17	II-A	90'-0"	765.08	***	16'-0"	538.0

** Looking upstation for structures with signs both sides.
*** See Sign Truss Mounting Details.
**** End support height based on 15'-0" sign height or tallest sign whichever is greater per OS-A-4 & OS-A-6.

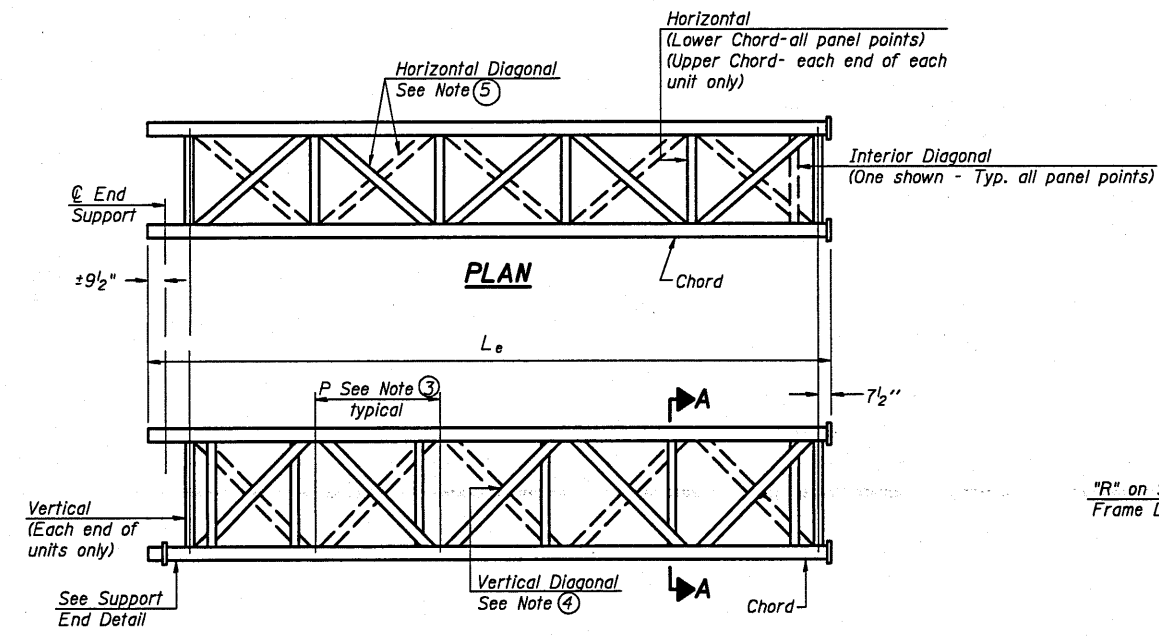
TOTAL BILL OF MATERIAL

NUMBER	REVISION	DATE	ITEM	UNIT	TOTAL
			OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot	128.0
			OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	90.0
			OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	122.0
			DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	25.0

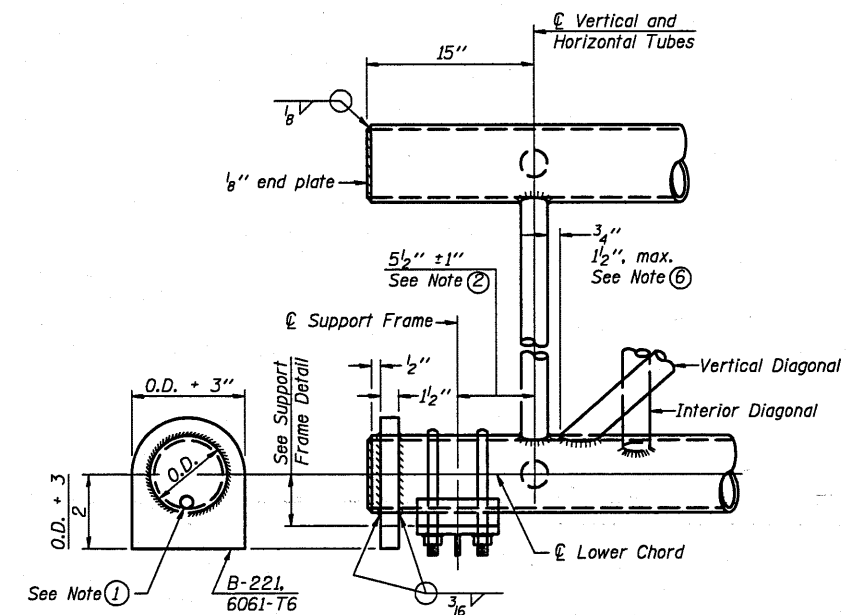
OS-A-1 12-1-08



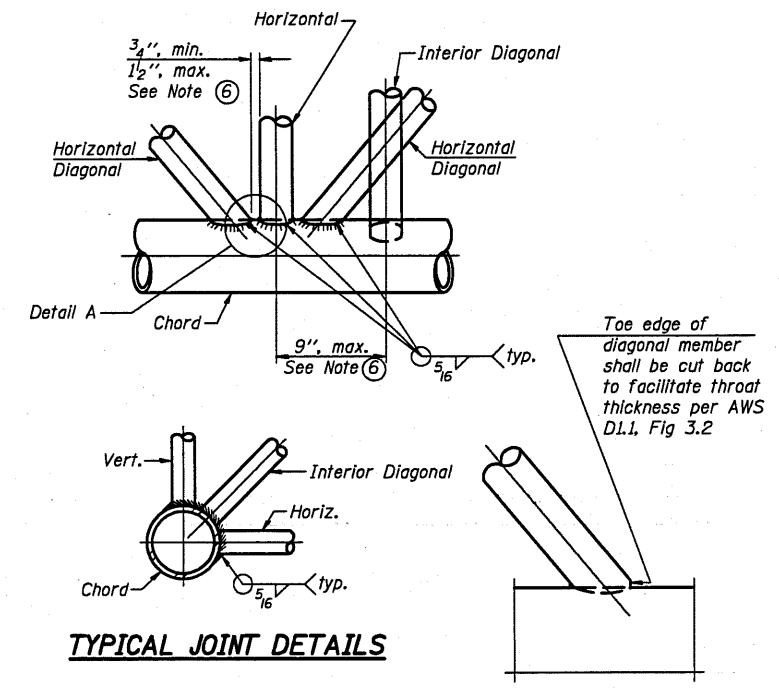
**ELEVATION
TYPICAL INTERIOR UNIT**
Even number of panels/interior unit required.



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

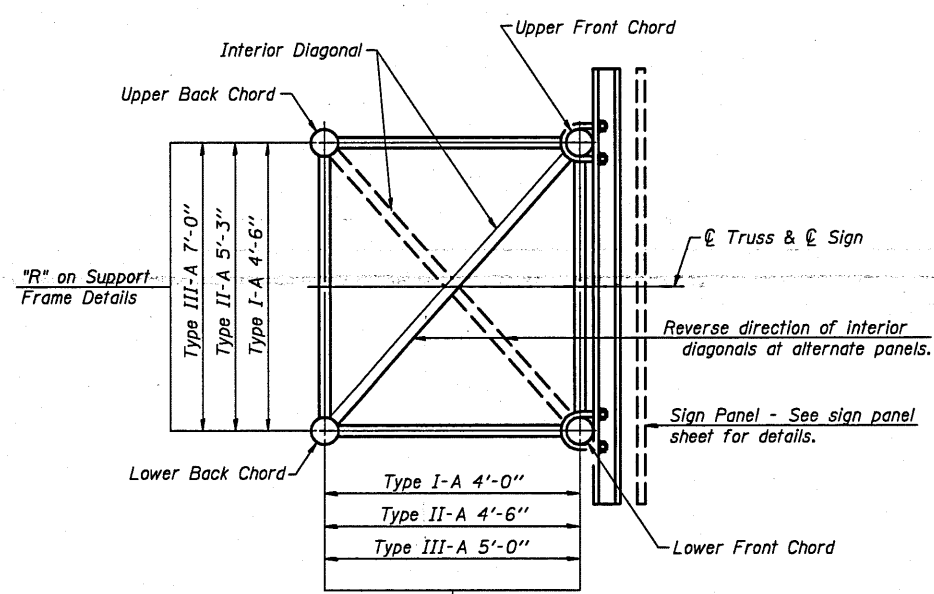


SUPPORT END DETAIL FOR EXTERIOR UNIT



TYPICAL JOINT DETAILS

DETAIL A



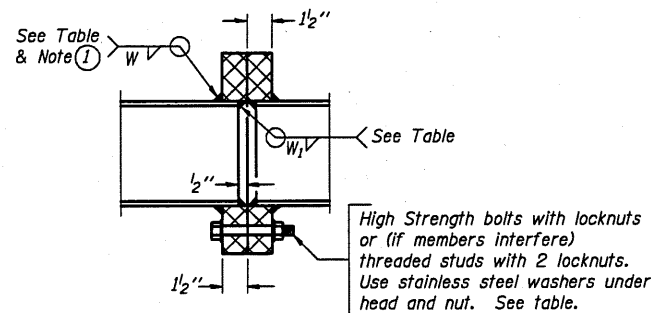
SECTION A-A

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

NUMBER	REVISION	DATE

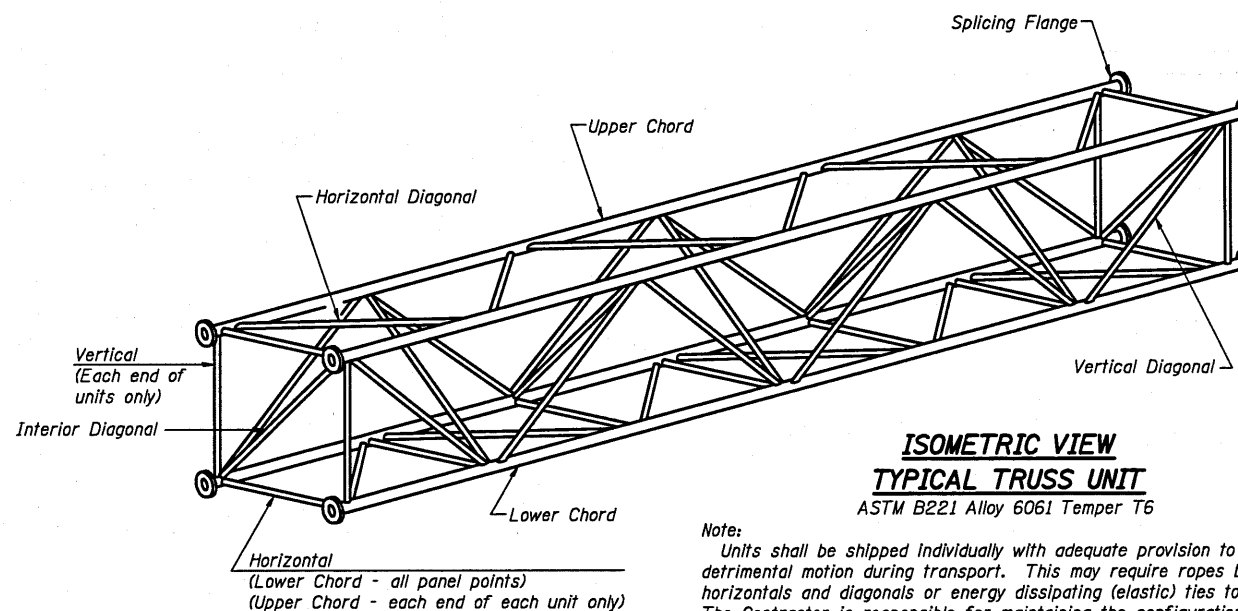
TRUSS UNIT TABLE

Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit			Upper & Lower Chord		Verticals, Horizontals, Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange						
			No. Panels per Unit	Unit Lgth.(L _e)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(L _i)	Panel Lgth.(P)	O.D.	Wall	O.D.		Wall	Bolts		Weld Sizes		A	B
															No./Splice	Dia.	W	W ₁		
5 S 010 I057 R249.73	RAMP BD 15+00	I-A	7	32'-9 1/2"	4'-5"	0			5"	5/16"	2 1/2"	5/16"	1 1/2"	6	7/8"	5/16"	1/4"	8 3/4"	11 3/4"	
5 S 010 I057 L250.43	RAMP AC 135+00	I-A	7	32'-9 1/2"	4'-5"	0			5"	5/16"	2 1/2"	5/16"	1 1/2"	6	7/8"	5/16"	1/4"	8 3/4"	11 3/4"	
5 S 010 I057 L237.52	613+17	II-A	5	28'-11 1/2"	5'-5"	1	6	33'-9"	5'-5"	6"	5/16"	3"	5/16"	2 1/2"	6	7/8"	3/8"	1/4"	10 1/4"	13 3/4"



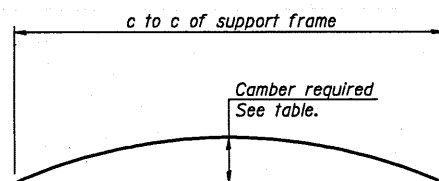
SECTION B-B

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



ISOMETRIC VIEW TYPICAL TRUSS UNIT
ASTM B221 Alloy 6061 Temper T6

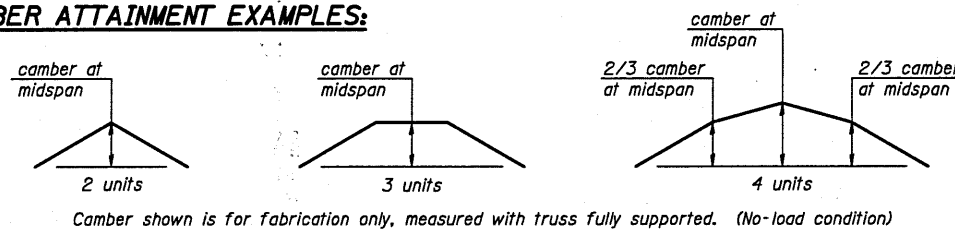
Note: Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection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



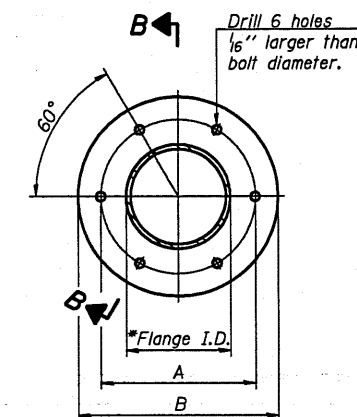
CAMBER DIAGRAM

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

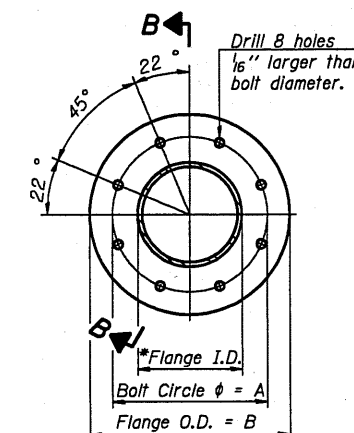
CAMBER ATTAINMENT EXAMPLES:



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



TRUSS TYPES I-A, II-A, & III-A



TRUSS TYPES II-A & III-A

SPLICING FLANGES

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

NUMBER	REVISION	DATE

OS4-A-2

12-1-08

FILE NAME =	USER NAME = bucklesJJ	DESIGNED -	REVISED -
ct\pwork\pwork\pwork\bucklesJJ\d0212597\0546135-sht-Details.dgn		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

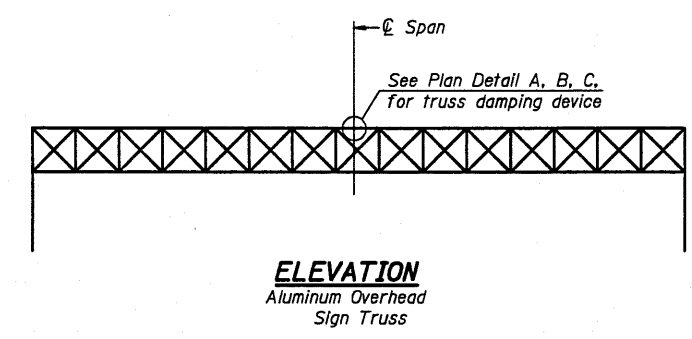
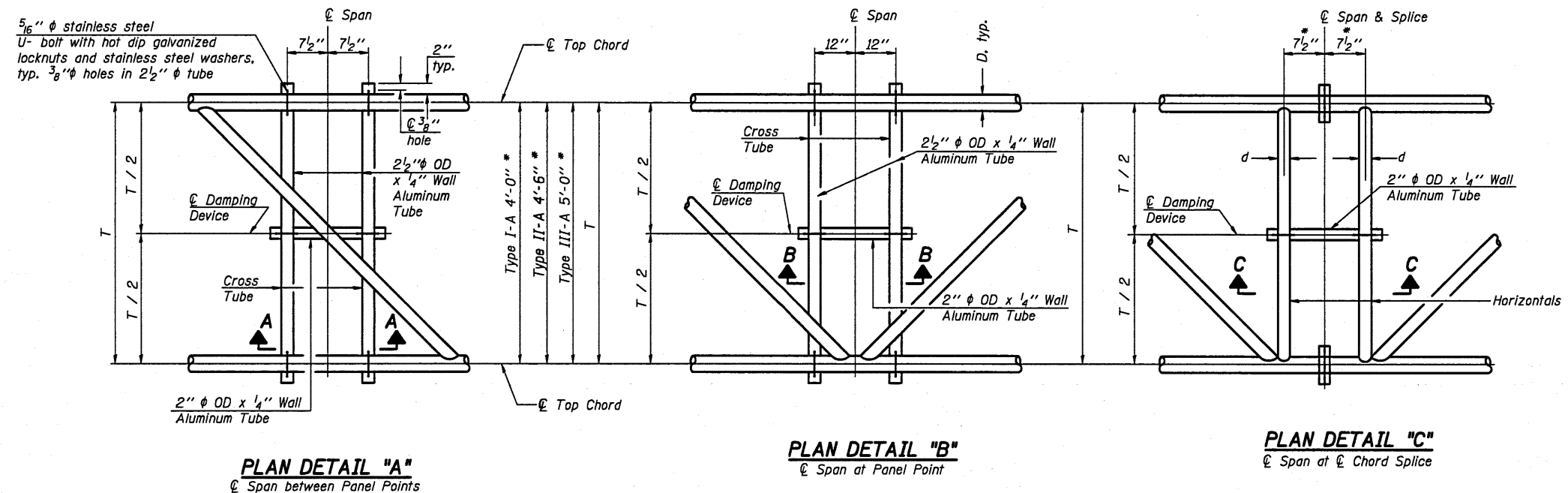
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74		Champaign	37	11
D-5 OVD SIN STR REPL 2011-12			CONTRACT NO.	46135
ILLINOIS FED. AID PROJECT				

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

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

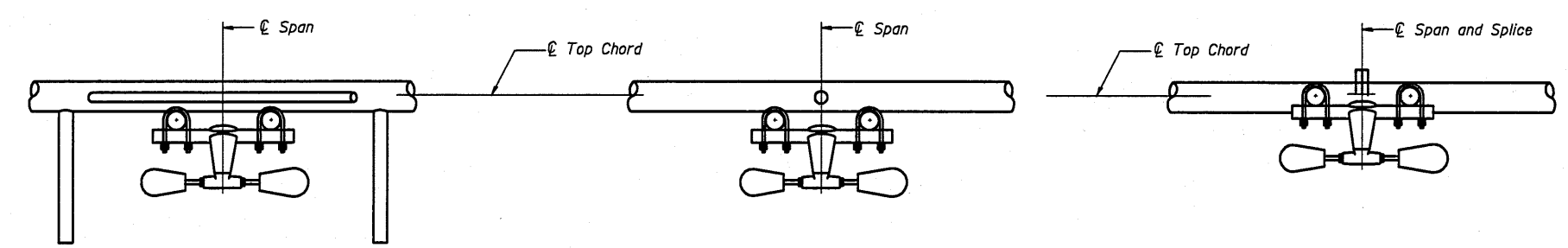


ELEVATION
Aluminum Overhead Sign Truss

NOTES

Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type Aluminum - 29\" minimum between ends of weights) Cost included in Overhead Sign Structure...

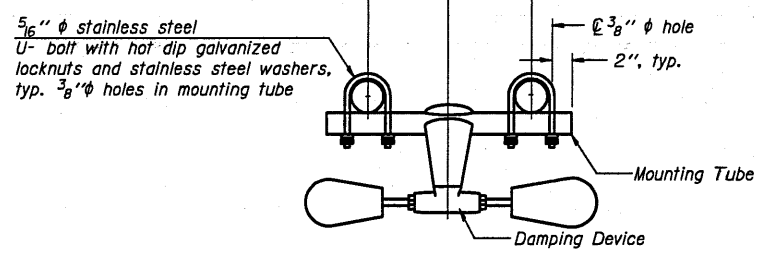
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...



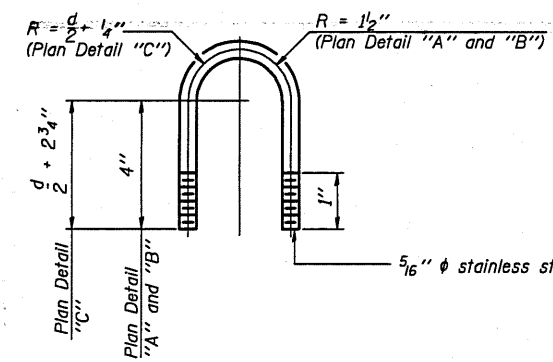
SECTION A-A

SECTION B-B

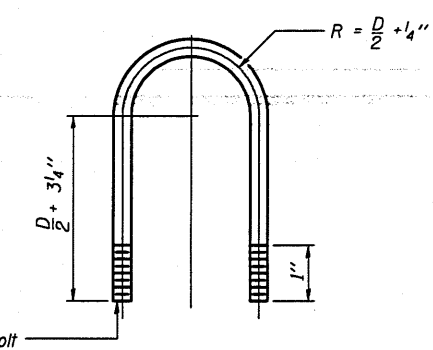
SECTION C-C



TRUSS DAMPING DEVICE CONNECTION DETAIL
(Typical)



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL
(Typical)



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

OS-A-D

12-1-08

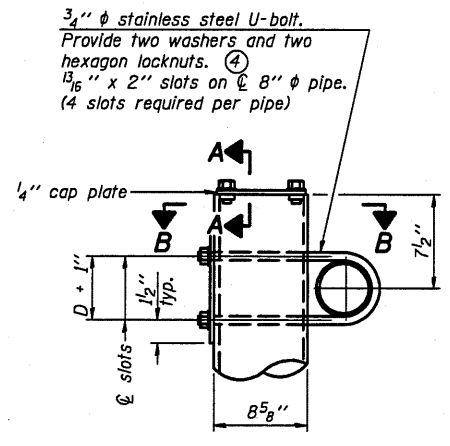
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PLT DATE = 7/28/2010		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

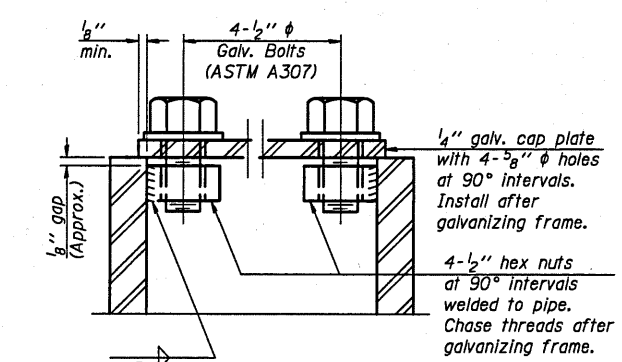
OVERHEAD SIGN STRUCTURE
DAMPING DEVICE

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74		Champaign	37	12
D-5 OVD SIN STR REPL 2011-12			CONTRACT NO. 46135	
ILLINOIS FED. AID PROJECT				

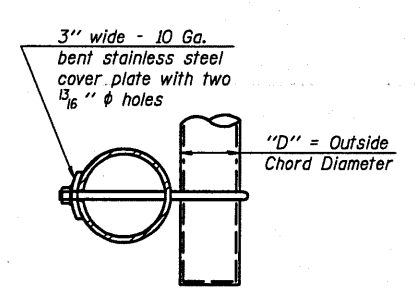


DETAIL A

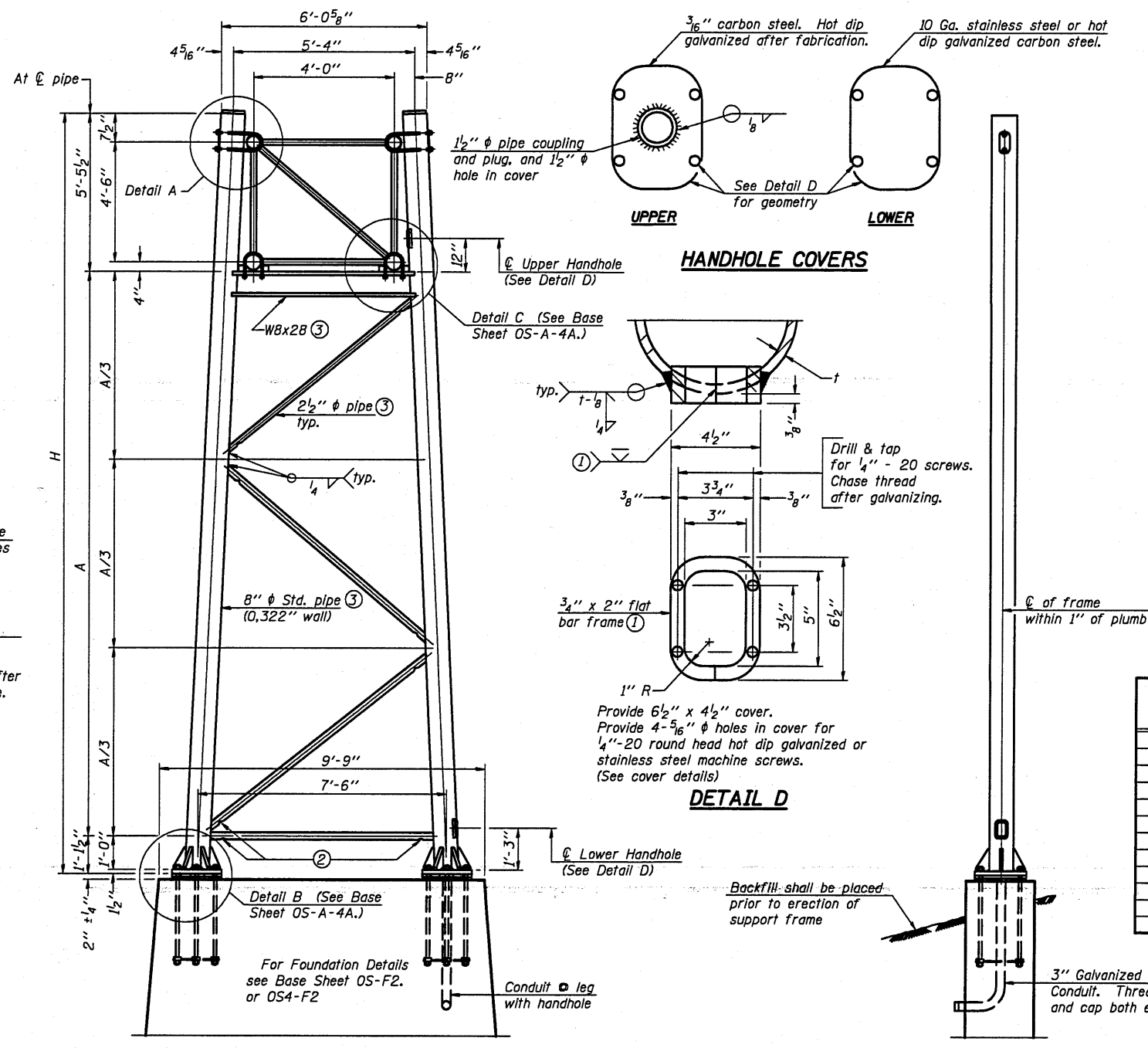


SECTION A-A

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

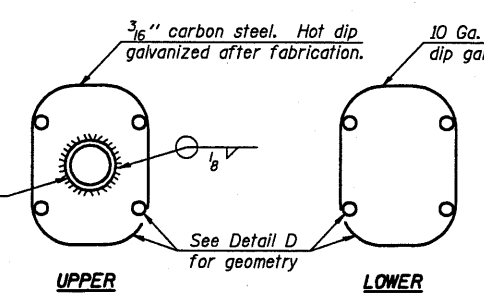


SECTION B-B

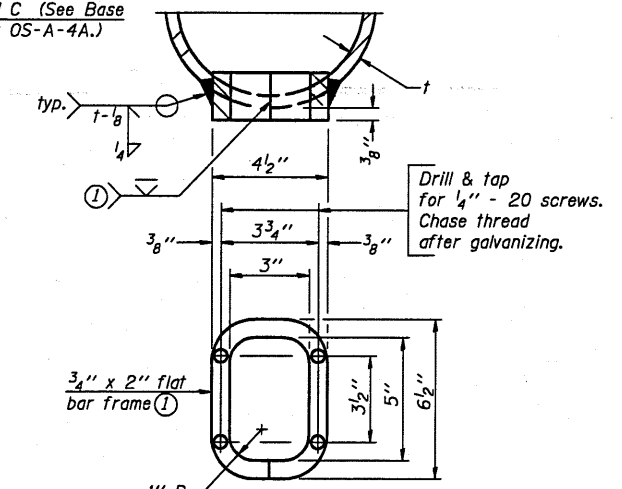


SIDE ELEVATION

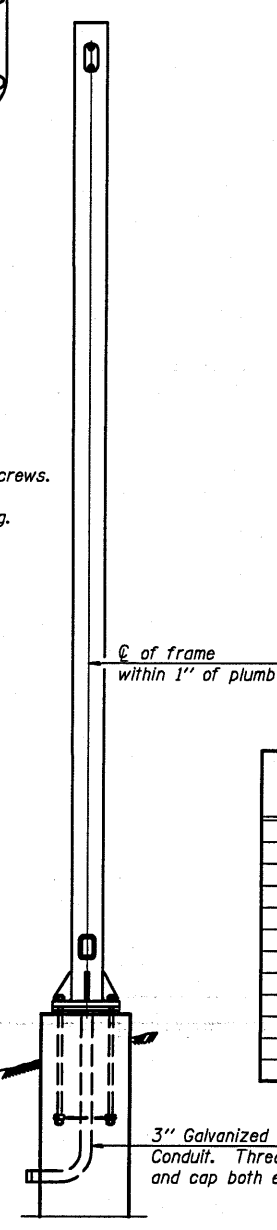
8" ϕ PIPE TRUSS SUPPORT FRAME



HANDHOLE COVERS



DETAIL D



END ELEVATION

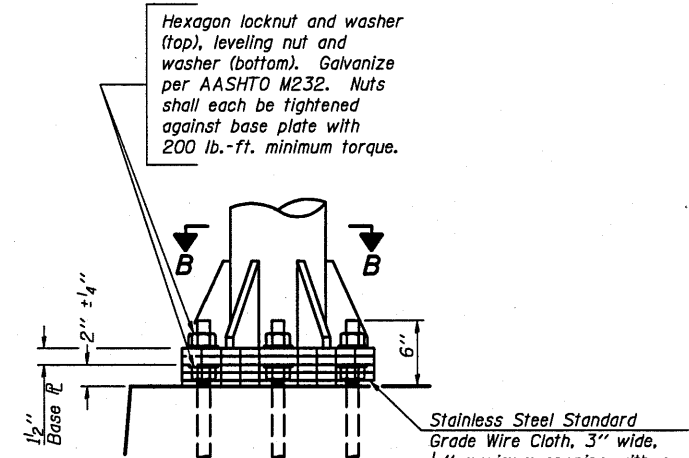
Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.
Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

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

Structure Number	Station	Support		H ⑥	A
		Left	Right		
5 S 010 I057 R249.73	RAMP BD 15+00	X		28'-0"	21'-5"
5 S 010 I057 R249.73	RAMP BD 15+00		X	27'-10 3/4"	21'-3 3/4"
5 S 010 I057 L250.43	RAMP AC 135+00	X		26'-10 3/4"	20'-3 3/4"
5 S 010 I057 L250.43	RAMP AC 135+00		X	28'-0"	21'-5"

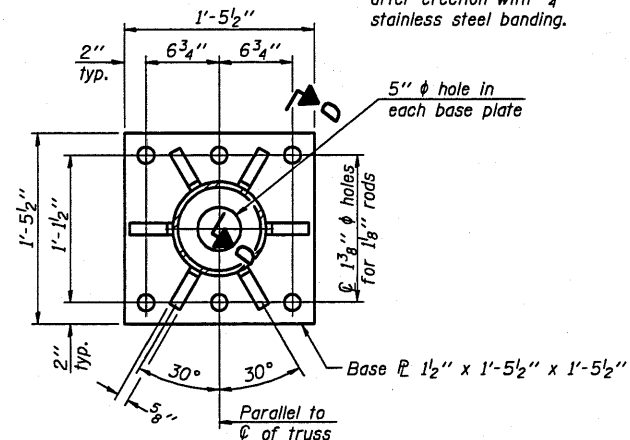
NUMBER	REVISION	DATE

OS-A-4 12-1-08



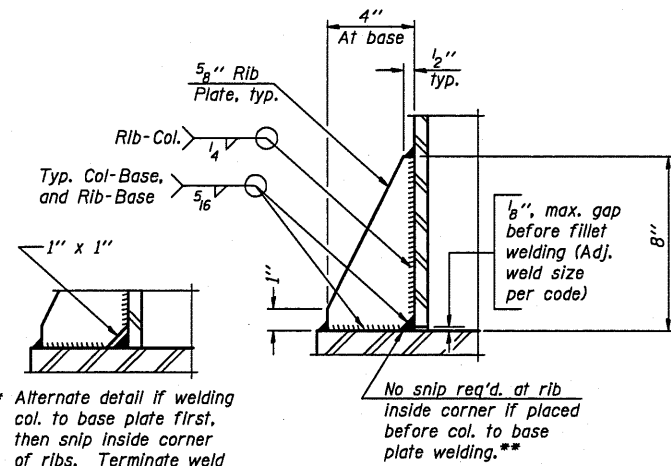
DETAIL B

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.



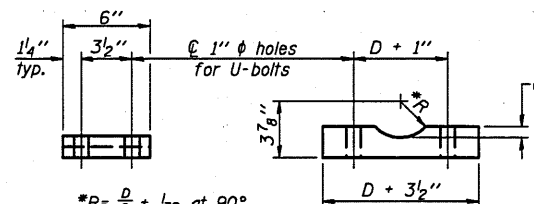
SECTION B-B

NUMBER	REVISION	DATE



SECTION D-D

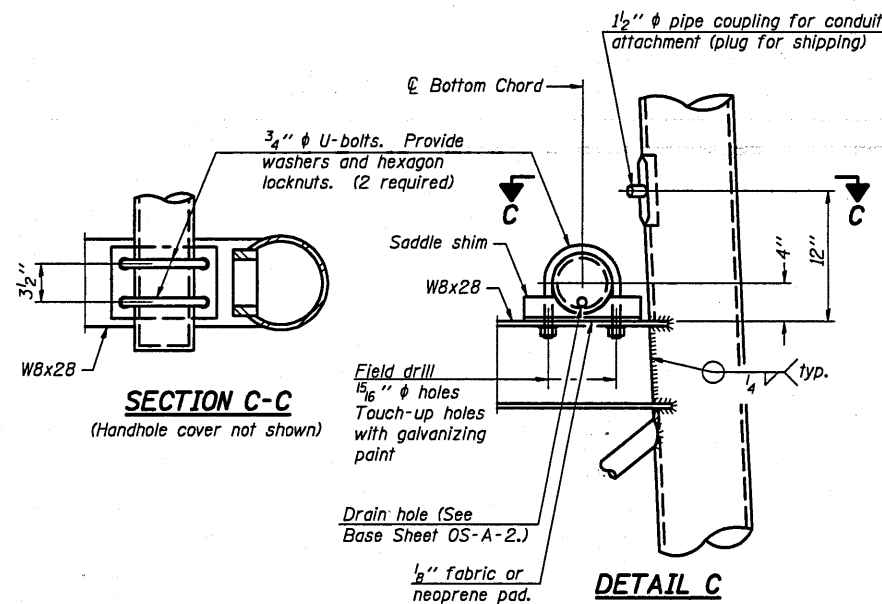
** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.



SADDLE SHIM DETAIL

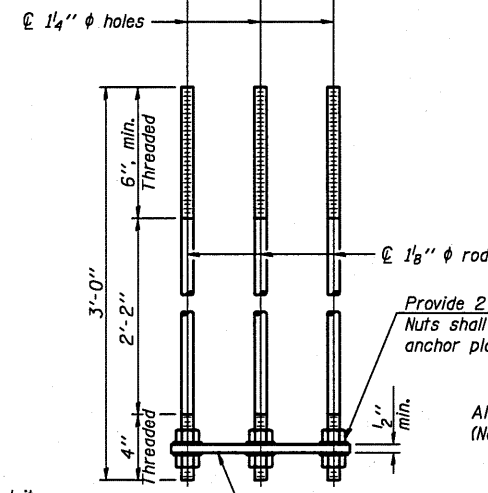
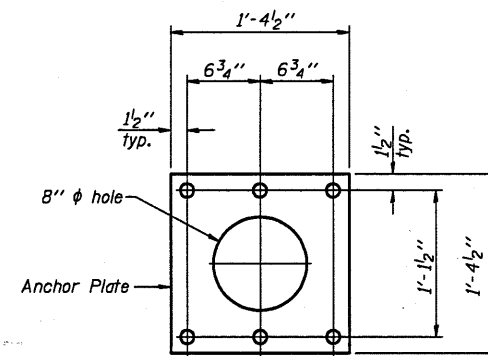
ASTM B26 Alloy 356-F or ASTM B209 Alloy 6061-T651 (4 required per sign truss)

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

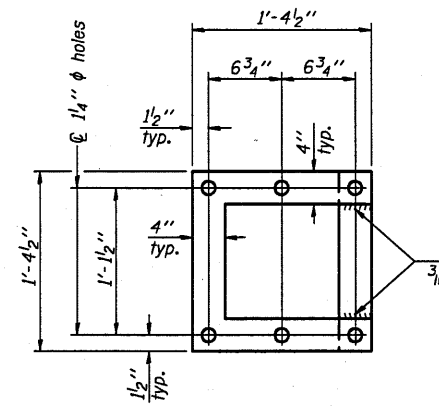


SECTION C-C

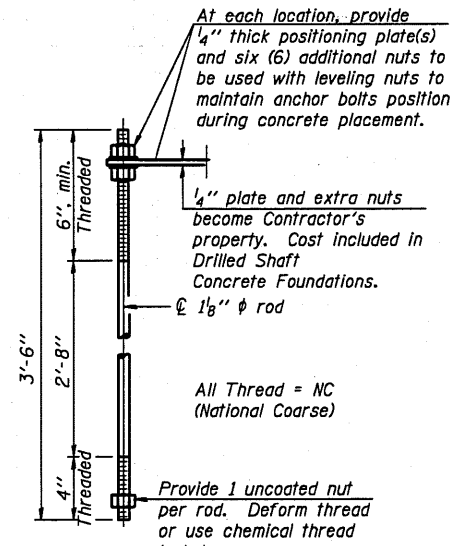
DETAIL C



ANCHOR ROD DETAIL
Spread Footing Foundation



POSITIONING PLATE(S)



ANCHOR ROD DETAIL
Drilled Shaft Foundation

Anchor rods shall conform to AASHTO M314 Grade 36 or 55 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.

TYPE I-A TRUSS
8" phi PIPE SUPPORT FRAME DETAILS

OS-A-4A

12-1-08

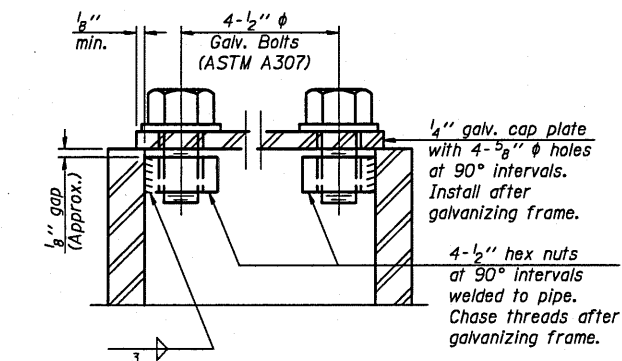
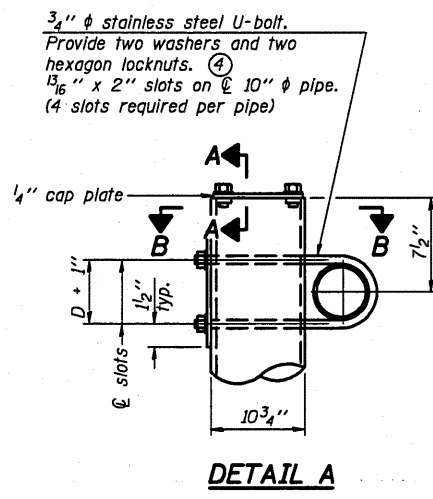
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

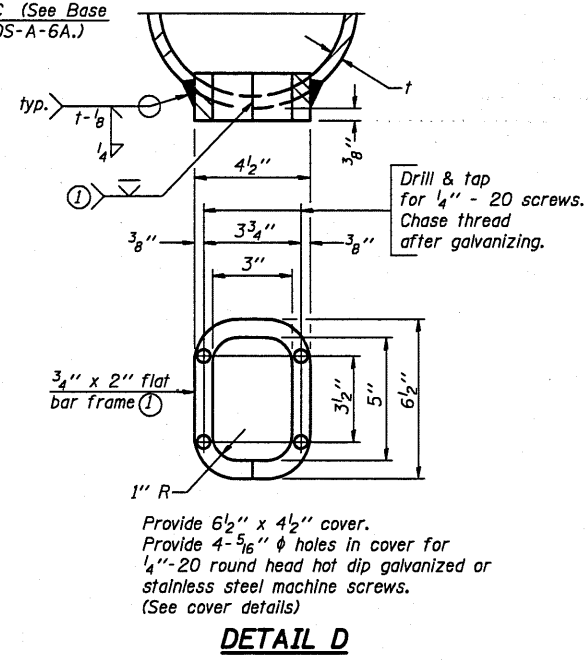
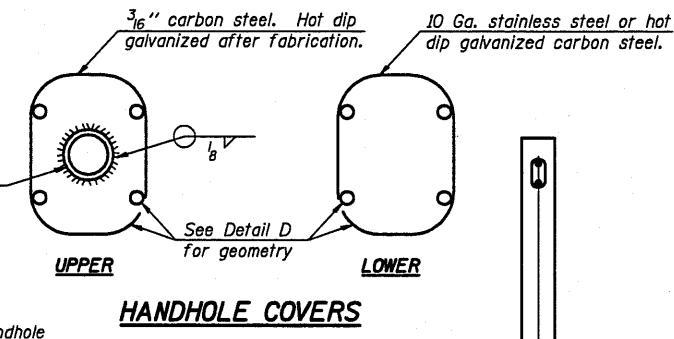
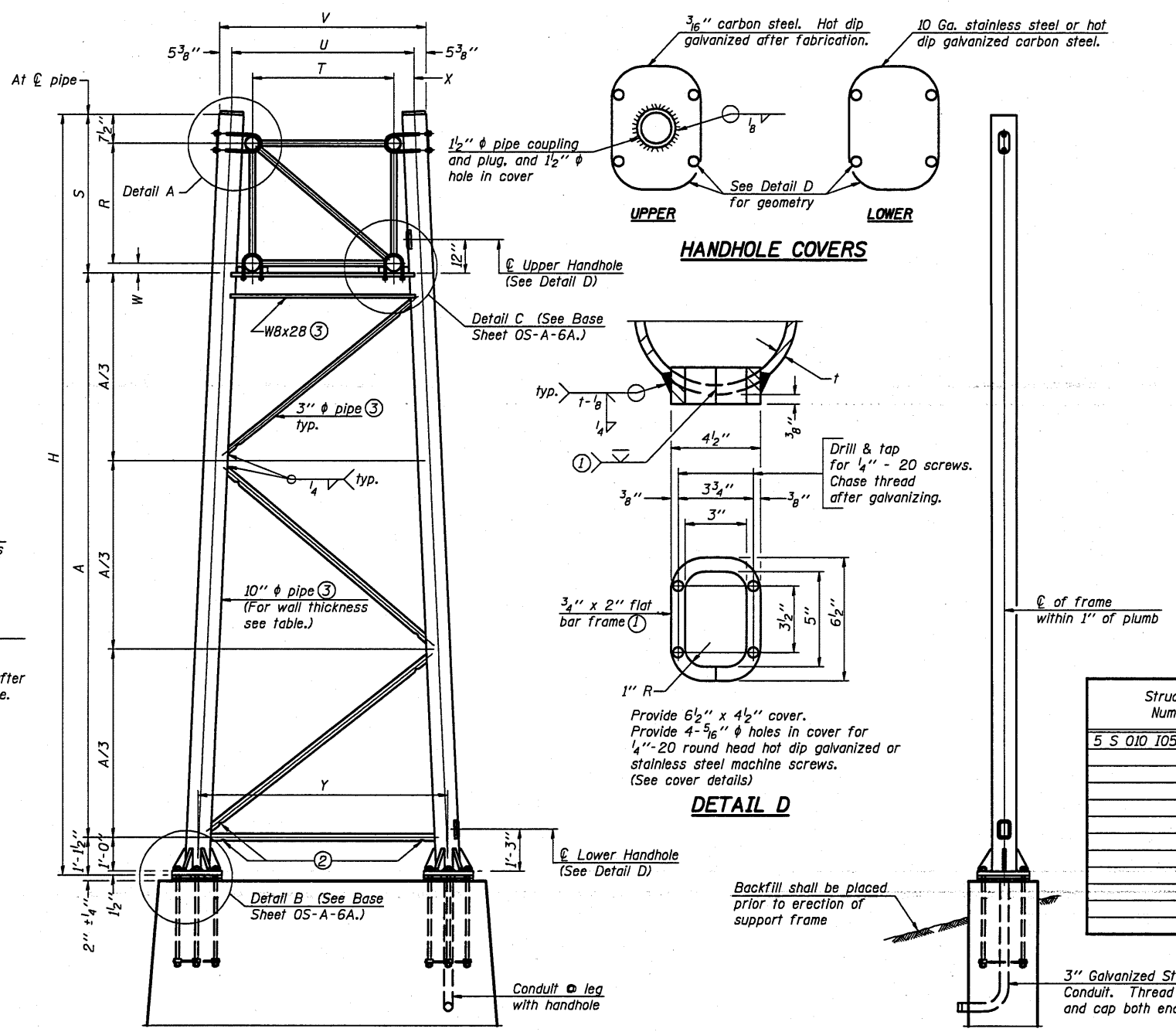
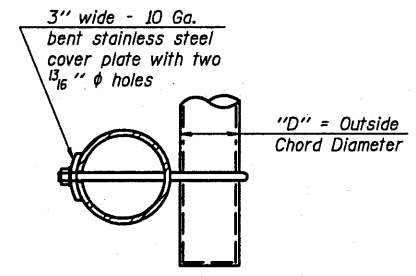
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME DETAILS ALUMINUM TRUSS

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74		Champaign	37	14
* D-5 OVD SIN STR REPL 2011-12 CONTRACT NO. 46135				
ILLINOIS FED. AID PROJECT				



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



Backfill shall be placed prior to erection of support frame

3" Galvanized Steel Conduit. Thread and cap both ends.

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 μ m 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				
5 S 010 I057 L237.52	613+17	X	X	II-A	0.365 (STD)	29'-10 3/4"	22'-6"

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

10" ϕ PIPE TRUSS SUPPORT FRAME

NUMBER	REVISION	DATE

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"

OS-A-6 12-1-08

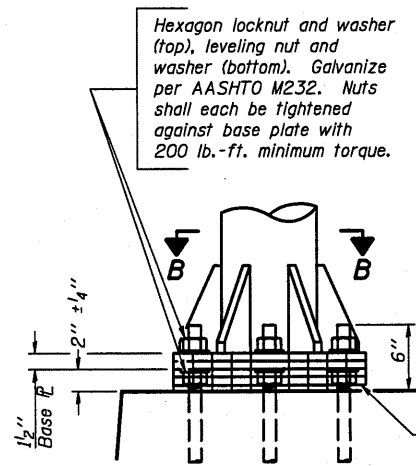
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		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR ALUMINUM TRUSS

F.A.I. RTE. 57&74	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Champaign	37	15
D-5 OVD SIN STR REPL 2011-12		CONTRACT NO.		46135
ILLINOIS FED. AID PROJECT				

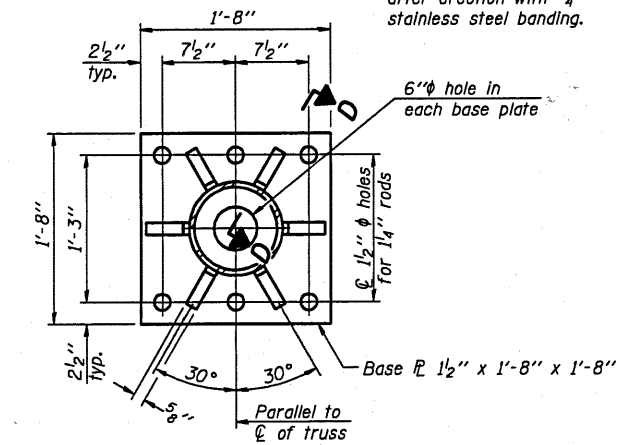
SCALE: SHEET NO. OF SHEETS STA. TO STA.



DETAIL B

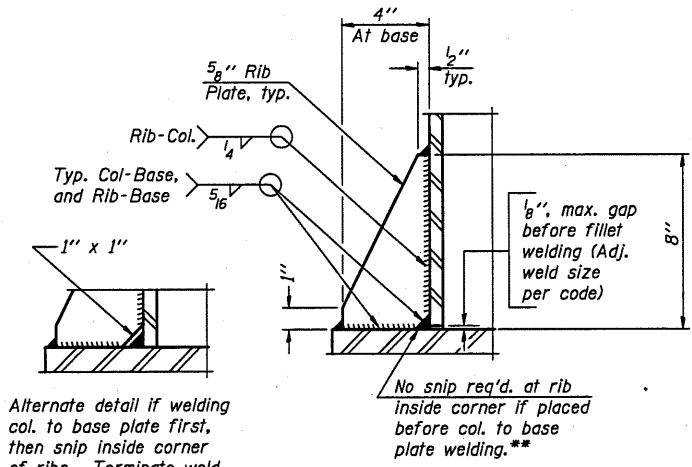
Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.

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

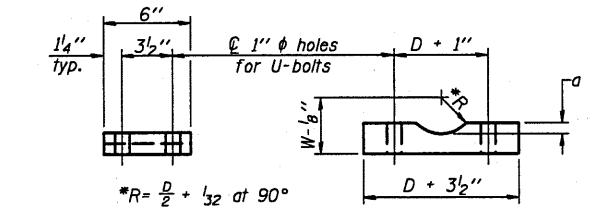
NUMBER	REVISION	DATE



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.

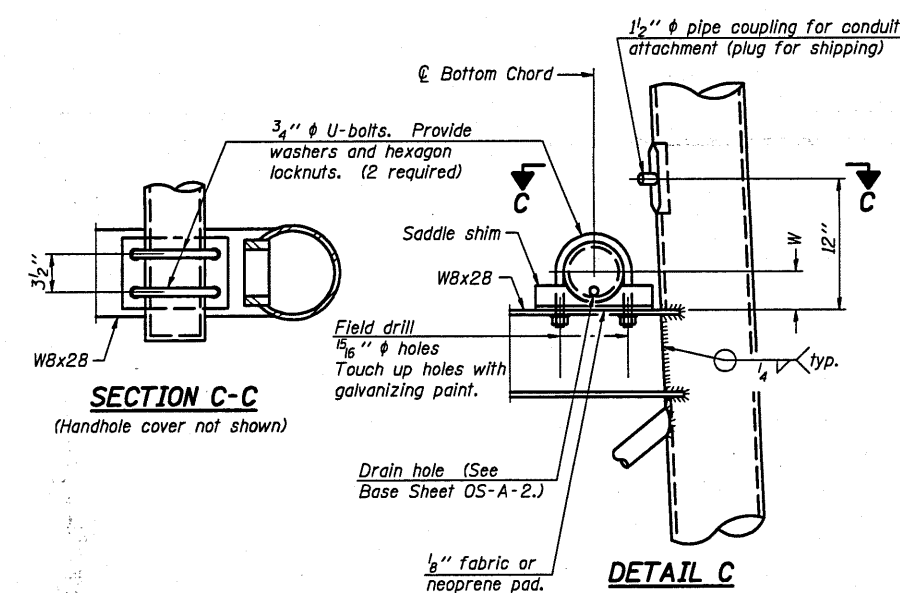
No snip req'd. at rib inside corner if placed before col. to base plate welding.



SADDLE SHIM DETAIL

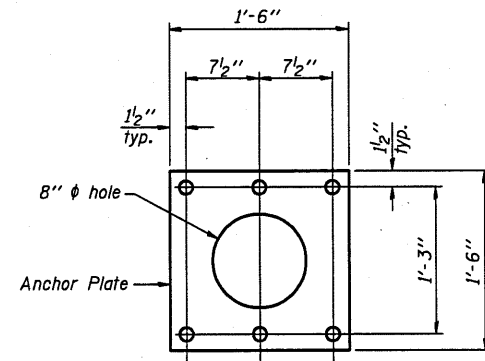
ASTM B26 Alloy 356-F or ASTM B209 Alloy 6061-T651 (4 required per sign truss)

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

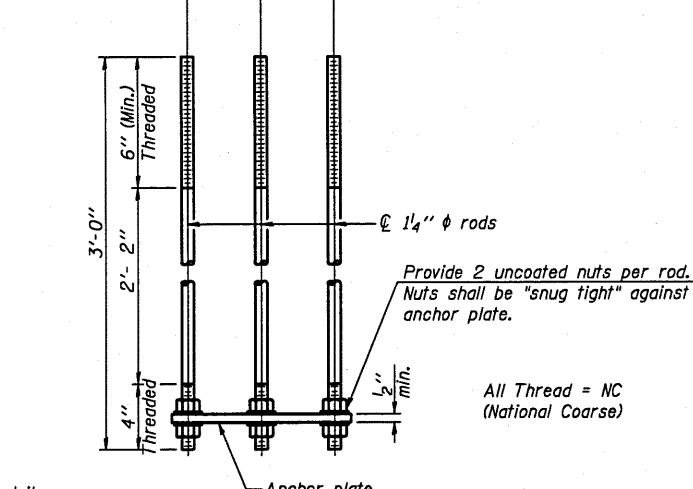


SECTION C-C

DETAIL C

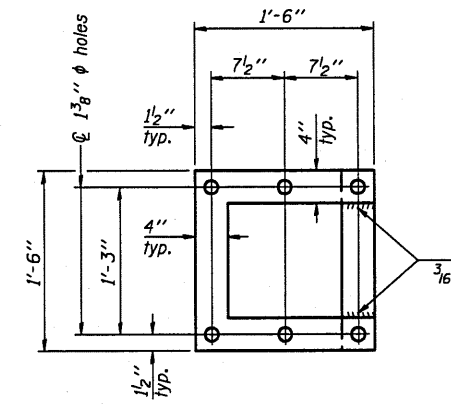


Anchor Plate



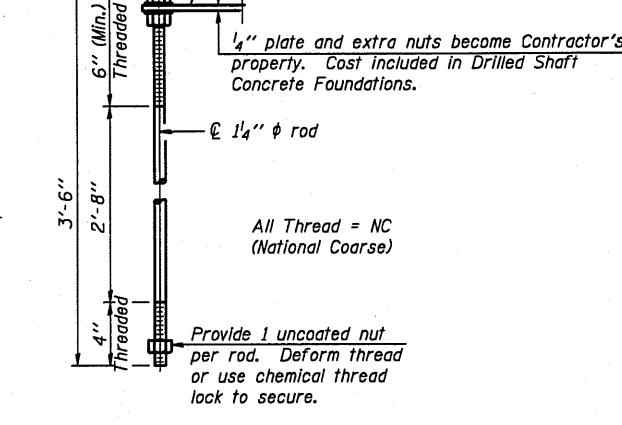
ANCHOR ROD DETAIL

Spread Footing Foundation



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

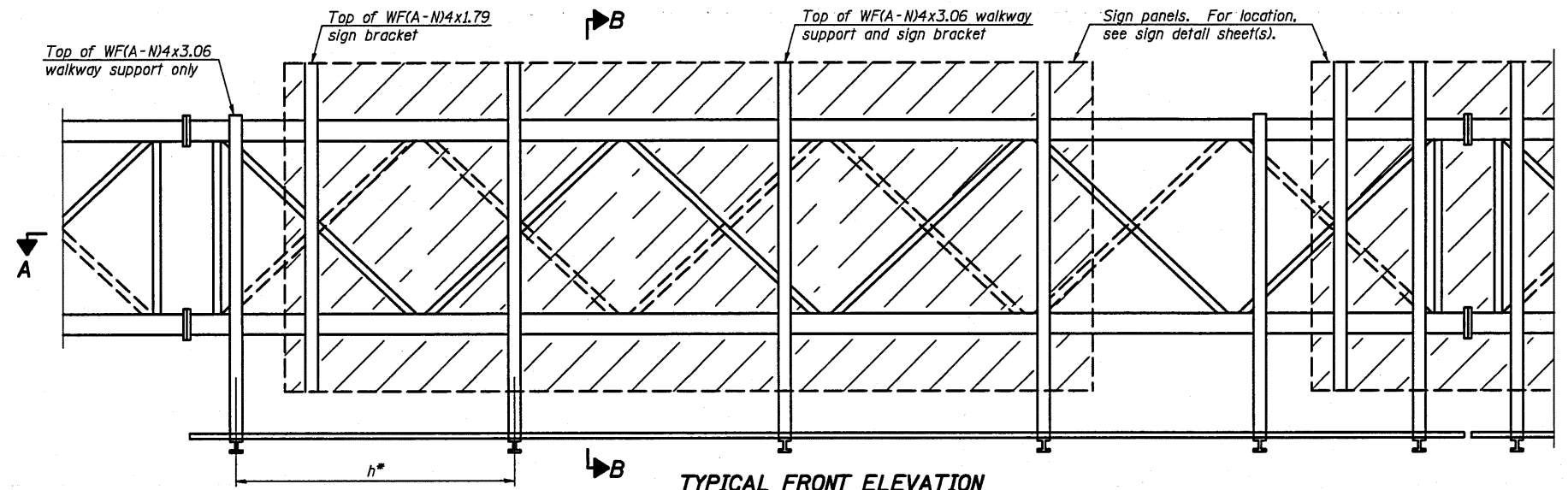
Drilled Shaft Foundation

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

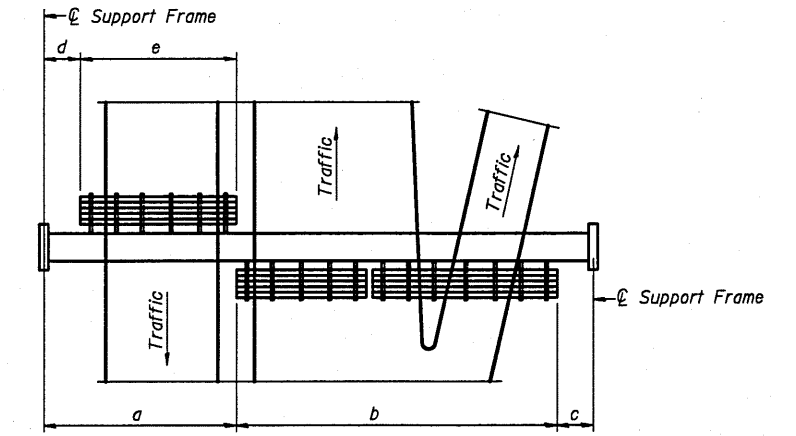
10" PIPE SUPPORT FRAME DETAILS

OS-A-6A 12-1-08

FILE NAME =	USER NAME = buckleeJJ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES SUPPORT FRAME DETAILS ALUMINUM TRUSS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
cr:\pwwork\pwwork\buclleeJJ\d0212597\0546135-shc-Detail.dgn	PLT SCALE = 48.8800 ' / IN.	DRAWN -	REVISED -			57&74	*	Champaign	37	16	
PLT DATE = 7/28/2010	DATE	CHECKED -	REVISED -			D-5 OVD SIGN STR REPL 2011-12 CONTRACT NO. 46135					
		DATE	REVISED -			ILLINOIS FED. AID PROJECT					



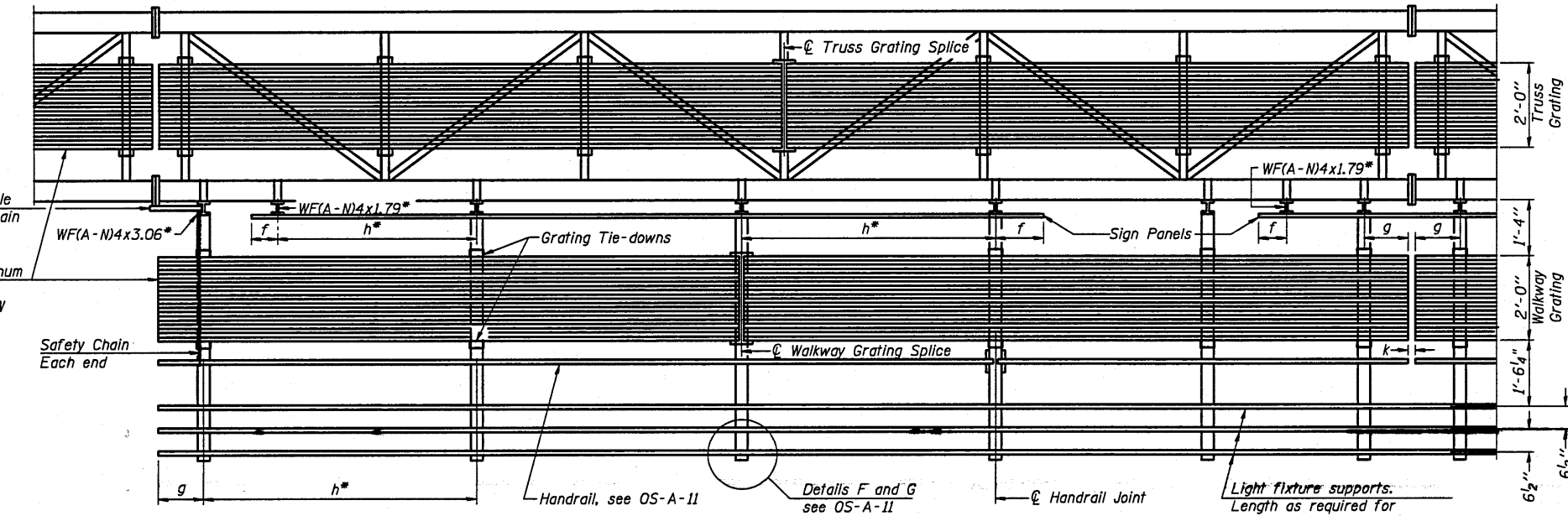
TYPICAL FRONT ELEVATION
 With lights and handrail omitted for clarity.
 For Section B-B, see Base Sheet OS-A-10.



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

BRACKET TABLE

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



SECTION A-A

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

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

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

** Alternate angle for safety chain attachment

Standard Aluminum Grating, see Details T and W

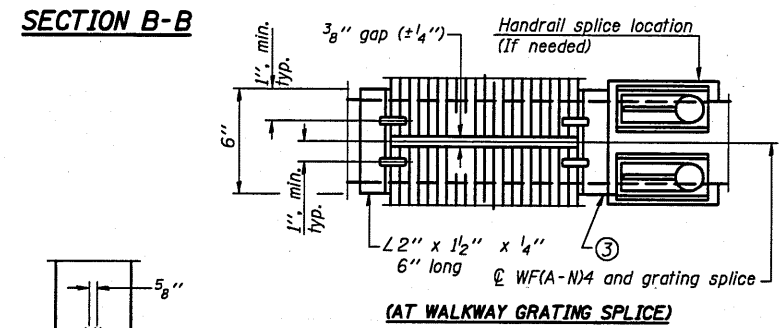
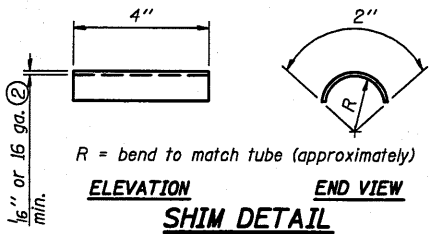
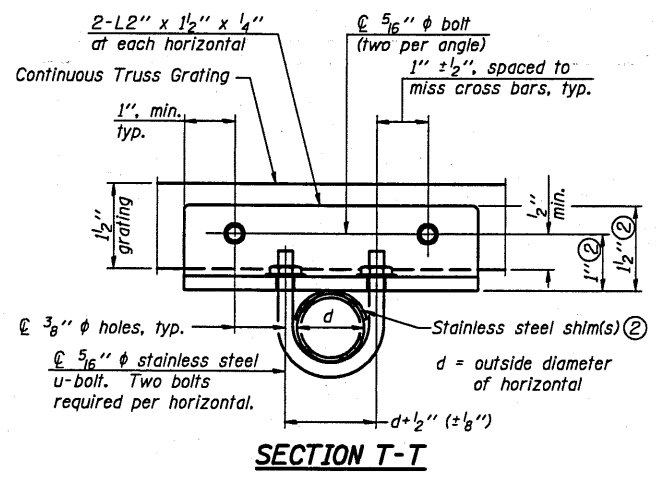
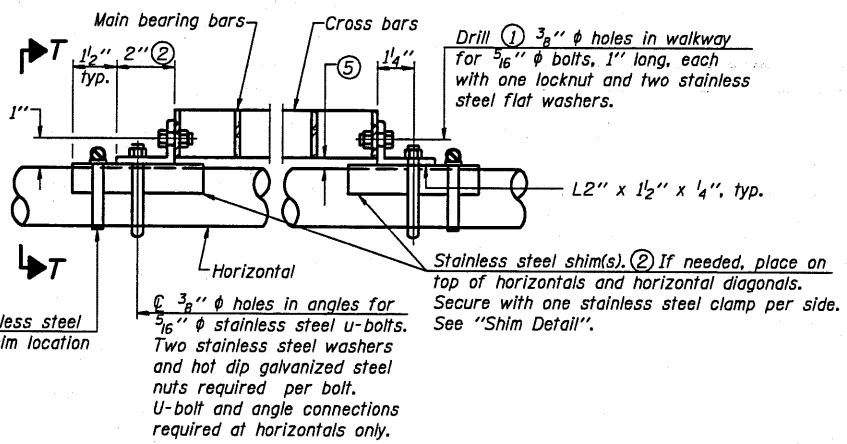
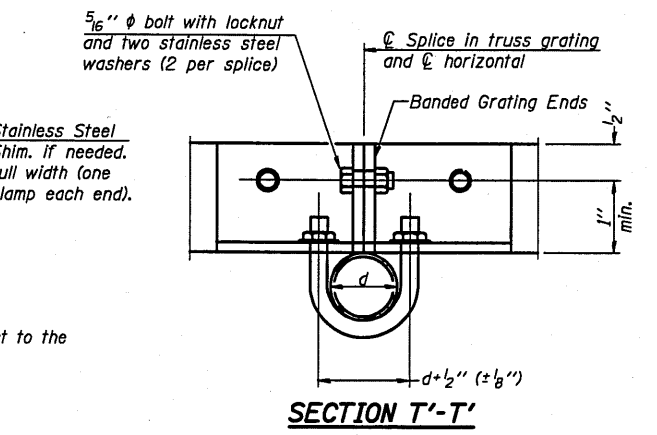
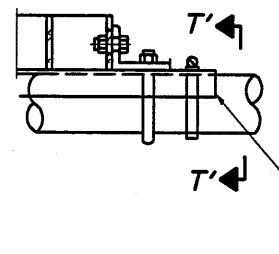
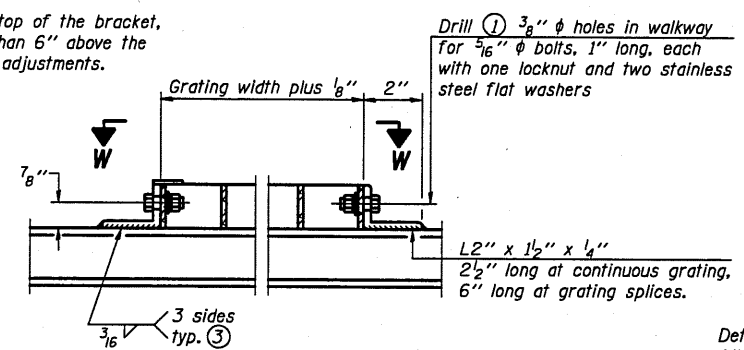
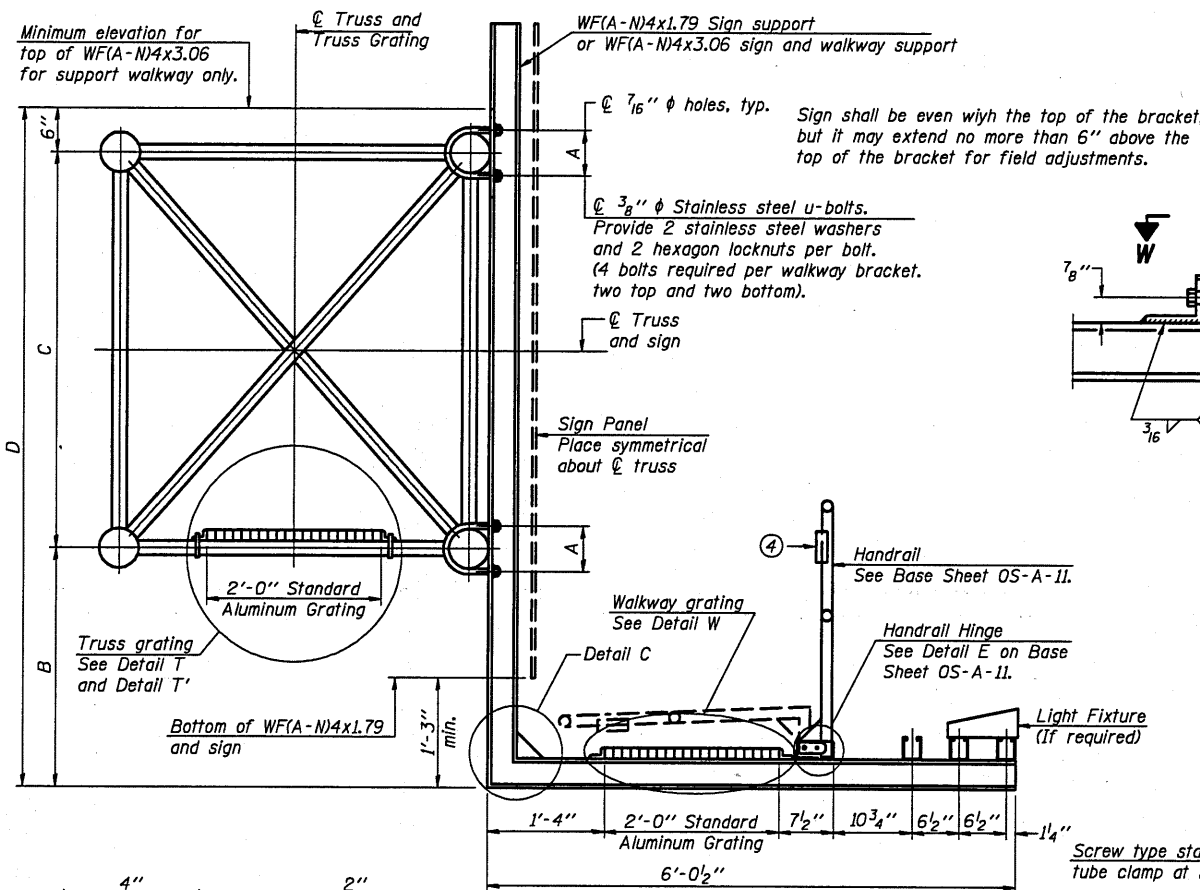
Safety Chain Each end

NUMBER	REVISION	DATE

Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths
5 S 010 1057 R249.73	RAMP BD 15+00	15'-0"	34'-0"	15'-0"	-	-	34'-0"
5 S 010 1057 L250.43	RAMP AC 135+00	15'-0"	34'-0"	15'-0"	-	-	34'-0"
5 S 010 1057 L237.52	613+17	22'-0"	54'-0"	14'-0"	-	-	54'-0"
See also "Sign Truss Mounting Details" sheets 7&8							

Walkway and Truss Grating width dimensions are nominal and may vary ±1/2" based on available standard widths.

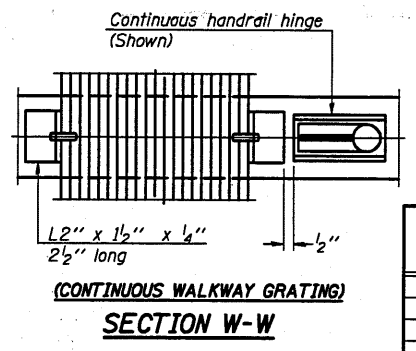
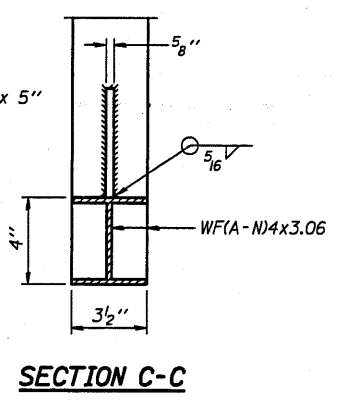
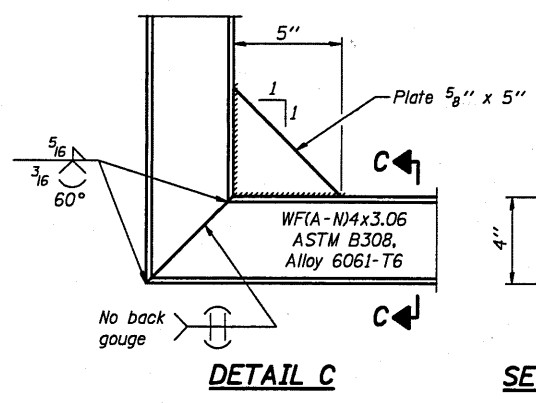
OS-A-9 12-1-08



SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

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

- ① Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- ② Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- ③ If Handrail Joint present, weld angle to WF(A-N)4 and 1/4 inch extension bars. (See Base Sheet OS-A-11.)
- ④ 1/8 inch x 1/2 inch x 2 inch welded to handrail posts to protect locations that contact grating.
- ⑤ Tube to grating gap may vary from 0 to 1/2 inch, max. to align walkway, allow for camber, etc.
- ⑥ Based on actual height of tallest sign given on OS-A-1.



NUMBER	REVISION	DATE

Structure Number	Station	A	⑥ B	C	⑥ D*
5 S 010 1057 R249.73	RAMP BD 15+00	5 1/16"	2'-0"	4'-6"	7'-0"
5 S 010 1057 L250.43	RAMP AC 135+00	5 1/16"	2'-0"	4'-6"	& VAR.
5 S 010 1057 L237.52	613+17	6 1/16"	6'-7 1/2"	5'-3"	12'-4 1/2"
* See also "Sign Truss Mounting Details" sheets 7&8 for the information needed to determine the variable walkway support & sign support lengths.					

OS-A-10 6-1-09

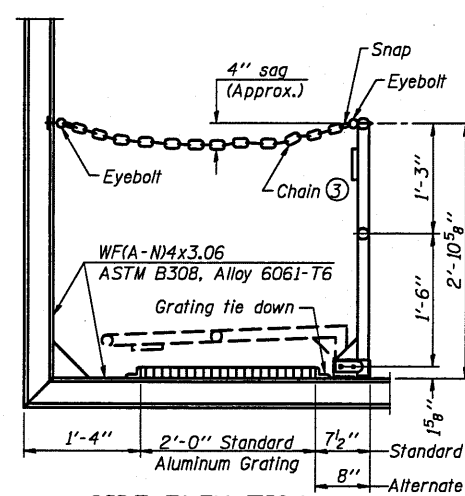
FILE NAME	USER NAME	DESIGNED	REVISION
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		DRAWN	REVISION
		CHECKED	REVISION
		DATE	REVISION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

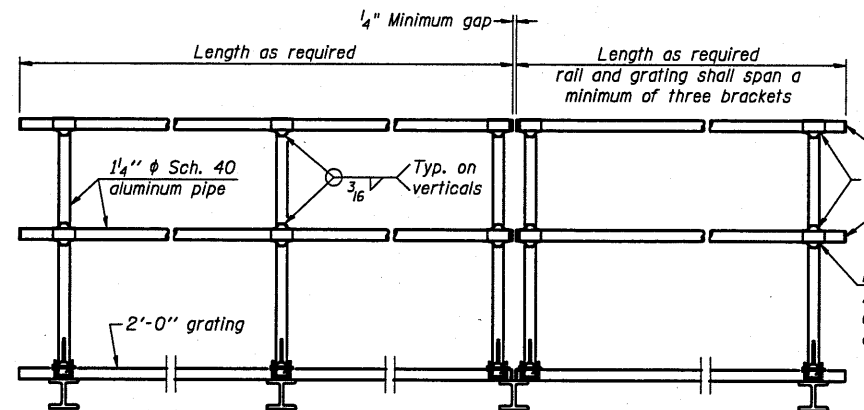
OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74	*	Champaign	37	18

D-5 OVD SIN STR REPL 2011-12 CONTRACT NO.: 46135
ILLINOIS FED. AID PROJECT



SIDE ELEVATION
(Showing safety chain w/o sign)

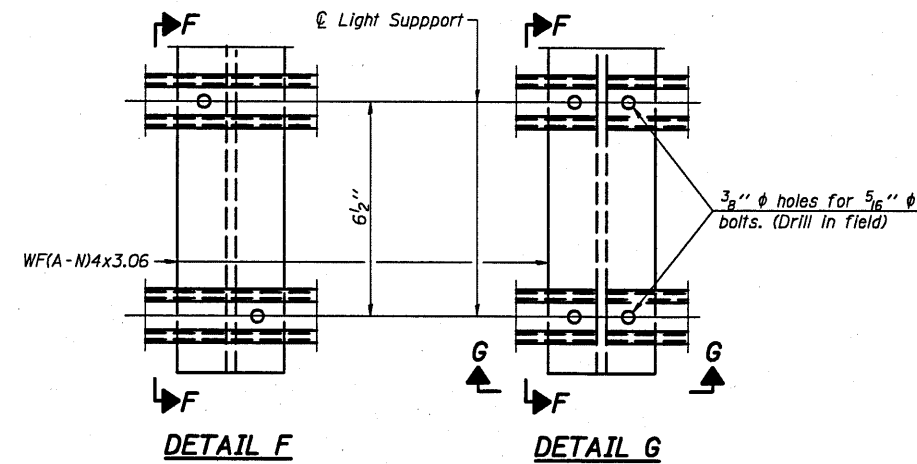


FRONT ELEVATION

HANDRAIL DETAILS

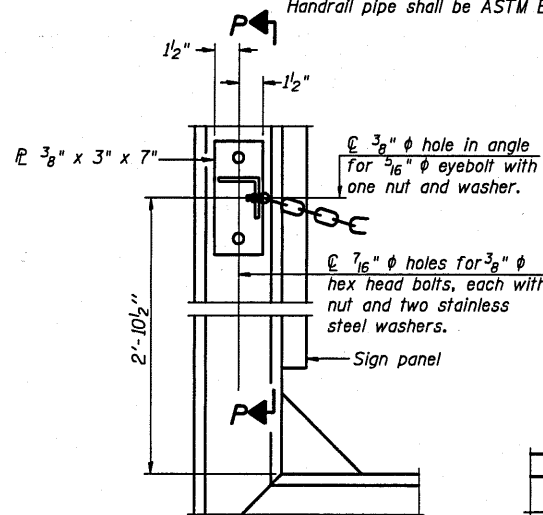
Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

- ① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)
- ② Horizontal handrail member shall be continuous thru fitting. Provide 1/16" φ hole in fitting for 3/8" φ bolt. Field drill 1/16" φ hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" φ holes on top rail at ends only.)



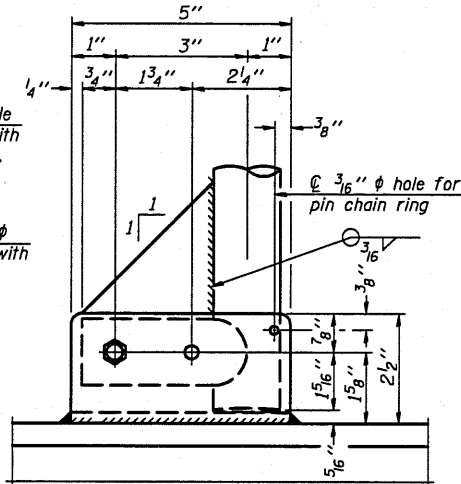
DETAIL F

DETAIL G

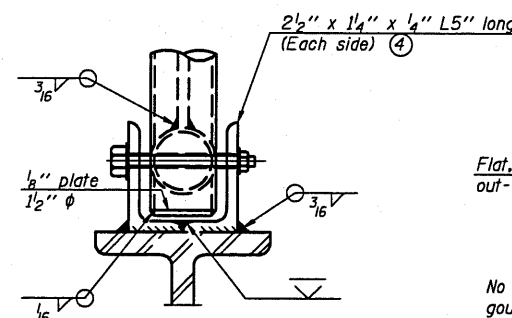


ALTERNATE SAFETY CHAIN ATTACHMENT

(With Sign Present)
Items not shown same as "Side Elevation" of "Handrail Details"

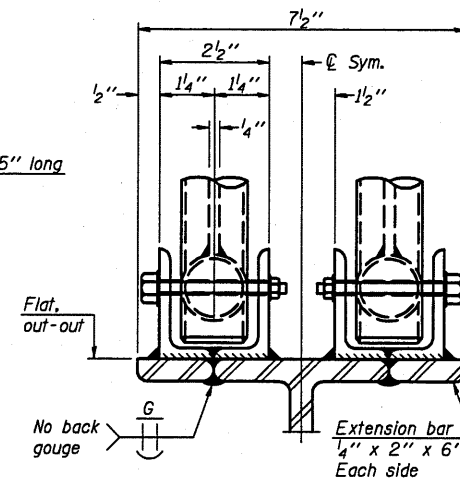


SIDE ELEVATION

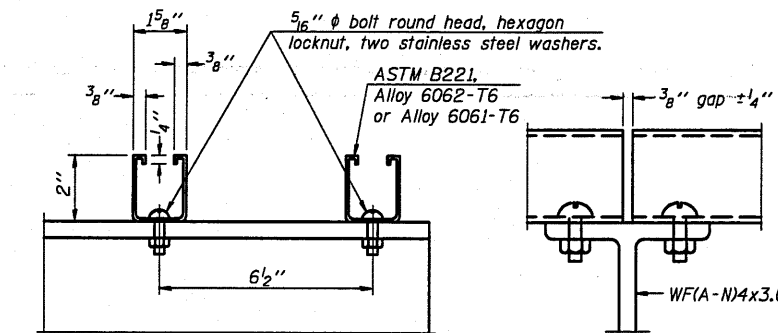


FRONT ELEVATION

See "Elevation" at right for dimensions.



ELEVATION AT HANDRAIL JOINT ④

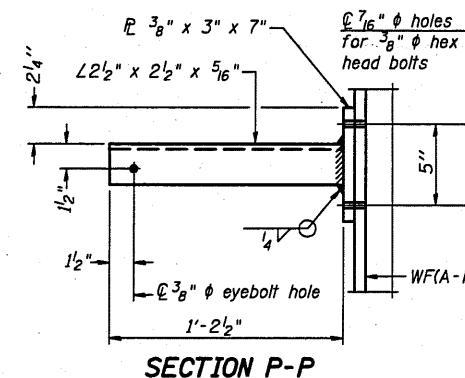


SECTION F-F

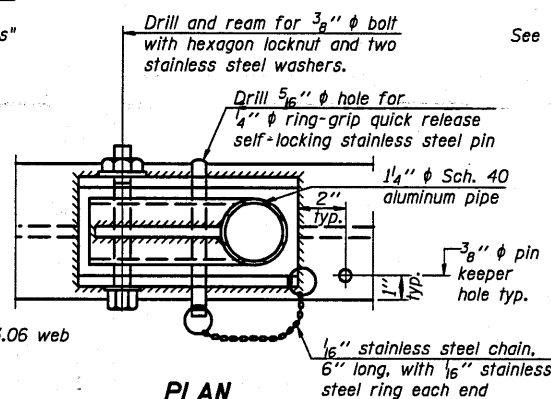
SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

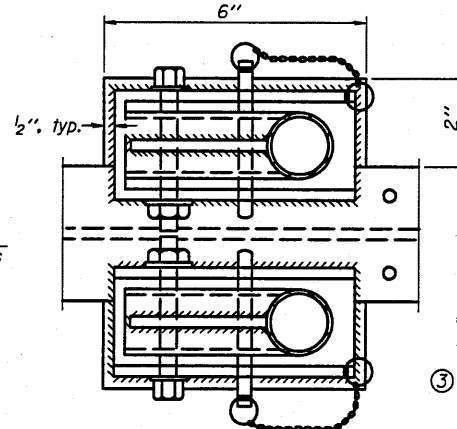
- ⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



SECTION P-P

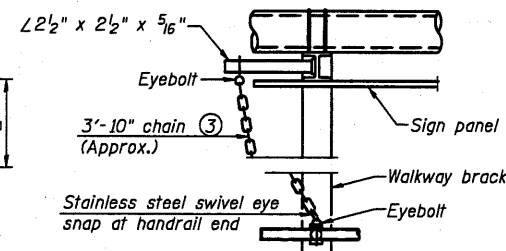


PLAN DETAIL E HANDRAIL HINGE



PLAN AT HANDRAIL JOINT

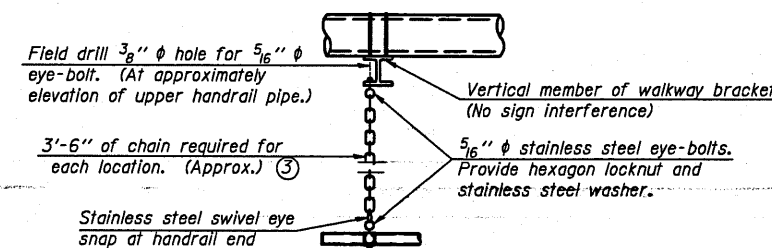
Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT

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

- ③ 3/8" Type 304L stainless steel chain, approximately 12 links per foot.
- ④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.



SAFETY CHAIN

One required for each end of each walkway.

NUMBER	REVISION	DATE

OS-A-11 12-1-08

FILE NAME =	USER NAME = buckles JJ	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

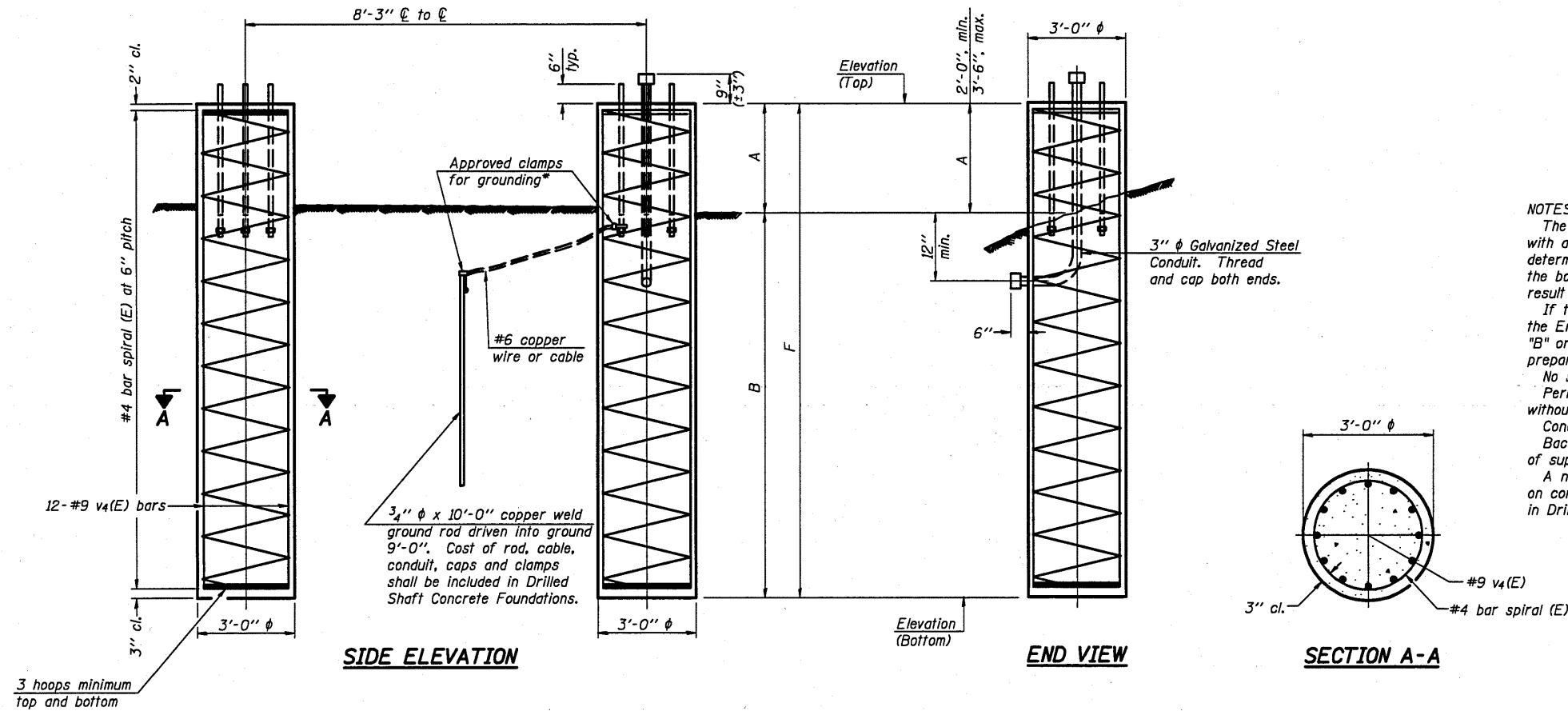
OVERHEAD SIGN STRUCTURES
ALUMINUM HANDRAIL DETAILS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74	*	Champaign	37	19
D-5 OVD SIN STR REPL 2011-12		CONTRACT NO.		46135
ILLINOIS FED. AID PROJECT				

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

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.



BAR LIST - EACH FOUNDATION

Bar Number	Size	Length	Shape
v4(E)	#9	F less 5"	—
#4 bar spiral (E) - see Side Elevation			

NOTES:

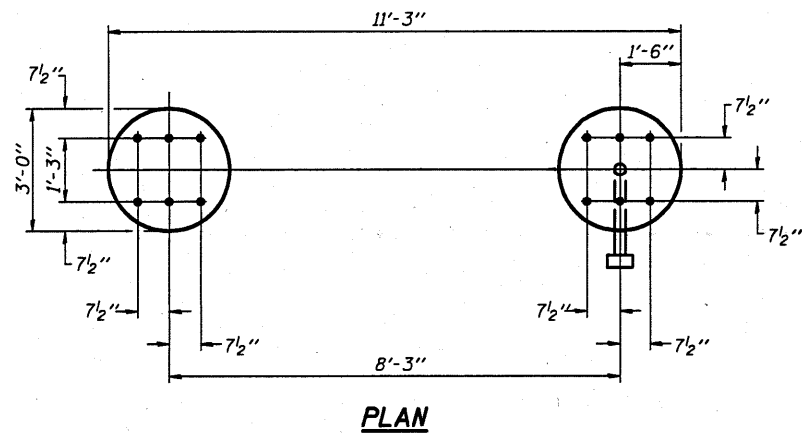
The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown 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.



Structure Number	Station	Left Foundation			Right Foundation			Class DS Concrete (Cu. Yds.)		
		Elevation Top	Elevation Bottom	F	Elevation Top	Elevation Bottom	F			
5 S 010 1057 L237.52	613+17	SEE BASE SHEET OS4-MED MEDIAN SUPPORT FOUNDATION DETAILS			765.37	744.37	3'-6"	17'-6"	21'-0"	11.0

NUMBER	REVISION	DATE

**DETAILS FOR 10" Ø SUPPORT FRAME
TYPE I-A or II-A TRUSS**

OS4-F3

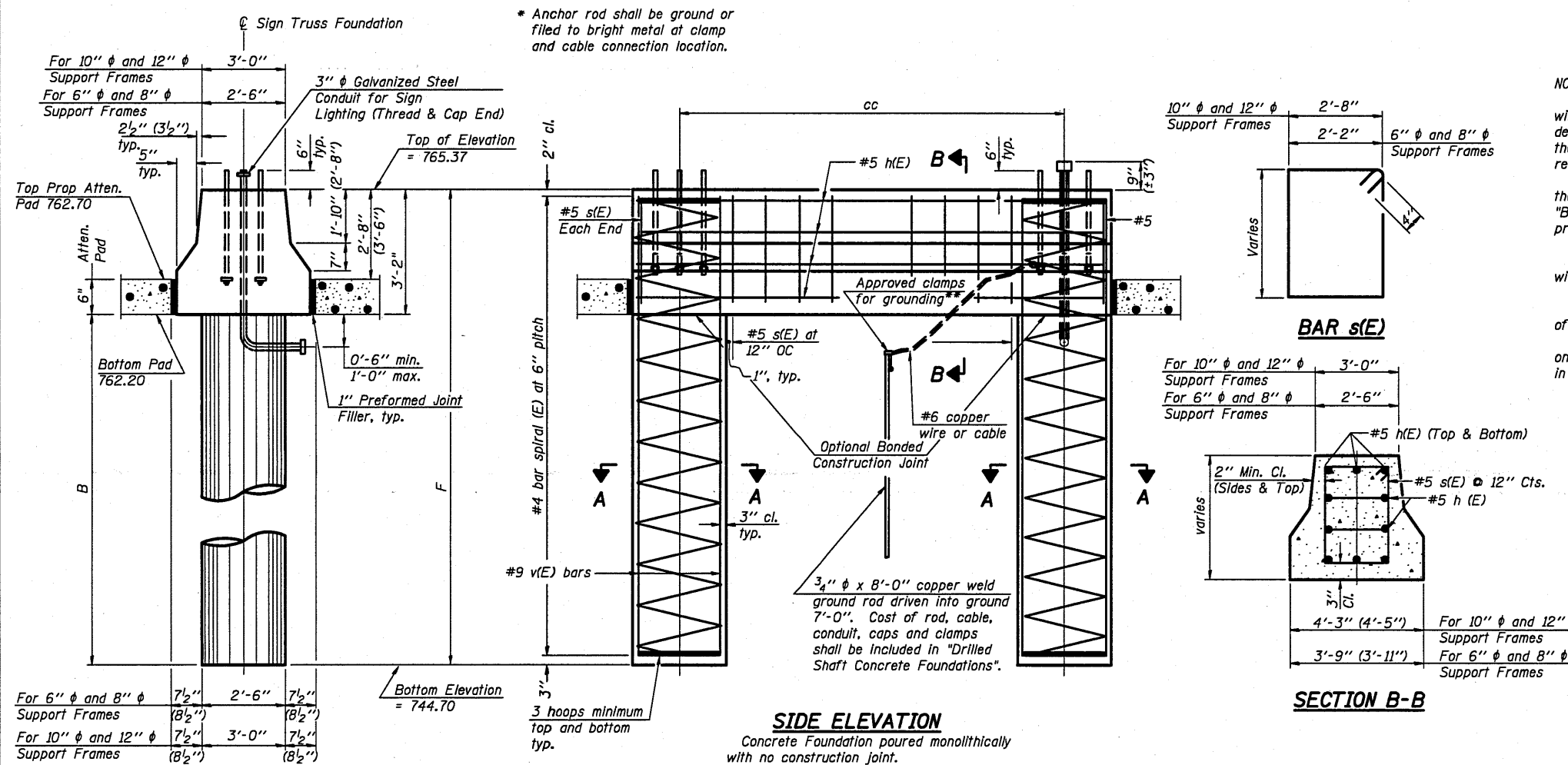
12-1-08

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PLT DATE = 7/28/2010		DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
DRILLED SHAFT DETAILS.**

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	F.A.I. RTE. 57&74	SECTION	COUNTY Champaign	TOTAL SHEETS 37	SHEET NO. 20
			D-5 OVD SIN STR REPL 2011-12		CONTRACT NO. 46135		
ILLINOIS FED. AID PROJECT							



NOTES:
 The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) 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 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.

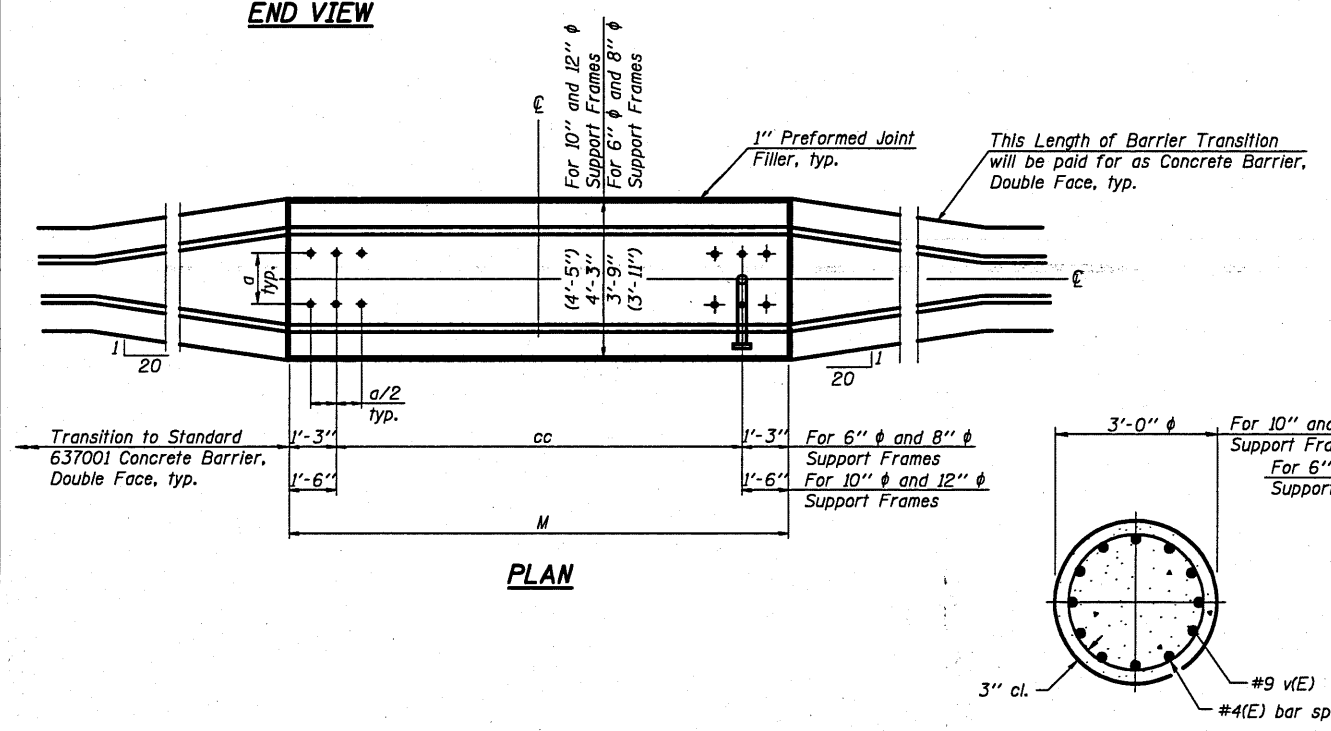
BAR LIST - EACH FOUNDATION

Bar	Number	Size	Length	Shape
h(E)	10	#5	M less 4"	—
s(E)	Varies	#5	Varies	□
v(E)	16	#9	F less 0'-5"	—
v(E)	24	#9	F less 0'-5"	—
#4(E) bar spiral - see Side Elevation				

6" φ and 8" φ Support Frame
 10" φ and 12" φ Support Frame

All dimensions in parenthesis are for 42" high barrier.

Structure Number	Station	Left Foundation				Right Foundation				Class DS Concrete (Cu. Yds.)
		Elevation Top	Elevation Bottom	B	F	Elevation Top	Elevation Bottom	B	F	
5 S 010 I057 L237.52	613+17	765.37	744.70	17'-6"	20'-8"	SEE BASE SHEET OS4-F3 DRILLED SHAFT DETAILS				14.0
				DRILLED SHAFT						
				762.20 MEDIAN BARRIER ATTEN. PAD						



Pipe Support Frames	cc	M	a	a/2
6" φ	7'-0"	9'-6"	0'-11"	5 1/2"
8" φ	7'-6"	10'-0"	1'-1 1/2"	6 3/4"
10" φ	8'-3"	11'-3"	1'-3"	7 1/2"
12" φ	9'-0"	12'-0"	1'-6"	9"

OS4-MED 12-1-08

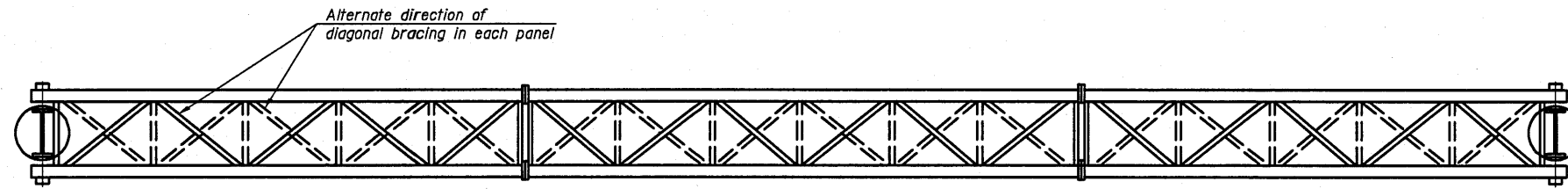
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PLT DATE = 7/28/2010		DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

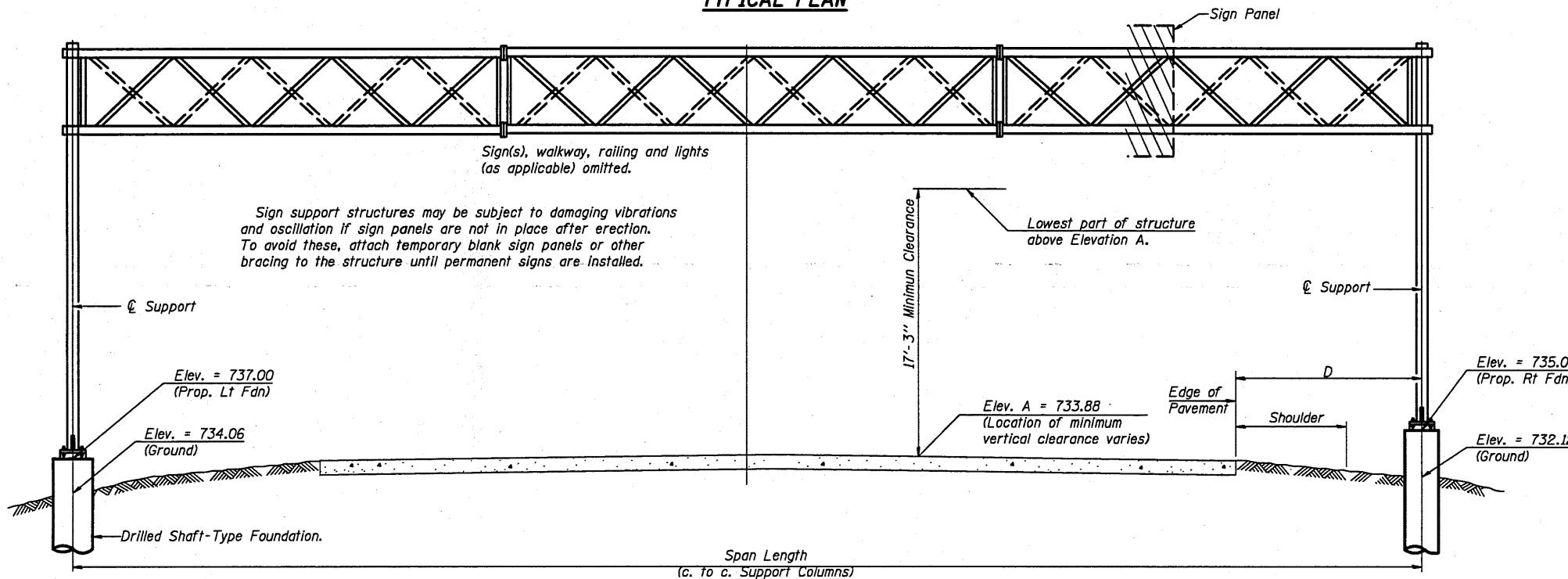
OVERHEAD SIGN STRUCTURES
 MEDIAN SUPPORT FOUNDATION DETAILS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74	*	Champaign	37	21
D-5 OVD SIN STR REPL 2011-12			CONTRACT NO. 46135	
ILLINOIS FED. AID PROJECT				

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



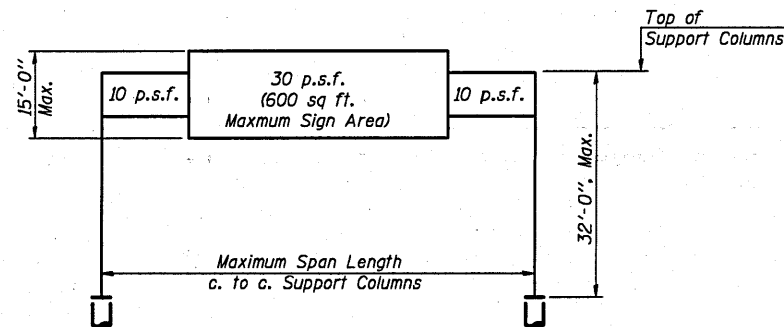
TYPICAL PLAN



TYPICAL ELEVATION

(Looking at Face of Signs)**

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



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.

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
5 S 010 1074 R185.40	39+46	TRI-I-S	53'-0"	733.88	***	8'-0"	192.0

** Looking upstation for structures with signs both sides.
 *** See Sign Truss Mounting Details
 **** End column heights based on 15'-0" sign height

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE - TRICHORD TYPE TRI-I-S	Foot	53.0
TRICHORD SIGN WALKWAY TYPE S	Foot	40.0
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	9.0

NUMBER	REVISION	DATE

GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. (2001, 4th edition, 2002 interim) ("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

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi

fy = 60,000 psi (reinforcement)

MINIMUM CLEARANCE: Vertical Roadway Clearance = 17'-3" (All Obstructions)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 Structural Welding Code (Steel) and the Standard Specifications.

MATERIALS: Structural steel pipe for chords shall be ASTM A500 Grade C. Structural steel pipe for perpendiculars and diagonals 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. 50 or ASTM A992 Gr. 50. The W24 columns and stiffening ribs at the base plate shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

GALVANIZING: All steel grating, plates, shapes and pipe shall be hot dip galvanized after fabrication in accordance with AASHTO M111. All bolts, u-bolts, eye bolts, lock nuts and washers must be hot dip galvanized per AASHTO M232.

FASTENERS FOR STEEL TRUSSES: All bolts noted as "high strength" (HS) must satisfy the requirements of AASHTO M164 (ASTM A325), ASTM A449, or an Engineer approved alternate, and must have matching lock nuts and washers. All bolts, u-bolts, eye bolts, lock nuts and washers not specified to be "high strength" must satisfy the requirements of ASTM A307 Gr. B. All lock nuts must have nylon or steel inserts. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the Standard Specifications. Rotational capacity ("ROCAP") testing will not be required.

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 105 with a minimum Charpy V-Notch (CVN) energy of 15 lb.-ft. at 10° F. Galvanize the upper 12" per AASHTO M232.

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.

TRI-S-1 12-1-08

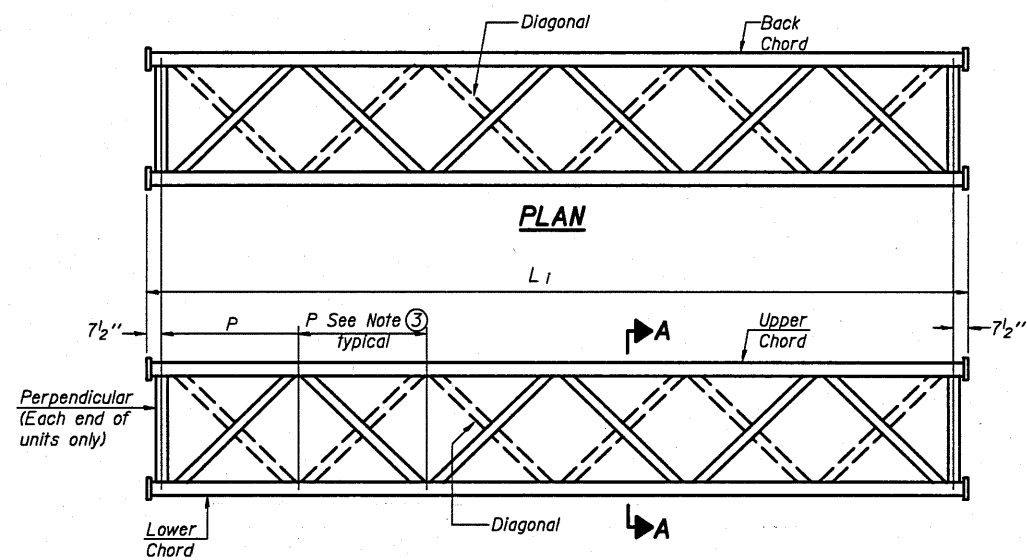
FILE NAME =	USER NAME = buckleeJJ	DESIGNED -	REVISED -
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		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRI-CHORD SIGN STRUCTURES
GENERAL PLAN & ELEVATION STEEL TRUSS & STEEL SUPPORTS

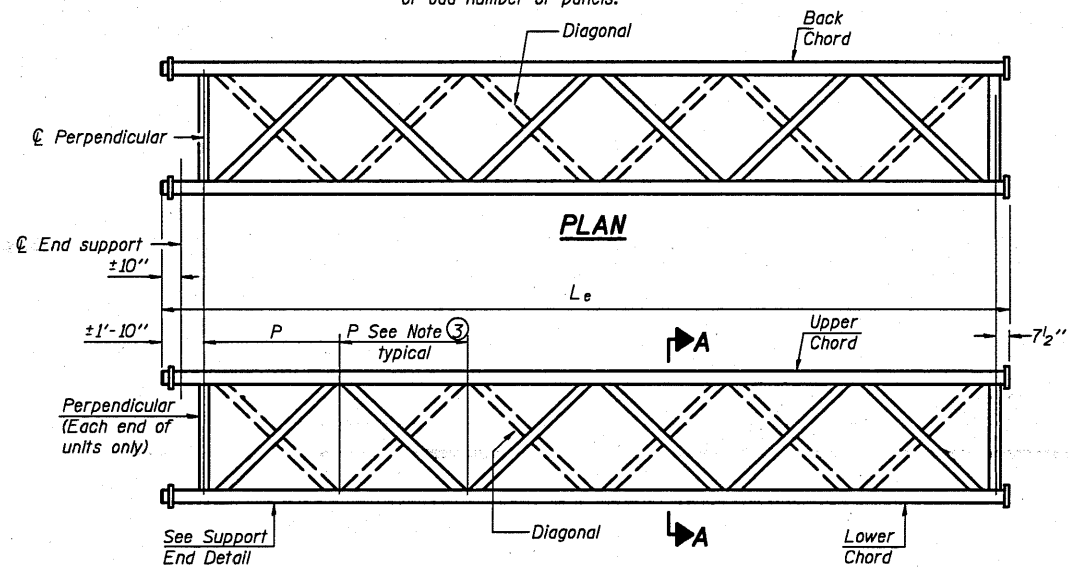
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74		Champaign	37	22
D-5 OVD SJN/STR REPL 2011-12			CONTRACT NO. 46135	
ILLINOIS FED. AID PROJECT				

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



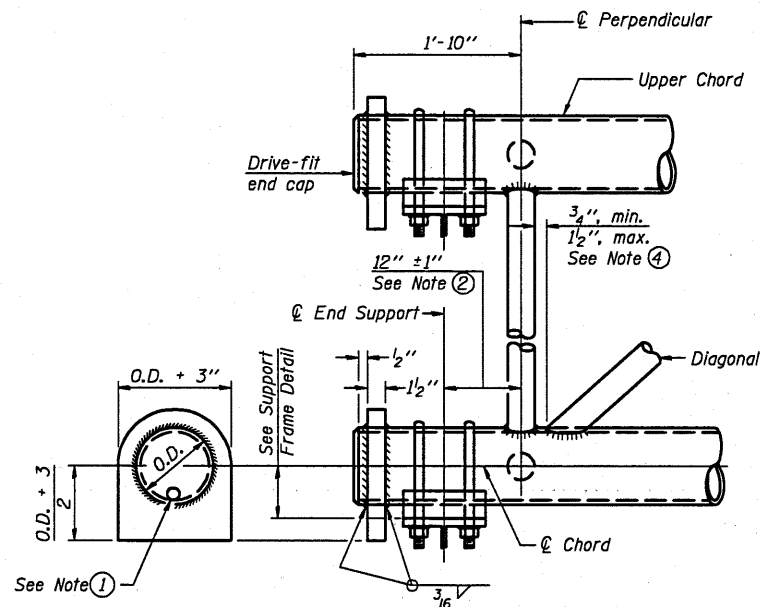
**ELEVATION
TYPICAL INTERIOR UNIT**

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

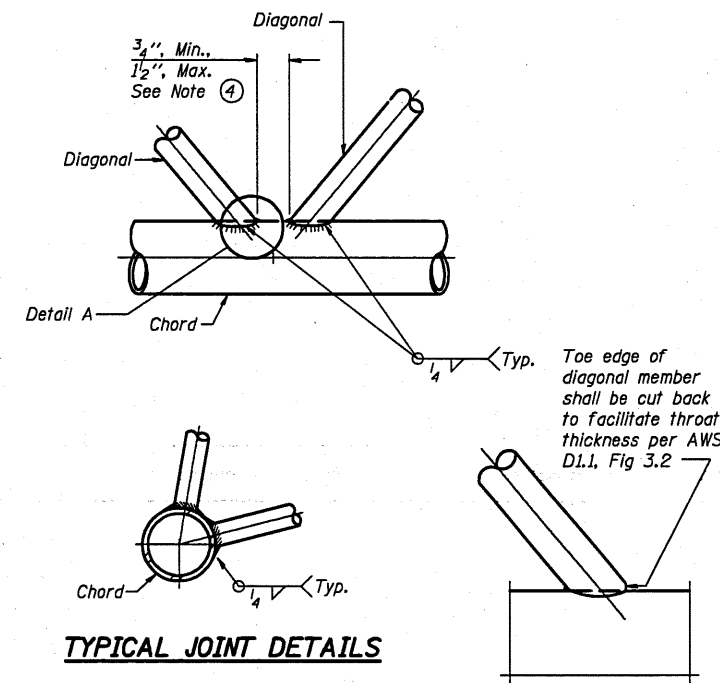


**ELEVATION
TYPICAL EXTERIOR UNIT**

Even or odd number of panels/exterior unit allowed.



SUPPORT END DETAIL FOR EXTERIOR UNIT

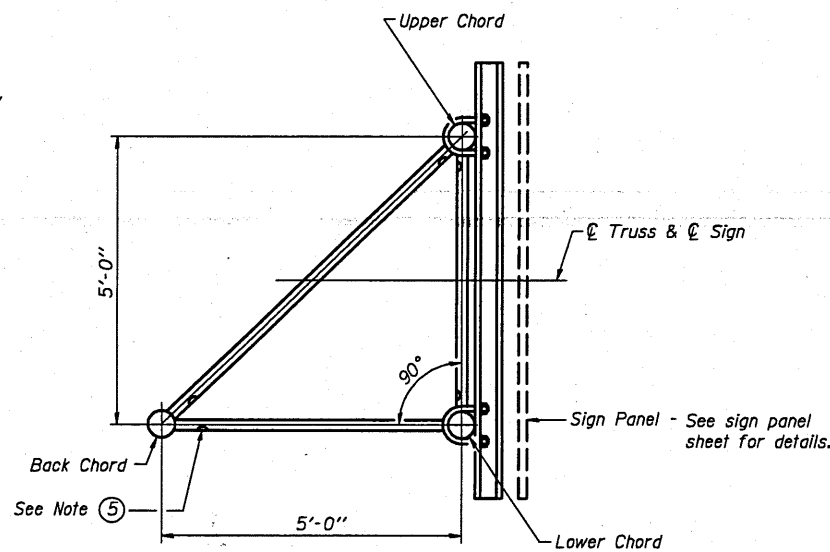


TYPICAL JOINT DETAILS

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 1/2" 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

7-1-10

FILE NAME =	USER NAME = buokias_jj	DESIGNED -	REVISED -
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PLT SCALE = 48.8988 / IN.		CHECKED -	REVISED -
PLT DATE = 7/28/2010		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

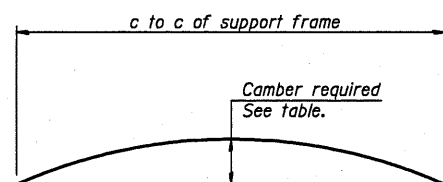
TRI-CHORD SIGN STRUCTURES
STEEL TRUSS DETAILS FOR TRUSS TYPES TRI-I-S, TRI-II-S, & TRI-III-S

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74	*	Champaign	37	23
D-5 OVD SIN STR REPL 2011-12			CONTRACT NO. 46135	
ILLINOIS FED. AID PROJECT				

TRICHORD UNIT TABLE

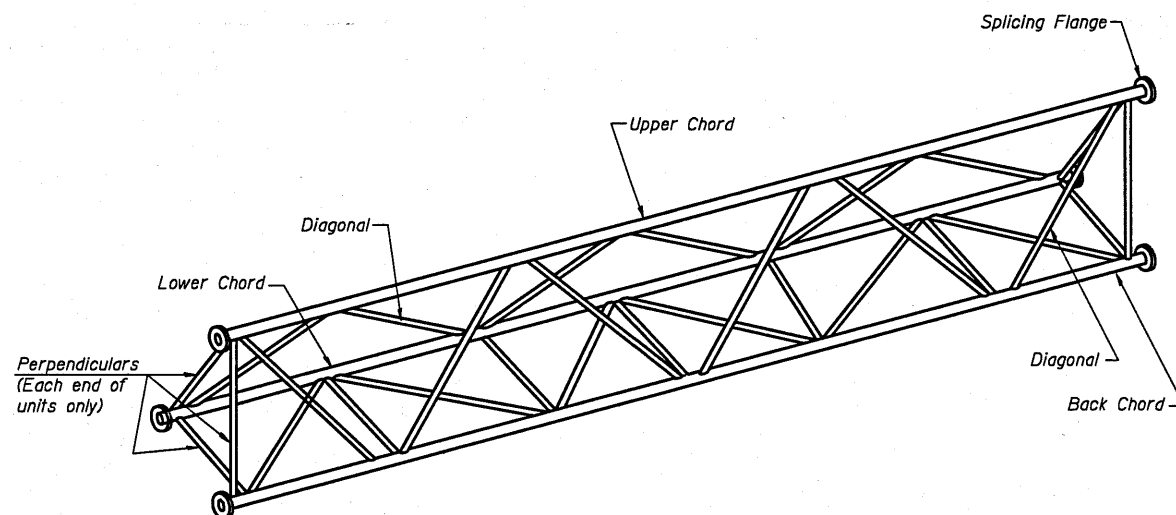
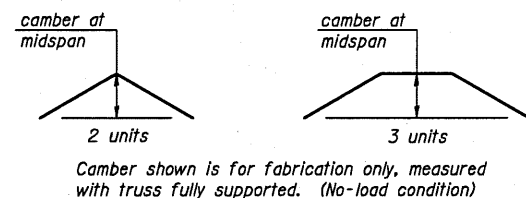
Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit		
			No. Panels per Unit	Unit Lgth.(L _u)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(L _i)
5 S 010 1074 R185.40	39+46	TRI-I-S	5	27'-3"	4'-11 1/2"	0		



CAMBER DIAGRAM

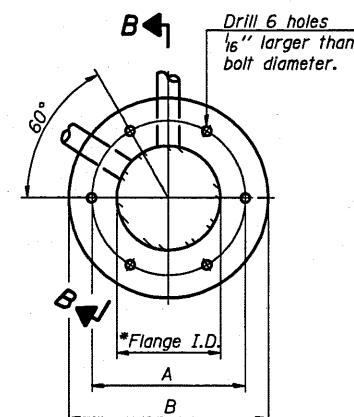
Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

CAMBER ATTAINMENT EXAMPLES:

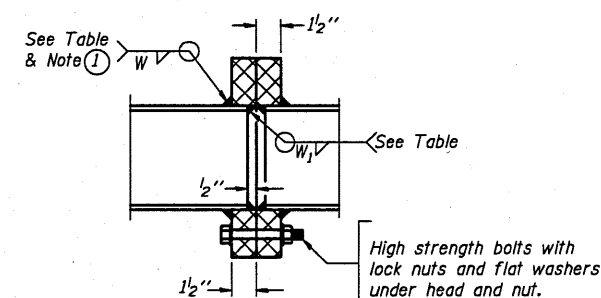


**ISOMETRIC VIEW
TYPICAL INTERIOR TRUSS UNIT**

Note: Units 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 units.



TRUSS TYPES I-S, II-S, & III-S



SECTION B-B

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

NUMBER	REVISION	DATE

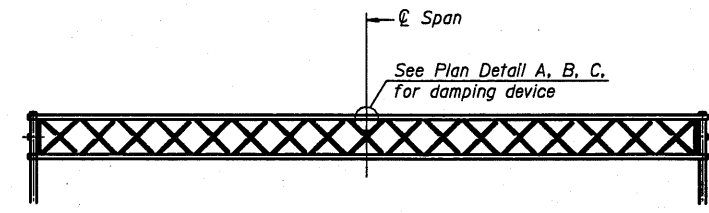
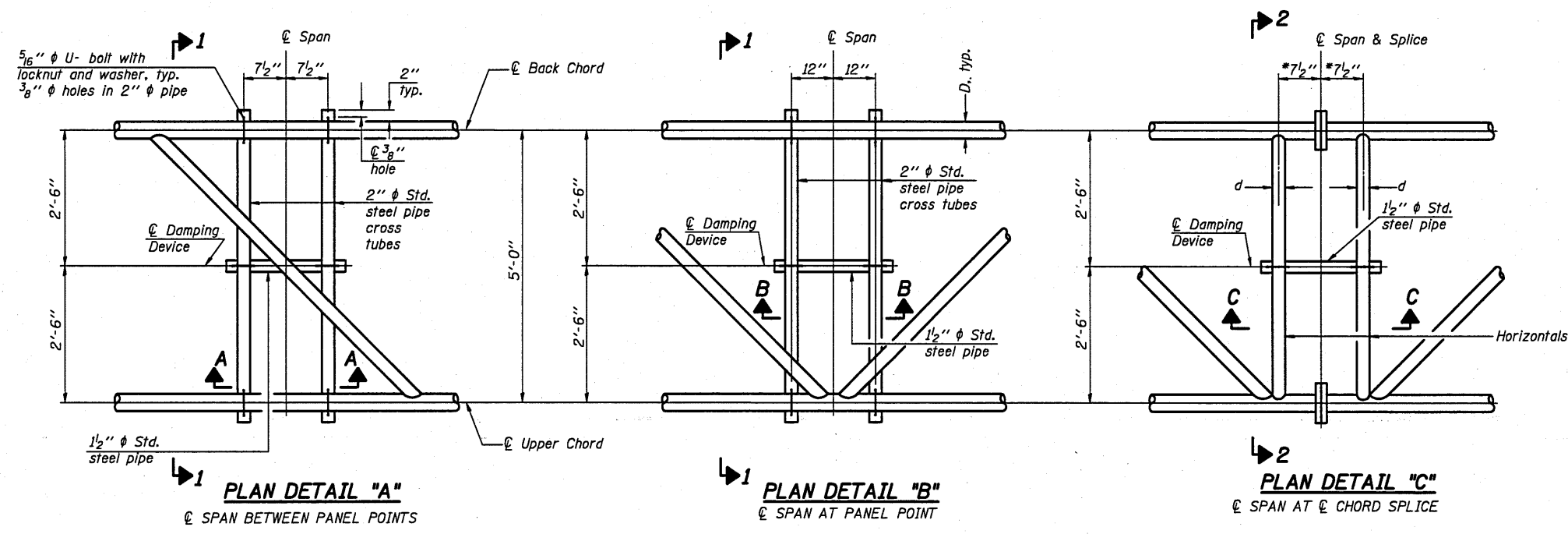
Truss Type	Maximum Span Length	Chords				*Camber at Midspan	Splicing Flange						
		Chords		Diagonals and Perpendiculars			H.S. Bolts		Weld Sizes				
		O.D.	Wall	O.D.	Wall		No./Splice	Diameter	W	W ₁	A	B	
	(ft.)	(in.)	(in.)	(in.)	(in.)	(in.)	(each)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)
TRI-I-S	80	4.500	0.237	2.875	0.203	2.25	6	7/8	1/4	3/16	8 1/4	11 1/4	
TRI-II-S	100	5.563	0.258	2.875	0.203	3.25	6	7/8	3/8	1/4	9 1/4	12 1/4	
TRI-III-S	120	6.625	0.280	2.875	0.203	5.00	6	1	3/8	1/4	11 1/2	15	
TRI-IV-S	140	8.625	0.322	3.500	0.216	6.25	6	1 1/4	3/8	1/4	13	16 1/2	

* Note to fabricator: For spans between maximum span lengths given in table, use linear interpolation to determine camber. Minimum AASTO Camber = L / 1000

TRI-S-3

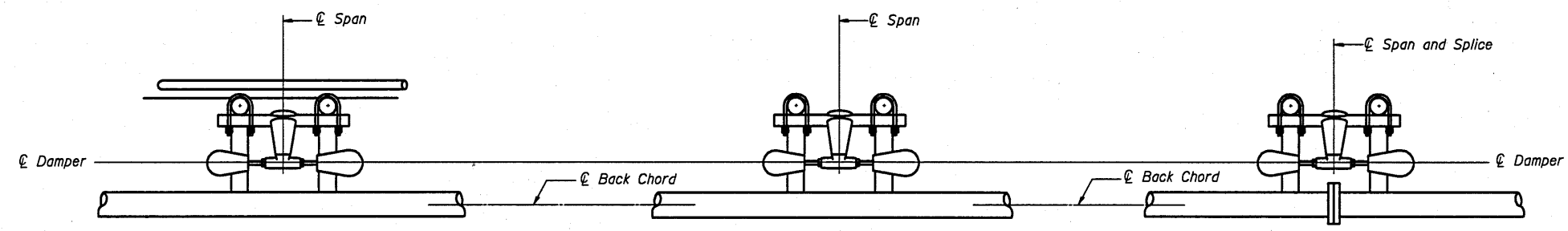
12-1-08

FILE NAME =	USER NAME = buckleeJJ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRI-CHORD SIGN STRUCTURES				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -		STEEL TRUSS DETAILS FOR TRUSS TYPES TRI-I-S, TRI-II-S, & TRI-III-S				57&74		Champaign	37	24
		CHECKED -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	CONTRACT NO. 46135*		
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT								



ELEVATION
TRI-CHORD SIGN STRUCTURE

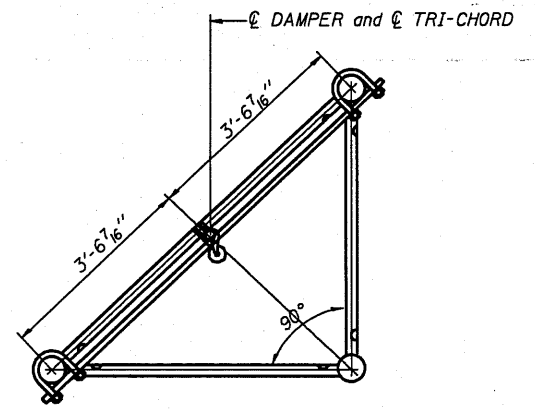
NOTES
Damper: One damper per truss. (31 Lbs. Stockbridge-Type - 29" minimum between ends of weights) Cost included in TRI-CHORD Sign Structure...



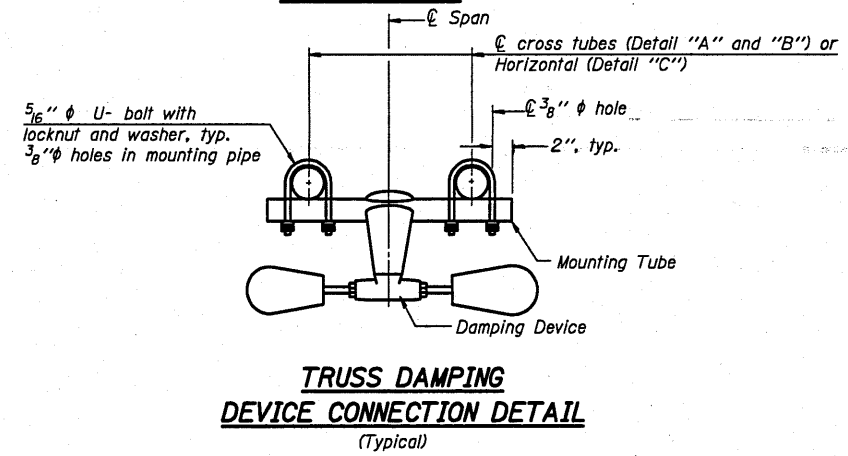
SECTION A-A

SECTION B-B

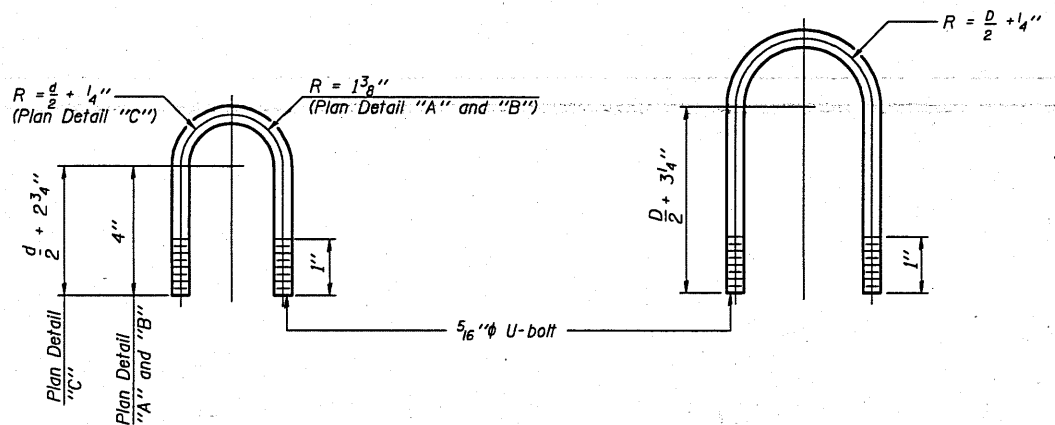
SECTION C-C



SECTION 1-1

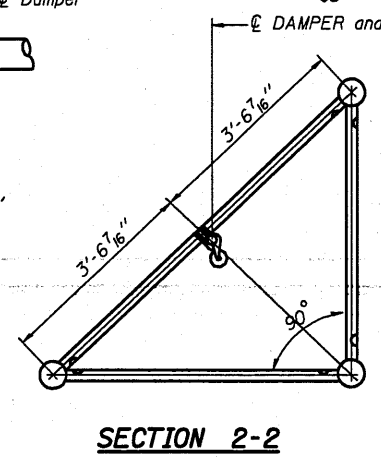


TRUSS DAMPING DEVICE CONNECTION DETAIL
(Typical)



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL
(Typical)

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



SECTION 2-2

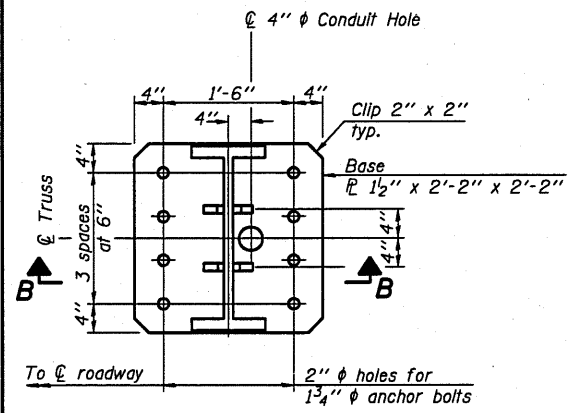
TRI-S-4 12-1-08

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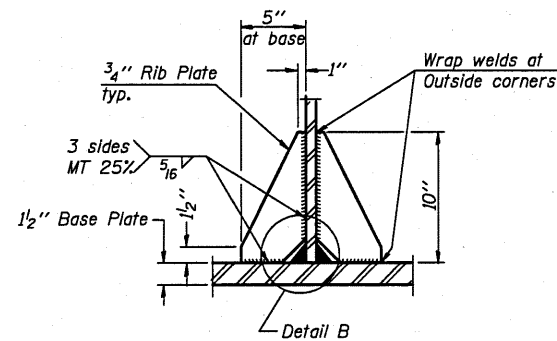
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRI-CHORD SIGN STRUCTURE			
DAMPING DEVICE			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

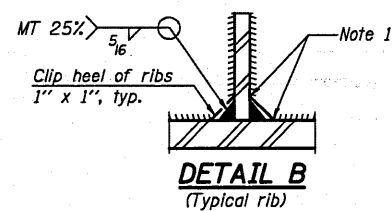
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74	*	Champaign	37	25
D-5 OVD SIN STR REPL 2011-12		CONTRACT NO. 46135		
ILLINOIS FED. AID PROJECT				



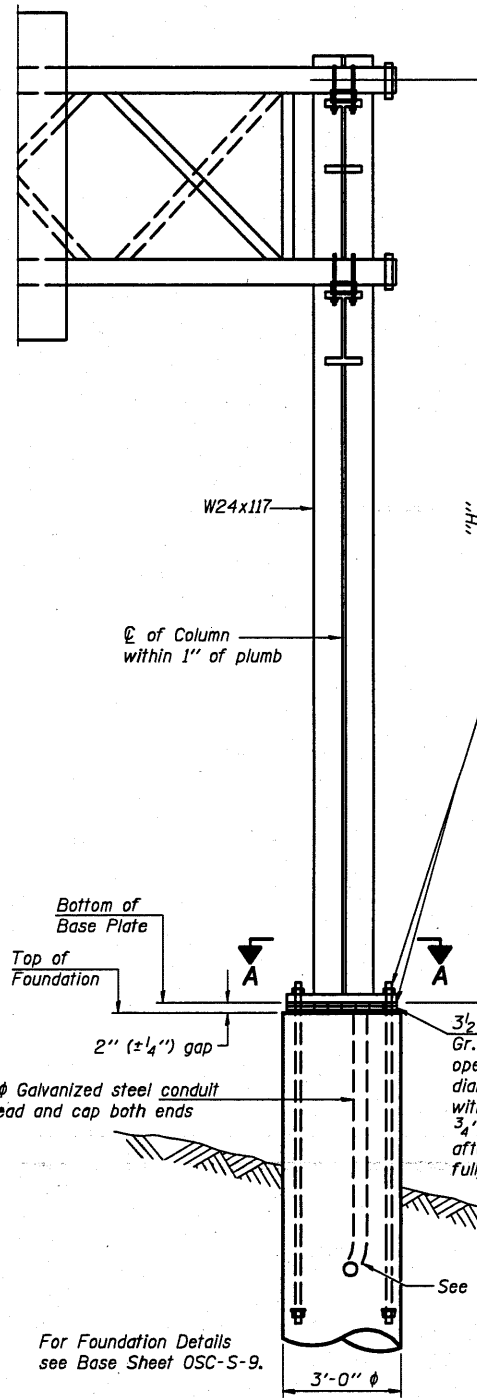
SECTION A-A



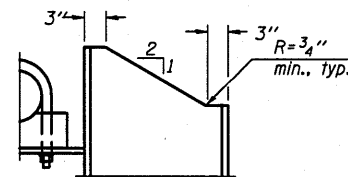
SECTION B-B



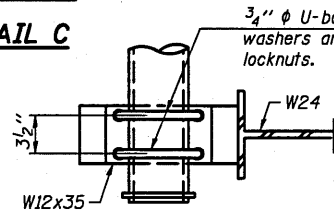
Note 1: Extend welds to clip to facilitate galvanizing.



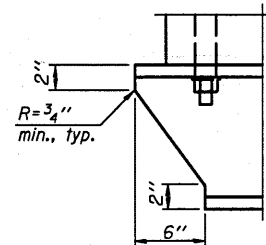
FRONT ELEVATION



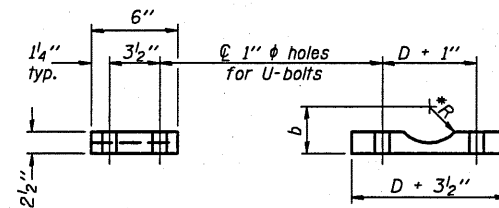
DETAIL C



SECTION C-C



DETAIL D

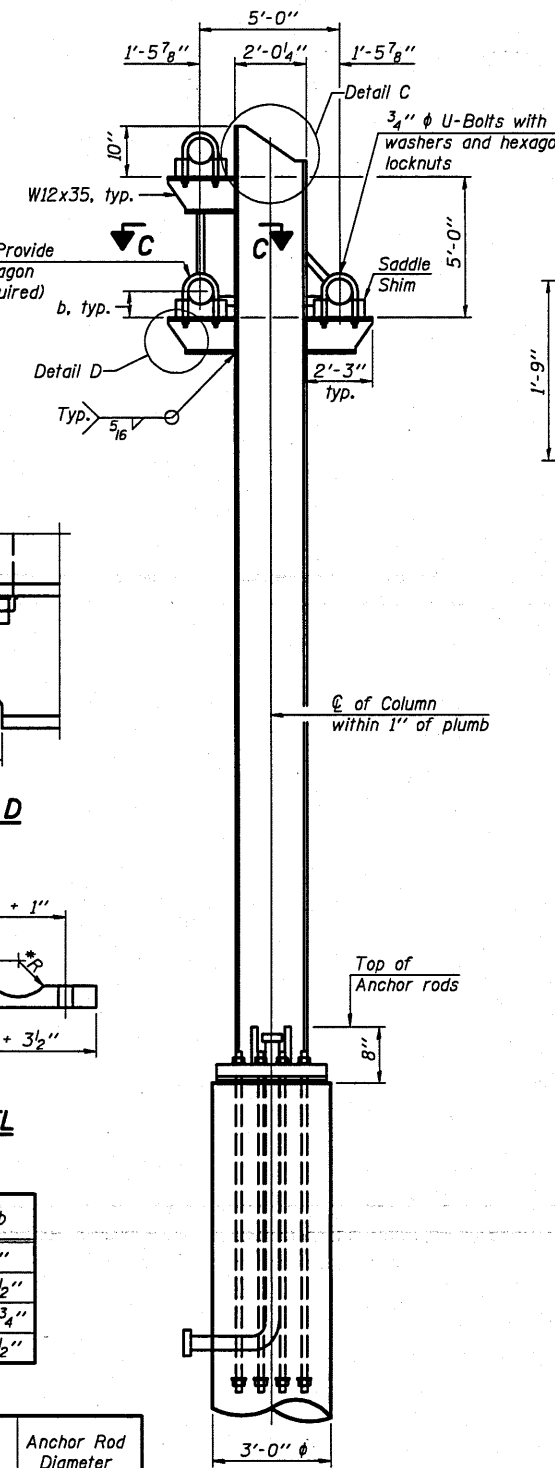


SADDLE SHIM DETAIL

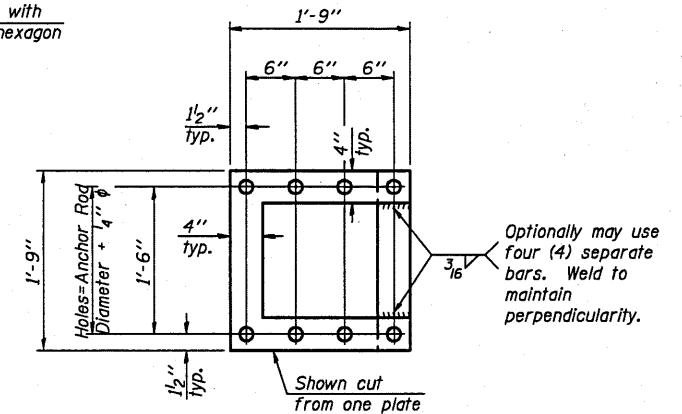
Chord Outside Diameter	R	b
4.500	2 ⁵ / ₁₆ "	4"
5.563	2 ⁷ / ₈ "	4 ¹ / ₂ "
6.625	3 ³ / ₈ "	4 ³ / ₄ "
8.625	4 ³ / ₈ "	5 ¹ / ₂ "

Structure Number	Station	Column		H (ft.)	Anchor Rod Diameter (in.)
		Left	Right		
5 S 010 1074 R185.40	39+46	X		25'-3"	1 ³ / ₄ "
5 S 010 1074 R185.40	39+46		X	27'-3"	1 ³ / ₄ "

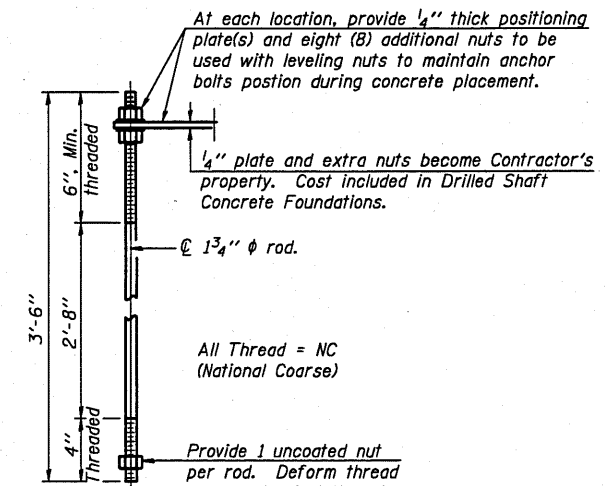
NUMBER	REVISION	DATE



END ELEVATION



POSITIONING PLATE(S)



ANCHOR ROD DETAIL
Drilled Shaft Foundation

TRI-S-5

12-1-08

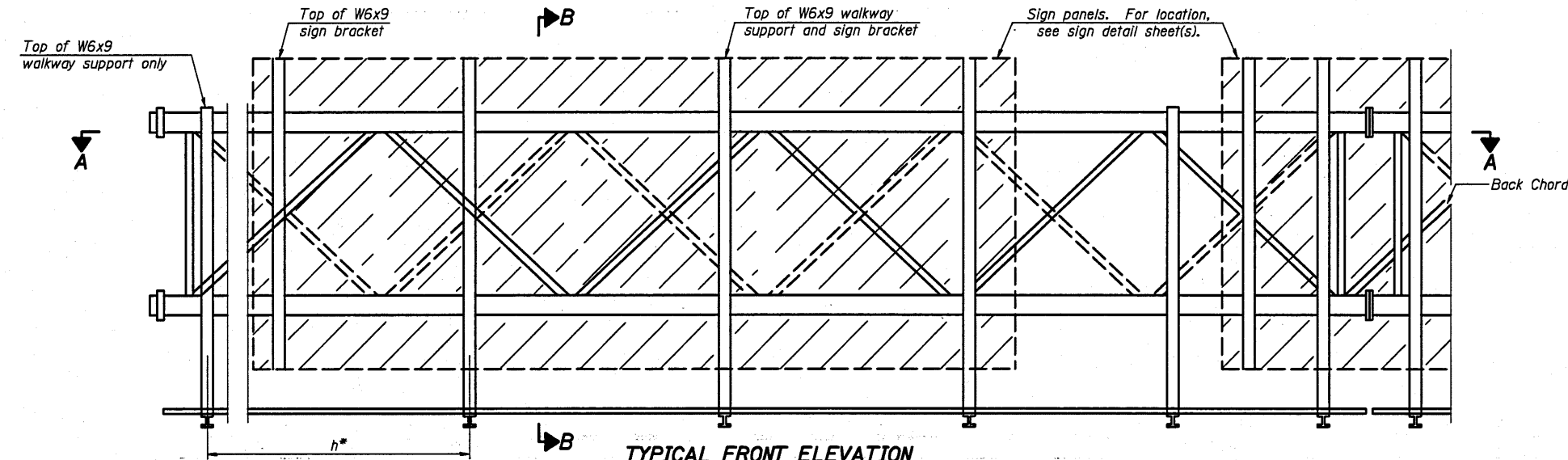
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		DRAWN	REVISED
		CHECKED	REVISED
		DATE	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRI-CHORD SIGN STRUCTURES
TRUSS SUPPORT COLUMN STEEL TRUSS & STEEL POST

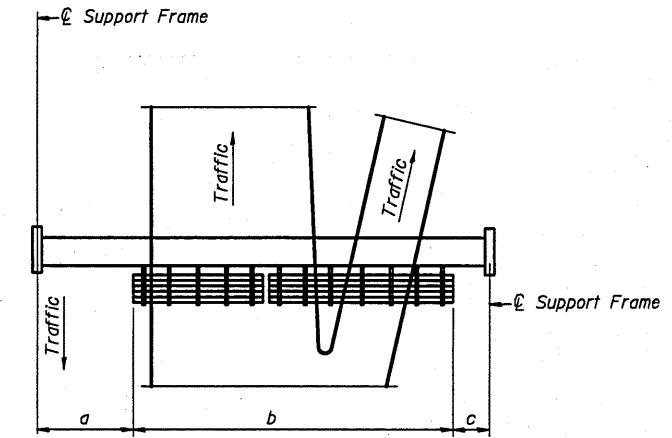
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74		Champaign	37	26
D-5 OVD SIN STR REPL 2011-12		CONTRACT NO. 46135		
ILLINOIS FED. AID PROJECT				

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



TYPICAL FRONT ELEVATION

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

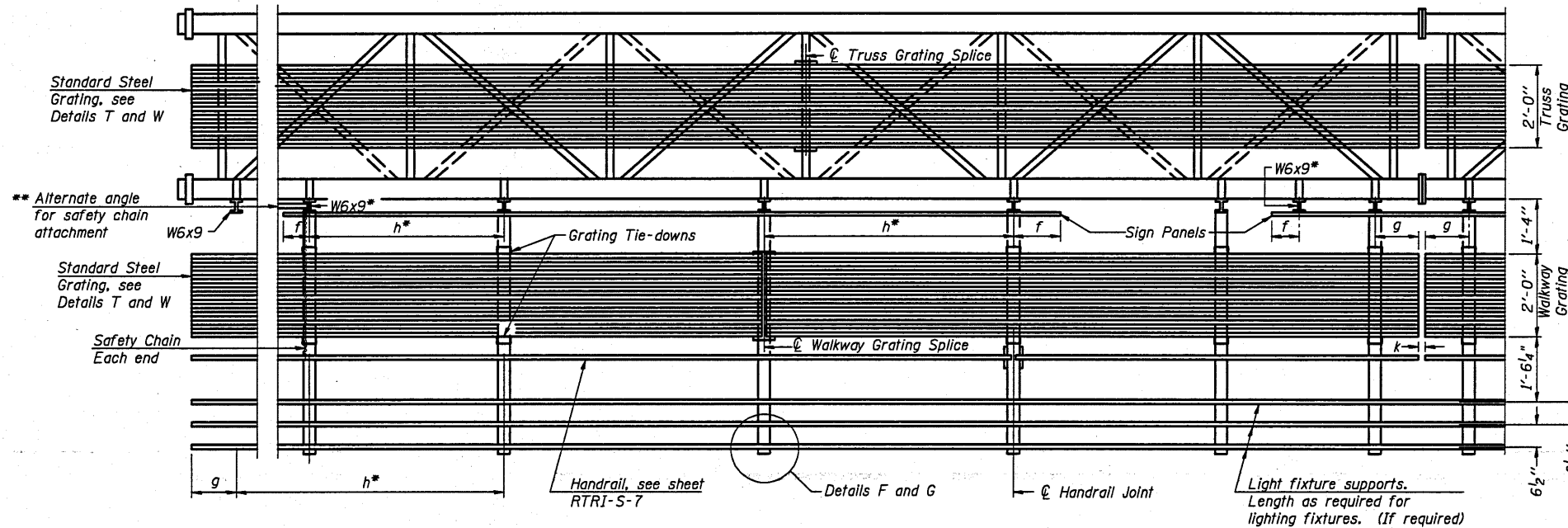


PLAN WALKWAY AND HANDRAIL SKETCH
(Road plan beneath truss varies)

BRACKET TABLE

W6x9		Number Brackets Required
Sign Width Greater Than	Sign Width Less Than or Equal To	
8'-0"	14'-0"	2
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

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.

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.

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".

NUMBER	REVISION	DATE

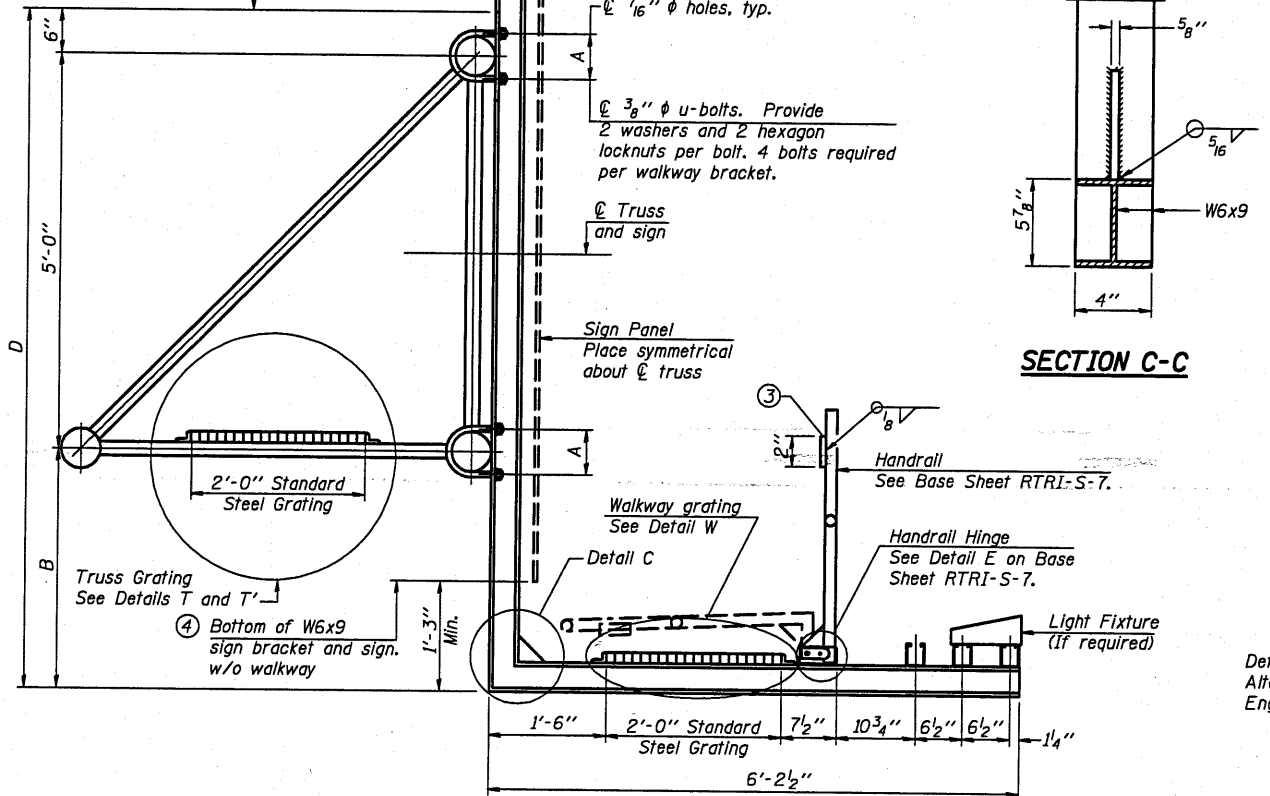
Structure Number	Station	a	b	c	Walkway Grating and Handrail Lengths
5 S 010 1074 R185.40	39+46	3'-0"	40'-0"	10'-0"	40'-0"
See also " Sign Truss Mounting Details " sheets 7&8					

TRI-S-6

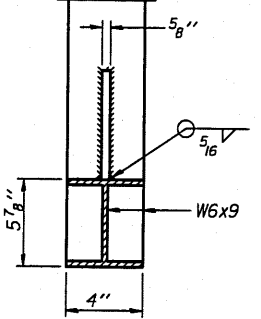
12-1-08

Minimum elevation for top of W6x9 for support walkway without sign.

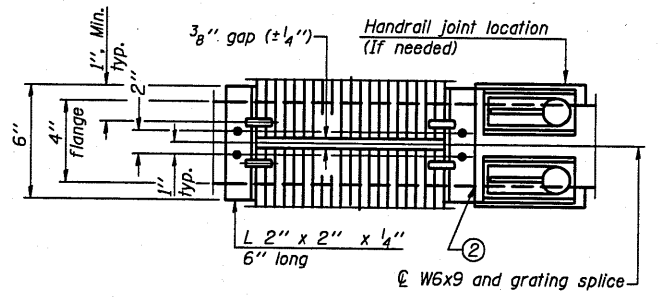
Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.



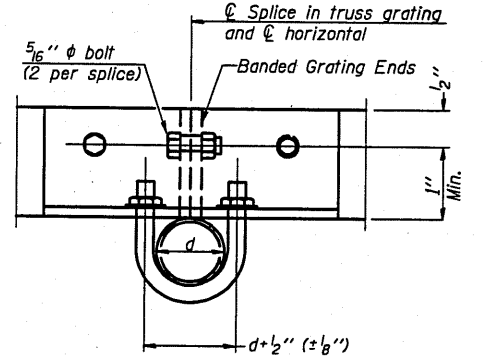
SECTION B-B



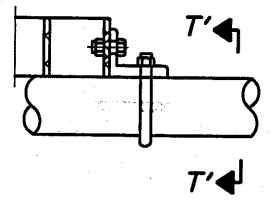
SECTION C-C



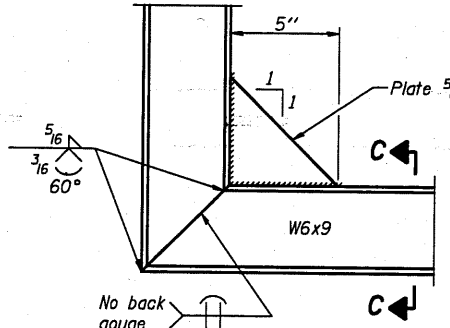
(AT WALKWAY GRATING SPLICE)



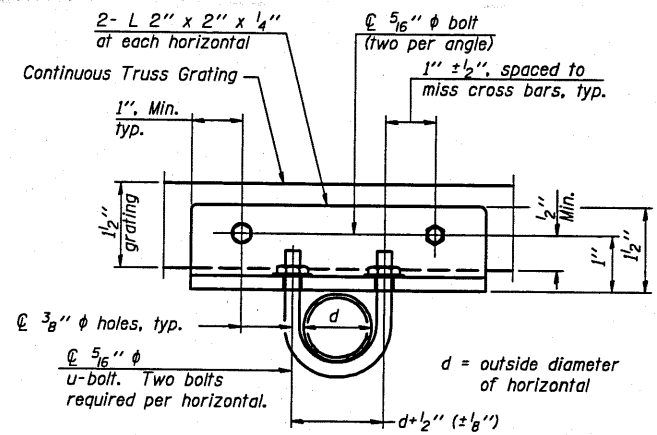
SECTION T'-T'



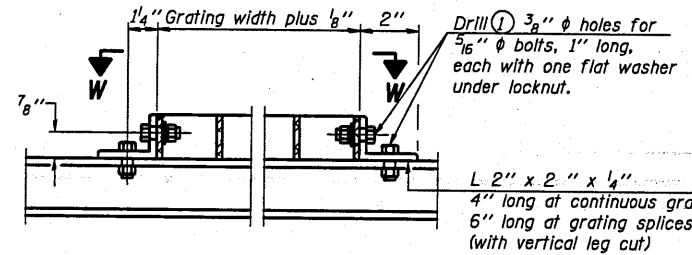
DETAIL T'
(Truss grating splice)
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



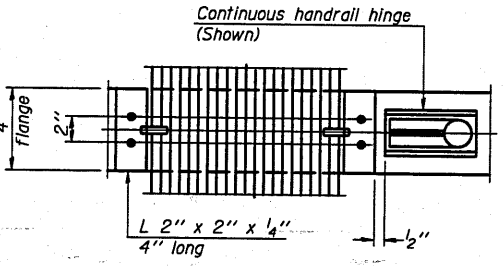
DETAIL C



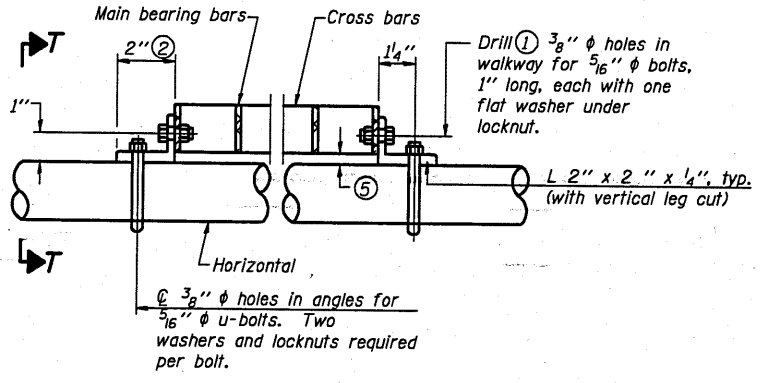
SECTION T-T



DETAIL W
(Walkway grating)



SECTION W-W
(CONTINUOUS WALKWAY GRATING)



DETAIL T
(Continuous Truss grating)

- 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.

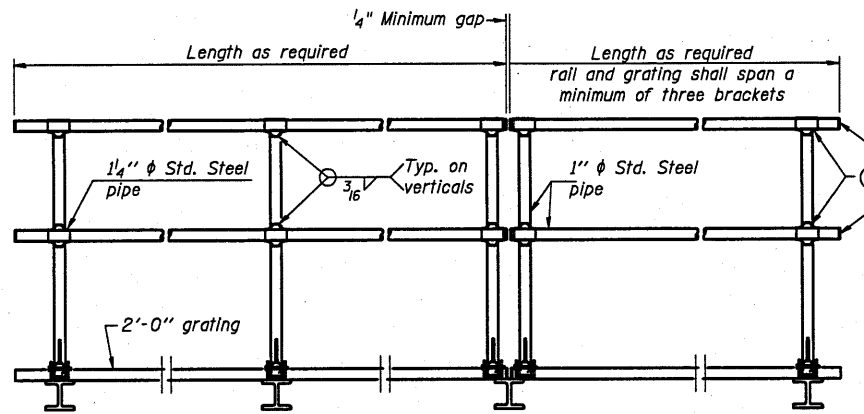
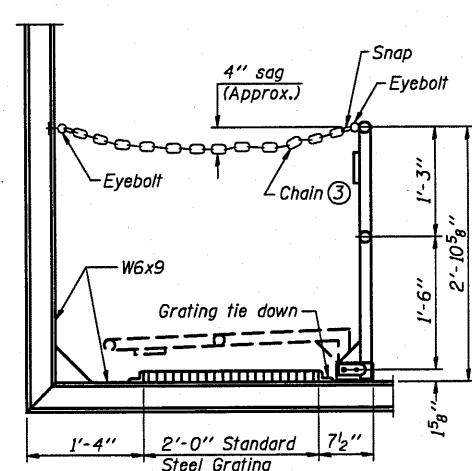
BARS SIZES FOR STANDARD STEEL GRATING

WALKWAY GRATING Main bearing bars 3/8" x 1/2" on 1 3/16" centers. Cross bars 3/8" x 1/2" on 4" centers. All intersects welded.

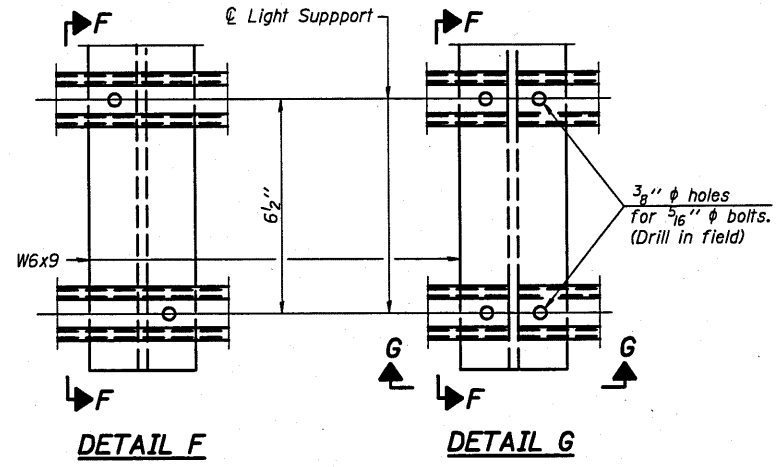
Structure Number	Station	A	⑥ B	⑥ D*
5 S 010 I074 R185.40	39+46	4 5/16"	2'-9"	8'-3" & VAR.
* See also "Sign Truss Mounting Details" sheets 7&8 for the information needed to determine the variable walkway support & sign support lengths.				

NUMBER	REVISION	DATE

TRI-S-7 6-1-09



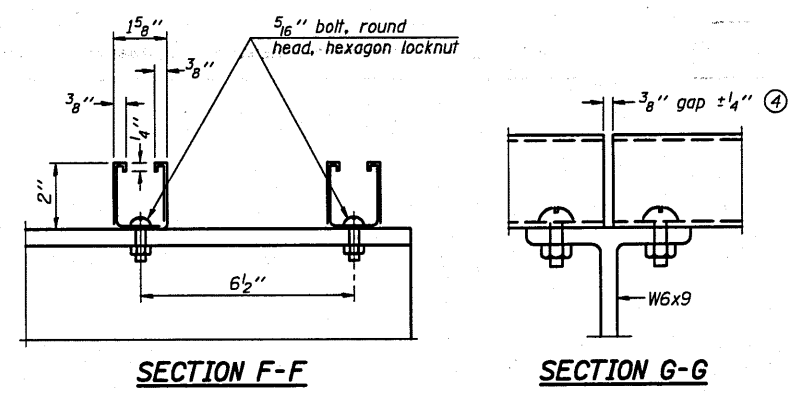
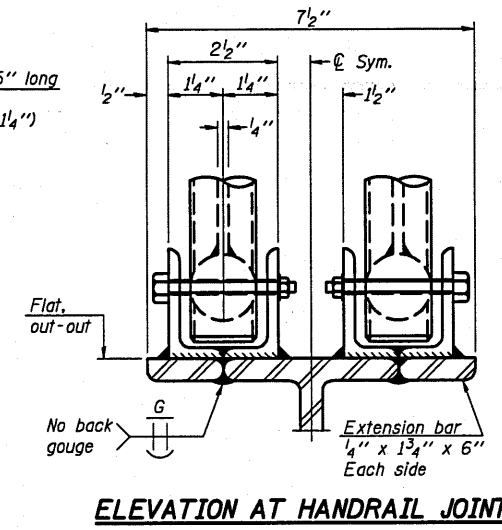
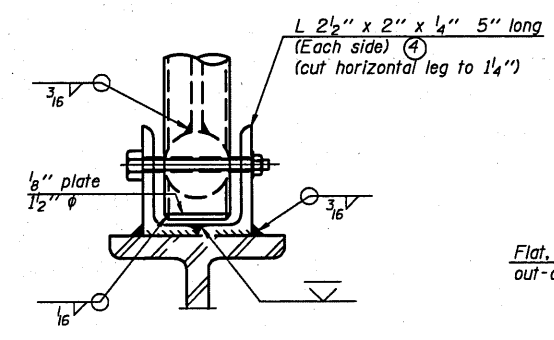
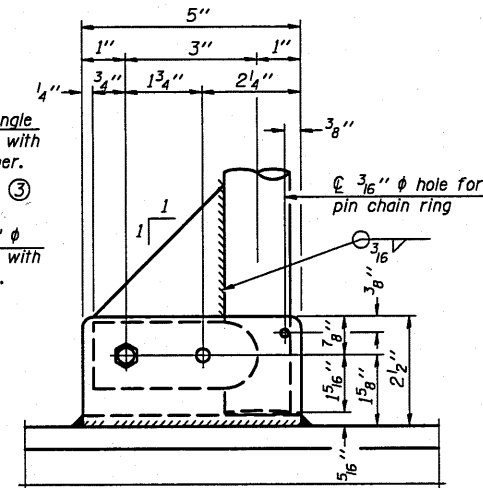
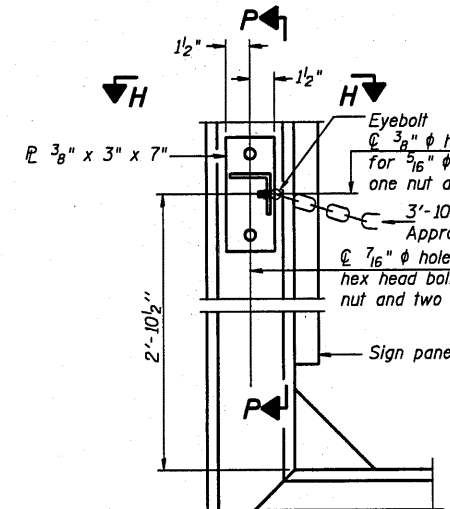
- ① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)
- ② Horizontal handrail member shall be continuous thru 1 1/4" pipe. Provide 1/16" hole in 1 1/4" pipe for 3/8" bolt. Field drill 1/16" hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 1/16" holes on top rail at ends only.)



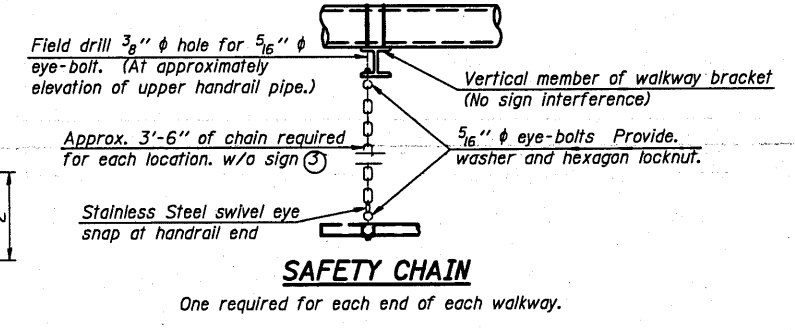
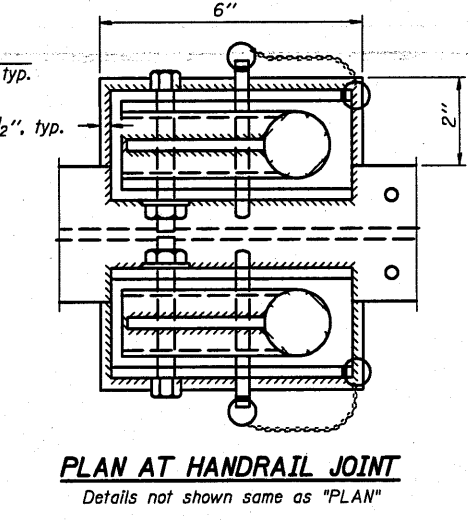
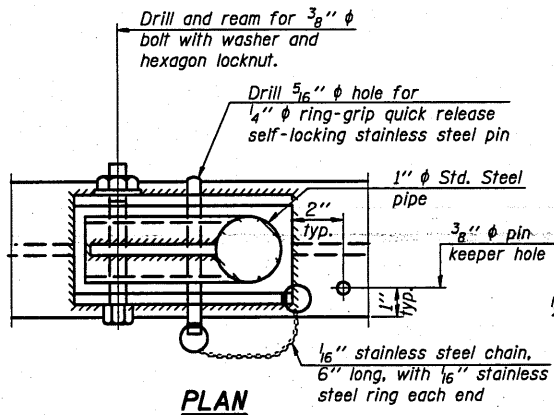
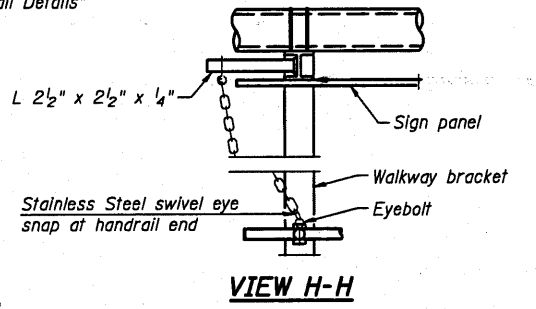
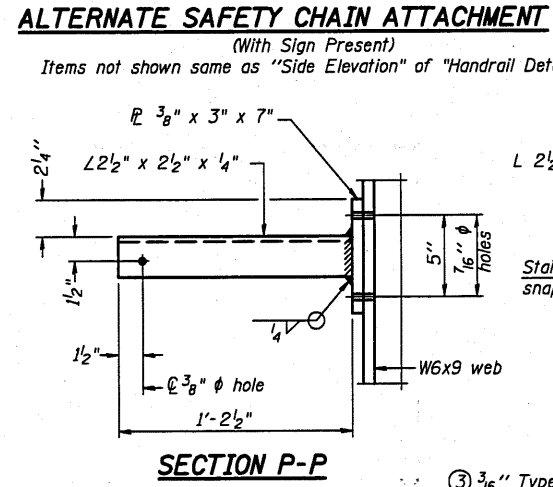
SIDE ELEVATION
(Showing safety chain w/o sign)

HANDRAIL DETAILS

FRONT ELEVATION



- 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.



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

NUMBER	REVISION	DATE

TRI-S-8 12-1-08

FILE NAME = cr:\pwwork\psidot\backlessj\d8212597\056135-shd-Detail.dgn	USER NAME = buckleej	DESIGNED -	REVISED -
PLOT SCALE = 48.0000 / IN.		DRAWN -	REVISED -
PLOT DATE = 7/28/2010		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRI-CHORD SIGN STRUCTURES
HANDRAIL DETAILS

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

F.A.I. RTE. 57&74	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Champaign	37	29
D-5 OVD SIN STR REPL 2011-12		CONTRACT NO. 46135		
ILLINOIS FED. AID PROJECT				

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

NOTES:

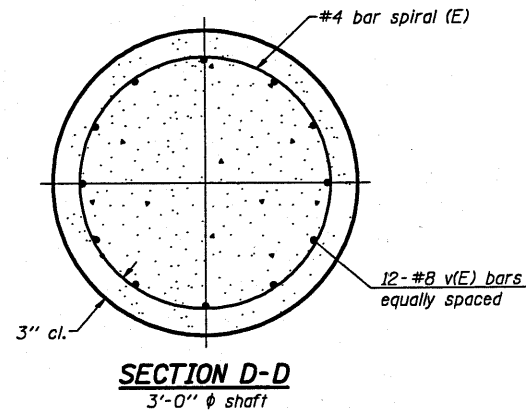
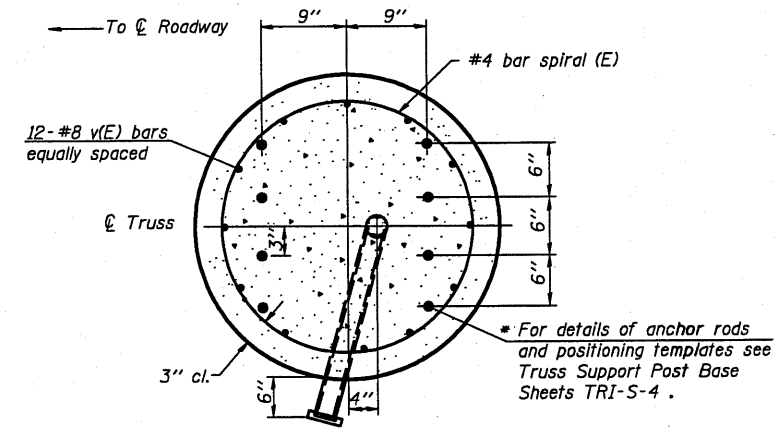
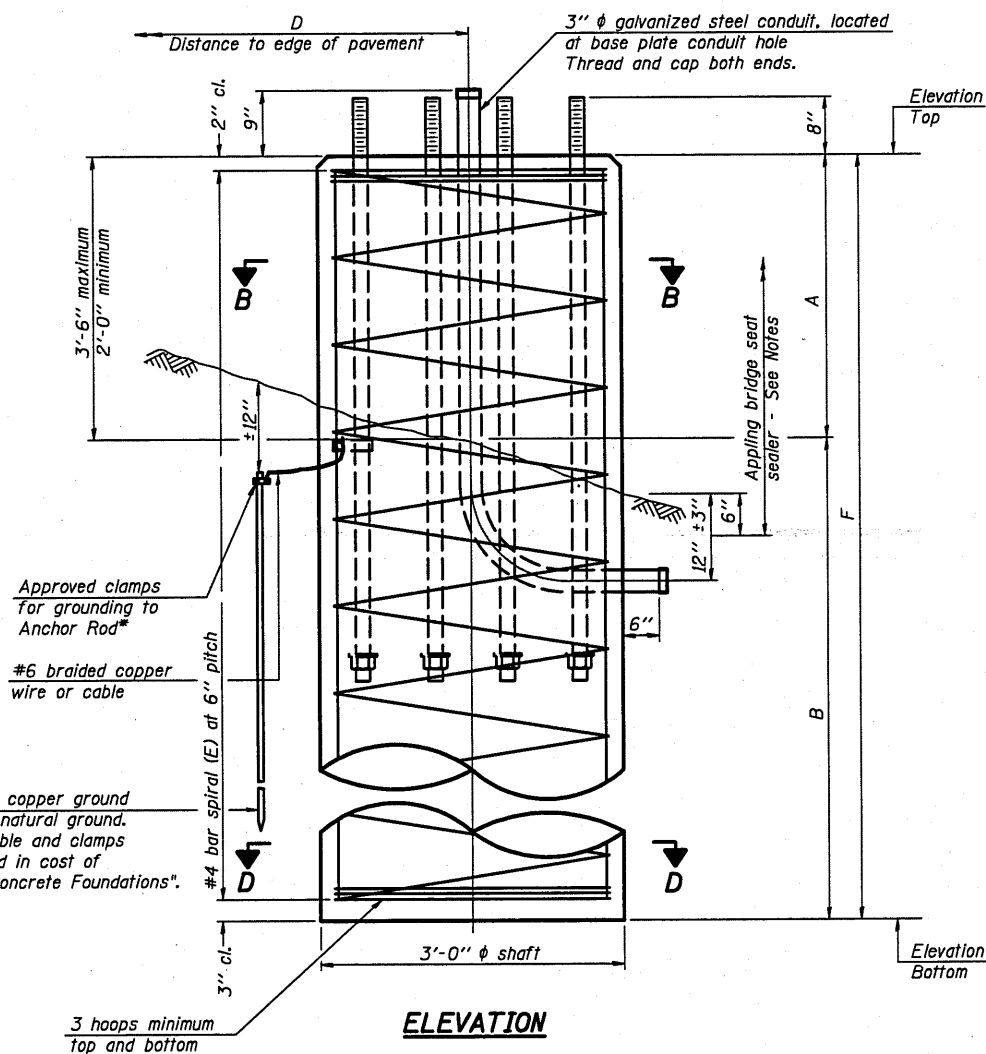
The foundation dimensions shown in the Foundation Design Table are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the 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.



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	
5 S 010 1074 R185.40	39+46	TRI-I-S	737.00	720.50	13'-6"	16'-6"	735.00	718.50	13'-6"	16'-6"	9.0

NUMBER	REVISION	DATE

Truss Type	Maximum Span Length (ft)	"B" Depth (ft)
TRI-I-S	80	13'-6"
TRI-II-S	100	14'-0"
TRI-III-S	120	14'-0"
TRI-IV-S	140	15'-0"

TRI-S-9 12-1-08

FILE NAME =	USER NAME = buckleej	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRI-CHORD SIGN STRUCTURES DRILLED SHAFT STEEL TRUSS & STEEL POST	F.A.I. RTE. = 57&74	SECTION =	COUNTY = Champaign	TOTAL SHEETS = 37	SHEET NO. = 30		
		DRAWN -	REVISED -			SCALE: 1" = 1'-0"	SHEET NO. OF SHEETS =	STA. TO STA. =	CONTRACT NO. 46135			
		CHECKED -	REVISED -			ILLINOIS FED. AID PROJECT						
		DATE = 7/28/2010	REVISED -									



SOIL BORING LOG

 Page 1 of 1

 Date 6/24/10

 ROUTE FAI Rt 57 DESCRIPTION Overhead Sign Truss on I-57SB at Exit to I-74 LOGGED BY CNA
 SECTION _____ LOCATION SE, SEC. 34, TWP. 20N, RNG. 8E, 3rd PM GPS: _____
 COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO.		D E P T H	B L O W S	U C S Q _u	M O S T	Surface Water Elev.	
Station						_____	_____
BORING NO.						_____	_____
5 S 010 I057							ft
L237.52							ft
Station 613+00							
1 Mast Arm							
612+88							757.4
Offset 89.0 ft W of SBCL							757.4
Ground Surface Elev. 763.4		(ft)	(6")	(pcf)	(%)		
Black Silty Clay with Gravel							
761.4							
Brown Mottled Silty Clay Loam							
			1				
			2	0.8	27		
768.4			2	B			
Brown Mottled Silt Loam to Silt with Trace of Sand (Trace of Free Water)							
			1				
			1		24		
			3				
765.4							
Brown to Gray Clay Loam Till							
			2				
			2		26		
			-10	4			
			4				
			6	4.1	11		
			7	B			
760.4							
Gray Clay Loam Till							
			2				
			5	2.9	12		
			-15	5	B		
			1				
			4	1.9	12		
			7	B			
748.4							

6/28/10 10:36 AM E:\BOLING\BORING LOGS\CHAMPAIGN CNTY\MAST ARM I-57 AT I-74\NEWLOG1

End of Boring
 An assumed centerline elevation of 100.00 and station of 10+00 is used when this information is not available.
 The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N Value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)



SOIL BORING LOG

 Page 1 of 1

 Date 6/24/10

 ROUTE 130 DESCRIPTION Sign Truss on University Ave at Exit to I-74 LOGGED BY CNA
 SECTION _____ LOCATION SW, SEC. 10, TWP. 19N, RNG. 9E, 3rd PM GPS: _____
 COUNTY Champaign DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic

STRUCT. NO.		D E P T H	B L O W S	U C S Q _u	M O S T	Surface Water Elev.	
Station						_____	_____
BORING NO.						_____	_____
5 S 010 I074 R185.4							ft
613+00							ft
1 Mast Arm							
89+57							718.3
Offset 25.0 ft E of CL							726.3
Ground Surface Elev. 733.3		(ft)	(6")	(pcf)	(%)		
Pavement - Shoulder							
732.3							
Brown Mottled Silty Clay to Silty Clay Loam							
			1				
			2				
728.8			2				
Black Mottled Silty Clay Loam							
			1				
			2	0.7	26		
			3	B			
725.3							
Brown Sandy Clay Loam Till							
			1	0.4	24		
			2	B			
722.3							
(No Sample Obtained)							
			4				
			6	3.7	11		
			11	B			
716.3							
Gray Sandy Clay Loam Till							
			4				
			7	4.3	10		
			9	B			
713.3							

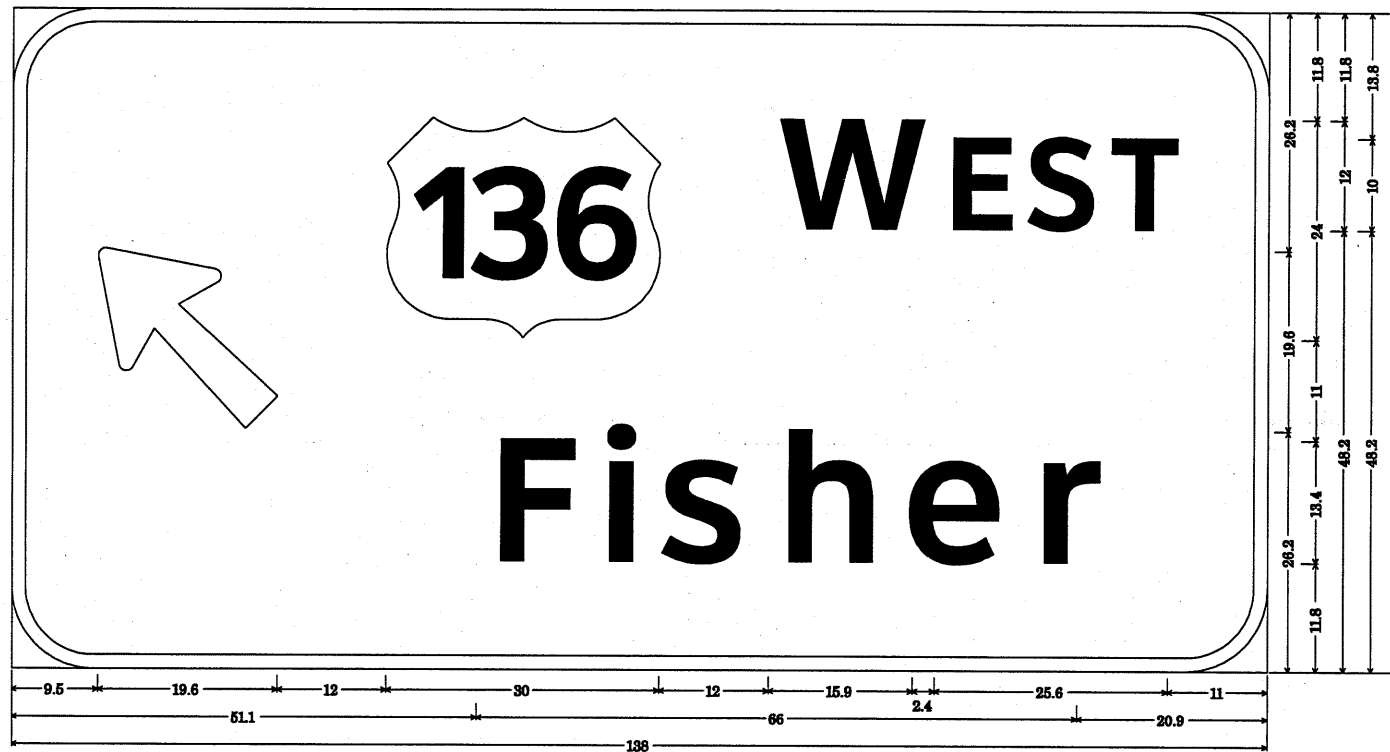
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End of Boring
 An assumed centerline elevation of 100.00 and station of 10+00 is used when this information is not available.
 The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
 The SPT (N Value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

FILE NAME =	USER NAME = bucklesj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SOIL BORING LOG	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLDT SCALE = 40.8888 ' / IN.	CHECKED -	REVISED -	* D-5 OVD SIN STR REPL 2011-12			CONTRACT NO.	46135			
PLDT DATE = 7/28/2010	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							

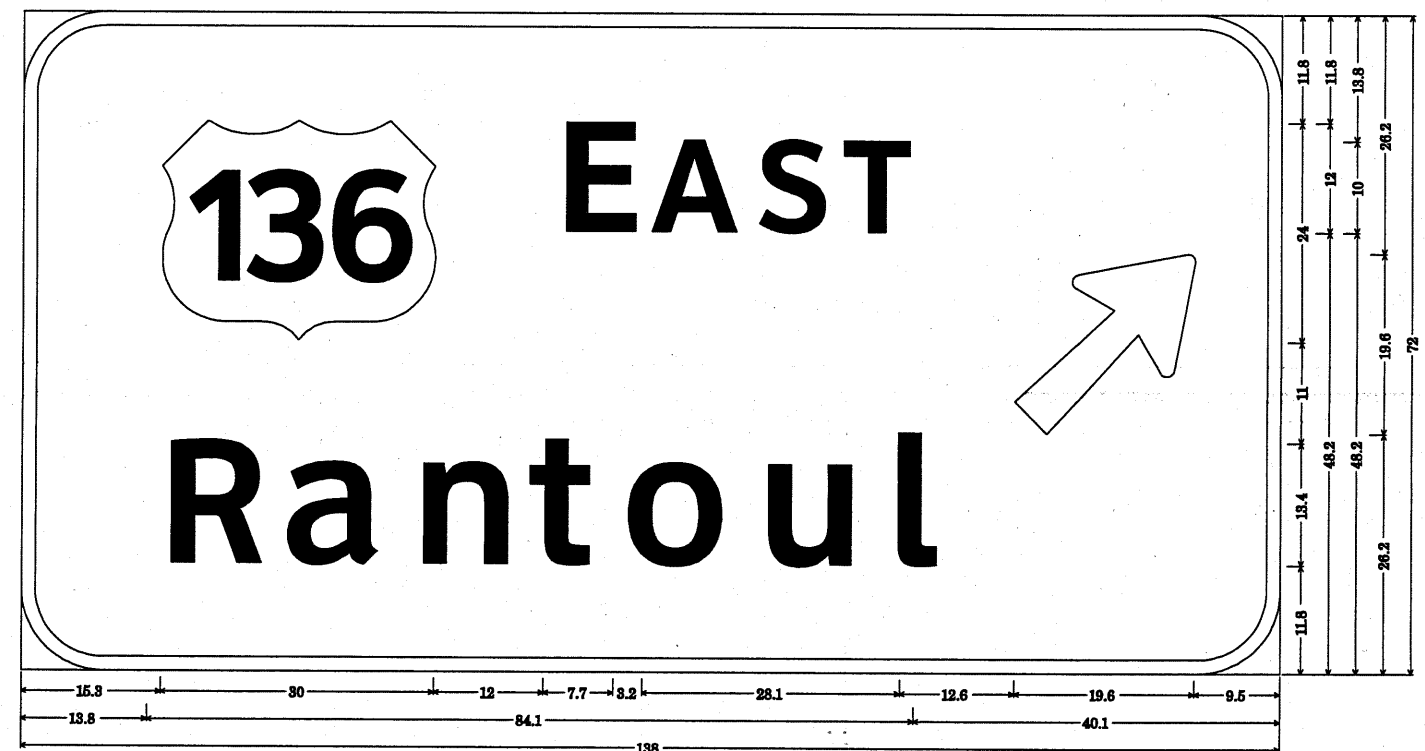
5-01 A
 5 S 010 I057 R249.73
 LEFT SIGN



9.0" Radius, 1.5" Border, White on Green;
 Arrow 80 - 25.0" 135; [W EST] ClearviewHwy-5-W; [Fisher] ClearviewHwy-5-W;
 Table of letter and object lefts.

Q	W	E	S	T
9.5	41.1	83.1	101.4	110.4
F	i	s	h	e
61.1	63.2	70.1	82.9	96.7

5-01 B
 5 S 010 I057 R249.73
 RIGHT SIGN



9.0" Radius, 1.5" Border, White on Green;
 [E AST] ClearviewHwy-5-W; [Rantoul] ClearviewHwy-5-W; Arrow 80 - 25.0" 45;
 Table of letter and object lefts.

Q	E	A	S	T
15.3	57.3	68.2	79.7	89.1
R	a	n	t	o
13.8	27.5	41.7	54.6	64.6

FILE NAME *	USER NAME = bucklesJJ	DESIGNED -	REVISED -
c:\pwork\pvidot\bucksJJ\d0212597\0546135-sht-Details.dgn		DRAWN -	REVISED -
	PLDT SCALE = 48.0000 ' / IN.	CHECKED -	REVISED -
	PLDT DATE = 7/28/2018	DATE -	REVISED -

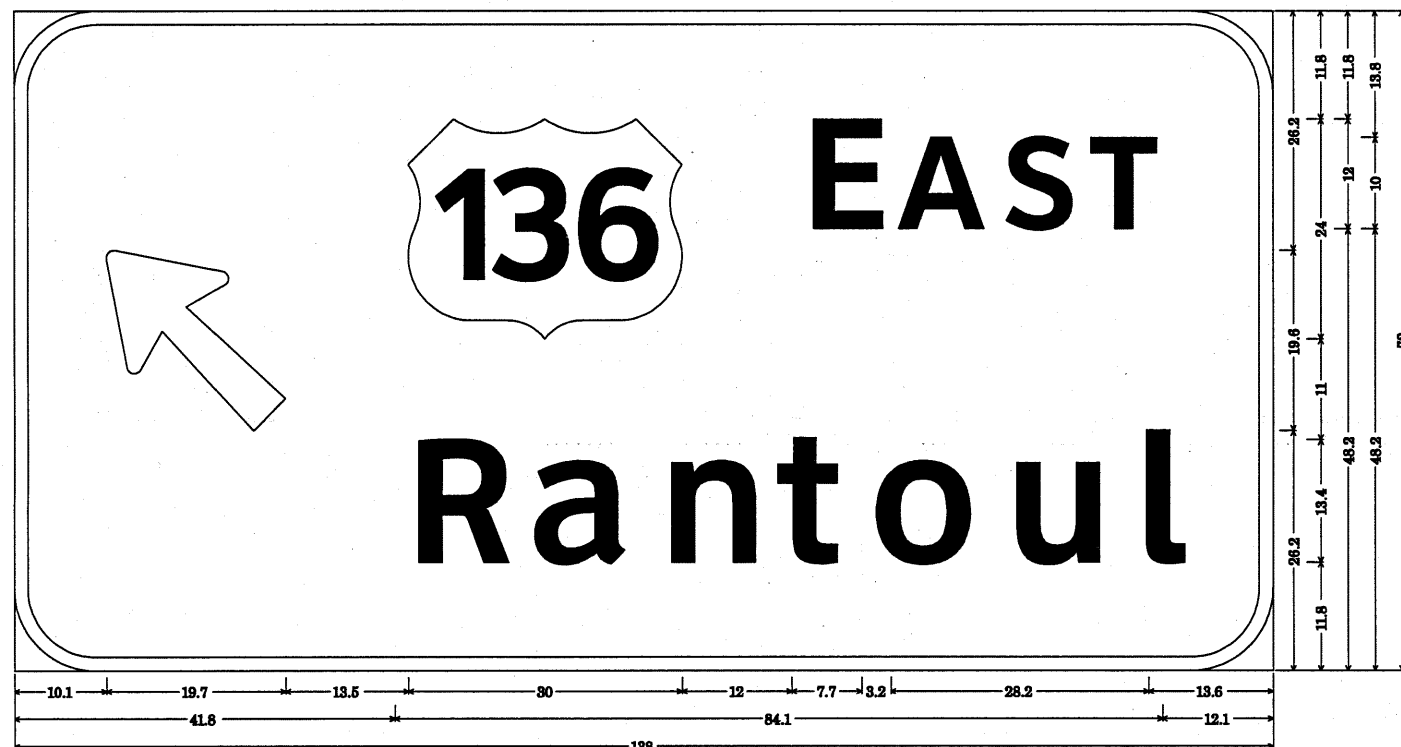
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74		Champaign	37	32
* D-5 OVD SIN STR REPL 2011-12			CONTRACT NO. 46135	
ILLINOIS FED. AID PROJECT				

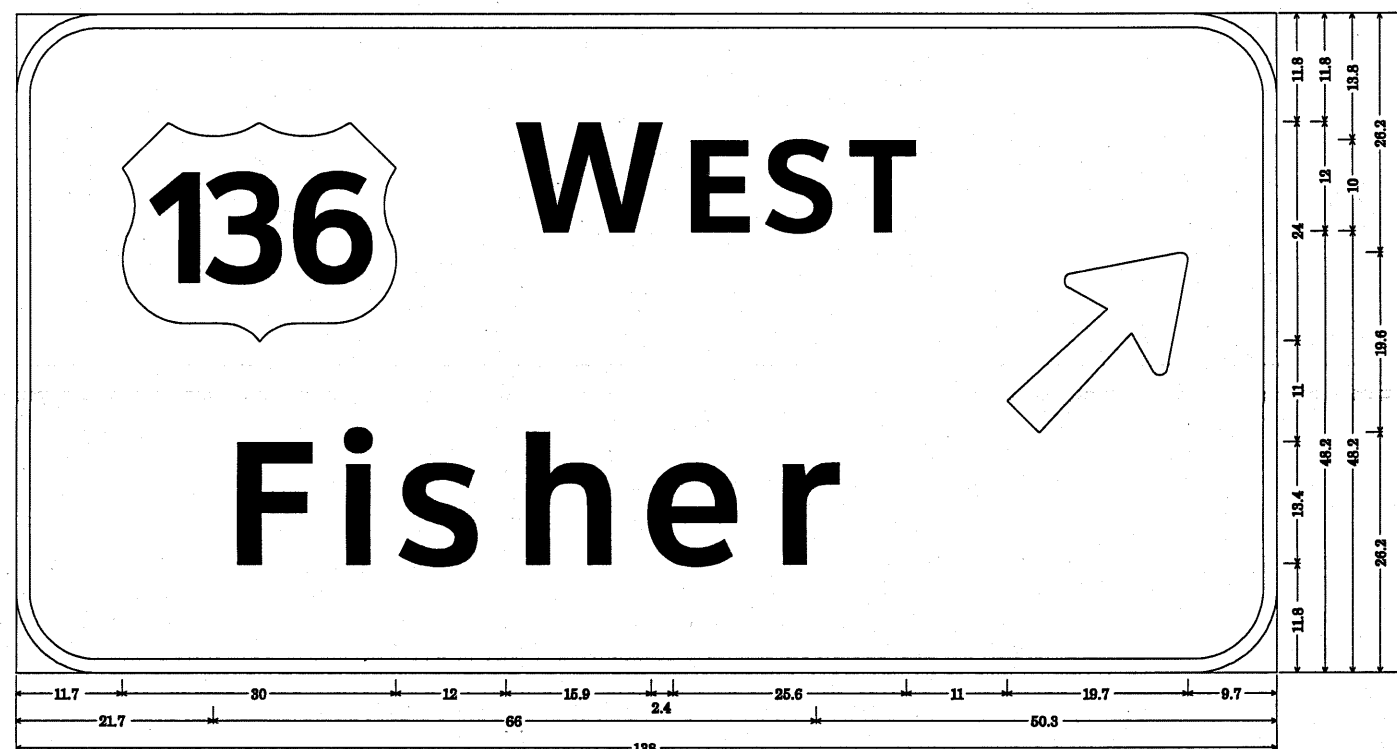
5-02 A
5 S 010 1057 L250.43
LEFT SIGN



9.0" Radius, 1.5" Border, White on Green;
Arrow 80 - 25.0" 125; [E AST] ClearviewHwy-5-W; [Rantoul] ClearviewHwy-5-W;
Table of letter and object lefts.

	E	A	S	T
10.1	43.3	85.3	96.2	107.7
41.8	55.5	69.7	82.6	92.7

5-02 B
5 S 010 1057 L250.43
RIGHT SIGN



9.0" Radius, 1.5" Border, White on Green;
[W EST] ClearviewHwy-5-W; [Fisher] ClearviewHwy-5-W; Arrow 80 - 25.0" 45;
Table of letter and object lefts.

	W	E	S	T
11.7	53.7	72.0	80.9	90.4
21.7	33.8	40.7	53.5	67.2

FILE NAME =	USER NAME = buckles JJ	DESIGNED -	REVISED -
cr:\pwork\pordot\buclj\j\0212597\0546135-ahd-Detail.dgn		DRAWN -	REVISED -
PLOT SCALE = 48.0000 "/ IN.		CHECKED -	REVISED -
PLOT DATE = 7/28/2010		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74		Champaign	37	33
D-5 OVD SIN STR REPL 2011-12			CONTRACT NO. 46135	
ILLINOIS FED. AID PROJECT				

5-03 B
 5 S 010 I057 L237.52
 MIDDLE SIGN



12.0" Radius, 2.0" Border, White on Green;
 [EXIT 237A] ClearviewHwy-5-W;
 12.0" Radius, 2.0" Border, White on Green;
 [EAST] ClearviewHwy-5-W; [Indianapolis] ClearviewHwy-5-W; [1/4 MILE] ClearviewHwy-5-W;
 Table of letter and object lefts.

E	X	I	T	2	3	7	A				
72.0	80.5	91.9	96.9	117.8	122.1	146.5	159.9				
49.9	97.9	107.9	119.5	128.9							
I	n	d	i	a	n	a	p	o	l	i	s
110	29.4	57.0	54.2	62.7	79.7	95.9	112.9	129.2	147.1	156.5	164.8
63.3	100.0	113.2	119.2	128.2							

FILE NAME =	USER NAME = buckles_jj	DESIGNED -	REVISED -
ci\pw_wor\p\idot\buclies_jj\d0212597\056135-sht-Details.dgn		DRAWN -	REVISED -
	PLOT SCALE = 48.0000" / IN.	CHECKED -	REVISED -
	PLOT DATE = 7/28/2010	DATE -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57&74	*	Champaign	37	35
* D-5 OVD SIN STR REPL 2011-12			CONTRACT NO. 46135	
ILLINOIS FED. AID PROJECT				

5-03 C
 5 S 010 I057 L237.52
 RIGHT SIGN

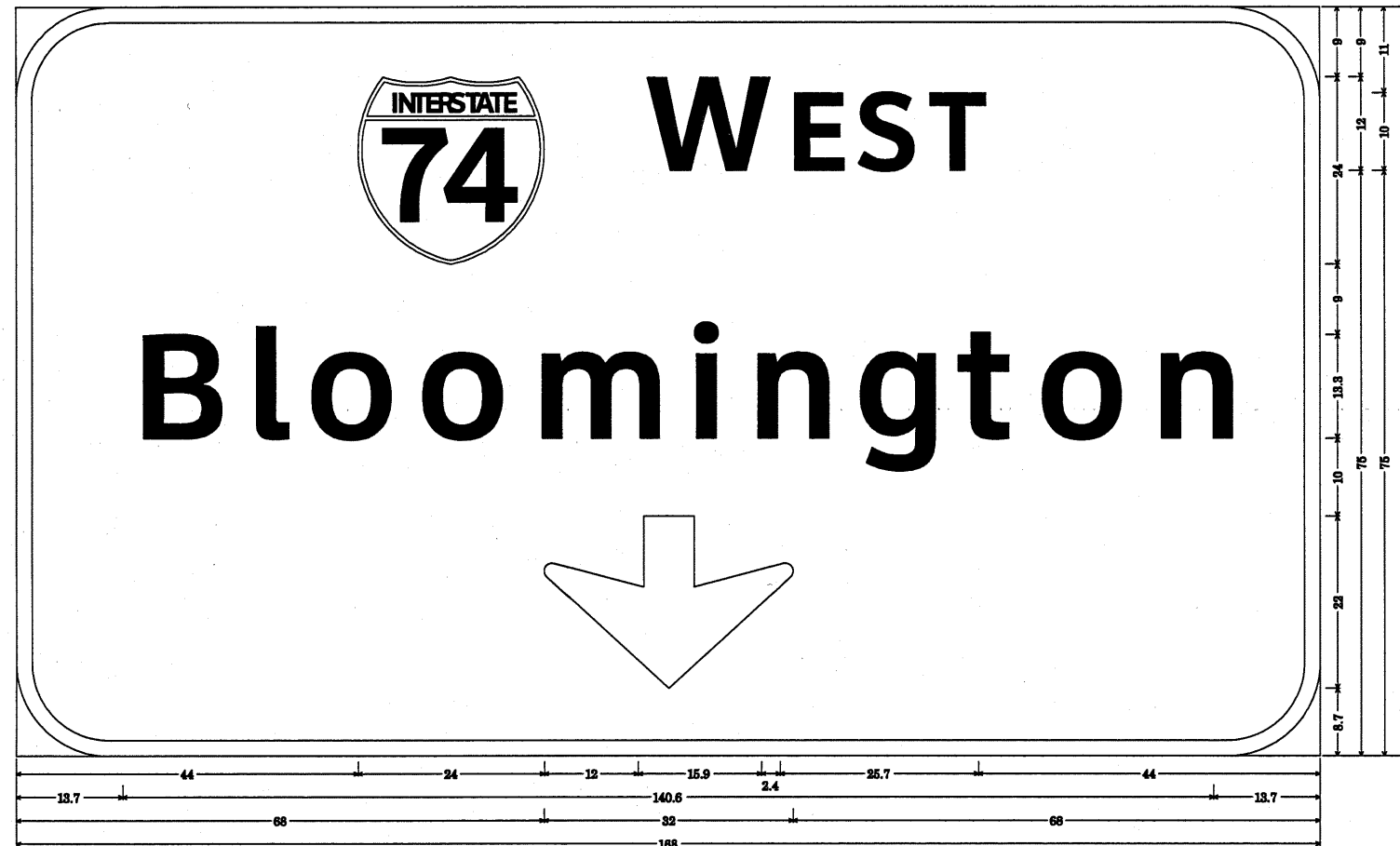


12.0" Radius, 2.0" Border, White on Green;
 [EXIT 237B] ClearviewHwy-5-W;
 12.0" Radius, 2.0" Border, White on Green;
 [W EST] ClearviewHwy-5-W; [Peoria] ClearviewHwy-5-W; Arrow 160 - 35.0° 45°;
 Table of letter and object lefts.

E	X	I	T	2	3	7	B
81.0	89.5	51.0	55.9	76.8	91.2	105.6	120.6
Ⓢ	W	E	S	T	↗		
12.3	60.3	79.3	88.3	97.8	108.2		
P	e	o	r	i	a		
19.0	35.0	51.6	69.4	81.0	89.5		

FILE NAME =	USER NAME = bucklesJJ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGNING DETAILS				F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
cr\pwork\psidot\bucliaj\0212597\0546135-ahd-Detail.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO STA.	Champaign	37	36
	PLOT SCALE = 48.8888" / IN.	CHECKED -	REVISED -								* D-5 OVD SIN STR REPL 2011-12	CONTRACT NO. 46135	
	PLOT DATE = 7/29/2010	DATE -	REVISED -								ILLINOIS FED. AID PROJECT		

5-04 A
 5 S 010 I074 R185.40
 LEFT SIGN

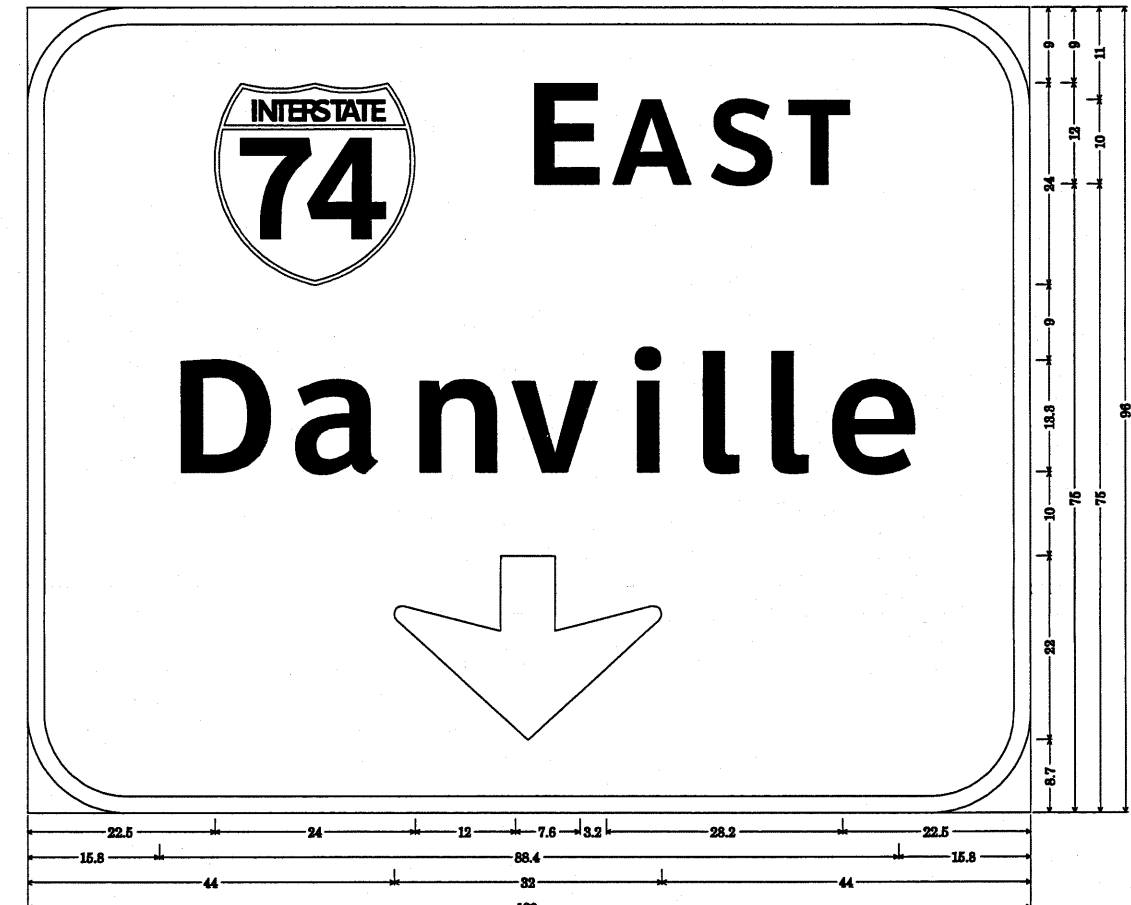


12.0" Radius, 2.0" Border, White on Green;
 [W EST] ClearviewHwy-5-W; [Bloomington] ClearviewHwy-5-W; Down Arrow 22.0" 270°;

Table of letter and object lefts.

Object	W	E	S	T
44.0	80.0	88.3	107.3	118.7
B	13.7	28.4	36.1	50.4
l	50.4	65.2	85.1	99.0
o	106.7	120.2	130.2	145.0
m				
i				
n				
g				
t				
o				
n				
↓				
88.0				

5-04 B
 5 S 010 I074 R185.40
 RIGHT SIGN



12.0" Radius, 2.0" Border, White on Green;
 [E AST] ClearviewHwy-5-W; [Danville] ClearviewHwy-5-W; Down Arrow 22.0" 270°;

Table of letter and object lefts.

Object	E	A	S	T
22.5	58.5	69.3	80.9	90.3
D	15.8	30.4	44.6	57.2
a	70.6	78.5	86.7	94.4
n				
v				
i				
l				
l				
o				
↓				
44.0				

FILE NAME =	USER NAME = bucklesJJ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGNING DETAILS	F.A.T. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\dot\bucklesJJ\d0212597\0546135-sht-Details.dgn	DRAWN -	REVISED -	57&74				Champaign	37	37	
PLOT SCALE = 48.8888" / IN.	CHECKED -	REVISED -	D-5 OVD SIN STR REPL 2011-12			CONTRACT NO.	46135			
PLOT DATE = 7/28/2018	DATE -	REVISED -	ILLINOIS FED. AID PROJECT							
SCALE:		SHEET NO. OF SHEETS		STA. TO STA.						