

03-06-2015 LETTING ITEM 163

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

VARIOUS ROUTES
D-5 OVD SIN STR REPL 2015-12
MCLEAN & PIATT COUNTIES
Sheet 1 of 22
Contract Number 46339

PLANS FOR PROPOSED FEDERAL AID HIGHWAY

VARIOUS ROUTES
D-5 OVD SIN STR REPL 2015-12
MCLEAN & PIATT COUNTIES

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C-60-012-15

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- 701101-04
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- 720021-02

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED PASSED Dec. 2 20 14

Amy Elley
ENGINEER OF OPERATIONS

Jan 30 20 15

John D. Baranzelli, PE, Jr.
Acting ENGINEER OF DESIGN AND ENVIRONMENT

APPROVED Jan 30 20 15

Omer Osman, PE, Jr.
DIRECTOR DIVISION OF HIGHWAYS

CONTRACT NO. 46339

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

SUMMARY OF QUANTITIES

CODE NUMBER	PAY ITEM	UNIT	TOTAL QUANTITY	MCLEAN CO. RURAL 100% STATE 0040	PIATT CO. RURAL 100% STATE 0040
67100100	MOBILIZATION	L SUM	1.00	0.75	0.25
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1.00	0.00	1.00
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1.00	0.00	1.00
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1.00	1.00	0.00
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1.00	1.00	0.00
72000300	SIGN PANEL - TYPE 3	SQFT	501.50	346.50	155.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	527.75	387.75	140.00
72700100	STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY	POUND	1085.50	0.00	1085.50
73301840	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	FOOT	72.50	72.50	0.00
73302170	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE II-C-A (36" X 5'-6")	FOOT	56.00	56.00	0.00
73302210	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE III-C-A (36" X 7'-0")	FOOT	37.00	37.00	0.00
73400100	CONCRETE FOUNDATIONS	CUYD	2.54	0.00	2.54
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	30.50	30.50	0.00
73600200	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	EACH	3.00	3.00	0.00
73602000	REMOVE OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	EACH	1.00	0.00	1.00
73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	3.00	3.00	0.00
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1.00	1.00	0.00
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	33.00	27.00	6.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	3.00	2.00	1.00
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.00	0.75	0.25

GENERAL DESCRIPTION OF FUND CODES:
0040 = SPECIAL BRIDGE - OVERHEAD SIGN STRUCTURES

SCHEDULE OF QUANTITIES

CODE NUMBER	PAY ITEM	UNIT	100% STATE TOTAL QUANTITY	5-01 EB	5-02 WB	5-03 WB	5-04 EB
				5C057 S009 R019.20	5C057 S009 L019.30	5C057 S009 L019.60	5B074 I072 R165.97
	General Location:			MCLEAN COUNTY			PIATT
	Scope of Work:			C	C	C	GM
67100100	MOBILIZATION	L SUM	1.00	0.25	0.25	0.25	0.25
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1.00	-	-	-	1.00
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1.00	-	-	-	1.00
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1.00	0.33	0.33	0.34	-
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1.00	-	-	1.00	-
72000300	SIGN PANEL - TYPE 3	SQFT	501.50	99.00	99.00	148.50	155.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	527.75	96.00	108.00	183.75	140.00
72700100	STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY	POUND	1085.50	-	-	-	1085.50
73301840	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	FOOT	72.50	23.00	23.00	26.50	-
73302170	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE II-C-A (36" X 5'-6")	FOOT	56.00	28.00	28.00	-	-
73302210	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE III-C-A (36" X 7'-0")	FOOT	37.00	-	-	37.00	-
73400100	CONCRETE FOUNDATIONS	CUYD	2.54	-	-	-	2.54
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	30.50	9.00	9.00	12.50	-
73600200	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	EACH	3.00	1.00	1.00	1.00	-
73602000	REMOVE OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	EACH	1.00	-	-	-	1.00
73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	3.00	1.00	1.00	1.00	-
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1.00	-	-	1.00	-
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	33.00	9.00	9.00	9.00	6.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	3.00	1.00	1.00	-	1.00
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.00	0.25	0.25	0.25	0.25

C = Overhead Sign Structure Replacement w/ Cantilever
 GM = Bridge Mount Sign Structure Replacement w/ Breakaway Ground Mount

FILE NAME #	USER NAME # plersondr	DESIGNED - JAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULE OF QUANTITIES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pw\l\284EBIDINTEG\Illinois.gov\PI00T\00	uments\DOT Offices\District 5\Projects\054	DRAWN Data\Design\0546339-ent-schedule	REVISED -			VAR.	-	**	22	3	
MODELNAME#	PLOT SCALE # 48.0000 / in.	CHECKED -	REVISED -			*D-5 DVD SIGN STR REPL 2015-12		CONTRACT NO. 46339		[ILLINOIS] FED. AID PROJECT	
	PLOT DATE # 11/28/2014	DATE -	REVISED -			SCALE: NONE	SHEET 1 OF 3 SHEETS	STA. TO STA.			

**MCLEAN & PIATT

SCHEDULE OF QUANTITIES

Location No.	5-01		
Structure No.	5 C 057 S009 R019.20		
County / Route	MCLEAN CO. - IL 9 EB - West of Veterans Parkway		
Scope of Work	This overhead cantilever is being replaced on a new drilled shaft foundation.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	0.33
72000300	SIGN PANEL - TYPE 3	SQFT	99.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	96.00
73301840	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	FOOT	23.00
73302170	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE II-C-A (36" X 5'-6")	FOOT	28.00
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	9.00
73600200	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	EACH	1.00
73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	1.00
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	9.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	1.00
Z0013798	CONSTRUCTION LAYOUT	L SUM	0.25

Watch out for storm sewer lateral when laying out drilled shaft foundation.
 CMS = 2 days adv notice of fdn const + 2 days fdn const + 2 days adv notice of truss rem & erection + 3 days truss rem & erection.

Location No.	5-02		
Structure No.	5 C 057 S009 L019.30		
County / Route	MCLEAN CO. - IL 9 WB - East of Veterans Parkway		
Scope of Work	This overhead cantilever is being replaced on a new drilled shaft foundation.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	0.33
72000300	SIGN PANEL - TYPE 3	SQFT	99.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	108.00
73301840	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	FOOT	23.00
73302170	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE II-C-A (36" X 5'-6")	FOOT	28.00
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	9.00
73600200	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	EACH	1.00
73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	1.00
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	9.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	1.00
Z0013798	CONSTRUCTION LAYOUT	L SUM	0.25

CMS = 2 days adv notice of fdn const + 2 days fdn const + 2 days adv notice of truss rem & erection + 3 days truss rem & erection.

Location No.	5-03		
Structure No.	5 C 057 S009 L019.60		
County / Route	MCLEAN CO. - IL 9 WB - East of Veterans Parkway		
Scope of Work	This overhead cantilever is being replaced on a new drilled shaft foundation.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	0.34
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1.00
72000300	SIGN PANEL - TYPE 3	SQFT	148.50
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	183.75
73301840	OVERHEAD SIGN STRUCTURE WALKWAY, CANTILEVER, TYPE A	FOOT	26.50
73302210	OVERHEAD SIGN STRUCTURE - CANTILEVER, TYPE III-C-A (36" X 7'-0")	FOOT	37.00
73400200	DRILLED SHAFT CONCRETE FOUNDATIONS	CUYD	12.50
73600200	REMOVE OVERHEAD SIGN STRUCTURE - CANTILEVER	EACH	1.00
73700300	REMOVE CONCRETE FOUNDATION - OVERHEAD	EACH	1.00
84500120	REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1.00
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	9.00
Z0013798	CONSTRUCTION LAYOUT	L SUM	0.25

CMS = 2 days adv notice of fdn const + 2 days fdn const + 2 days adv notice of truss rem & erection + 3 days truss rem & erection.
 Removal of Electric Service Installation - the photo cell box is to be salvaged for IDOT and returned to Kevin Cook in Operations.

Location No.	5-04		
Structure No.	5 B 074 I072 R165.97		
County / Route	PIATT CO. - I-72 EB under IL 105 / Market St. - Bridge # 074-0071		
Scope of Work	This bridge mounted truss is to be removed & replaced with a breakaway ground mount.		
CODE NUMBER	PAY ITEM	UNIT	QUANTITY
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1.00
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1.00
72000300	SIGN PANEL - TYPE 3	SQFT	155.00
72400330	REMOVE SIGN PANEL - TYPE 3	SQFT	140.00
72700100	STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY	POUND	1085.50
73400100	CONCRETE FOUNDATIONS	CUYD	2.54
73602000	REMOVE OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	EACH	1.00
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	6.00
X8040310	ELECTRICAL SERVICE DISCONNECT	EACH	1.00
Z0013798	CONSTRUCTION LAYOUT	L SUM	0.25

Pay Item for CMS is for the advanced interstate notice only - 3 days prior to fdn const & 3 days prior to truss removal and sign erection.
 CMS shown on Standards are included in the cost of the Standard.
 Electric Service Disconnect shall also include removal of all conduit and attachment clamps along the fascia beam.

SCHEDULE OF QUANTITIES

84500120 - REMOVAL OF ELECTRIC SERVICE INSTALLATION

LOCATION NO.	STRUCTURE NO.	UNIT	QUANTITY	DESCRIPTION
5-03	5 C 057 S009 L019.60	EACH	1.0	Cantilever Truss L019.60 is to have the electric service completely removed. The electric service to be removed is just NW of the sign truss on a wood pole. Work shall be completed in accordance with Section 845 of the Standard Specifications including removal of the wood pole, electric box, and photo-cell box. The photo-cell box is to be salvaged for IDOT. The box is to be given to the Resident Engineer and returned to Kevin Cook in Operations. All other items including the cable between the truss and service pole are to become the property of the Contractor for disposal or salvage.

X8040310 - ELECTRIC SERVICE DISCONNECT

LOCATION NO.	STRUCTURE NO.	UNIT	QUANTITY	DESCRIPTION
5-01	5 C 057 S009 R019.20	EACH	1.0	Lighting for Cantilever Truss # R019.20 is the end of run stubbed from the Tower Light Mast to the NW across IL 9 in the NW quadrant of IL 9 and Veterans Parkway. A view inside the Tower Light access door shows cable to the sign truss labeled with a tag. Cables in the unit duct may become property of the Contractor for salvage.
5-02	5 C 057 S009 L019.30	EACH	1.0	Lighting for Cantilever Truss # L019.30 is the end of run stubbed from the nearby Tower Light Mast just West of the truss in the NE quadrant of IL 9 and Veterans Parkway. Cables in the unit duct may become property of the Contractor for salvage.
5-04	5 B 074 I072 R165.97	EACH	1.0	Bridge Mount Truss lighting # 37/601 is end of run stubbed from the junction box on the SW corner of bridge 074-0071. The junction box also services the electrical connection of the highway lighting from the West side of the bridge (light # 37/108) to the East side of the bridge (light # 37/110). Use the junction box to reconnect the electrical circuit and to maintain operation of the existing highway lighting. Conduit and attachment clamps along the fascia beam of the bridge from the Bridge Mount Truss to the main line conduit at the abutment shall be removed. Cable in the conduit from the junction box to Bridge Mount Truss shall be removed and become property of the Contractor for salvage.

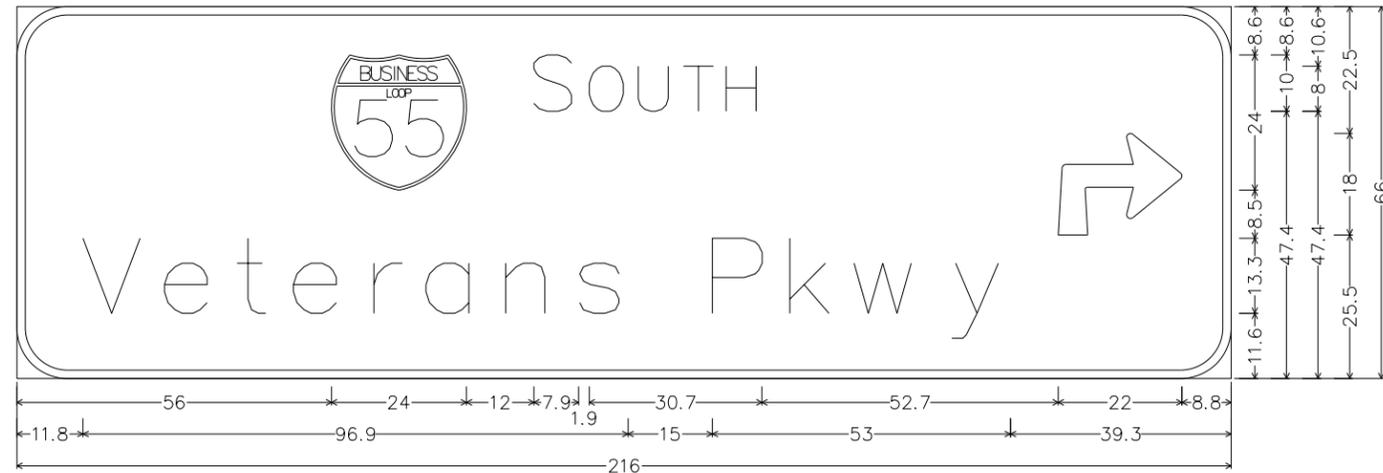
See Special Provision - "ELECTRIC SERVICE DISCONNECT" for additional details.

The information provided in this chart and the electrical shown on the plans sheets 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.

FILE NAME :	USER NAME : pieronbr	DESIGNED - JAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCHEDULE OF QUANTITIES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 11/20/2014	DATE - 04/26/11	REVISIONS	SHEET NO. 3 OF 3 SHEETS			STA.	TO STA.			

**MCLEAN & PIATT

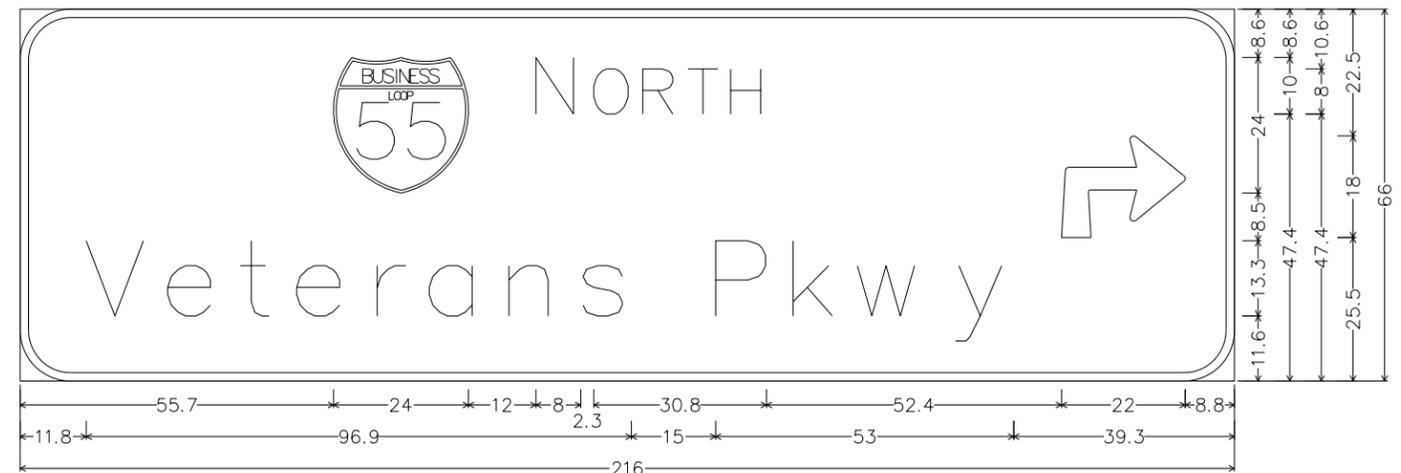
5-01
5 C 057 S009 R019.20 EB



9.0" Radius, 1.5" Border, White on Green;
[SOUTH] E Mod; [Veterans Pkwy] ClearviewHwy-5-W; 90 Deg Advanced Turn Arrow 22.0" X 18.0";
Table of letter and object lefts.

S	O	U	T	H	↗						
56.0	92.0	101.8	110.5	118.6	126.2						
V	e	t	e	r	a	n	s	P	k	w	y
11.8	26.2	39.2	49.2	63.5	72.8	86.9	100.1	123.7	137.5	148.9	166.3

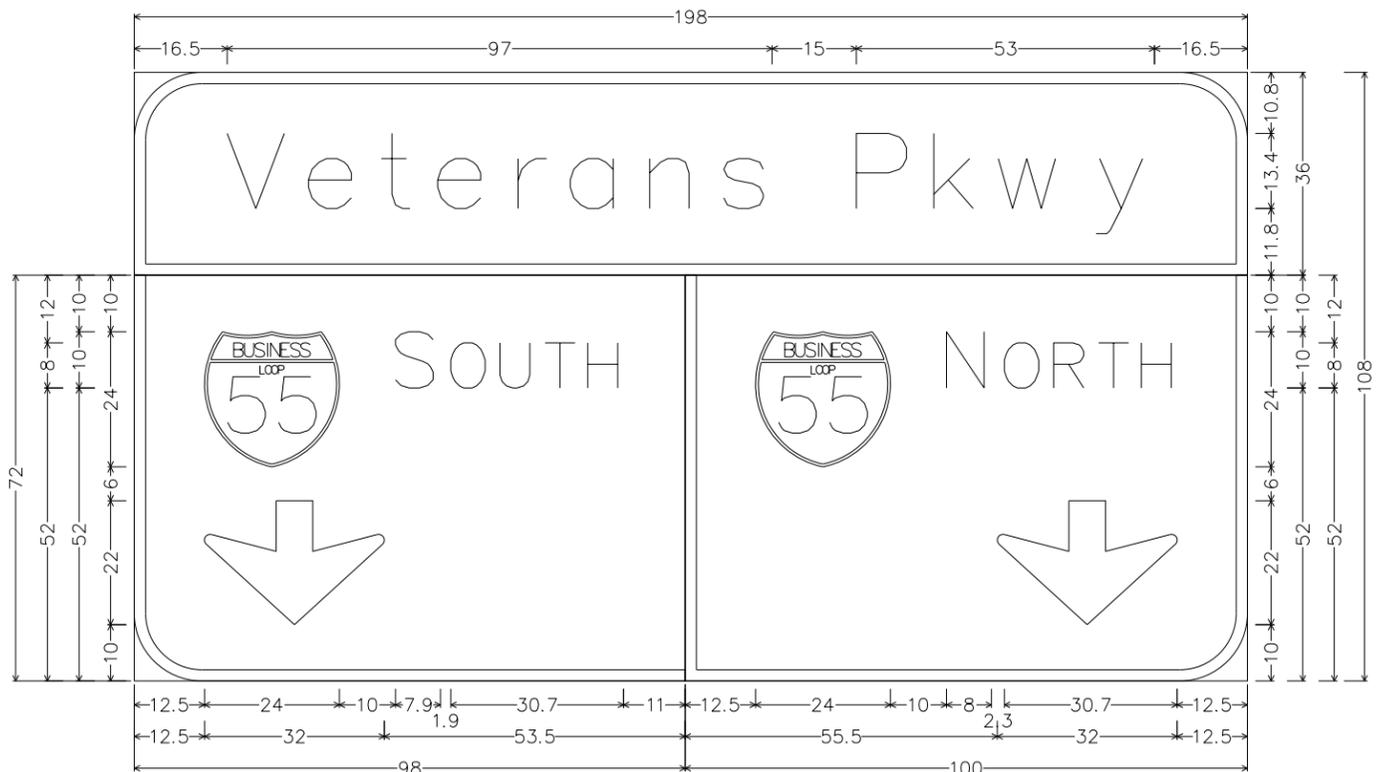
5-02
5 C 057 S009 L019.30 WB



9.0" Radius, 1.5" Border, White on Green;
[NORTH] E Mod; [Veterans Pkwy] ClearviewHwy-5-W; 90 Deg Advanced Turn Arrow 22.0" X 18.0";
Table of letter and object lefts.

N	O	R	T	H	↗						
55.7	91.7	102.0	110.8	118.8	126.4						
V	e	t	e	r	a	n	s	P	k	w	y
11.8	26.2	39.2	49.2	63.5	72.8	86.9	100.1	123.7	137.5	148.9	166.3

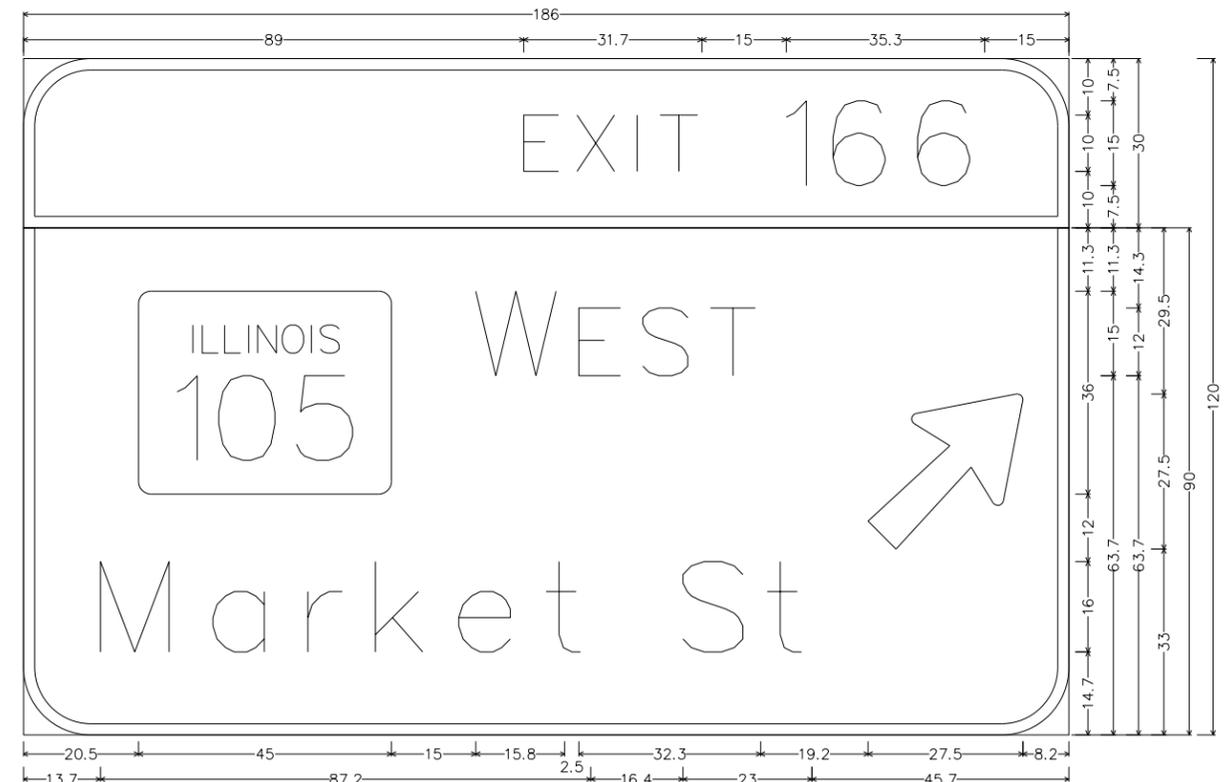
5-03
5 C 057 S009 L019.60 WB



12.0" Radius, 2.0" Border, White on Green;
[Veterans Pkwy] ClearviewHwy-5-W;
12.0" Radius, 2.0" Border, White on Green;
[SOUTH] E Mod; Down Arrow 22.0" 270;
12.0" Radius, 2.0" Border, White on Green;
[NORTH] E Mod; Down Arrow 22.0" 270;
Table of letter and object lefts.

V	e	t	e	r	a	n	s	P	k	w	y
16.5	31.0	43.9	54.0	68.3	77.5	91.7	104.9	128.5	142.2	153.7	171.1
S	O	U	T	H							
12.5	46.5	56.3	65.0	73.1							
N	O	R	T	H							
110.5	144.5	154.8	163.5	171.5							

5-04
5 B 074 I072 R165.97



12.0" Radius, 2.0" Border, White on Green;
[EXIT 166] E Mod;
12.0" Radius, 2.0" Border, White on Green;
[W EST] E Mod [] ClearviewHwy-5-W; [Market St] ClearviewHwy-5-W; Arrow 160 - 35.0" 45;
Table of letter and object lefts.

E	X	I	T	1	6	6	
89.0	98.5	109.2	113.3	135.7	144.0	159.0	
W	E	S	T				
20.5	80.5	98.8	110.2				
M	a	r	k	e	t	S	t
13.7	33.7	50.6	62.6	77.4	93.0	117.3	132.3

FILE NAME =	USER NAME = piersonbr	DESIGNED -	REVISED -
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	PLOT DATE = 11/20/2014	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

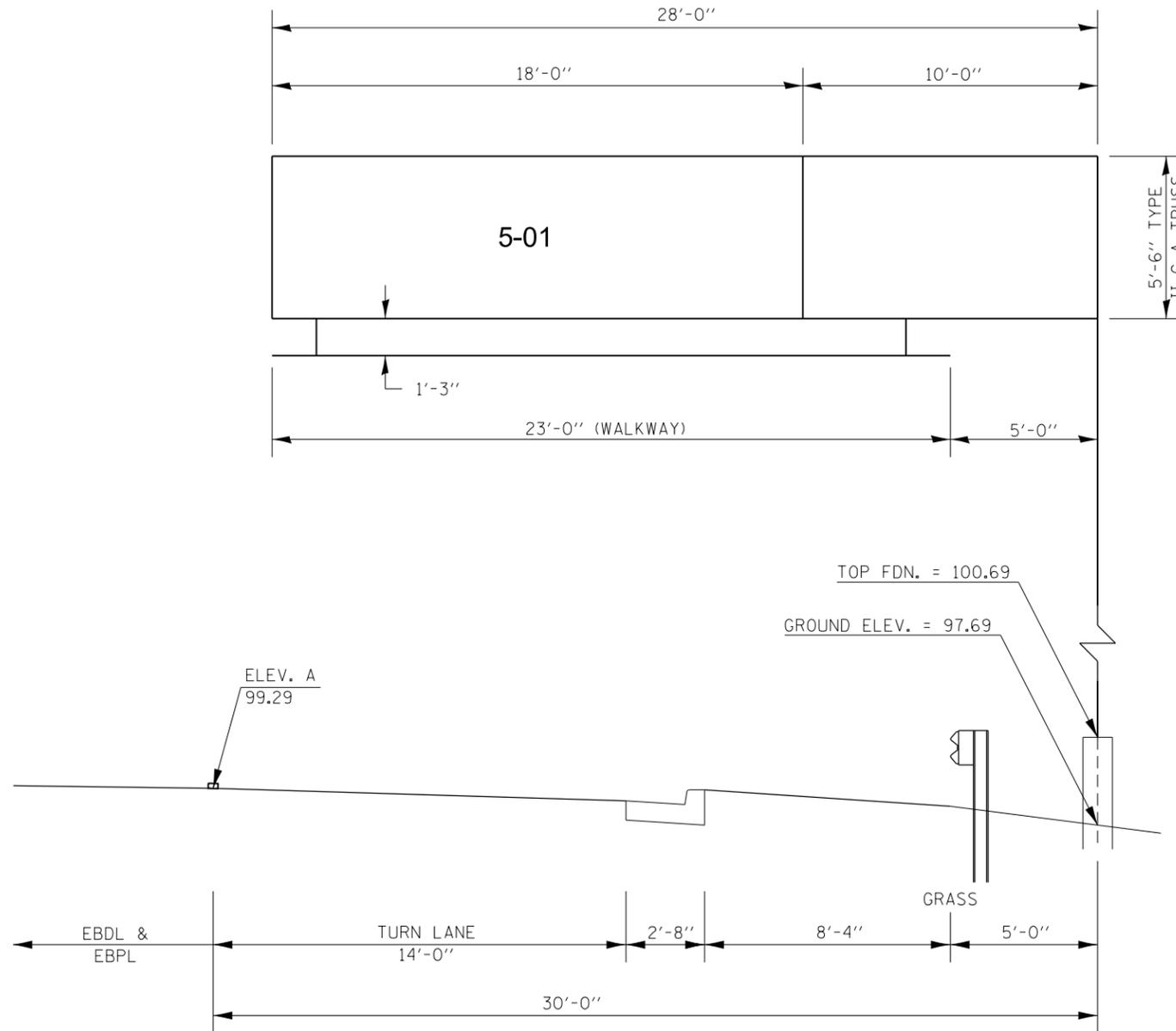
SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	.	**	22	6
*D-5 OVD SIN STR REPL 2015-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				

**MCLEAN & PIATT

SIGN TRUSS MOUNTING DETAIL

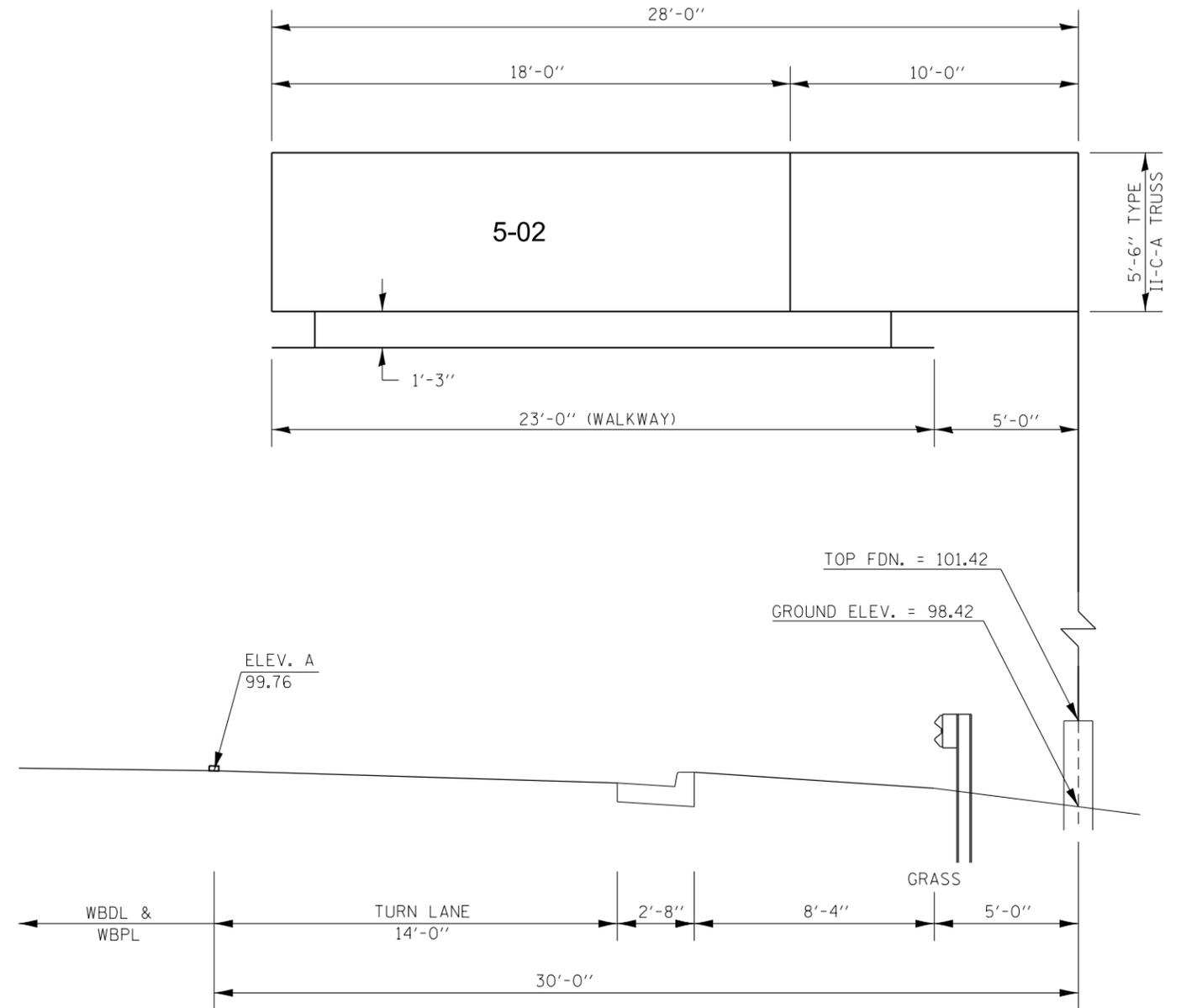
5 C 057 S009 R019.20



TEMP. BENCHMARK = CHIS. "X" ON N. ANCHOR BOLT = 101.83 (FROM 1974 PLANS)

SIGN TRUSS MOUNTING DETAIL

5 C 057 S009 L019.30



TEMP. BENCHMARK = CHIS. "X" ON N. ANCHOR BOLT = 100.77 (FROM 1974 PLANS)

FILE NAME =	USER NAME = piersonbr	DESIGNED - JAL	REVISED -
p:\11\084EBIDINTEG.illinois.gov\PI\DOT\Documents\DOT Offices\District 5\Projects\0546339\Design\0546339-shr-details.dwg		DRAWN	REVISED -
Default	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 11/20/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SIGN TRUSS MOUNTING DETAILS

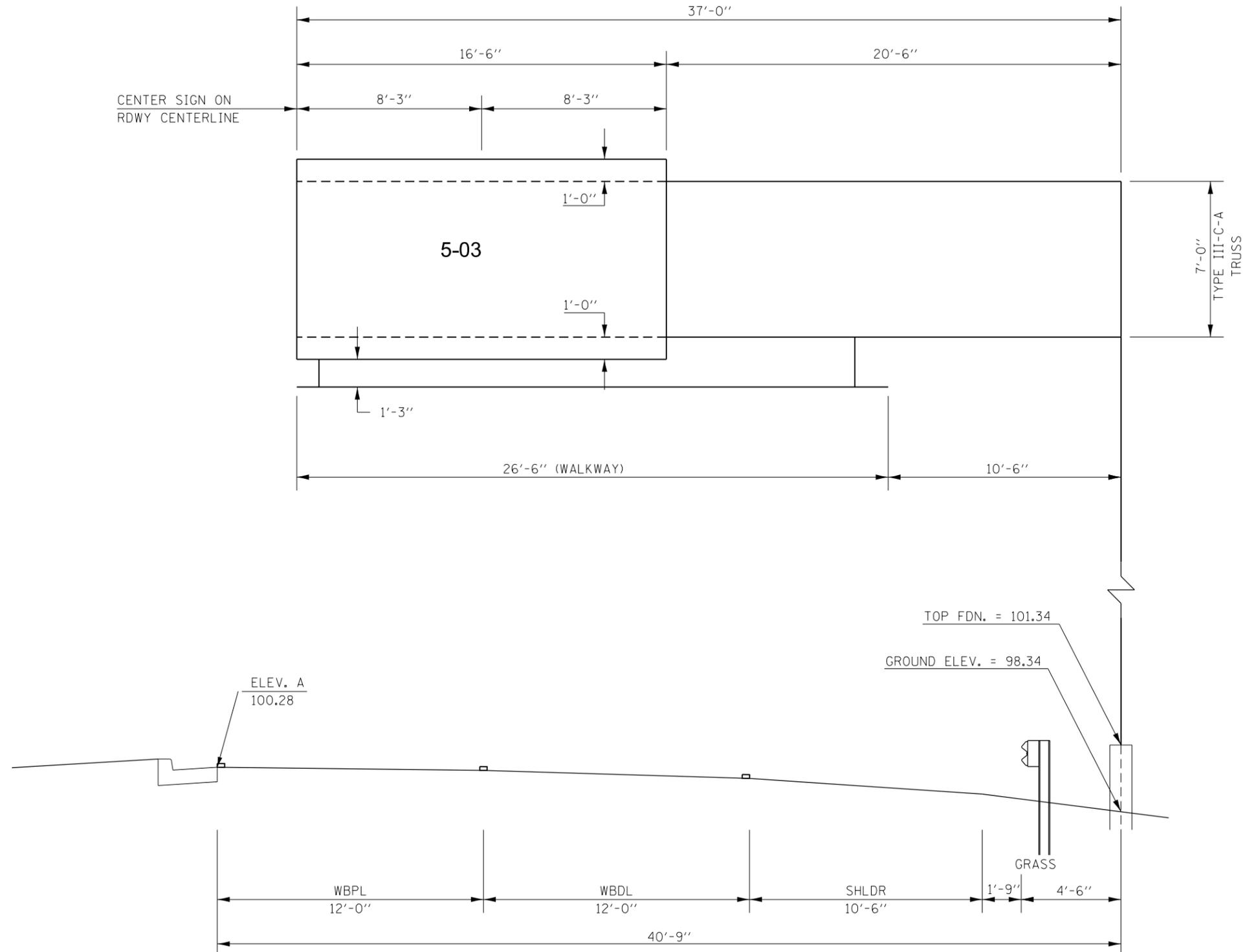
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F.A. RTE.		SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.		.	**	22	7
*D-5 OVD SIN STR REPL 2014-12				CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT					

••MCLEAN & PIATT

SIGN TRUSS MOUNTING DETAIL

5 C 057 S009 L019.60



TEMP. BENCHMARK = CHIS. "X" ON N. ANCHOR BOLT = 101.65 (FROM 1974 PLANS)

FILE NAME =	USER NAME = piersonbr	DESIGNED - JAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGN TRUSS MOUNTING DETAILS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\IL\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 5\Projects\0546339\Design\0546339-shd-details.dwg		DRAWN	REVISED -						22	8
Default	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -		SCALE: NONE	SHEET 2	OF 2	SHEETS	STA.	TO STA.
	PLOT DATE = 11/20/2014	DATE -	REVISED -							
								CONTRACT NO. 46339		ILLINOIS FED. AID PROJECT

**MCLEAN & PIATT

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 ASTM F1554 Gr. 105.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Concrete 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.

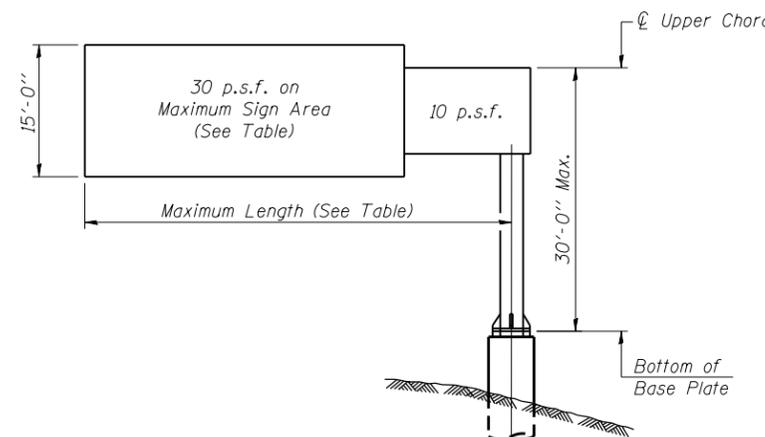
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE I-C-A	Foot	
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE II-C-A	Foot	56.0
OVERHEAD SIGN STRUCTURE CANTILEVER TYPE III-C-A	Foot	37.0
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	Foot	72.5
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds.	30.5

Structure Number	Station	Design Truss Type	Cantilever Length (L)	Elev. A	Dim. D	D _s	Total Sign Area
5 C 057 S009 R019.20	160+93	II-C-A	28'-0"	99.29	**	5'-6"	99.0
5 C 057 S009 L019.30	166+65	II-C-A	28'-0"	99.76	**	5'-6"	99.0
5 C 057 S009 L019.60	182+10	III-C-A	37'-0"	100.28	**	9'-0"	148.5

- ** SEE SIGN TRUSS MOUNTING DETAILS
- *** SUPPORT POST HEIGHTS BASED ON 15'-0" SIGN HEIGHT PER OSC-A-5

Truss Type	Maximum Sign Area	Maximum Length
I-C-A	170 Sq. Ft.	25 Ft.
II-C-A	340 Sq. Ft.	30 Ft.
III-C-A	400 Sq. Ft.	40 Ft.



DESIGN WIND LOADING DIAGRAM

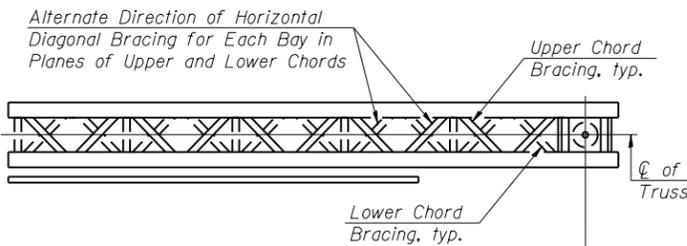
Parameters shown are basis for I.D.O.T. Standards. Installations not within dimensional limits shown require special analysis for all components.

Note:

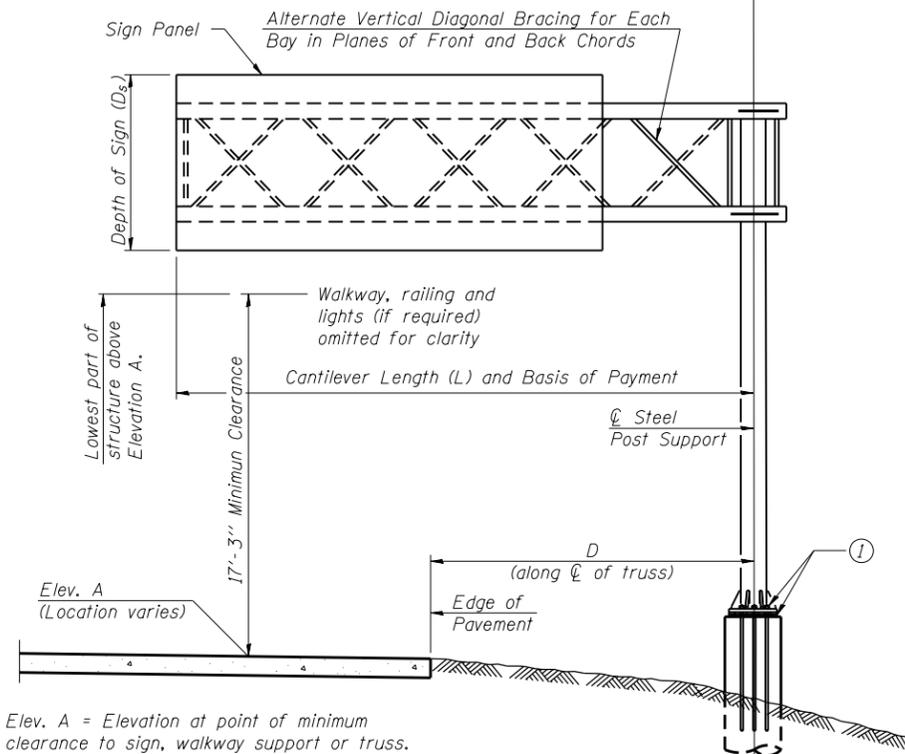
Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of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

- ① After adjustments to level truss and insure adequate vertical clearance, all top and leveling nuts shall be tightened against the base plate with a minimum torque of 200 lb.-ft. Stainless steel mesh shall then be placed around the perimeter of the base plate. Secure to base plate with stainless steel banding.

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



TYPICAL PLAN
(Walkway not shown)



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

TYPICAL ELEVATION

Looking in Direction of Traffic

Sign support structures may be subject to damaging vibrations and oscillations when sign panels are not in place during erection or maintenance of the structure. To avoid these vibrations and oscillations, consideration should be given to attaching temporary blank sign panels to the structure.

OSC-A-1

8-21-13

**MCLEAN & PIATT

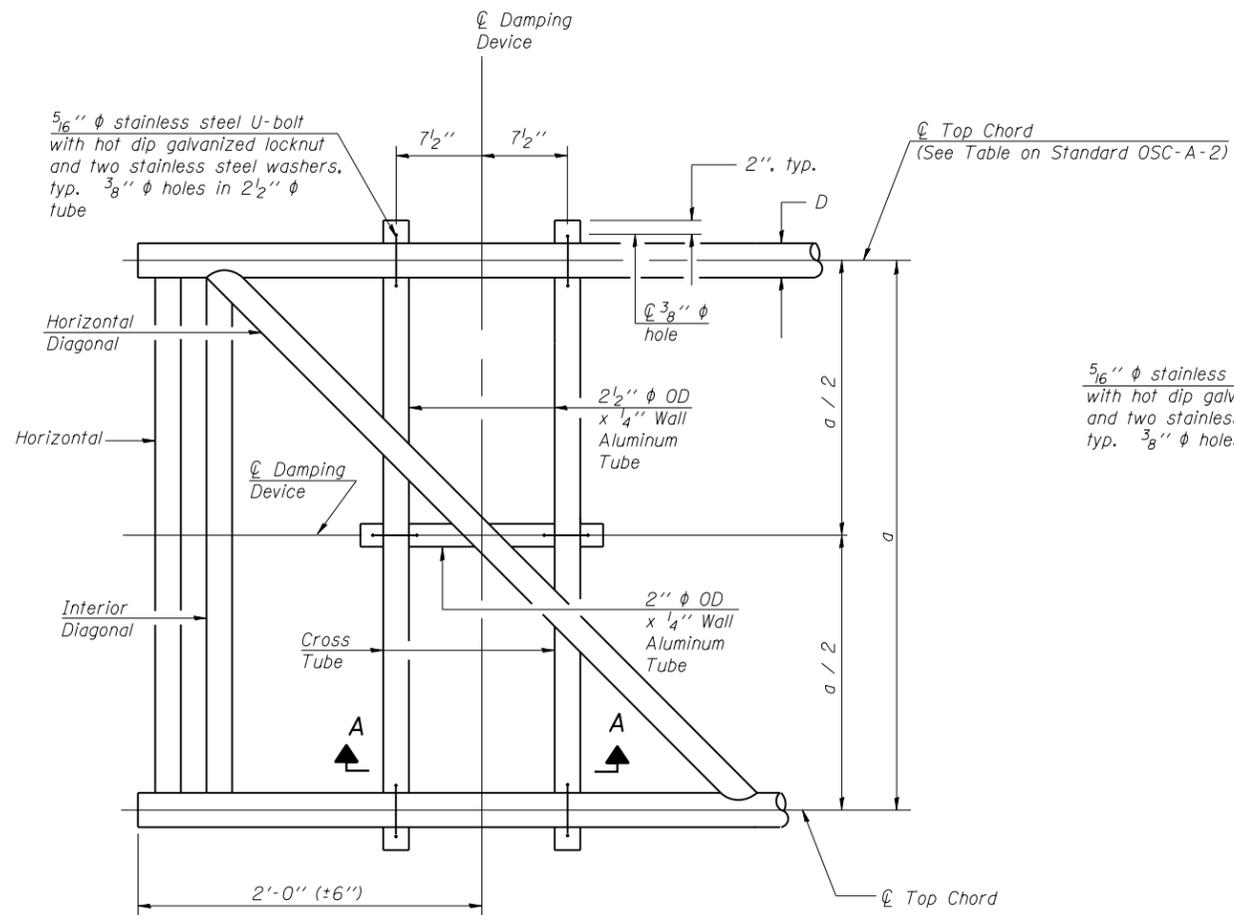
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Default	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 11/20/2014	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

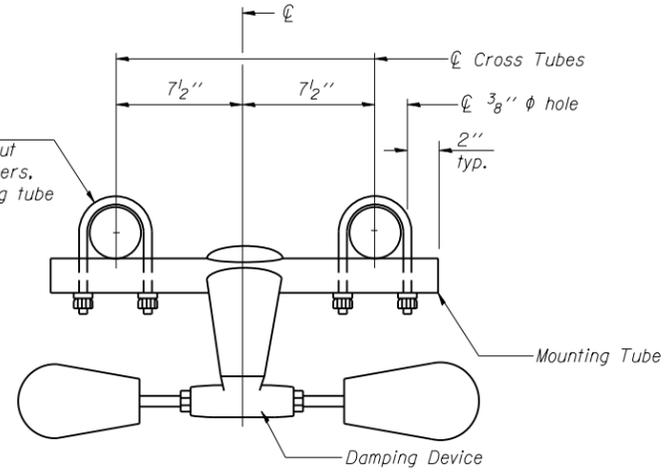
CANTILEVER SIGN STRUCTURES - GENERAL PLAN & ELEVATION
ALUMINUM TRUSS & STEEL POST

SCALE: SHEET 1 OF 9 SHEETS STA. TO STA.

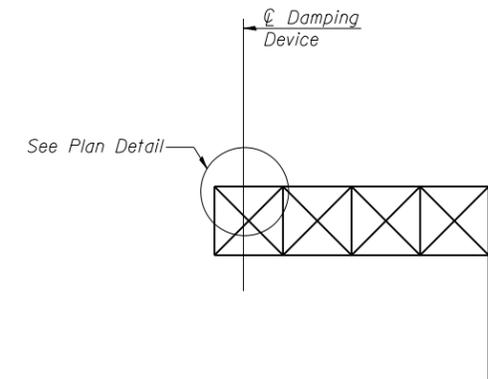
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	.	**	22	9
*D-5 OVD SIN STR REPL 2014-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				



PLAN DETAIL



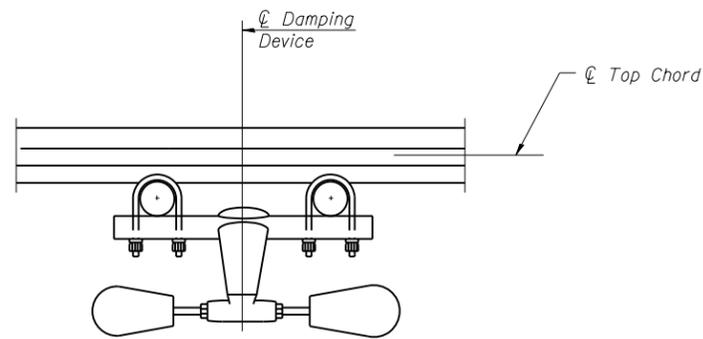
TRUSS DAMPING DEVICE CONNECTION DETAIL



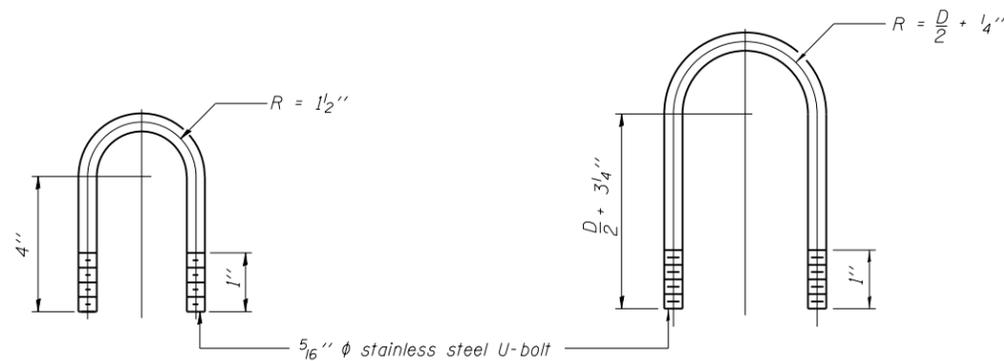
ELEVATION
Aluminum Cantilever Sign Structure

GENERAL NOTES

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



SECTION A-A



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL
(Typical)

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

OSC-A-D

6-1-12

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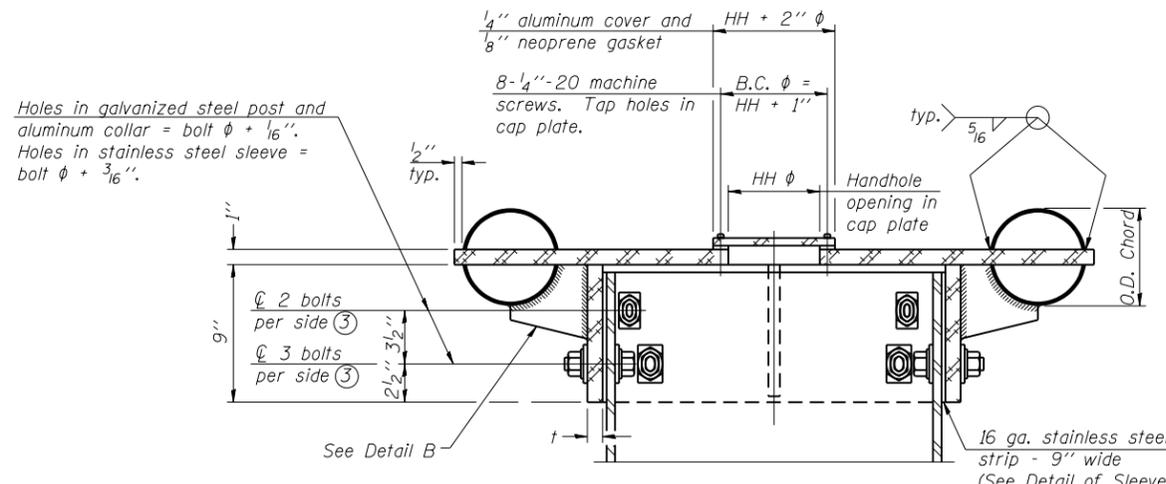
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	PLOT DATE = 11/20/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CANTILEVER SIGN STRUCTURE
DAMPING DEVICE**

SCALE: SHEET 3 OF 9 SHEETS STA. TO STA.

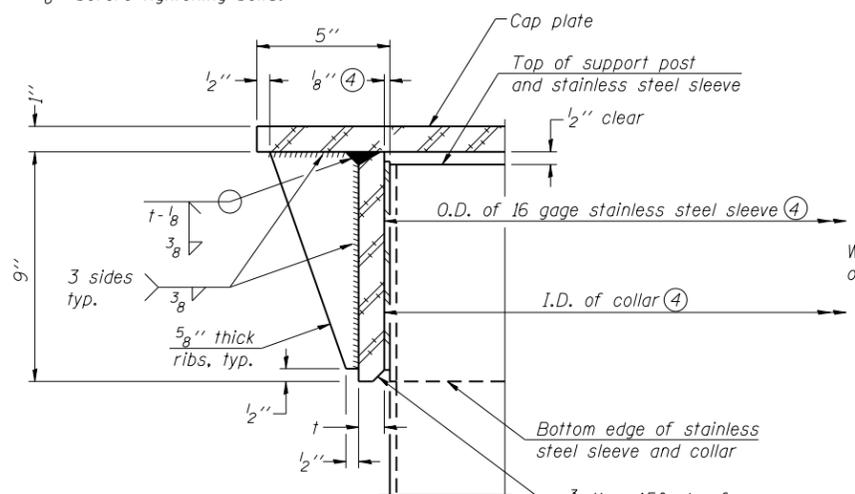
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•D-5 OVD SIN STR REPL 2014-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				



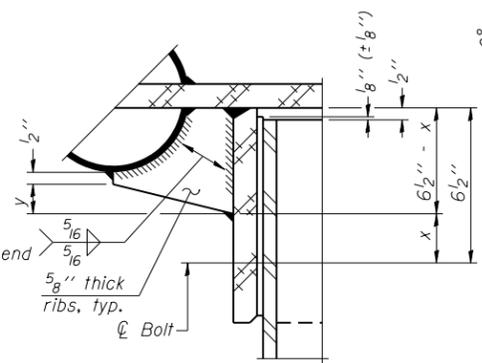
④ Collar I.D. shall be manufactured to correspond to O.D. of actual galvanized post and stainless steel sleeve plus 1/8" (+1/16"). Maximum gap between post and collar at any location equals 1/8" before tightening bolts.

SECTION B-B

Bolts, washers (including contoured washers), and locknuts shall be stainless steel.

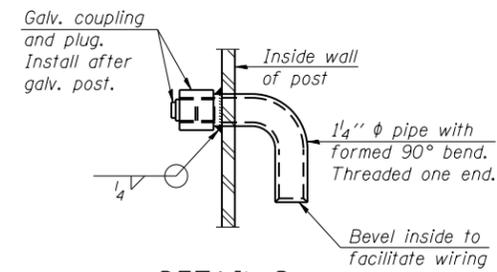


DETAIL A
(Two locations)

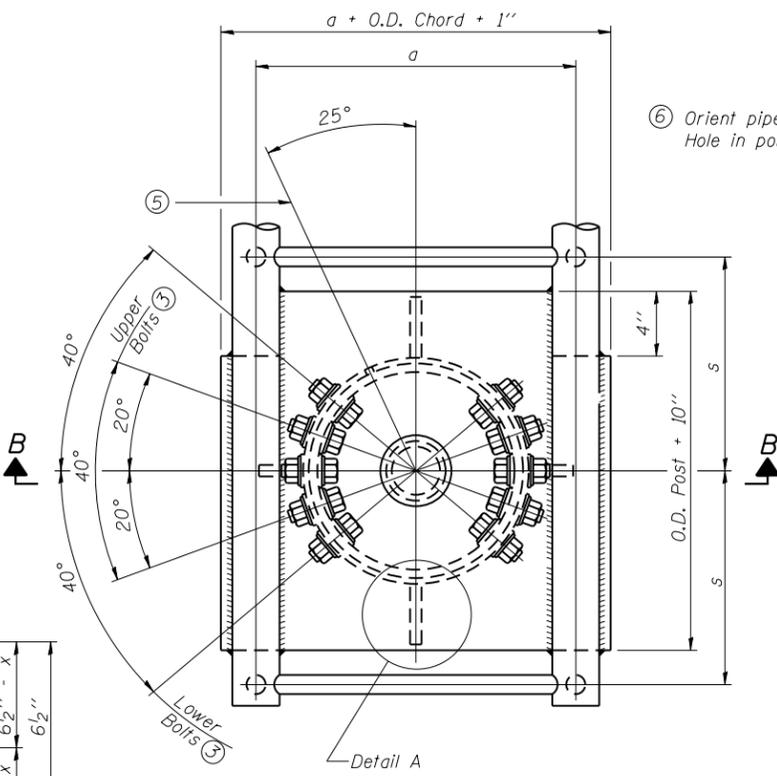


DETAIL B

Two locations (For details not shown, see Detail C)

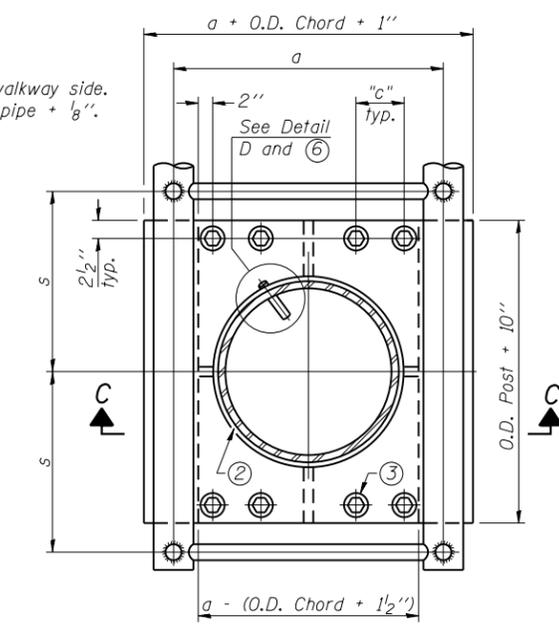


DETAIL D



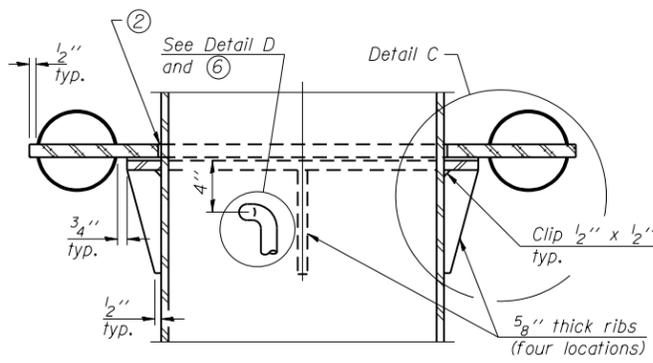
PLAN VIEW - TOP OF COLUMN

⑤ Optional full penetration weld in collar. (Two locations maximum....(180 degree apart)....X-ray or UT 100%)

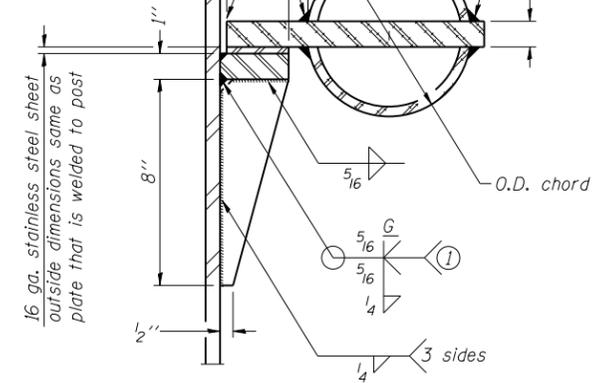


SECTION THRU POST ABOVE LOWER CHORDS

Hole in aluminum plate (and 16 ga. stnl. stl. sheet) to be O.D. post + 1/2"



SECTION C-C



DETAIL C

CONTOURED WASHERS

Bolt Size	Contoured Washers	
	Hole Dia.	B
7/8"	1"	2 1/2"
1"	1 1/8"	3"
1 1/4"	1 3/8"	3 1/4"

DETAIL OF STAINLESS STEEL SLEEVE

Weld to post after galvanizing. (Prepare post surface to insure tight, uniform fit and allow welding.) Welds to be 1/2" long at 6" cts. along top edge and at 1/4" opening.

Truss Type	Post Size	Upper & Lower Connection Bolt Diameter ③	Lower Juncture Bolt Spacing Dimension "c" ③	Opening in Cap Plate "HH"	Collar Thickness (t)	Side Ribs	
						x	y
I-C-A	16" phi (83#/')	7/8"	3 1/4"	8"	5/8"	1 3/4"	2 1/4"
II-C-A	24" phi (125#/')	1"	3 1/2"	12"	7/8"	2"	1 1/4"
III-C-A (35' max.)	24" phi (125#/')	1 1/4"	3 1/2"	12"	7/8"	2"	1"
III-C-A (>35' to 40')	24" phi (171#/')	1 1/4"	3 1/2"	12"	7/8"	2"	1"

- ① Grind top if required to fully seat aluminum plate and stainless steel sheet.
- ② After tightening lower connection bolts, fill gap with non-hardening, silicone caulk suitable for exterior exposure and acceptable to the Engineer. Cost is included in Overhead Sign Structure Cantilever.
- ③ Upper and lower connection bolts in collar and bolts at lower chord connection shall be high strength with matching locknuts. Connection bolts shall have 2 stainless steel flat washers each.

OSC-A-3

6-1-12

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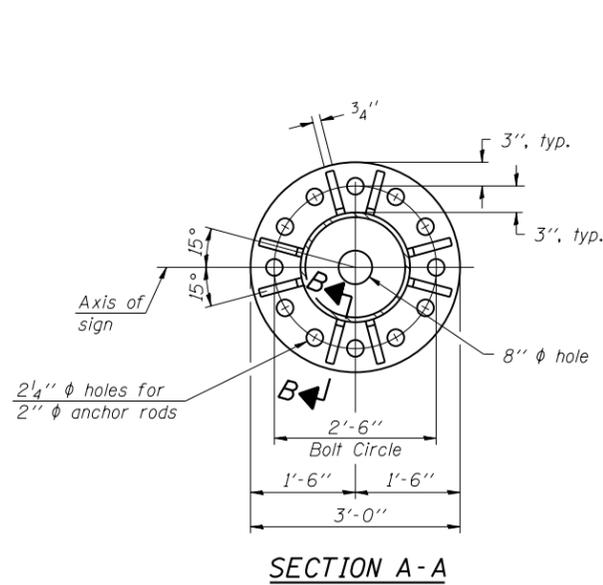
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - JUNCTURE DETAILS
ALUMINUM TRUSS & STEEL POST

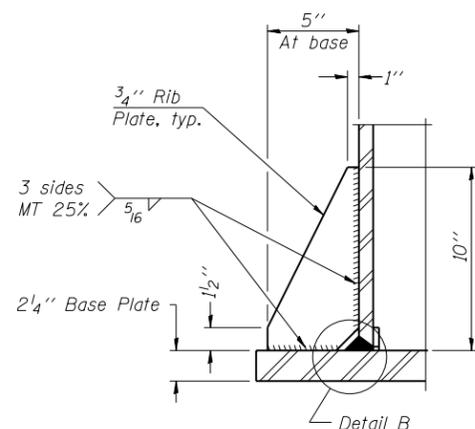
SCALE: SHEET 4 OF 9 SHEETS STA. TO STA.

F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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•D-5 OVD SIN STR REPL 2014-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				

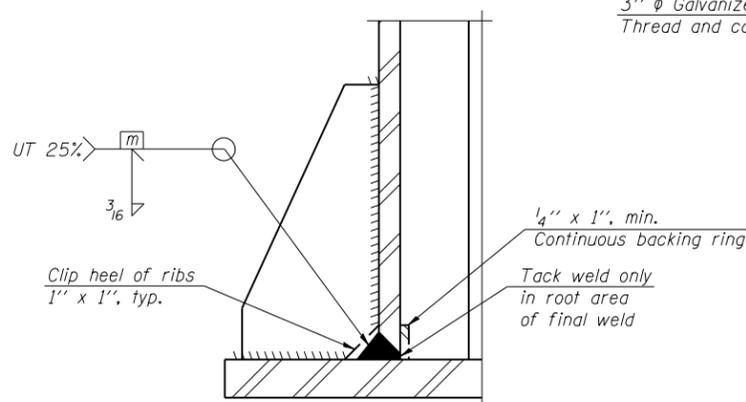
••MCLEAN & PIATT



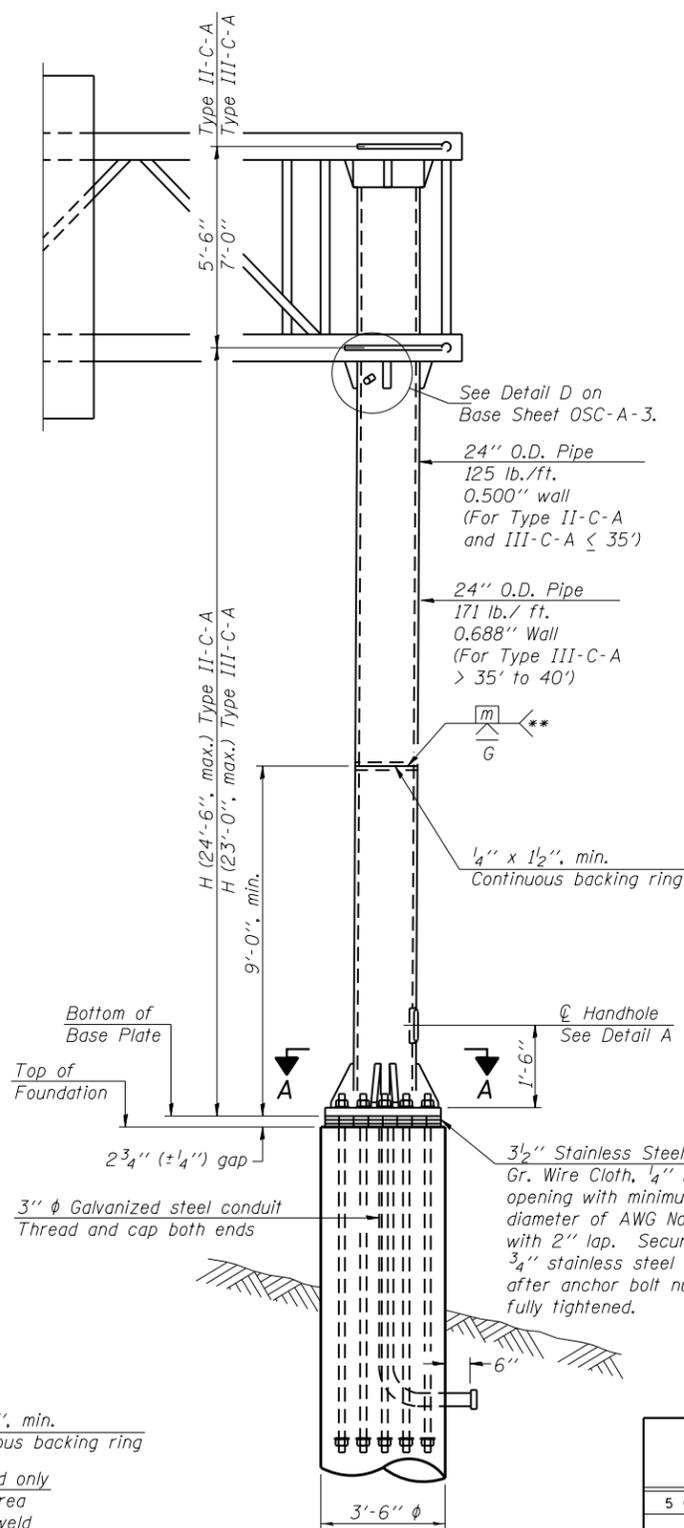
SECTION A-A



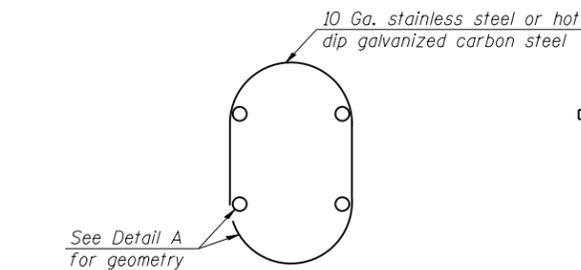
SECTION B-B



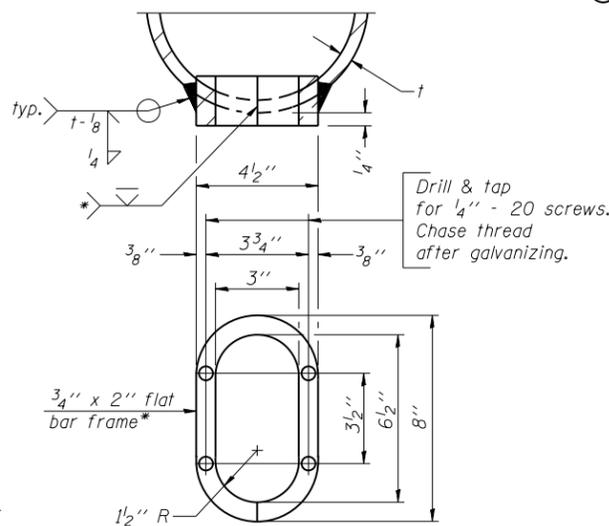
DETAIL B
(Typical rib)



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



HANDHOLE COVER



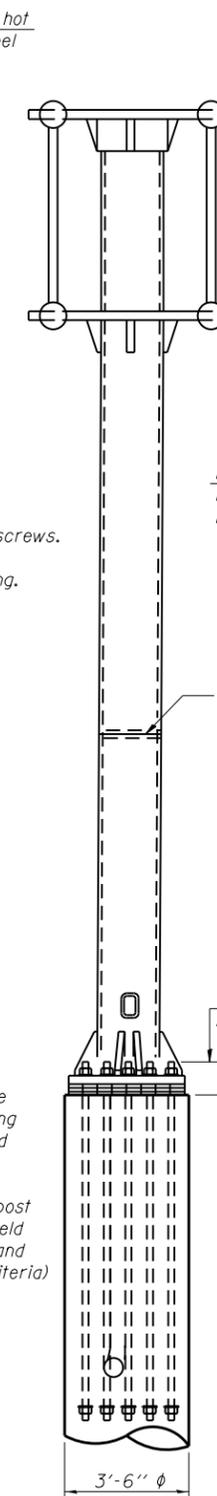
DETAIL A

* Bent bars may be butt welded top and bottom or bottom only. In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 μ in or less.

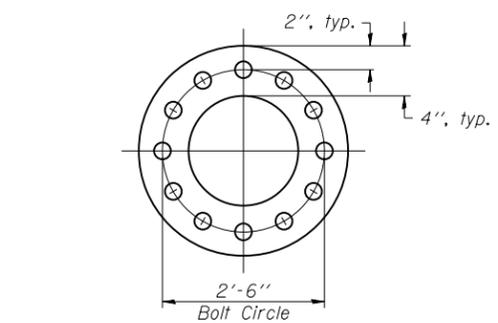
** Butt welded joint in post is only allowed for post heights (H) over 20 ft. in length. If used, weld procedure must be preapproved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Structure Number	Station	H
5 C 057 S009 R019.20	160+93	21'-0"
5 C 057 S009 L019.30	166+65	20'-9"
5 C 057 S009 L019.60	182+10	22'-0"

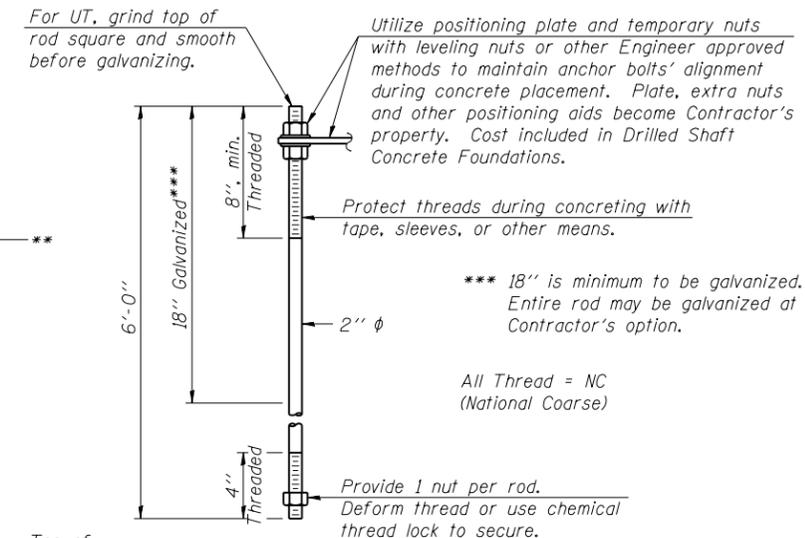
Note: "H" based on 15'-0" or actual sign height, whichever is greater.



SIDE ELEVATION



SUGGESTED POSITIONING PLATE



ANCHOR ROD DETAIL

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

OSC-A-5

6-1-12

FILE NAME	USER NAME	DESIGNED	REVISED
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		CHECKED	REVISIED
		DATE	REVISIED

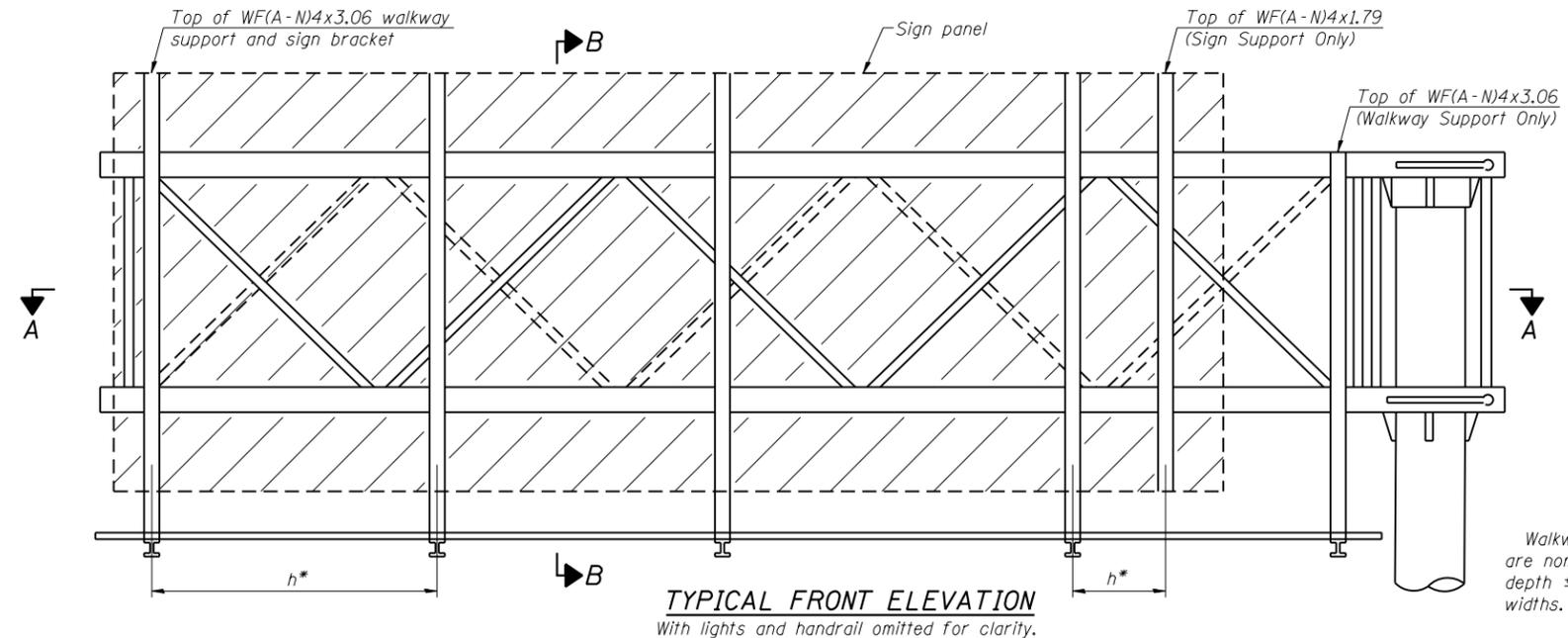
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

SCALE: SHEET 5 OF 9 SHEETS STA. TO STA.

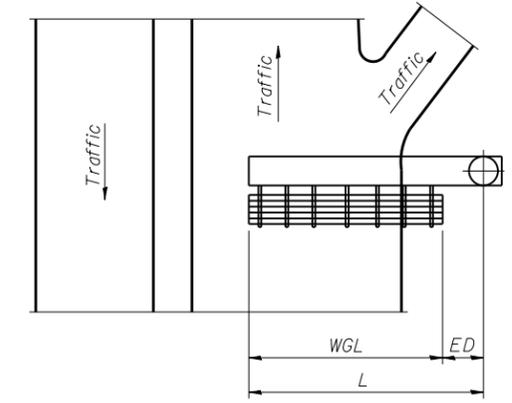
F.A. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			22	13
*D-5 OVD SIN STR REPL 2014-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				

••MCLEAN & PIATT

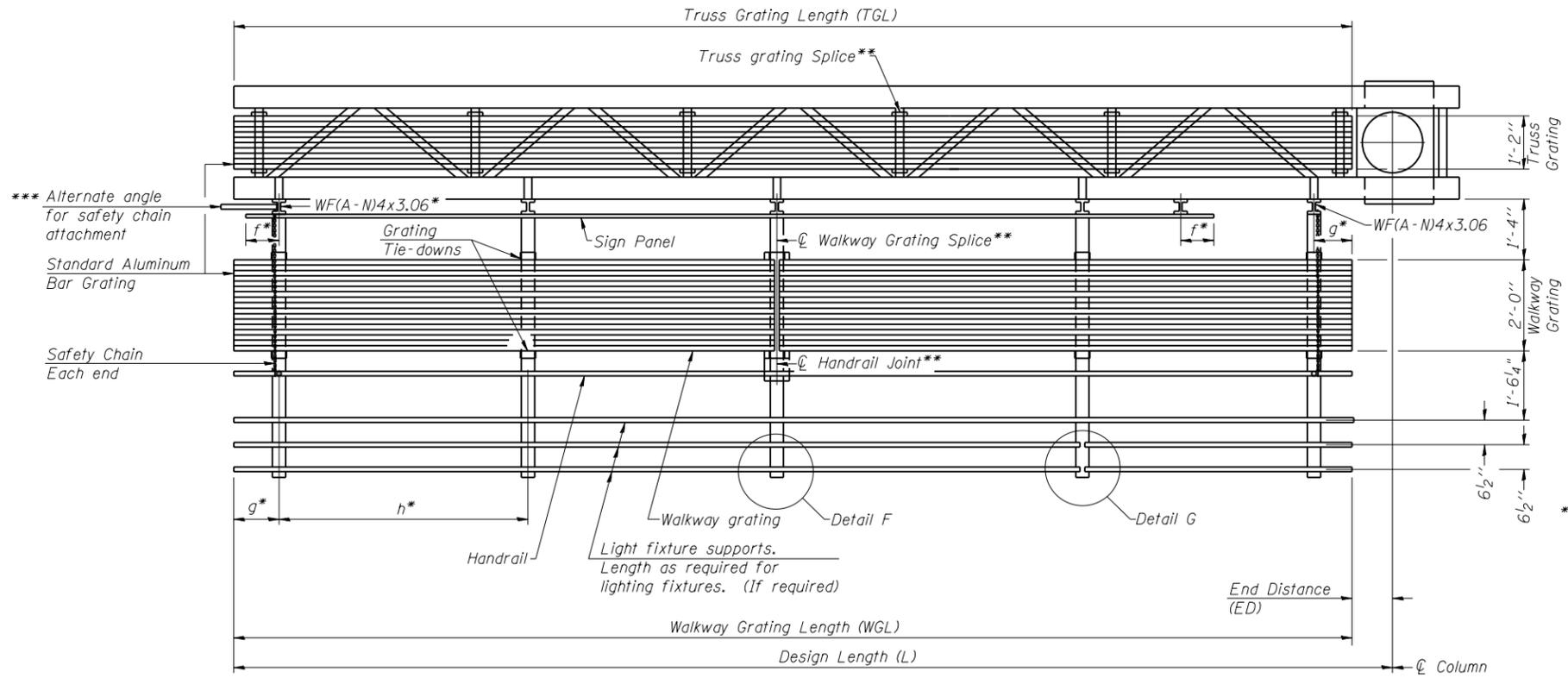


TYPICAL FRONT ELEVATION
With lights and handrail omitted for clarity.

Walkway and truss grating dimensions are nominal and may vary (width ±½", depth ±½") based on available standard widths.



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



SECTION A-A

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

Handrail and walkway grating shall span a minimum of three brackets between splices.
** Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

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

Structure Number	Station	WGL	ED	TGL
5 C 057 S009 R019.20	160+93	23'-0"	5'-0"	26'-6"
5 C 057 S009 L019.30	166+65	23'-0"	5'-0"	26'-6"
5 C 057 S009 L019.60	182+10	26'-6"	10'-6"	35'-6"

Notes:
* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)
g = 12" maximum, 4" minimum (End of walkway to center of nearest bracket)
h = 6'-0" maximum (center to center sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
*** If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-A-8.

For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-A-7.
For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-A-8.

BRACKET TABLE

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

OSC-A-6

6-1-12

FILE NAME =	USER NAME = piersonbr	DESIGNED -	REVISED -
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Default	PLOT DATE = 11/20/2014	CHECKED -	REVISED -
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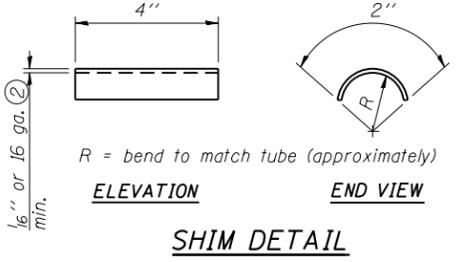
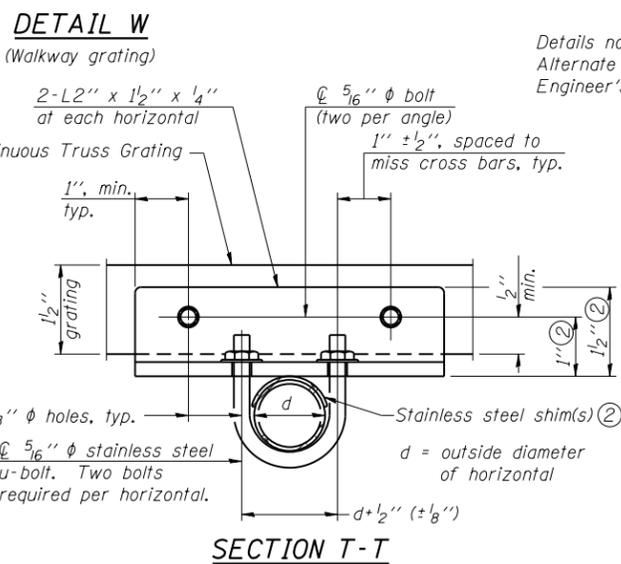
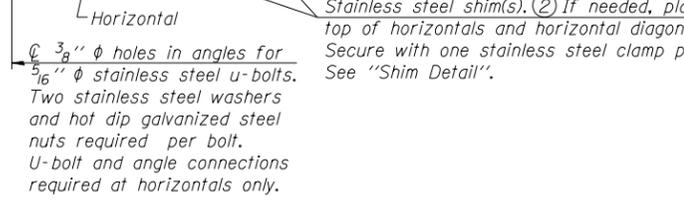
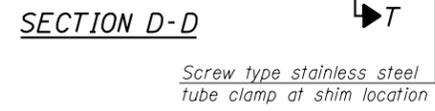
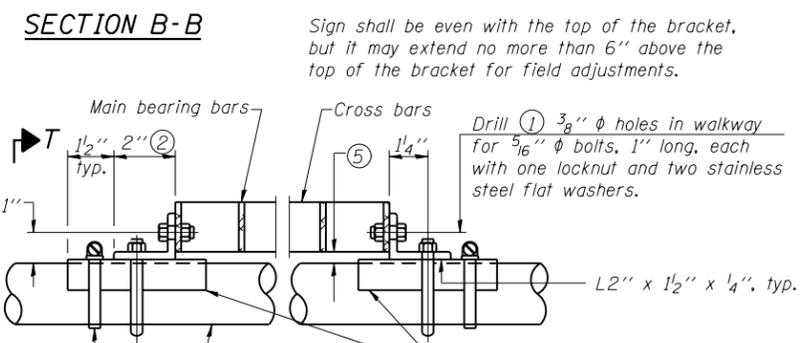
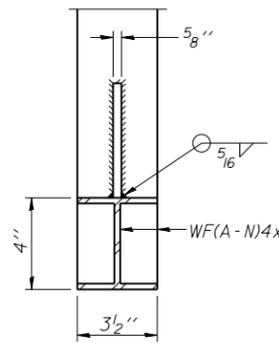
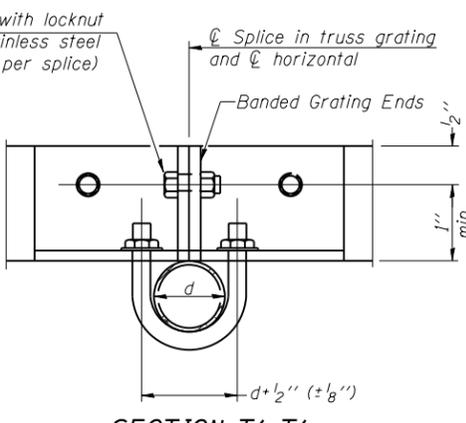
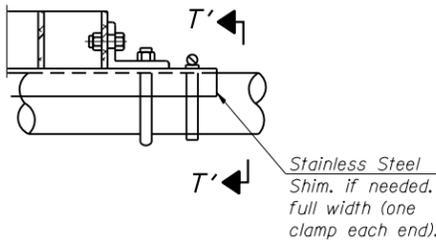
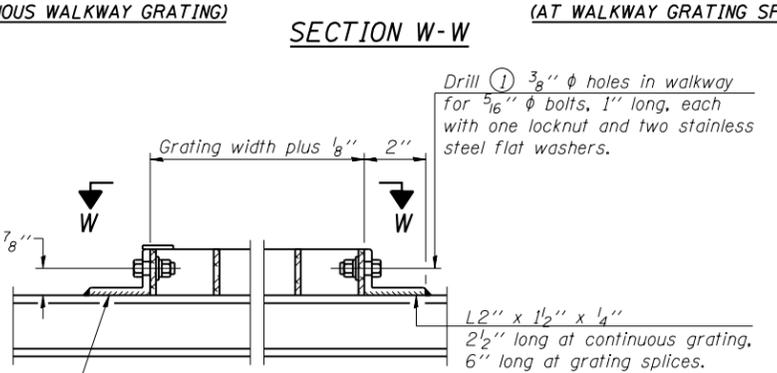
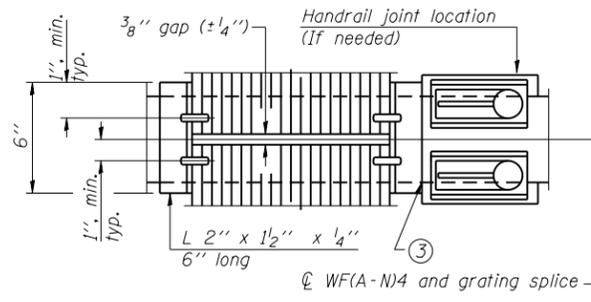
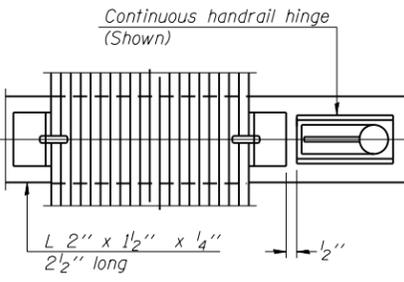
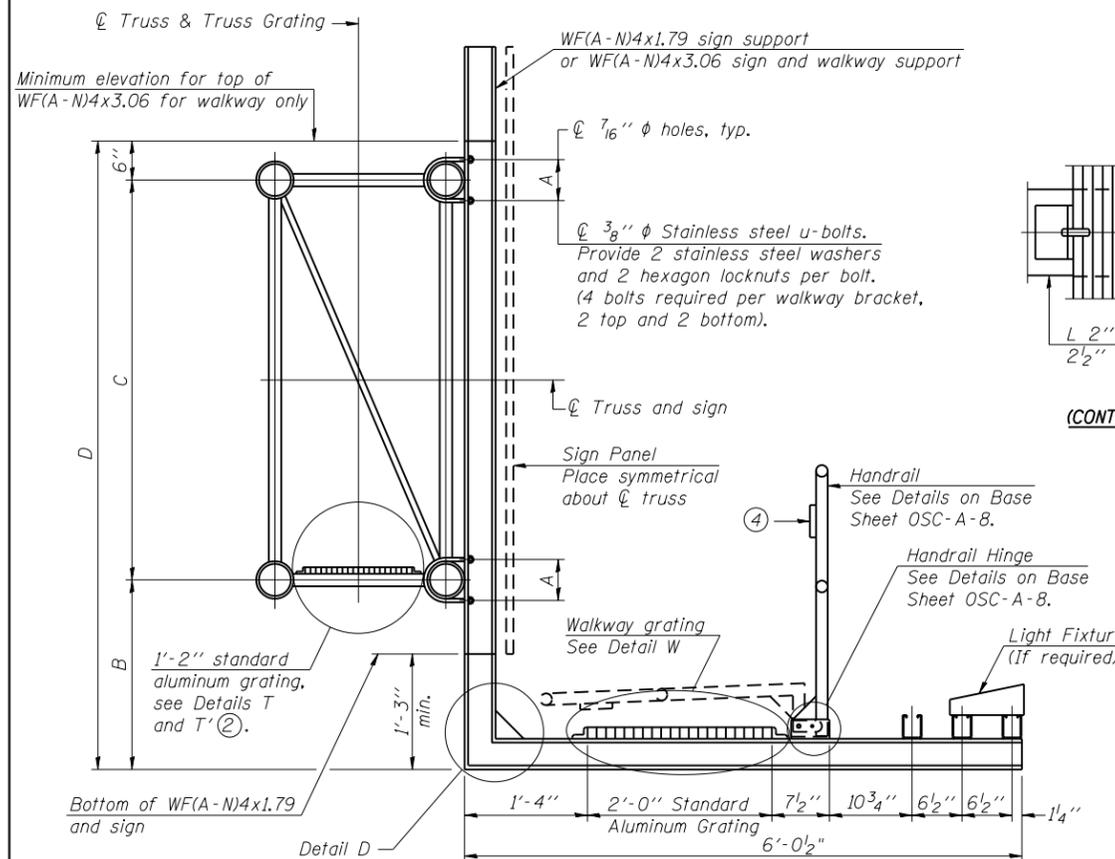
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

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

SCALE: SHEET 6 OF 9 SHEETS STA. TO STA.

F.A. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	.	**	22	14
*D-5 OVD SIN STR REPL 2014-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				

**MCLEAN & PIATT



SPECIFICATIONS FOR STANDARD ALUMINUM GRATING
 Main Bearing Bars (MBB) shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B211 Alloy 6061-T6.
 Cross bars (CB) shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR
 Aluminum Grating with modified "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", spaced on 1 3/16" centers.
 Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" 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" extension bars. (See Base Sheet OSC-A-8.)
- 4) 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- 5) Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.
- 6) Based on actual sign height, D_s, given on OSC-A-1.

Structure Number	Station	A	6 B	C	6 D*
5 C 057 S009 R019.20	160+93	11-C-A	1'-3"	5'-6"	7'-3"
5 C 057 S009 L019.30	166+65	11-C-A	1'-3"	5'-6"	7'-3"
5 C 057 S009 L019.60	182+10	111-C-A	2'-3"	7'-0"	9'-9" & VAR.
*SEE ALSO "SIGN TRUSS MOUNTING DETAILS" FOR INFORMATION NEEDED TO DETERMINE THE VARIABLE WALKWAY SUPPORT & SIGN SUPPORT LENGTHS.					

OSC-A-7

6-1-12

FILE NAME =	USER NAME = piersonbr	DESIGNED -	REVISED -
pw\11084EBIDINTEG\illinois.gov\PI\DOT\Documents\DOT Offices\District 5\Projects\0546339\Design\0546339-shd-details.dwg		DRAWN -	REVISED -
Default	PLOT SCALE = 40.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 11/20/2014	DATE -	REVISED -

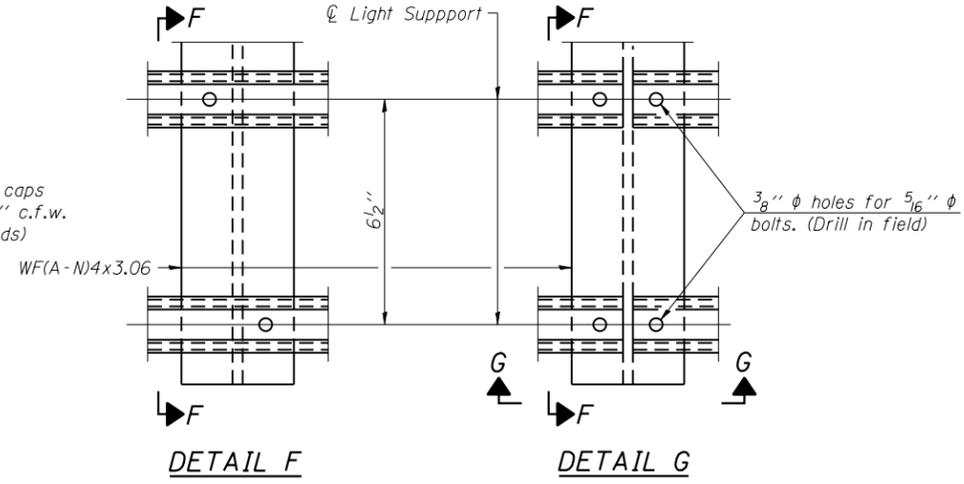
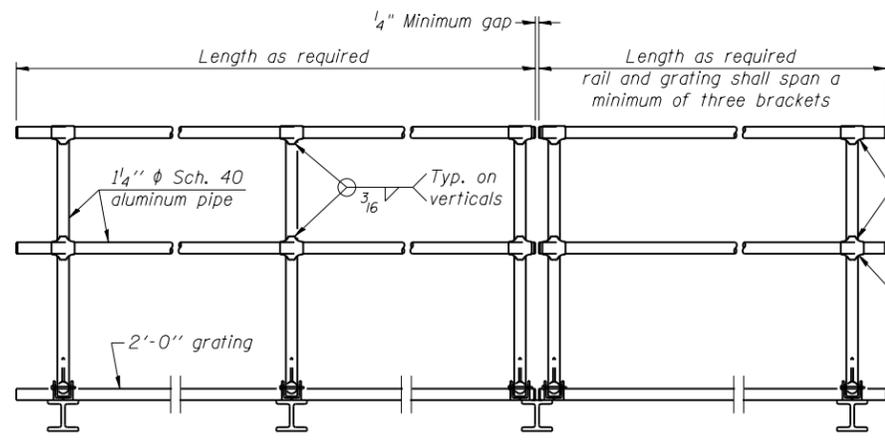
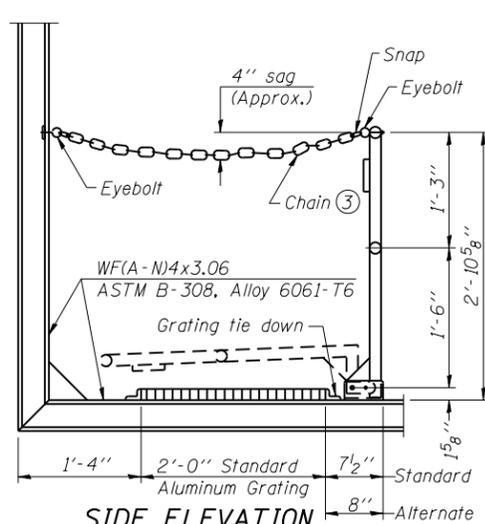
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - WALKWAY DETAILS
 ALUMINUM TRUSS & STEEL POST

SCALE: SHEET 7 OF 9 SHEETS STA. TO STA.

F.A. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	.	**	22	15
*D-5 OVD SIN STR REPL 2014-12		CONTRACT NO. 46339		
ILLINOIS FED. AID PROJECT				

••MCLEAN & PIATT



SIDE ELEVATION
(Showing Safety Chain W/O Sign)

FRONT ELEVATION

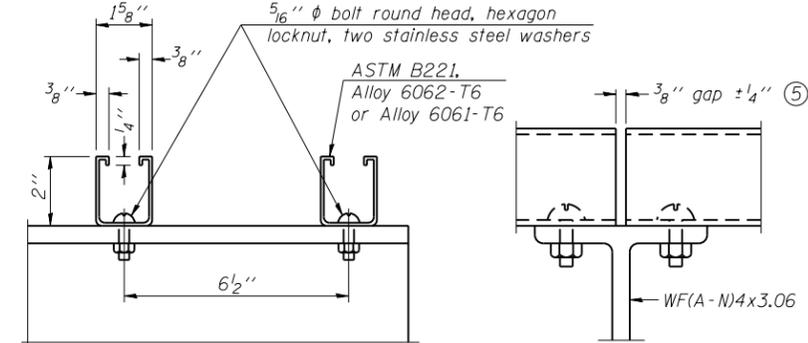
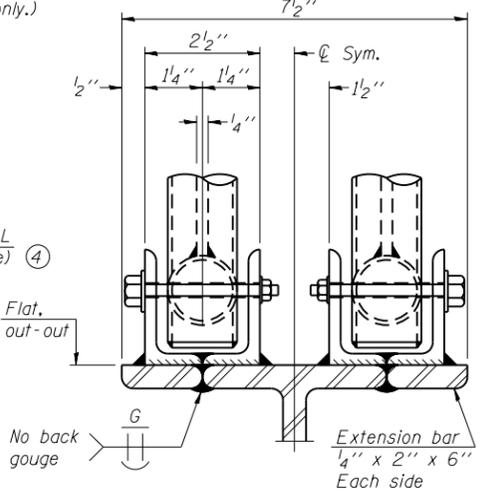
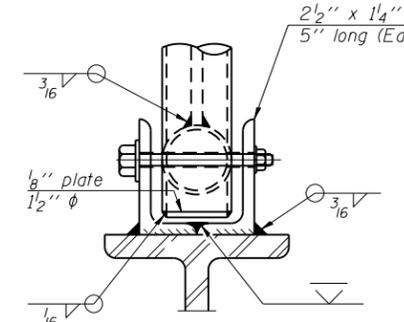
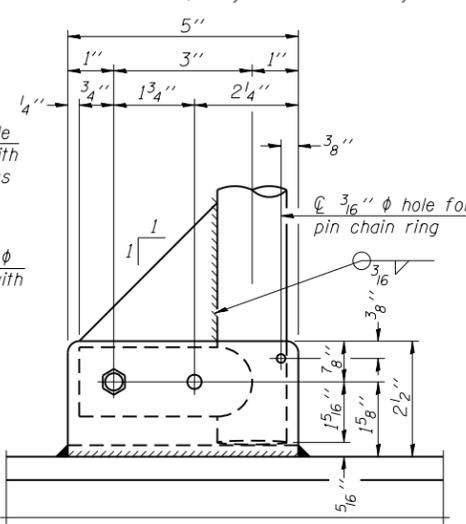
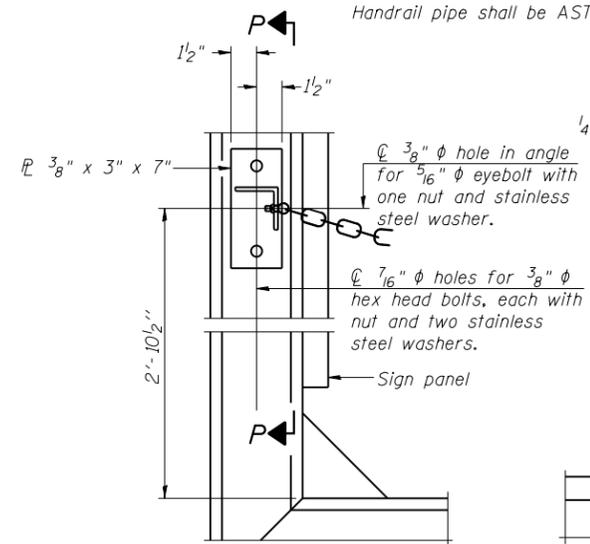
DETAIL F

DETAIL G

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)
Fittings-ASTM B26, Alloy 356-T7 or 1 1/2" aluminum pipe
② Horizontal handrail member shall be continuous thru fitting. Provide 7/16" hole in fitting for 3/8" bolt. Field drill 7/16" hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" holes on top rail at ends only.)



SECTION F-F and 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.

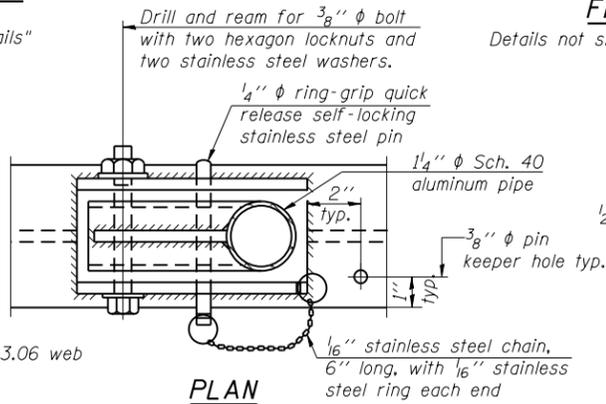
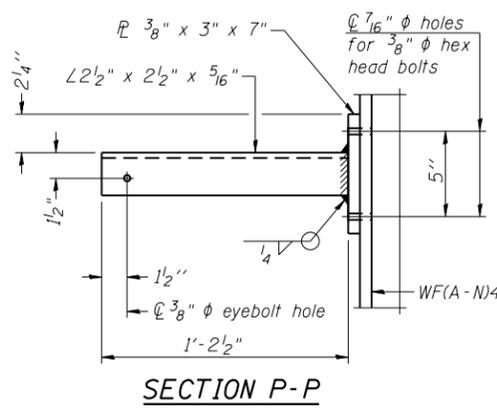
ALTERNATE SAFETY CHAIN ATTACHMENT
(With Sign Present)

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

SIDE ELEVATION (Handrail Details)

FRONT ELEVATION (Handrail Details)

Details not shown same as "ELEVATION" at right.

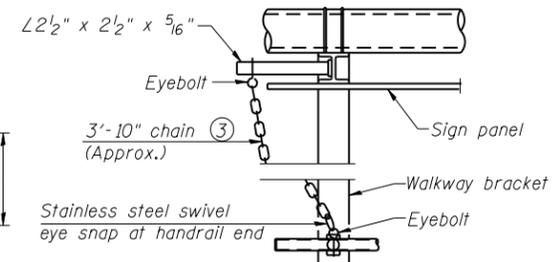


FRONT ELEVATION (Handrail Details)

Details not shown same as "ELEVATION" at right.

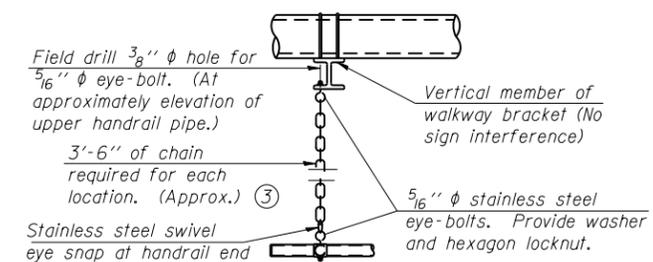
ELEVATION AT HANDRAIL JOINT

Details not shown same as "FRONT ELEVATION"



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

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



SAFETY CHAIN

One required for each end of each walkway.

OSC-A-8

6-1-12

FILE NAME =	USER NAME = piersonbr	DESIGNED -	REVISED -
pw\11084EBIDINTEG\illinois.gov\PIWIDOT\Documents\DOT Offices\District 5\Projects\0546339\Design\0546339-shd-details.dwg		DRAWN -	REVISED -
		CHECKED -	REVISED -
Default	PLOT DATE = 11/20/2014	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

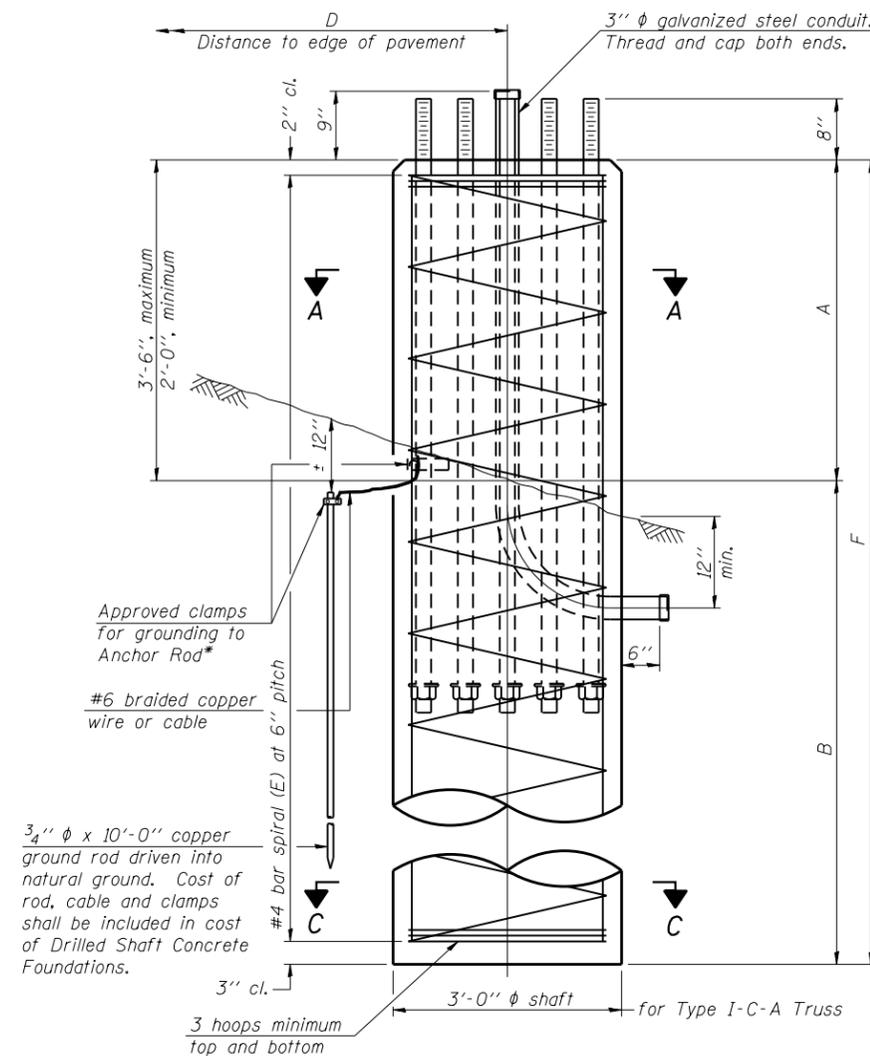
CANTILEVER SIGN STRUCTURES - HANDRAIL DETAILS
ALUMINUM TRUSS & STEEL POST

SCALE: SHEET 8 OF 9 SHEETS STA. TO STA.

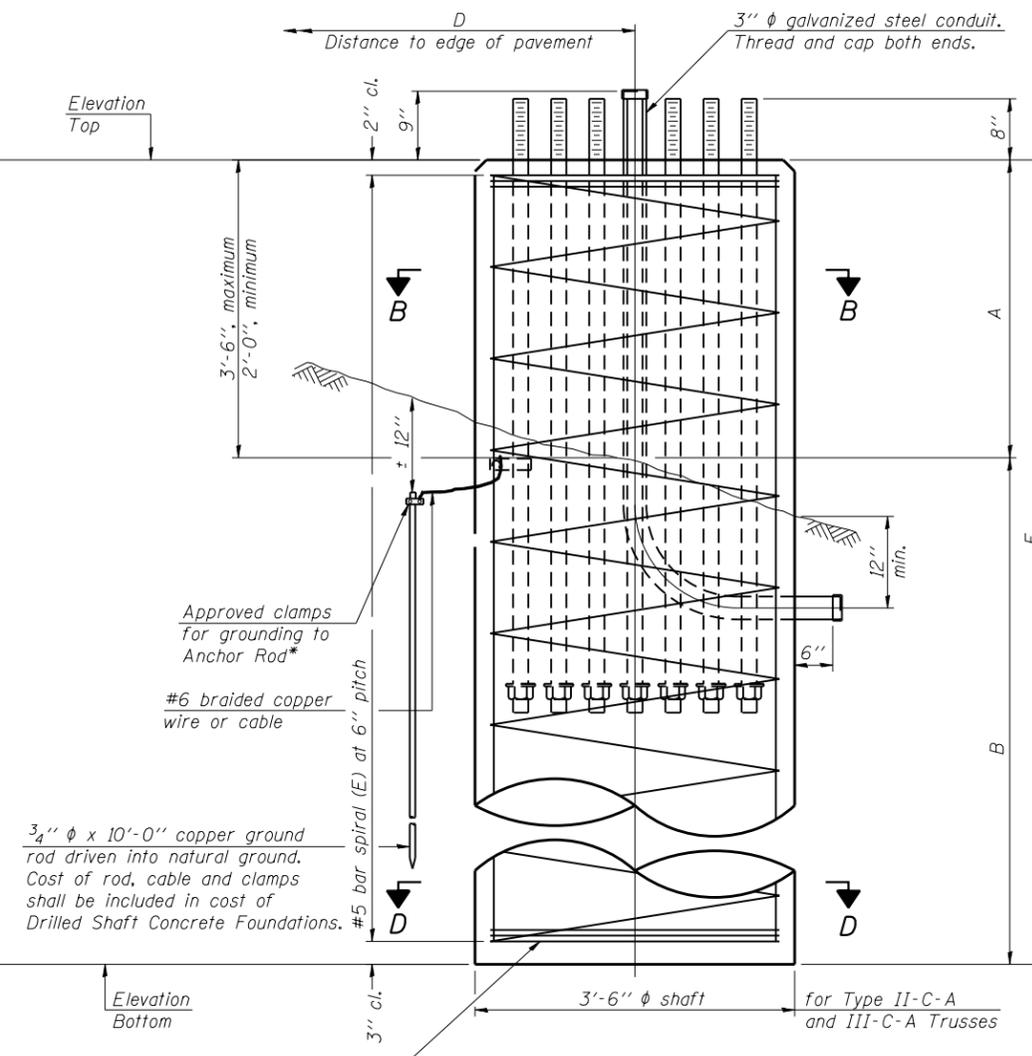
F.A. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	.	..	22	16
D-5 OVD SIN STR REPL 2014-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				

••MCLEAN & PIATT

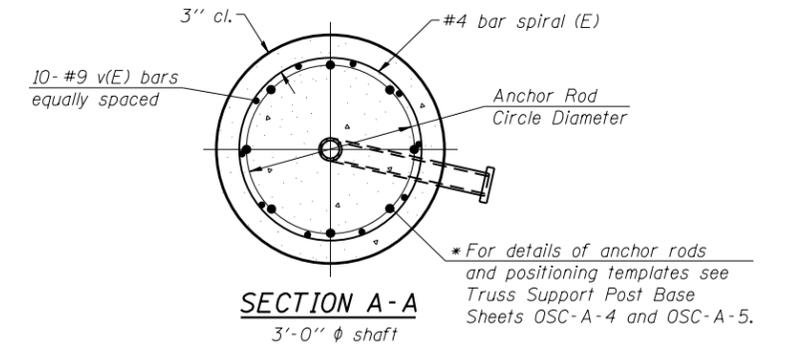
* Grind anchor rod to bright finish at ground clamp location before installing clamp.



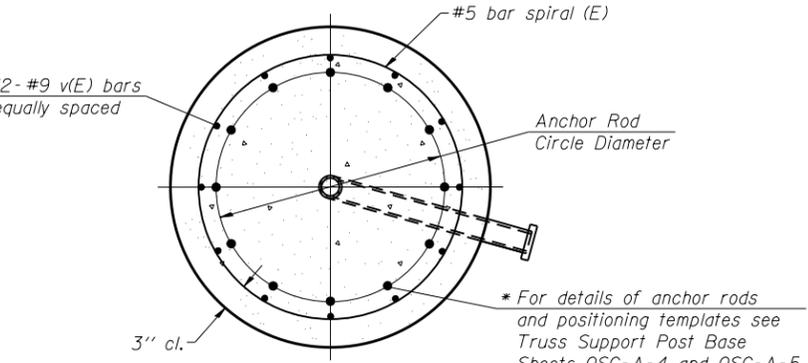
ELEVATION



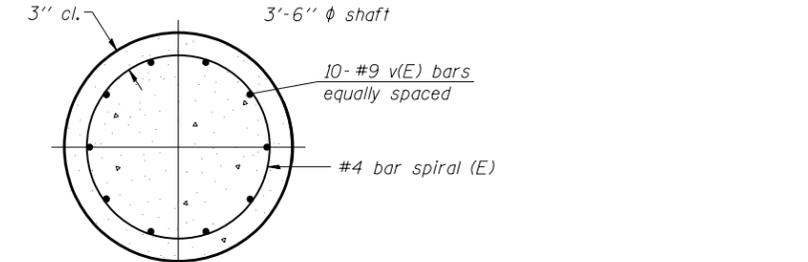
ELEVATION



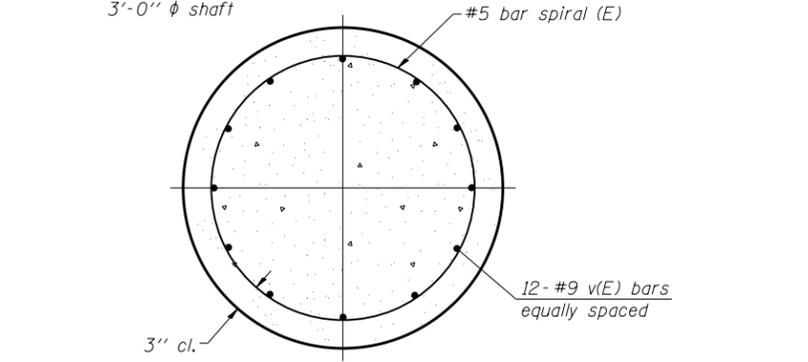
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

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 Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in "Drilled Shaft Concrete Foundation".

Truss Type	Post Base Sheet	Maximum Cantilever Length (ft)	Maximum Total Sign Area (sq ft)	Shaft Diameter (in)	"B" Depth (ft)	Anchor Rods		Anchor Rod Circle Diameter (in)
						No.	Diameter (in)	
I-C-A	OSC-A-4	25	170	3.0	16.0	8	2	22
II-C-A	OSC-A-5	30	170	3.5	17.0	12	2	30
II-C-A	OSC-A-5	30	340	3.5	21.5	12	2	30
III-C-A	OSC-A-5	35	170	3.5	19.0	12	2	30
III-C-A	OSC-A-5	35	250	3.5	22.5	12	2	30
III-C-A	OSC-A-5	35	400	3.5	26.5	12	2	30
III-C-A	OSC-A-5	40	400	3.5	32.0	12	2	30

Structure Number	Station	Truss Type	Shaft Diameter	Elevation Top	Elevation Bottom	Qu	A	B	F	Class DS Concrete Cubic Yards
5 C 057 S009 R019.20	160+93	II-C-A	3'-6"	100.69	75.69		3'-0"	22'-0"	25'-0"	9.0
5 C 057 S009 L019.30	166+65	II-C-A	3'-6"	101.42	76.42		3'-0"	22'-0"	25'-0"	9.0
5 C 057 S009 L019.60	182+10	III-C-A	3'-6"	101.34	66.34		3'-0"	32'-0"	35'-0"	12.5

OSC-A-9

8-21-13

FILE NAME =	USER NAME = piersonbr	DESIGNED -	REVISED -
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		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CANTILEVER SIGN STRUCTURES - DRILLED SHAFT
ALUMINUM TRUSS & STEEL POST

SCALE: SHEET 9 OF 9 SHEETS STA. TO STA.

F.A. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.		**	22	17
*D-5 OVD SIN STR REPL 2014-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				

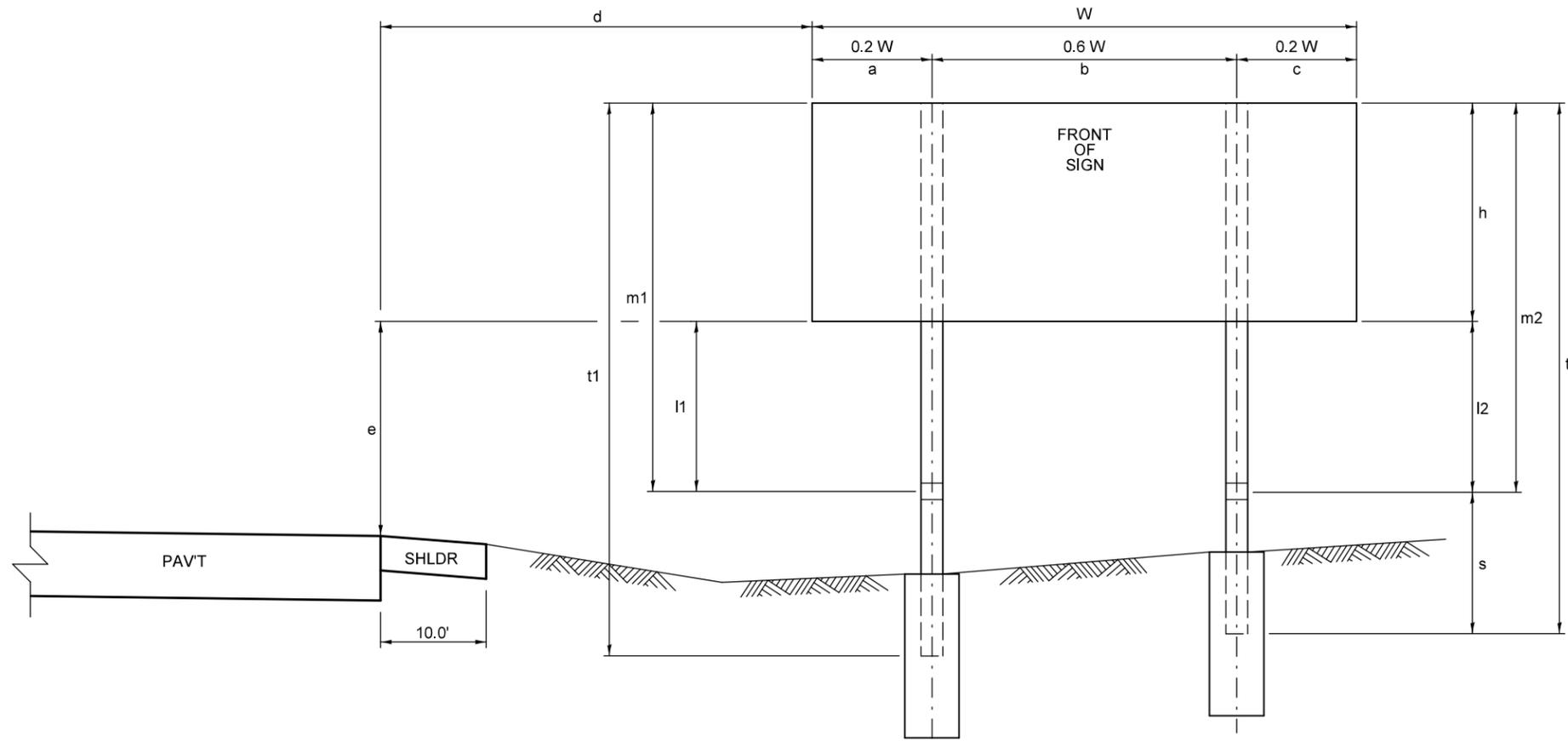
**MCLEAN & PIATT

BREAK AWAY GROUND MOUNT SIGNAGE LAYOUT

LYNCH ROAD

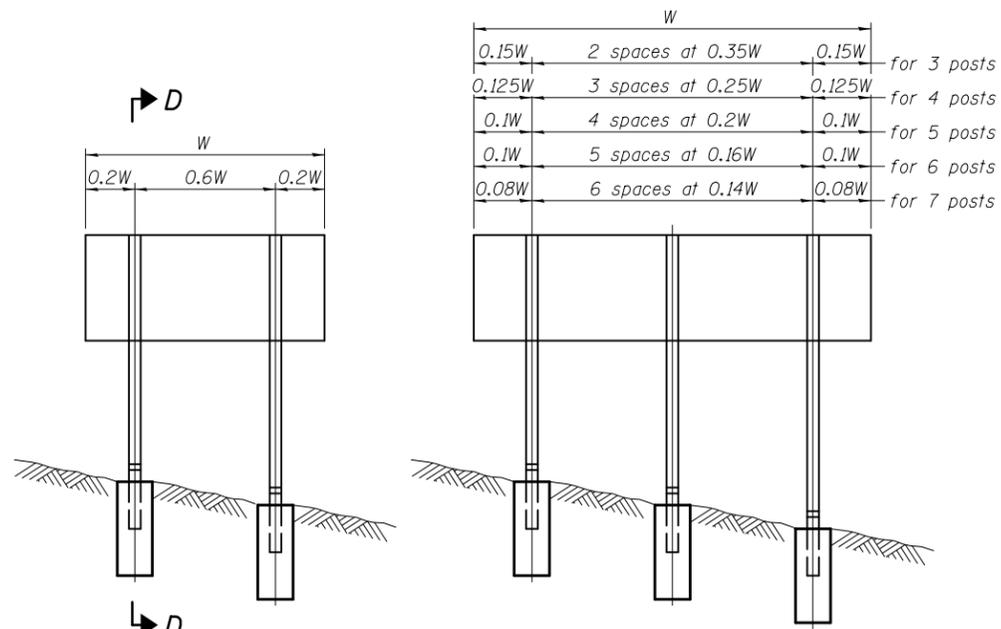
Location No.	Structure No.	Mounting OFFSET to the near edge of sign "d"	Mounting HEIGHT to the bottom edge of sign "e"	Sign Size W x h ft	Sign Width W ft	0.2W a ft	0.6W b ft	0.2W c ft	Clear Height CH ft	Sign Height h ft	leg 1 l1 ft	leg 2 l2 ft	main post 1 m1 ft	main post 2 m2 ft	stub post s ft	Total post 1 t1 ft	Total post 2 t2 ft	Post Type	Nominal wt. lbs/ft	Total Weight (both posts) lbs	Total Concrete cu. yds.
5-04 EB	5 B 074 I072 R165.97	35 feet from white stripe / edge of pavement 25 feet from edge of shoulder	7 feet from white stripe / edge of pavement	15.5' x 10.0'	15.5	3.1	9.3	3.1	8.5	10.0	8.5	7.25	18.5	17.25	3.0	21.5	20.25	W10 x 26	26.0	1085.5	2.54

Location No.	Structure No.	Station - Proposed Location
5-04 EB	5 B 074 I072 R165.97	The proposed breakaway ground mount is to be at Sta. 1462+10. This is 222' west of the west overhead bridge fascia beam.



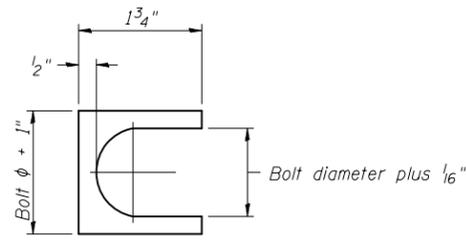
CH = Clear Height = the greater of l1 or l2

**MCLEAN & PIATT



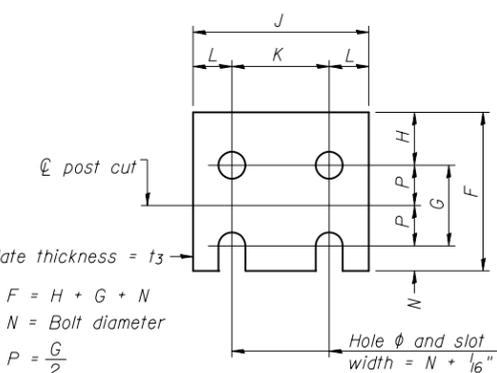
ELEVATION

0.15W	2 spaces at 0.35W	0.15W	for 3 posts
0.125W	3 spaces at 0.25W	0.125W	for 4 posts
0.1W	4 spaces at 0.2W	0.1W	for 5 posts
0.1W	5 spaces at 0.16W	0.1W	for 6 posts
0.08W	6 spaces at 0.14W	0.08W	for 7 posts



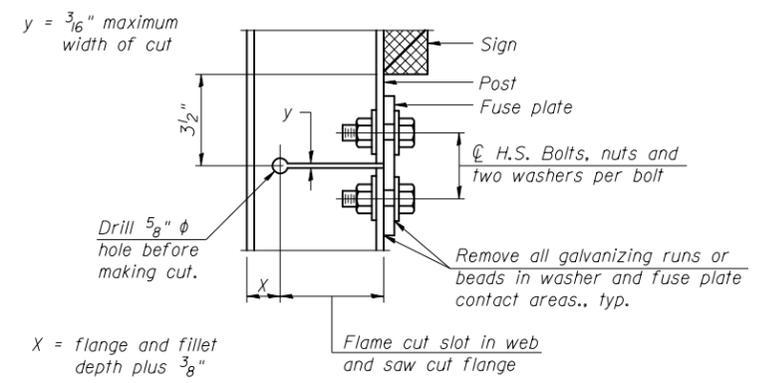
SHIM DETAIL

Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.



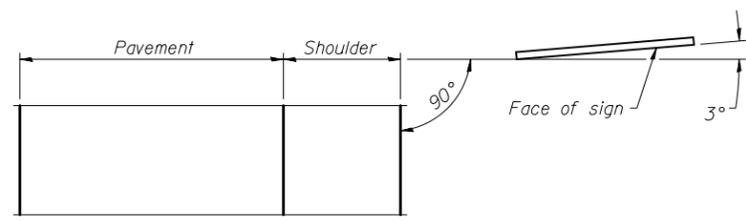
FUSE PLATE DETAIL
(Install with notches down.)

N = Bolt Diameter	G	H
1/2"	2"	1 1/8"
5/8"	2 1/4"	1 1/4"
3/4"	2 1/2"	1 3/8"
7/8"	2 3/4"	1 1/2"
1"	3"	1 5/8"
1 1/8"	3 1/4"	1 3/4"
1 1/4"	3 1/2"	1 7/8"

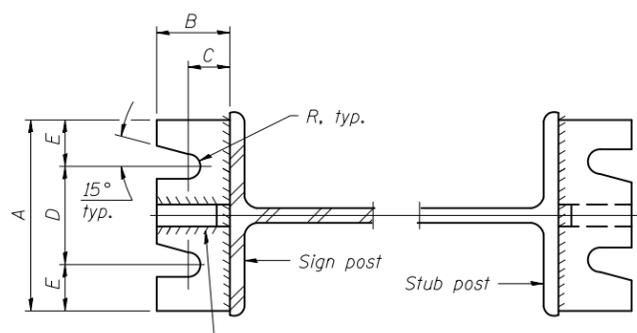


DETAIL H

STIFFENER PLATE DETAIL
Diameter

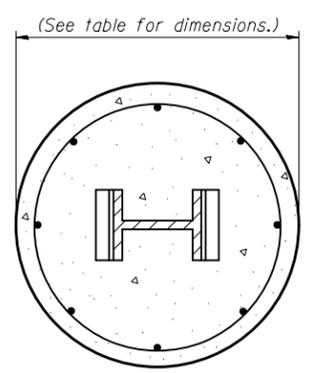


LOCATION SKETCH

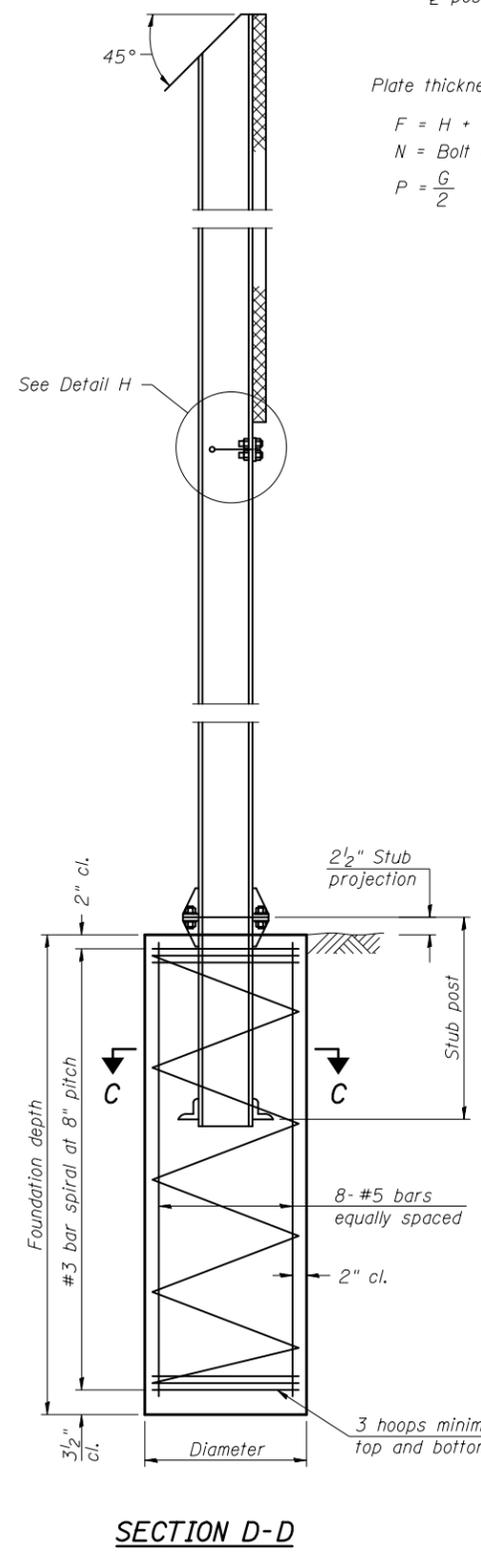


SECTION A-A

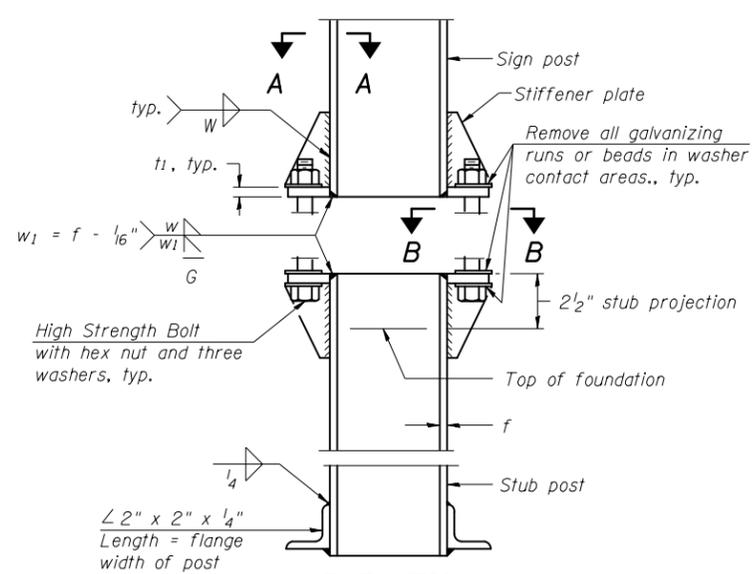
SECTION B-B



SECTION C-C



SECTION D-D



ELEVATION SIGN POST & STUB POST

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:
Structural steel - 20,000 p.s.i.
Reinforcing steel - 20,000 p.s.i.
Concrete - 1,400 p.s.i.
Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

BAW-A-1

6-1-12

(Sheet 1 of 2)

••MCLEAN & PIATT

FILE NAME =	USER NAME = piersonbr	DESIGNED - JAL	REVISED -
pw:\IL\084EBIDINTEG\illinois.gov\PIDOT\Documents\DOT Offices\District 5\Projects\0546339\Design\0546339-shd-details.dwg	DRAWN	CHECKED -	REVISED -
PLOT SCALE = 40.0000' / in.	DATE - 04/26/11	REVISIONS	
PLOT DATE = 11/20/2014			

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BREAK-AWAY WIDE FLANGE
STEEL SIGN POST DETAILS**

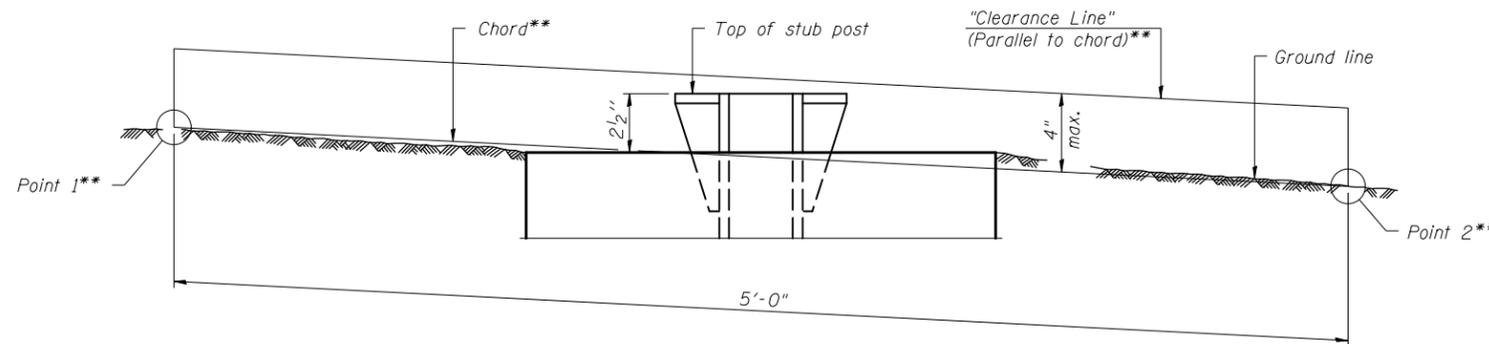
SCALE:	SHEET NO. 2 OF 3 SHEETS	STA.	TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
•	•	••	22	19
•D-5 OVD SIN STR REPL 2015-12			CONTRACT NO. 46271	
ILLINOIS FED. AID PROJECT				

POST	CONCRETE FOUNDATION TABLE							POST TO STUB POST CONNECTION DATA										FUSE PLATE DATA				
	Foundation			Reinforcement			Stub Post Length	Bolt Size	A	B	C	D	E	t ₁	t ₂	R	W	J	K	L	t ₃	
	Diameter	* Minimum Depth	Concrete (1) cu. yds.)	Vertical Bars Length	Bar Spirals Diameter	Length																lbs. (2)
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-3"	5/8" x 3/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	11/32"	1/4"	4"	2 1/4"	7/8"	1/4"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	5/8" x 3/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	11/32"	1/4"	6"	3 1/2"	1 1/4"	3/8"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	3/4" x 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	13/32"	5/16"	5 1/4"	2 3/4"	1 1/4"	3/8"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2 1/2"	105'-0"	92	3'-0"	3/4" x 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	13/32"	5/16"	5 3/4"	2 3/4"	1 1/2"	1/2"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2 1/2"	112'-0"	98	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	15/32"	3/8"	5 3/4"	2 3/4"	1 1/2"	5/8"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2 1/2"	119'-0"	107	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	15/32"	3/8"	6 1/2"	3 1/2"	1 1/2"	5/8"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8 1/2"	145'-0"	113	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	15/32"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8 1/2"	153'-0"	122	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	17/32"	3/8"	6 3/4"	3 1/2"	1 5/8"	1/2"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8 1/2"	162'-0"	130	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	17/32"	3/8"	7"	3 1/2"	1 3/4"	1/2"

*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE																				
	Sign Height																				
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"
W6x9	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W6x15	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	—	—	—	—	—	—	—	—	—	—	—
W8x18	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"	5/8" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	3/4" x 2"	—	—	—	—	—	—	—	—	—	—	—
W10x22	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	—	—	—	—	—	—	—	—
W10x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	—	—	—	—	—	—	—
W12x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	—	—	—	—	—	—
W14x30	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"	5/8" x 2"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	3/4" x 2 1/4"	—	—	—	—	—
W14x38	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"
W16x45	—	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"	5/8" x 2 1/4"	5/8" x 2 1/4"	3/4" x 2 1/2"	3/4" x 2 1/2"	7/8" x 2 1/2"	7/8" x 2 1/2"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"	1" x 2 3/4"



ELEVATION
GROUND LINE & STUB POST

** For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- (1) Quantity includes all concrete necessary for one foundation.
- (2) Includes reinforcement bars and spiral hooping for one foundation.

Note: All necessary excavation or drilling, backfilling, disposal of material, formwork, and furnishing and placing all materials including Class DS Concrete and reinforcing steel shall be included in the pay item for "Concrete Foundations".

BAW-A-2

6-1-12

(Sheet 2 of 2)

••MCLEAN & PIATT

FILE NAME =	USER NAME = piersonbr	DESIGNED - JAL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BREAK-AWAY WIDE FLANGE STEEL SIGN POST TABLES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\DOT Offices\District 5\Projects\0546339\Design\0546339-shd-details.dwg	DRAWN	CHECKED -	REVISED -			VAR.	•	••	22	20
PLOT SCALE = 40.0000' / in.	DATE - 04/26/11	REVISED -	REVISED -			•D-5 OVD SIN STR REPL 2015-12		CONTRACT NO. 46271		
PLOT DATE = 11/20/2014	DATE - 04/26/11	REVISED -	REVISED -			ILLINOIS FED. AID PROJECT				

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

SOIL BORING LOG

Date 6/18/14

ROUTE IL 9 (Empire Street) DESCRIPTION Mast Arm 250 Feet West of Veterans on East Bound IL 9 LOGGED BY CNA

SECTION Sign Truss Replacement LOCATION SW, SEC. 35, TWP. 23N, RNG. 2E, 3rd PM, GPS: 40.488061N,-88.953766W

COUNTY McLean DRILLING METHOD Hollow Stem HAMMER TYPE Automatic

STRUCT. NO. 5 C 057 S009 R019.20
Station 161+10
BORING NO. 3 Mast Arm
Station 161+14
Offset 10.00ft N of Exist.
Ground Surface Elev. 100.0 ft

DEPTH (ft)	SPT (blows)	UCS (%)	MOISTURE (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev.: First Encounter (ft)	Upon Completion (ft)	After (ft)
0								
99.00								
95.00	2							
	3		17					
	3							
75.00								
	5							
	7	3.3	15					
	9	B						
	3							
	5	1.7	18					
	6	B						
	3							
	5	3.9	16					
	8	B						
89.00								
	3							
	4	3.5	14					
	7	B						
	3							
	4	2.9	15					
	6	B						
	3							
	6	3.7	14					
	7	B						
	3							
	5	1.0	14					
	4	B						

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

Date 6/18/14

ROUTE IL 9 (Empire Street) DESCRIPTION Mast Arm .128 Miles East of Veterans on West Bound IL 9 LOGGED BY CNA

SECTION Sign Truss Replacement LOCATION SE, SEC. 35, TWP. 23N, RNG. 2E, 3rd PM, GPS: 40.488441N,-88.951865W

COUNTY McLean DRILLING METHOD Hollow Stem HAMMER TYPE Automatic

STRUCT. NO. 5 C 057 S009 L019.30
Station 166+50
BORING NO. 2 Mast Arm
Station 166+40
Offset 12.00ft N of Exist.
Ground Surface Elev. 95.9 ft

DEPTH (ft)	SPT (blows)	UCS (%)	MOISTURE (%)	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev.: First Encounter (ft)	Upon Completion (ft)	After (ft)
0								
94.90								
	1							
	1	0.4	24					
	2	B						
90.90								
	4							
	5	3.2	18					
	7	B						
	2							
	7	3.7	16					
	7	B						
84.90								
	7							
	7	4.0	13					
	9	B						
	2							
	5	1.9	14					
	7	B						
	2							
	6	2.3	14					
	6	B						

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 (%)

ROUTE IL 9 (Empire Street) DESCRIPTION Mast Arm 0.34 Miles East of Veterans on West Bound IL 9 LOGGED BY CNA

SECTION Sign Truss Replacement LOCATION SE, SEC. 35, TWP. 23N, RNG. 2E, 3rd PM, GPS: 40.488398N,-88.946327W

COUNTY McLean DRILLING METHOD Hollow Stem HAMMER TYPE Automatic

STRUCT. NO. 5 C 057 S009
Station L019.60
182+00

BORING NO. 1 Mast Arm
Station 181+94
Offset 8.00ft S of Exist.
Ground Surface Elev. 99.8 ft

D E P T H	S P T N	U C S Qu	M O I S T	Surface Water Elev. _____ ft	D E P T H	S P T N	U C S Qu	M O I S T
				Stream Bed Elev. _____ ft				
				Groundwater Elev.: _____ ft				
				First Encounter _____ ft				
				Upon Completion _____ ft				
				After _____ Hrs. _____ ft				

Soil Description	Depth (ft)	SPT (blows)	UCS (tsf)	Moisture (%)
Asphalt Shoulder - PAVEMENT	98.80			
Green/Black Mottled SILTY CLAY LOAM	96.80			
Brown SILTY CLAY LOAM	95.80	2		
		2	1.2	16
		4	B	
		3	0.4	16
		3	B	
		2		
		4	1.4	15
		4	B	
		8		
Brown CLAY LOAM TILL	87.80	13	3.9	16
		14	B	
		4		
		5	3.3	15
		6	S	
Gray CLAY LOAM TILL	83.80	3		
		5	1.8	15
		6	B	
		3		
		4	2.1	15
		7	B	

Gray CLAY LOAM TILL (continued)

(Benchmark used: Top of existing foundation @ 101.0')

69.80 -30

End of Boring

SOIL BORING MAST_ARMS_IL9.GPJ IL_DOT.GDT 6/19/14

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 = piersonbr	DESIGNED -	REVISED -
pw:\IL\084EBIDINTEG\Illinois.gov\PI\DOT\Documents\DOT Offices\District 5\Projects\0546339\Design\0546339-shl-blog.dgn		REVISION	REVISION
Default	PLOT SCALE = 46.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 11/20/2014	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SOIL BORING LOGS

SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	.	**	22	22
*D-5 OVD SIN STR REPL 2015-12			CONTRACT NO. 46339	
ILLINOIS FED. AID PROJECT				

**MCLEAN & PIATT