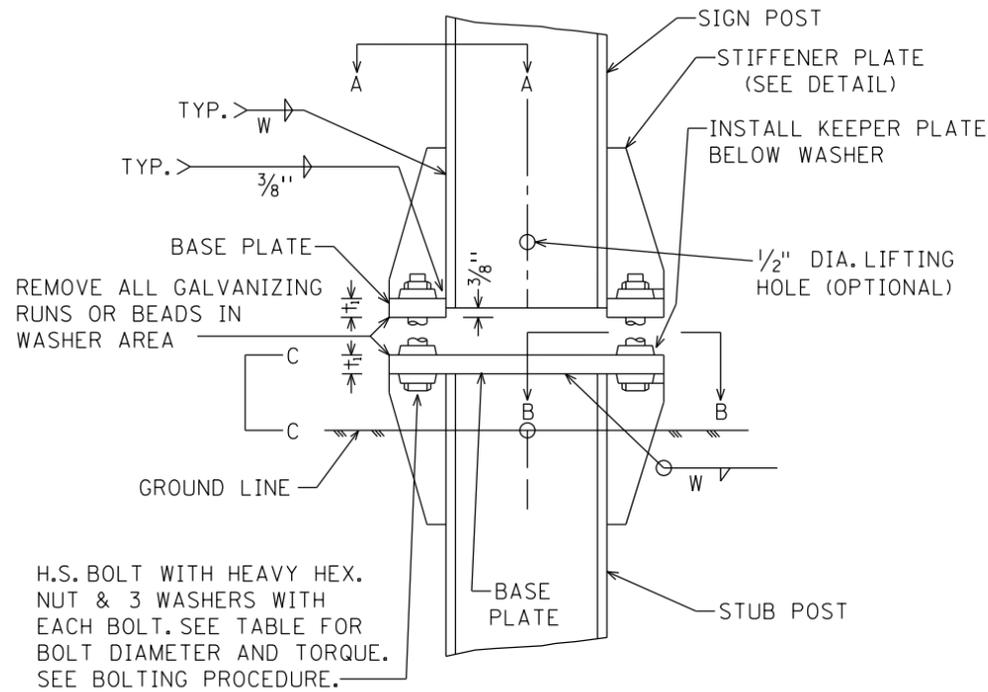
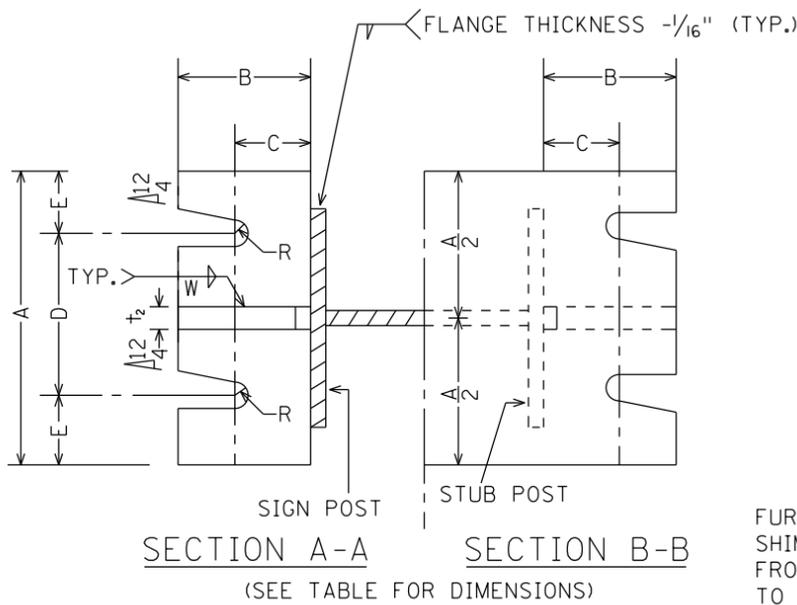


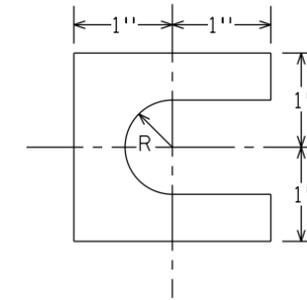
PLOTTED/REVISED: 11/8/2013



SIGN POST AND STUB POST ELEVATION

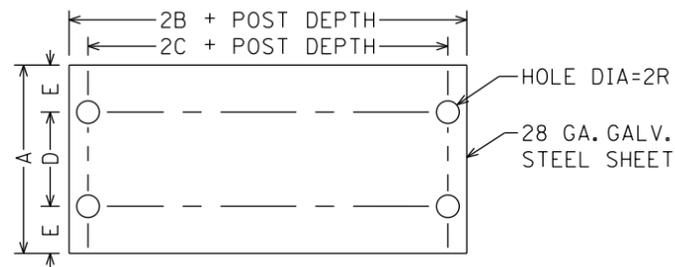


SECTIONS SHOWN ARE FOR INSTALLATIONS ON RIGHT SHOULDER AND IN GORE. PLATE SLOT BEVELS ARE OPPOSITE HAND FROM THAT SHOWN FOR INSTALLATIONS ON LEFT SHOULDER.

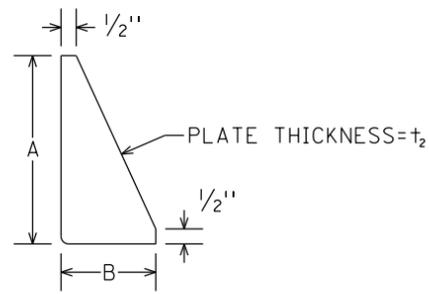


FURNISH TWO-.012"± THICK AND TWO-.032"± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M. B36.

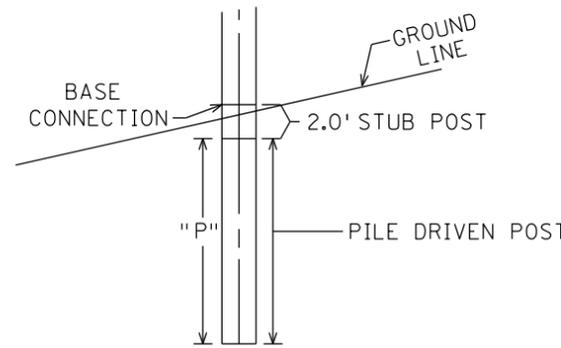
SHIM DETAIL



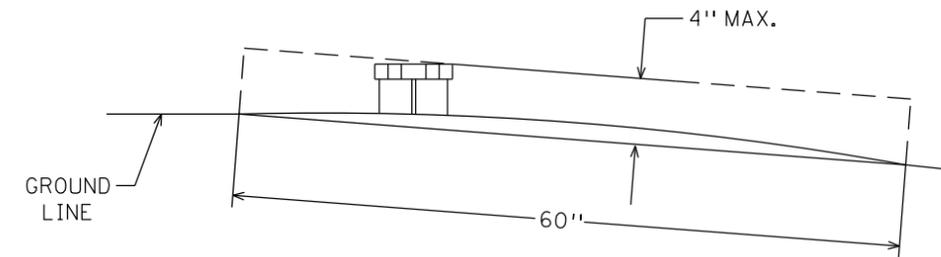
KEEPER PLATE



STIFFENER PLATE DETAIL
(SEE TABLE FOR DIMENSIONS)



H-PILE FOOTING



VIEW C-C

MAXIMUM PROJECTION OF STUB POST SHALL NOT EXTEND BEYOND A LINE, ABOVE AND 4" PARALLEL TO ANY CHORD, WHICH IS PERPENDICULAR TO (OR ALIGNED RADIALLY TO) THE CENTERLINE OF THE HIGHWAY AND HAS ITS (THE CHORD'S) END POINTS ON THE GROUND SURFACE ON OPPOSITE SIDES OF THE STUB POST.

SPECIFIC NOTES:

- ① MEASURED FROM TOP OF BASE PLATE
- ② OLD BEAM DEPTH = 10". NEW REVISED BEAM DEPTH = 9-7/8". KEEPER PLATES MUST BE FABRICATED ACCORDINGLY

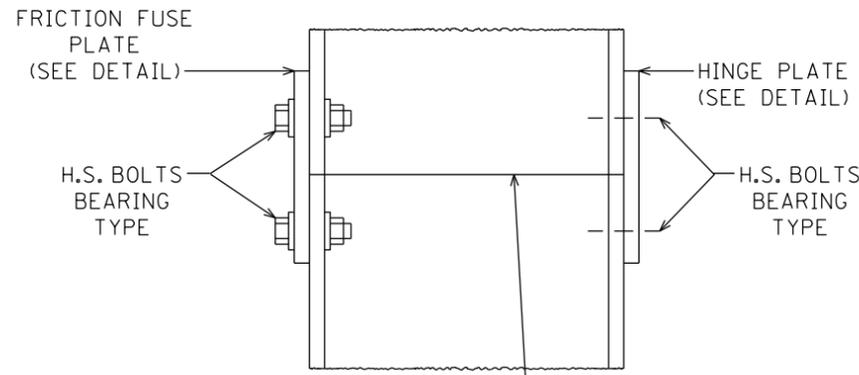
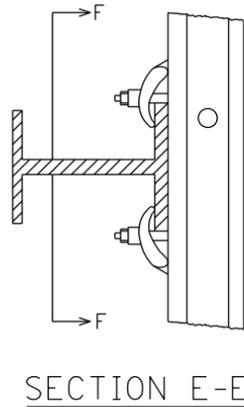
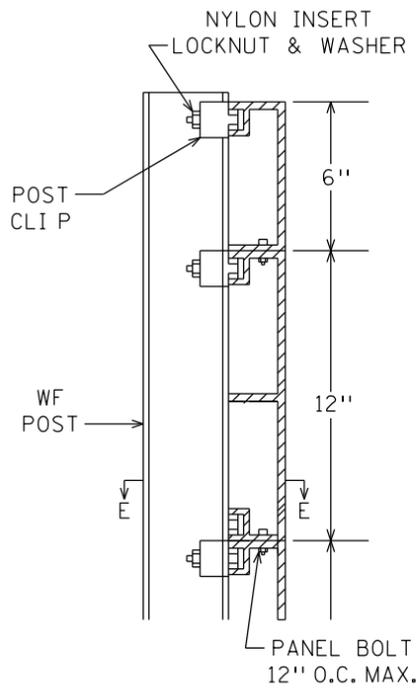
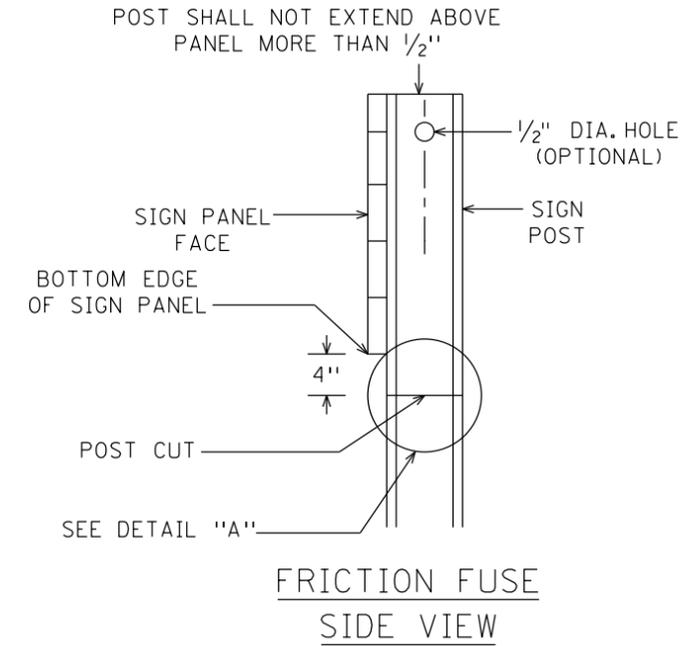
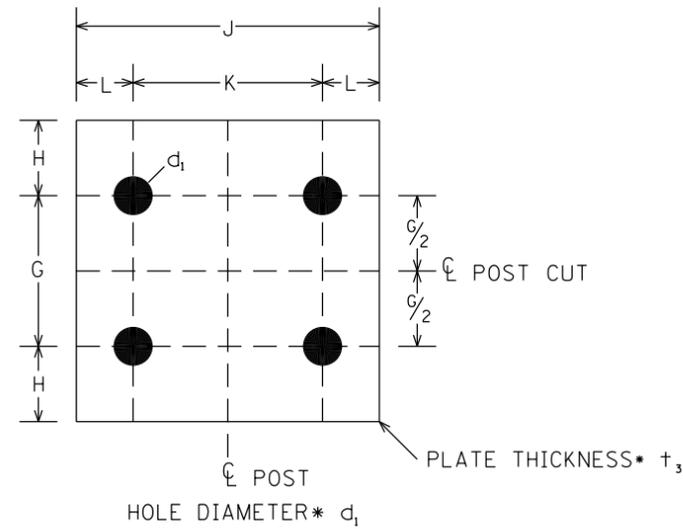
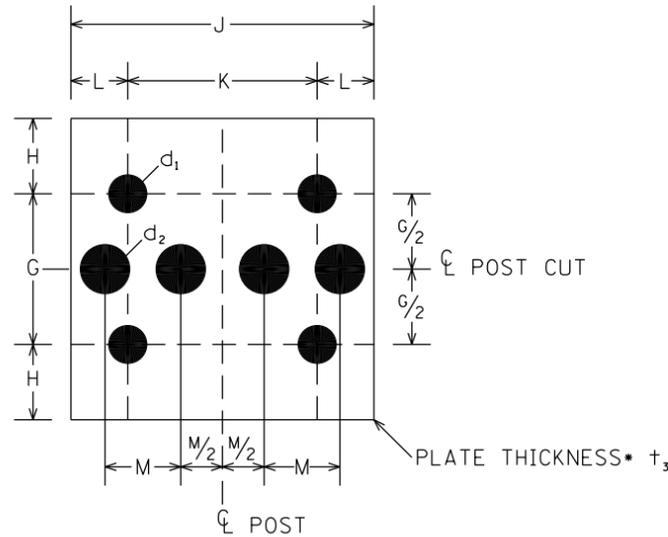
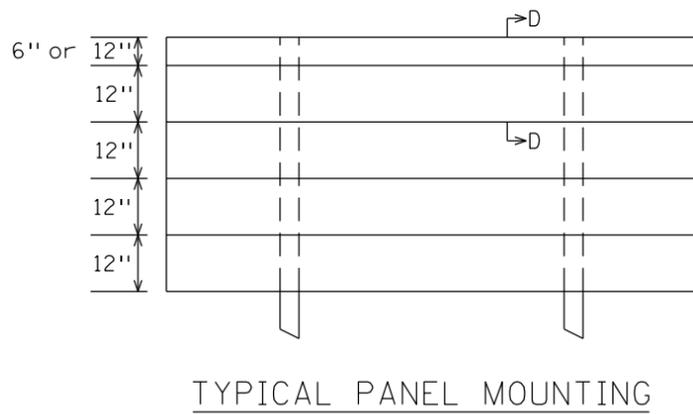
DIMENSION POST SIZE	BASE CONNECTION DATA BOLT SIZE AND TORQUE	BASE CONNECTION DATA										FUSE AND HINGE PLATE DATA										FOOTING DATA	
		A	B	C	D	E	t ₁	t ₂	W	R	G	H	J	K	L	M	d ₁	d ₂	t ₃	BOLT DIA.	BOLT LENGTH	STUB POST LENGTH ①	H PILE POST "P" (MIN. LENGTH)
W4X13	3/4" DIA. x 3-1/2"	6"	2 1/2"	1 1/2"	3 1/2"	1 1/4"	1"	1/2"	1/4"	13/32"	2"	1 1/4"	4"	2 1/4"	7/8"	1"	1 1/16"	3/4"	3/8"	5/8"	2"	2'	12'
W5X16	TORQUE=600" #	6"	2 1/2"	1 1/2"	3 1/2"	1 1/4"	1"	1/2"	1/4"	13/32"	2 1/2"	1 1/4"	5"	2 3/4"	1 1/8"	1 1/8"	1 3/16"	7/8"	3/8"	3/4"	2"	2'	12'
W6X20	7/8" DIA. x 4-1/4"	8"	3"	1 3/4"	4"	2"	1 1/4"	1/2"	1/4"	15/32"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	1 3/8"	1 3/16"	1 1/8"	3/8"	3/4"	2"	2'	12'
W8X24	TORQUE=800" #	8"	3"	1 3/4"	4"	2"	1 1/4"	1/2"	1/4"	15/32"	2 1/2"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	1 1/2"	1 5/16"	1 1/4"	1/2"	7/8"	2 1/2"	2'	12'
W8X28	1" DIA. x 5" TORQUE=1000" #	8"	3"	2"	4"	2"	1 1/2"	3/4"	5/16"	17/32"	2 1/2"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	1 5/8"	1 1/16"	1 1/8"	1/2"	1"	2 1/2"	2'	12'
W8X31	1-1/8" DIA. x 5" TORQUE=1200" #	9"	3 1/2"	2"	5"	2"	1 1/2"	3/4"	5/16"	19/32"	3"	1 3/4"	8"	5 1/2"	1 1/4"	2"	1 1/16"	1 1/2"	1/2"	1"	2 1/2"	2'	12'
W10X39	TORQUE=1200" #	9"	3 1/2"	2"	5"	2"	1 1/2"	3/4"	5/16"	19/32"	3"	1 3/4"	8"	5 1/2"	1 1/4"	1 7/8"	1 3/16"	1 3/8"	1/2"	1 1/8"	2 3/4"	2'	12'

TYPE A SIGN STRUCTURAL DETAILS

H-PILE FOOTING
SHEET 1 OF 2

DISTRICT #: METRO
PLOT NAME: A SIGN-H-PILE FOOTING-STD*
PATH & FILENAME: IP_PWP-d14421A SIGN-H-PILE FOOTING-STD*.dgn

PLOTTED/REVISED: 11/8/2013



POST SHALL BE SAW CUT BEFORE GALVANIZING.
USE H.S. BOLTS WITH HEX. HD., HEX. NUT,
AND TWO FLAT WASHERS.

DETAIL "A" FRICTION FUSE

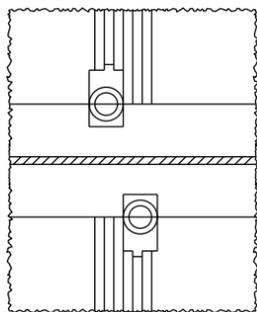
CONTRACTOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TORQUE WRENCH TIGHTENED IN THE FIELD IN THE PRESENCE OF THE ENGINEER OR HIS REPRESENTATIVE. NUTS SHALL HAVE BEEN RETAPPED AND BOLT THREADS SHALL HAVE BEEN CLEANED WITH A 1/64" OVERSIZED RETHREADING DIE AFTER GALVANIZING. BEFORE TIGHTENING MAY BEGIN, THE TORQUE WRENCH SHALL BE CALIBRATED WITH A BOLT-TENSION-CALIBRATOR USING TYPICAL BOLT-NUT-WASHER ASSEMBLIES OF EACH SIZE AND LOT TO BE USED SO AS TO SHOW THE TORQUE NECESSARY TO OBTAIN THE FOLLOWING MINIMUM RESIDUAL TENSION IN EACH BOLT.

BOLT SIZE	MIN. RESIDUAL, BOLT TENSION
1/2" DIA.	12,050#
5/8" DIA.	19,200#
3/4" DIA.	28,400#
7/8" DIA.	39,250#
1" DIA.	51,500#
1-1/8" DIA.	56,450#

GENERAL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO MNDOT 3308. REINFORCING BARS SHALL CONFORM TO MNDOT 3301. SPIRALS SHALL CONFORM TO MNDOT 3305-NO SPLICES. HIGH STRENGTH BOLTS SHALL CONFORM TO A.S.T.M.-A325.
2. FORMS WILL BE REQUIRED FOR THE EXPOSED VERTICAL SURFACES OF THE FOOTINGS.
3. REFER TO "SIGN DATA" SHEET FOR SPECIFIC DATA ON EACH INDIVIDUAL SIGN INSTALLATION.
4. FRICTION FUSE PLATE SHALL BE INSTALLED ON SIDE OF POST FACING TRAFFIC.
5. ALL POST CUTS SHALL BE SAW CUTS. PLATES MAY BE SHEARED OR FLAME CUT USING A MECHANICALLY GUIDED CUTTING TORCH. EDGE PREPARATION SHALL BE IN ACCORDANCE WITH MNDOT 2471.3.C.4 AND MNDOT 2471.3.D.4.

NOTE: POST CLIPS SHALL BE INSTALLED ON BOTH SIDES OF EACH POST AT EACH PANEL JOINT AS INDICATED.



SECTION F-F

TYPE A SIGN STRUCTURAL DETAILS

DISTRICT #: METRO
PLOT NAME: A SIGN-H-PILE FOOTING-STD#1
PATH & FILENAME: IP_PWP-d1442INA SIGN-H-PILE FOOTING-STD#1.dgn