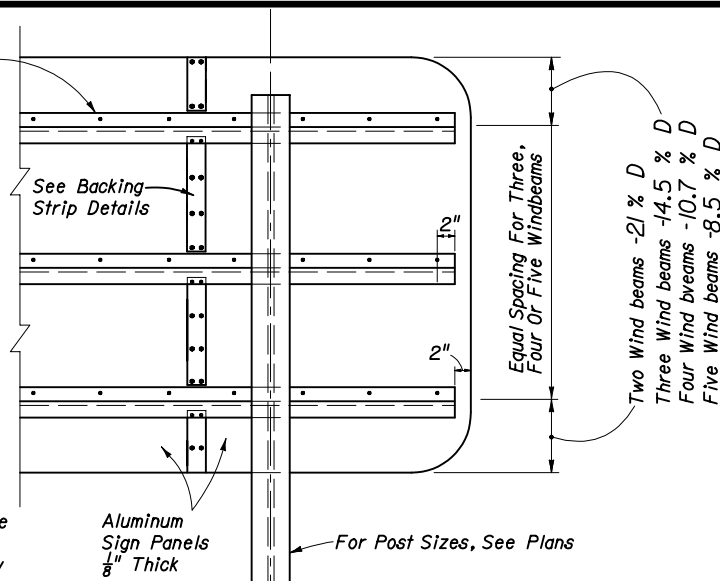
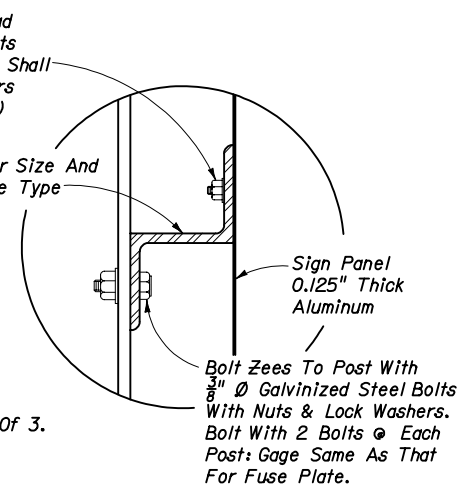
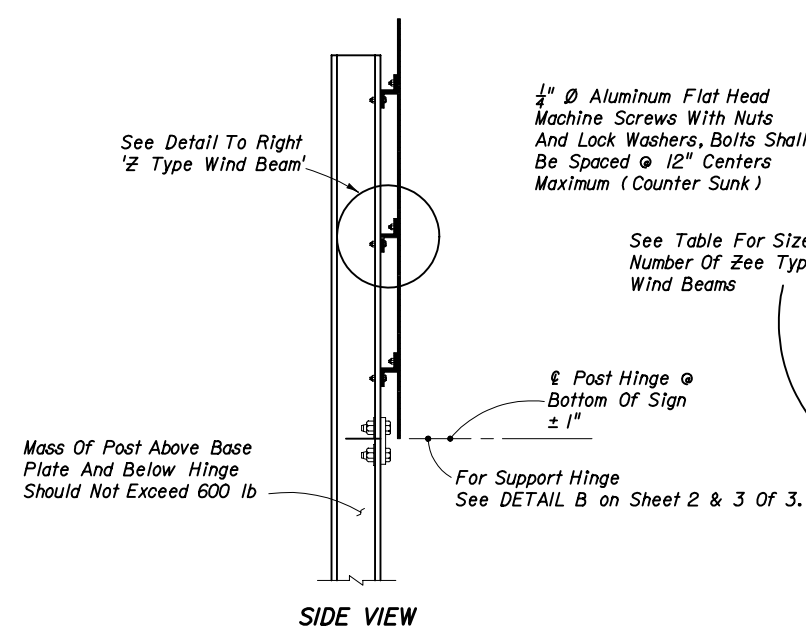


See Tables For Size And Number Of Wind Beams



Note: It shall be the contractor's responsibility to determine the length of the column supports in the field prior to fabrication.



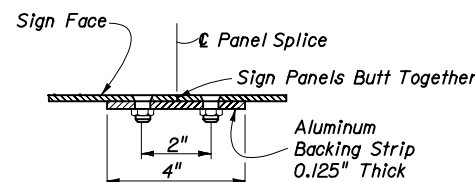
GENERAL NOTES

- DESIGN SPECIFICATION** Standard Specification for Structural Supports for Highway Signs, Luminaries and Traffic Signals, AASHTO 1994. For welding refer to the latest editions of the AWS Structural Welding Codes for Steel and Aluminum, the AASHTO Standard Specifications for Welding Structural Steel Highway Bridges, and the FDOT Standard Specifications with Supplement.
- DESIGN WIND LOAD** See Design Wind Speeds By County for wind in miles per hour on flat sign area. The allowable working stress shall be increased by 40% for combination dead load and wind load.
- ALUMINUM MATERIALS** All aluminum materials shall meet the requirements of the Aluminum Association's Alloy 6061-T6 and also the following ASTM specifications: Sheets and plates, B209; extruded tube, bars, rods & shapes, B221; and standard structural shapes, B308. Sheets are to be degreased, etched, neutralized and treated with Alodine 1200, Iridite 14-2, Bonderite 721, or equal. No stenciling permitted on sheets. Aluminum welding rods shall meet the requirements of Aluminum Association Alloy No. 5556 filler wire.
- STRUCTURAL STEEL** All structural steel shall meet the requirements of ASTM A709 Grade 36.
- ALUMINUM BOLTS, NUTS, & LOCKWASHERS** Aluminum bolts shall meet the requirements of Aluminum Association Alloy 2024-T4 (ASTM F468). The bolts shall have an anodic coating at least 0.0002" thick and be Chromate sealed. Lock washers shall meet the requirements of Aluminum Association Alloy 7075-T6 (ASTM B221). Nuts shall meet the requirements of Aluminum Association Alloy 6061-T6 or 6262-T9 (ASTM F467).
- STEEL BOLTS, NUTS, & WASHERS** All steel bolts, nuts and washers shall meet the requirements of ASTM A325.
- ALTERNATE MATERIAL** Material meeting the requirements of ASTM B209 or Aluminum Association Alloys 5154-H38 or 5052-H38 may be used for sheet and plate. Material meeting the requirements of Aluminum Association Alloy 6351-T5 and ASTM B221 may be used for extruded bars, rods, shapes and tubes.
- TOLERANCES** All above materials shall be in accordance with the governing ASTM specifications.
- GALVANIZING** All steel shapes, angles, tees, plates, bolts, nuts and washers shall be galvanized in accordance with Standard Specifications 962-7.
- BASE CONNECTION** High strength bolts L₂ in the base connection shall be tightened only to the torque shown in the tables on sheets 2 & 3 of 3. Overtightened base connections will not be accepted.
- FUSE PLATES** All holes in fuse plates shall be drilled. All plate cuts shall, preferably, be saw cuts; however, flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- SIGN FACE** All sign face corners shall be rounded. See Sign Layout Sheet.
- SHOP DRAWINGS** When ground sign supports are fabricated in accordance with these plans no shop drawings are required. Shop drawings will be required for approval when the column length exceeds the length shown in the plans by more than 2'-0". However, shop drawings for sign panels, messages, lettering and quantities shall be submitted to traffic plans for approval.
- FABRICATOR NOTE** All bolted connections, except L₂ bolts and Zee to Post bolts, shall be high strength bolts. Bolts shall be tightened in the shop following a method approved by the engineer. Tightening shall be to such a degree so as to attain in each bolt the residual tension specified in the tabulation below:
- FOUNDATION** Contractor may use precast foundations in pre-drilled holes a minimum of 12" larger than the foundation indicated on the plans in either wet or dry conditions. The holes shall be clean and without loose material. Temporary casing shall be required if the soil is unstable. The holes shall be filled with flowable concrete after the precast foundation is in place. The cost of flowable concrete, installing and removal of casing shall be included in the unit price of Sign Multi-Post.

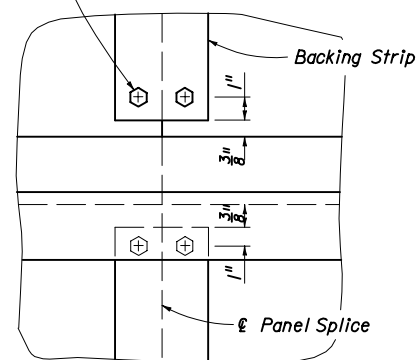
Note: If the sign panels are deeper than 14', a Horizontal Panel Splice is allowed at an interior Z bar support, shop drawings shall be required. Minimum panel section width = 2'-6".

DESIGN WIND SPEEDS BY COUNTY

- ZONE NO. 1 (60 mph)**
Alachua, Baker, Bay, Bradford, Calhoun, Clay, Columbia, Escambia, Gadsden, Gilchrist, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Lake, Leon, Liberty, Madison, Marion, Okaloosa, Putnam, Santa Rosa, Sumter, Suwannee, Union, Walton and Washington Counties.
- ZONE NO. 2 (70 mph)**
Citrus, Desoto, Dixie, Duval, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Levy, Nassau, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, St. Johns, Taylor and Wakulla Counties.
- ZONE NO. 3 (80 mph)**
Brevard, Charlotte, Collier, Indian River, Lee, Manatee, Martin, Palm Beach, Sarasota, St. Lucie and Volusia Counties.
- ZONE NO. 4 (90 mph)**
Broward, Dade and Monroe Counties.



Pairs Of 1/4" Ø Aluminum Flat Head Machine Screws With Nuts And Lock Washers Spaced At 1'-0" Centers Maximum



NUMBER OF WIND BEAMS FOR GIVEN DEPTH & WIND					
Wind	No. Beams	Max. Depth	Wind	No. Beams	Max. Depth
60	2	8'-0"	80	2	6'-8"
60	3	13'-4"	80	3	11'-4"
60	4	18'-0"	80	4	15'-4"
60	5	22'-8"	80	5	19'-0"
70	2	7'-0"	90	2	6'-0"
70	3	12'-0"	90	3	10'-4"
70	4	16'-4"	90	4	14'-0"
70	5	20'-8"	90	5	17'-8"

SIZE OF WIND BEAMS		
Size Of Zee*	Length Of Sign (Feet)	
	2 Posts	3 Posts
Z 1.75 x 1.75 x 1.08	0 - 11'-0"	0 - 17'-4"
Z 3 x 2.69 x 2.33	11'-1" - 19'-0"	17'-5" - 29'-6"
Z 3 x 2.69 x 3.38	19'-1" - 20'-8"	29'-7" - 31'-6"

*Note: Zees Are Aluminum - No Steel Equivalent Available
Designation Gives (Member Depth) x (Width) x (lb/ft)

**HIGH STRENGTH BOLTS (A-325)
MINIMUM RESIDUAL TENSION**

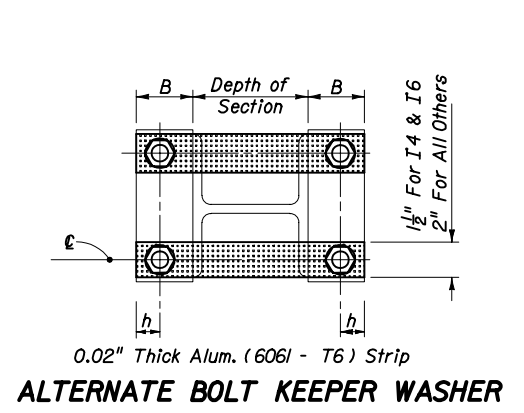
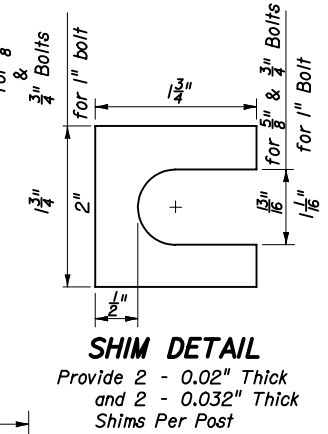
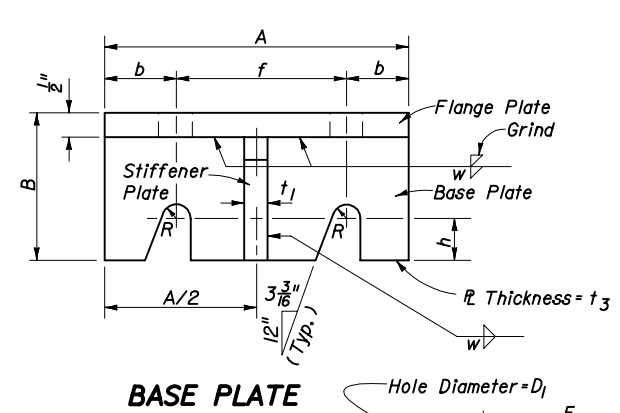
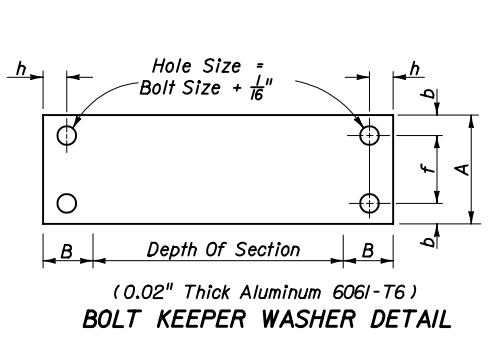
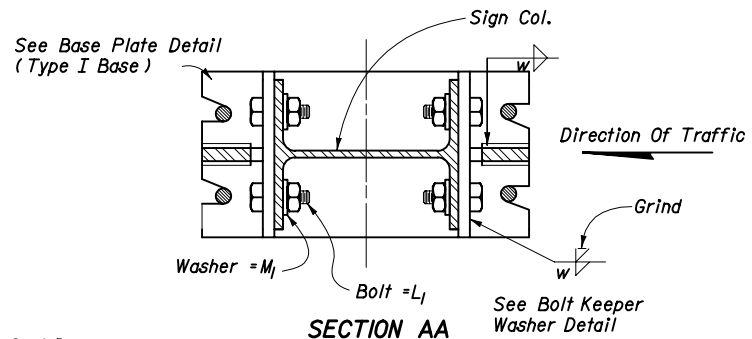
BOLT SIZE	TENSION (lb)
1/4"	19,200
3/8"	28,400
1/2"	39,250
5/8"	51,500
3/4"	56,450
7/8"	71,700

SIGN PANEL AND WIND BEAMS

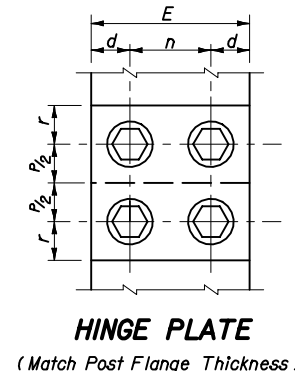
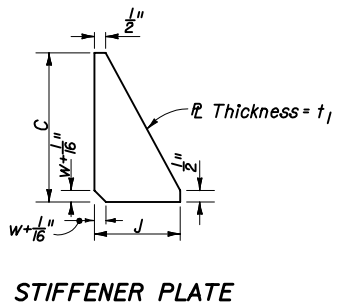
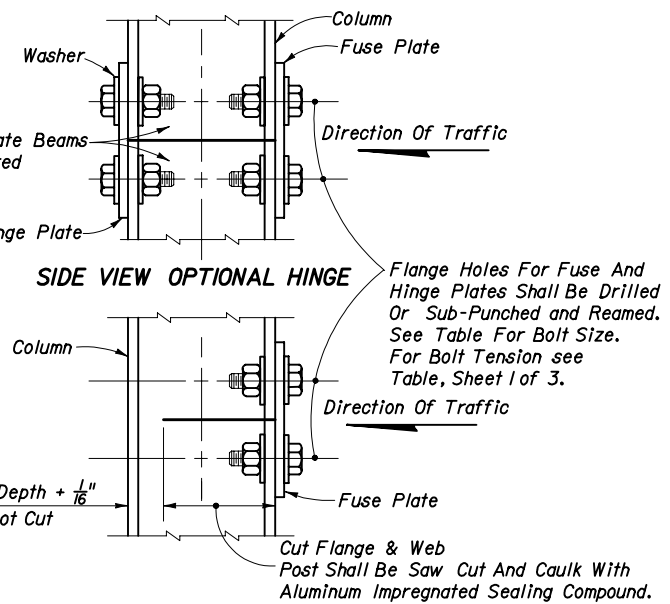
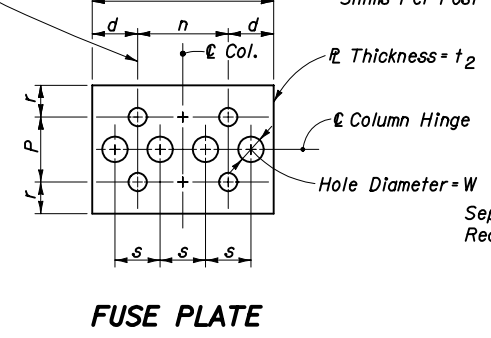
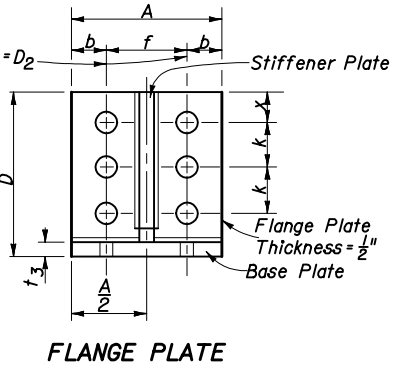
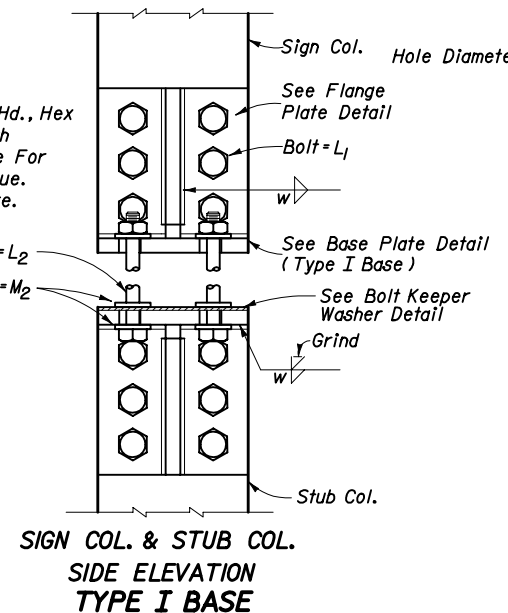
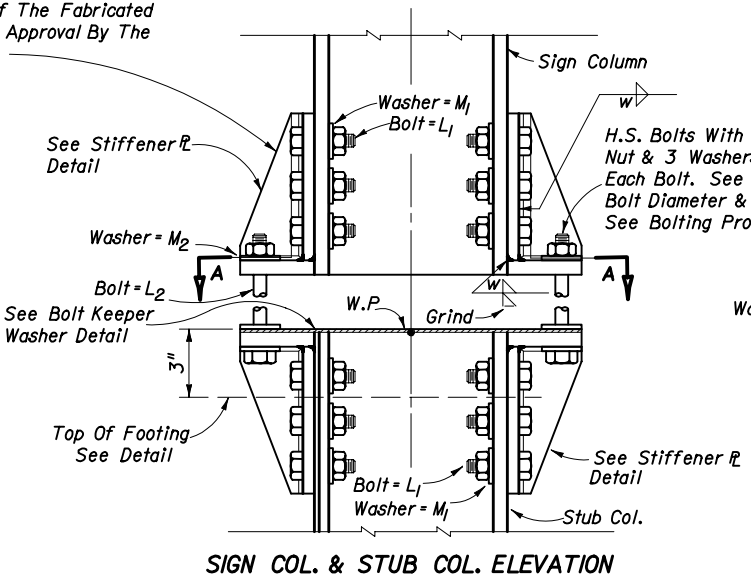
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

**STANDARD ROADSIDE SIGN
BREAK-AWAY PANEL DETAILS**

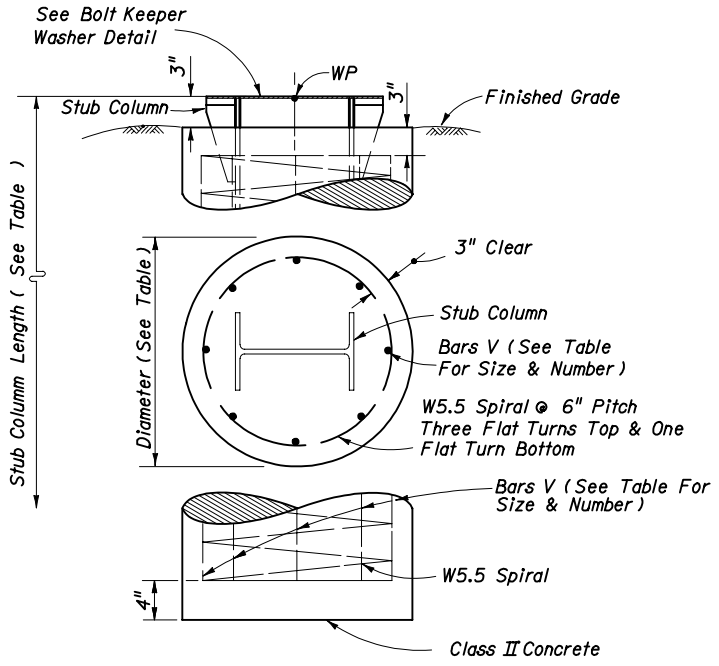
Names	Dates	Approved By	
DESIGNED BY: RES	11-94	[Signature] State Structures Design Engineer	
DRAWN BY: DDDS	11-94		
CHECKED BY: DER	11-94		
REVISION	SHEET NO.		INDEX NO.
	04	1 of 3	9535



An Alternate Cast Base Of Alloy 356 And T6 May Be Submitted For Consideration In Lieu Of The Fabricated Base For Approval By The Engineer.



(See Fabricator Note On Sheet 1 of 3)
SIDE VIEW TYPICAL HINGE FUSE & HINGE PLATE DETAIL B



Section*	BASE CONNECTION DATA TABLE																FUSE (HINGE) PLATE DATA TABLE										FOUNDATION DATA TABLE						
	A	B	C	D	J	L1 (Dia.)	Bolt Size (Dia.) & Torque (L2) (in-lb)	M1	M2	D2	R	x	b	f	h	k	t1	t3	w	Bolt Size	E	P	D1	d	n	r	s	t2	W	Dia.	Depth	Stub Length	Reinforcing Bars "V"
I 4x2.79	3 3/8"	2 1/8"	5 1/8"	6 3/8"	2 1/4"	3/8"	Ø 345	1 1/2"	1 1/8"	1 1/8"	3/8"	1 1/4"	1 1/8"	1 1/4"	1 1/8"	1 1/8"	3/8"	3/8"	3/8"	5/8"	3 3/8"	2 3/4"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1'-8"	4'-6"	1'-8"	10-#5
I 6x4.03	4 1/8"	2 3/8"	5 1/8"	6 3/8"	2 1/4"	3/8"	Ø 345	1 1/2"	1 1/8"	1 1/8"	3/8"	1 1/4"	1 1/8"	1 1/4"	1 1/8"	1 1/8"	3/8"	3/8"	3/8"	5/8"	3 3/8"	2 3/4"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	2'-0"	5'-9"	2'-2"	10-#6
I 8x6.18	5 3/8"	2 3/8"	7 1/8"	7 1/8"	2 3/4"	3/8"	Ø 345	1 1/2"	1 1/8"	1 1/8"	3/8"	1 1/4"	1 1/8"	1 1/4"	1 1/8"	1 1/8"	3/8"	3/8"	3/8"	5/8"	3 3/8"	2 3/4"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	2'-0"	7'-6"	2'-8"	10-#6	
I 9x8.36	5 3/8"	3 1/8"	7 1/8"	8 1/8"	2 3/4"	3/8"	Ø 550	1 1/2"	1 1/8"	1 1/8"	3/8"	1 1/4"	1 1/8"	1 1/4"	1 1/8"	1 1/8"	3/8"	3/8"	3/8"	5/8"	3 3/8"	3 1/4"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	2'-4"	8'-0"	2'-8"	8-#8	
I 10x10.3	6"	3 3/8"	8 1/8"	9 1/8"	2 3/4"	1"	Ø 550	2"	1 1/2"	1 1/8"	3/8"	1 1/4"	1 1/8"	1 1/4"	1 1/8"	1 1/8"	3/8"	3/8"	3/8"	5/8"	6"	4 1/4"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	2'-4"	9'-6"	3'-3"	8-#8	
I 12x14.3	7 1/8"	3 3/8"	9 1/8"	10 3/8"	3"	1"	Ø 690	2 1/4"	2"	1 1/8"	3/8"	1 1/4"	1 1/8"	1 1/4"	1 1/8"	1 1/8"	3/8"	3/8"	3/8"	5/8"	7 1/8"	5 1/4"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	1 1/8"	2'-8"	11'-0"	3'-9"	10-#8	

* All Shapes Listed are Aluminum Association I Beams. Designation Gives (Member Depth) x (lb/ft).

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION: FOR BOLTS L2

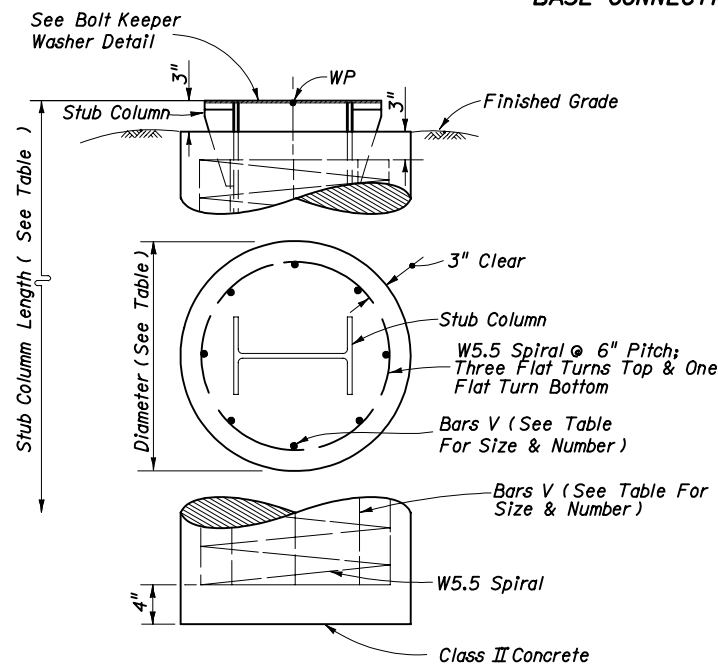
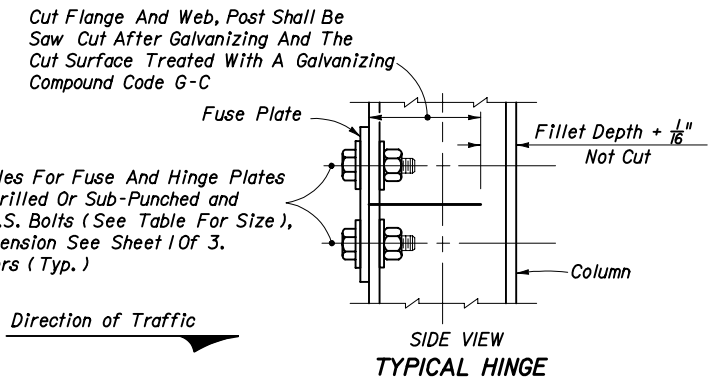
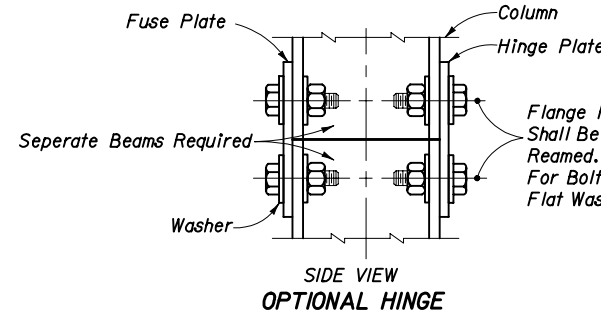
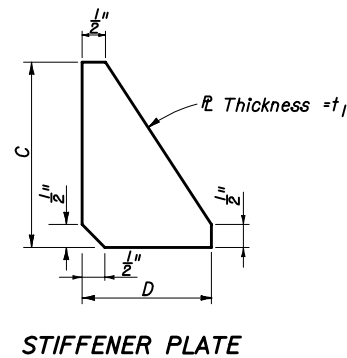
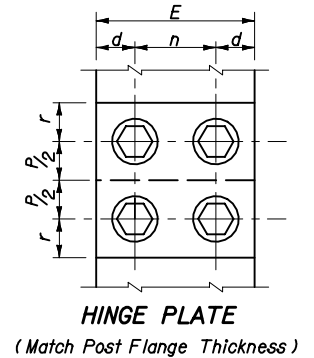
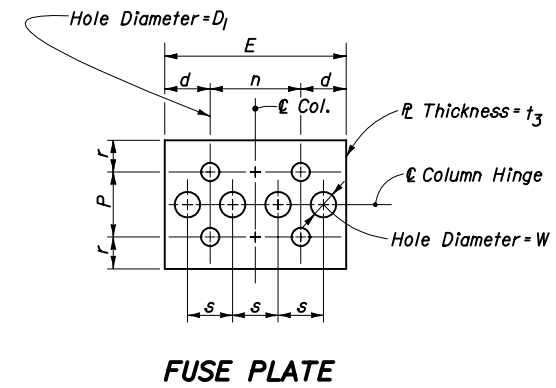
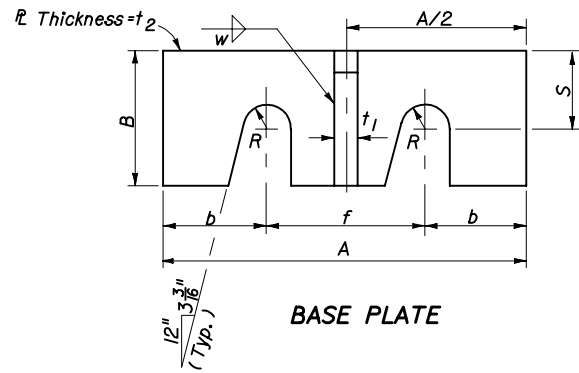
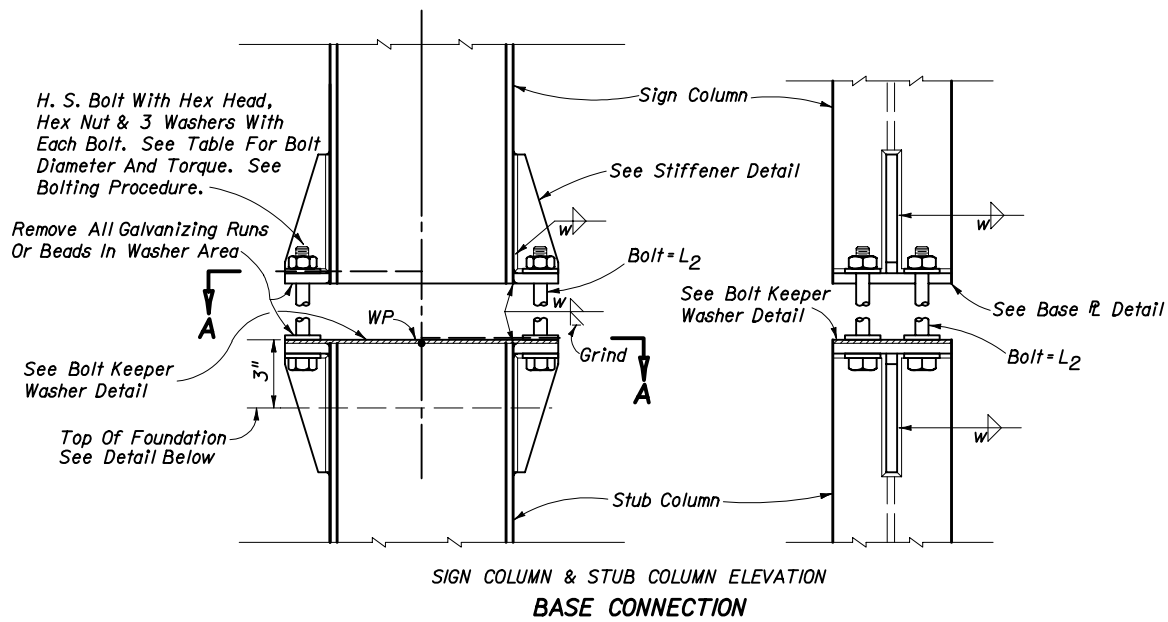
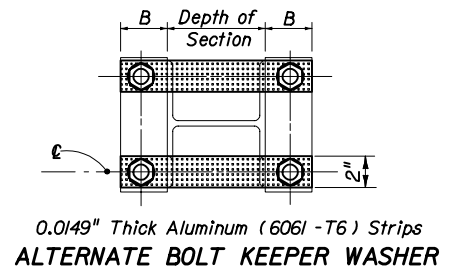
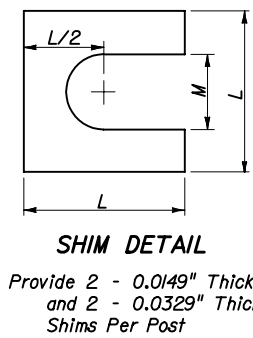
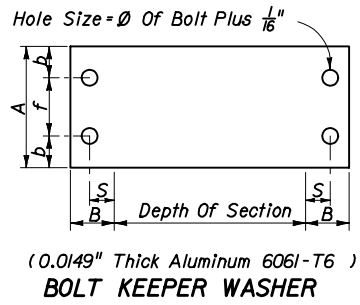
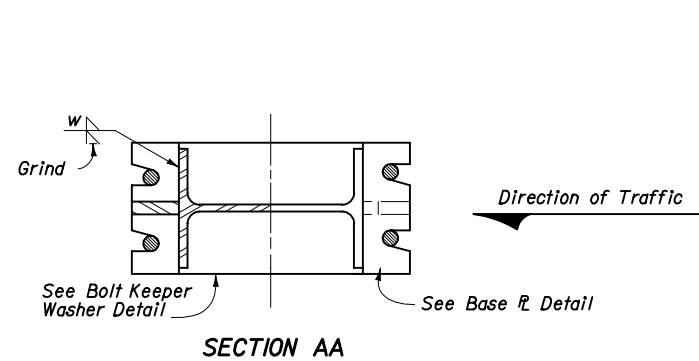
1. Assemble post to stub with bolts and with one flat washer on each bolt between plates.
2. Shim as required to plumb post (See Shim Detail).
3. Tighten all bolts the maximum possible with 1'-0" to 1'-3" wrench to bed washers and shims and to clean bolt threads then loosen each bolt in turn and retighten in a systematic order to the prescribed torque (See Table).
4. Burr threads at junction with nut using a center punch to prevent nut loosening.

NOTE: Sections shown are for installation on right shoulder. For left shoulder plate slot bevels are opposite hand from that shown.

NOTES: To prevent galvanic corrosion, reinforcing steel shall not be in contact with the aluminum stud column. All reinforcing to be Grade 60.

ALUMINUM POST, BASE, FOUNDATION & FUSE R DETAILS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION				
STANDARD ROADSIDE SIGN BREAK-AWAY POST DETAILS				
Names	Dates	Approved By		
Designed By	RES	11-94	State Structures Design Engineer	
Drawn By	SGF	11-94	Revision	Sheet No.
Checked By	DER	11-94	04	2 of 3
				Index No. 9535



Section*	BASE CONNECTION DATA											FUSE (HINGE) PLATE DATA										FOUNDATION DATA			SHIM			
	A	B	C	D	Bolt Size (Lp) & Torque (In-lb)	R	b	f	S	t1	t2	w	Bolt Size	E	P	D1	d	n	r	s	t3	W	Dia.	Depth	Stub Length	Reinf. Bars V	L	M
W 6x12	4 3/4"	2"	5 1/2"	2"	5/8" Ø 345	3/8"	1 1/8"	2 1/2"	1 3/8"	1/2"	1 1/4"	1 1/4"	5/8"	4 1/4"	3"	1 1/8"	1 1/8"	2"	1 3/8"	1"	1/4"	1 3/16"	2'-0"	5'-6"	2'-4"	10-#6	1 3/8"	1 1/16"
W 8x18	5 3/4"	2 3/16"	6 3/4"	2 3/8"	3/4" Ø 550	7/16"	1 1/2"	2 3/4"	1 3/8"	1/2"	1 1/4"	1 1/4"	1"	5 1/4"	3 3/4"	1 5/8"	1 1/2"	1 3/8"	1 5/8"	3/8"	1 1/16"	2'-0"	7'-6"	2'-10"	10-#6	1 3/8"	1 1/16"	
W 10x22	6 1/2"	2 3/8"	8"	2 3/8"	7/8" Ø 640	1/2"	1 3/8"	3"	1 3/8"	1/2"	1 1/4"	1 1/4"	1"	6 3/8"	4 1/8"	1 3/4"	1 3/4"	1 1/2"	1 3/8"	3/8"	1 1/16"	2'-4"	8'-6"	3'-4"	8-#8	2 1/4"	1 3/16"	
W 10x33	8"	2 3/4"	8"	2 3/4"	1 1/8" Ø 780	5/8"	2"	4"	1 9/8"	1/2"	1 3/4"	1 1/4"	1 1/8"	7 1/8"	5 1/8"	1 7/8"	2 1/4"	3 3/8"	2"	1 7/8"	1/2"	1 1/16"	2'-4"	10'-3"	4'-0"	8-#8	2 3/8"	1 3/16"
W 12x40	8"	3"	8"	3"	1 1/8" Ø 780	5/8"	2"	4"	1 9/8"	1/2"	1 3/4"	1 1/4"	1 1/8"	8 3/8"	5 3/4"	1 7/8"	2 1/4"	3 3/8"	2 1/2"	1 7/8"	1/2"	1 1/16"	2'-8"	11'-3"	4'-8"	10-#8	2 3/8"	1 3/16"

* Designations Give (Nominal Depth) x (lb/ft)

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. Assemble post to stub with bolts and with one flat washer on each end bolt between plates.
2. Shim as required to plumb post (see shim detail).
3. Tighten all bolts the maximum possible with 1'-0" to 1'-3" wrench to bed washers and shims and to clean bolt threads then loosen each bolt in turn and retighten in a systematic order to the prescribed torque (see table).
4. Burr threads at junction with nut using a center punch to prevent nut loosening.

NOTE:
Sections shown are for installation on right shoulder.
For left shoulder plate slot bevels are opposite hand from that shown.

STEEL POST, BASE, FOUNDATION & FUSE R DETAILS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

STANDARD ROADSIDE SIGN BREAK-AWAY POST DETAILS

Names	Dates	Approved By		
Designed By	RES	11-94	State Structures Design Engineer	
Drawn By	SGF	11-94	Revision	Sheet No.
Checked By	DER	11-94	04	3 of 3
				Index No.
				9535

NOTE: All Reinforcing To Be Grade 60.