SINGLE COLUMN GROUND SIGN NOTES:

DESIGN WIND SPEED: See Wind Speeds by County.

GENERAL SPECIFICATIONS: Current FDOT Standard Specifications for Road and Bridge Construction and supplements thereto.

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, as modified by the FDOT Structures Manual.

ALUMINUM: Aluminum Materials shall meet the requirements of Aluminum Association Alloy 6061-T6 (ASTM B209, B221, or B308), except as noted below.

CONCRETE: Class II (3,400 psi.)

SIGN PANELS: Sign Panels shall be 0.08 inches min. thick Aluminum Plate with all corners rounded.

ALUMINUM BOLTS, NUTS, AND LOCK WASHERS: Aluminum bolts shall meet the requirements of ASTM F468, Alloy 2042-T4. The bolts shall have Andoic Coating of at least 0.0002 inches thick and be chromate sealed. Lockwashers shall meet the requirements of Aluminum Association Alloy 7075-T6 (ASTM B221). Nuts shall meet the requirements of ASTM F467, Alloy 6061-T6 or 6262-T9.

STAINLESS STEEL BOLTS, NUTS, AND LOCKWASHERS: Stainless Steel Bolts, Nuts, and Lockwashers conforming to ASTM F593 and ASTM F594, Alloy Group 2 Condition A, CW2, or SH4 may be provided in lieu of Aluminum Bolts, Nuts, and Washers.

U-BOLTS, NUTS, AND LOCKWASHERS: U-bolts, Nuts, and Lockwashers shall meet the requirements of ASTM A307, Grade A and shall be galvanized in accordance with ASTM F2329.

INSTALLING FRANGIBLE COLUMN SUPPORTS: Columns (posts) may be installed by driving the columns in accordance with this Index, or as an alternate method, the Contractor may set the columns (posts) to the depth indicated in preformed holes backfilled with suitable material tamped in layers not thicker than 6" to provide adequate compaction or filled with flowable fill or bagged concrete.

QPL: Manufacturers seeking approval of alternate aluminum round tube, steel U-channel and steel square tube single post ground sign assemblies for inclusion on the Qualified Products List (QPL), must submit a QPL application, design calculations, and detailed drawings showing the product meets all the requirements of this index, including the design table, and Specification 700. Steel posts must meet the following requirements:

- U-channel: ASTM A 499 Grade 60, or ASTM A576 Grade 1080 (with a minimum yield strength of 60 ksi).
- Square Tube: ASTM A 653 Grade 50, or ASTM A 1011 Grade 50.

BREAKAWAY SUPPORTS REQUIREMENTS: Column (post) size in diameters larger than 3½" are non-fragible and shall be installed with breakaway supports as shown on Sheet 5 of 8.

WIND SPEEDS BY COUNTY:

110 MPH
Alachua, Baker, Bradford, Clay, Columbia, Gadsden, Gilchrist, Hamilton, Hardee, Jackson, Jefferson, Lafayette, Lake, Leon, Madison, Marion, Polk, Putnam, Sumter, Suwanee and Union counties.

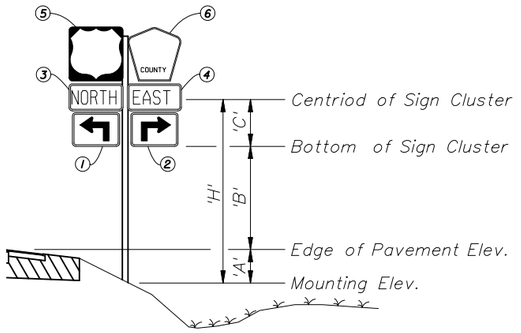
130 MPH
Bay, Brevard, Calhoun, Charlotte, Citrus, De Soto, Dixie, Duval, Flagler, Franklin, Glades, Gulf, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lee, Levy, Liberty, Manatee, Nassau, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Sarasota, Seminole, St Johns, Taylor, Volusia, Wakulla, Walton and Washington counties.

150 MPH
Broward, Collier, Dade, Escambia, Indian River, Martin, Monroe, Palm Beach, Santa Rosa and St. Lucie counties.

GUIDE TO USE THIS STANDARD:

1. Calculate the area and the centroid for an individual sign or a sign cluster. Note that the centroid and areas have been calculated for frequently used sign clusters. These are shown on Sheet No. 6, 7 & 8 of 8.
2. Determine the height 'H' from groundline for the individual sign or the cluster.
3. Select the appropriate Column (Post) Selection Tables by Wind Speed and find the intersection point.
4. Design the post and the foundation according to the dark-bold lines or shaded area (if cantilever sign) in the Column (Post) Selection Tables and Post and Foundation Table.

EXAMPLE:



	Size H x V	Centroid: local $'Y_n'$	Centroid: global $'X_n'$	Centroid: global $'Y_n'$	$'A_n'$	$'X_n' \times 'A'_n$	$'Y_n' \times 'A'_n$	
	(IN x IN)	(IN)	(IN)	(IN)	(IN^2)	(IN^3)	(IN^3)	
①	21 x 15	7.5	-10.5-1.5-1.5 = -13.5	7.5	315	-4,252.5	2,362.5	
②	21 x 15	7.5	10.5+1.5+1.5 = 13.5	7.5	315	+4,252.5	2,362.5	
③	24 x 12	6	-12-1.5 = -13.5	15+1+6= 22	288	-3,888	6,336	
④	24 x 12	6	12+1.5 = 13.5	15+1+6= 22	288	3,888	6,336	
⑤	24 x 24	12	-12-1.5 = -13.5	15+1+12+ 1+12=41	576	-7,776	23,616	
⑥	24 x 24	12	12+1.5 = 13.5	15+1+12+ 1+12=41	436	5,886	17,876	
					2,218	-1,890	58,889	TOTALS

$\Sigma('A_n') = 2{,}218\ IN^2 = 15.4\ FT^2$ $\quad \Sigma('X_n' \times 'A_n') = -1{,}890\ IN^3 = -1.09\ FT^3$ $\quad \Sigma('Y_n' \times 'A_n') = 58{,}889\ IN^3 = 34.1\ FT^3$

$'X'_c = \frac{\Sigma('X'_n \times 'A'_n)}{\Sigma 'A'_n} = -0.1\ FT$ $\quad 'Y'_c = \frac{\Sigma('Y'_n \times 'A'_n)}{\Sigma 'A'_n} = 2.21\ FT$

Assume: Bay County, 'A' = 1 FT, 'B' = 7 FT
Calculated: $'X'_c = -0.1$ FT 'C' = $'Y'_c = 2.21$ FT
Since $'X'_c < 6$", it is not a cantilever sign, only dark-bold lines in the table will be referenced to.

'H' = 'A' + 'B' + 'C' = 10.21 FT ==> USE 11 FT $\quad \Sigma('A_n') = 15.4\ FT^2$ ==> USE 16 FT^2

COLUMN (POST) SELECTION TABLE (WIND SPEED = 130 MPH)

TOTAL PANEL AREA (SF) \ 'H' (FT)	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	
		[0]				[1]			[2]					
3														
4														
5														3
6														
7														
8														
9														
10														4
11														
12														
13														
14														5
15														
16				X										
17														
18														6
19														
20														7

For WIND SPEED = 130 MPH,
'H' = 11 FT, Area = 16 FT^2

- Refer to the 130 mph Column (Post) Selection Table, as copied from Sheet 3 of 8 and shown here.
- Using the 16 ft^2 area on the left hand side of the table, go across to the 11 ft height and find the cell marked with X.
- find the symbol [4] which the dark-bold line under the X cell leads to.
- In the Post and Foundation Table, the symbol [4] concludes that the design requires a 4.0" diameter and 0.25" thick Aluminum Column (Post) and a 2.0' diameter and 5.0' deep Concrete Foundation.

NOTES AND EXAMPLE

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	DYW	AASHTO 2001 LTS-4 Specifications update.			

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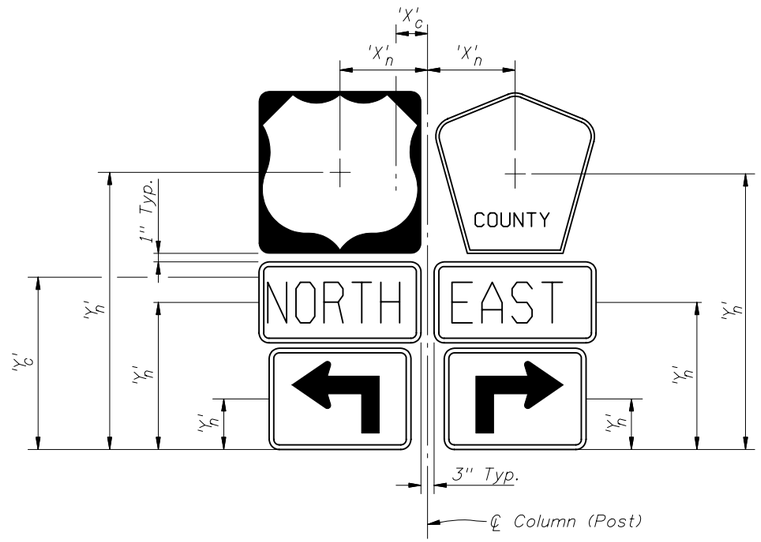
SINGLE COLUMN GROUND SIGNS

Interim Date 01/01/07 | Sheet No. 1 of 8

Index No. 11860



SIGN CLUSTER

CALCULATION OF SIGN CLUSTER CENTROID:

$$'X'_c = \frac{\Sigma('X'_n \times 'A'_n)}{\Sigma'A'_n}$$

$$'C' = 'Y'_c = \frac{\Sigma('Y'_n \times 'A'_n)}{\Sigma'A'_n}$$

'X'c = Centroid horizontal location of sign or cluster from ℄ Column (post)

'Yc' = Centroid height of sign or cluster from bottommost edge

'H' = Height of sign or cluster centroid from groundline

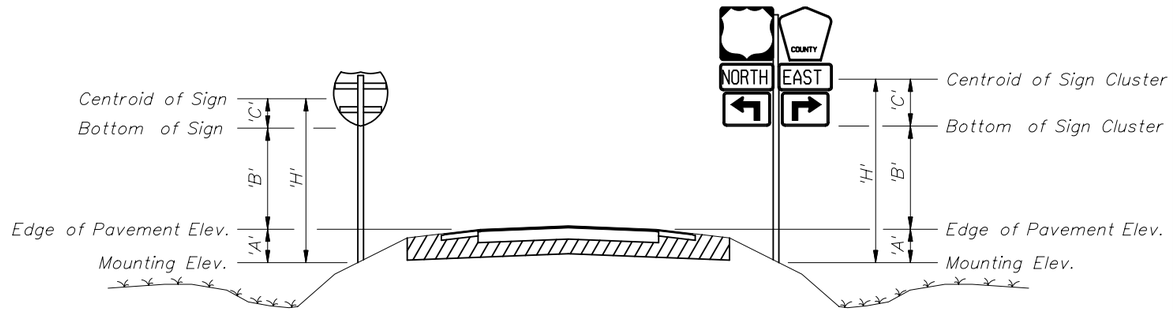
'Xn' = Individual sign centroid horizontal location from ℄ Column (post)

'Yn' = Individual sign centroid height from bottommost edge

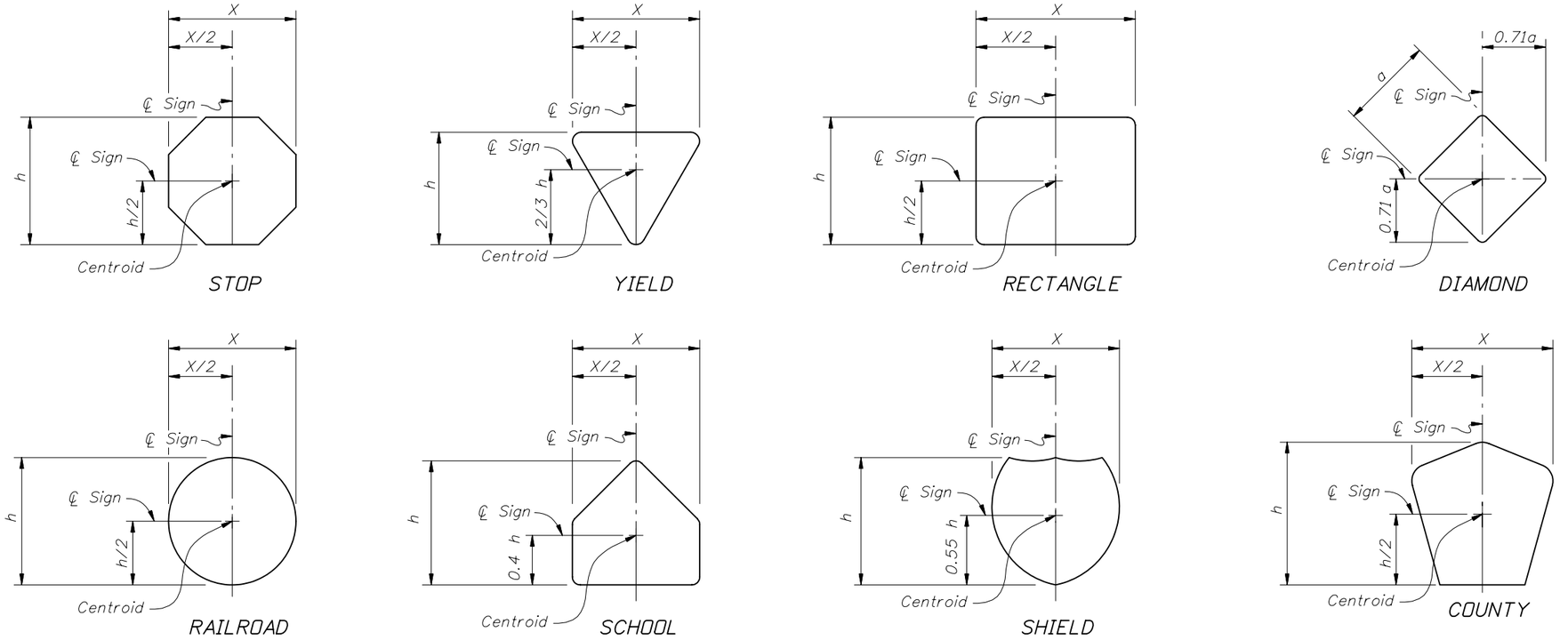
'An' = Area of individual sign

For 'A' & 'B' see Index No. 17302 and Roadway Plans.

NOTE:
No sign or sign cluster area shall exceed 20 SF nor shall any sign or sign cluster have a total horizontal dimension exceeding 48 inches.



TYPICAL SECTION



CENTROID AND HEIGHT

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	DYW	AASHTO 2001 LTS-4 Specifications update.			

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COLUMN (POST) SELECTION TABLE (WIND SPEED = 110 MPH)

TOTAL PANEL AREA (SF) \ 'H' (FT)	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	
				[0]				[1]			[2]			
3														
4														
5	▨													
6														
7		▨												[3]
8												▨		
9														
10														
11									▨					
12	▨													
13														
14														[4]
15														
16														
17														
18				▨										[5]
19														
20			▨											[6]

COLUMN (POST) SELECTION TABLE (WIND SPEED = 130 MPH)

TOTAL PANEL AREA (SF) \ 'H' (FT)	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	
		[0]				[1]			[2]					
3														
4														
5														[3]
6														
7			▨											
8		▨												
9								▨						
10							▨							[4]
11														
12														
13														
14													▨	[5]
15														
16														
17		▨						▨						
18													▨	[6]
19														
20	▨													[7]

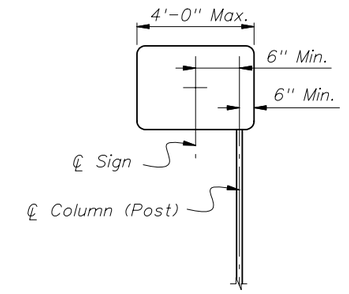
COLUMN (POST) SELECTION TABLE (WIND SPEED = 150 MPH)

TOTAL PANEL AREA (SF) \ 'H' (FT)	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	
			[1]			[2]								
3														[3]
4														
5			▨							▨				
6														
7														[4]
8						▨								
9					▨									
10				▨									▨	[5]
11														
12														
13		▨												[6]
14														
15						▨								
16											▨			
17					▨									
18														
19									▨					
20														[7]

POST AND FOUNDATION TABLE

	Foundation Alternatives				
	Post Size		Driven Post	Concrete*	
	Diameter (IN)	Wall (IN)	Depth (FT)	Diameter (FT)	Depth (FT)
[0]	2.0	1/8	6.0	2.0	3.0
[1]	2.5	1/8	7.0	2.0	3.0
[2]	3.0	1/8	7.0	2.0	4.0
[3]	3.5	3/16	8.0	2.0	4.0
[4]	4.0	1/4	---	2.0	5.0
[5]	4.5	1/4	---	2.0	6.0
[6]	5.0	1/4	---	2.0	6.0
[7]	6.0	1/4	---	2.0	6.0

* See Note on Sheet 1 of 3.



CANTILEVER SIGN

NOTE:
All cantilever sign installations shall comply with Standard Index 17302. Column (post) size shall reference to the shaded area in the Column (Post) Selection Table as instructed. Foundation design shall be based on the chosen column (post) size.

▨ = If CANTILEVER SIGN configuration (see Cantilever Sign Details) falls in this region, use next larger post size than that indicated.

POST AND FOUNDATION TABLES

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	DYW	AASHTO 2001 LTS-4 Specifications update.			

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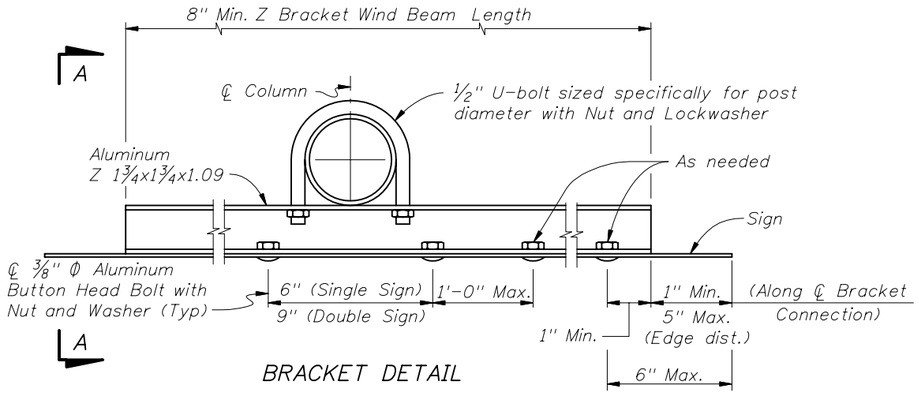
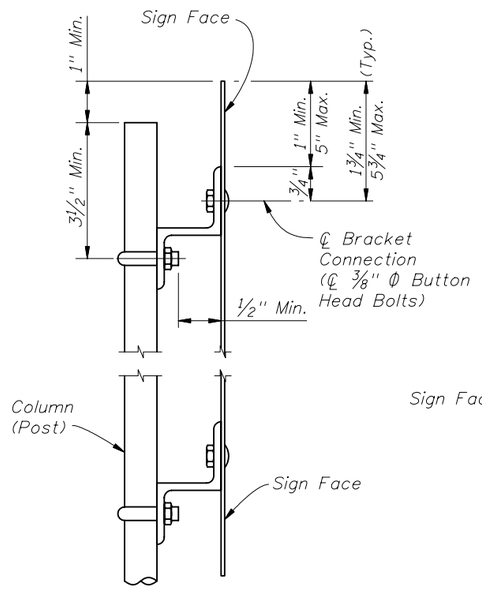
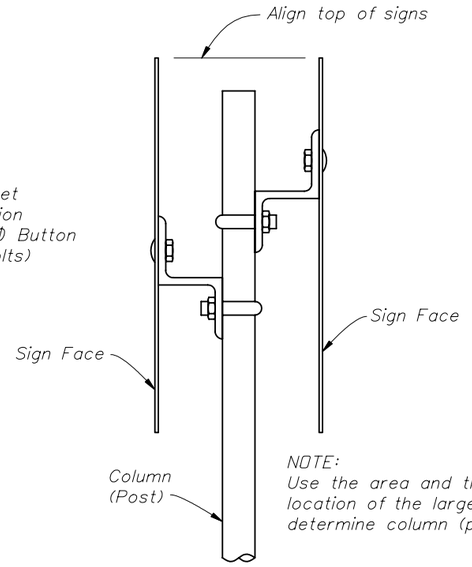


BRACKET DETAIL

NOTES:
1. 5/16" Ø Stainless Steel Hex Head Bolts with Flat Washer under Head and Lockwasher under Nut may be used in lieu of ⅜" Ø Aluminum Button Head Bolts.
2. Nylon washers provided by the sheeting supplier shall be used on all ground mounted signs. The washers shall be installed under the sign bolt head to protect the sheeting.
3. Vertical spacing of brackets shall not exceed 2'-6". Use additional brackets, spaced evenly, to maintain maximum spacing.

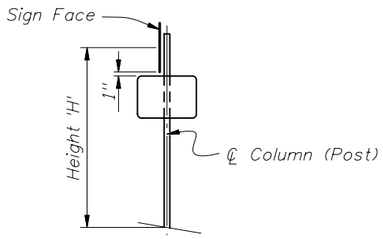


VIEW A-A



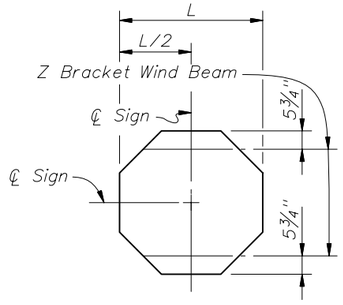
NOTE:
Use the area and the centroid location of the largest sign to determine column (post) size.

SIGNS BACK-TO-BACK

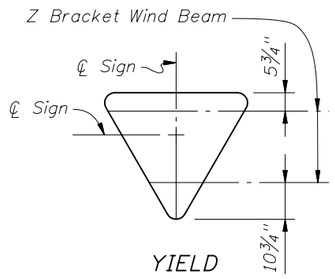


NOTE:
Place largest sign on top.
Use the area and the centroid location of the largest sign to determine column (post) size.

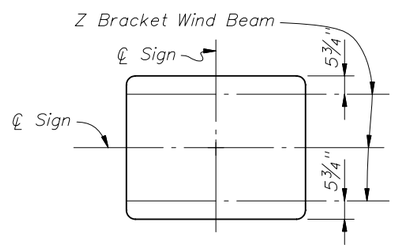
SIGNS AT 90°



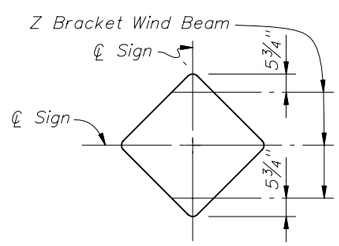
STOP



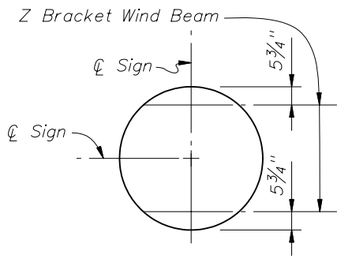
YIELD



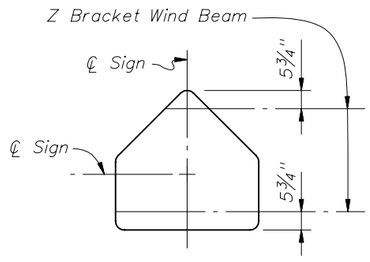
RECTANGLE



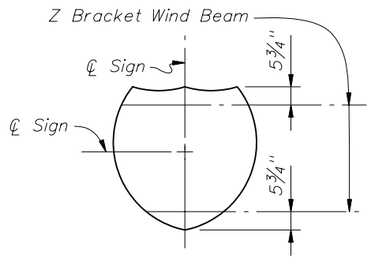
DIAMOND



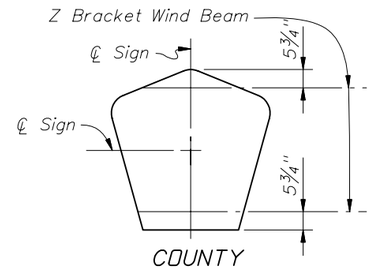
RAILROAD



SCHOOL



SHIELD



COUNTY

CONNECTION AND WIND BEAM

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	DYW	AASHTO 2001 LTS-4 Specifications update.			

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SINGLE COLUMN GROUND SIGNS

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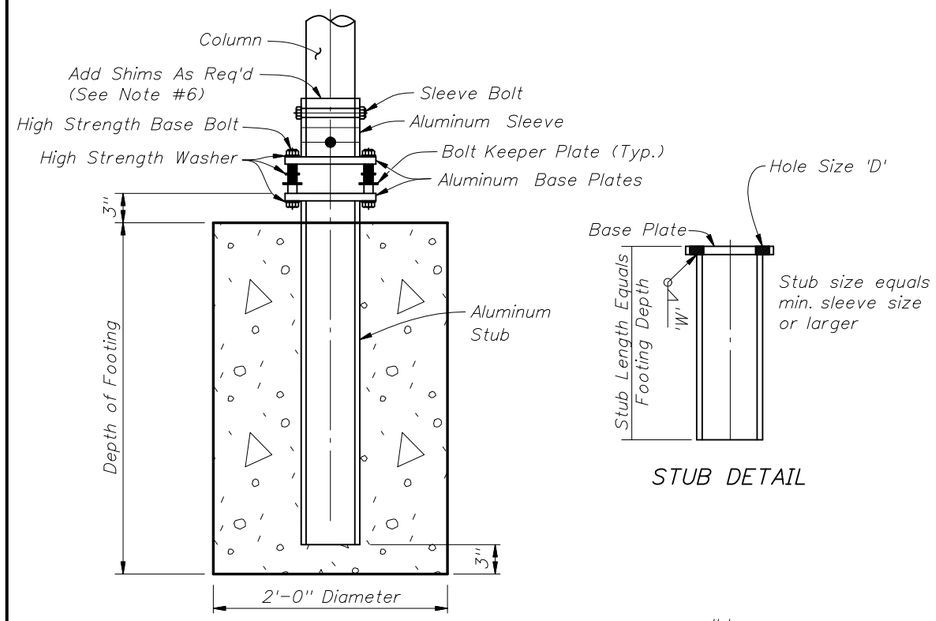
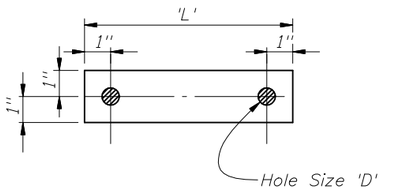


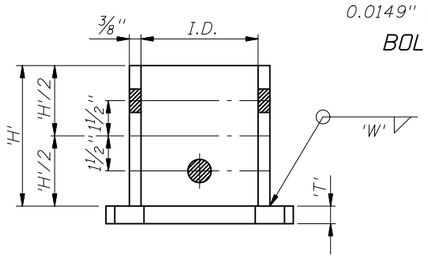
SLIP BASE AND FOOTING DETAIL
(non-frangible post)

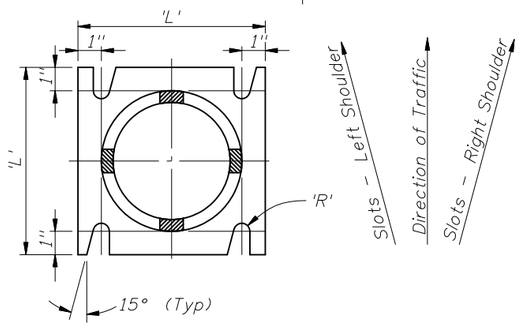
STUB DETAIL



0.0149" Thick Alum. Strip - 2 Req'd Per Base

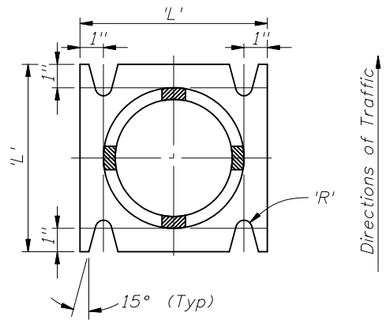
BOLT KEEPER PLATE DETAIL





ALUMINUM SLEEVE & BASE PLATE DETAILS
(SINGLE BEVELED SLOTS)

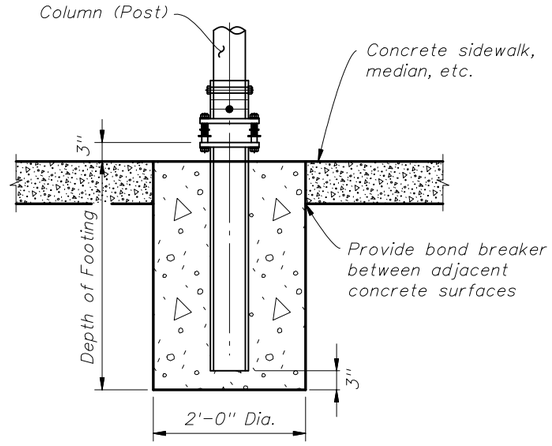
(Right Shoulder Shown, Left Shoulder Plate Slot Bevels are opposite hand)



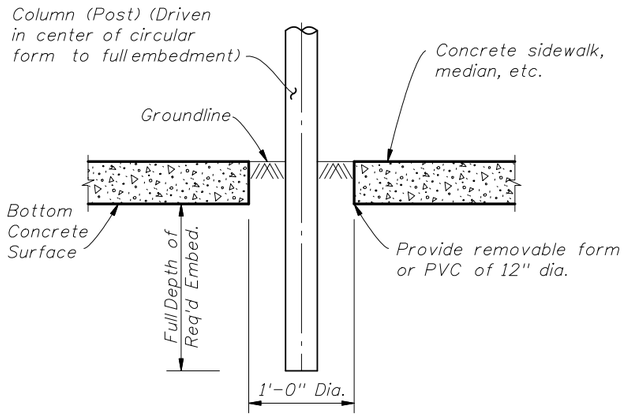
ALUMINUM SLEEVE & BASE PLATE DETAILS
(DOUBLE BEVELED SLOTS)

SLIP BASE NOTES:

1. The Inside Diameter (I.D.) of the sleeve shall be no more than 1/16" larger than the outside Diameter (O.D.) of the column.
2. The sleeve bolts shall be 1/2" Ø with locknuts. The bolts shall be galvanized steel (ASTM A-307) or Aluminum Assosiation Alloy 2024-T4 or 6061-T6 (ASTM B-211).
3. The base bolts, nuts, and washers shall be high strength ASTM A-325 and shall have an electroplated zinc coating SC3, Type II applied in accordance with ASTM B633.
4. Base plates may have either single or double beveled slots.
5. An alternate cast base plate of aluminum alloy 356 and T6 temper in lieu of the fabricated base plate may be submitted for approval by the Engineer. If a cast base plate is used, the stub will be the same size as the column and will be bolted to the casting.
6. Assemble the slip base connection in the following manner:
   Connect column to sleeve using two (2) 1/2" Ø machine bolts.
   Assemble top base plate to stub base plate using high strength bolts with three (3) hardened washers per bolt. One (1) of the (3) washers per bolt and two (2) bolt keeper plates go between the base plates.
   Use shim stock as required to plumb the column.
   Tighten all bolts the maximum possible with a 12" to 15" wrench to bed the washers and shims and to clear the bolt threads. Loosen each bolt one (1) turn and retighten to the prescribed torque (see table). Bolts shall be tightened with properly calibrated wrenches under the supervision of the project engineer.
   Burr threads at junction with nut using a center punch to prevent nut loosening.
7. Use galvanized steel shims to obtain a tight fit between the column face and the sleeve. Place shims in all quadrants between the 1/2" Ø sleeve bolts. The shim length shall be 1" shorter than the height of the sleeve.
8. Both fabricated and cast base assemblies were impact tested by the Texas Transportation Institute, College Station, TX on February 10, 2003, and both alternate assemblies were determined to be compliant with the performance recommendations of the National Cooperative Highway Research Program (NCHRP) report 350.



SLIP BASE AND FOOTING DETAIL IN CONCRETE
(non-frangible post in crossovers, medians, & sidewalks)



DRIVEN POST DETAIL IN CONCRETE
(frangible post in crossovers, medians, & sidewalks)

SLIP BASE DETAILS

Column Size	Sleeve I.D. (Max)	Sleeve Height 'H'	Weld 'W'	Base Plate 'L'	Base Plate 'T'	Radius 'R'	Base Bolt Size	Base Bolt Length	Base Plate Torque Ft-lbs	Base Plate Torque In-lbs	Hole Size 'D'
4 x 1/4	4 1/16	6	5/8	8	3/4	11/32	5/8	3	29	345	11/16
4 1/2 x 1/4	4 9/16	6	5/8	8	7/8	11/32	5/8	3 1/4	29	345	11/16
5 x 1/4	5 1/16	7	5/8	8	7/8	11/32	5/8	3 1/4	29	345	11/16
6 x 1/4	6 1/16	8	11/16	9	1	13/32	3/4	3 1/2	46	554	13/16

Note: Unless notes otherwise, all dimensions are in inches.

BASE AND FOUNDATION DETAILS

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	DYW	AASHTO 2001 LTS-4 Specifications update.			

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Size	Area	Total Area	Centroid
24x12	2.00 SF	11.19 SF	2.76 Ft.
24x12	2.00 SF		
30x24	5.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
30x15	3.13 SF	13.45 SF	3.16 Ft.
30x15	3.13 SF		
30x24	5.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	3.90 SF	1.57 Ft.
18x18	1.71 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	5.22 SF	1.72 Ft.
24x24	3.03 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	6.95 SF	1.87 Ft.
30x30	4.76 SF		

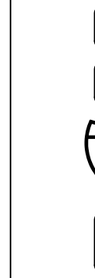
Size	Area	Total Area	Centroid
18x18	1.71 SF	3.90 SF	1.26 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x24	3.03 SF	5.22 SF	1.62 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
30x30	4.76 SF	6.95 SF	1.97 Ft.
21x15	2.19 SF		

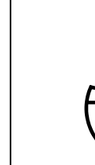
Size	Area	Total Area	Centroid
24x12	2.00 SF	9.39 SF	2.87 Ft.
24x12	2.00 SF		
24x24	3.20 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	10.18 SF	2.84 Ft.
24x12	2.00 SF		
30x24	3.99 SF		
21x15	2.19 SF		



Size	Area	Total Area	Centroid
30x15	3.13 SF	12.44 SF	3.26 Ft.
30x15	3.13 SF		
30x24	3.99 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	5.39 SF	1.75 Ft.
24x24	3.20 SF		



Size	Area	Total Area	Centroid
21x15	2.19 SF	6.18 SF	1.67 Ft.
30x24	3.99 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	5.20 SF	1.67 Ft.
24x24	3.20 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	5.99 SF	1.60 Ft.
30x24	3.99 SF		

Size	Area	Total Area	Centroid
30x15	3.13 SF	7.12 SF	1.81 Ft.
30x24	3.99 SF		

Size	Area	Total Area	Centroid
30x15	3.13 SF	10.33 SF	2.27 Ft.
36x36	7.20 SF		

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	LW	AASHTO 2001 LTS-4 Specificarions update.			

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Interim Date 01/01/07

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Size	Area	Total Area	Centroid
36x12	3.00 SF	6.31 SF	1.75 Ft.
24x24	3.31 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	8.18 SF	1.92 Ft.
30x30	5.18 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	10.46 SF	2.10 Ft.
36x36	7.46 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	16.25 SF	2.48 Ft.
48x48	13.25 SF		

Size	Area	Total Area	Centroid
24x24	3.31 SF	6.31 SF	1.71 Ft.
24x18	3.00 SF		

Size	Area	Total Area	Centroid
30x30	5.18 SF	10.18 SF	2.19 Ft.
30x24	5.00 SF		

Size	Area	Total Area	Centroid
36x36	7.46 SF	12.46 SF	2.55 Ft.
30x24	5.00 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	13.18 SF	2.87 Ft.
30x30	5.18 SF		
30x24	5.00 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	15.46 SF	3.15 Ft.
36x36	7.46 SF		
30x24	5.00 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	6.19 SF	1.60 Ft.
24x24	4.00 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	7.19 SF	1.52 Ft.
30x24	5.00 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	6.00 SF	1.53 Ft.
24x24	4.00 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	7.00 SF	1.45 Ft.
30x24	5.00 SF		

Size	Area	Total Area	Centroid
30x15	3.13 SF	8.13 SF	1.66 Ft.
30x24	5.00 SF		

Size	Area	Total Area	Centroid
24x24	4.00 SF	6.19 SF	1.73 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
30x24	5.00 SF	7.19 SF	1.81 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	8.19 SF	2.26 Ft.
24x24	4.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	9.19 SF	2.27 Ft.
30x24	5.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
30x15	3.13 SF	10.32 SF	2.49 Ft.
30x24	5.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	10.19 SF	2.80 Ft.
24x12	2.00 SF		
24x24	4.00 SF		
21x15	2.19 SF		

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	LW	AASHTO 2001 LTS-4 Specifications update.			

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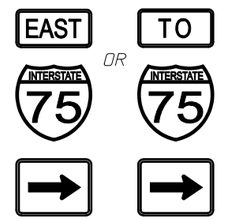
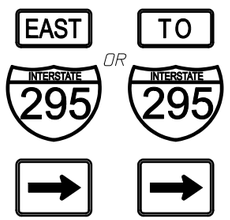
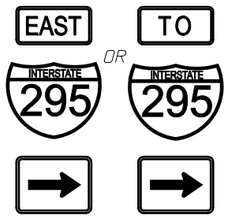
Size	Area	Total Area	Centroid
30x15	3.13 SF	12.12 SF	2.18 Ft.
45x36	8.99 SF		



Size	Area	Total Area	Centroid
24x12	2.00 SF	7.39 SF	2.30 Ft.
24x24	3.20 SF		
21x15	2.19 SF		



Size	Area	Total Area	Centroid
24x12	2.00 SF	8.18 SF	2.31 Ft.
30x24	3.99 SF		
21x15	2.19 SF		



Size	Area	Total Area	Centroid
30x15	3.13 SF	9.31 SF	2.55 Ft.
30x24	3.99 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
30x30	4.69 SF	6.69 SF	1.61 Ft.
24x12	2.00 SF		

Size	Area	Total Area	Centroid
30x30	4.69 SF	8.44 SF	1.77 Ft.
30x18	3.75 SF		

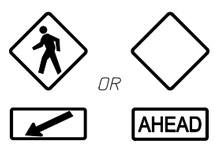
Size	Area	Total Area	Centroid
36x36	6.75 SF	10.50 SF	2.06 Ft.
30x18	3.75 SF		

Size	Area	Total Area	Centroid
30X30	4.69 SF	6.69 SF	1.61 Ft.
24X12	2.00 SF		

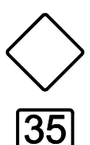
Size	Area	Total Area	Centroid
30X30	4.69 SF	8.44 SF	1.77 Ft.
30X18	3.75 SF		

Size	Area	Total Area	Centroid
36X36	6.75 SF	10.50 SF	2.06 Ft.
30X18	3.75 SF		

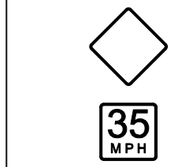
Size	Area	Total Area	Centroid
30X30	6.25 SF	8.25 SF	2.28 Ft.
24X12	2.00 SF		



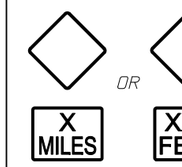
Size	Area	Total Area	Centroid
36X36	9.00 SF	12.75 SF	2.84 Ft.
30X18	3.75 SF		



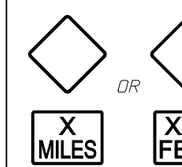
Size	Area	Total Area	Centroid
30X30	6.25 SF	10.25 SF	2.74 Ft.
24X24	4.00 SF		



Size	Area	Total Area	Centroid
36X36	9.00 SF	15.25 SF	3.29 Ft.
30X30	6.25 SF		



Size	Area	Total Area	Centroid
30X30	6.25 SF	9.25 SF	2.51 Ft.
24X18	3.00 SF		



Size	Area	Total Area	Centroid
36X36	9.00 SF	14.00 SF	3.06 Ft.
30X24	5.00 SF		

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
12/12/06	LW	AASHTO 2001 LTS-4 Specifications update.			

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