
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

(Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: May 12, 2022

Originator: Rick Jenkins

Phone: (850) 414-4355

Email: Rick.Jenkins@dot.state.fl.us

Standard Plans:

Index Number: 700-010

Sheet Number (s): 1, 4, 6, 7, and 8 of 11

Index Title: Single Column Ground Signs

Summary of the changes:

Sheet 1: Added New Note 1 - "Meet the requirements of Specification 700"; Delete General Notes 2 through 7; Renumber General Notes.

Sheet 4: Updated Note 1.A. - Deleted Concrete Class.

Sheet 6: Deleted General Note reference in the BACK-TO-BACK SIGN DETAIL.

Sheet 7: Deleted General Note references in the SIGN PANEL SIDE VIEW details.

Sheet 8: Deleted General Note reference in Detail"B".

Commentary / Background:

The 700 Index Series is being edited to remove material information and other information that is located in the Standard Specifications. Revisions are being made to Specification Sections 700, 962 and 965 in conjunction with these changes.

Other Affected Offices / Documents: (Provide name of person contacted)

Yes No

- | | | |
|-------------------------------------|-------------------------------------|---|
| ☒ | ☐ | Other Standard Plans – |
| ☐ | ☒ | FDOT Design Manual – Dewayne Carver |
| ☒ | ☐ | Basis of Estimates Manual – Ryan Gray |
| ☒ | ☐ | Standard Specifications – Daniel Strickland |
| ☐ | ☒ | Approved Product List – Missy Hollis |
| ☐ | ☒ | Construction – Jason Russell |
| ☐ | ☒ | Maintenance – Deanna Hutchison |

Origination Package Includes: (Submit package to Rick Jenkins)

Yes N/A

- | | | |
|-------------------------------------|--------------------------|---|
| ☒ | ☐ | Redline Mark-ups |
| ☐ | ☐ | Revised or Proposed Standard Plan Instruction (SPI) |
| ☐ | ☐ | Other Support Documents |

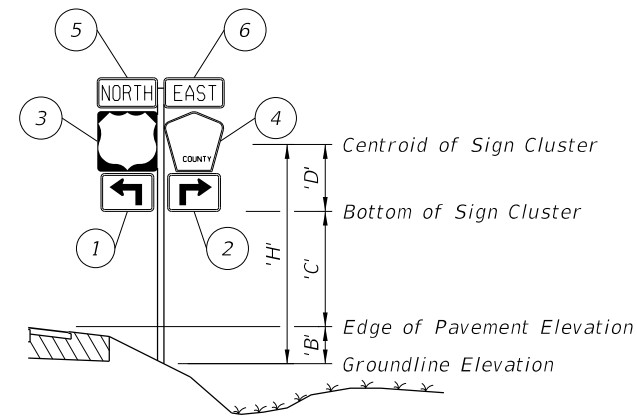
Implementation:

- | | |
|-------------------------------------|----------------------------------|
| ☐ | Design Bulletin (Interim) |
| ☐ | DCE Memo |
| ☐ | Program Mgmt. Bulletin |
| ☒ | FY-Standard Plans (Next Release) |

Contact the Roadway Design Office for assistance in completing this form

Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us

STEP 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 Sheets 7, 8, and 9.



Size a x h	Centroid			'A _n '	'X _n ' x 'A _n '	'Y _n ' x 'A _n '
	Local 'Y _n '	Global 'X _n '	Global 'Y _n '			
(in. x 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 24	12	-12-1.5 = -13.5	15+1+12 = 28	576	-7,776	16,128
4 24 x 24	12	12+1.5 = 13.5	15+1+12 = 28	436	5,886	12,208
5 24 x 12	6	-12-1.5 = -13.5	15+1+24+1+6 = 47	288	-3,888	13,536
6 24 x 12	6	12+1.5 = 13.5	15+1+24+1+6 = 47	288	3,888	13,536
TOTALS				2,218	-1,890	60,133

$\Sigma ('A_n') = 2,218 \text{ in.}^2 = 15.4 \text{ ft.}^2$

$\Sigma ('X_n' \times 'A_n') = -1,890 \text{ in.}^3 = -1.09 \text{ ft.}^3$

$\Sigma ('Y_n' \times 'A_n') = 60,133 \text{ in.}^3 = 34.8 \text{ ft.}^3$

$'X_c' = \frac{\Sigma ('X_n' \times 'A_n')}{\Sigma 'A_n'} = -0.1 \text{ ft.}$

$'Y_c' = \frac{\Sigma ('Y_n' \times 'A_n')}{\Sigma 'A_n'} = 2.26 \text{ ft.}$

ADDED NEW NOTE 1:

STEP 2: Determine the height 'H' from groundline to the centroid of the individual sign or sign cluster. Meet the requirements of Specification 700.

Assume: 'B' = 1 ft., 'C' = 7 ft.
Calculated: X_c = -0.1 ft., Y_c = 'D' 2.26 ft.

$'H' = 'B' + 'C' + 'D' = 10.26 \text{ ft.} \implies \text{USE } 11 \text{ ft.}$

$\Sigma ('A_n') = 15.4 \text{ ft.}^2 \implies \text{USE } 16 \text{ ft.}^2$

STEP 3: Refer to the Aluminum Column (Post) Selection Tables and find the intersection point. See Sheet 3.

ALUMINUM COLUMN (POST) SELECTION TABLE												
	'H' (FT)											
	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft
3 sf	2	2.5	2.5	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5
4 sf	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5
5 sf	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4
6 sf	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4
7 sf	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4
8 sf	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4
9 sf	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4
10 sf	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4.5	4.5
11 sf	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5
12 sf	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5
13 sf	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	5
14 sf	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5
15 sf	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5
16 sf	3.5	4	4	4	4	4	4	4.5	4.5	5	5	6
17 sf	4	4	4	4	4	4	4	4.5	4.5	5	5	6
18 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	5	6
19 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6
20 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6
21 sf	4	4	4	4	4.5	4.5	5	5	5	6	6	6
22 sf	4	4	4	4.5	4.5	4.5	5	5	6	6	6	6
23 sf	4	4	4	4.5	4.5	5	5	5	6	6	6	6
24 sf	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6
25 sf	4	4	4.5	4.5	5	5	5	6	6	6	6	8
26 sf	4	4.5	4.5	4.5	5	5	5	6	6	6	6	8
27 sf	4	4.5	4.5	4.5	5	5	6	6	6	6	6	8
28 sf	4	4.5	4.5	5	5	5	6	6	6	6	6	8
29 sf	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8
30 sf	4.5	4.5	5	5	5	6	6	6	6	6	8	8

For 'H' = 11 ft., Area = 16 ft.²

- Refer to the Aluminum Column (Post) Selection Table, from Sheet 3 and shown here for reference.

- To determine the required post size, find the intersection of the row labeled "16 SF" and the column labeled "11 FT". For the example the intersection value is "4" (4" OD).

- In the Column (Post) and Foundation Table, the value "4" shows the design requires a 4.0" diameter and ¼" thick Aluminum Column (Post) and a 2.0' diameter and 3.5' deep Concrete Foundation and 3.0' Stub.

STEP 4: For sign assemblies with signs oriented in two directions, only the sign with the largest area should be analyzed to determine the Column (Post) requirements.

GENERAL COMMENT: Material information was deleted. Information is either already covered in Standard Specifications OR will be added to Section 700, 962 or 965 in conjunction with these revisions.

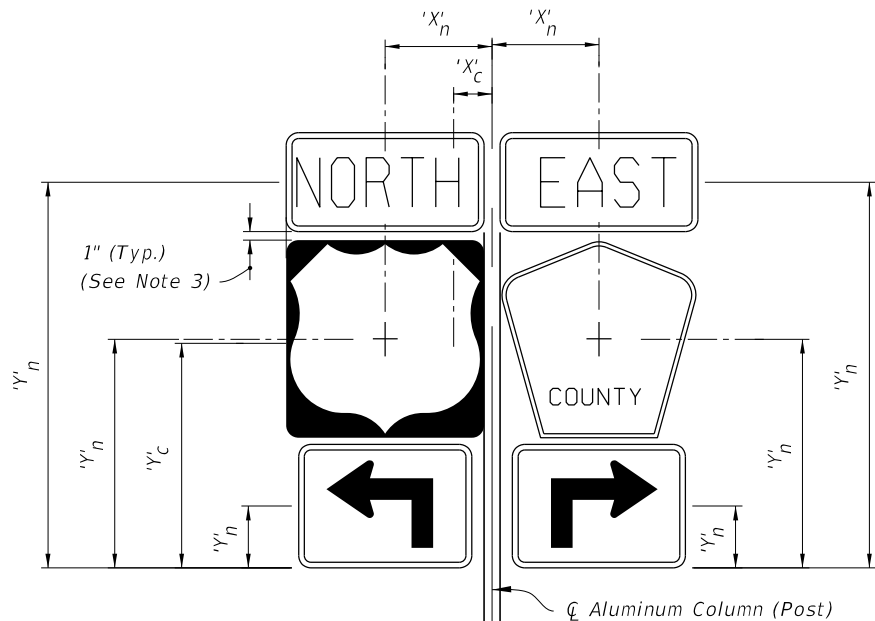
GENERAL NOTES:

- Shop Drawings:
This Index is considered fully detailed. Submit Shop Drawings only for minor modifications not detailed in the Plans.
- Aluminum Sign, Wind Beams and Column (Post) Materials:
A. Aluminum Plates: ASTM B209, Alloy 6061-T6
B. Aluminum Bars and Extruded Shapes: ASTM B221, Alloy 6061-T6
C. Aluminum Structural Shapes: ASTM B221 Alloy 6061-T6
D. Cast Aluminum: ASTM B26 Alloy A356-T6
E. Aluminum Weld Material: ER 5556 or 5356
- Galvanized Steel Slip Base Stub Materials:
A. Steel Plate and Structural Shapes: ASTM A36 or ASTM A709, Grade 36
B. Steel Weld Metal: E70XX
- Sign Mounting Bolts, Nuts and Washers:
A. Aluminum Button Head and Flat Head Bolts: ASTM F468 Alloy 2024-T4
B. Aluminum Hex Nuts: ASTM F467 Alloy 6061-T6 or 6262-T9
C. Aluminum Washers: ASTM B221, Alloy 7075-T6
- Stainless Steel Bolts, Nuts and Washers may be used in lieu of the Aluminum button head and flat head bolts as follows:
A. Stainless Steel Bolts: ASTM F593 Alloy Group 2, Condition A, CW1 or SH1
B. Stainless Steel Nuts: ASTM F594
- Sign Column (Post) Bolts, Nuts and Washers:
A. Galvanized U-Bolt (Column): ASTM A449 or ASTM A193 B7 according to ASTM F2329 with double nuts (nut and lock washer optional).
B. Aluminum Bolts (Sleeve): ASTM F468, Alloy 6061-T6 or 2024-T4 with Hex Nuts F467 6061-T6 or 6262-T9 and Washers B221, Al clad 2024-T4
C. Galvanized High Strength Hex Head Bolts (BaseBolts): ASTM F3125, Grade A325, Type 1
D. Galvanized Hex Nuts: ASTM A563 Grade D
E. Galvanized Washers: ASTM F436
F. Galvanized Bolts (Sleeve): ASTM A307 with Galvanized Hex Nuts and Washers
- Coatings:
A. Aluminum Fasteners: Anodic coating (0.0002 inches mint.) and chromate sealed
B. High Strength Steel Bolts Nuts and Washers: ASTM F2329
C. All other steel items (excluding stainless steel): Hot-dip Galvanize-ASTM A123
D. Repair damaged galvanizing in accordance with Specification 562
- BREAKAWAY SUPPORTS REQUIREMENTS: Install non-frangible aluminum column (post) (larger than 3½") with breakaway supports as shown on Sheet 4. Signs shielded by barrier wall or guardrail do not require breakaway support.

GUIDE TO USE THIS INDEX

GENERAL NOTES AND DESIGN EXAMPLE

LAST REVISION		DESCRIPTION:		FDOT		FY 2022-23		SINGLE COLUMN GROUND SIGNS		INDEX		SHEET	
05/XX/22		11/01/22				STANDARD PLANS				700-010-1		1 of 11	



SIGN CLUSTER

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

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

'A'_n = Area of individual sign

'B' = Height of the edge of pavement from the mounting elevation

'C' = Height of the the bottom of the sign or cluster from the edge of pavement elevation

'D' = Height of the centroid of the sign or cluster from the bottom of the sign or cluster

h = Individual sign height

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

a = Individual sign width

'X'_c = Centroid horizontal location of sign or cluster from Aluminum Column (Post)

'Y'_c = Centroid height of sign or cluster from bottom of sign cluster

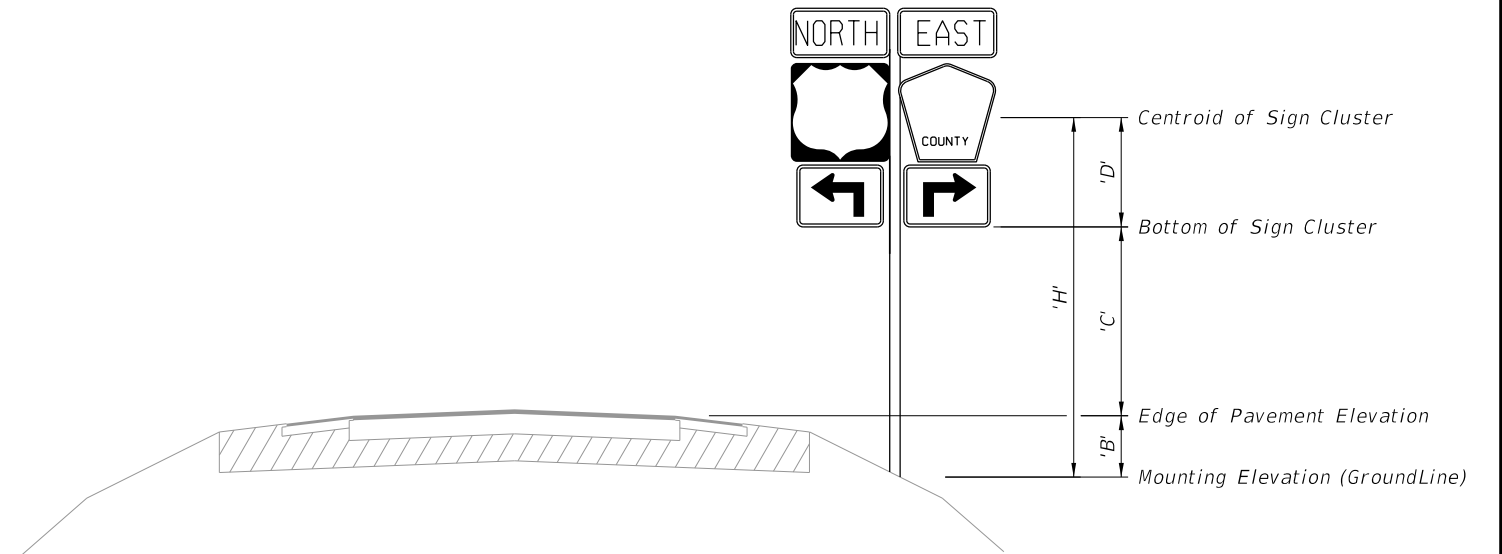
'X'_n = Individual sign centroid horizontal location from Aluminum Column (Post)

'Y'_n = Individual Sign centroid height from bottom of sign cluster

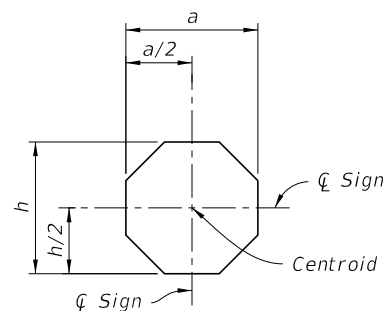
NOTES:

- For 'B' & 'C' see Index 700-101 and Roadway Plans.
- Do not exceed an area of 30 SF or a width of 60 inches for a sign or a sign cluster, including rotated sign panels.
- Vertical sign spacing (1" shown on Sign Cluster detail) also applies to rotated signs.

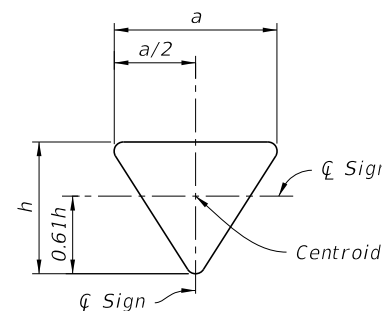
CALCULATION OF SIGN CLUSTER CENTROID



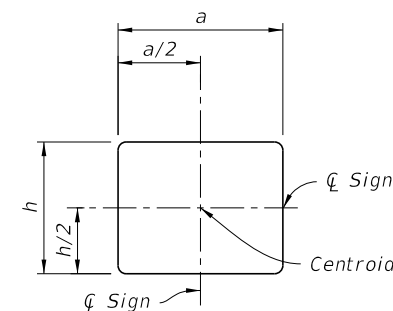
TYPICAL SECTION



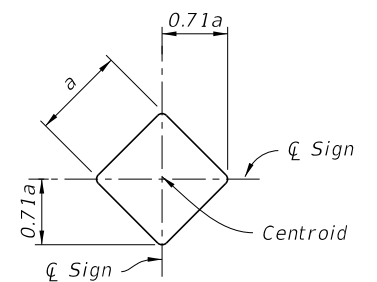
STOP



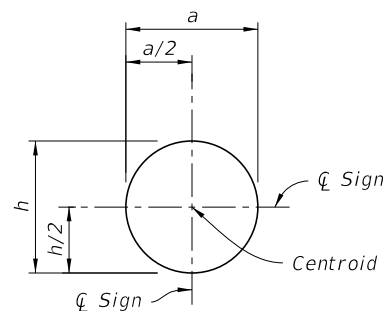
YIELD



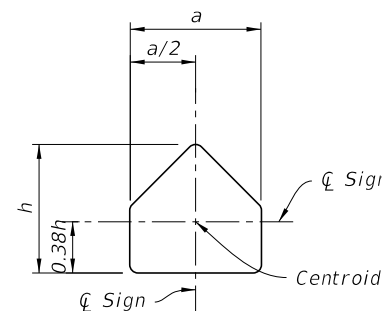
RECTANGLE



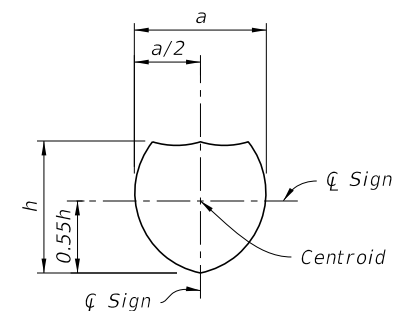
DIAMOND



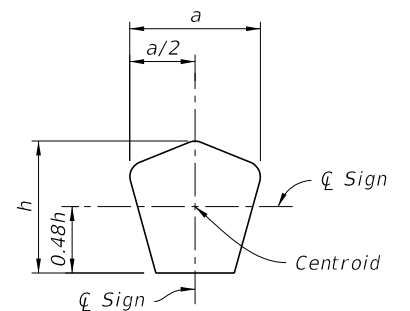
RAILROAD



SCHOOL



SHIELD



COUNTY

DESIGN EXAMPLE - CENTROID

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11/01/22

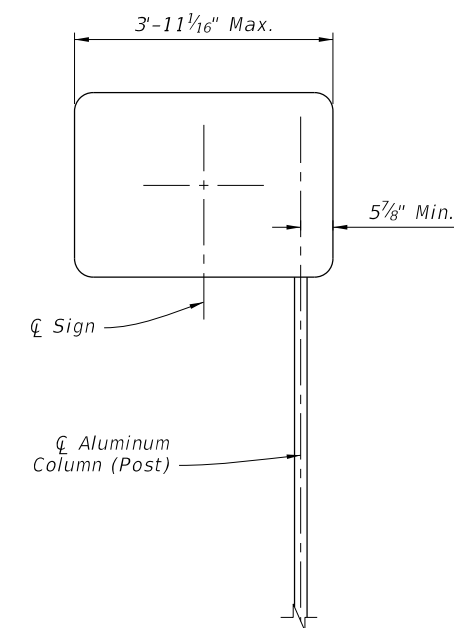
LAST REVISION	DESCRIPTION:	FDOT	FY 2022-23 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX 700-010-1	SHEET 2 of 11
05/XX/22						

		ALUMINUM COLUMN (POST) SELECTION TABLE (O.D. in.)												
		'H' (FT)												
		8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft
TOTAL PANEL AREA (SF)	3 sf	2	2.5	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5
	4 sf	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5
	5 sf	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4
	6 sf	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4
	7 sf	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4
	8 sf	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4
	9 sf	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4
	10 sf	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5
	11 sf	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5
	12 sf	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5
	13 sf	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5	5
	14 sf	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5
	15 sf	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5
	16 sf	3.5	4	4	4	4	4	4	4.5	4.5	5	5	5	6
	17 sf	4	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6
	18 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6
	19 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6	6
	20 sf	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6	6
	21 sf	4	4	4	4	4.5	4.5	5	5	5	6	6	6	6
	22 sf	4	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6
	23 sf	4	4	4	4.5	4.5	5	5	5	6	6	6	6	6
	24 sf	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6	6
	25 sf	4	4	4.5	4.5	5	5	5	6	6	6	6	6	8
	26 sf	4	4.5	4.5	4.5	5	5	5	6	6	6	6	8	8
	27 sf	4	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8
	28 sf	4	4.5	4.5	5	5	5	6	6	6	6	6	8	8
	29 sf	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8	8
	30 sf	4.5	4.5	5	5	5	6	6	6	6	6	8	8	8

FOUNDATION TABLE						
Column (Post) Size		Foundation Alternatives				
		Driven Post *		Concrete (Class II)		
Outside Diameter (in)	Wall Thk. (in)	Embedment Depth (ft)		Diameter (ft)	Embedment Depth (ft)	Stub Length (ft)
		without Soil Plate	with Soil Plate			
2.0	$\frac{1}{8}$	4.5	2.5	---	---	---
2.5	$\frac{1}{8}$	5.0	3.0	---	---	---
3.0	$\frac{1}{8}$	5.0	3.5	---	---	---
3.5	$\frac{3}{16}$	6.0	4.5	---	---	---
4.0	$\frac{1}{4}$	---	---	2.0	3.5	3.0
4.5	$\frac{1}{4}$	---	---	2.0	4.0	3.0
5.0	$\frac{1}{4}$	---	---	2.0	4.5	3.0
6.0	$\frac{1}{4}$	---	---	2.0	5.0	3.0
8.0	$\frac{1}{4}$	---	---	2.0	5.5	3.0

* *INSTALLING FRANGIBLE COLUMN SUPPORTS:*

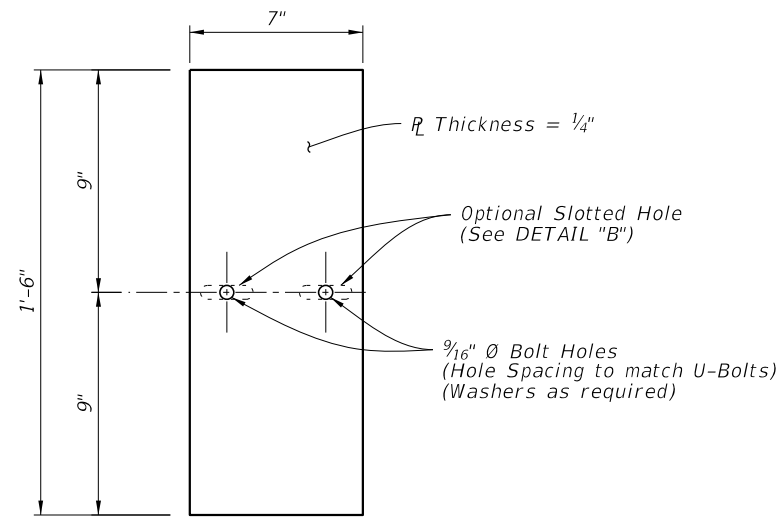
Columns (posts) $3\frac{1}{2}$ " O.D. and less are considered frangible and may be installed either by driving the post or setting the posts in preformed holes. Backfill preformed holes with suitable material tamped in layers not thicker than 6" (to provide adequate compaction) or filled with flowable fill or bagged concrete.



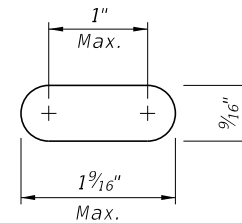
$\equiv \text{OFFSET SIGN}$

NOTES:

1. For offset sign placement see Index 700-101.
2. For signs with widths greater than 4' see Index 700-011.
3. Offset signs with driven posts require a soil plate.

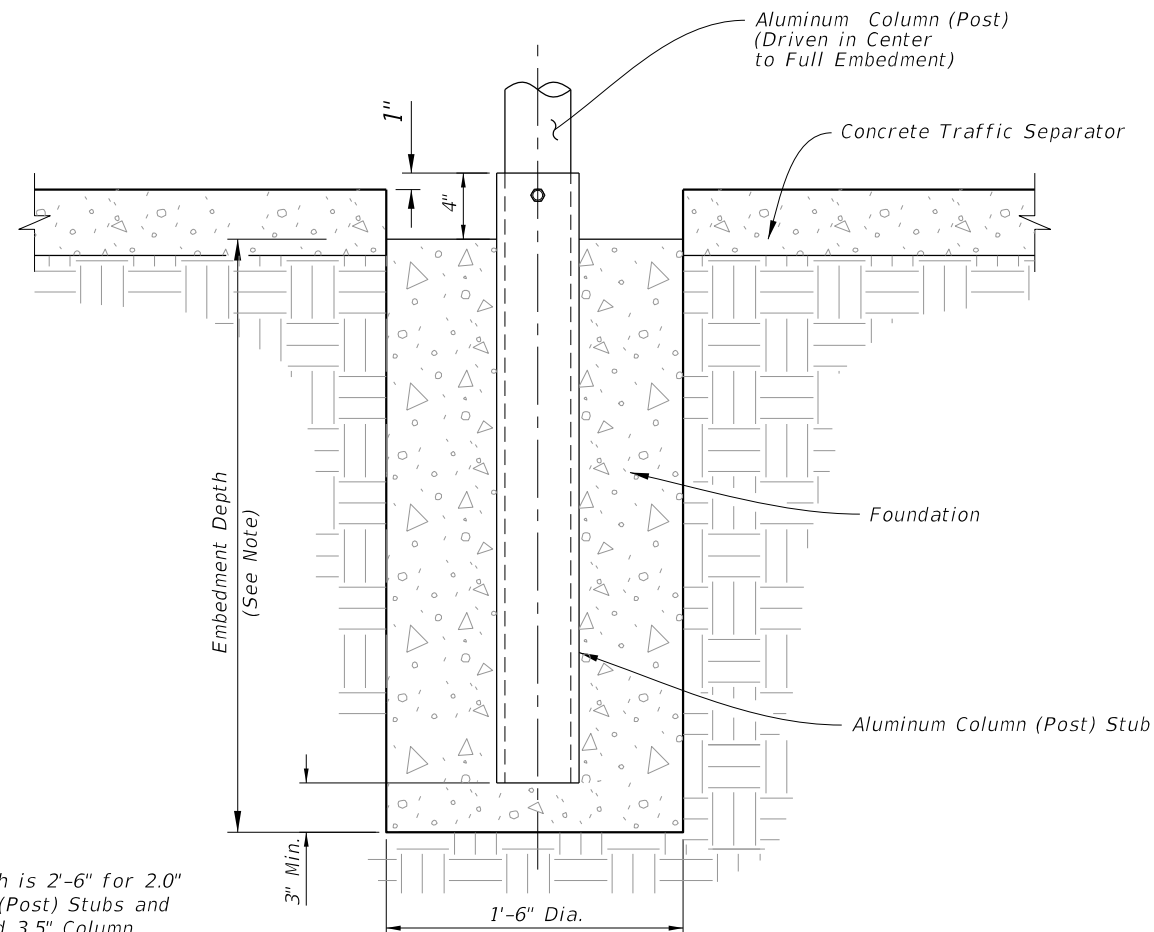
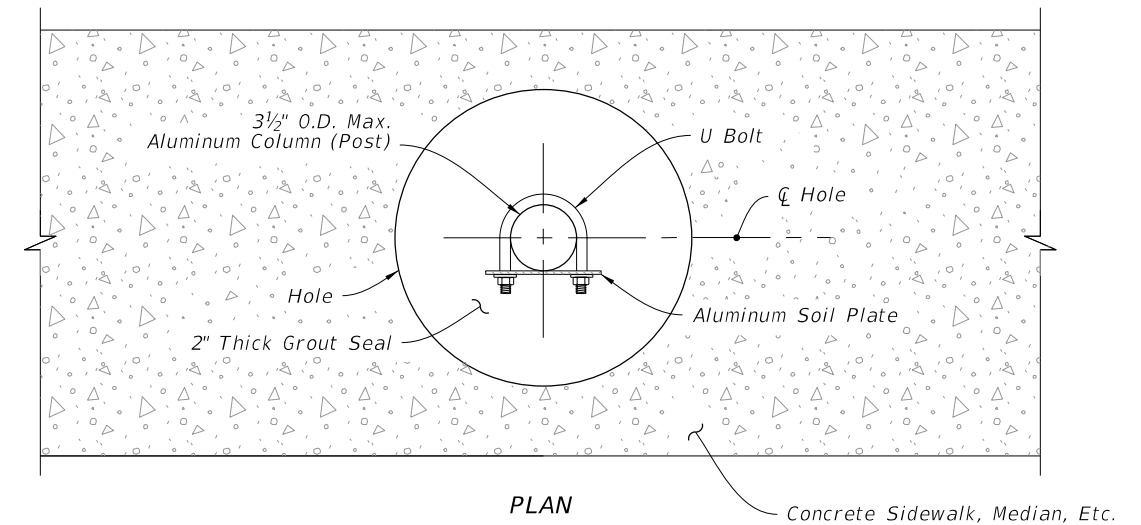


Optional Slotted Holes



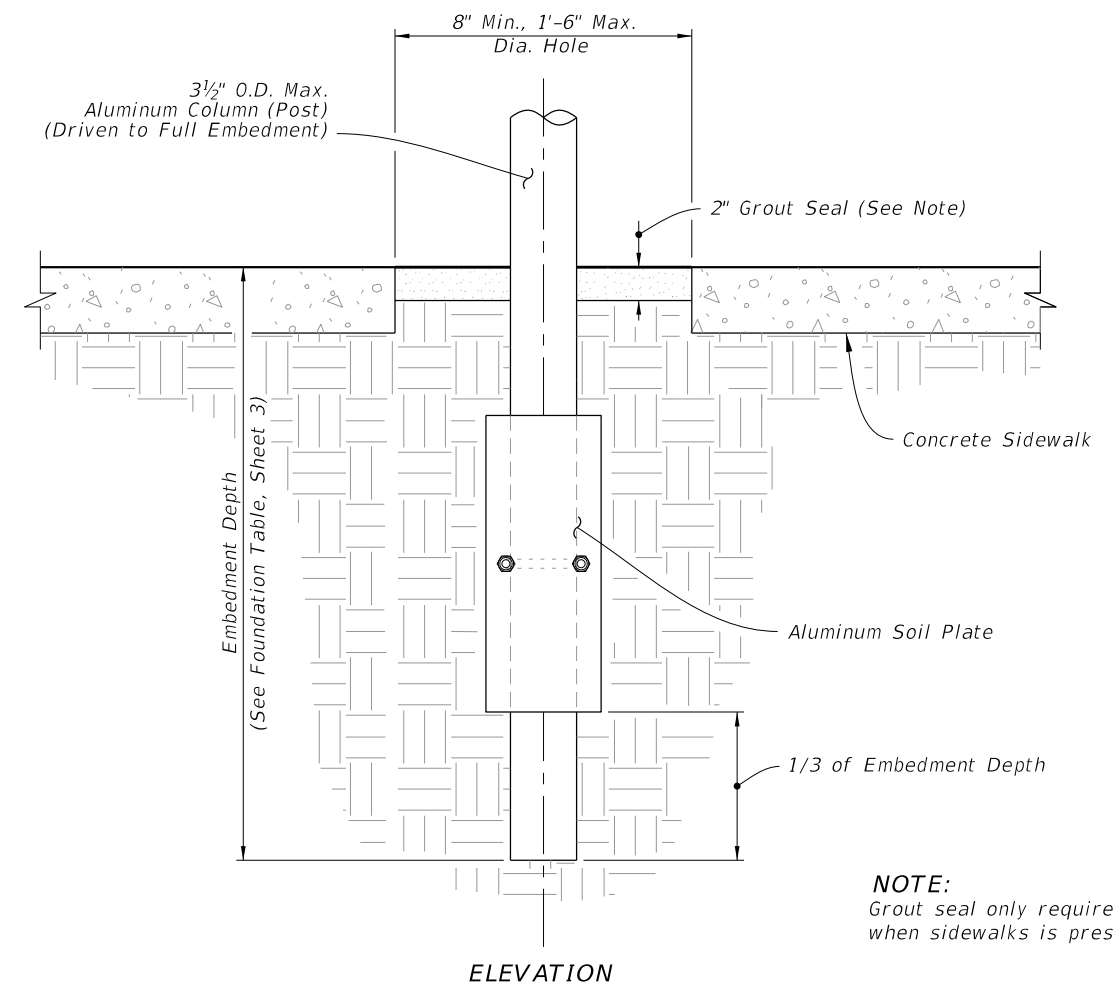
ALUMINUM SOIL PLATE DETAIL

DETAIL "B"



NOTE:
Embedment Depth is 2'-6" for 2.0" and 2.5" Column (Post) Stubs and 3'-6" for 3.0" and 3.5" Column (Post) Stubs.

CONCRETE/STUB DETAIL
(Traffic Separator)



NOTE:
Grout seal only required when sidewalks is present.

DRIVEN POST DETAIL
(Frangible Post In Through Sidewalk Shown
Installations without Sidewalk Similar)

DRIVEN POST, CONCRETE/STUB, AND SOIL PLATE DETAILS

5/25/2022 11:02:53 AM

LAST REVISION	DESCRIPTION:
05/XX/22	
11/01/22	



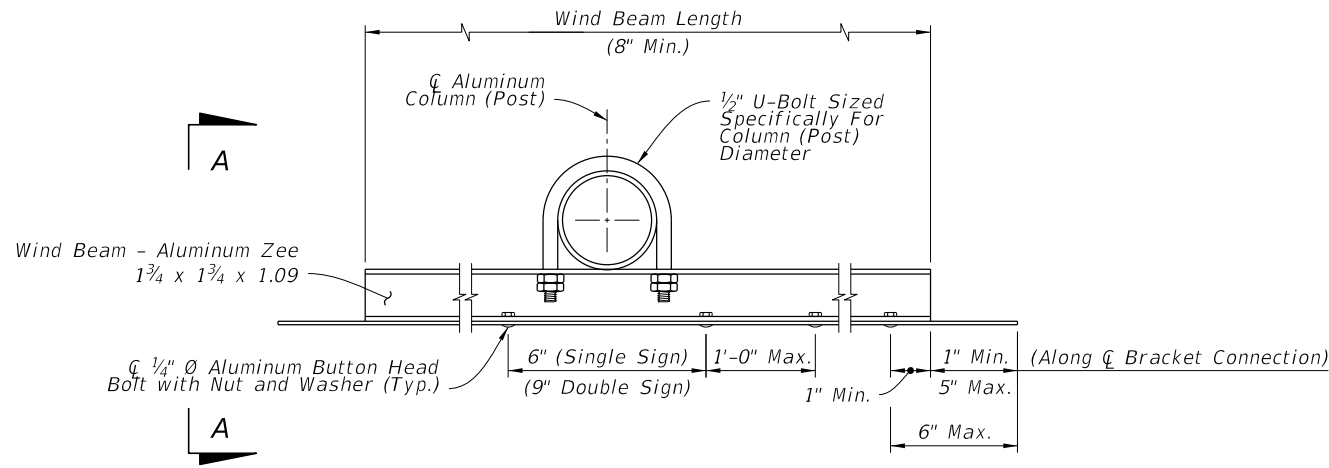
FY 2022-23
STANDARD PLANS

SINGLE COLUMN GROUND SIGNS

INDEX
700-010-1

SHEET
5 of 11

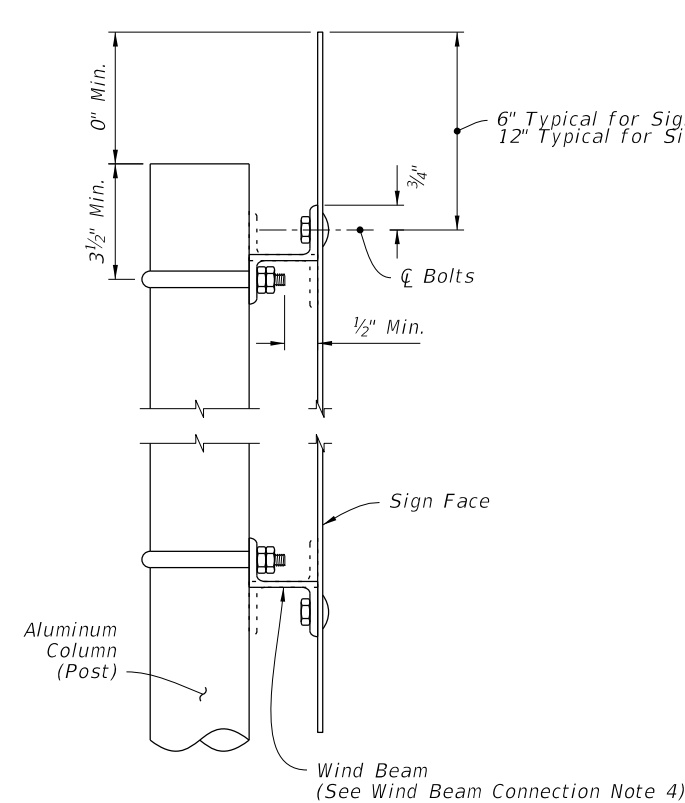
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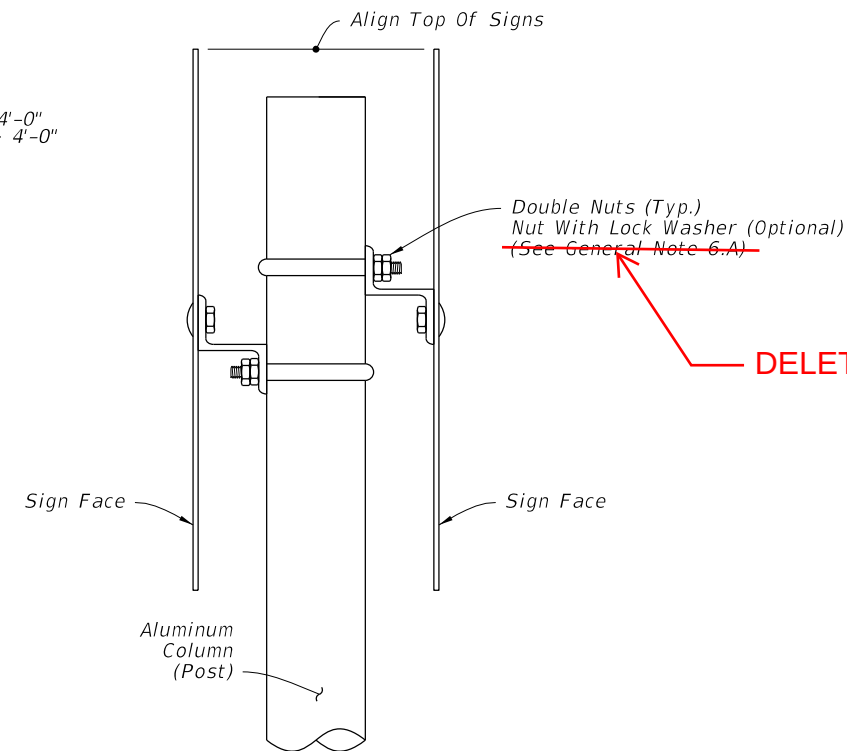
NOTES:

1. 5/16" Ø stainless steel hex head bolts with nylon washer under head and washer under nut may be used in lieu of 1/4" Ø aluminum button or flat head bolts.
2. Use nylon washers (provided by the sheeting supplier) under the bolt heads to protect sign sheeting.
3. Slots up to 2" long are allowed in wind beams to accommodate U-Bolts for varying Column (Post) diameters.
4. Wind beams may be oriented in either direction.
5. For signs greater than 66" in height, install a third wind beam evenly spaced between the top and bottom wind beams. For signs up to 12" in height, use only one wind beam at C Sign. Install two wind beams on signs with heights greater than 12" and less than or equal to 66".

WIND BEAM CONNECTIONS DETAILS



SINGLE SIGN DETAIL



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

BACK-TO-BACK SIGN DETAIL

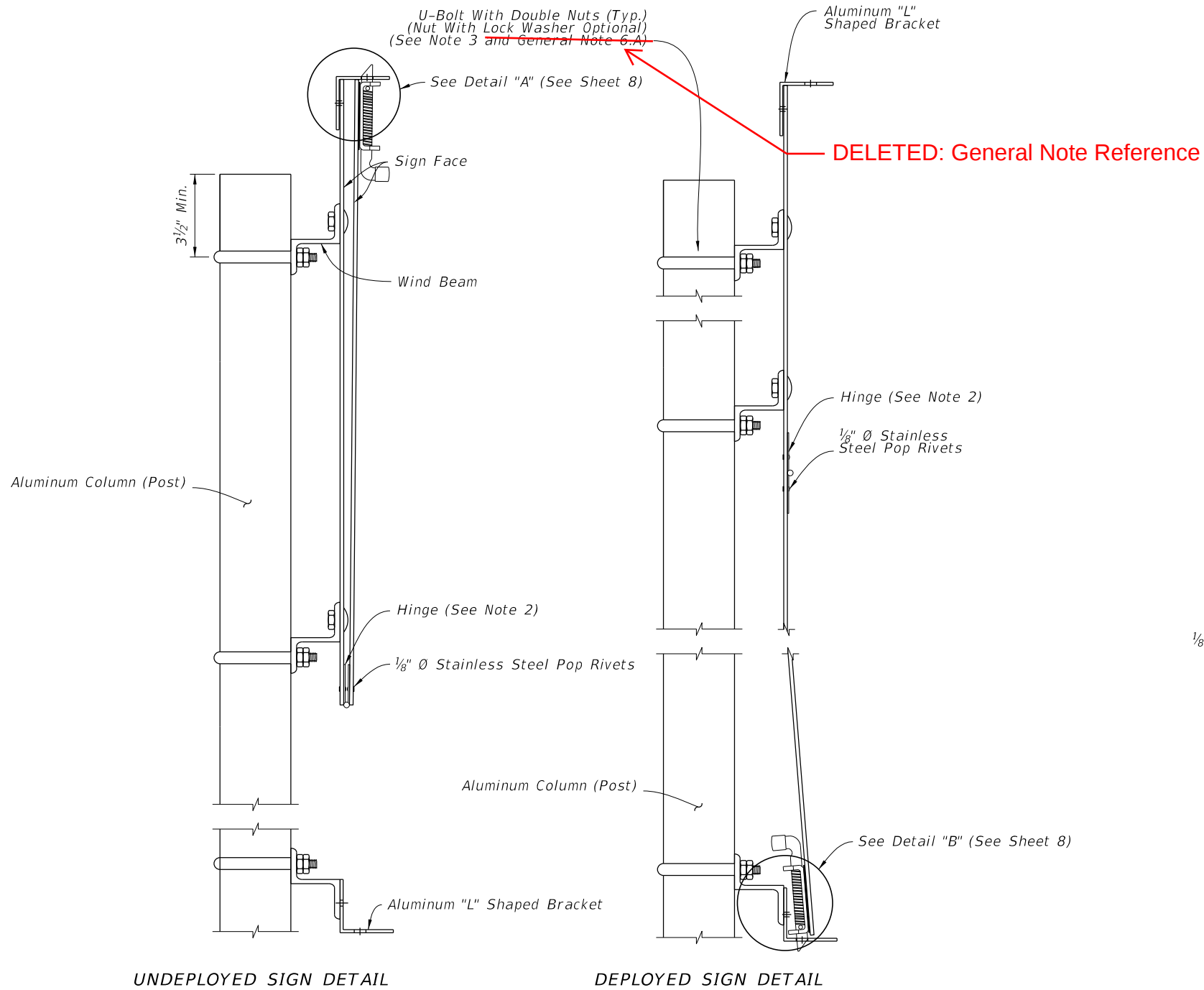
VIEW A-A

DELETED: General Note Reference

WIND BEAM CONNECTION

LAST REVISION		DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
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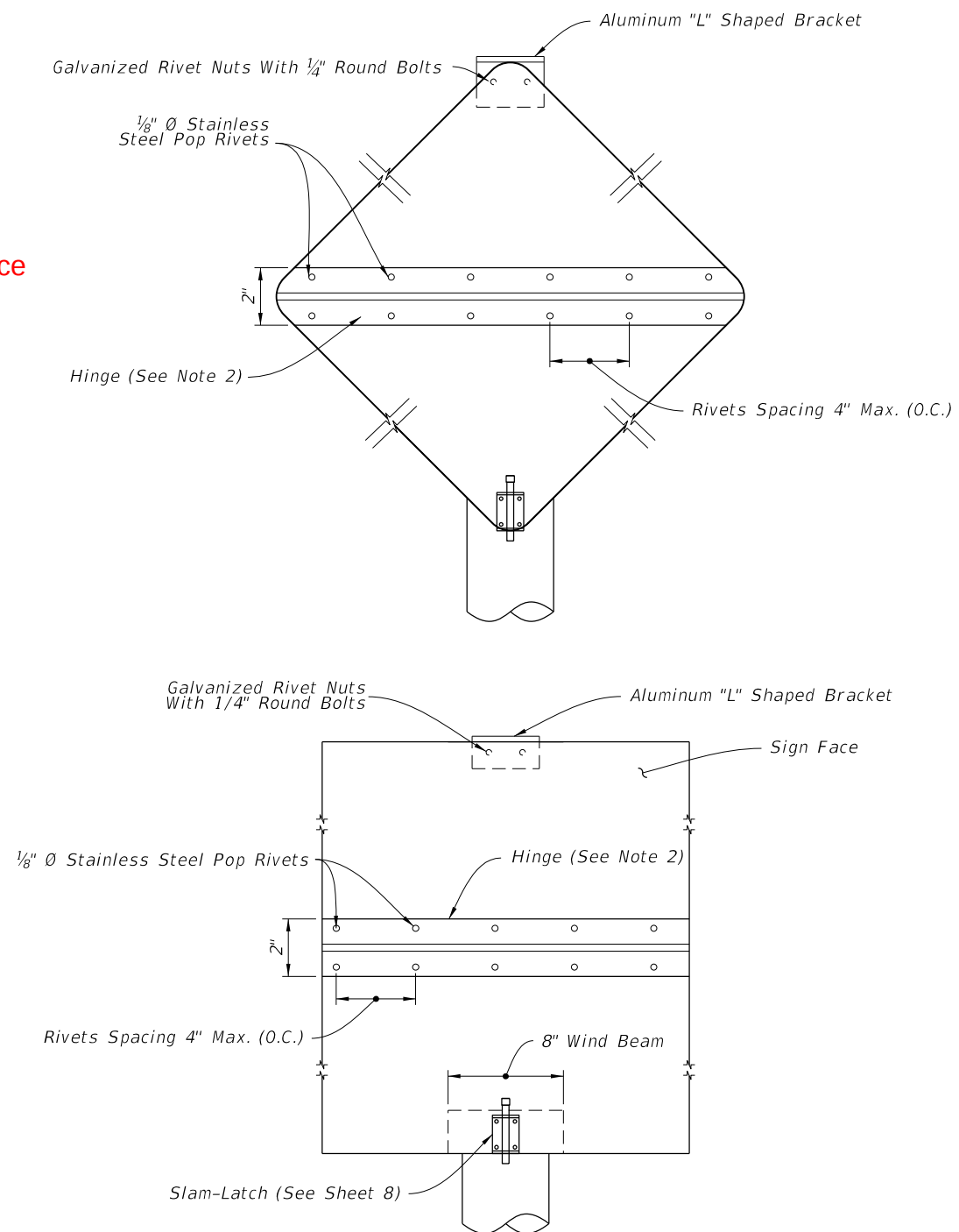
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UNDEPLOYED SIGN DETAIL

DEPLOYED SIGN DETAIL

SIGN PANEL SIDE VIEW



SIGN PANEL FRONT VIEW

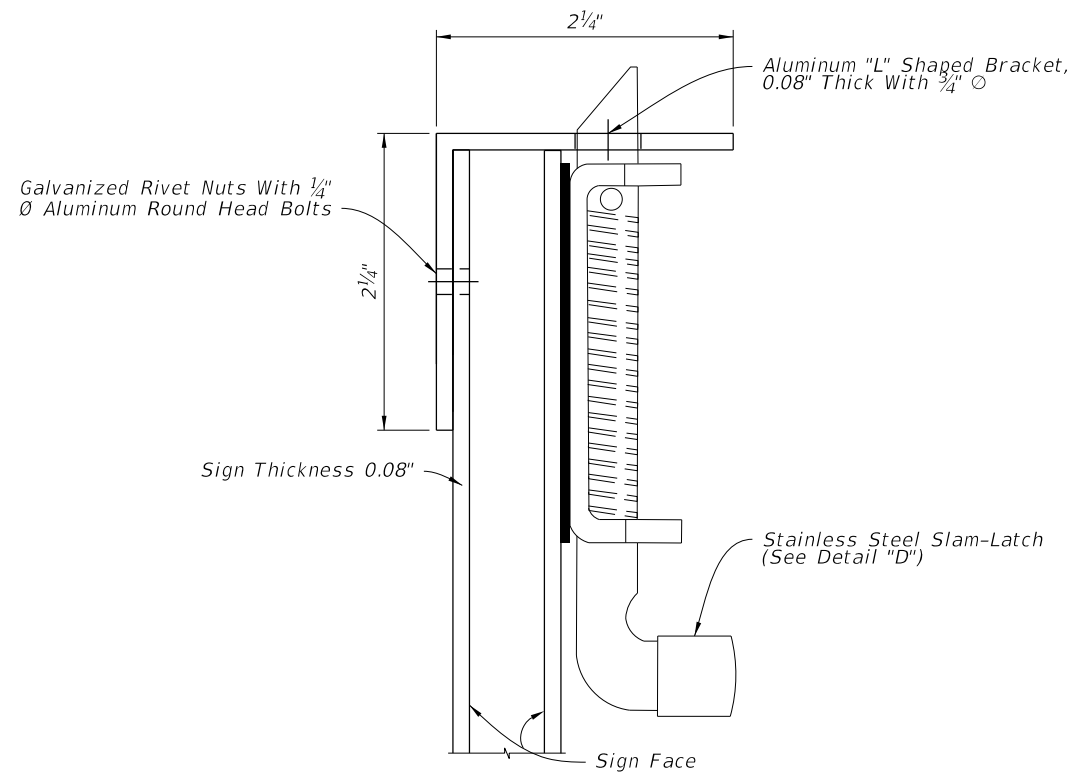
NOTES:

1. Install sign in the undeployed (up) position.
2. Provide a continuous stainless steel hinge with minimum 0.060" leaf thickness, 2" open width and 0.120" pin diameter. Stake the hinge at both ends to prevent pin movement.
3. Install Stainless Steel Spring Loaded Slam-Latch with cover to bottom face of flip sign per manufacturer's recommendations.
4. Punch or drill a 3/4" diameter hole in the "L" shaped bracket on site to match location of 1/2" wide slam-latch pin. Remove any burrs or sharp edges.

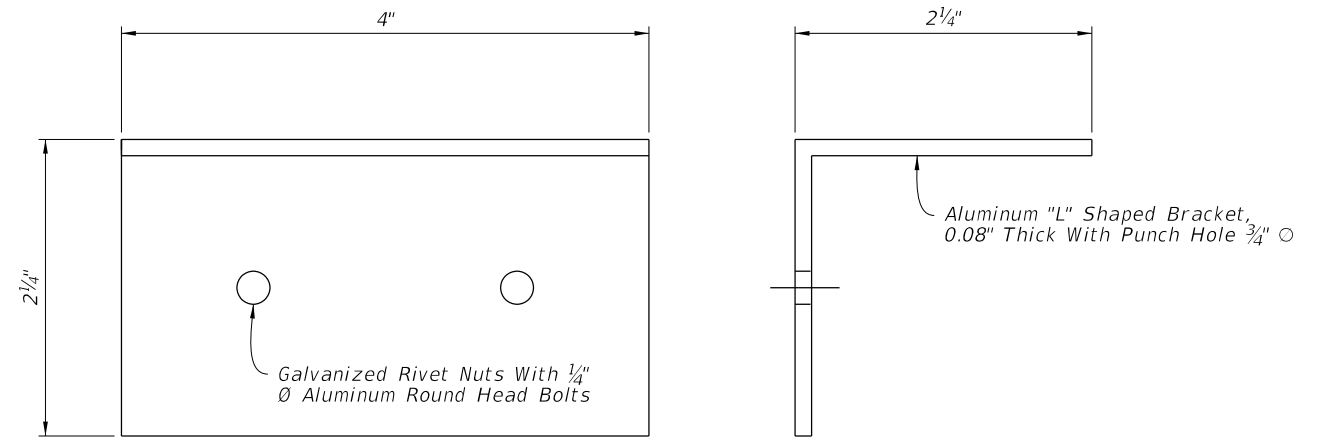
WIND BEAM CONNECTION FOR FLIP DOWN SIGN

LAST REVISION 05/XX/22	REVISION	DESCRIPTION:	FDOT FY 2022-23 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX 700-010-1	SHEET 7 of 11
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11/01/22

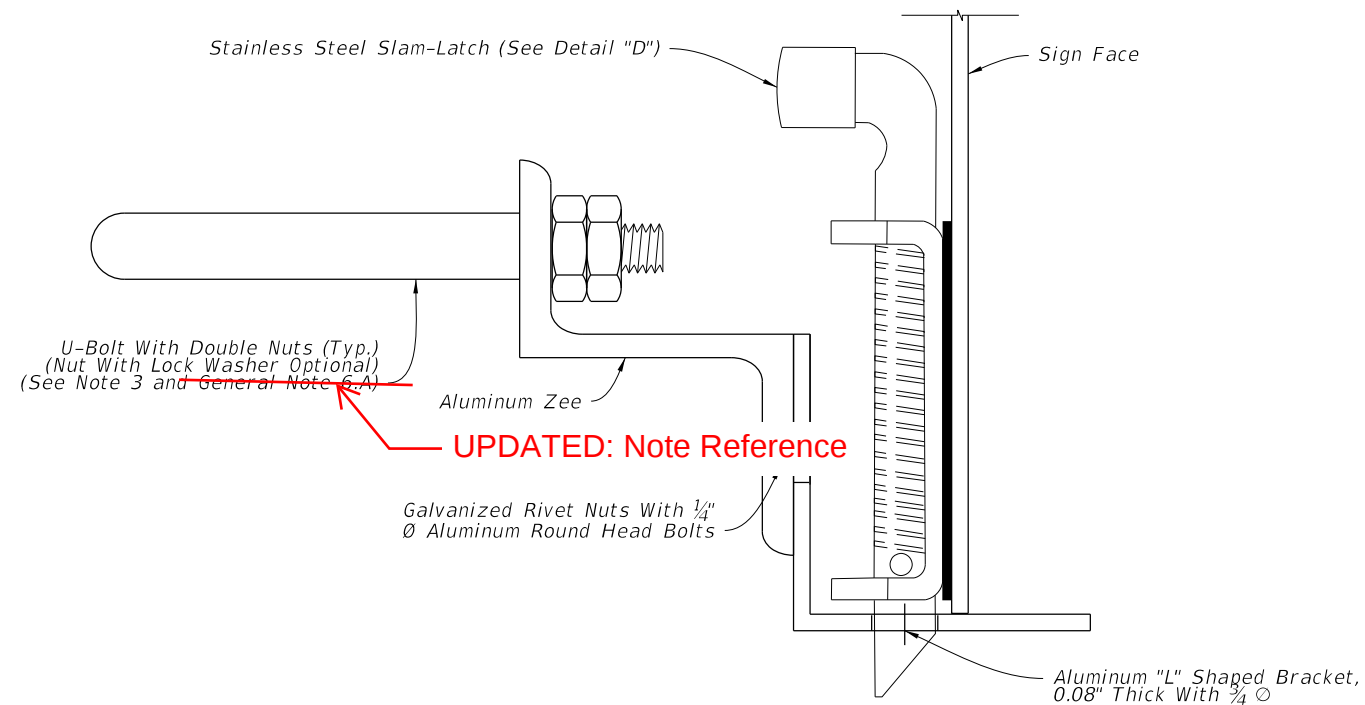


DETAIL "A"



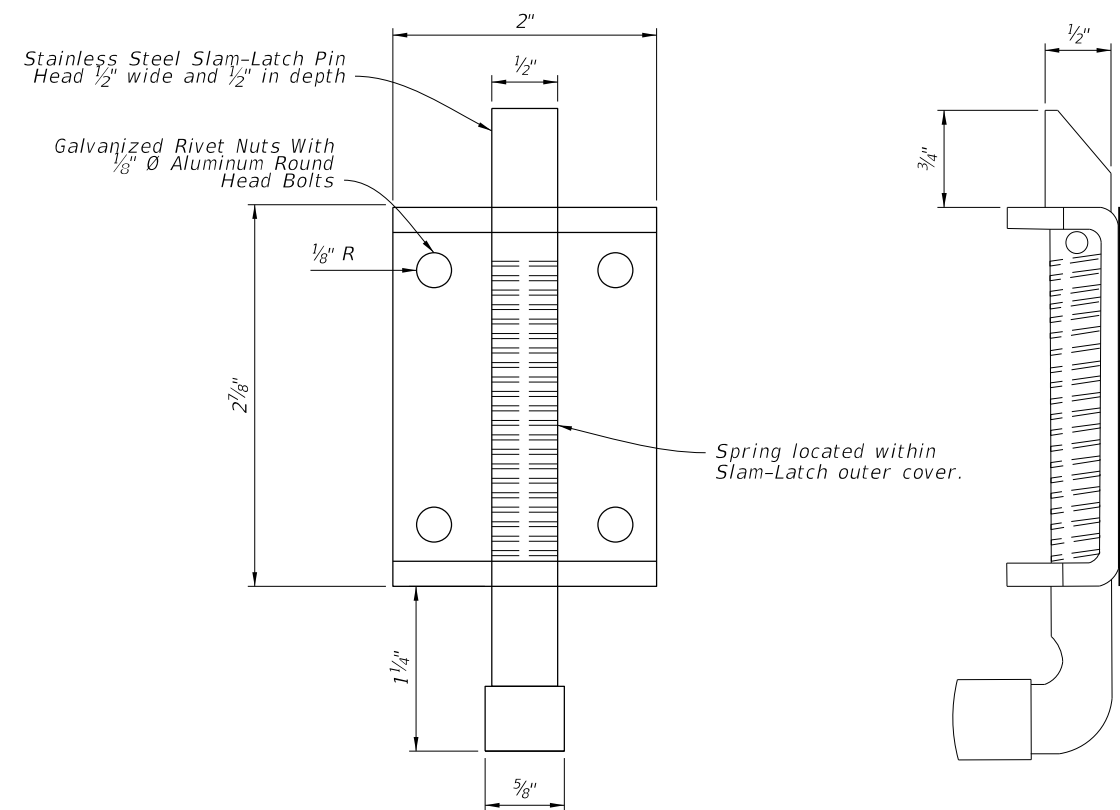
"L" Shaped Bracket

DETAIL "C"



UPDATED: Note Reference

DETAIL "B"



Stainless Steel Slam-Latch

DETAIL "D"

SLAM-LATCH DETAIL

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SINGLE COLUMN GROUND SIGNS

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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		
  	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		

EAST BUSINESS 301 →	Size	Area	Total Area	Centroid		
	24x12	2.00 SF				
	24x12	2.00 SF				
	30x24	5.00 SF				
EAST BUSINESS 301 →	21x15	2.19 SF	11.19 SF	2.76 Ft.		
	Size	Area			Total Area	Centroid
	30x15	3.13 SF				
	30x15	3.13 SF				
30x24	5.00 SF					
EAST BUSINESS 301 →			13.45 SF	3.16 Ft.		
	21x15	2.19 SF				
	Size	Area			Total Area	Centroid
	21x15	2.19 SF				
	18x18	1.71 SF				
JCT LEON 56 COUNTY	21x15	2.19 SF	3.90 SF	1.57 Ft.		
	Size	Area			Total Area	Centroid
	21x15	2.19 SF				
	24x24	3.03 SF				
JCT LEON 56 COUNTY	21x15	2.19 SF	5.22 SF	1.72 Ft.		
	Size	Area			Total Area	Centroid
	21x15	2.19 SF				
	30x30	4.76 SF				
JCT LEON 56 COUNTY			6.95 SF	1.87 Ft.		
	21x15	2.19 SF				
	Size	Area			Total Area	Centroid
	21x15	2.19 SF				
30x30	4.76 SF					

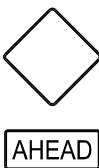
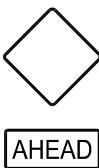
 	Size	Area	Total Area	Centroid
	18x18	1.71 SF	3.90 SF	1.26 Ft.
	21x15	2.19 SF		
 	Size	Area	Total Area	Centroid
	24x24	3.03 SF	5.22 SF	1.62 Ft.
	21x15	2.19 SF		
 	Size	Area	Total Area	Centroid
	30x30	4.76 SF	6.95 SF	1.97 Ft.
	21x15	2.19 SF		
   	Size	Area	Total Area	Centroid
	24x12	2.00 SF	9.39 SF	2.87 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		

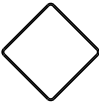
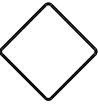
TO EAST INTERSTATE 295 →	Size	Area	Total Area	Centroid
	30x15	3.13 SF		
	30x15	3.13 SF		
	30x24	3.99 SF		
			12.44 SF	3.26 Ft.
	21x15	2.19 SF		
JCT INTERSTATE 75	Size	Area	Total Area	Centroid
	21x15	2.19 SF		
			5.39 SF	1.75 Ft.
	24x24	3.20 SF		
JCT INTERSTATE 295	Size	Area	Total Area	Centroid
	21x15	2.19 SF		
			6.18 SF	1.67 Ft.
	30x24	3.99 SF		
EAST OR TO INTERSTATE 75 INTERSTATE 75	Size	Area	Total Area	Centroid
	24x12	2.00 SF		
			5.20 SF	1.67 Ft.
	24x24	3.20 SF		
EAST OR TO INTERSTATE 295 INTERSTATE 295	Size	Area	Total Area	Centroid
	24x12	2.00 SF		
			5.99 SF	1.60 Ft.
	30x24	3.99 SF		
EAST OR TO INTERSTATE 295 INTERSTATE 295	Size	Area	Total Area	Centroid
	30x15	3.13 SF		
			7.12 SF	1.81 Ft.
	30x24	3.99 SF		
EAST OR TO INTERSTATE 75 INTERSTATE 75	Size	Area	Total Area	Centroid
	30x15	3.13 SF		
			10.33 SF	2.27 Ft.
	36x36	7.20 SF		

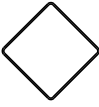
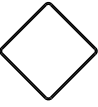
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EAST OR INTERSTATE 295 TO OR INTERSTATE 295	Size	Area	Total Area	Centroid
	30x15	3.13 SF	12.12 SF	2.18 Ft.
	45x36	8.99 SF		
	Size	Area	Total Area	Centroid
	24x12	2.00 SF	7.39 SF	2.30 Ft.
	24x24	3.20 SF		
	21x15	2.19 SF		
	Size	Area	Total Area	Centroid
	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		

11/01/22

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

 <i>OR</i>   	Size	Area	Total Area	Centroid
			9.25 SF	2.51 Ft.
	30X30	6.25 SF		
	24X18	3.00 SF		

 <i>OR</i>   	Size	Area	Total Area	Centroid
			14.00 SF	3.06 Ft.
	36X36	9.00 SF		
	30X24	5.00 SF		

LAST
REVISION
05/XX/22

DESCRIPTION:



FY 2022-23
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SINGLE COLUMN GROUND SIGNS

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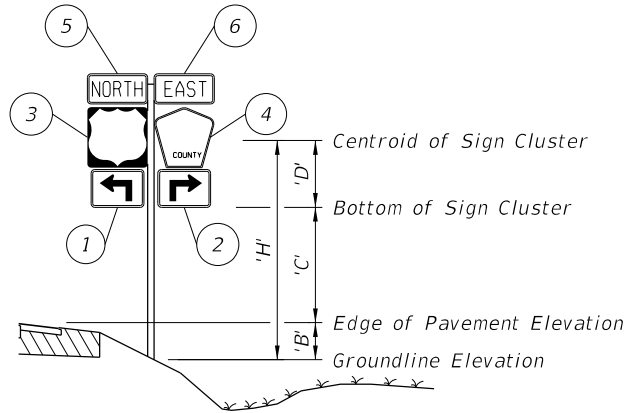
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GENERAL NOTES:

1. Meet the requirements of Specification 700.
2. Shop Drawings:
This Index is considered fully detailed. Submit Shop Drawings only for minor modifications not detailed in the Plans.
3. BREAKAWAY SUPPORTS REQUIREMENTS: Install non-frangible aluminum column (post) (larger than 3½") with breakaway supports as shown on Sheet 4. Signs shielded by barrier wall or guardrail do not require breakaway support.

STEP 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 Sheets 7, 8, and 9.



Size a x h	Centroid			'A _n '	'X _n ' x 'A _n '	'Y _n ' x 'A _n '
	Local 'Y _n '	Global 'X _n '	Global 'Y _n '			
(in. x 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 24	12	-12-1.5 = -13.5	15+1+12 = 28	576	-7,776	16,128
4 24 x 24	12	12+1.5 = 13.5	15+1+12 = 28	436	5,886	12,208
5 24 x 12	6	-12-1.5 = -13.5	15+1+24+1+6 = 47	288	-3,888	13,536
6 24 x 12	6	12+1.5 = 13.5	15+1+24+1+6 = 47	288	3,888	13,536
TOTALS				2,218	-1,890	60,133

$\Sigma ('A_n') = 2,218 \text{ in.}^2 = 15.4 \text{ ft.}^2$ $\Sigma ('X_n' \times 'A_n') = -1,890 \text{ in.}^3 = -1.09 \text{ ft.}^3$ $\Sigma ('Y_n' \times 'A_n') = 60,133 \text{ in.}^3 = 34.8 \text{ ft.}^3$

$'X'_c = \frac{\Sigma ('X_n' \times 'A_n')}{\Sigma 'A_n'} = -0.1 \text{ ft.}$ $'Y'_c = \frac{\Sigma ('Y_n' \times 'A_n')}{\Sigma 'A_n'} = 2.26 \text{ ft.}$

STEP 2: Determine the height 'H' from groundline to the centroid of the individual sign or sign cluster.

Assume: 'B' = 1 ft., 'C' = 7 ft.

Calculated: $X'_c = -0.1 \text{ ft.}$, $Y'_c = 'D' 2.26 \text{ ft.}$

$'H' = 'B' + 'C' + 'D' = 10.26 \text{ ft.} \Rightarrow \boxed{\text{USE } 11 \text{ ft.}}$ $\Sigma ('A_n') = 15.4 \text{ ft.}^2 \Rightarrow \boxed{\text{USE } 16 \text{ ft.}^2}$

STEP 3: Refer to the Aluminum Column (Post) Selection Tables and find the intersection point. See Sheet 3.

SHEET	CONTENTS
1	General Notes and Design Example
2	Design Example - Centroid
3	Column and Foundation Tables
4	Slip Base and Foundation Details
5	Driven Post, Concrete Stub, and Soil Plate Details
6	Wind Beam Connection
7	Wind Beam Connection for Flip Down Sign
8	Slam-Latch Detail
9, 10, & 11	Frequently Used Sign Clusters

ALUMINUM COLUMN (POST) SELECTION TABLE																				
	'H' (FT)																			
	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft							
3 sf	2	2.5	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5							
4 sf	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5							
5 sf	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5							
6 sf	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4							
7 sf	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4							
8 sf	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4							
9 sf	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4							
10 sf	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5							
11 sf	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5							
12 sf	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5							
13 sf	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5	5							
14 sf	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5							
15 sf	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5							
16 sf	3.5	4	4	4	4	4	4	4.5	4.5	5	5	5	6							
17 sf	4	4	4	4	4	4	4	4.5	4.5	4.5	5	5	6							
18 sf	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5	6							
19 sf	4	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6							
20 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6							
21 sf	4	4	4	4	4.5	4.5	5	5	5	6	6	6	6							
22 sf	4	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6							
23 sf	4	4	4	4.5	4.5	5	5	5	6	6	6	6	6							
24 sf	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6	6							
25 sf	4	4	4.5	4.5	5	5	5	6	6	6	6	6	8							
26 sf	4	4.5	4.5	4.5	5	5	5	6	6	6	6	8	8							
27 sf	4	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8							
28 sf	4	4.5	4.5	5	5	5	6	6	6	6	8	8	8							
29 sf	4.5	4.5	4.5	5	5	6	6	6	6	8	8	8	8							
30 sf	4.5	4.5	5	5	5	6	6	6	6	8	8	8	8							

For 'H' = 11 ft., Area = 16 ft.²

- Refer to the Aluminum Column (Post) Selection Table, from Sheet 3 and shown here for reference.

- To determine the required post size, find the intersection of the row labeled "16 SF" and the column labeled "11 FT". For the example the intersection value is "4" (4" OD).

- In the Column (Post) and Foundation Table, the value "4" shows the design requires a 4.0" diameter and ¼" thick Aluminum Column (Post) and a 2.0' diameter and 3.5' deep Concrete Foundation and 3.0' Stub.

STEP 4: For sign assemblies with signs oriented in two directions, only the sign with the largest area should be analyzed to determine the Column (Post) requirements.

GUIDE TO USE THIS INDEX

GENERAL NOTES AND DESIGN EXAMPLE



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SINGLE COLUMN GROUND SIGNS

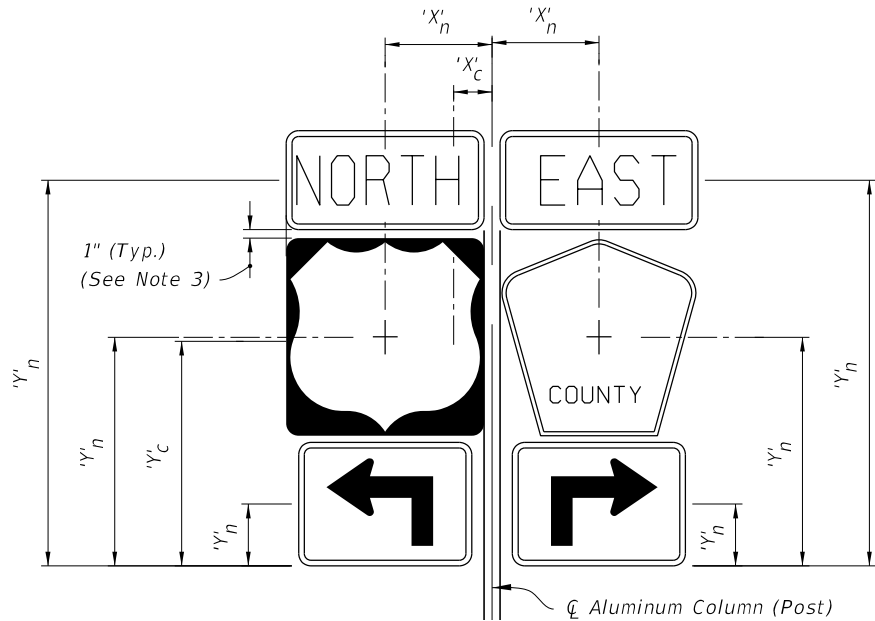
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REVISION

DESCRIPTION:



SIGN CLUSTER

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

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

'A'_n = Area of individual sign

'B' = Height of the edge of pavement from the mounting elevation

'C' = Height of the the bottom of the sign or cluster from the edge of pavement elevation

'D' = Height of the centroid of the sign or cluster from the bottom of the sign or cluster

h = Individual sign height

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

a = Individual sign width

'X'_c = Centroid horizontal location of sign or cluster from Aluminum Column (Post)

'Y'_c = Centroid height of sign or cluster from bottom of sign cluster

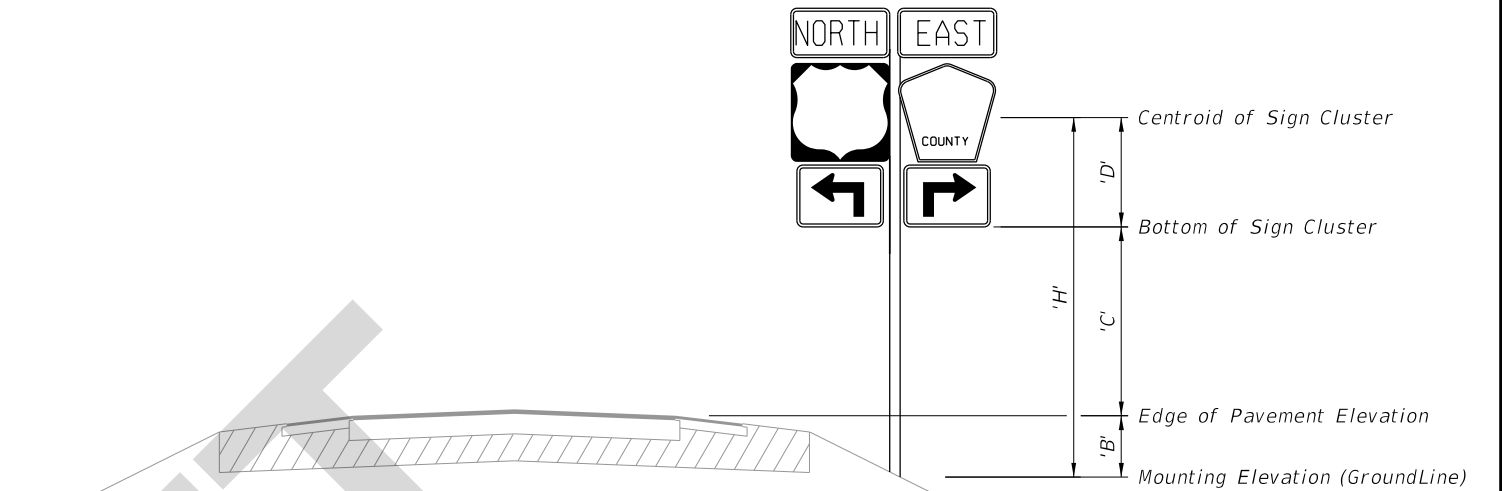
'X'_n = Individual sign centroid horizontal location from Aluminum Column (Post)

'Y'_n = Individual Sign centroid height from bottom of sign cluster

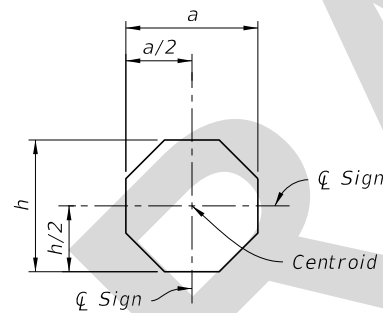
NOTES:

- For 'B' & 'C' see Index 700-101 and Roadway Plans.
- Do not exceed an area of 30 SF or a width of 60 inches for a sign or a sign cluster, including rotated sign panels.
- Vertical sign spacing (1" shown on Sign Cluster detail) also applies to rotated signs.

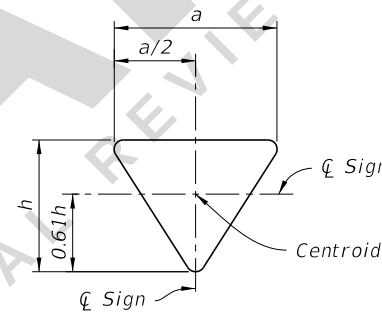
CALCULATION OF SIGN CLUSTER CENTROID



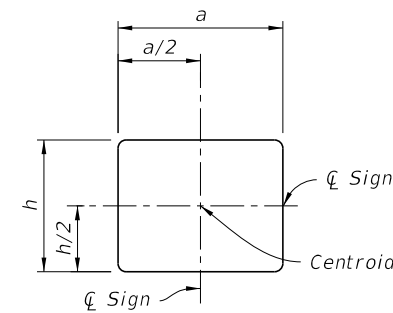
TYPICAL SECTION



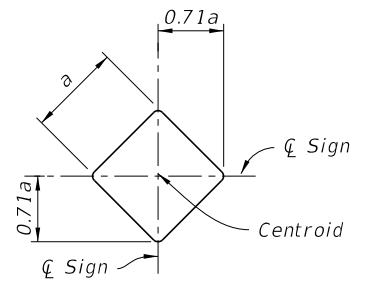
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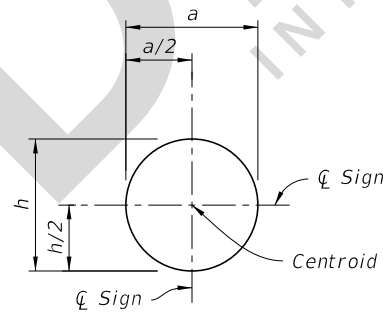
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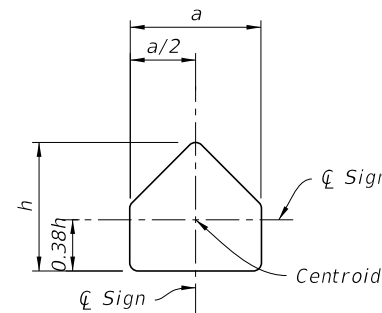
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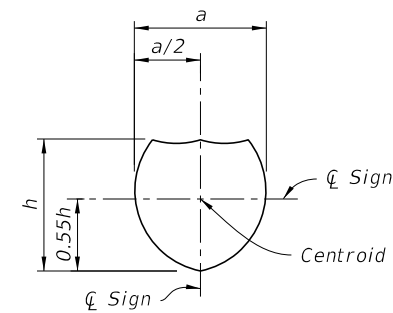
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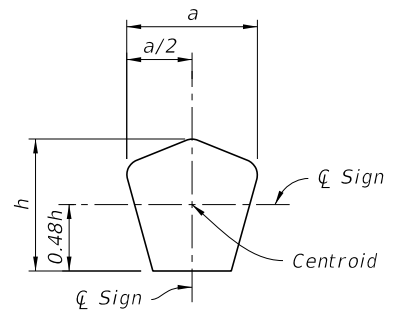
RAILROAD



SCHOOL



SHIELD



COUNTY

DESIGN EXAMPLE - CENTROID

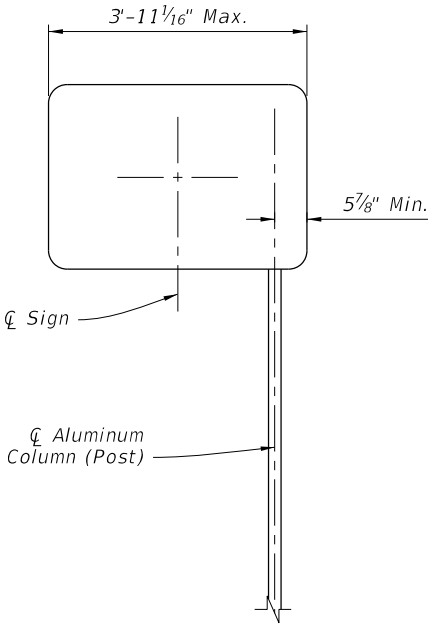
6/21/2022 9:33:48 AM

LAST REVISION 05/xx/22	REVISION	DESCRIPTION:		FY 2023-24 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX 700-010	SHEET 2 of 11
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ALUMINUM COLUMN (POST) SELECTION TABLE (O.D. in.)														
'H' (FT)														
TOTAL PANEL AREA (SF)	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft	
	3 sf	2	2.5	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5
	4 sf	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5
	5 sf	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4
	6 sf	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4
	7 sf	3	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4
	8 sf	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4
	9 sf	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4	4
	10 sf	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5
	11 sf	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5	4.5
	12 sf	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5	4.5
	13 sf	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5	5	5
	14 sf	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5
	15 sf	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5	5
	16 sf	4	4	4	4	4	4	4.5	4.5	5	5	5	6	6
	17 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6	6
	18 sf	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6	6
	19 sf	4	4	4	4	4.5	4.5	4.5	5	5	6	6	6	6
	20 sf	4	4	4	4.5	4.5	4.5	5	5	5	6	6	6	6
	21 sf	4	4	4	4.5	4.5	5	5	5	6	6	6	6	6
	22 sf	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6	6
	23 sf	4	4	4.5	4.5	5	5	5	6	6	6	6	6	6
	24 sf	4	4.5	4.5	4.5	5	5	6	6	6	6	6	6	6
	25 sf	4	4.5	4.5	5	5	5	6	6	6	6	6	8	8
	26 sf	4	4.5	4.5	5	5	6	6	6	6	6	8	8	8
	27 sf	4	4.5	4.5	5	5	6	6	6	6	6	8	8	8
	28 sf	4	4.5	5	5	5	6	6	6	6	6	8	8	8
	29 sf	4.5	4.5	5	5	6	6	6	6	6	8	8	8	8
	30 sf	4.5	4.5	5	5	6	6	6	6	6	8	8	8	8

FOUNDATION TABLE						
Column (Post) Size		Foundation Alternatives				
		Driven Post *		Concrete (Class II)		
Outside Diameter (in)	Wall Thk. (in)	Embedment Depth (ft)		Diameter (ft)	Embedment Depth (ft)	Stub Length (ft)
		without Soil Plate	with Soil Plate			
2.0	1/8	4.5	2.5	---	---	---
2.5	1/8	5.0	3.0	---	---	---
3.0	1/8	5.0	3.5	---	---	---
3.5	3/16	6.0	4.5	---	---	---
4.0	1/4	---	---	2.0	3.5	3.0
4.5	1/4	---	---	2.0	4.0	3.0
5.0	1/4	---	---	2.0	4.5	3.0
6.0	1/4	---	---	2.0	5.0	3.0
8.0	1/4	---	---	2.0	5.5	3.0

* INSTALLING FRANGIBLE COLUMN SUPPORTS:
Columns (posts) 3½" O.D. and less are considered frangible and may be installed either by driving the post or setting the posts in preformed holes. Backfill preformed holes with suitable material tamped in layers not thicker than 6" (to provide adequate compaction) or filled with flowable fill or bagged concrete.



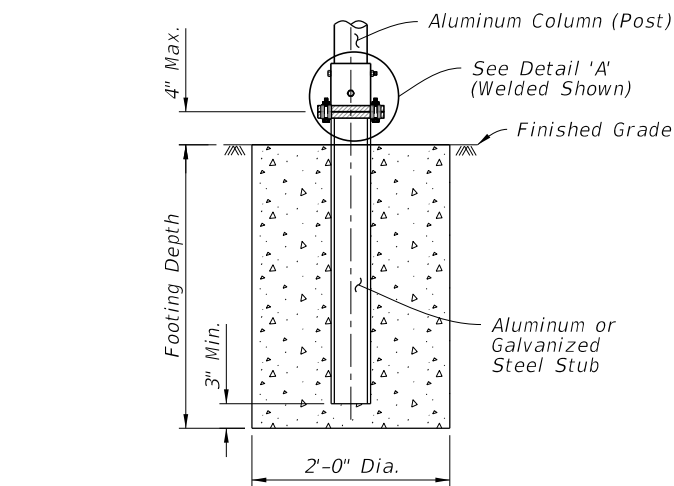
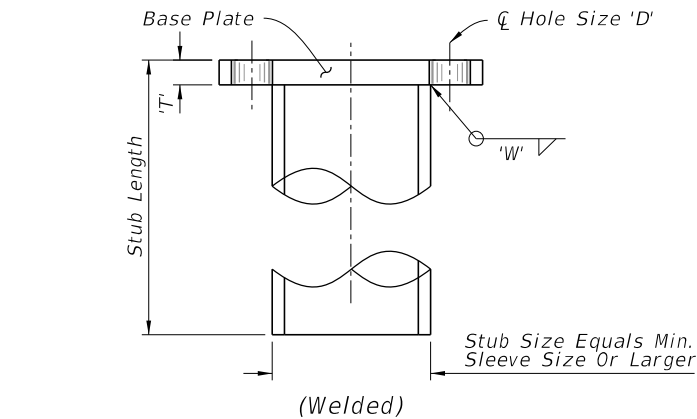
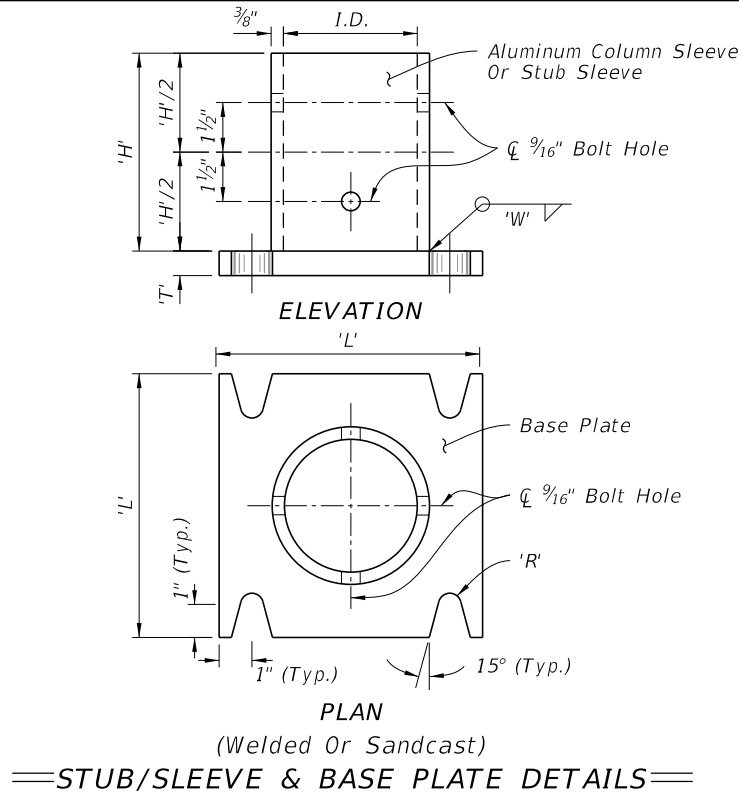
OFFSET SIGN

- NOTES:
- 1. For offset sign placement see Index 700-101.
 - 2. For signs with widths greater than 4' see Index 700-011.
 - 3. Offset signs with driven posts require a soil plate.

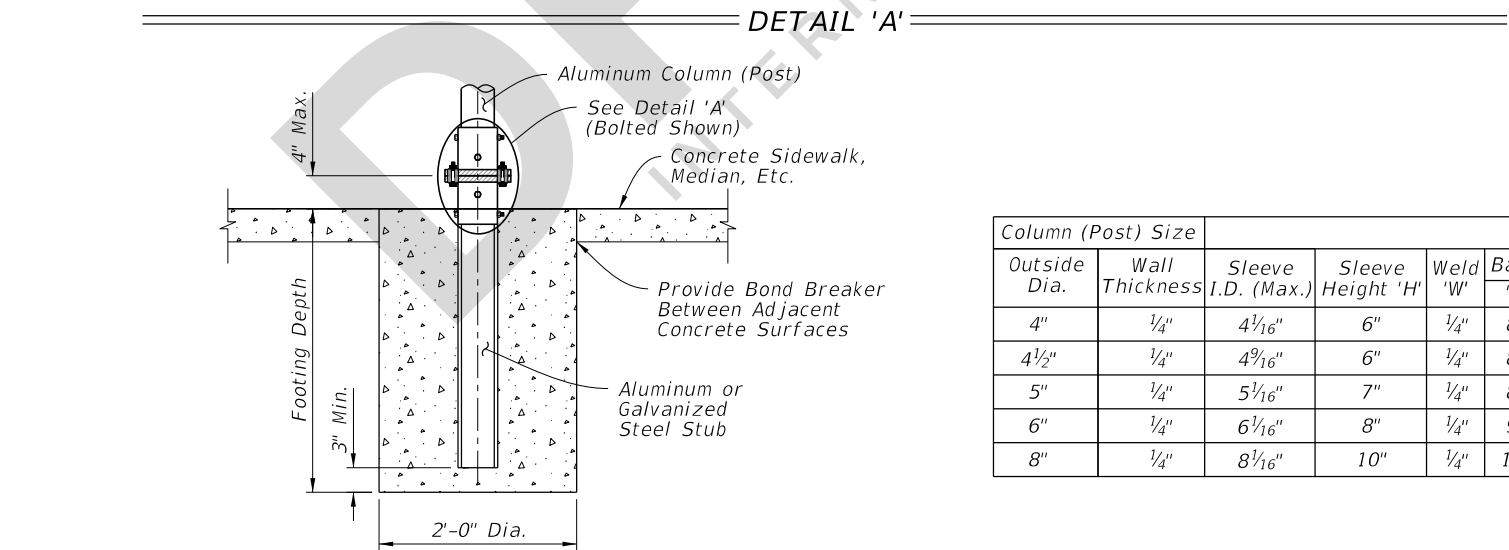
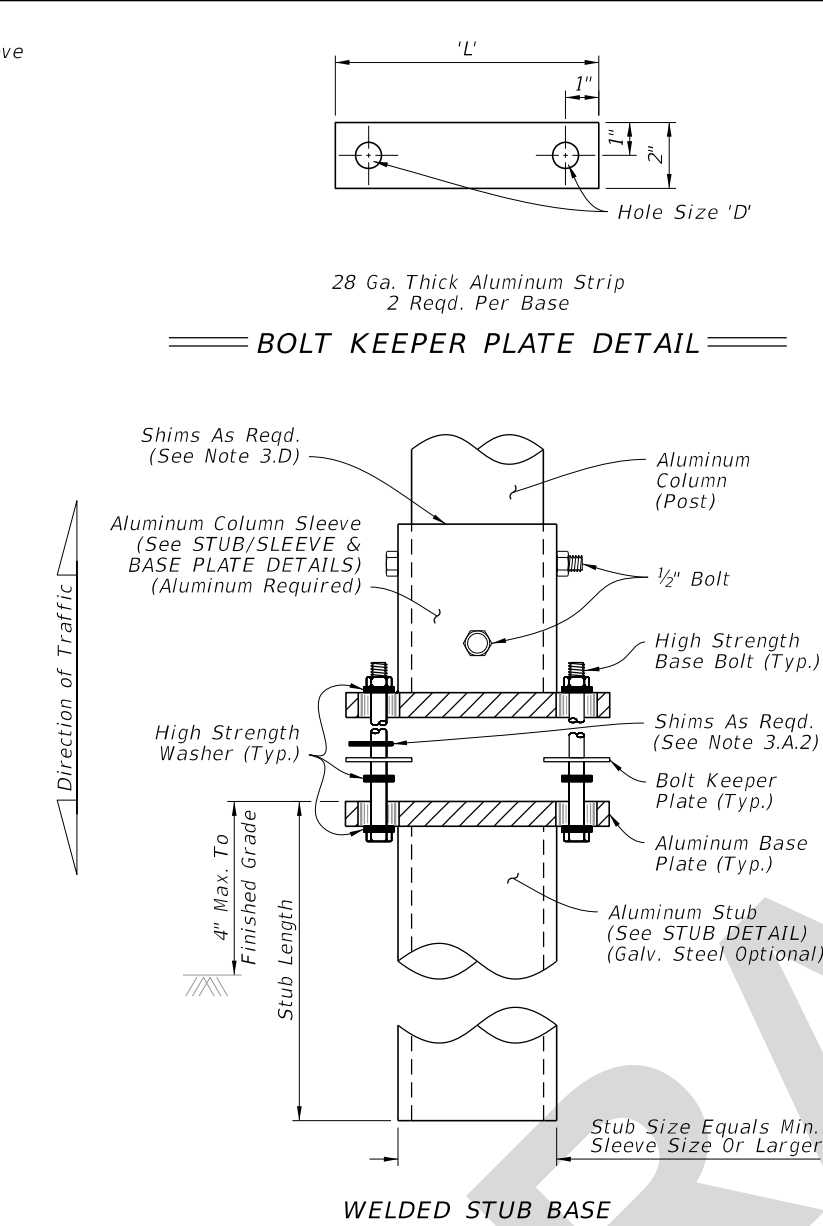
COLUMN AND FOUNDATION TABLES

LAST REVISION 05/xx/22	REVISION	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX 700-010	SHEET 3 of 11
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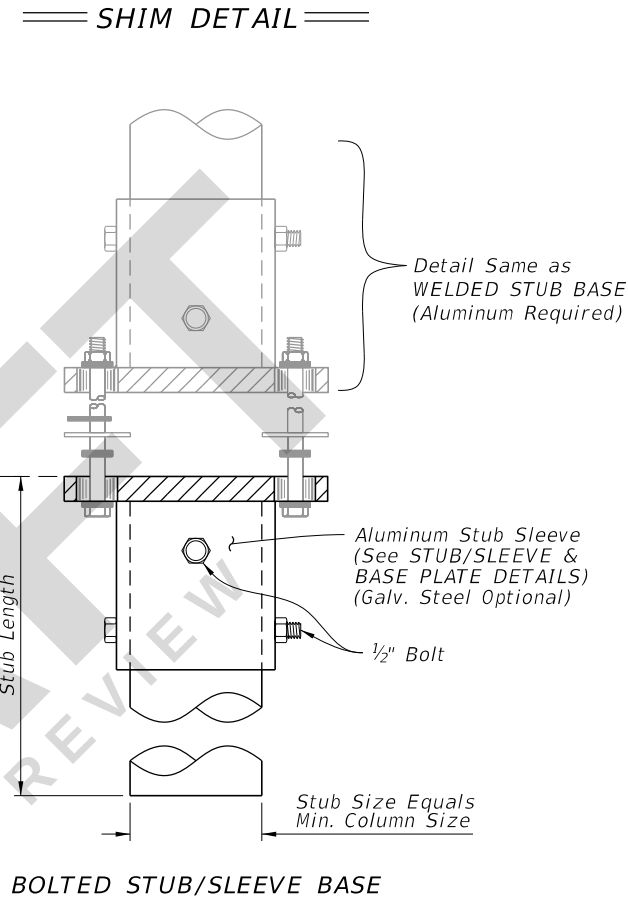
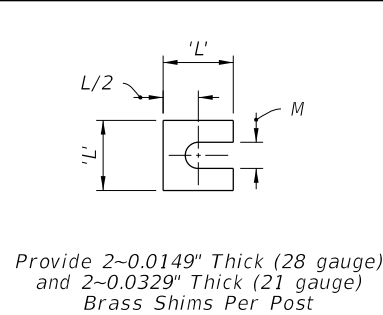
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SLIP BASE AND FOUNDATION DETAIL
(Non-Frangible Column, Typ.)



SLIP BASE AND FOUNDATION DETAIL IN CONCRETE
(Non-Frangible Column In Crossovers, Medians & Sidewalks)



Column (Post) Size					
Outside Dia.	Wall Thickness	Sleeve I.D. (Max.)	Sleeve Height 'H'	Weld 'W'	Bolt
4"	1/4"	4 1/16"	6"	1/4"	1/2"
4 1/2"	1/4"	4 9/16"	6"	1/4"	5/8"
5"	1/4"	5 1/16"	7"	1/4"	3/4"
6"	1/4"	6 1/16"	8"	1/4"	7/8"
8"	1/4"	8 1/16"	10"	1/4"	1"

NOTES:

1. Foundation Notes for Slip Base:

A. Place Stub into concrete foundation given in the FOUNDATION TABLE.

2. Slip Base Fabrication Notes:

A. The difference between the O.D. of the post and I.D. of the Sleeve must be 1/16" or less.

B. The WELDED STUB BASE and lower STUB/SLEEVE BASE PLATE may be fabricated using galvanized steel as an option to aluminum. The upper portion of the SLIP BASE must be aluminum.

C. Either a Welded Stub Base or Bolted Stub/Sleeve Base may be used in Slip Base.

D. For cast base plates bolted to foundation stubs, use a foundation stub the same size as the sign column (Post).

3. Slip-Base Assembly Instructions:

A. Assemble the Slip Base as follows:

1. Insert Post into Sleeve and connect using 2 ~ 1/2" diameter Sleeve Bolts.
2. Assemble top base plate to bottom Base Plate using Base Bolts (High strength) with 3 washers per bolt. (See Detail 'A'):
 - a. Place one washer on each Base Bolt between the bottom Base Plate and the Base Bolt head.
 - b. Place the next washer between the Bottom Base Plate and the Bolt Keeper Plate.
 - c. Use brass or galvanized steel shims to plumb the post.
 - d. Add the top base plate section.
 - e. Place the third washer between the Top Base Plate and the Nut.

B. Orient the Bolt Keeper Plates in the Direction of Traffic.

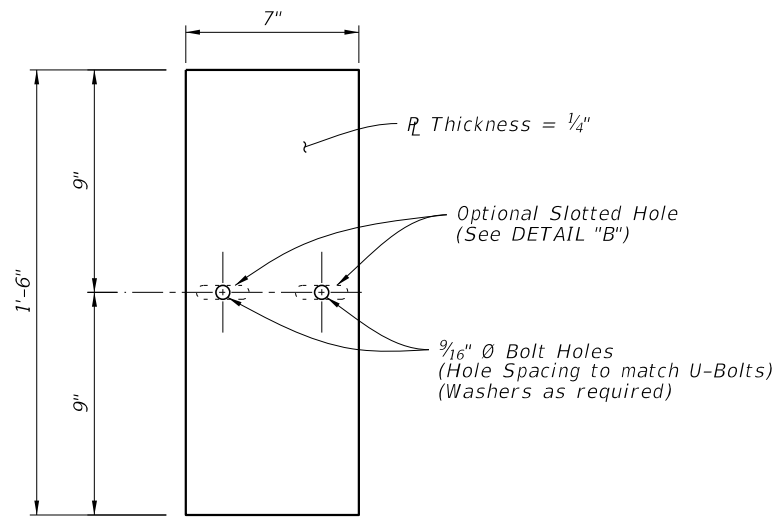
C. Tighten Base Bolts as follows:

1. Tighten Base Bolts to the maximum possible with a 12" to 15" wrench (this will bed the washers and shims and clear the bolt threads).
2. Loosen each Base Bolt one turn.
3. Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the SLIP BASE DETAILS Table. Over tightened Base Bolts are not permitted.
4. Distort bolt threads at the junction with nuts to prevent loosening. Repair damaged galvanizing.

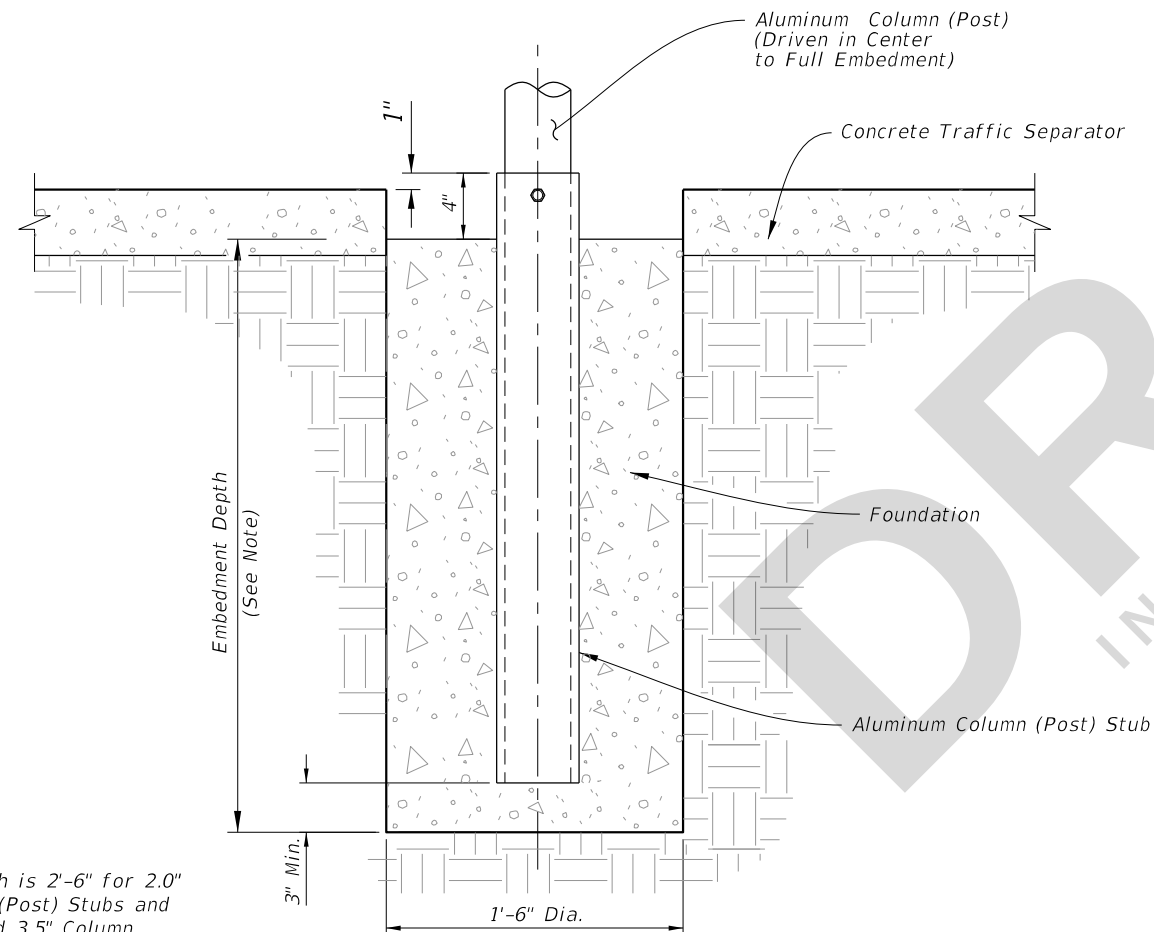
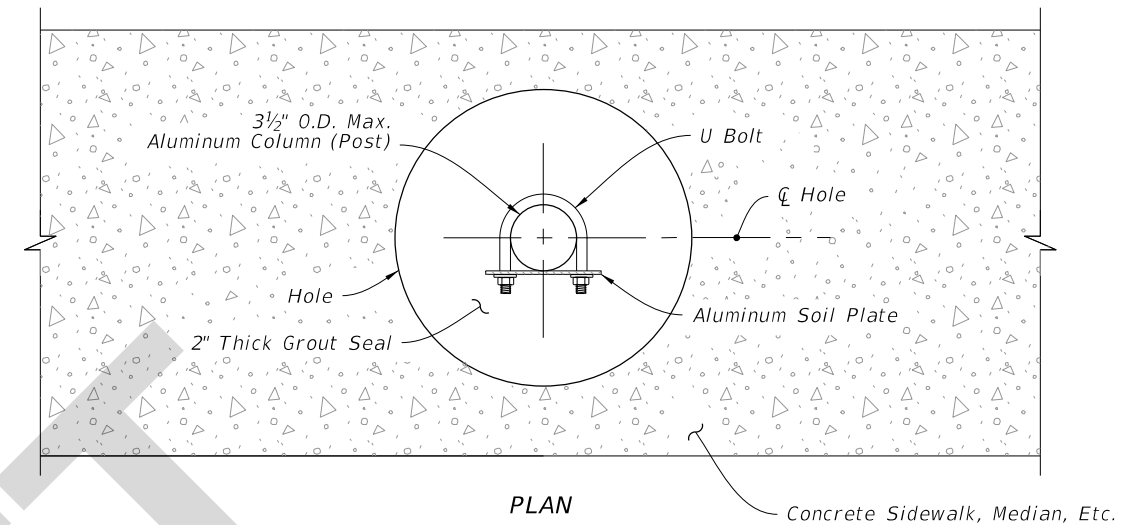
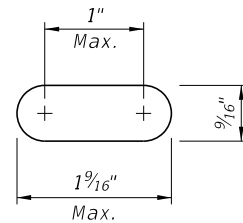
D. Obtain a tight sleeve connection by placing 4 galvanized steel shims between the column (post) and sleeve. Space the shims evenly around the perimeter of the column (1 between each bolt hole, 4 total). Use shims that are 1" shorter than the height of the sleeve.

SLIP BASE AND FOUNDATION DETAILS

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX 700-010	SHEET 4 of 11
11/01/22							

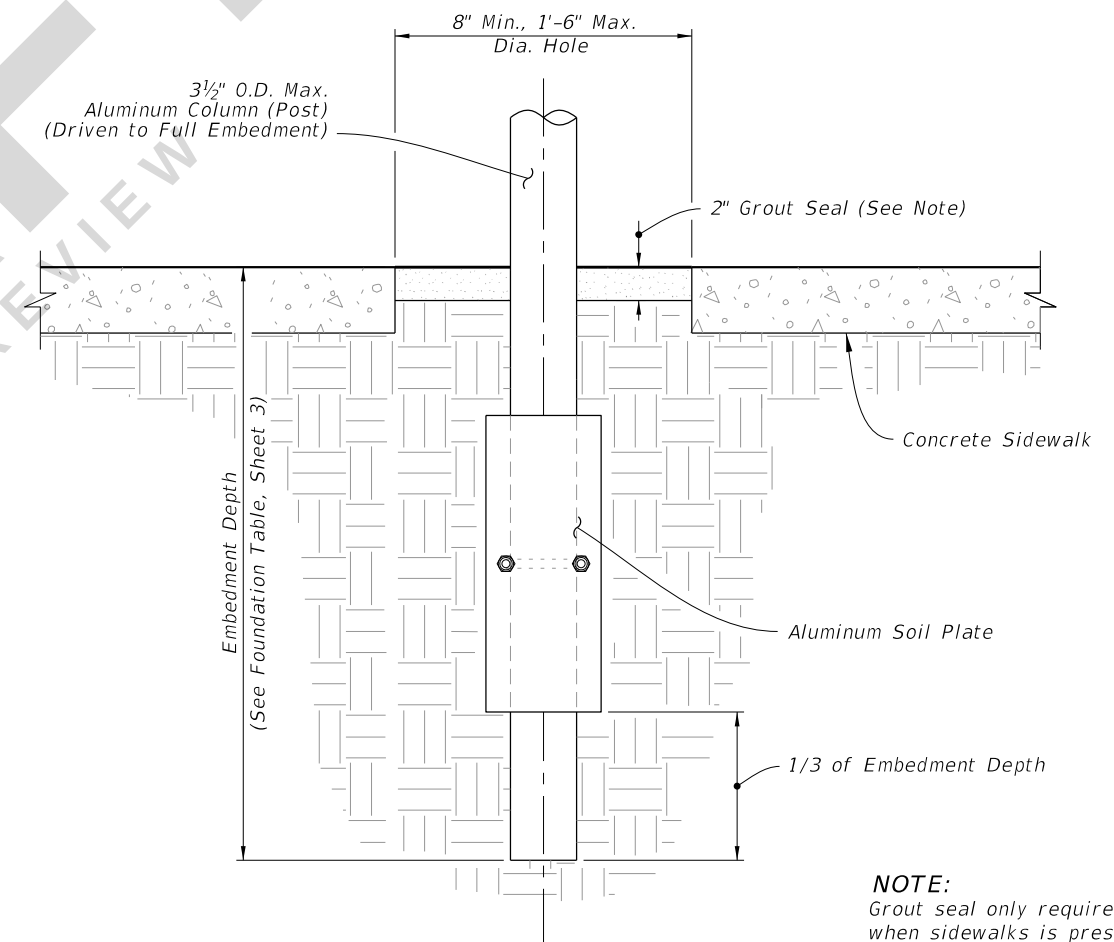


Optional Slotted Holes



NOTE:
Embedment Depth is 2'-6" for 2.0" and 2.5" Column (Post) Stubs and 3'-6" for 3.0" and 3.5" Column (Post) Stubs.

ELEVATION



NOTE:
Grout seal only required when sidewalks is present.

ELEVATION

DRIVEN POST DETAIL
(Frangible Post In Through Sidewalk Shown
Installations without Sidewalk Similar)

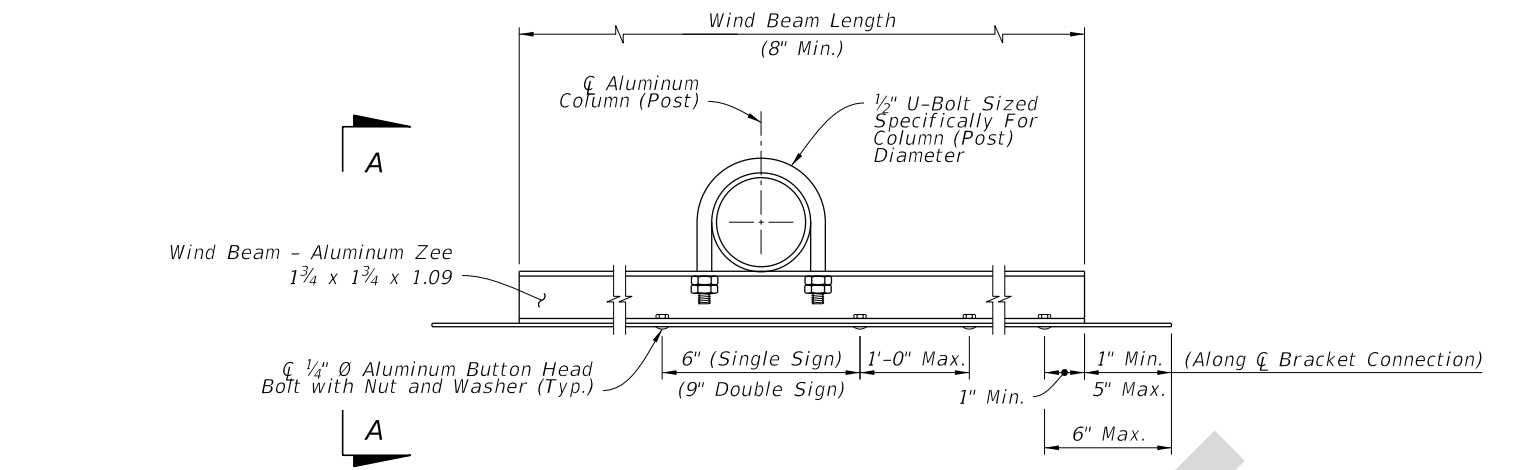
CONCRETE/STUB DETAIL
(Traffic Separator)

DRIVEN POST, CONCRETE/STUB, AND SOIL PLATE DETAILS

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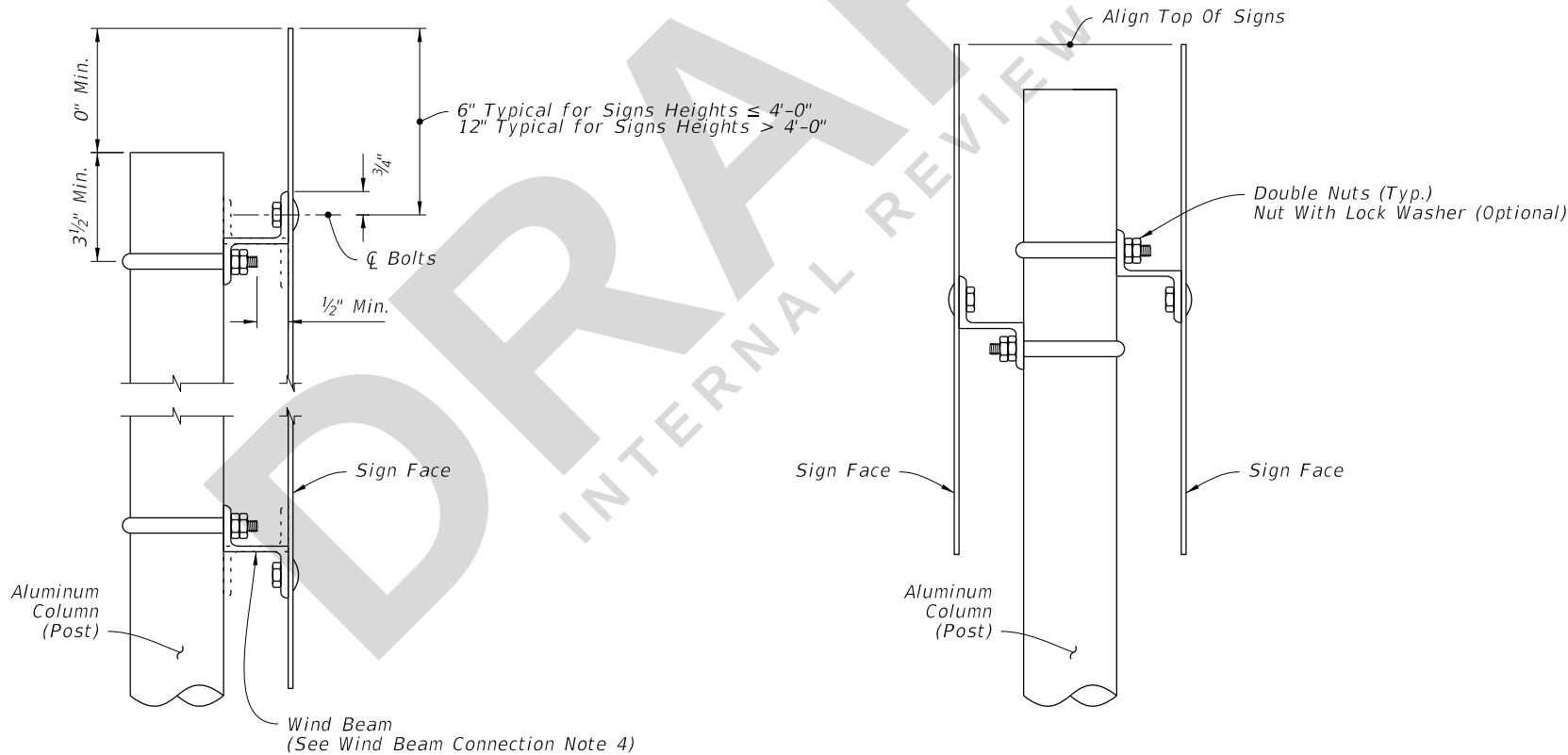
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05/xx/22					700-010	5 of 11

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- NOTES:**
1. 5/16" Ø stainless steel hex head bolts with nylon washer under head and washer under nut may be used in lieu of 1/4" Ø aluminum button or flat head bolts.
 2. Use nylon washers (provided by the sheeting supplier) under the bolt heads to protect sign sheeting.
 3. Slots up to 2" long are allowed in wind beams to accommodate U-Bolts for varying Column (Post) diameters.
 4. Wind beams may be oriented in either direction.
 5. For signs greater than 66" in height, install a third wind beam evenly spaced between the top and bottom wind beams. For signs up to 12" in height, use only one wind beam at Center Sign. Install two wind beams on signs with heights greater than 12" and less than or equal to 66".

WIND BEAM CONNECTIONS DETAILS



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

SINGLE SIGN DETAIL

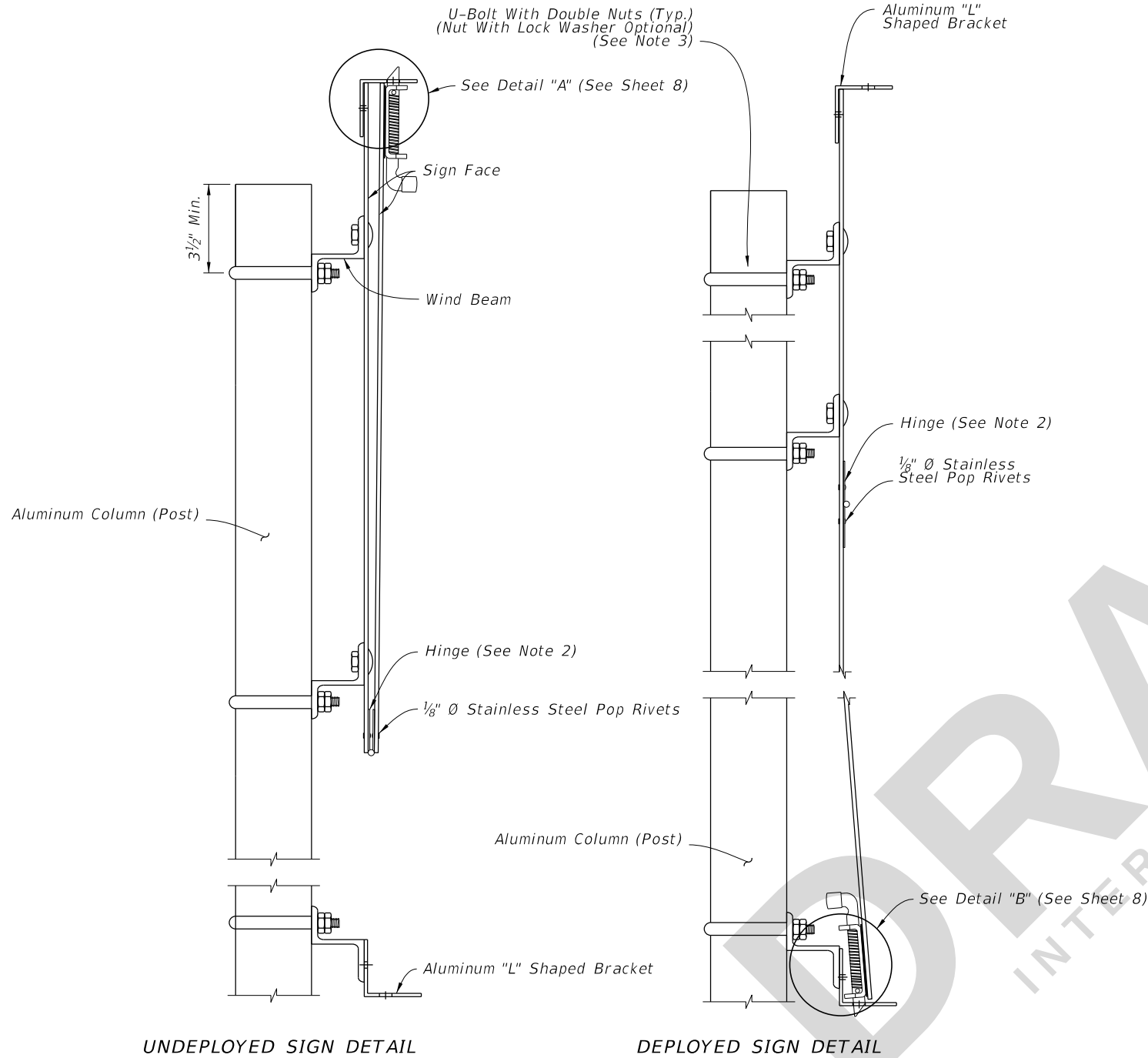
BACK-TO-BACK SIGN DETAIL

VIEW A-A

WIND BEAM CONNECTION

LAST REVISION		DESCRIPTION:	FDOT FY 2023-24 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX 700-010	SHEET 6 of 11
11/01/22	REVISION					

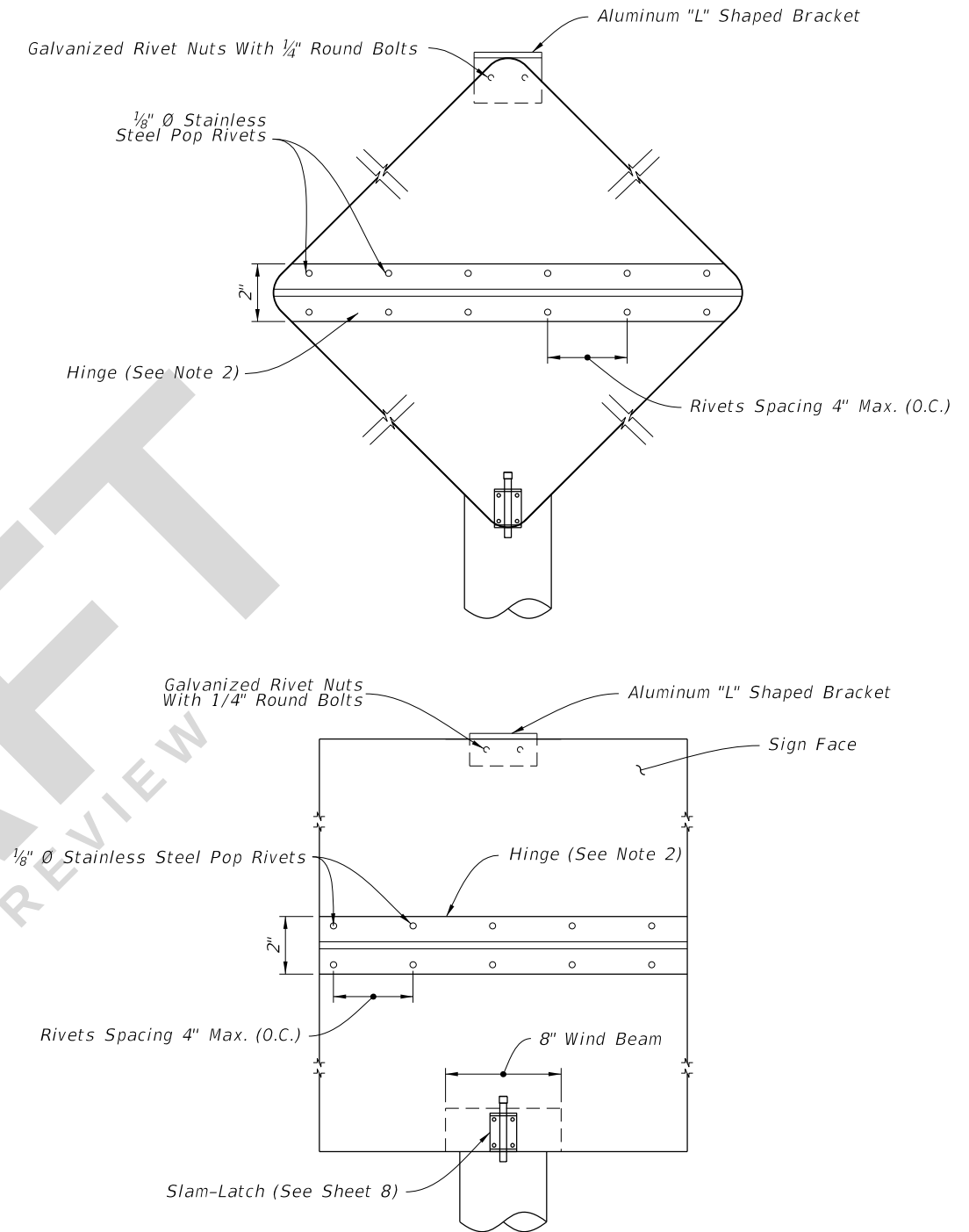
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UNDEPLOYED SIGN DETAIL

DEPLOYED SIGN DETAIL

SIGN PANEL SIDE VIEW



SIGN PANEL FRONT VIEW

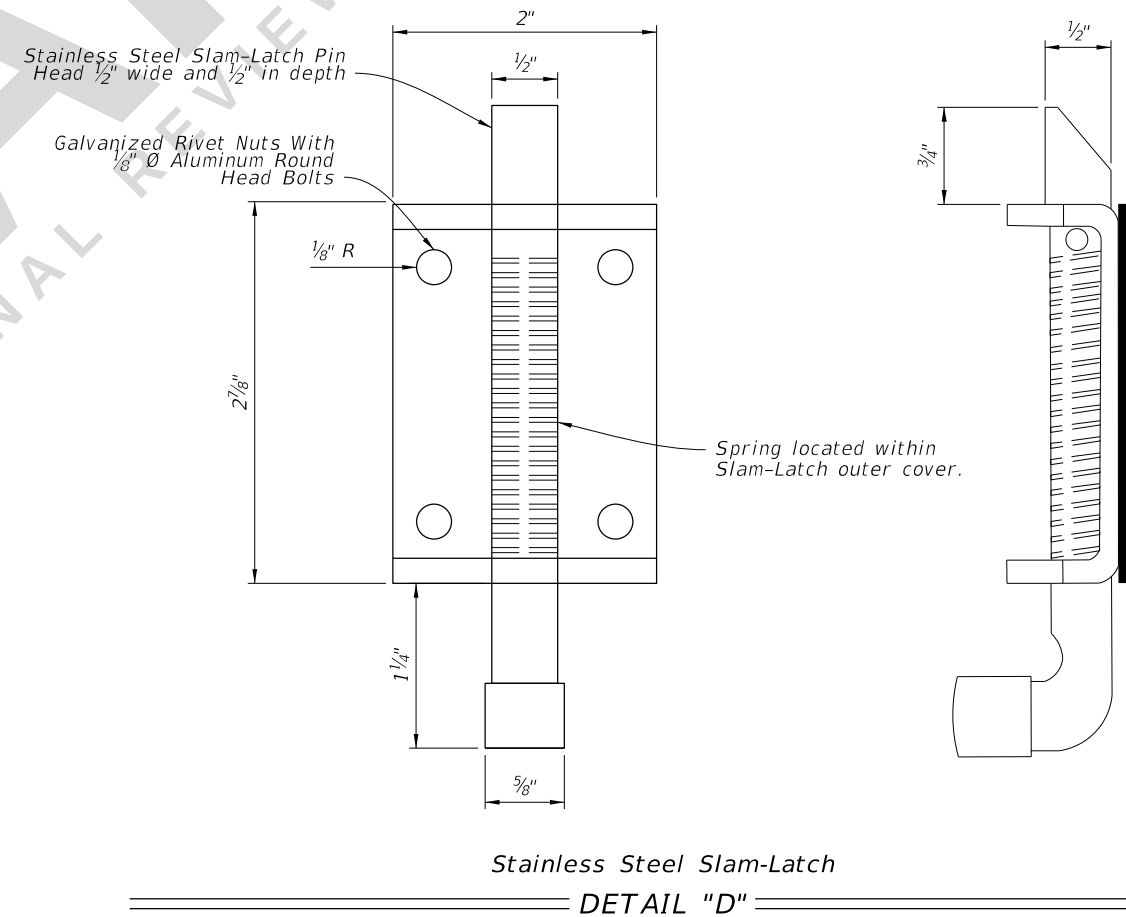
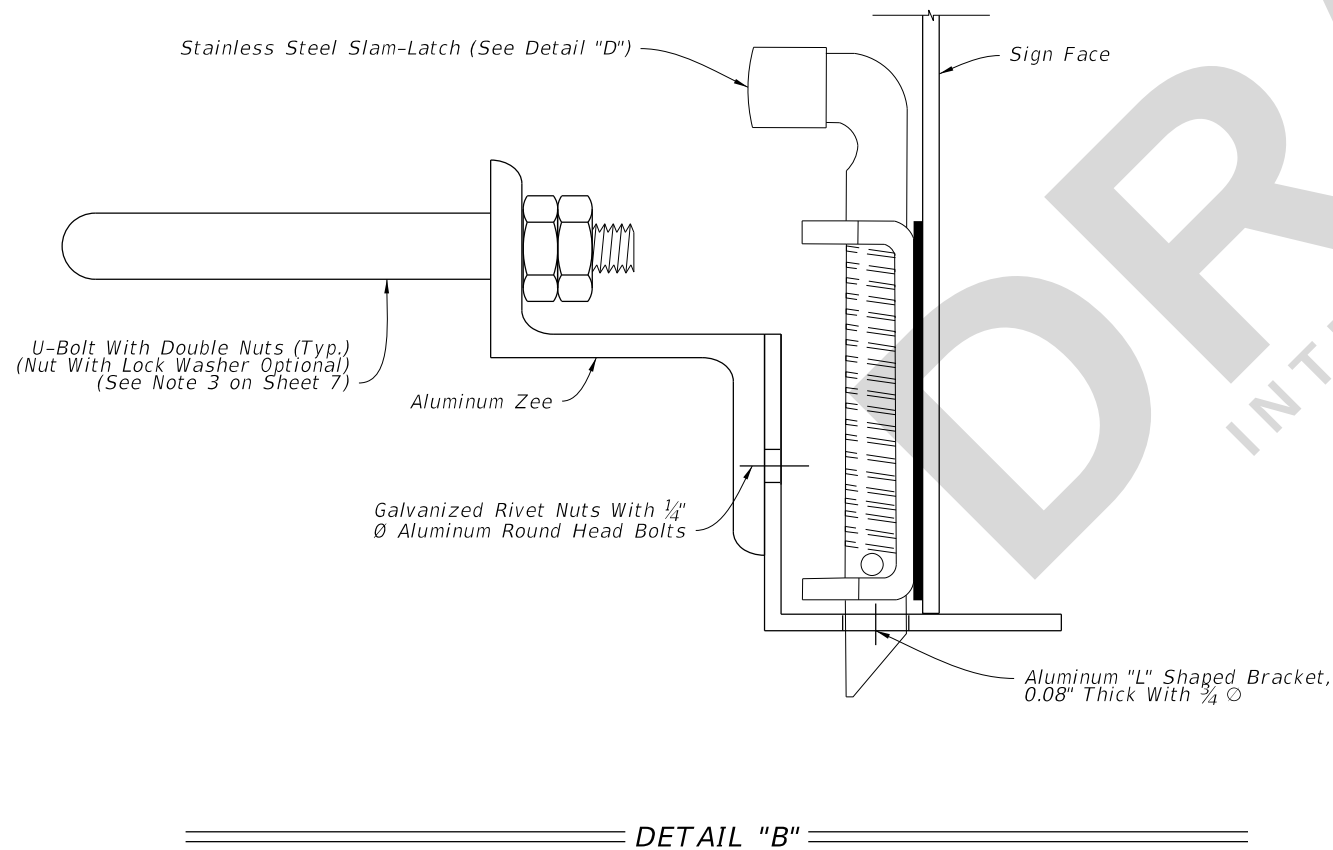
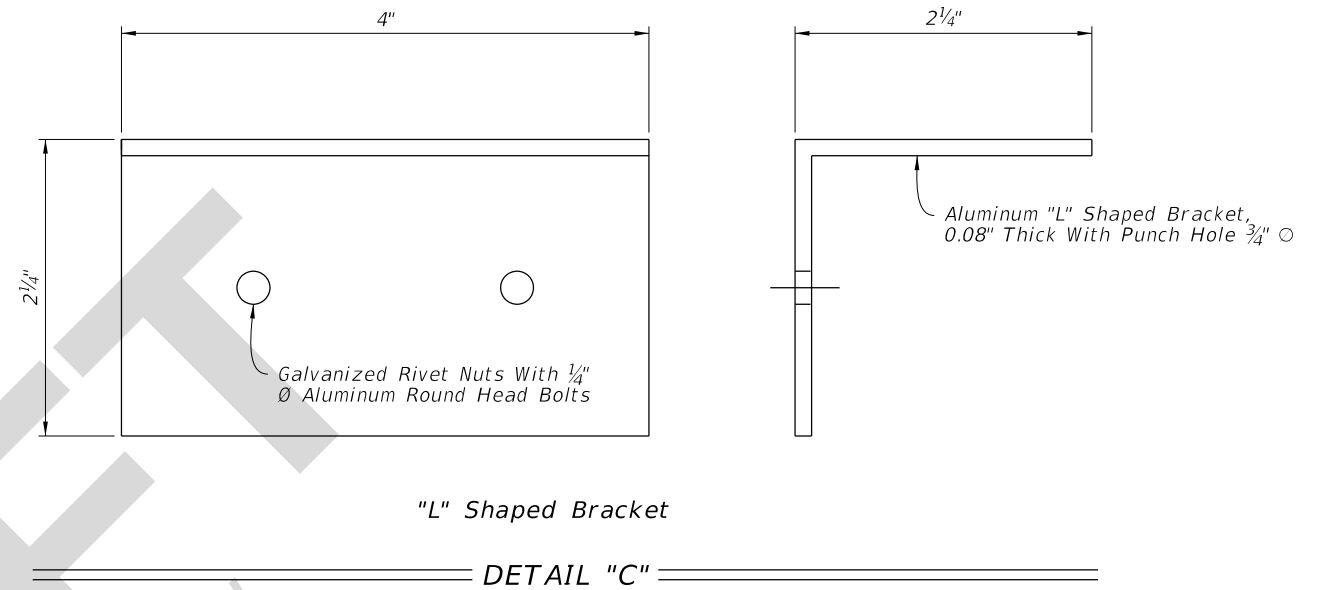
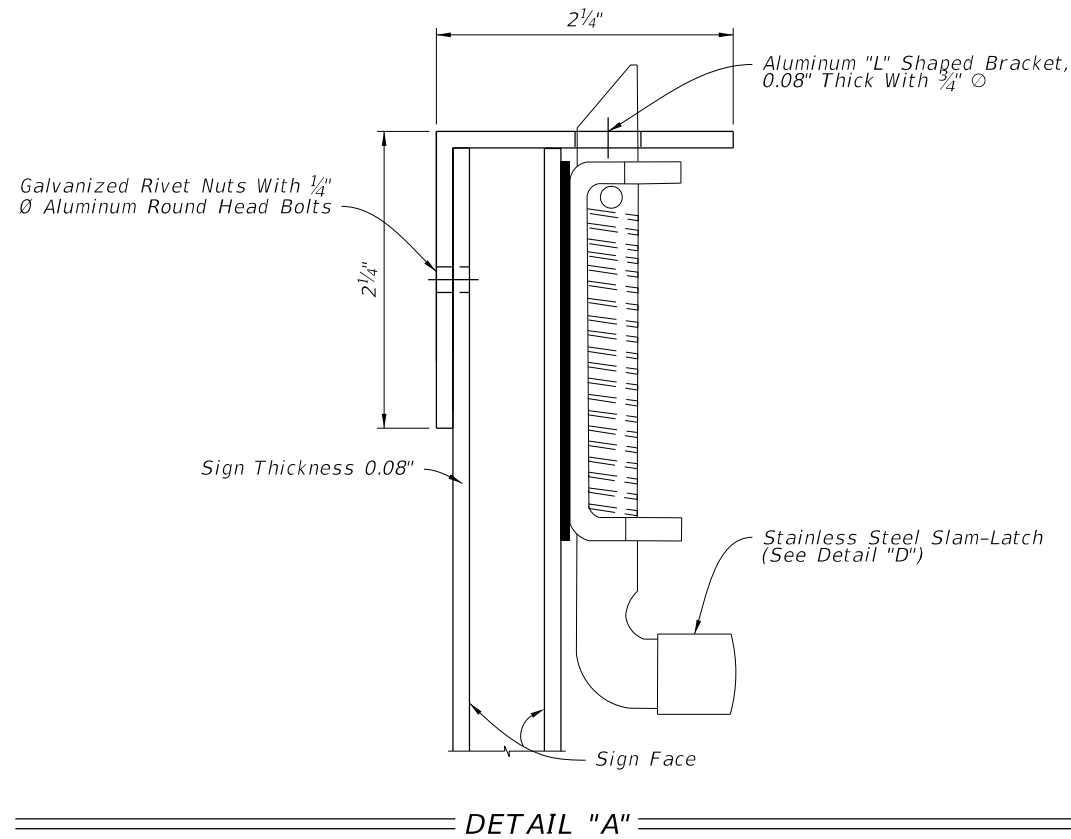
NOTES:

1. Install sign in the undeployed (up) position.
2. Provide a continuous stainless steel hinge with minimum 0.060" leaf thickness, 2" open width and 0.120" pin diameter. Stake the hinge at both ends to prevent pin movement.
3. Install Stainless Steel Spring Loaded Slam-Latch with cover to bottom face of flip sign per manufacturer's recommendations.
4. Punch or drill a 3/4" diameter hole in the "L" shaped bracket on site to match location of 1/2" wide slam-latch pin. Remove any burrs or sharp edges.

WIND BEAM CONNECTION FOR FLIP DOWN SIGN

LAST REVISION 11/01/22	REVISION	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX 700-010	SHEET 7 of 11
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SLAM-LATCH DETAIL

LAST REVISION	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
11/01/22					700-010	8 of 11

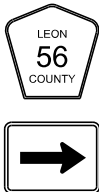
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 	Size	Area	Total Area	Centroid
	36x12	3.00 SF	6.31 SF	1.75 Ft.
	24x24	3.31 SF		
 	Size	Area	Total Area	Centroid
	36x12	3.00 SF	8.18 SF	1.92 Ft.
	30x30	5.18 SF		
 	Size	Area	Total Area	Centroid
	36x12	3.00 SF	10.46 SF	2.10 Ft.
	36x36	7.46 SF		
 	Size	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		
  	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
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	24x12	2.00 SF		
	24x24	4.00 SF		
	21x15	2.19 SF		

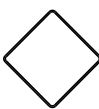
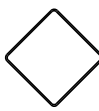
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	24x12	2.00 SF		
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			11.19 SF	2.76 Ft.
	21x15	2.19 SF		
   	Size	Area	Total Area	Centroid
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	30x15	3.13 SF		
	30x24	5.00 SF		
			13.45 SF	3.16 Ft.
	21x15	2.19 SF		
 	Size	Area	Total Area	Centroid
	21x15	2.19 SF		
	18x18	1.71 SF		
			3.90 SF	1.57 Ft.
 	Size	Area	Total Area	Centroid
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	24x24	3.03 SF		
			5.22 SF	1.72 Ft.
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	30x30	4.76 SF		
			6.95 SF	1.87 Ft.

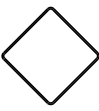
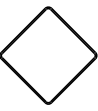
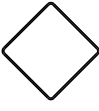
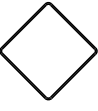
	Size	Area	Total Area	Centroid
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	21x15	2.19 SF		
	Size	Area	Total Area	Centroid
	24x24	3.03 SF	5.22 SF	1.62 Ft.
	21x15	2.19 SF		
	Size	Area	Total Area	Centroid
	30x30	4.76 SF	6.95 SF	1.97 Ft.
	21x15	2.19 SF		
	Size	Area	Total Area	Centroid
	24x12	2.00 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			

TO EAST INTERSTATE 295 →	Size	Area	Total Area	Centroid
	30x15	3.13 SF		
	30x15	3.13 SF		
	30x24	3.99 SF		
			12.44 SF	3.26 Ft.
	21x15	2.19 SF		
JCT INTERSTATE 75	Size	Area	Total Area	Centroid
	21x15	2.19 SF		
			5.39 SF	1.75 Ft.
	24x24	3.20 SF		
JCT INTERSTATE 295	Size	Area	Total Area	Centroid
	21x15	2.19 SF		
			6.18 SF	1.67 Ft.
	30x24	3.99 SF		
EAST TO OR INTERSTATE 75 INTERSTATE 75	Size	Area	Total Area	Centroid
	24x12	2.00 SF		
			5.20 SF	1.67 Ft.
	24x24	3.20 SF		
EAST TO OR INTERSTATE 295 INTERSTATE 295	Size	Area	Total Area	Centroid
	24x12	2.00 SF		
			5.99 SF	1.60 Ft.
	30x24	3.99 SF		
EAST TO OR INTERSTATE 295 INTERSTATE 295	Size	Area	Total Area	Centroid
	30x15	3.13 SF		
			7.12 SF	1.81 Ft.
	30x24	3.99 SF		
EAST TO OR INTERSTATE 75 INTERSTATE 75	Size	Area	Total Area	Centroid
	30x15	3.13 SF		
			10.33 SF	2.27 Ft.
	36x36	7.20 SF		

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EAST TO INTERSTATE 295 OR INTERSTATE 295	Size	Area	Total Area	Centroid
	30x15	3.13 SF	12.12 SF	2.18 Ft.
	45x36	8.99 SF		
EAST TO INTERSTATE 75 OR INTERSTATE 75 → →	Size	Area	Total Area	Centroid
	24x12	2.00 SF	7.39 SF	2.30 Ft.
	24x24	3.20 SF		
	21x15	2.19 SF		
EAST TO INTERSTATE 295 OR INTERSTATE 295 → →	Size	Area	Total Area	Centroid
	24x12	2.00 SF	8.18 SF	2.31 Ft.
	30x24	3.99 SF		
	21x15	2.19 SF		
EAST TO INTERSTATE 295 OR INTERSTATE 295 → →	Size	Area	Total Area	Centroid
	30x15	3.13 SF	9.31 SF	2.55 Ft.
	30x24	3.99 SF		
	21x15	2.19 SF		
⚠ ⚠ OR ⚠ AHEAD 200 FT	Size	Area	Total Area	Centroid
	30x30	4.69 SF	6.69 SF	1.61 Ft.
	24x12	2.00 SF		
⚠ ⚠ OR ⚠ AHEAD 200 FT	Size	Area	Total Area	Centroid
	30x30	4.69 SF	8.44 SF	1.77 Ft.
	30x18	3.75 SF		
⚠ ⚠ OR ⚠ AHEAD 200 FT	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		
 OR  	Size	Area	Total Area	Centroid
	30X30	6.25 SF	8.25 SF	2.28 Ft.
	24X12	2.00 SF		
 OR  	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		

 <i>OR</i>   	Size	Area	Total Area	Centroid
			9.25 SF	2.51 Ft.
	30X30	6.25 SF		
	24X18	3.00 SF		
 <i>OR</i>   	Size	Area	Total Area	Centroid
			14.00 SF	3.06 Ft.
	36X36	9.00 SF		
		30X24	5.00 SF	