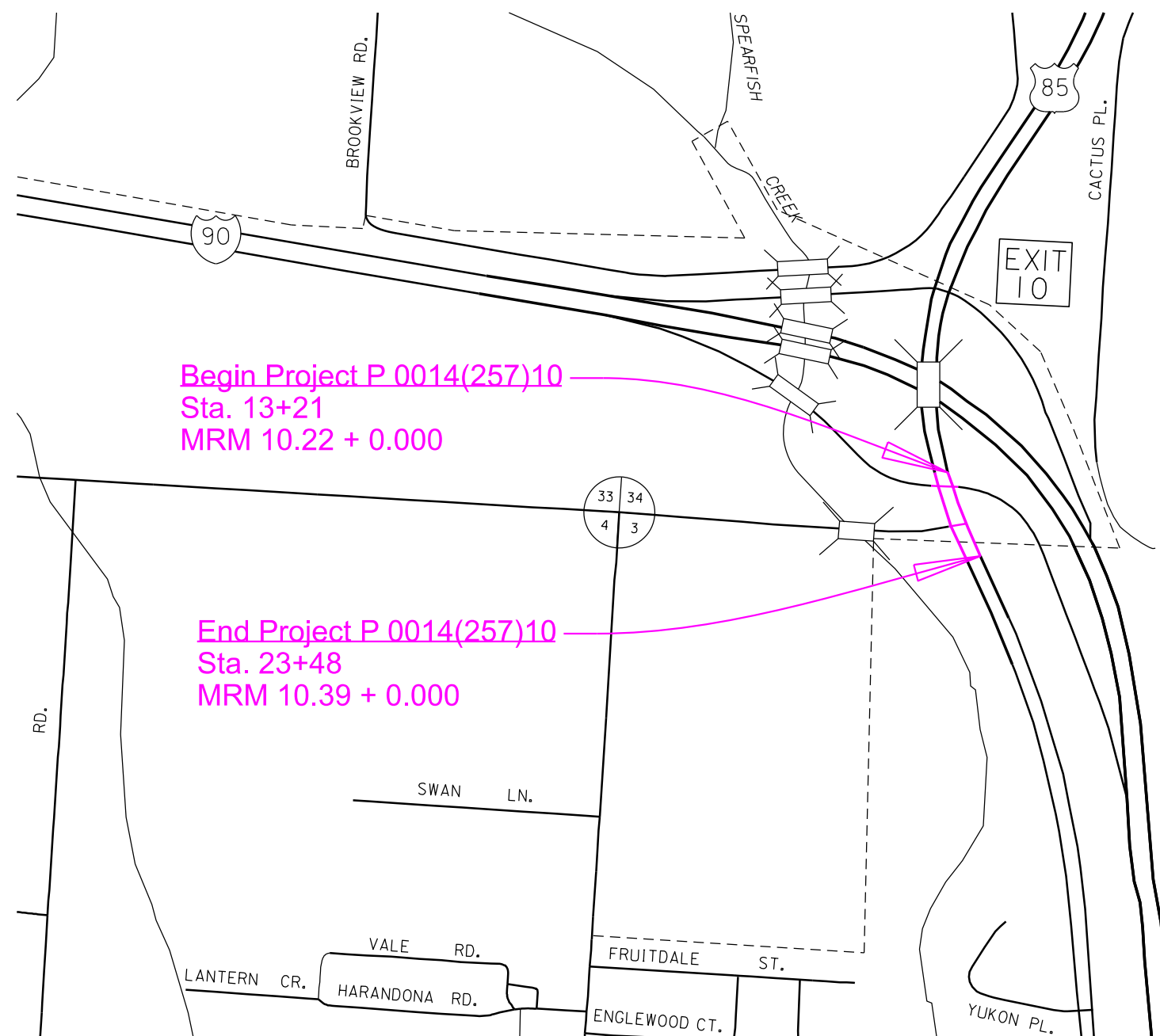


# SECTION S: PERMANENT SIGNING PLANS

## INDEX OF SHEETS:

- S1 General Layout with Index
- S2 - S7 Estimate of Quantities with General Notes & Tables
- S8 - S10 Permanent Signing Layouts
- S11 Sign Base Details
- S12 - S18 Standard Plates



## SECTION S – ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E0130	Remove Traffic Sign	20	Each
110E0135	Remove Delineator	31	Each
110E7150	Remove Sign for Reset	1	Each
632E1340	2.5"x2.5" Perforated Tube Post	433.6	Ft
632E2008	4" Tubular Amber Delineator with 1.12 Lb/Ft Post	8	Each
632E2020	4"x4" White Delineator with 1.12 Lb/Ft Post	3	Each
632E2028	4" Tubular White Delineator with 1.12 Lb/Ft Post	20	Each
632E2510	Type 2 Object Marker Back to Back	3	Each
632E2520	Type 2 Object Marker	5	Each
632E2530	Type 3 Object Marker	1	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	396.2	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	116.9	SqFt
632E3500	Reset Sign	1	Each

### GENERAL PERMANENT SIGNING

New sign installations will be staked in the field by the Contractor and checked by the Engineer. The Contractor will give the Engineer a minimum of one week to check staked locations prior to signpost installation. Lateral offset of signs will be as shown in the plans or as directed by the Engineer.

The Contractor will be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

When signs are mounted in an assembly, they will be 1-2 inches apart vertically and horizontally.

The height of the post must not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign will be cut off. No separate payment will be made for cutting the post or for that length cut off.

Aluminum U-Channel stiffeners will be used on all signs 36 inches or greater in width and will conform to ASTM B221 Alloy 6063-T6 or 6061-T6. The U-Channel will be 2 inches in width and free of holes. The U-Channel stiffeners will also be used to connect various signs together so that an entire sign assembly can be erected on a single installation. Stiffeners may be fastened to signs by use of 1/4-inch diameter drive rivets.

The Contractor will use 3/8-inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts will extend through each post.

Prior to ordering signs, the Contractor will verify dimensions, background, border, and legend of the signs.

Prior to use, the Contractor will provide documentation for the sign support devices showing they meet the applicable NCHRP 350 or MASH requirements.

### REMOVE TRAFFIC SIGN

Existing signs that are shown as being removed in the Sign Removal Table will become the property of the Contractor. Existing signposts and bases will be removed in their entirety. All existing signs, posts, and/or hardware removed will not be reused. Holes remaining from the removal of wood posts will be backfilled and compacted with material placed in layers not to exceed 6 inches in depth.

All costs associated with the removal of existing signs, posts, hardware, and backfilled holes will be incidental to the contract unit price per each for "Remove Traffic Sign". Quantities will be per assembly at the contract unit price per each.

### REMOVE SIGN FOR RESET AND RESET SIGN

Signs that are scheduled for reset will be dismantled and reassembled to the extent needed by the Contractor to properly reset the sign. Signs will be handled with care so that the existing signs, posts, and bases are not damaged during the relocation process. The Contractor will replace and pay for any reset signs damaged in their care. The Contractor will remove and dispose of any existing posts for all reset signs that require use of new posts as shown in the Table of Permanent Signing.


All costs for removing, dismantling, and disposing of any existing posts will be incidental to the contract unit price per each for "Remove Sign for Reset". All costs for resetting the existing signs will be incidental to the contract unit price per each for "Reset Sign". All quantities for Remove Sign for Reset and Reset Sign will be per assembly at the contract unit price per each.

### NEW PERMANENT SIGNING

All signs will be manufactured in accordance with the sheeting manufacturer's recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films.

All Flat Aluminum Signs, Nonremovable Copy High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type IV. All Flat Aluminum Signs, Nonremovable Copy Super/Very High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type XI.

All costs associated with furnishing and installing the new permanent signs, and with furnishing and installing stiffeners and hardware will be incidental to the contract unit price per square foot for "Flat Aluminum Sign, Nonremovable Copy High Intensity" or "Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity".

	PROJECT	SECTION	SHEET
	P 0014(257)10	S	2/18

Plotting Date: 3/13/2026      Revised: 3/13/2026 - ME

## DIGITALLY PRINTED SIGNS

Digitally printed signs will be allowed on this project. If the Contractor elects to provide digitally printed signs, such signs will adhere to the following specifications.

### PROTECTIVE OVERLAY FILM

Permanent traffic signs printed with digital ink systems will be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlamine will comply with the retroreflective sheeting manufacturer's recommendations to ensure proper adhesion and transparency and will also meet the reflective film durability as identified in Table 1.

Table 1: Retroreflective Film Minimum Durability Requirements

ASTM D4956 Type	Full Sign Replacement Term (years)	Sheeting Replacement Term (years)
I	0	7
III	7	10
IV	7	10
VIII	7	10
IX	7	12
XI	7	12

### FABRICATION

Retroreflective sheeting will be applied to a properly cleaned and prepared aluminum sign blank in accordance with the retroreflective sheeting manufacturer's recommendations. Sign legend will be applied using digital print technologies and systems in accordance with the retroreflective sheeting manufacturer's recommendations and the requirements of these plans.

Finished signs will be free of ragged edges and must be supplied clean and free of scratches, grease, oil, lubricants or other contaminants. Minor blemishes (dirt speck, dust, etc.) may settle on the fresh ink surface or become entrapped between the sheeting surface and transparent overlay film due to static charge within the sign shop environment. Any blemish must be minor and not interfere with the communication of the sign message to the motorist. The blemish must not be visible to the naked eye when viewed from 30 feet or greater.

After application of the retroreflective sheeting, sign blanks will be stacked and packaged face to face, back to back, and protected in accordance with the sheeting manufacturer's recommendations. Finished signs will be securely packaged to prevent damage during transit or storage according to the sheeting manufacturer's recommendations.

### TRAFFIC SIGN PERFORMANCE WARRANTY PROVISIONS

Based on the ASTM Type of sheeting specified, traffic control signs will be warranted for the duration shown in Table 1. Full product terms and conditions are as established by each sheeting manufacturer and may contain certain limitations based on sheeting and ink colors, and geographic exposure of the sign. A copy of the warranty document with complete details of terms and conditions will be supplied if requested by the Engineer.

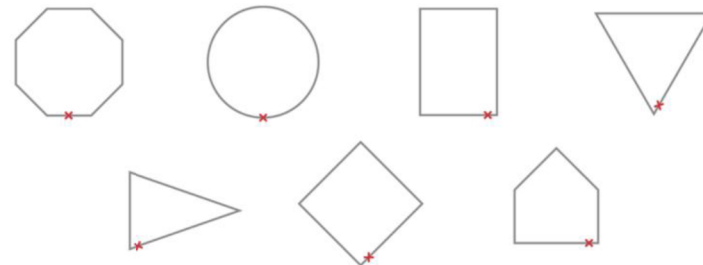
## CERTIFIED DIGITAL SIGN FABRICATOR

Sign fabricators using digital imaging methods to produce regulated traffic signs must be certified by the reflective sheeting manufacturer whose materials are used to produce the delivered signs.

### DATE TAGGING SIGNS WITH PERTINENT INFORMATION

All digitally printed signs are required to be date-tagged with the following 2 components:

1. Date tags on the back of signs  
Tags will have the following information and be fabricated with material and printing system that are as durable as the warranted sign.
  - Name of Sign Fabricator
  - Date the sign was fabricated (month and year)
  - Process that was used for sign fabrication (digitally printed)
  - Supplier of sheeting that was used for fabricating the sign.
2. Border date  
The month and year (mm/yyyy) of sign fabrication will be printed in the border of the sign in 3/8" sans serif font. Border date will be printed with the same warranted printed system as the sign face. The date should be printed in the locations indicated below.



### SQUARE TUBE ANCHOR SLEEVE

The Contractor will furnish and install new 2.5" x 2.5" x 18", 12 Gauge square tube anchor sleeve or equivalent components as approved by the Engineer for 2.0" x 2.0" perforated tube posts. A 2.25" x 2.25" x 4', 12 Gauge perforated tube post will be used as the anchor post for installation with the square tube anchor sleeve.

### SQUARE TUBE POST SLEEVE

All 2.5" x 2.5", 10 Gauge perforated tube post will be sleeved with a 2-3/16" x 2-3/16" x 4', 10 Gauge perforated tube post.

### WINGED SLIP BASE ANCHOR

The Contractor will furnish and install new winged slip base anchors for 2.5" x 2.5" perforated tube posts as required in the Permanent Signing Table. Winged slip base anchors will be installed using the direct drive method. Winged slip base anchors will consist of a slip base (upper), a 48-inch long winged anchor (lower), and a hardware kit.

## POLE MOUNTED SIGNS

Signs that are mounted on luminaire poles will be attached with high strength stainless steel bands or galvanized pole clamps. Signs will be attached as recommended by the manufacturer. All sign mounting hardware will be stainless steel or galvanized steel.

Pole mounted signs will be mounted a minimum of 7 ft above the ground. Mounting heights are measured to the bottom of the signs.

All costs for pole sign mounting hardware will be incidental to the contract unit price per square foot for "Flat Aluminum Sign, Nonremovable Copy High Intensity" or "Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity".

**PCN 08LL - Sign Removal Table**

Highway	Station	Alignment Offset (feet)	Offset Direction (Left or Right)	Sign Description	Work Description
Hwy 14 WL	10+42.1	40.0'	L	M3-4A: DIRECTIONAL MARKER - WEST - US	REMOVE TRAFFIC SIGN
				M3-1A: DIRECTIONAL MARKER - NORTH - US	
				M1-1: ROUTE MARKER (INTERSTATE)	
				M1-4: ROUTE MARKER (US HIGHWAYS)	
				M6-3A: DIR ARROW - VERT SINGLE HEAD - US	
				M5-1LA: ADVANCE TURN 90 DEGREE - LEFT - US	
Hwy 14 WL	11+99.7	49.9'	L	I10-3: FATALITY MARKER/ THINK / WHY DIE	REMOVE TRAFFIC SIGN
Hwy 14 WL	14+10.0	49.6'	L	M1-1: ROUTE MARKER (INTERSTATE)	REMOVE TRAFFIC SIGN
				M1-4: ROUTE MARKER (US HIGHWAYS)	
				M6-1A: DIR ARROW - HORIZ SINGLE HEAD - US	
				M6-1A: DIR ARROW - HORIZ SINGLE HEAD - US	
				R5-1: DO NOT ENTER	
				M3-2A: DIRECTIONAL MARKER - EAST - US	
				M3-3A: DIRECTIONAL MARKER - SOUTH - US	
Hwy 14 WL	14+95.8	49.1'	L	R6-1L: ONE WAY ON LEFT ARROW	REMOVE TRAFFIC SIGN
Hwy 14 WL	15+08.3	48.2'	L	Street Sign	REMOVE TRAFFIC SIGN
Hwy 14 WL	15+50.2	48.5'	L	D9-3B: REST AREA - CAMPING W/ ARROW (SYM)	REMOVE TRAFFIC SIGN
				M1-1: ROUTE MARKER (INTERSTATE)	
				M1-1: ROUTE MARKER (INTERSTATE)	
				M3-1A: DIRECTIONAL MARKER - NORTH - US	
				M3-2A: DIRECTIONAL MARKER - EAST - US	
				M3-2A: DIRECTIONAL MARKER - EAST - US	
				M3-4A: DIRECTIONAL MARKER - WEST - US	
				M5-1RA: ADVANCE TURN 90 DEGREE - RIGHT - US	
				M6-3A: DIR ARROW - VERT SINGLE HEAD - US	
				M6-3A: DIR ARROW - VERT SINGLE HEAD - US	
				R5-1: DO NOT ENTER	
Hwy 14 WL	19+75.1	50.8'	L	D1-3: DESTINATION BOARD - 3 LINES W/ ARROW	REMOVE TRAFFIC SIGN
Hwy 14 WL	8+45.8	608.0'	R	W3-1: STOP AHEAD (SYM)	REMOVE TRAFFIC SIGN
Hwy 14 WL	10+40.7	382.6'	R	R5-1A: WRONG WAY	REMOVE TRAFFIC SIGN
Hwy 14 WL	10+91.7	70.0'	R	M1-4: ROUTE MARKER (US HIGHWAYS)	REMOVE TRAFFIC SIGN
				M1-1: ROUTE MARKER (INTERSTATE)	
				M6-1A: DIR ARROW - HORIZ SINGLE HEAD - US	
				M6-1A: DIR ARROW - HORIZ SINGLE HEAD - US	
				M3-3A: DIRECTIONAL MARKER - SOUTH - US	
				M3-2A: DIRECTIONAL MARKER - EAST - US	
				R5-1: DO NOT ENTER	
Hwy 14 WL	11+71.6	3.8'	R	R4-7: KEEP RIGHT (SYM)	REMOVE TRAFFIC SIGN
				OM2-1: OBJECT MARKER - TYPE 2	
Hwy 14 WL	12+17.7	75.3'	R	R6-1R: ONE WAY ON RIGHT ARROW	REMOVE TRAFFIC SIGN
				R6-1L: ONE WAY ON LEFT ARROW	
				R1-1: STOP	
				R6-3: DIVIDED HIGHWAY CROSSING THRU - 4 LEGGED (SYM)	
				R5-1: DO NOT ENTER	

**PCN 08LL - Sign Removal Table**

Highway	Station	Alignment Offset (feet)	Offset Direction (Left or Right)	Sign Description	Work Description
Hwy 14 WL	12+76.5	71.1'	R	R6-3: DIVIDED HIGHWAY CROSSING THRU - 4 LEGGED (SYM)	REMOVE TRAFFIC SIGN
				R6-1R: ONE WAY ON RIGHT ARROW	
				R6-1L: ONE WAY ON LEFT ARROW	
				R5-1: DO NOT ENTER	
				R1-1: STOP	
Hwy 14 WL	12+99.2	9.6'	R	R4-7: KEEP RIGHT (SYM)	REMOVE TRAFFIC SIGN
			OM2-1: OBJECT MARKER - TYPE 2		
Hwy 14 WL	13+48.6	69.6'	R	R5-1: DO NOT ENTER	REMOVE TRAFFIC SIGN
				D9-18B: GENERAL SERVICE (SYM) W/ ACTION OR EXIT INFO	
				D9-18B: GENERAL SERVICE (SYM) W/ ACTION OR EXIT INFO	
				D9-18B: GENERAL SERVICE (SYM) W/ ACTION OR EXIT INFO	
Hwy 14 WL	14+08.5	9.3'	R	R4-7: KEEP RIGHT (SYM)	REMOVE TRAFFIC SIGN
				OM2-1: OBJECT MARKER - TYPE 2	
Hwy 14 WL	14+82.6	79.3'	R	R1-1: STOP	REMOVE TRAFFIC SIGN
				R6-3: DIVIDED HIGHWAY CROSSING THRU - 4 LEGGED (SYM)	
				R6-1R: ONE WAY ON RIGHT ARROW	
Hwy 14 WL	15+65.5	65.5'	R	R5-2C: NO THRU TRUCKS - WORDS	REMOVE TRAFFIC SIGN
Hwy 14 WL	16+33.3	69.5'	R	R2-1X: SPEED LIMIT - 45 MPH	REMOVE TRAFFIC SIGN
Hwy 14 WL	18+25.5	76.2'	R	ADO-2: ADOPT-A-HIGHWAY LITTER CONTROL COURTESY OF	REMOVE TRAFFIC SIGN
				AD-7: LITTER CREW AHEAD - HINGED	
Hwy 14 WL	20+76.5	90.7'	R	D1-1D: TOWN BOARD - 1 LINE (6"UC & LC)	REMOVE SIGN FOR RESET

**TOTAL REMOVE SIGN: 20**  
**TOTAL REMOVE SIGN FOR RESET: 1**



PCN 08LL - PERMANENT SIGNING TABLE																		POST LENGTHS		FLAT ALUMINUM SIGN AREAS	
HWY	STA	Offset to First Sign Post (feet)	Side of Alignment (Left or Right)	SIGN				POST								WORK TO BE DONE	LF of 2.0"	LF of 2.5"	SQFT IV	SQFT XI	
				Sign Code	Sign Description	Size (in)	Direction Facing	Sheeting Type	Length Post #1 (ft)	Alignment Offset to Post #1 (ft)	Length Post #2 (ft)	Offset from Post #1 Post #2 (ft)	Size (in)	# of Posts	Surface Mount						Shear Slip Base
14 WL	See Section L		R	W3-4	Be Prepared to Stop	36 x 36	South	XI	12.2		12.6	2	2.5	2		YES	New Permanent Signing (See Section L)		24.8		9.0
				W16-13P	When Flashing (plaque)	24 x 18	South	XI													3.0
14 WL	11+01.5	36.8	L	M3-4iP	Cardinal Direction (plaque): West	36 x 18	South	IV									New Permanent Signing on Luminaire Post (EL1)				4.5
				M3-1P	Cardinal Direction (plaque): North	36 x 18	South	IV													4.5
				M1-1	Interstate Route (1 or 2 digits): 90	36 x 36	South	IV													9.0
				M1-4	U.S. Route (1 or 2 digits): 85	36 x 36	South	IV													9.0
				M5-1LiP	Advance Turn Arrow (plaque): Left	30 x 21	South	IV													4.4
				M6-3P	Directional Arrow (plaque): Up	30 x 21	South	IV													4.4
14 WL	Signal Mast Arm		L	R3-5a	Mandatory Movement Lane Control: Thru Only	30 x 36	South	IV									New Permanent Signing on Signal Mast Arm				7.5
14 WL	13+56.1	123.9	L	R1-2	Yield	48 x 48 x 48	West	XI	11.9	123.9			2.5	1		YES	New Permanent Signing		11.9		6.9
14WL	14+02.3	64.2	L	OM2-2V	Type 2 Object Marker: Back to Back	6 x 12	North & South	IV	8.0	64.2			2.25	1		NO	New Type 2 Object Marker Back to Back				
14 WL	14+50.1	41.5	L	M3-2iP	Cardinal Direction (plaque): East	24 x 12	South	IV									New Permanent Signing on Luminaire Post (REL4)				2.0
				M3-3P	Cardinal Direction (plaque): South	24 x 12	South	IV													2.0
				M1-1	Interstate Route (1 or 2 digits): 90	24 x 24	South	IV													4.0
				M1-4	U.S. Route (1 or 2 digits): 85	24 x 24	South	IV													4.0
				M6-1RiP	Directional Arrow (plaque): Right	21 x 15	South	IV													2.2
				M6-1RP	Directional Arrow (plaque): Right	21 x 15	South	IV													2.2
14 WL	16+31.0	56.0	L	D1-3	Destination (3 lines): Belle Fouche - Gillette, WY - Rapid City	90 x 42	South	IV	13.2	56.0	14.3	4.5	2.5	2		YES	New Permanent Signing		27.5		26.3
14 WL	18+20.3	44.0	L	W3-4	Be Prepared to Stop	36 x 36	South	XI	14.7	44.0	15.2	2	2.5	2		YES	New Permanent Signing (See Section L)		29.9		9.0
				W16-13P	When Flashing (plaque)	24 x 18	South	XI													3.0
14 WL	20+16.9	44.0	L	M3-4iP	Cardinal Direction (plaque): West	24 x 12	South	IV	14.0	44.0	15.0	4	2.5	2		YES	New Permanent Signing		29.0		2.0
				M3-2iP	Cardinal Direction (plaque): East	24 x 12	South	IV													2.0
				M1-1	Interstate Route (1 or 2 digits): 90	24 x 24	South	IV													4.0
				M1-1	Interstate Route (1 or 2 digits): 90	24 x 24	South	IV													4.0
				M6-3iP	Directional Arrow (plaque): Up	21 x 15	South	IV													2.2
				M5-1RiP	Advance Turn Arrow (plaque): Right	21 x 15	South	IV													2.2
				M3-1P	Cardinal Direction (plaque): North	24 x 12	South	IV													2.0
				M3-3P	Cardinal Direction (plaque): South	24 x 12	South	IV													2.0
				M1-4	U.S. Route (1 or 2 digits): 85	24 x 24	South	IV													4.0
				M1-4	U.S. Route (1 or 2 digits): 85	24 x 24	South	IV													4.0
				M6-3P	Directional Arrow (plaque): Up	21 x 15	South	IV													2.2
				M5-1RP	Advance Turn Arrow (plaque): Right	21 x 15	South	IV													2.2
14 WL	22+87.3	44.0	L	R6-1L	One Way: Left	48 x 18	West	IV	10.0	44.0			2.5	1		YES	New Permanent Signing		10.0		6.0
14 WL	23+39.8	44.0	L	R5-1	Do Not Enter	36 x 36	North	XI	11.5	44.0			2.5	1		YES	New Permanent Signing				9.0



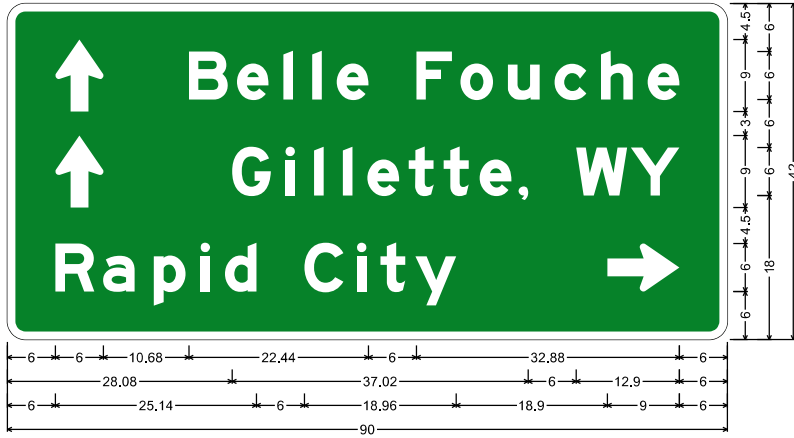
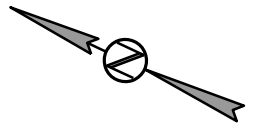
PCN 08LL - PERMANENT SIGNING TABLE																	POST LENGTHS		FLAT ALUMINUM SIGN AREAS			
HWY	STA	Offset to First Sign Post (feet)	Side of Alignment (Left or Right)	SIGN					POST								WORK TO BE DONE	LF of 2.0"	LF of 2.5"	SQFT IV	SQFT XI	
				Sign Code	Sign Description	Size (in)	Direction Facing	Sheeting Type	Length Post #1 (ft)	Alignment Offset to Post #1 (ft)	Length Post #2 (ft)	Offset from Post #1 Post #2 (ft)	Size (in)	# of Posts	Surface Mount	Shear Slip Base						
14 WL	10+40.7	382.6	R	R5-1a	Wrong Way	42 x 30	East	XI										New Permanent Signing on Existing Posts				8.8
14 WL	10+65.6	423.4	R	R5-1a	Wrong Way	42 x 30	East	XI										New Permanent Signing on Existing Posts				8.8
14 WL	10+91.8	62.8	R	M3-2iP	Cardinal Direction (plaque): East	36 x 18	North	IV	16.0	62.8	16.7	3	2.5	2		YES		New Permanent Signing		32.7	4.5	
				M3-3P	Cardinal Direction (plaque): South	36 x 18	North	IV													4.5	
				M1-1	Interstate Route (1 or 2 digits): 90	36 x 36	North	IV													9.0	
				M1-4	U.S. Route (1 or 2 digits): 85	36 x 36	North	IV													9.0	
				M6-1LiP	Directional Arrow (plaque): Left	30 x 21	North	IV													4.4	
				M6-1LP	Directional Arrow (plaque): Left	30 x 21	North	IV													4.4	
14 WL	11+71.6	3.8	R	R4-7c	Narrow Keep Right	18 x 30	South	IV	9.5	3.8			2.5	1	YES	YES		New Permanent Signing		9.5	3.8	
				OM2-2V	Type 2 Object Marker	6 x 12	South	IV													0.5	
14 WL	12+15.7	72.6	R	R5-1	Do Not Enter	36 x 36	East	XI	13.0	72.6			2.5	1		YES		New Permanent Signing		13.0		9.0
				R6-1L	One Way: Left	48 x 18	North	IV													6.0	
				R6-1R	One Way: Right	48 x 18	South	IV													6.0	
14 WL	12+80.4	73.2	R	R5-1	Do Not Enter	36 x 36	East	XI	16.2	73.2	15.5	3	2.5	2		YES		New Permanent Signing		31.7		9.0
				R6-1L	One Way: Left	48 x 18	North	IV													6.0	
				R6-1R	One Way: Right	48 x 18	South	IV													6.0	
				M3-1P	Cardinal Direction (plaque): North	36 x 18	West	IV													4.5	
				M1-4	U.S. Route (1 or 2 digits): 85	36 x 36	West	IV													9.0	
				M1-2	Off-Interstate Route (1 or 2 digits): Business 90 (white on green)	36 x 36	West	IV													9.0	
				M6-1LP	Directional Arrow (plaque): Left	30 x 21	West	IV													4.4	
				M6-1RP	Directional Arrow (plaque): Right (white on green)	30 x 21	West	IV													4.4	
14 WL	Signal Mast Arm		R	R3-5L	Mandatory Movement Lane Control: Left Only	30 x 36	North	IV										New Permanent Signing on Signal Mast Arm				7.5
14 WL	12+99.2	9.6'	R	R4-7	Keep Right	24 x 30	North	IV	9.5	9.6'			2.5	1	YES	YES		New Permanent Signing		9.5	5.0	
				OM2-2V	Type 2 Object Marker	6 x 12	North	IV													0.5	
				R3-2	Movement Prohibition: No Left Turn	36 x 36	South	IV													9.0	
14 WL	13+48.1	14.0	R	R5-1	Do Not Enter	36 x 36	South	XI	10.0	14.0			2.5	1	YES	YES		New Permanent Signing		10.0		9.0
14 WL	13+48.5	63.2	R	Custom	Food and Arrows	72 x 12	North	IV	11.5	63.2	12.2	3	2.5	2		YES		New Permanent Signing		23.7	6.0	
				Custom	Camping and Arrow	72 x 12	North	IV													6.0	
				Custom	Gas and Arrow	72 x 12	North	IV													6.0	
				R5-1	Do Not Enter	36 x 36	South	XI														9.0
14 WL	14+12.0	264.7	R	R3-5R	Mandatory Movement Lane Control: Right Only	30 x 36	West	IV	10.0	264.7			2.5	1		YES		New Permanent Signing		10.0	7.5	
14 WL	14+47.1	170.9	R	M4-5iP	To (plaque)	24 x 12	West	IV	14.0	170.9			2.5	1		YES		New Permanent Signing		14.0	2.0	
				M4-5P	To (plaque)	24 x 12	West	IV													2.0	
				M1-1	Interstate Route (1 or 2 digits): 90	24 x 24	West	IV													4.0	
				M1-4	U.S. Route (1 or 2 digits): 85	24 x 24	West	IV													4.0	
				M6-1RiP	Directional Arrow (plaque): Right	21 x 15	West	IV													2.2	
				M6-1RP	Directional Arrow (plaque): Right	21 x 15	West	IV													2.2	



PCN 08LL - PERMANENT SIGNING TABLE																	POST LENGTHS		FLAT ALUMINUM SIGN AREAS		
HWY	STA	Offset to First Sign Post (feet)	Side of Alignment (Left or Right)	SIGN					POST							WORK TO BE DONE	LF of 2.0"	LF of 2.5"	SQFT IV	SQFT XI	
				Sign Code	Sign Description	Size (in)	Direction Facing	Sheeting Type	Length Post #1 (ft)	Alignment Offset to Post #1 (ft)	Length Post #2 (ft)	Offset from Post #1 Post #2 (ft)	Size (in)	# of Posts	Surface Mount						Shear Slip Base
14 WL	14+84.1	79.2	R	R6-1L	One Way	48 x 18	East	IV	13.0	79.2			2.5	1		YES	New Permanent Signing		13.0	6.0	
				R6-1R	One Way	48 x 18	West	IV												6.0	
				R1-1	Stop	36 x 36	West	XI													
14 WL	14+95.5	4.0'	R	R6-1R	One Way	48 x 18	West	IV	8.5	4.0'			2.5	1	YES	YES	New Permanent Signing		8.5	6.0	
14 WL	15+18.1	4.0'	R	OM-3C	Type 3 Object Marker	12 x 36	South	IV	7.0	4.0'			2.25	1	YES	NO	New Type 3 Object Marker				
14 WL	15+65.5	61.8	R	R5-2b	No Thru Trucks	24 x 30	North	IV	11.0	61.8			2.5	1		YES	New Permanent Signing		11.0	5.0	
14 WL	15+77.0	16.4	R	R4-7c	Narrow Keep Right	18 x 30	North	IV	10.0	16.4			2.5	1	YES	YES	New Permanent Signing		10.0	3.8	
				OM2-2V	Type 2 Object Marker	6 x 12	North	IV												0.5	
				R3-5L	Mandatory Movement Lane Control: Left Only	30 x 36	South	IV												7.5	
14 WL	16+33.2	57.7	R	R2-1	Speed Limit : 45	30 x 36	North	IV	11.5								New Permanent Signing on Luminaire Post (EL5)			7.5	
14 WL	18+02.5	20.7	R	M4-5iP	To (plaque)	24 x 12	North	IV	11.3	20.7			2.5	1	YES	YES	New Permanent Signing		11.3	2.0	
				M4-5P	To (plaque)	24 x 12	North	IV												2.0	
				M1-1	Interstate Route (1 or 2 digits): 90	24 x 24	North	IV												4.0	
				M1-4	U.S. Route (1 or 2 digits): 85	24 x 24	North	IV												4.0	
				Custom	U-turn (plaque)	21 x 15	North	IV												2.2	
				Custom	U-turn (plaque)	21 x 15	North	IV												2.2	
14 WL	18+38.4	17.5	R	R3-5L	Mandatory Movement Lane Control: Left Only	30 x 36	South	IV	10.0	17.5			2.5	1	YES	YES	New Permanent Signing		10.0	7.5	
14 WL	19+24.5	14.5	R	Custom	U-turn Only	30 x 36	North	IV	10.0	14.5			2.5	1	YES	YES	New Permanent Signing		10.0	7.5	
14 WL	20+76.5	90.7	R	D1-1d	Town Board - 1 Line (6"UC & LC): Spearfish - POP. 12,193	60 x 18	North	IV	8.5	90.7			2.5	1		YES	Reset Sign		8.5		
14WL	21+63.7	122.6	R	OM2-2V	Type 2 Object Marker: Back to Back	6 x 12	North & South	IV	8.0	122.6			2.25	1		NO	New Type 2 Object Marker Back to Back				
14 WL	22+02.8	25.5	R	Custom	U-turn Only	30 x 36	North	IV	10.0	25.5			2.5	1	YES	YES	New Permanent Signing		10.0	7.5	
14 WL	22+39.6	5.8'	R	R4-7	Keep Right	24 x 30	North	IV	9.5	5.8'			2.5	1	YES	YES	New Permanent Signing		9.5	5.0	
				OM2-2V	Type 2 Object Marker	6 x 12	North	IV													
14 WL	22+75.8	38.9	R	M4-5iP	To (plaque)	24 x 12	North	IV	11.3	38.9			2.5	1	YES	YES	New Permanent Signing		11.3	2.0	
				M4-5P	To (plaque)	24 x 12	North	IV												2.0	
				M1-1	Interstate Route (1 or 2 digits): 90	24 x 24	North	IV												4.0	
				M1-4	U.S. Route (1 or 2 digits): 85	24 x 24	North	IV												4.0	
				Custom	U-turn (plaque)	21 x15	North	IV												2.2	
				Custom	U-turn (plaque)	21 x15	North	IV												2.2	
				OM2-2V	Type 2 Object Marker	6 x 12	North	IV												0.5	
14 WL	22+93.6	5.9'	R	R1-2	Yield	48 x 48 x 48	Northwest	XI	10.5	5.9'			2.5	1	YES	YES	New Permanent Signing		10.5		6.9
14 WL	22+99.1	5.8'	R	R3-4	Movement Prohibition: No U-Turn	36 x 36	South	IV	10.5	5.8'			2.5	1	YES	YES	New Permanent Signing		10.5	9.0	
14WL	23+23.8	22.3	R	OM2-2V	Type 2 Object Marker: Back to Back	6 x 12	North & South	IV	8.0	22.3			2.25	1		NO	New Type 2 Object Marker Back to Back				
14 WL	23+39.9	14.7	R	R5-1	Do Not Enter	36 x 36	North	XI	12.8	14.7			2.5	1		YES	New Permanent Signing		12.8		9.0

TOTALS: 0 feet 433.6 396.2 116.9  
feet sqft sqft

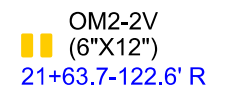
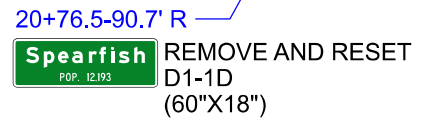
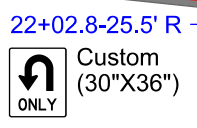
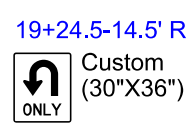
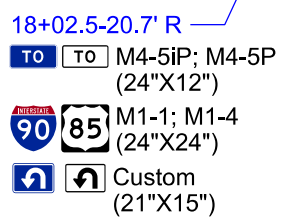
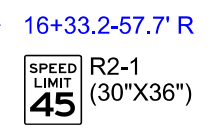
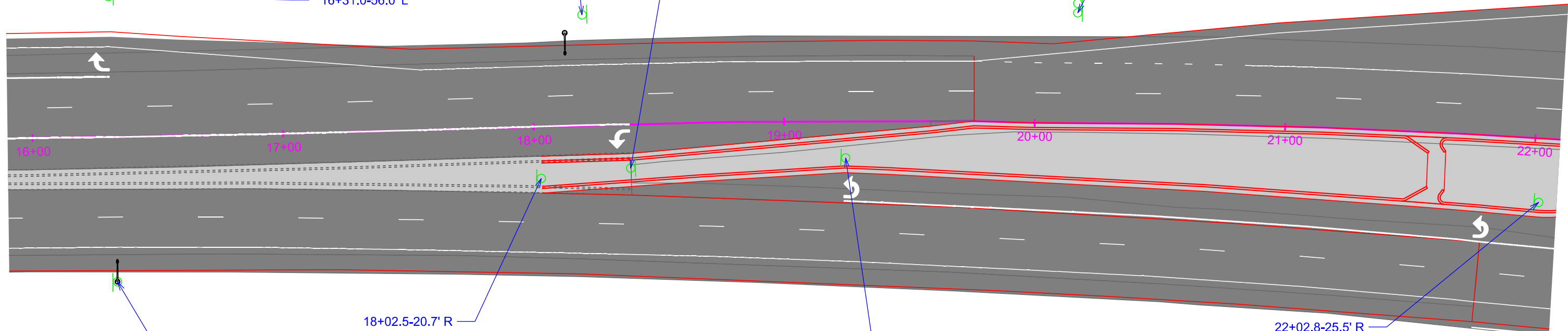
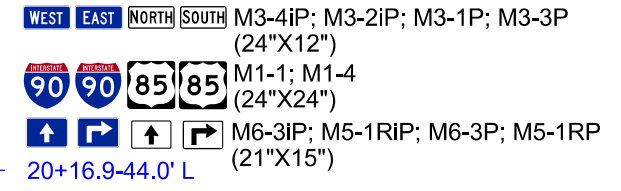
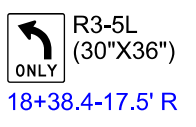
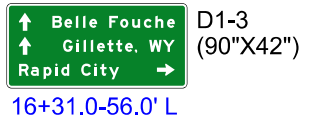
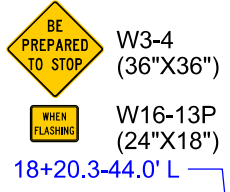


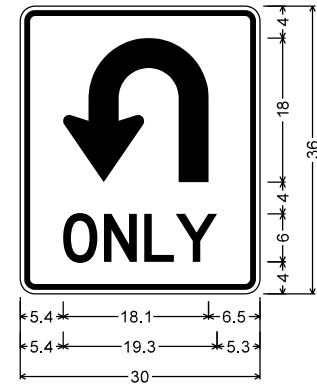
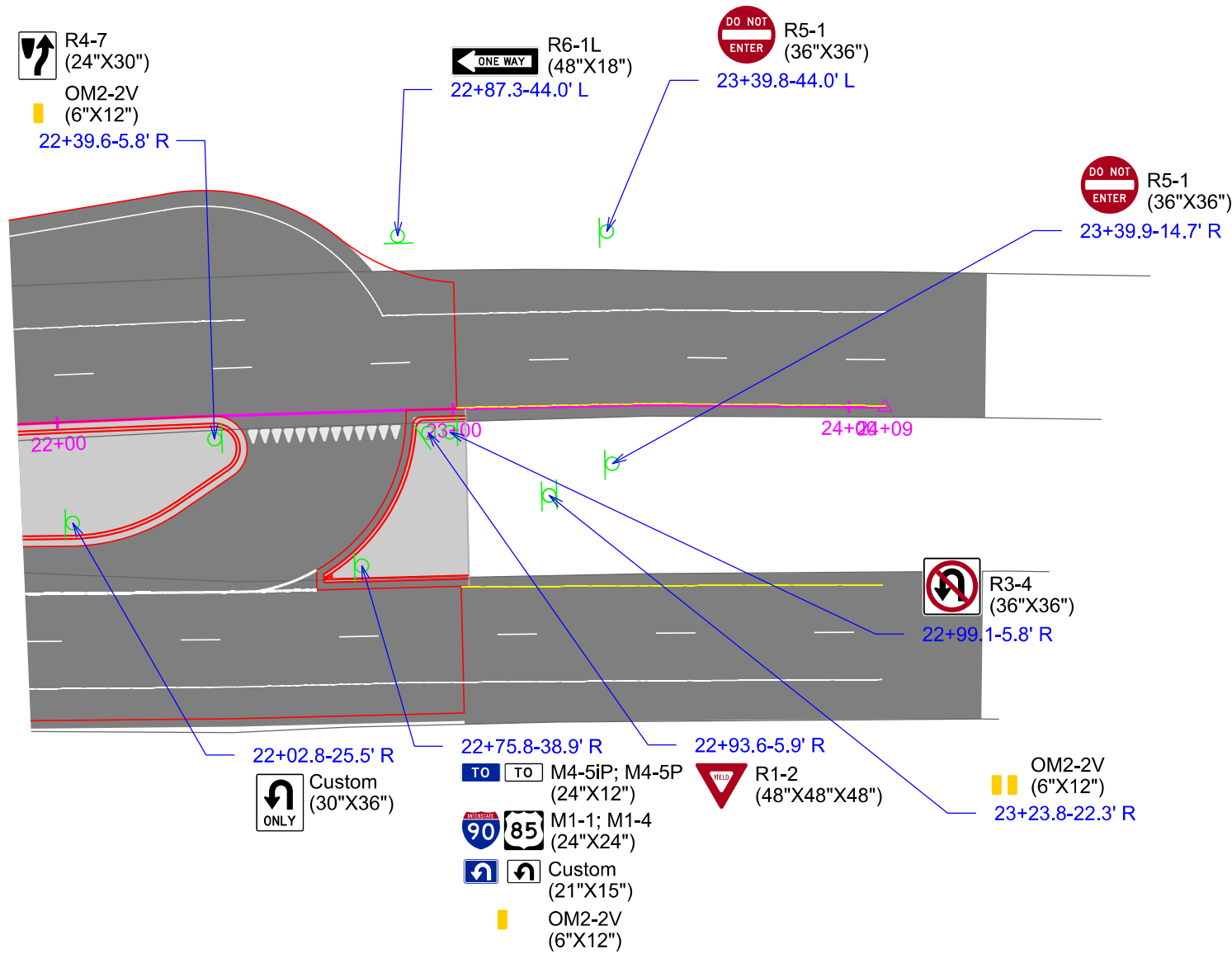
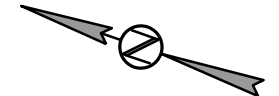


2.25" Radius, 1.00" Border, White on Green;  
 Standard Arrow Custom 9.00" X 6.00" 90"; "Belle Fouche", E Mod 2K;  
 Standard Arrow Custom 9.00" X 6.00" 90"; "Gillette, WY", E Mod 2K; "Rapid City", E Mod 2K;  
 Standard Arrow Custom 9.00" X 6.00" 0";

Table of letter and object lefts

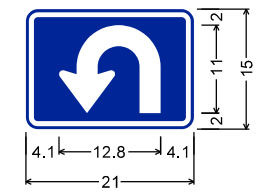
↑	B	e	l	e	f	o	u	c	h	e
6.00	22.68	28.68	34.50	38.10	41.16	51.12	56.64	62.58	68.40	74.22
↑	G	i	l	e	t	t	e	W	Y	
6.00	28.08	34.74	38.34	41.94	45.00	50.16	54.54	59.04	63.90	71.10
R	a	p	i	d	C	i	t	y		
6.00	11.94	18.30	24.12	27.18	37.14	43.68	46.62	51.00	75.00	





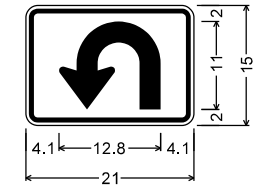
U-Turn;  
 Sign Type : Flat Alum;  
 Legend Type : Opaque;  
 Background Type : IV - High Intensity;  
 1.9" Radius, 0.8" Border, 0.5" Indent, Black on White;  
 "ONLY", D 2K specified length;  
 Table of letter and object lefts

U	N	L	Y
5.4	10.5	15.5	19.5



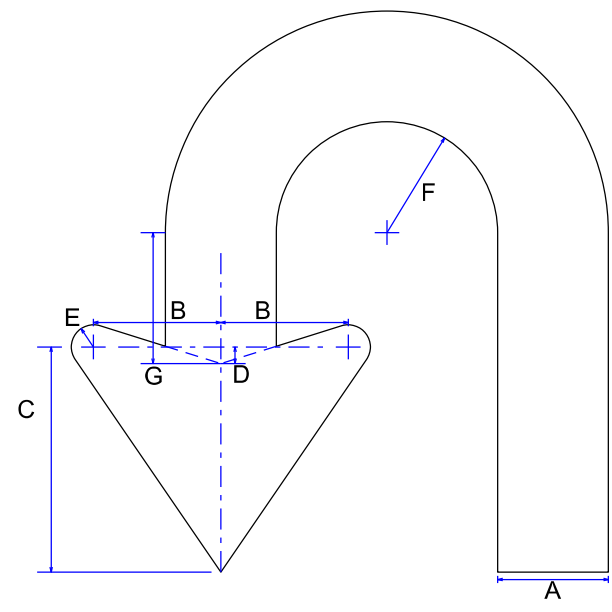
U-Turn;  
 Sign Type : Flat Alum;  
 Legend Type : Opaque;  
 Background Type : IV - High Intensity;  
 1.5" Radius, 0.6" Border, 0.4" Indent, White on Blue;  
 Table of letter and object lefts

U
4.1

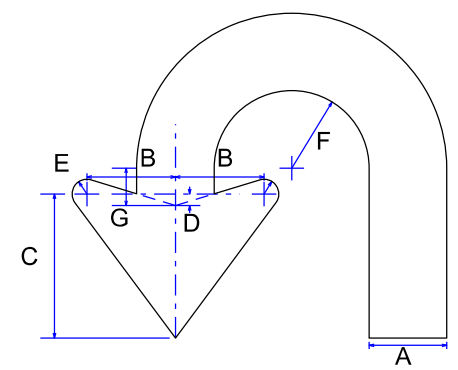


U-Turn;  
 Sign Type : Flat Alum;  
 Legend Type : Opaque;  
 Background Type : IV - High Intensity;  
 1.5" Radius, 0.6" Border, 0.4" Indent, Black on White;  
 Table of letter and object lefts

U
4.1



A	B	C	D	E	F	G
3.75	4.313	7.625	.563	.75	3.75	3.438

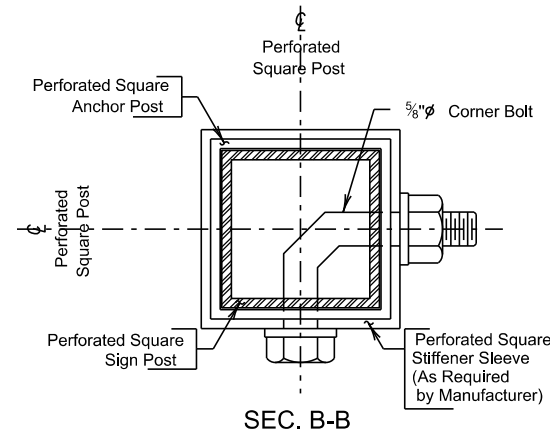
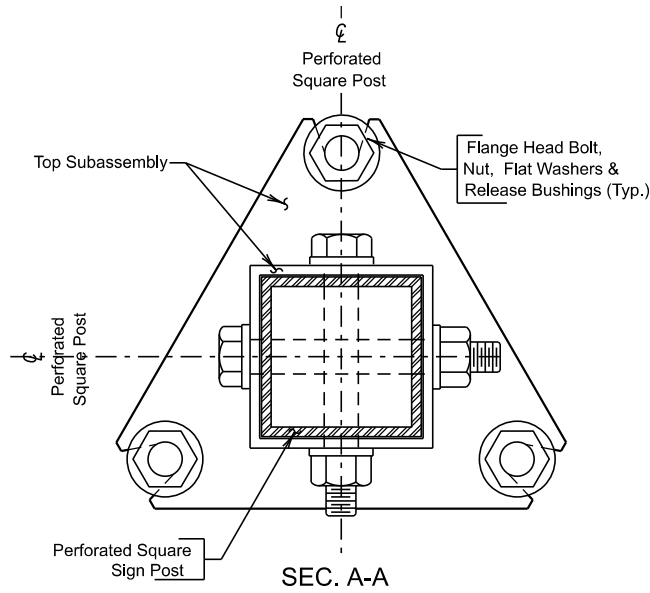
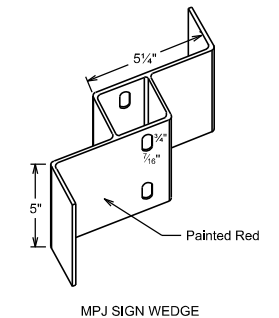
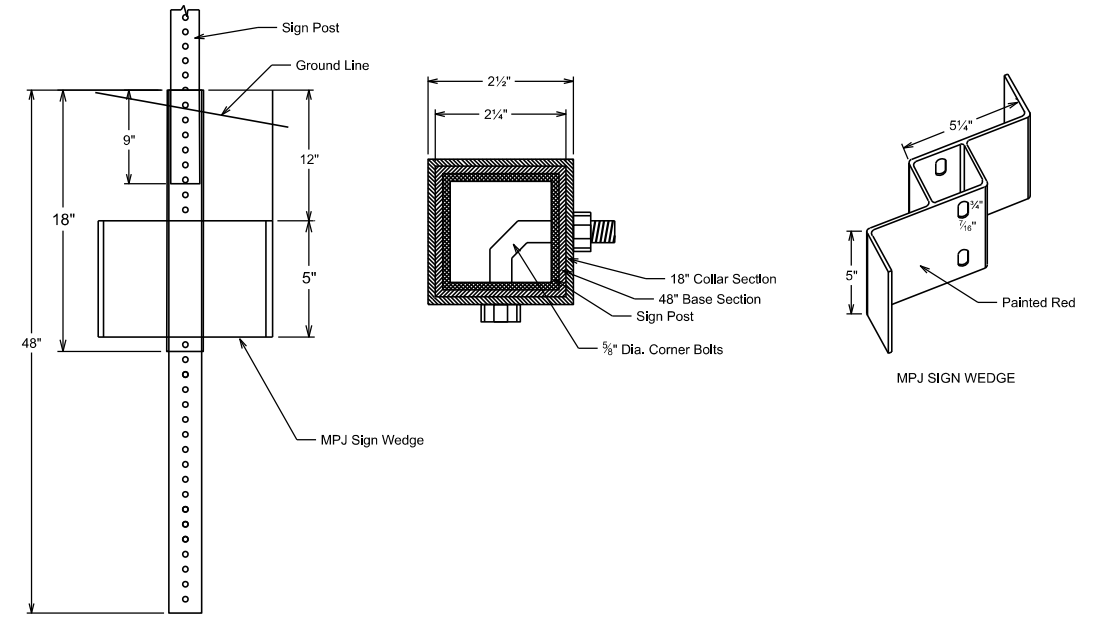
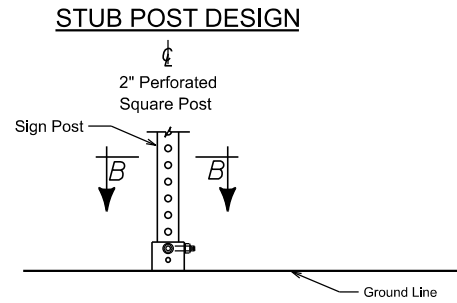
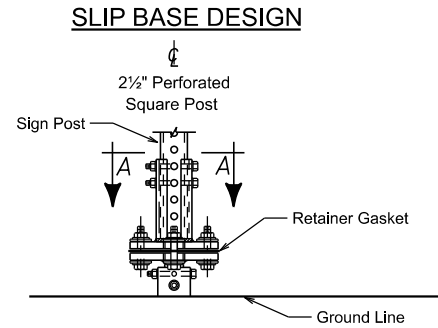


A	B	C	D	E	F	G
2.625	3	5.25	.375	0.5	2.625	1.25

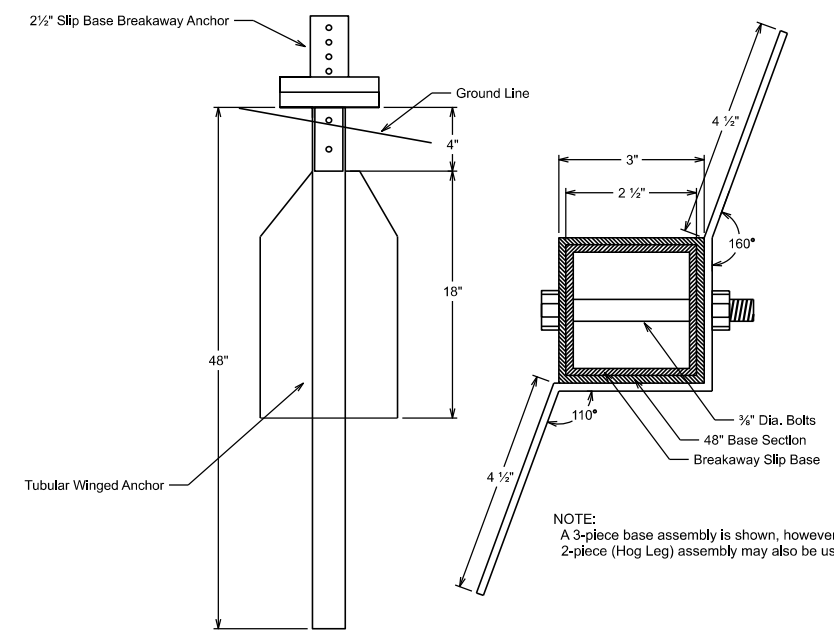
# SIGN BASE DETAILS

## BREAKAWAY SIGN SUPPORTS

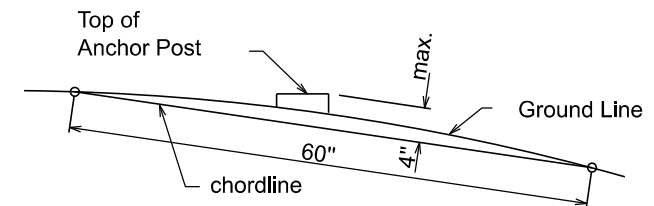
### SIGN BASE DETAILS FOR A 2" SIGN POST



### SIGN BASE DETAILS FOR A 2 1/2" SIGN POST

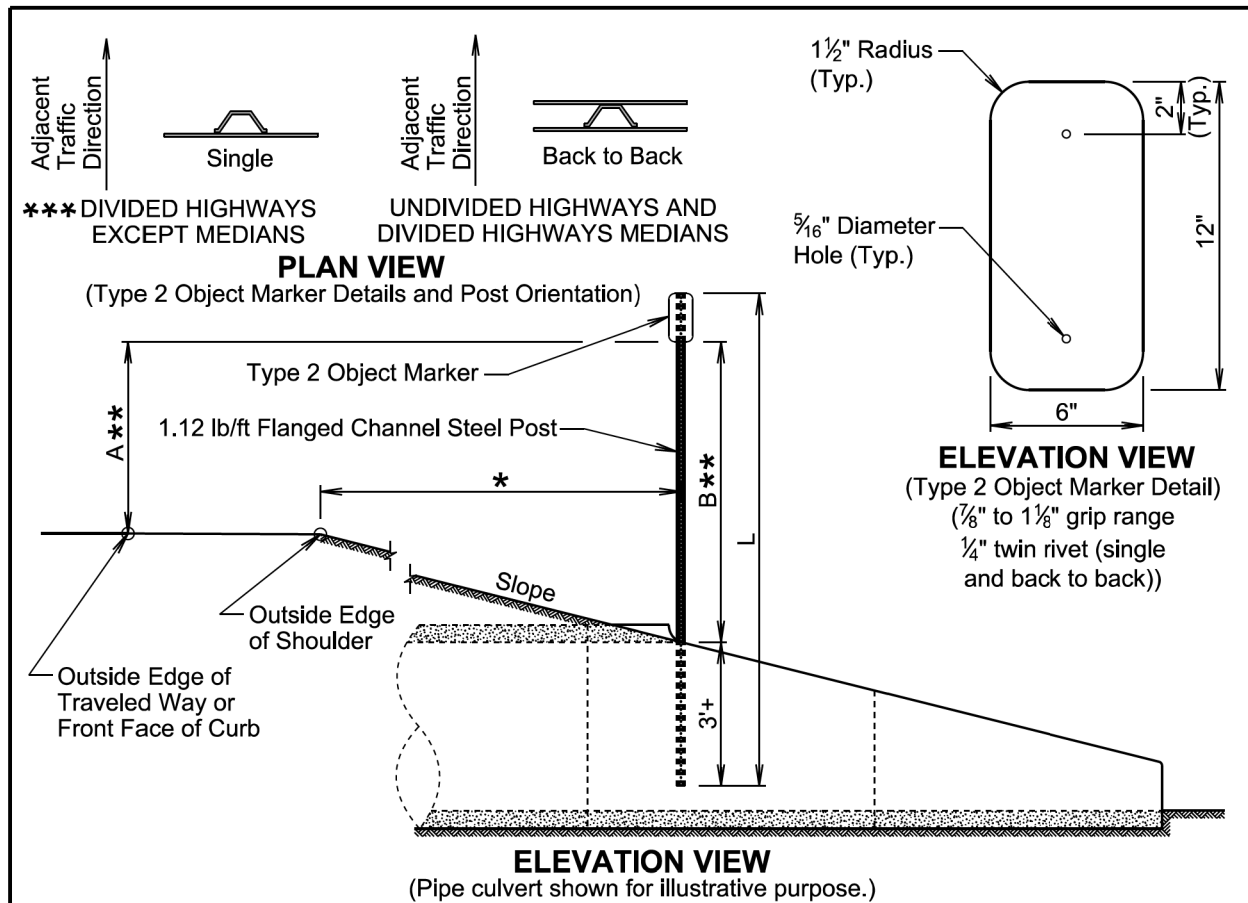


NOTE:  
A 3-piece base assembly is shown, however, a 2-piece (Hog Leg) assembly may also be used.



**BREAKAWAY SUPPORT STUB CLEARANCE DIAGRAM**  
NOTE: The top of anchor post will NOT extend more than 4" max above the chordline within a 60" chord.

- General Notes:**
- Design Specification: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Latest Edition.
  - The manufacturer will provide certification that the posts and hardware furnished have essentially the same chemistry, mechanical properties and geometry as that used in the FHWA tests, and that it will meet the FHWA change in velocity requirements.
  - The manufacturer will also provide certification that the breakaway system furnished will develop the full shear and bending yield strength of the sign post section being spliced.
  - All posts will be galvanized in accordance with ASTM A653, Des. G-90.
  - All hardware will be galvanized in accordance with ASTM A153.



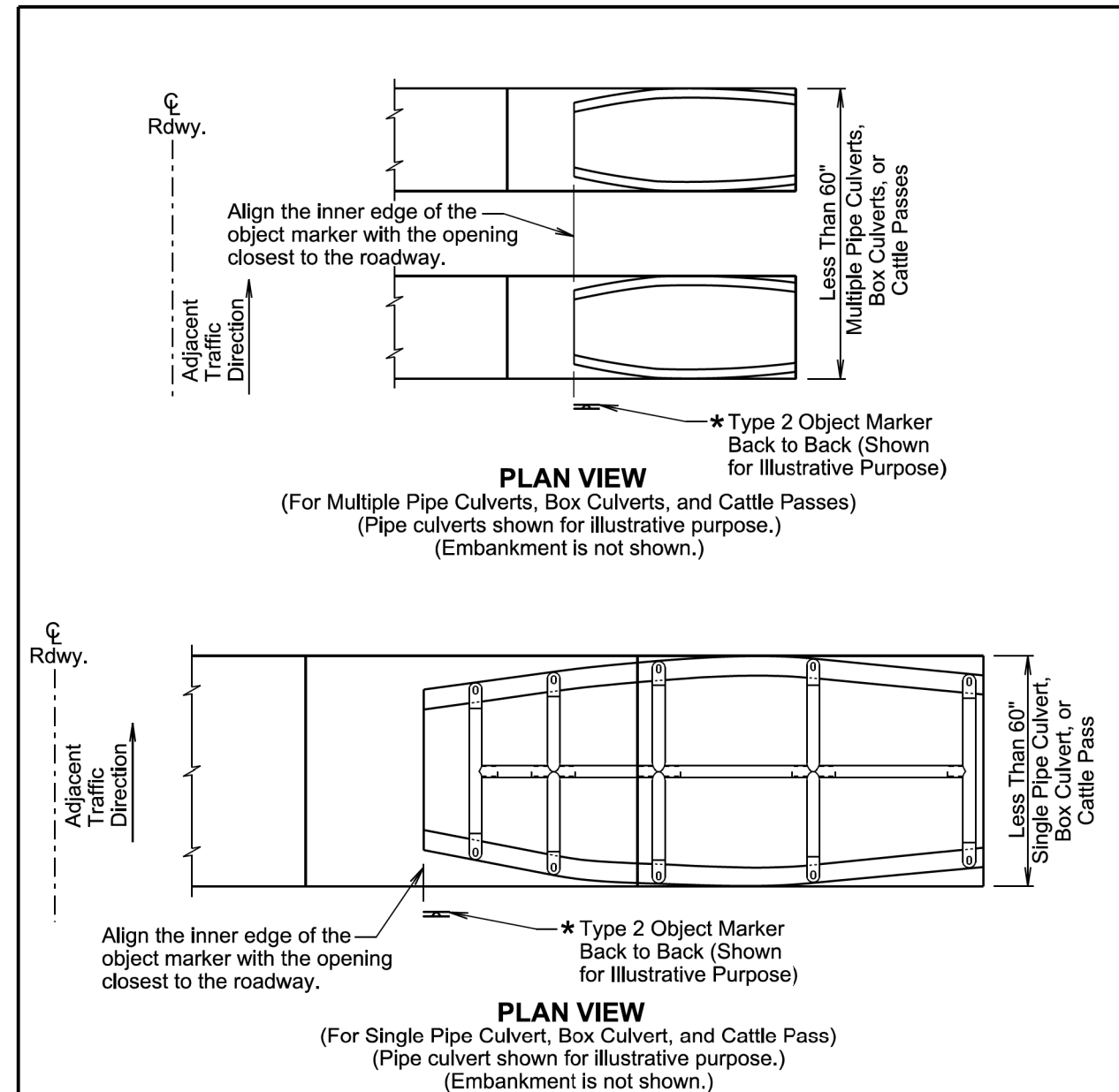
TYPE 2 OBJECT MARKER POST LENGTHS										
OFFSET (*)	1'	2'	3'	4'	5'	6'	7'	8'	Greater Than 8'	
POST LENGTH (L)										
SLOPE	3:1	8'-6"	8'-9"	9'-3"	9'-6"	9'-9"	10'-3"	10'-6"	10'-9"	8'-0"
	4:1	8'-6"	8'-9"	9'-0"	9'-3"	9'-9"	9'-9"	10'-0"	10'-3"	8'-0"
	5:1	8'-3"	8'-6"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"	9'-9"	8'-0"
	6:1	8'-3"	8'-6"	8'-9"	8'-9"	9'-0"	9'-3"	9'-3"	9'-6"	8'-0"

**GENERAL NOTES:**

- \*\*\* The type 2 object marker may be installed back to back when specified in the plans.  
Post Length L was calculated based on a shoulder width of 6 feet at a crossslope of 4 percent and L was rounded up to the nearest 3 inches.
- \*\* Dimension A is 4 feet when the Offset \* is 8 feet and less. Dimension B is 4 feet when Offset \* is greater than 8 feet.  
The type 2 object marker and the 1.12 lb/ft flanged channel steel post will be in conformance with Specifications Section 982.2 J.  
Payment for the type 2 object marker will be in conformance with Specification Section 632.5 B.

December 23, 2019

	<b>TYPE 2 OBJECT MARKER (DIRECT DRIVE)</b>	PLATE NUMBER <b>632.01</b>
		Sheet 1 of 1
Published Date: 2026		

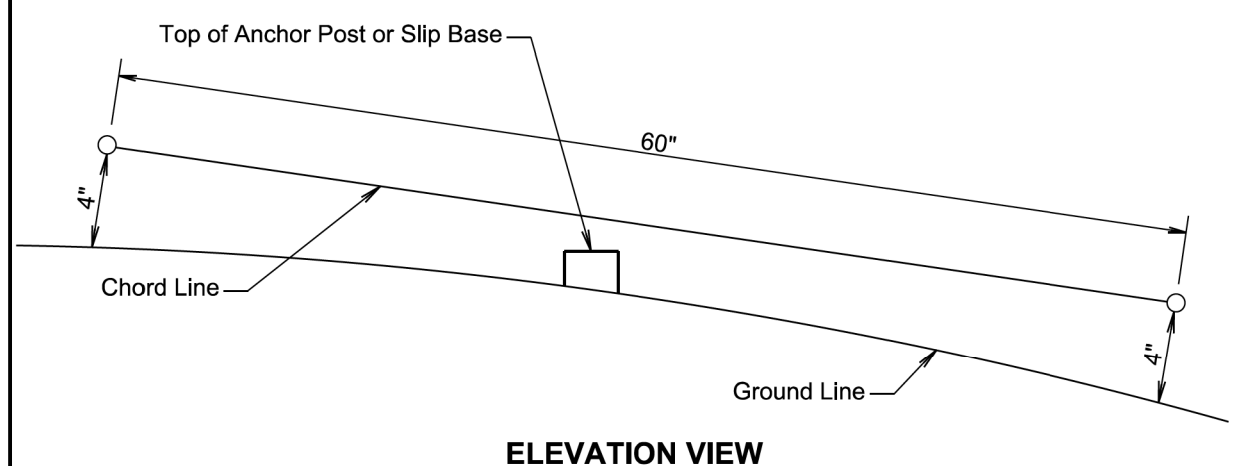
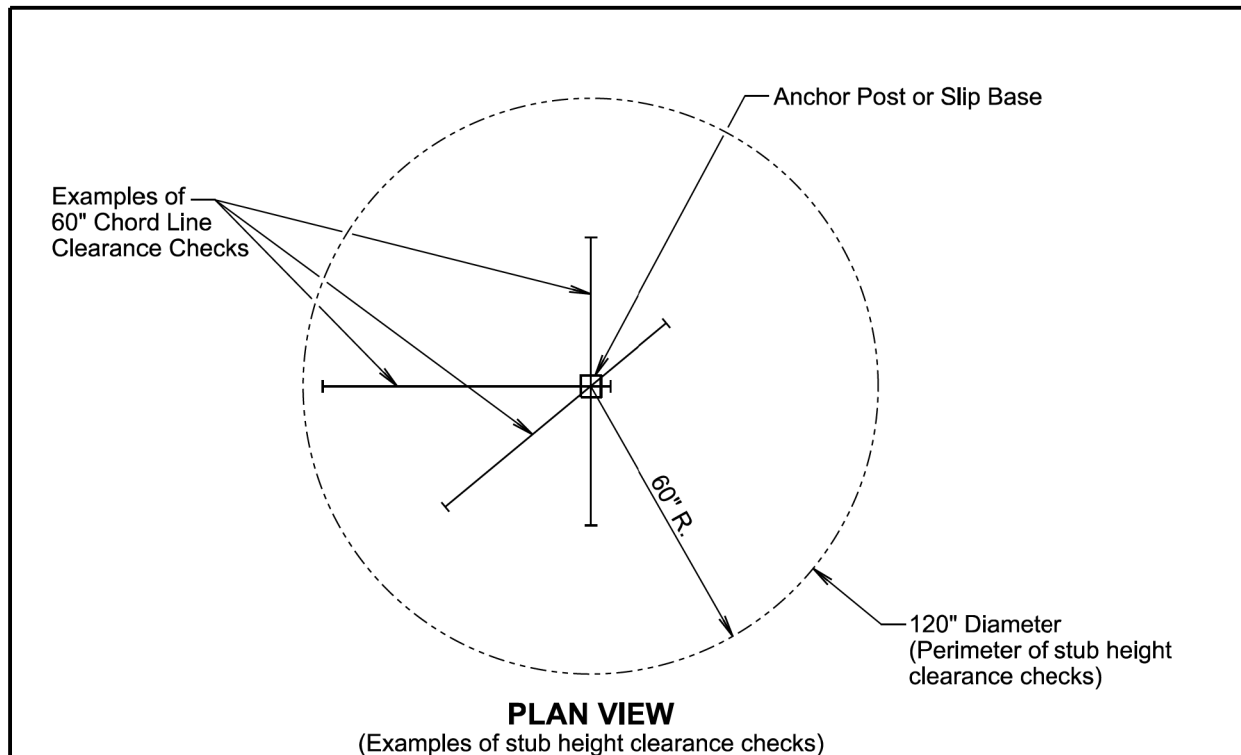


**GENERAL NOTES:**

- This standard plate will be used in conjunction with standard plate 632.01.
- \* The type 2 object markers will be installed at the locations shown above. The type 2 object markers, single faced or back to back, will be as specified in the plans.

December 23, 2019

	<b>TYPE 2 OBJECT MARKER AT PIPE CULVERTS, BOX CULVERTS, AND CATTLE PASSES (Less than 60" Overall Width)</b>	PLATE NUMBER <b>632.03</b>
		Sheet 1 of 1
Published Date: 2026		



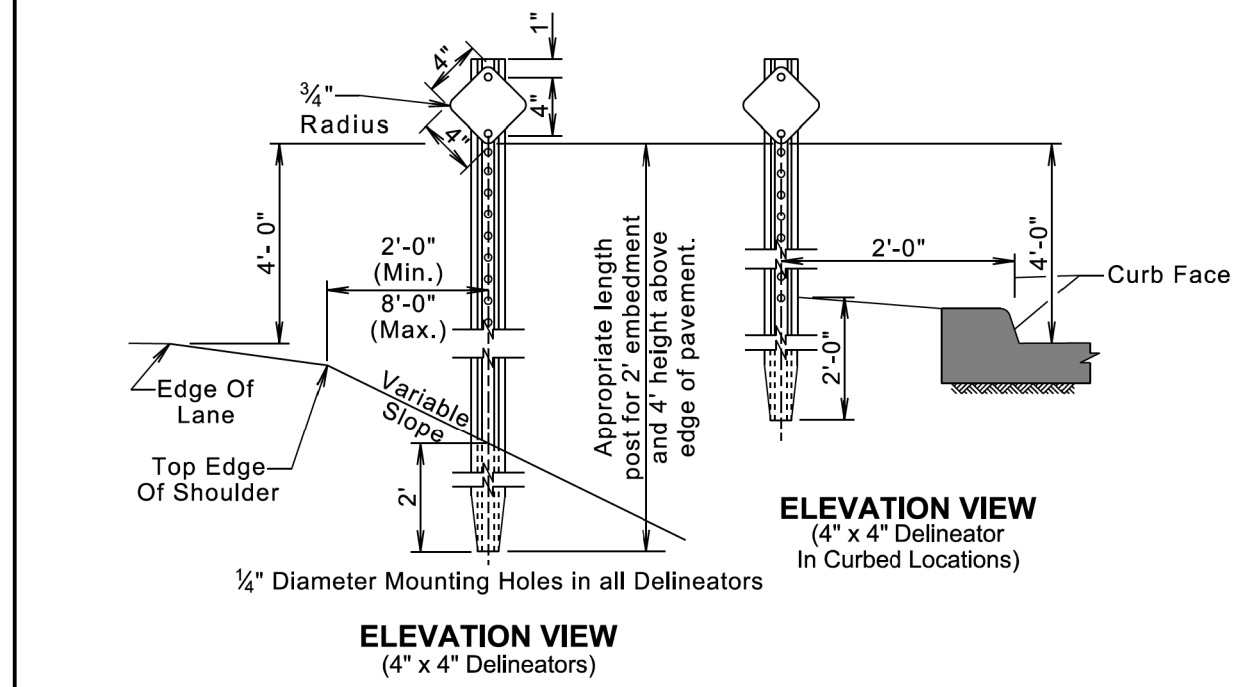
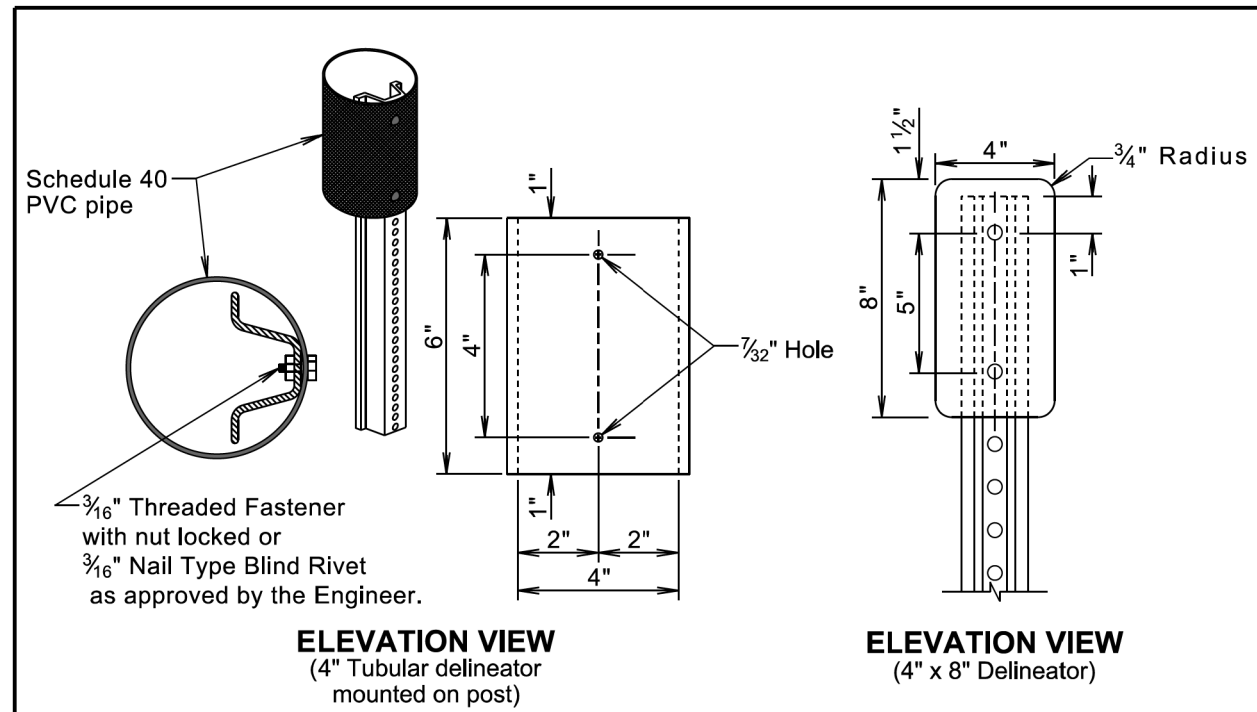
**GENERAL NOTES:**

The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

January 22, 2021

	<b>BREAKAWAY SUPPORT STUB CLEARANCE</b>	PLATE NUMBER 632.18
		Sheet 1 of 1
Published Date: 2026		

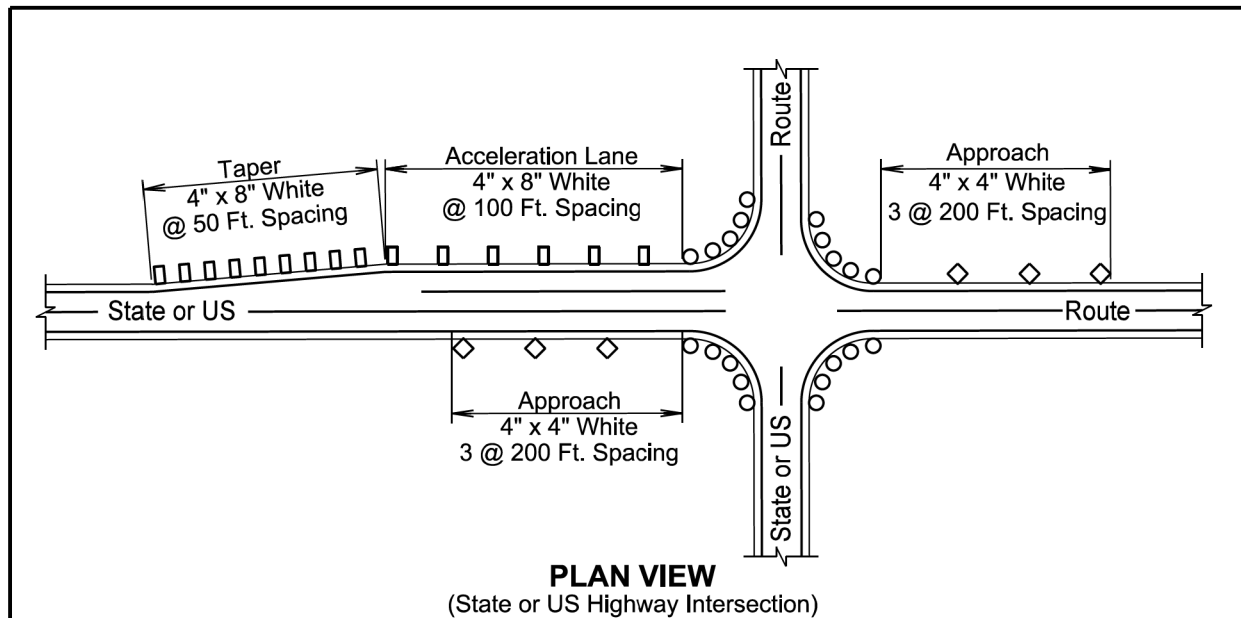


**GENERAL NOTES:**

Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

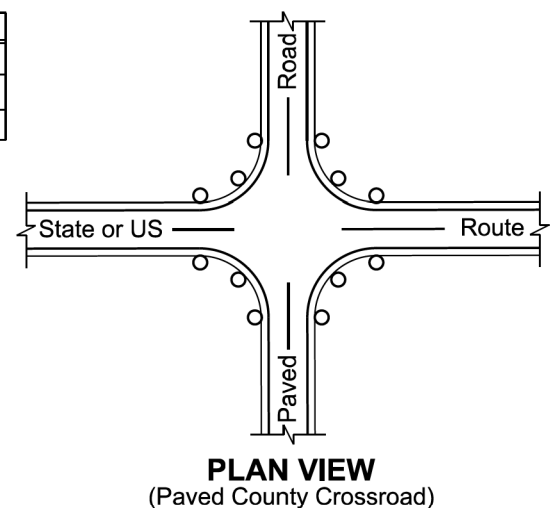
March 31, 2024

	<b>DELINEATOR INSTALLATION DETAIL</b>	PLATE NUMBER 632.42
		Sheet 1 of 1
Published Date: 2026		



**PLAN VIEW**  
(State or US Highway Intersection)

LEGEND	
	4" x 4" White Delineator
	4" x 8" White Delineator
	4" x 6" White Tubular Delineator



**PLAN VIEW**  
(Paved County Crossroad)

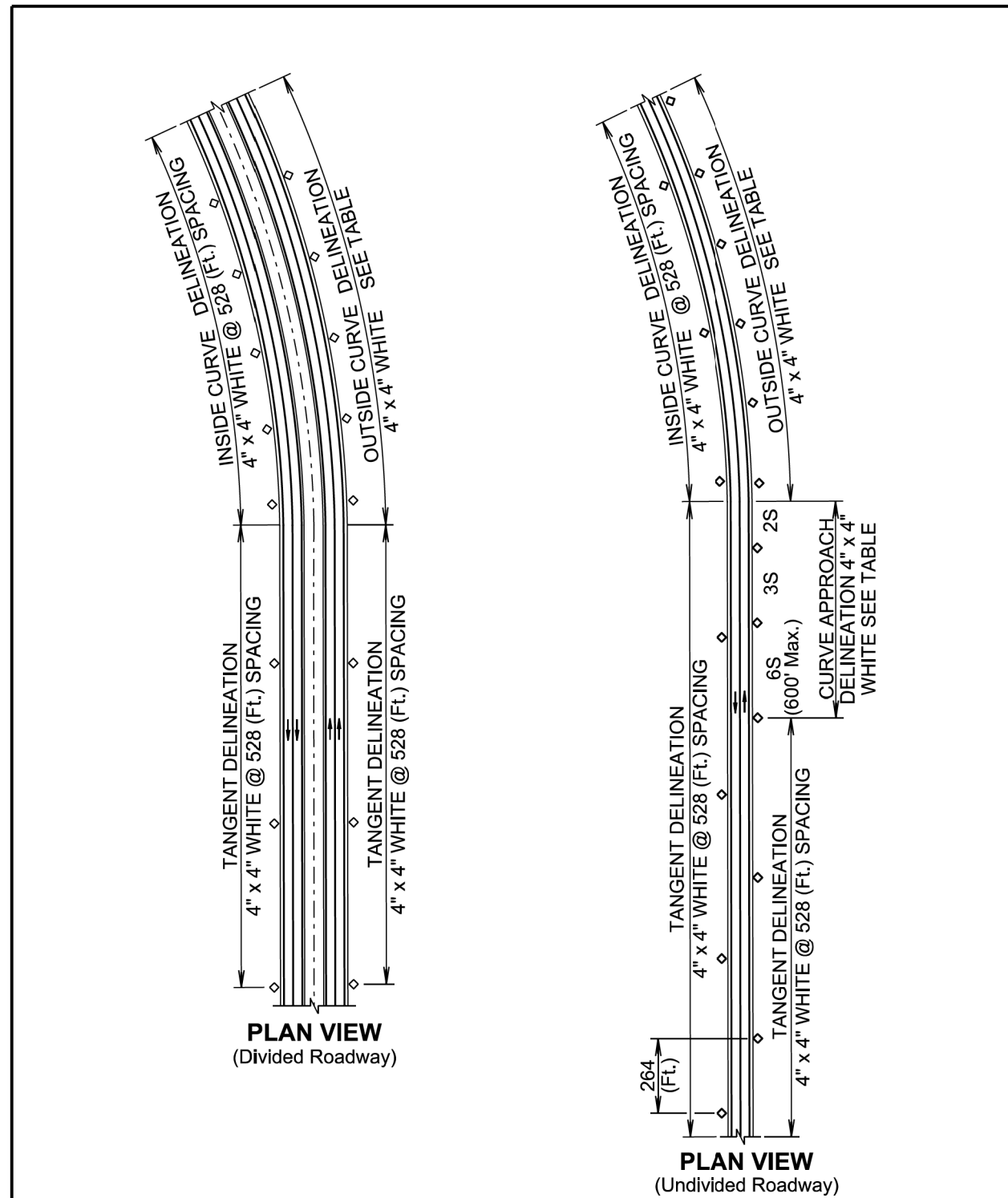
**GENERAL NOTES:**

- At all intersections with State or US highways and paved county roads:
- For radii greater than 100 feet, place 5 tubular white delineators on equally spaced posts around the turning radius.
- For radii greater than 50 feet up to 100 feet, place 4 tubular white delineators on equally spaced posts around the turning radius.
- For radii of 50 feet or less, place 3 tubular white delineators on equally spaced posts around the turning radius.

November 19, 2020

	<b>DELINEATOR AT INTERSECTIONS</b>	PLATE NUMBER 632.44
		Sheet 1 of 1

Published Date: 2026



**PLAN VIEW**  
(Divided Roadway)

**PLAN VIEW**  
(Undivided Roadway)

March 31, 2024

	<b>DELINEATOR INSTALLATION SPACING</b>	PLATE NUMBER 632.46
		Sheet 1 of 2

Published Date: 2026

**GENERAL NOTES:**

Delineators will be located from 2 to 8 feet outside of the outer edge of shoulder. When a roadside barrier or other obstruction intrudes into the space between the pavement edge and the extension of the line of delineators, the delineators should be in line with the barrier or in line with the innermost edge of the obstruction.

When normal spacing is interrupted by driveways, crossroads, or approaches, delineators falling within such areas may be moved in either direction a distance not exceeding one-quarter of the standard spacing. Delineators still falling within such areas should be eliminated.

The spacing for specific radii may be interpolated from the table. The minimum spacing should be 20 feet. The spacing on curves should not exceed 300 feet. In advance of or beyond a curve, and proceeding away from the end of the curve, the spacing of the first delineator is 2S, the second 3S, and the third 6S, but not to exceed 300 feet. S refers to the delineator spacing for specific radii computed from the formula  $S = 3\sqrt{R - 50}$ . The distances for S shown in the table were rounded to the nearest 5 feet.

Curve approach delineation is not required if curve delineation spacing exceeds 100 ft.

Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

DELINEATOR SPACING OUTSIDE CURVE				
Radius of Curve (Ft.)	Curve Delineator Spacing (Ft.)	Curve Approach Spacing (Ft.)		
		A	B	C
50	20	40	65	125
115	25	50	75	150
150	30	60	90	180
180	35	70	110	215
250	40	85	125	250
300	45	95	140	285
400	55	110	170	300
500	65	125	190	300
600	70	140	210	300
700	75	150	230	300
800	80	165	245	300
900	85	175	260	300
1000	90	185	275	300

March 31, 2024

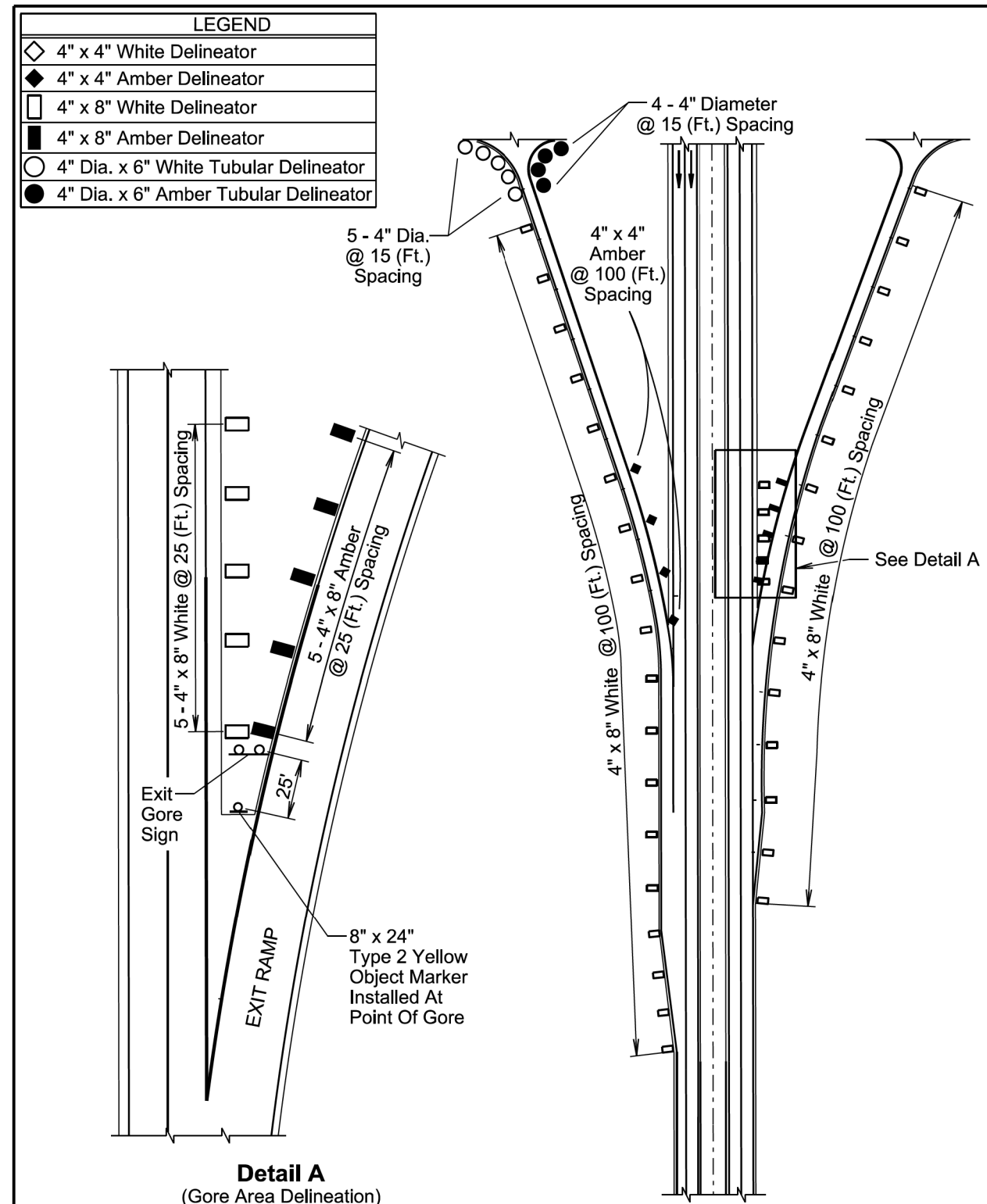
Published Date: 2026

SD  
DOT

**DELINEATOR INSTALLATION SPACING**

PLATE NUMBER  
632.46

Sheet 2 of 2



November 19, 2020

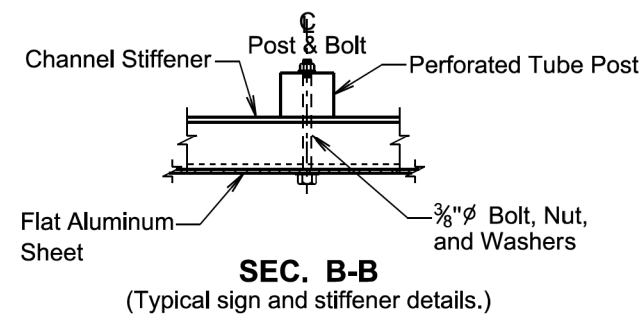
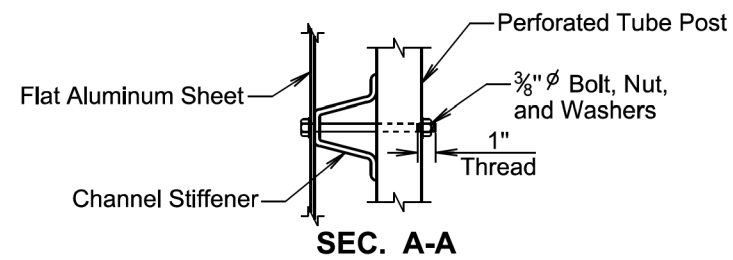
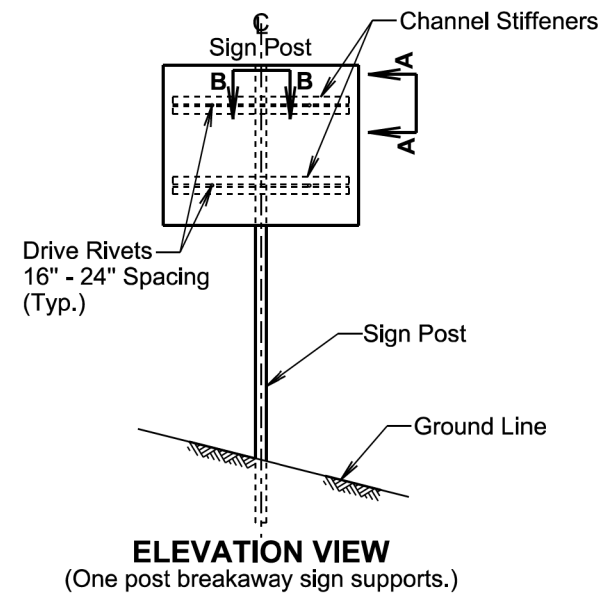
Published Date: 2026

SD  
DOT

**DELINEATORS AT RAMPS AND GORE AREAS**

PLATE NUMBER  
632.48

Sheet 1 of 1



∅ A plastic washer, as recommended by the sheeting manufacturer, will be installed between the sign face and the metal washer shown.

November 19, 2020

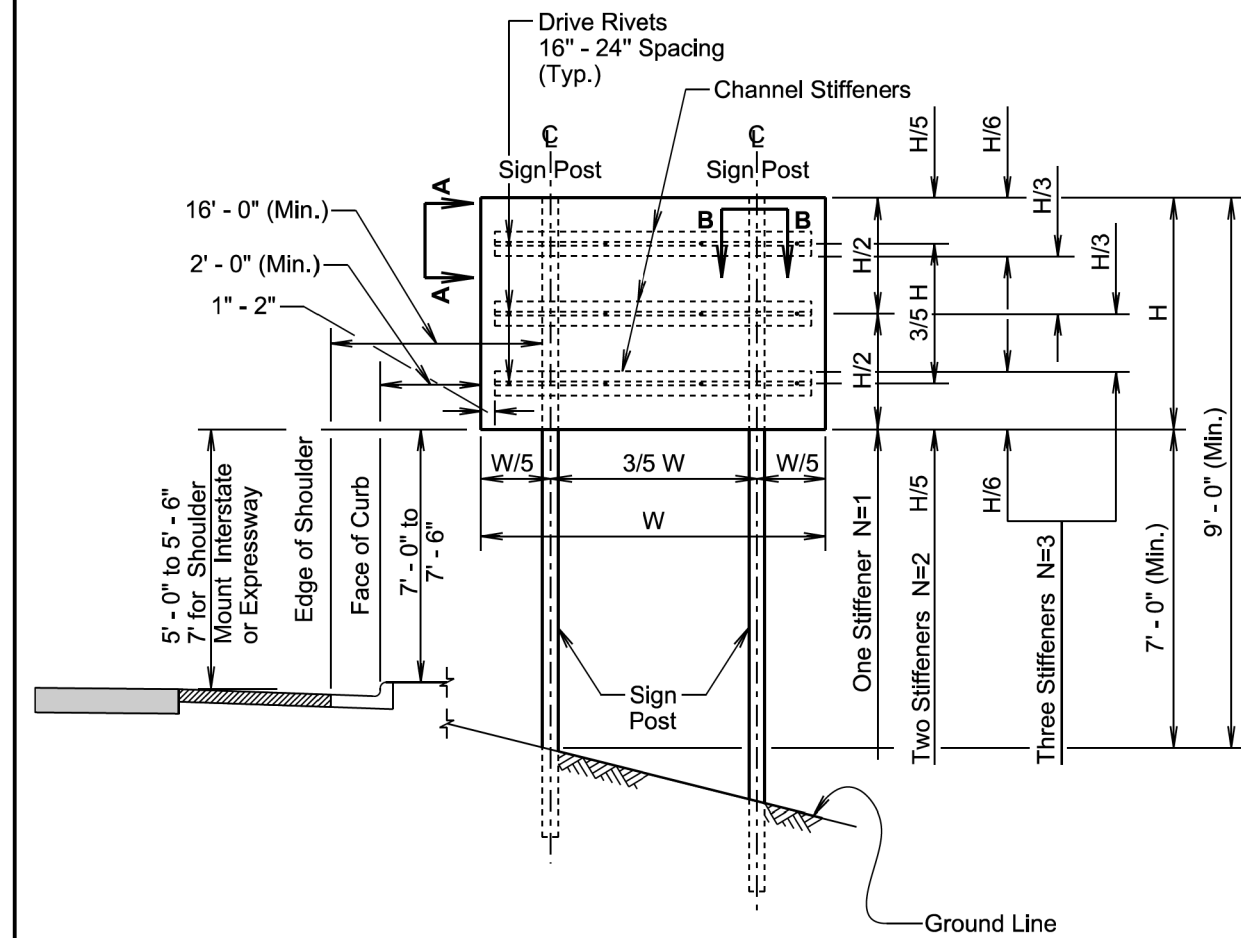
Published Date: 2026

SD  
DOT

**SIGN STIFFENER DETAILS**

PLATE NUMBER  
632.60

Sheet 1 of 2



**GENERAL NOTES:**

The number of stiffeners used (N) will be as follows:  
 If  $H \leq 2' - 0''$  then  $N = 1$   
 if  $2' - 0'' < H \leq 8' - 0''$  then  $N = 2$   
 if  $8' - 0'' < H \leq 15' - 0''$  then  $N = 3$   
 where H is the vertical dimension of the sign.

A minimum of two bolts will be required to fasten the sign to each post.

November 19, 2020

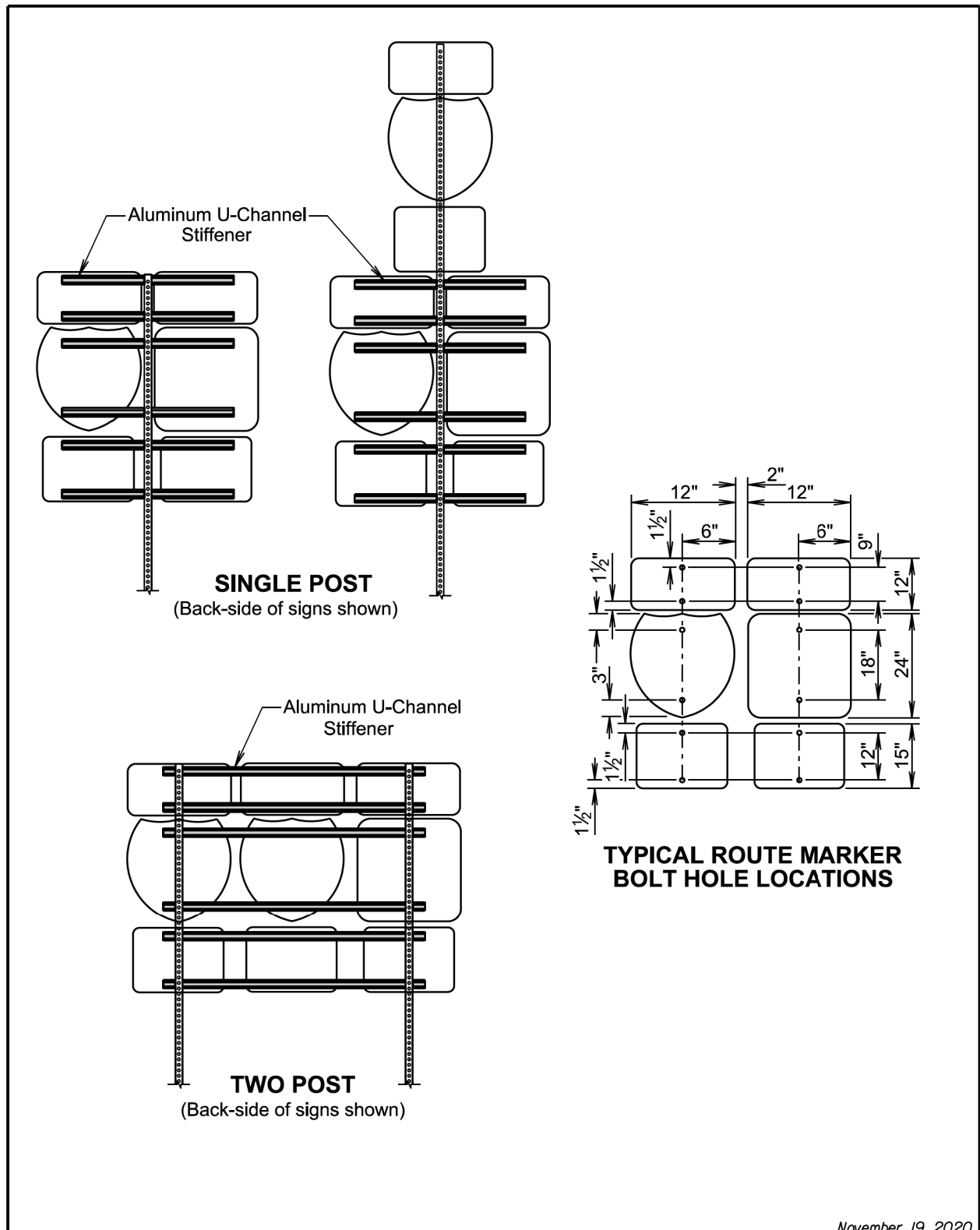
Published Date: 2026

SD  
DOT

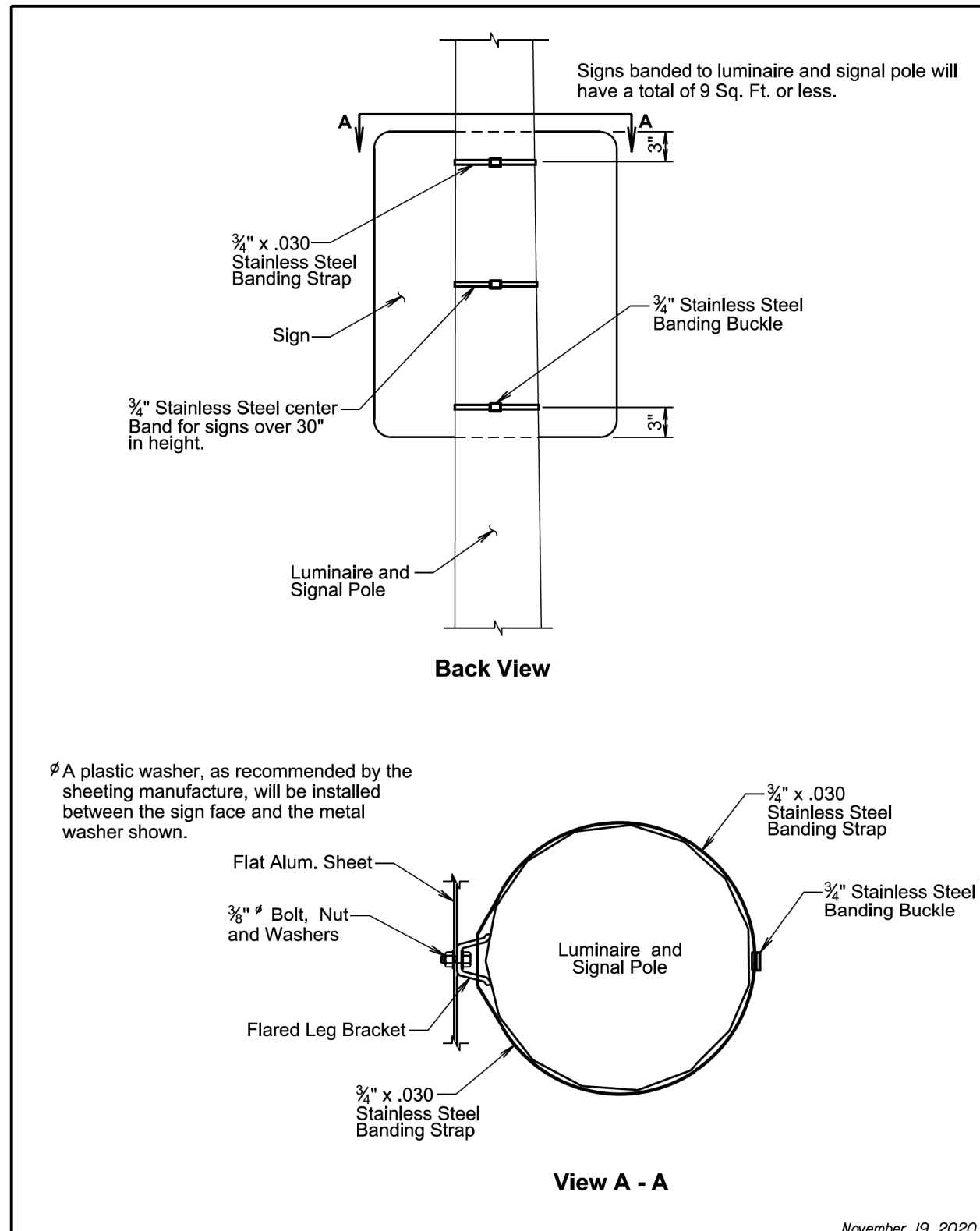
**SIGN STIFFENER DETAILS**

PLATE NUMBER  
632.60

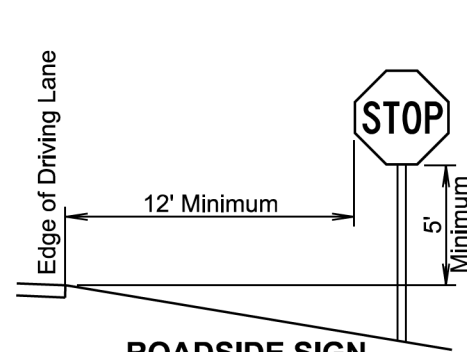
Sheet 2 of 2



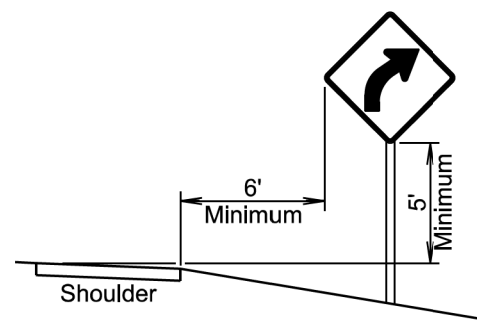
Published Date: 2026	SD DOT	MULTIPLE ROUTE MARKER SIGN STIFFENER INSTALLATION DETAILS	PLATE NUMBER 632.62
			Sheet 1 of 1



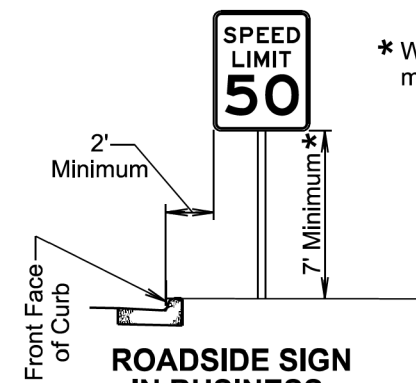
Published Date: 2026	SD DOT	BANDING SIGN TO LUMINAIRE AND SIGNAL POLE	PLATE NUMBER 632.80
			Sheet 1 of 1



**ROADSIDE SIGN  
IN RURAL AREA**

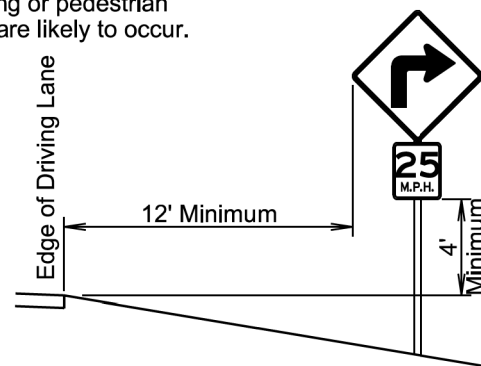


**ROADSIDE SIGN  
IN RURAL AREA**  
(If shoulder width is greater than 6 foot)

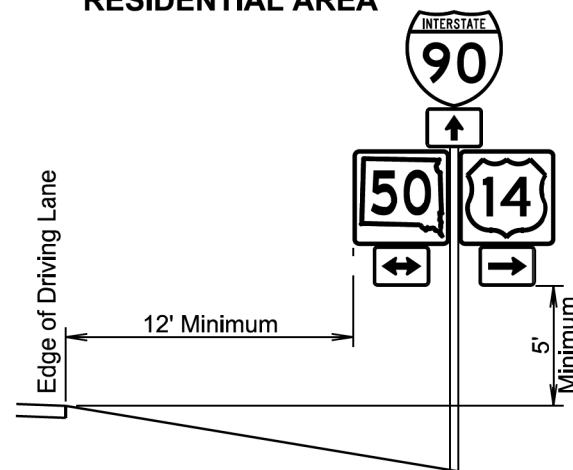


**ROADSIDE SIGN  
IN BUSINESS,  
COMMERCIAL, OR  
RESIDENTIAL AREA**

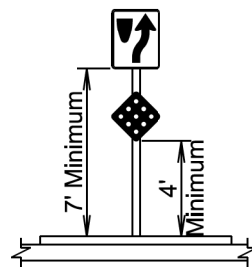
\* Where parking or pedestrian movements are likely to occur.



**WARNING SIGN ADVISORY  
SPEED PLAQUE IN RURAL AREA**



**ROADSIDE SIGN  
IN RURAL AREA**



**SIGN ON NOSE  
OF MEDIAN**

April 8, 2025

Published Date: 2026

**SD  
DOT**

**OFFSETS FOR SIGN INSTALLATION**

PLATE NUMBER  
632.90

Sheet 1 of 1