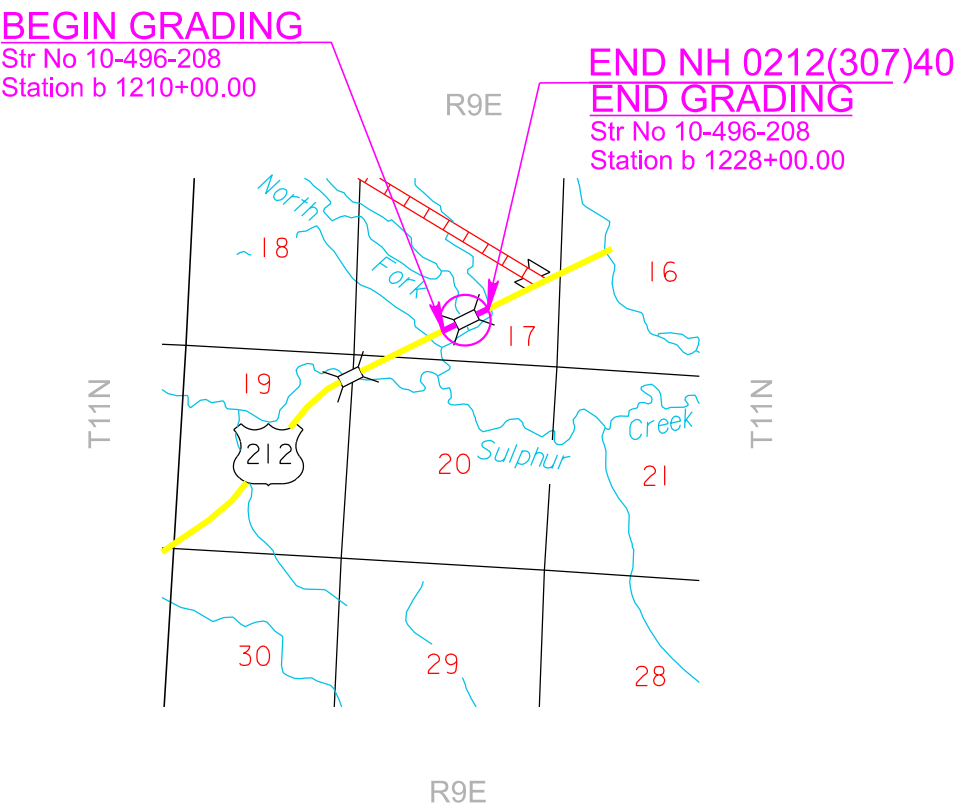
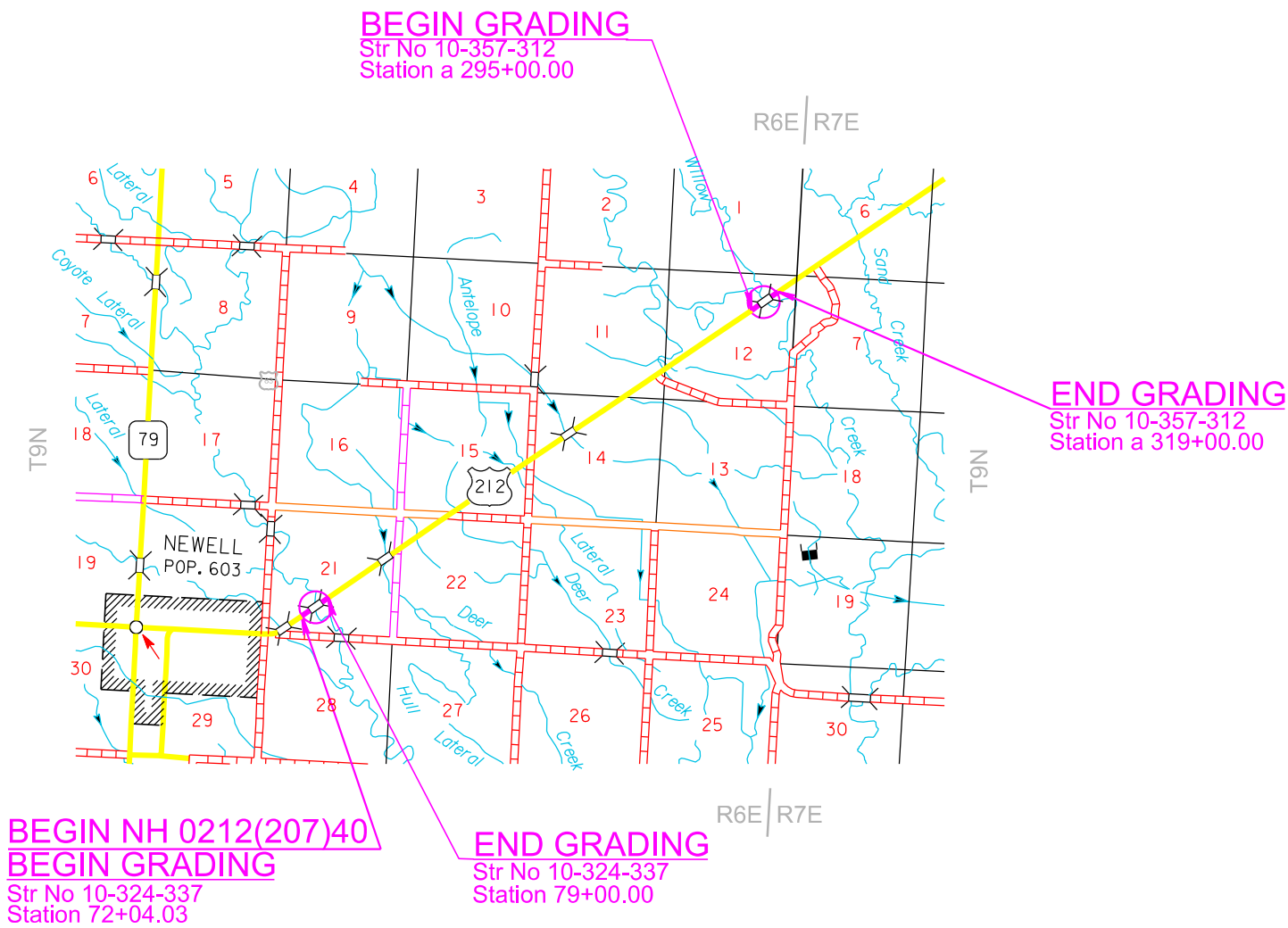


SECTION S: SIGNING PLANS

SD DOT	PROJECT	SECTION	SHEET
	NH 0212(207)40	S	1/12
Plotting Date: 6/4/2026			

INDEX OF SHEETS

S1	General Layout with Index
S2-S3	Estimate with General Notes & Tables
S4	Sign Details
S5	Typical Details
S6-S12	Standard Plates



1:200

TRRC11622

SECTION S – ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E0130	Remove Traffic Sign	7	Each
110E7150	Remove Sign for Reset	3	Each
632E1320	2.0"x2.0" Perforated Tube Post	78.7	Ft
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	14	Each
632E2220	Guardrail Delineator	32	Each
632E2510	Type 2 Object Marker Back to Back	12	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	15.2	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	16.8	SqFt
632E3500	Reset Sign	3	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 Permanent Signing 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.

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”.

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.



Plotting Date: 6/4/2026 Revised: 09-09-2025

PROJECT	SECTION	SHEET
NH 0212(207)40	S	2/12

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.

DIGITALLY PRINTED SIGNS (continued)

DATE TAGGING SIGNS WITH PERTINENT INFORMATION

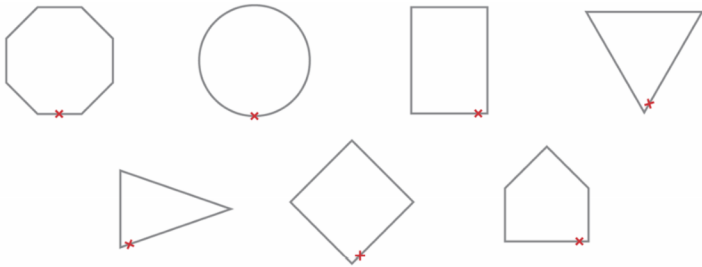
All digitally printed signs are required to be date-tagged with the following 2 components:

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.

MILEAGE REFERENCE MARKERS

Mileage Reference Markers (MRMs) are expected to be disturbed with this project. If an MRM is attached to a sign listed for replacement, it will be salvaged and reattached to the new sign in the same location.

The following MRMs will be removed for reset and reset in the same location after the project is complete.

- MRM 44.91
- MRM 45
- MRM 62.15

All costs for documenting the existing locations and removing existing MRMs will be incidental to the contract unit price per each for "Remove Sign for Reset". All costs for resetting the existing MRMs in the same documented locations 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.

DELINEATORS

The contractor will be responsible for installing new delineators for this project. All costs for materials, equipment and labor to install new delineators will be included in the cost for each "4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post".

GUARDRAIL DELINEATION

	Guardrail Delineators	Type 2 Object Marker Back to Back
US212 MRM 40.63		4
US212 MRM 44.91	16	4
US212 MRM 62.15	16	4
Total:	32	12

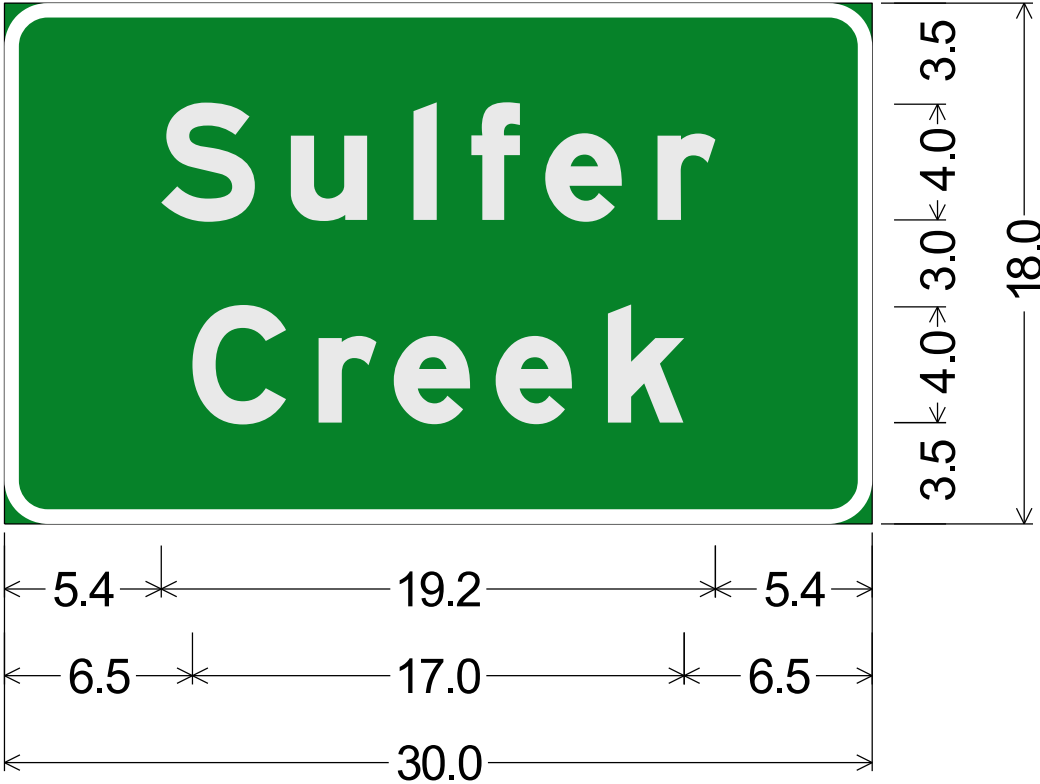
PCN 06JD - PERMANENT SIGNING																				LF of 2.0"	LF of 2.5"	FLAT ALUMINUM SIGN		REMOVE SIGN
HWY	STA	SIGN										POST						SIGN DESCRIPTION	WORK TO BE DONE					
		Side of Road	Width (in)	Height (in)	Direction Facing	Location	New Sign	Sign Type	Remove Existing	Square Footage	Sheeting Type	New Post	Length Post #1 (ft)	Offset to center of Post #1 (ft)	Size (in)	# of Posts	Shear Slip Base					SQFT IV	SQFT XI	
212	299+80	Right	48	36	East	ROW	YES	FLAT ALUM	YES	5.6	XI	YES	12.1	34.0	2.0	1	NO	W14-3: NO PASSING ZONE	Remove existing sign and post. Install new sign on new post.	12.1			5.6	1
212	302+30	Right	24	18	West	ROW	YES	FLAT ALUM	YES	3.0	IV	YES	10.6	34.0	2.0	1	NO	I-3E: WILLOW CREEK	Remove existing sign and post. Install new sign on new post.	10.6		3.8		1
212	304+90	Left	24	18	East	ROW	YES	FLAT ALUM	YES	3.0	IV	YES	10.6	34.0	2.0	1	NO	I-3E: WILLOW CREEK	Remove existing sign and post. Install new sign on new post.	10.6		3.8		1
212	312+90	Left	48	36	West	ROW	YES	FLAT ALUM	YES	5.6	XI	YES	12.1	34.0	2.0	1	NO	W14-3: NO PASSING ZONE	Remove existing sign and post. Install new sign on new post.	12.1			5.6	1
212	1215+90	Right	24	18	West	ROW	YES	FLAT ALUM	YES	3.0	IV	YES	10.6	34.0	2.0	1	NO	I-3E: SULFER CREEK	Remove existing sign and post. Install new sign on new post.	10.6		3.8		1
212	1218+00	Left	24	18	East	ROW	YES	FLAT ALUM	YES	3.0	IV	YES	10.6	34.0	2.0	1	NO	I-3E: SULFER CREEK	Remove existing sign and post. Install new sign on new post.	10.6		3.8		1
212	1222+60	Left	48	36	West	ROW	YES	FLAT ALUM	YES	5.6	XI	YES	12.1	34.0	2.0	1	NO	W14-3: NO PASSING ZONE	Remove existing sign and post. Install new sign on new post.	12.1			5.6	1
TOTALS:																				78.7	0.0	15.2	16.8	7

SIGN DESIGN DETAIL



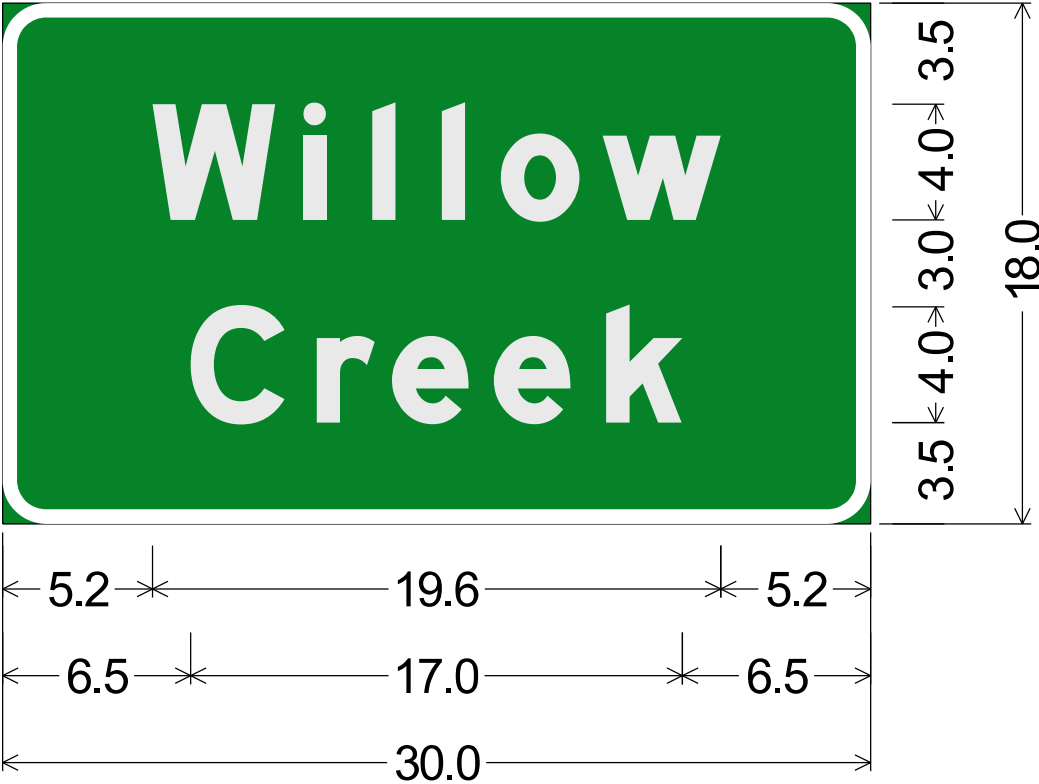
Plotting Date: 6/4/2026

PROJECT		SECTION	SHEET
NH 0212(207)40		S	4/12



1.5" Radius, 0.5" Border, White on Green;
"Sulfer", E Mod 2K; "Creek", E Mod 2K;
Table of letter and object lefts

S	u	l	f	e	r
5.4	9.9	14.1	16.1	18.7	22.6
C	r	e	e	k	
6.5	10.9	13.5	17.0	20.9	



1.5" Radius, 0.5" Border, White on Green;
"Willow", E Mod 2K; "Creek", E Mod 2K;
Table of letter and object lefts

W	i	l	l	o	w
5.2	10.4	12.8	15.2	17.2	20.7
C	r	e	e	k	
6.5	10.9	13.5	17.0	20.9	

SIGN BASE DETAIL



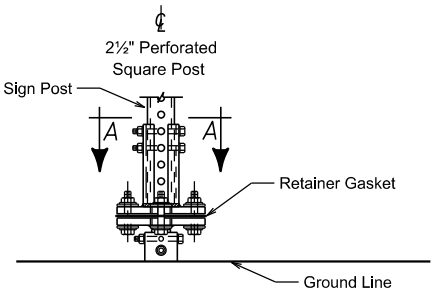
Plotting Date: 6/4/2026

PROJECT
NH 0212(207)40

SECTION
S
SHEET
5/12

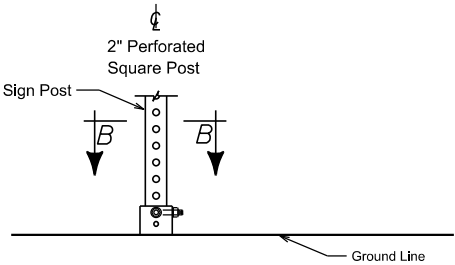
BREAKAWAY SIGN SUPPORTS

SLIP BASE DESIGN

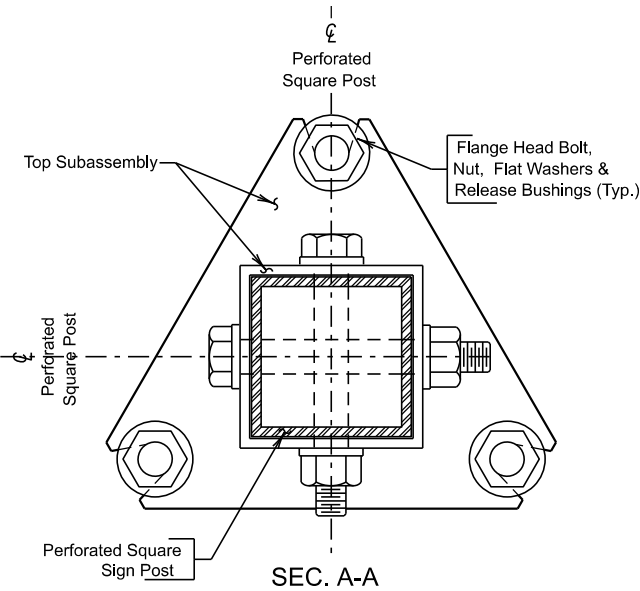


ELEVATION

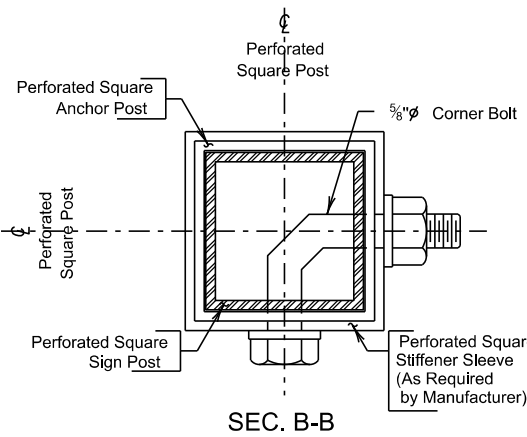
STUB POST DESIGN



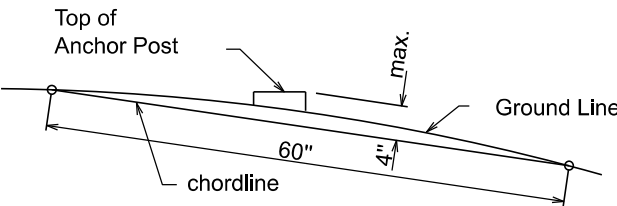
ELEVATION



SEC. A-A



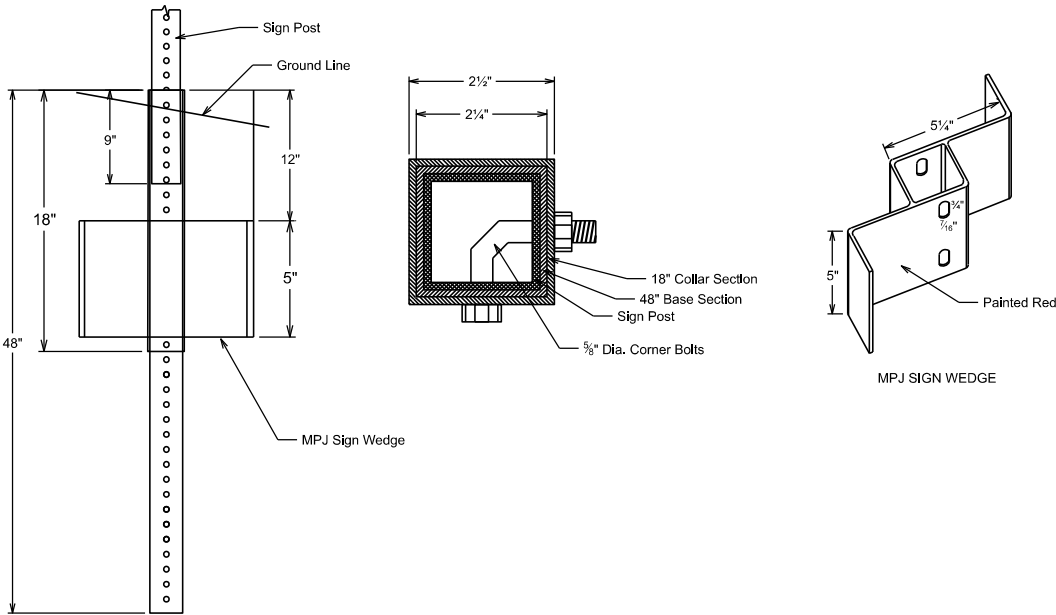
SEC. B-B



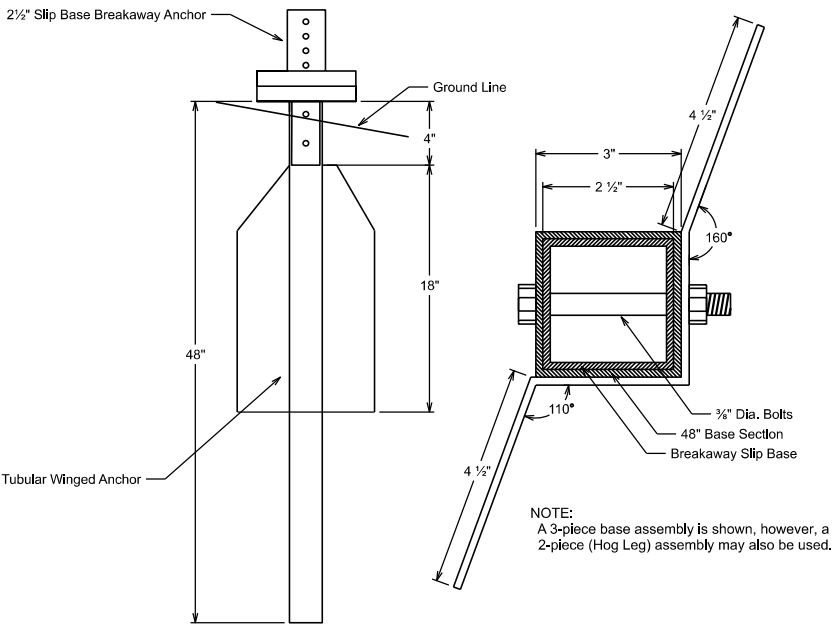
BREAKAWAY SUPPORT STUB CLEARANCE DIAGRAM

NOTE: The top of anchor post will NOT extend more than 4" max above the chordline within a 60" chord.

SIGN BASE DETAILS FOR A 2" SIGN POST



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



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.

