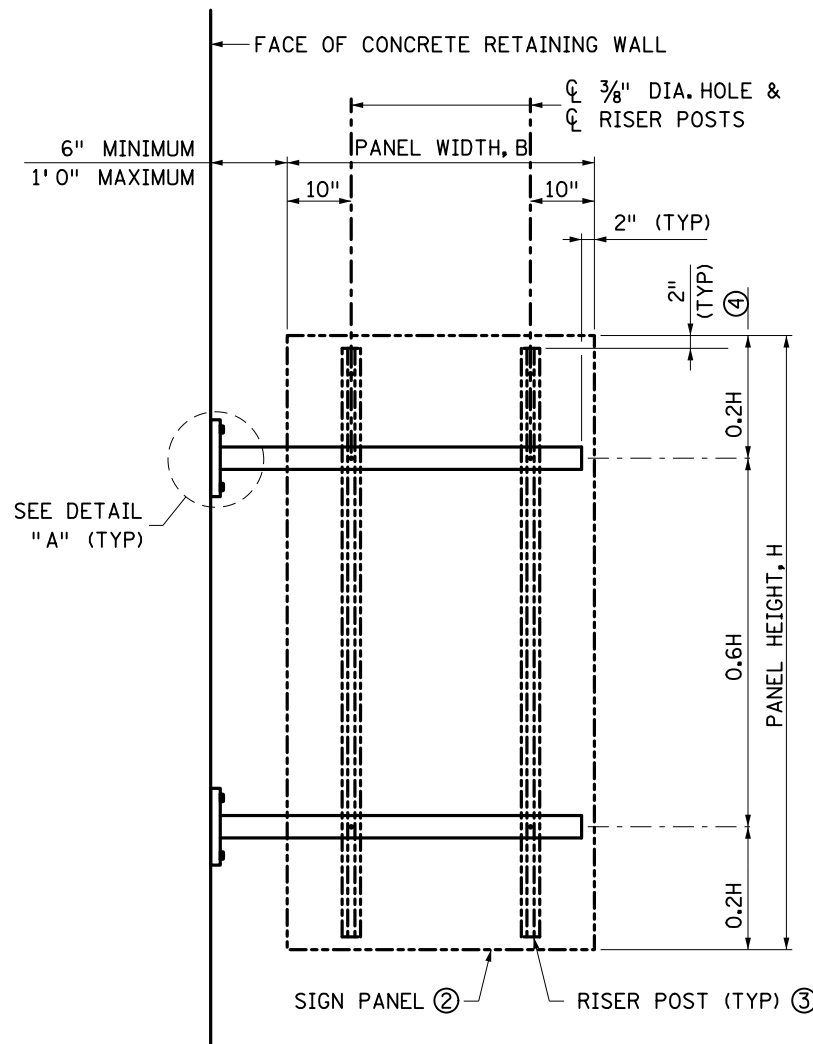
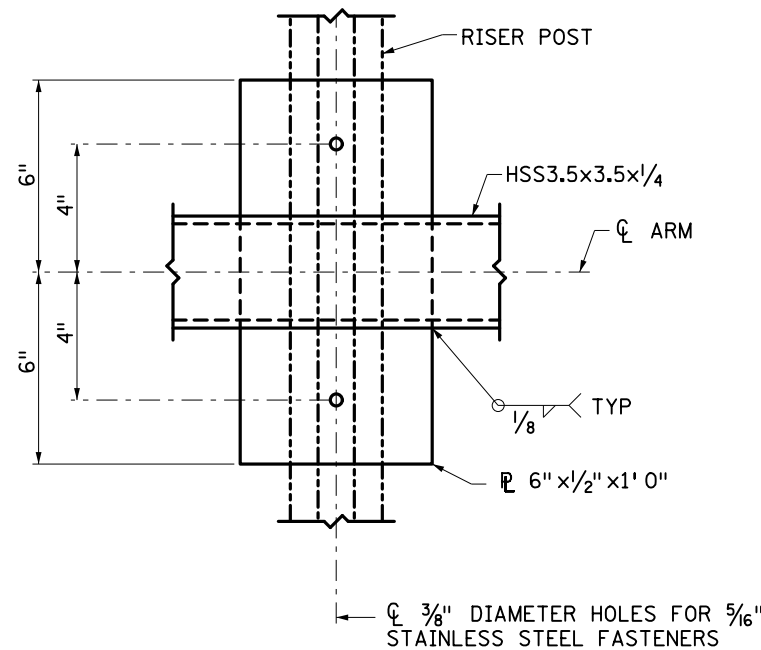


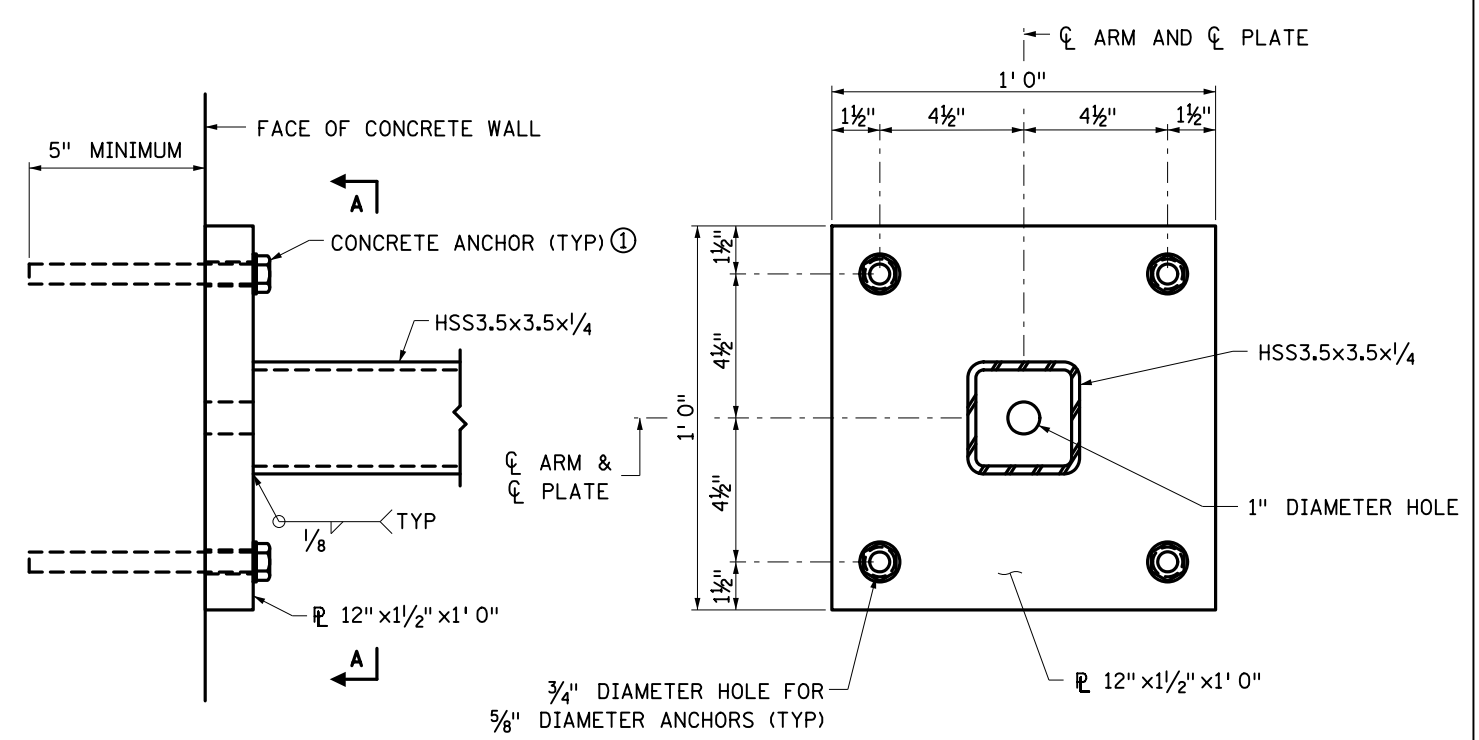
ELEVATION - SINGLE ARM
 MAXIMUM PANEL AREA = 10 SQ. FT.
 MAXIMUM PANEL WIDTH = 30"
 MAXIMUM PANEL HEIGHT = 48"



ELEVATION - DUAL ARM
 MAXIMUM PANEL AREA = 32 SQ. FT.
 MAXIMUM PANEL WIDTH = 48"
 MAXIMUM PANEL HEIGHT = 96"



DETAIL "B"



DETAIL "A"

SECTION A-A

DESIGN CRITERIA:

THE DETAILS SHOWN ON THESE STANDARD PLANS ARE BASED ON THE AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS," FIRST EDITION, 2015, AND THE 2017, 2018, 2019, AND 2020 INTERIM REVISIONS.

STRENGTH LIMIT WIND LOADING OF 120 MPH
 SERVICE LIMIT WIND LOADING OF 76 MPH

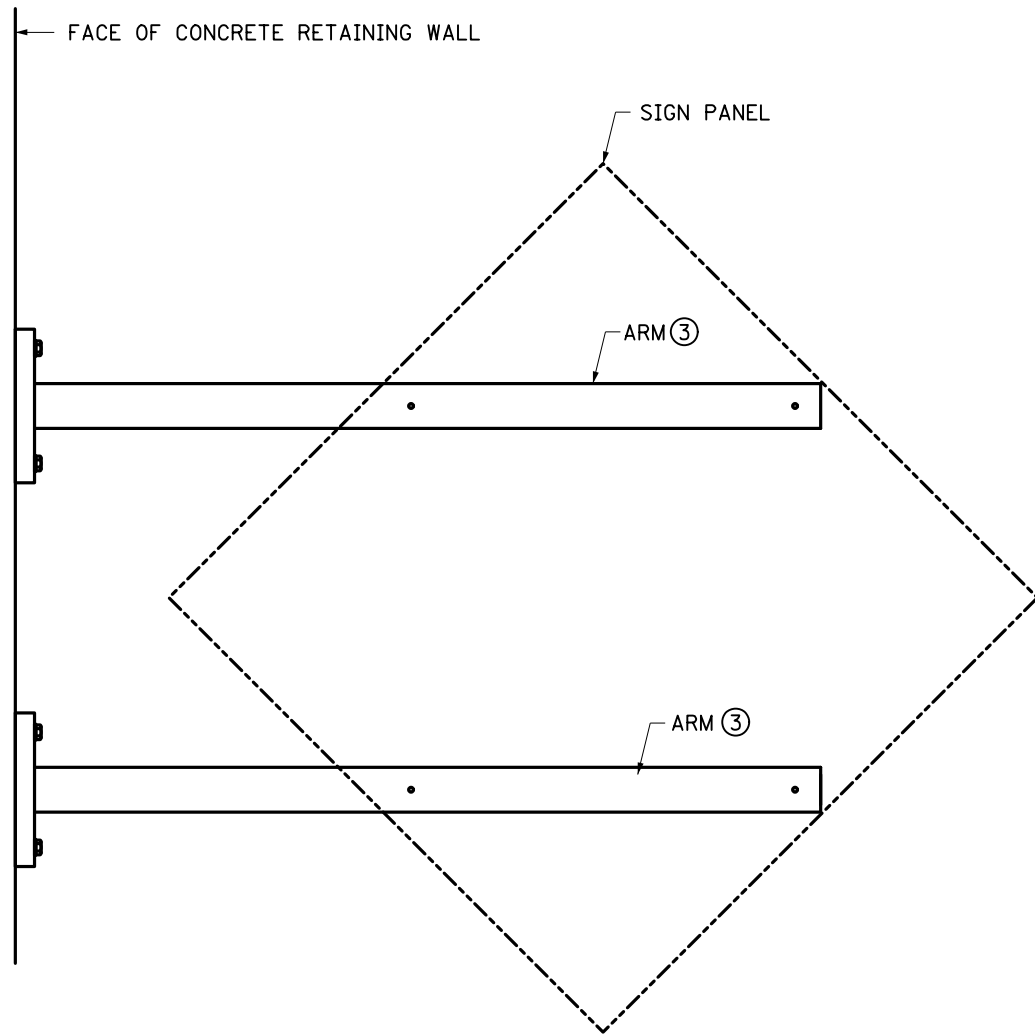
GENERAL NOTES:

PROVIDE HSS MEMBERS IN ACCORDANCE WITH SPEC. 3361, TYPE A. PROVIDE ALL OTHER STRUCTURAL STEEL IN ACCORDANCE WITH SPEC. 3306. GALVANIZE IN ACCORDANCE WITH SPEC. 3394.

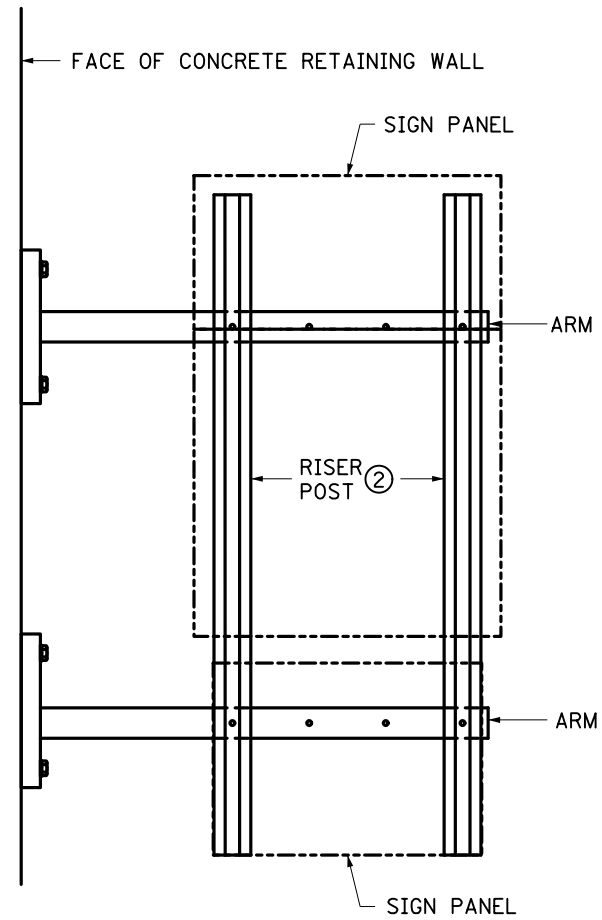
FURNISH STAINLESS STEEL FASTENERS IN ACCORDANCE WITH SPEC. 3391.

- ① CONCRETE ANCHOR (TYP.). USE A 5/8" DIAMETER ANCHOR ROD IN ACCORDANCE WITH SPEC. 3385, TYPE A WITH FLAT WASHER AND LOCK NUT. LOCATE SIGN TO PROVIDE AT LEAST 1' 0" CLEARANCE FOR ANCHORS TO THE TOP OF WALL AND WALL JOINTS. FASTEN ANCHOR ROD TO CONCRETE WITH AN APPROVED ADHESIVE. PROVIDE AN ADHESIVE WITH A MINIMUM CHARACTERISTIC BOND STRENGTH IN UNCRACKED CONCRETE OF 1.5 KSI. DRILL THROUGH REINFORCEMENT IF ENCOUNTERED. ENSURE HEX NUT IS IN CONTACT WITH THE ADJACENT SURFACE AND TORQUE TO 60 FT-LBS UNLESS A HIGHER TORQUE IS RECOMMENDED BY THE MANUFACTURER. PROOF LOAD TO 3.3 KIPS. SEE SIGNING SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS. DISTRICT BRIDGE ENGINEER TO CONFIRM THE CONCRETE CONDITION IS SUFFICIENT TO ACCEPT ANCHORS PRIOR TO PLACEMENT ON EXISTING STRUCTURES.
- ② SINGLE SIGN PANEL SHOWN.
- ③ USE 2.5 LB/FT RISER POSTS IN ACCORDANCE WITH SPEC. 3401.
- ④ APPROXIMATE LOCATION OF ARM MEMBERS RELATIVE TO A RECTANGULAR SIGN PANEL. DETERMINE ACTUAL LOCATIONS USING THE RATIOS PROVIDED AND ROUNDING OF THE 0.6H DIMENSION TO THE NEAREST 3" INCREMENT. THE 0.2H DIMENSIONS ARE TO BE EQUAL. FOR OTHER SHAPES, POSITION ARM MEMBERS TO ACCEPT THE STANDARD SIGN MOUNTING HOLES (PUNCH CODES). SEE THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR INFORMATION.

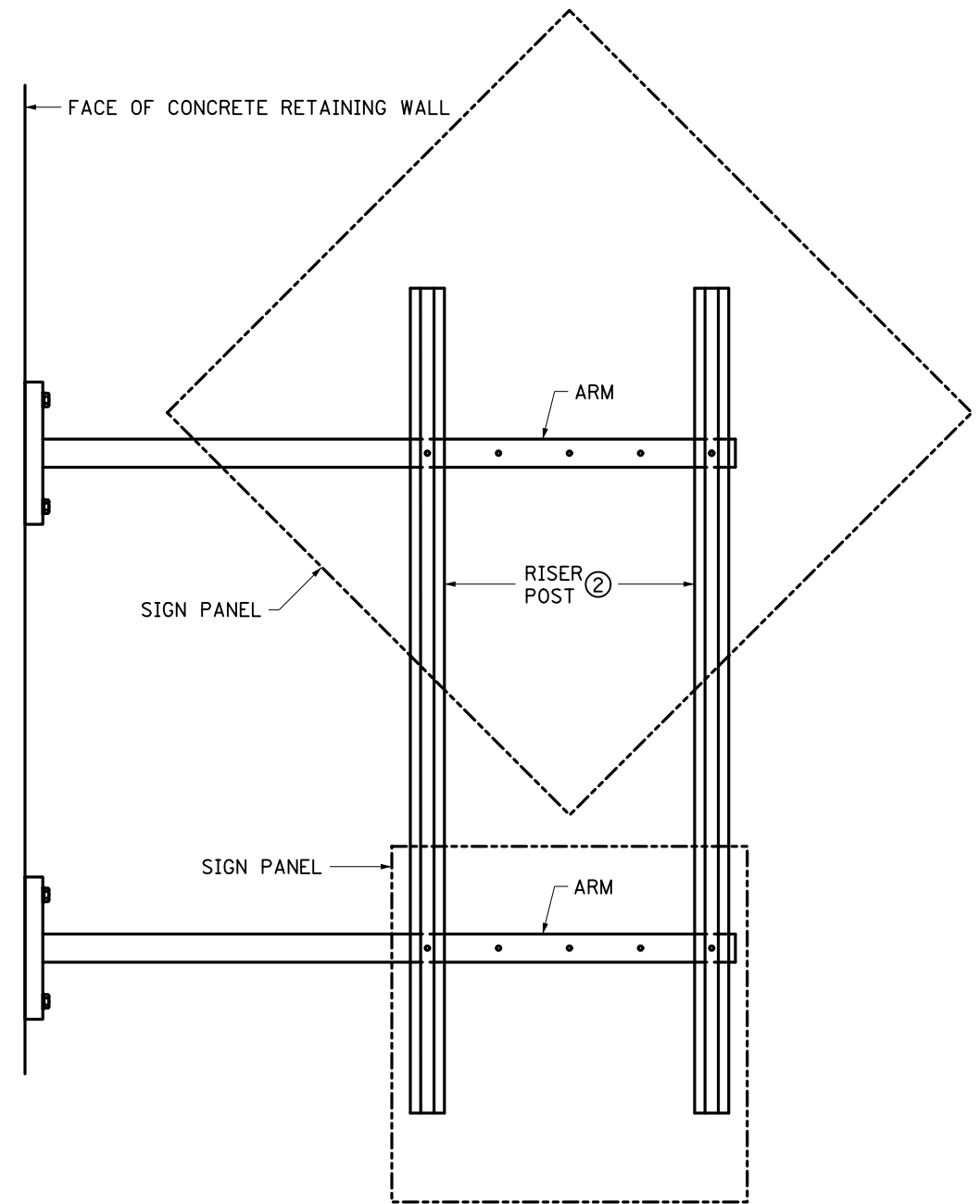
LEAD EXPERT OFFICE	KEVIN WESTERN STATE BRIDGE ENGINEER	SIGN MOUNTED ON CONCRETE WALL	APPROVED: 05-03-2021 REVISED:	 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.726	1 OF 3
	 DEPARTMENT OF TRANSPORTATION		STANDARD PLAN		STATE PROJ. NO.	SHEET NO.
					TRUNK HWY.	TOTAL SHEETS



SINGLE PANEL PLACEMENT ①
DIAMOND PANEL SHOWN



MULTIPLE PANEL PLACEMENT ①





MULTIPLE PANEL PLACEMENT ①

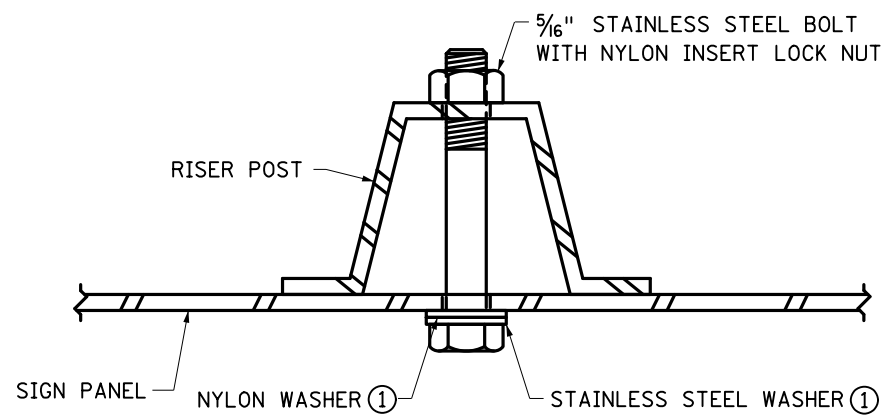
GENERAL NOTES:

BOLT GUIDE SIGN PANELS TO ARM MEMBERS AT 24" MAXIMUM INTERVALS SIMILAR TO THE SPLICE PLATE AND STRINGER DETAIL. SEE MNDOT STANDARD SIGNS AND MARKINGS MANUAL.

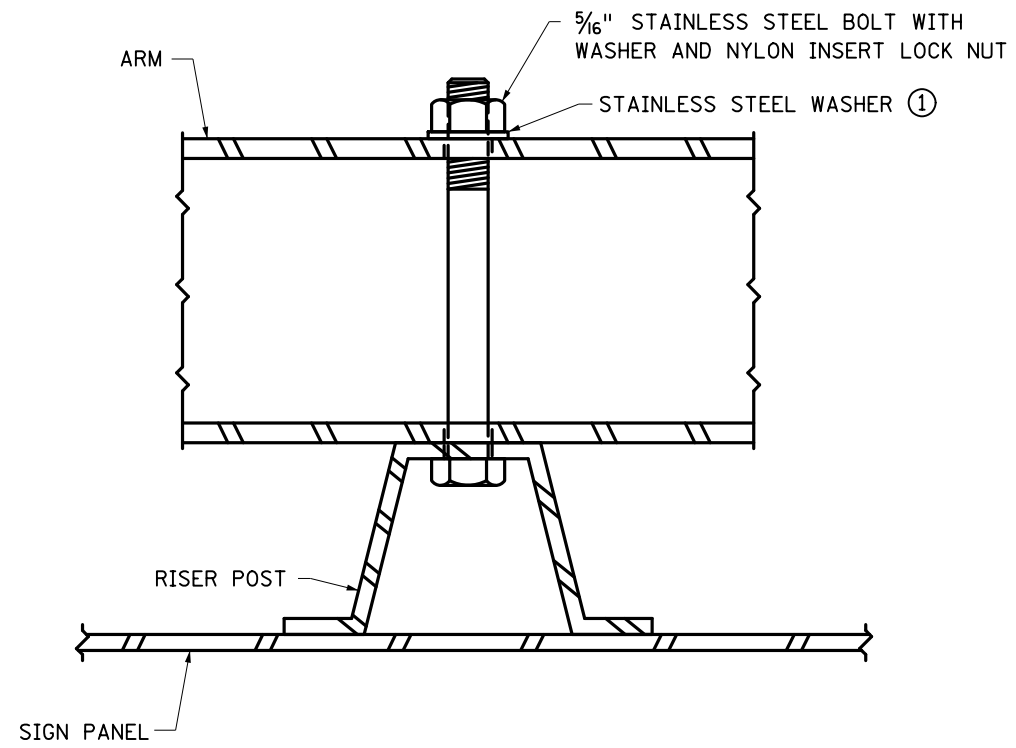
BOLT STANDARD SIGN PANELS TO ARM MEMBERS OR RISER POSTS ACCORDING TO SINGLE/MULTIPLE PANEL PLACEMENT DETAILS. SEE THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR MOUNTING HOLES (PUNCH CODES) INFORMATION.

- ① SEE SIGN TABULATIONS FOR DIMENSIONAL INFORMATION.
- ② USE 2.5 LB/FT RISER POSTS IN ACCORDANCE WITH SPEC. 3401. USE RISER POST LENGTH AS PANEL HEIGHT, H, FOR DETERMINATION OF ARM MEMBER LOCATIONS.
- ③ FOR OTHER SHAPES, POSITION ARM MEMBERS TO ACCEPT THE STANDARD SIGN MOUNTING HOLES (PUNCH CODES). SEE THE MNDOT STANDARD SIGNS AND MARKINGS MANUAL FOR INFORMATION.

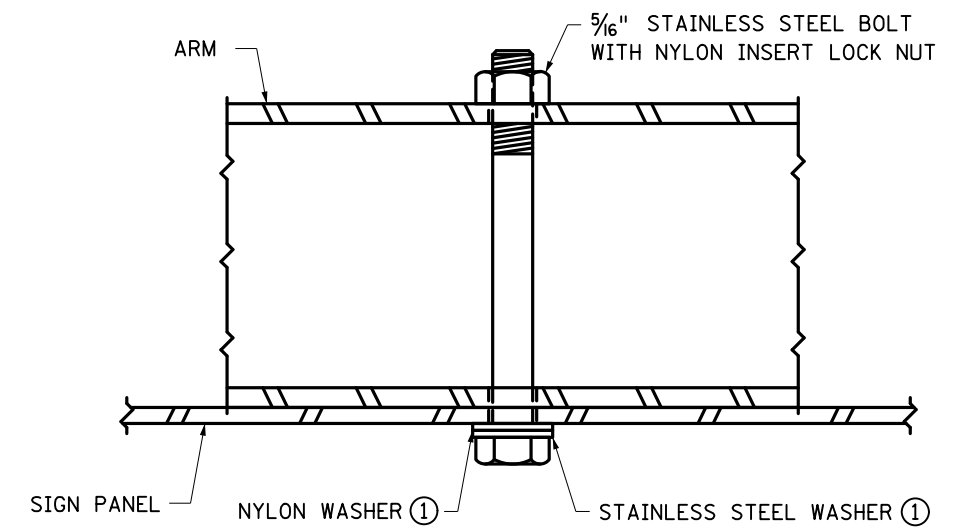
LEAD EXPERT OFFICE	KEVIN WESTERN STATE BRIDGE ENGINEER	SIGN MOUNTED ON CONCRETE WALL SIGN MOUNTING DETAILS	APPROVED: 05-03-2021	 THOMAS STYRBICKI STATE DESIGN ENGINEER	STANDARD PLAN 5-297.726	2 OF 3
			STANDARD PLAN		STATE PROJ. NO. TRUNK HWY.	SHEET NO. TOTAL SHEETS



SIGN TO RISER POST CONNECTION



RISER POST TO ARM CONNECTION



SIGN TO ARM CONNECTION

NOTES:

USE 5/16" STAINLESS STEEL BOLTS, WASHERS, AND NYLON INSERT LOCK NUTS AS SHOWN.

PROVIDE FASTENERS IN ACCORDANCE WITH SPEC. 3391.

① PROVIDE STAINLESS STEEL WASHERS AND NYLON WASHERS AS SHOWN. STAINLESS STEEL AND NYLON WASHERS SHALL HAVE IDENTICAL DIMENSIONS (T=1/32" MIN., I.D.=3/8" MAX., O.D.=7/8" MAX.).

LEAD EXPERT OFFICE
KEVIN WESTERN
STATE BRIDGE ENGINEER



SIGN MOUNTED ON CONCRETE WALL
SIGN CONNECTION DETAILS

APPROVED: 05-03-2021
REVISED:

Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER

STANDARD PLAN
5-297.726

3 OF 3

STANDARD PLAN

STATE PROJ. NO.

SHEET NO.

TRUNK HWY.

TOTAL SHEETS