

GENERAL ELEVATION - THREE-LANE RURAL SECTION
OTHER ROADWAY SECTIONS SIMILAR

SPAN LENGTH ⑥	SIGN PANEL(S) MAXIMUM TOTAL AREA (SF)
72' 0"	108
66' 0"	132
60' 0"	138
54' 0"	144
48' 0"	156
42' 0"	168

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.

MAXIMUM INDIVIDUAL SIGN PANEL WIDTH = 15' 0".

MATERIAL PROPERTIES:

THE BAR SIZES SHOWN IN THIS PLAN ARE IN U.S. CUSTOMARY DESIGNATIONS. EPOXY-COATED BARS ARE MARKED WITH THE SUFFIX "E" IN ACCORDANCE WITH SPEC. 3301.

STRUCTURAL STEEL (EXCEPT PIPE) - SPEC. 3306
STRUCTURAL STEEL PIPE ----- SPEC. 3362, ASTM A500 GRADE B (F = 42 ksi)
OR GREATER API 5L, GRADES B, X42, X46,
X52, X56, X60, X65
HIGH STRENGTH BOLTS----- SPEC. 3391.2B
ANCHOR RODS----- SPEC. 3385 TYPE B

DEMONSTRATE THAT THE POST MATERIAL MEETS THE REQUIREMENTS OF ONE OF THE ABOVE CITED SPECIFICATIONS AND THE MINIMUM YIELD STRENGTH.

FINISH:

WITH THE EXCEPTION OF THE LOWER PORTIONS OF ANCHOR RODS AND ALUMINUM AND OTHER NON-FERROUS MATERIALS, GALVANIZE COMPONENTS AFTER FABRICATION IN ACCORDANCE WITH SPEC. 3392 OR SPEC. 3394 AS APPLICABLE. BEARING SURFACES MUST BE SMOOTH.

FABRICATION:

FABRICATE STRUCTURAL METALS IN ACCORDANCE WITH SPEC. 2471, SPEC. 2564 AND THE APPLICABLE SPECIAL PROVISIONS. ALL WELDING TO BE CONTINUOUS. ALL CONTACT SURFACES MUST BE COMPLETELY SEALED.

INSPECTION:

PROVIDE INSPECTION BEFORE AND AFTER GALVANIZING PER SPEC. 1511 AND 2471.

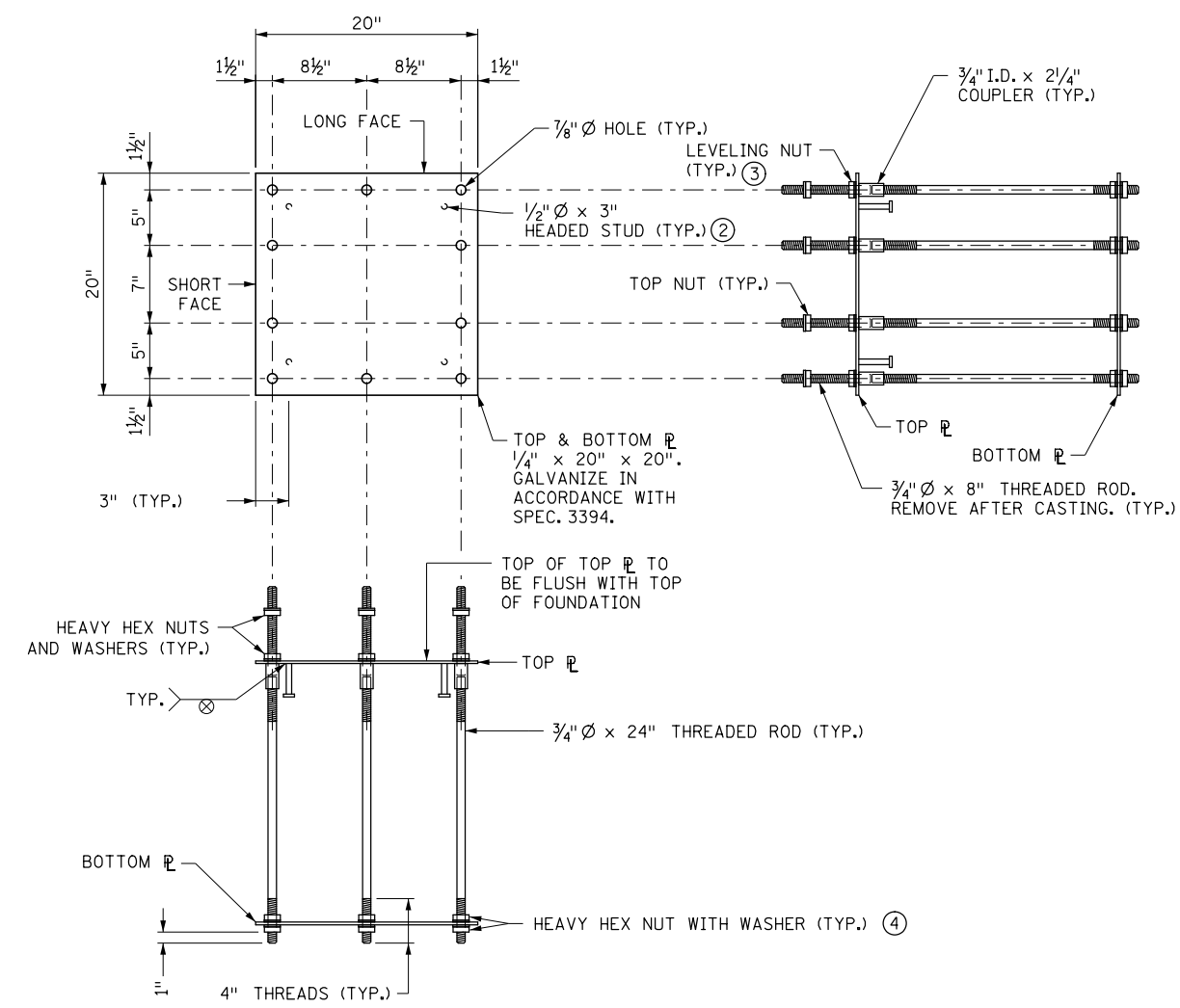
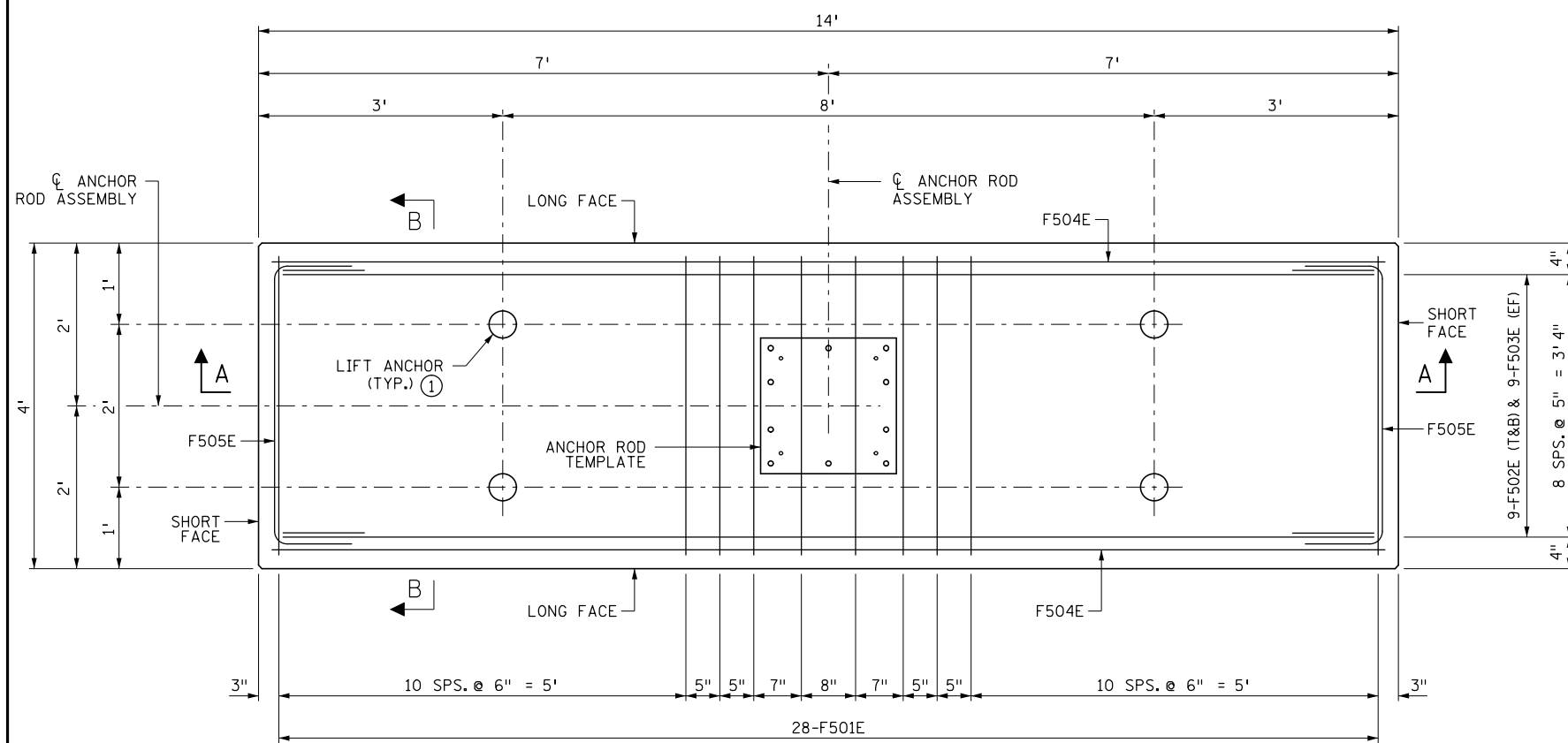
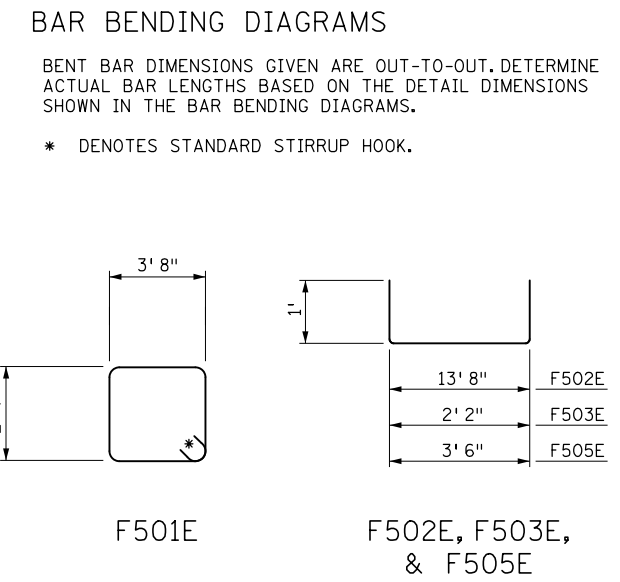
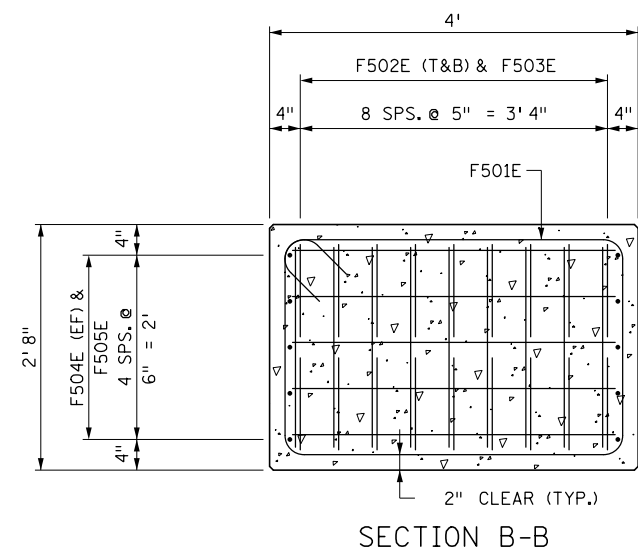
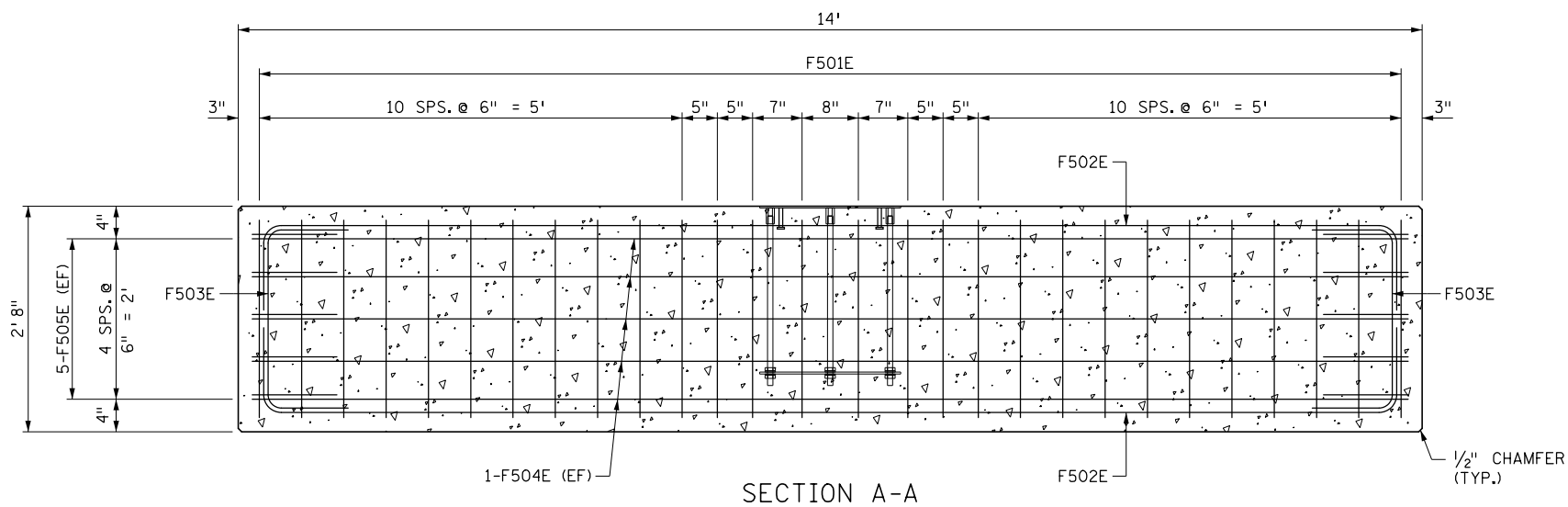
SPECIFIC NOTES:

- ① MEASURE MINIMUM CLEARANCE FROM THE SIGN PANEL TO THE HIGHEST ELEVATION OF PAVEMENT, SHOULDERS, AND MOUNTABLE CURBS, OR IF BARRIER IS USED, THE HIGHEST ELEVATION BETWEEN BARRIERS.
- ② PROVIDE A TOP OF LEVELING PAD ELEVATION SUCH THAT THE MINIMUM VERTICAL CLEARANCE REQUIREMENT IS MET OR EXCEEDED. LEVELING PAD ELEVATIONS MUST BE IDENTICAL.
- ③ SEE TEMPORARY TRAFFIC CONTROL PLAN FOR TEMPORARY BARRIER DEFLECTION AND ANCHORING REQUIREMENTS.
- ④ THE SURFACE UNDER THE TEMPORARY BARRIER AND DEFLECTION DISTANCE SHOULD BE PAVEMENT. IF A PAVED SURFACE IS NOT AVAILABLE, COMPACTED AGGREGATE CAPABLE OF BEARING TRAFFIC MAY BE USED. PROVIDE A 1V:10H OR FLATTER SLOPE.
- ⑤ REMOVE TOPSOIL AND ORGANIC MATERIALS TO THE SATISFACTION OF THE ENGINEER.
- ⑥ TYPICAL INTERMEDIATE BEAM AND END BEAM SECTION LENGTHS ARE 6' AND 12'. ASSEMBLE SECTIONS TO GENERATE THE DESIRED SPAN. OTHER SECTION LENGTHS MAY BE FABRICATED AS REQUIRED. FABRICATE SECTIONS TO THE SATISFACTION OF THE ENGINEER.

REVISION:
APPROVED: MARCH 6, 2020
Kevin Western
KEVIN WESTERN
STATE BRIDGE ENGINEER

m MINNESOTA
DEPARTMENT OF TRANSPORTATION
STANDARD PLAN 5-297.805
1 OF 5
Tom Styrbicki
THOMAS STYRBICKI
STATE DESIGN ENGINEER
APPROVED: 3-6-2020
REVISED:
STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

TEMPORARY OVERHEAD SIGN STRUCTURES
GENERAL ELEVATION AND NOTES



NOTES:
 PLACE BARS WITH 2" CLEAR UNLESS NOTED OTHERWISE.
 (T) DENOTES TOP.
 (B) DENOTES BOTTOM.
 (EF) DENOTES EACH FACE.
 USE CONCRETE MIX 3M82.

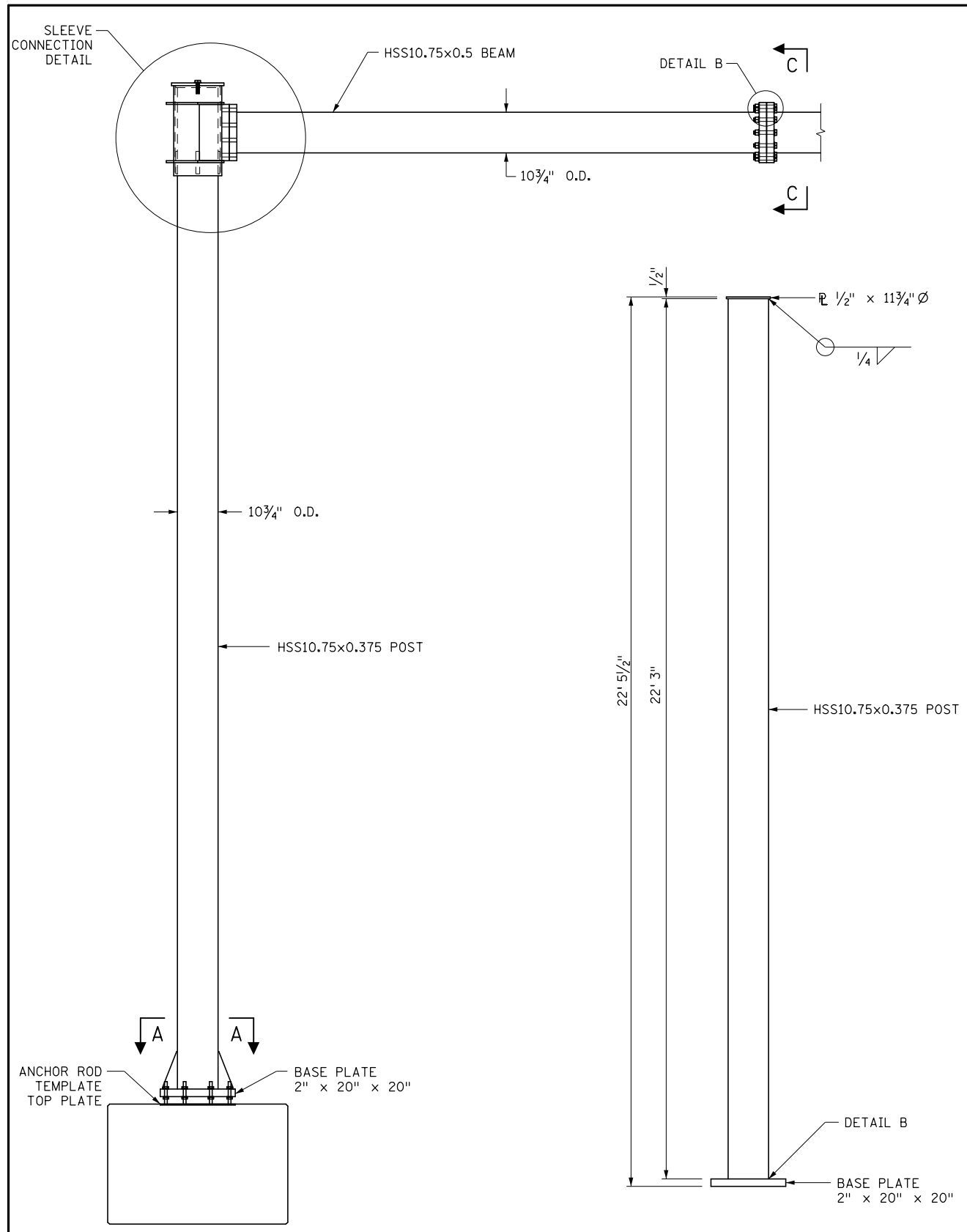
- ① PROVIDE A GALVANIZED STEEL LIFTING ANCHOR AND COMPATIBLE LIFTING EYE ATTACHMENT. THE MINIMUM SAFE WORKING LOAD FOR EACH ANCHOR IS 4 TONS. RECESS ANCHORS TO BE FLUSH WITH THE TOP OF FOUNDATION. GALVANIZE IN ACCORDANCE WITH SPEC. 3392.
- ② FURNISH AND INSTALL HEADED STUDS IN ACCORDANCE WITH SPEC. 3391.2.D ON THE TOP PLATE AT THE LOCATIONS SHOWN.
- ③ TEMPORARILY SECURE THE TOP PLATE WITH THE LEVELING NUTS DURING CONCRETE PLACEMENT OPERATIONS.
- ④ TIGHTEN NUT TO THE "SNUG TIGHT TORQUE."

BILL OF REINFORCEMENT - FOUNDATION				
BAR	QTY.	LENGTH	SHAPE	LOCATION
F501E	28	12' 11"	□	TRANSVERSE HOOPS
F502E	18	15' 8"	□	LONGITUDINAL - TOP & BOTTOM
F503E	18	4' 2"	□	VERTICAL - SHORT FACES
F504E	10	13' 8"	—	LONGITUDINAL - LONG FACES
F505E	10	5' 6"	□	HORIZONTAL - SHORT FACES

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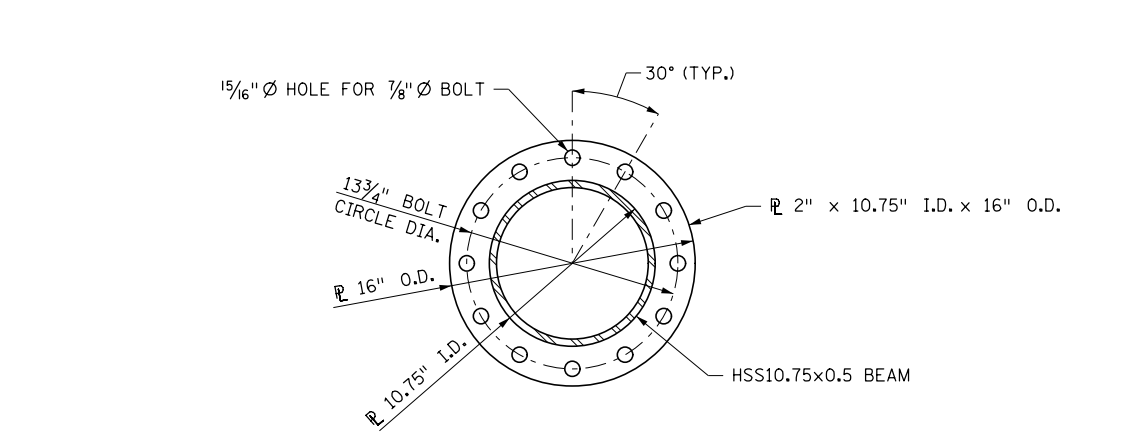
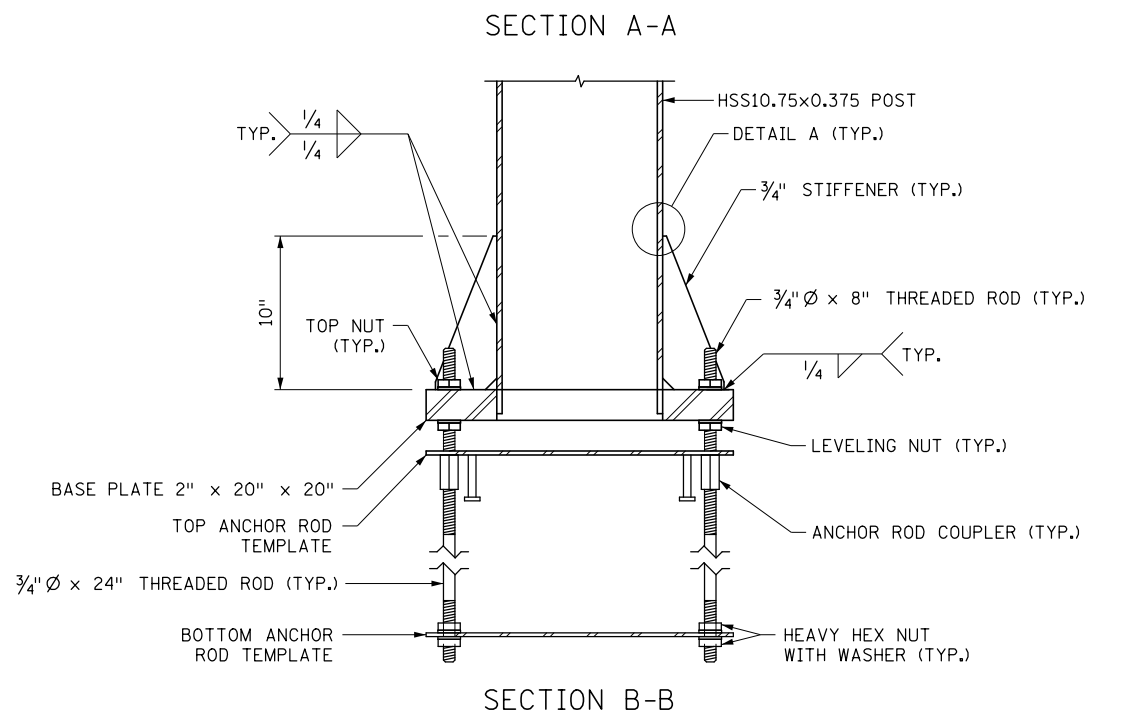
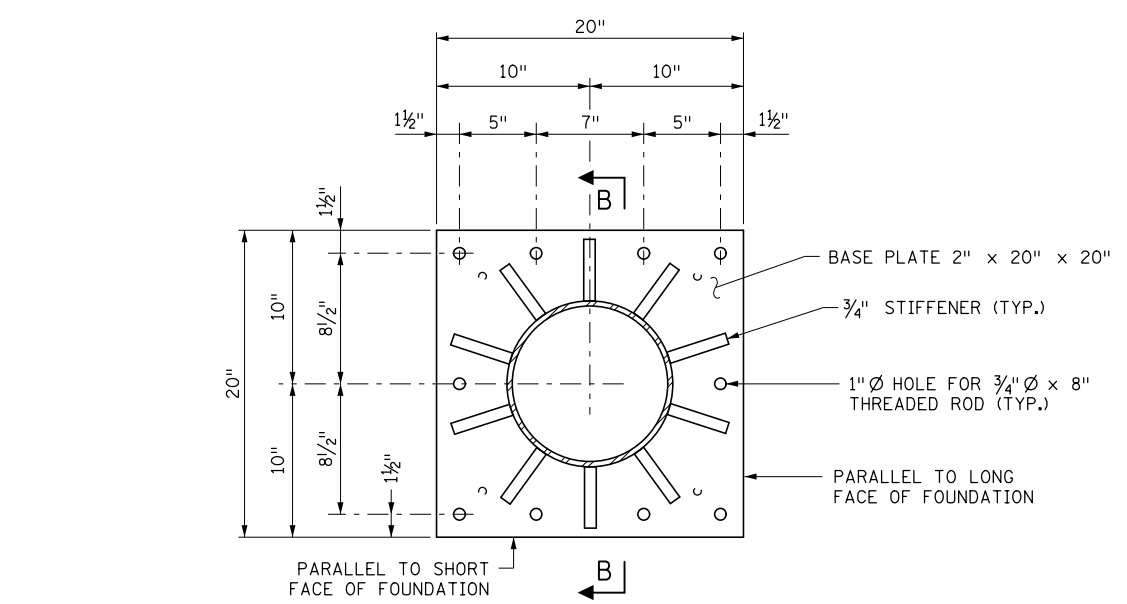
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TEMPORARY OVERHEAD SIGN STRUCTURES
 FOUNDATION DETAILS
 STATE PROJ. NO. (TH) SHEET NO. OF SHEETS

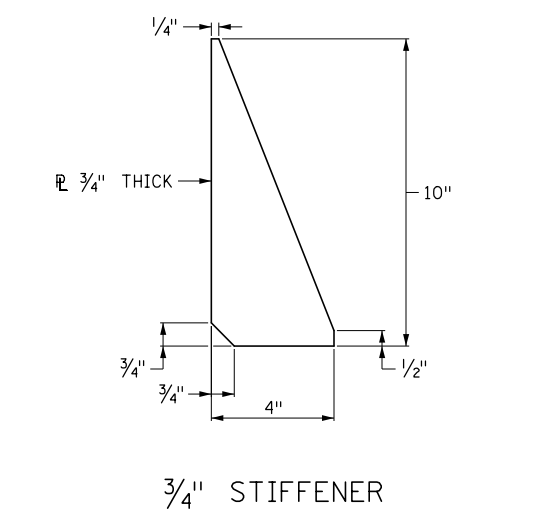
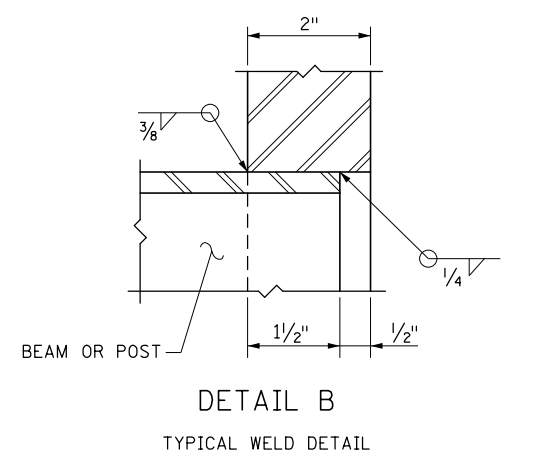
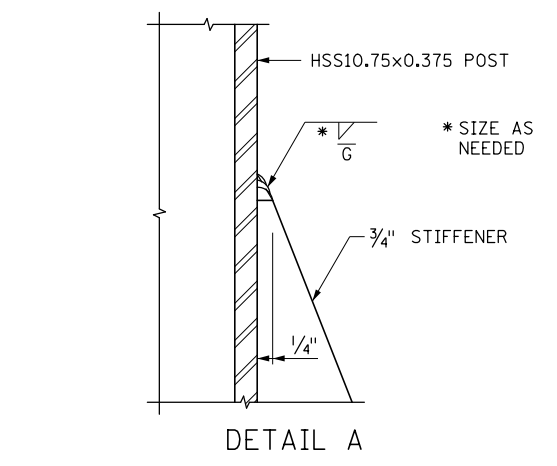


PARTIAL ELEVATION

POST ELEVATION
STIFFENERS NOT SHOWN FOR CLARITY



TYPICAL CONNECTION PLATE SECTION



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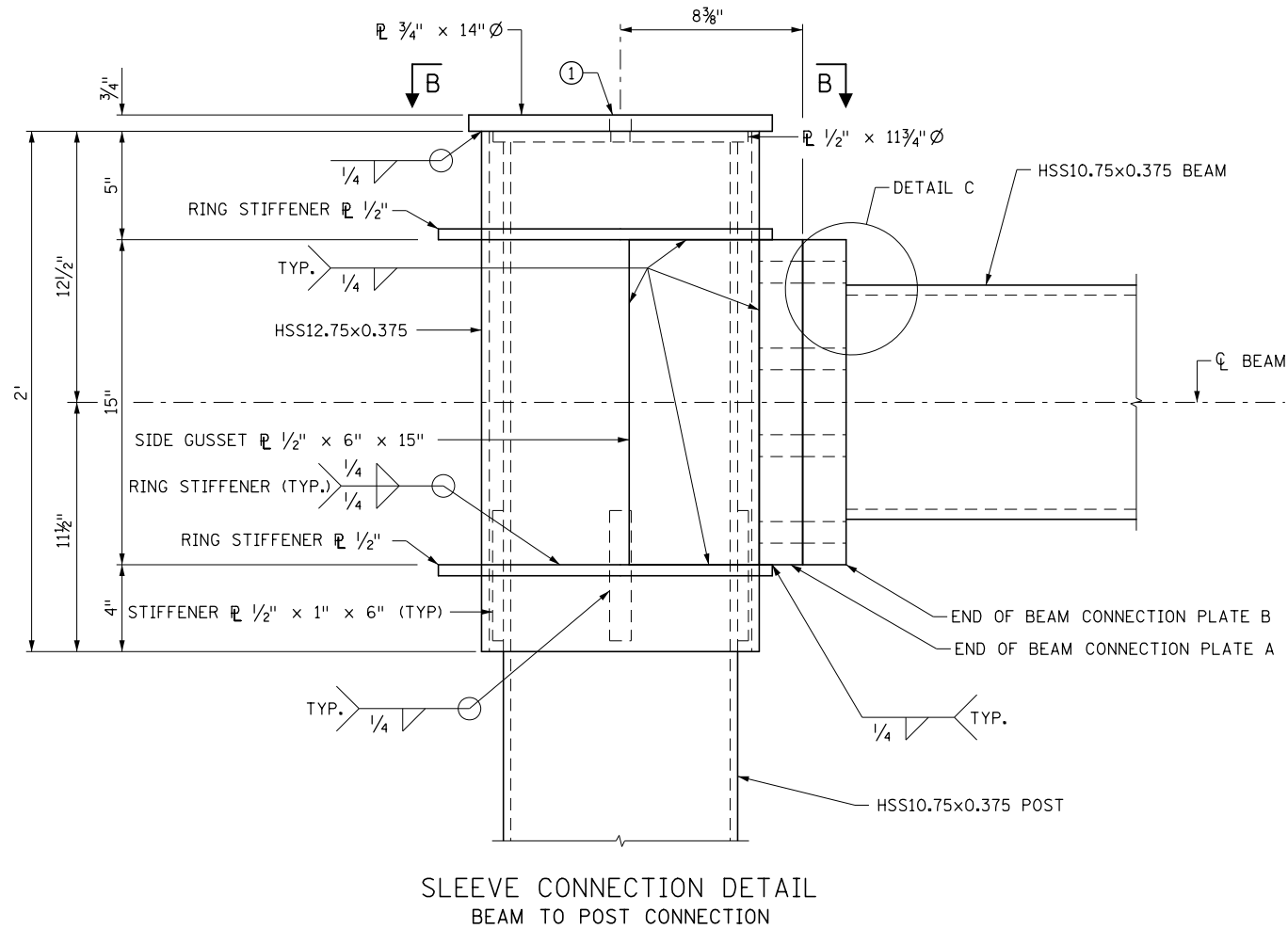
STANDARD PLAN 5-297.805 3 OF 5

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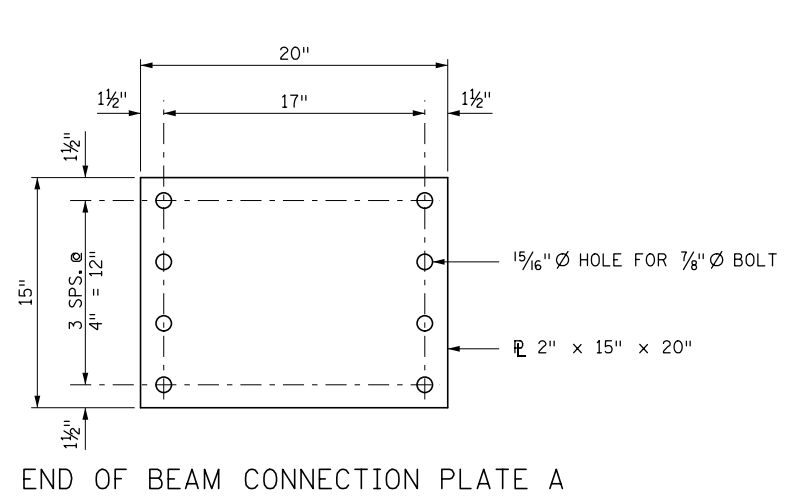
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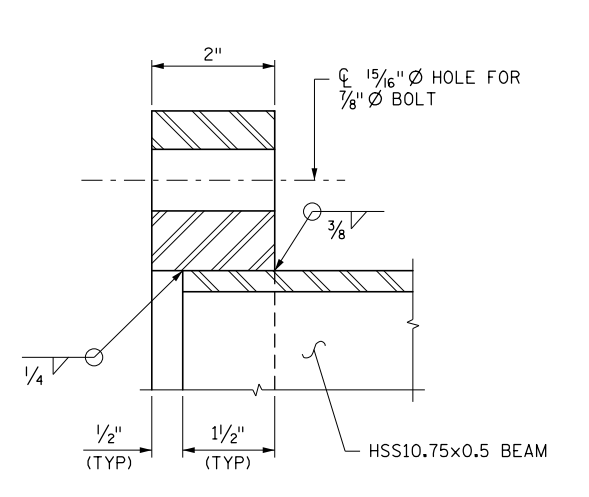
TEMPORARY OVERHEAD SIGN STRUCTURES
POST AND BASEPLATE DETAILS



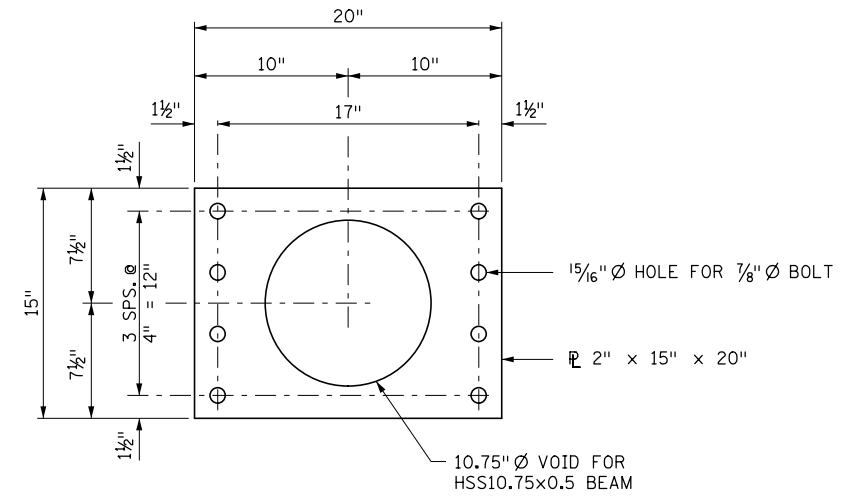
SLEEVE CONNECTION DETAIL
BEAM TO POST CONNECTION



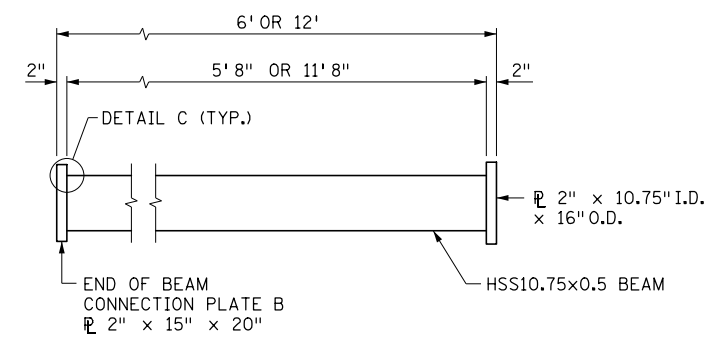
END OF BEAM CONNECTION PLATE A



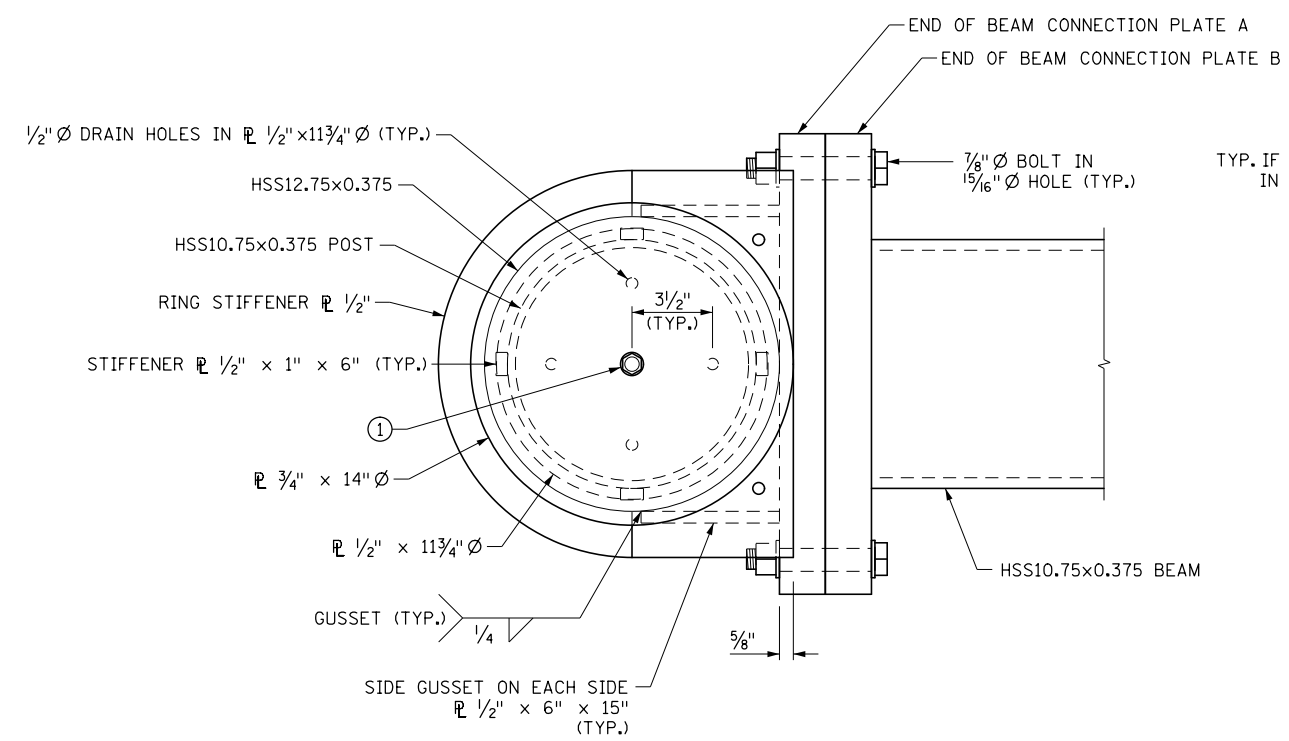
DETAIL C
TYPICAL BEAM CONNECTION PLATE WELD DETAIL



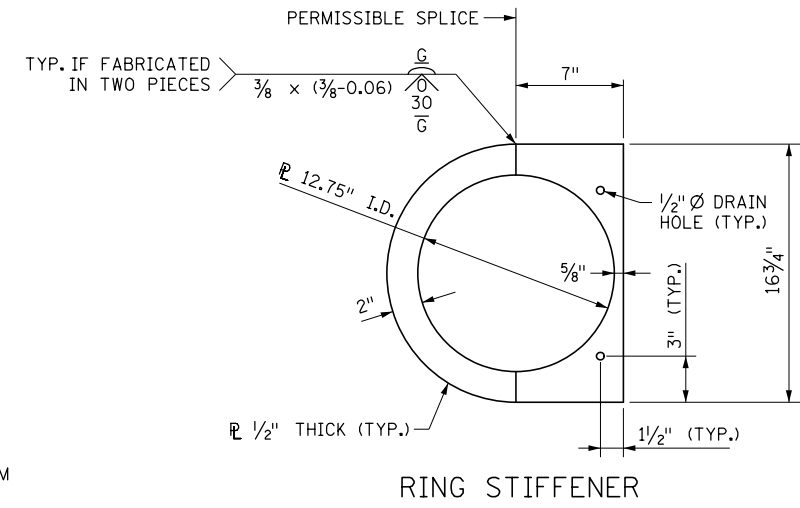
END OF BEAM CONNECTION PLATE B



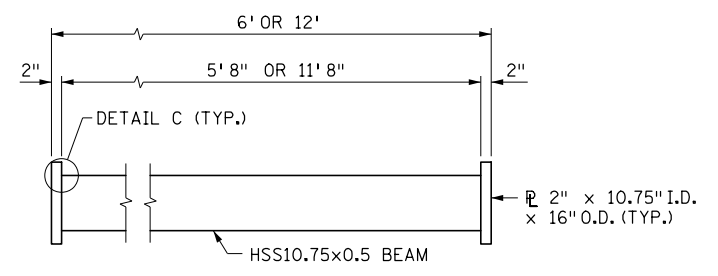
END BEAM SECTIONS



VIEW B-B



RING STIFFENER



INTERMEDIATE BEAM SECTION

NOTES:

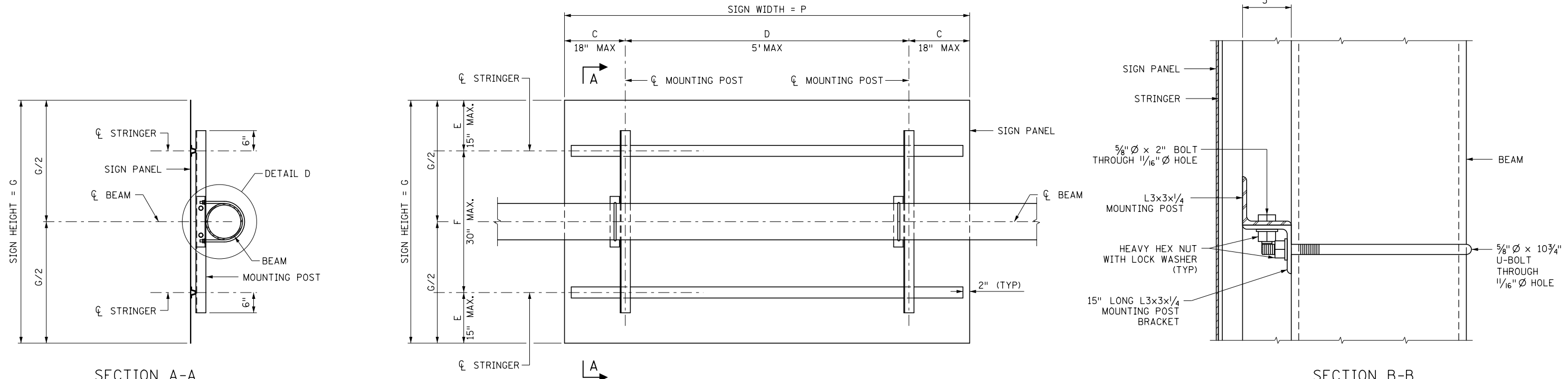
- ① THE TOP PLATE OF THE SLEEVE SHALL HAVE A 1 5/16" DIAMETER HOLE DRILLED THROUGH ITS CENTER. THE TOP PLATE OF THE POST SHALL HAVE A HOLE DRILLED AND TAPPED IN ITS CENTER TO ACCEPT THE 7/8" DIAMETER BOLT.

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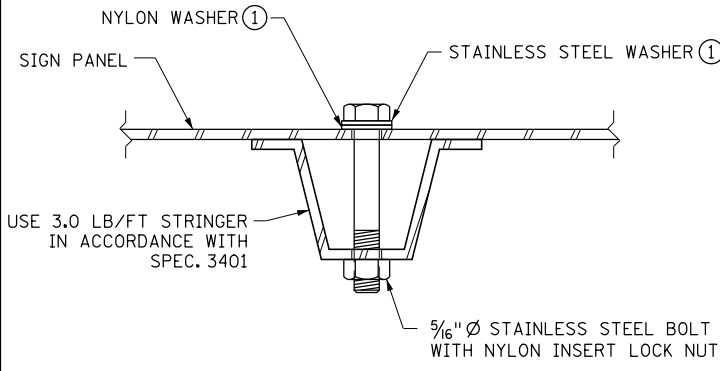
TEMPORARY OVERHEAD SIGN STRUCTURES
BEAM DETAILS



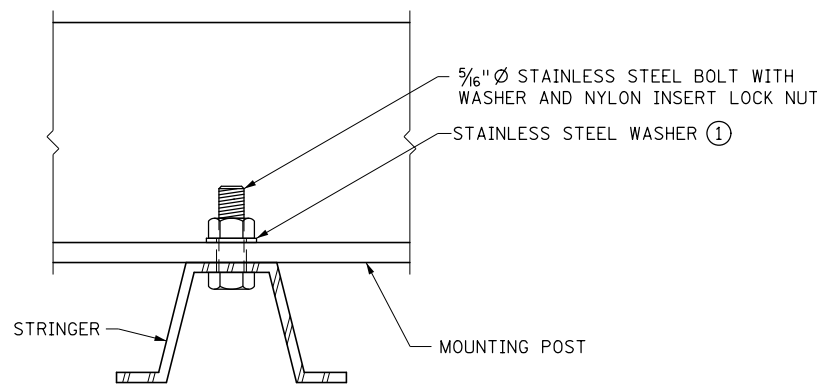
MOUNTING POST SPACING			
NUMBER	P	C	D
2	96" OR LESS	0.188P	0.624P
3	102" THRU 156"	0.115P	0.385P
4	162" THRU 216"	0.100P	0.267P

MOUNTING POST SPACING MAY BE ADJUSTED AS REQUIRED IF CONFLICT WITH BEAM MEMBERS IS ENCOUNTERED.

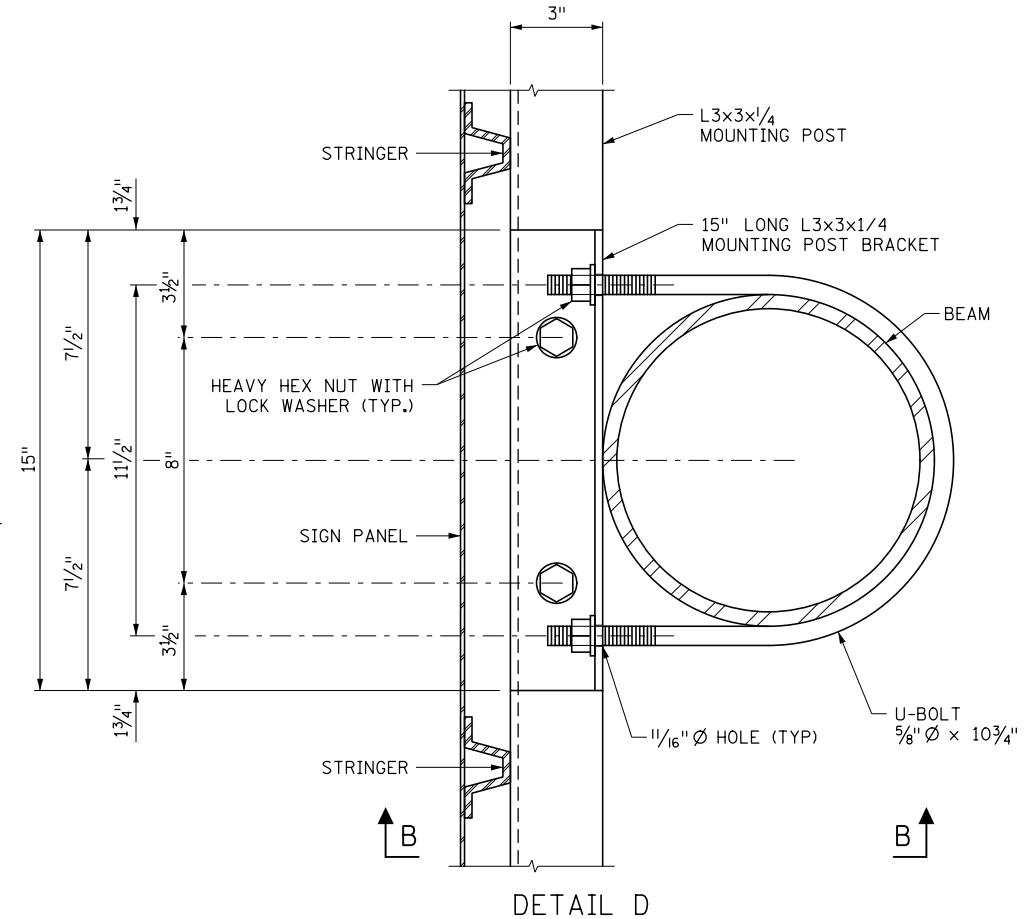
STRINGER SPACING			
NUMBER	SIGN HEIGHT, G (IN.)	E (IN.)	F (IN.)
1	24	12	0
1	30	15	0
2	36	8	20
2	42	9	24
2	48	12	24
2	54	12	30
2	60	15	30
3	66	12	21
3	72	12	24



SIGN PANEL TO STRINGER CONNECTION



STRINGER TO MOUNTING POST CONNECTION
SIGN PANEL NOT SHOWN FOR CLARITY



DETAIL D

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

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TEMPORARY OVERHEAD SIGN STRUCTURES
 SIGN PANEL AND PANEL MOUNTING POST DETAILS