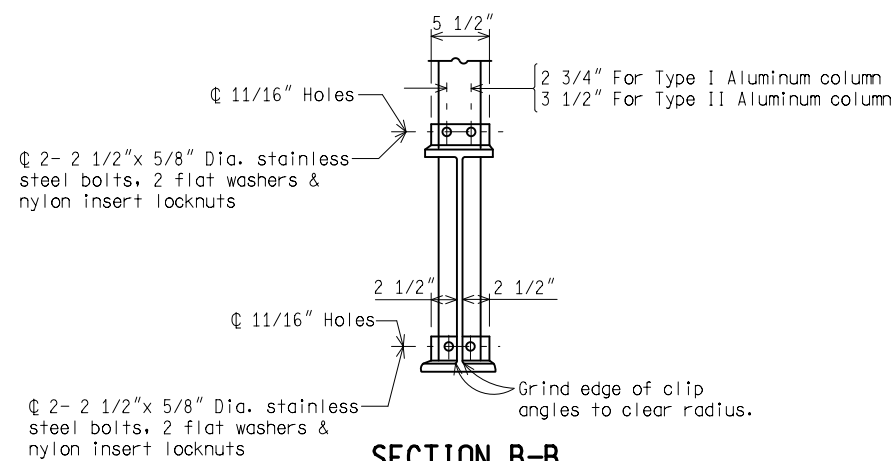
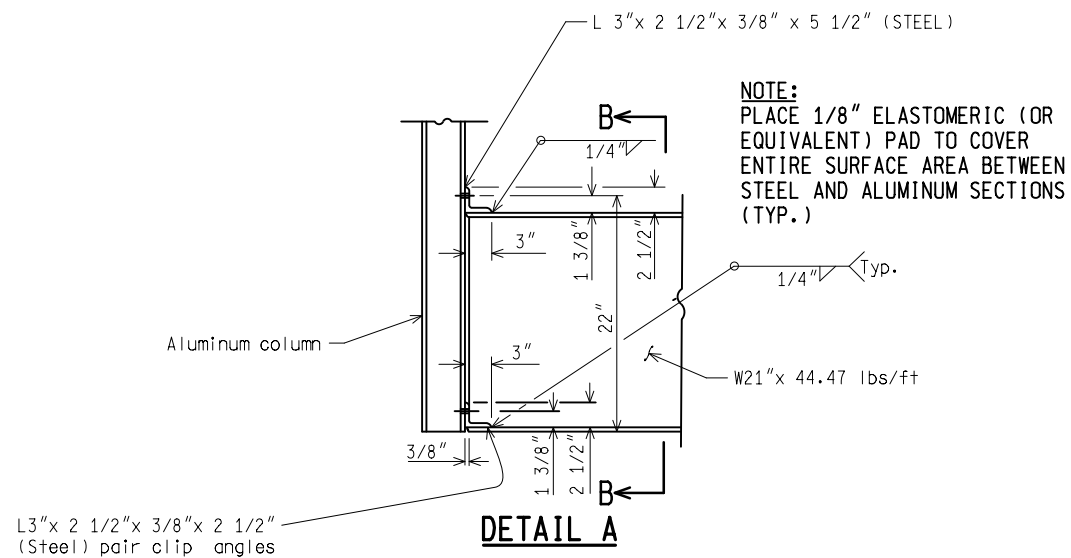
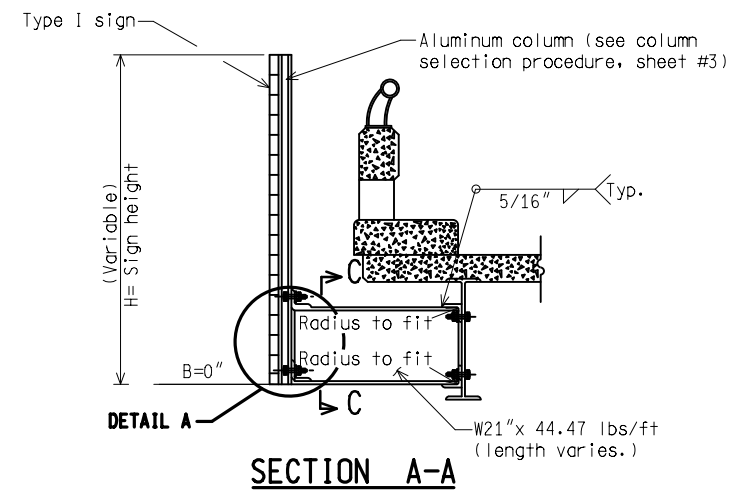


TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

OLD VIII-820E

| | | | | |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------|
| <p>PREPARED BY DESIGN DIVISION</p> <p>DRAWN BY: <u>DHD</u></p> <p>CHECKED BY: <u>AJU</u></p> | <p>DEPARTMENT DIRECTOR Kirk T. Stuedle</p> <p>APPROVED BY: _____ DIRECTOR, BUREAU OF FIELD SERVICES</p> | <p>MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR</p> <p>BOLTED BRIDGE CONNECTION TYPE C & D (θ = 0°)</p> | | |
| | <p>APPROVED BY: _____ (SPECIAL DETAIL) DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT</p> | <p>(SPECIAL DETAIL) F.H.W.A. APPROVAL</p> | <p>03/20/12 PLAN DATE</p> | <p>SIGN-898-A</p> |



TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

OLD VIII-820E

NOT TO SCALE

| | | | | |
|--------------------------------------------------------------------------------------|---------------------------------------|-----------------------|------------|-----------------|
| MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN | (SPECIAL DETAIL) F.H.W.A. APPROVAL | 03/20/12 PLAN DATE | SIGN-898-A | SHEET 2 OF 4 |
|--------------------------------------------------------------------------------------|---------------------------------------|-----------------------|------------|-----------------|

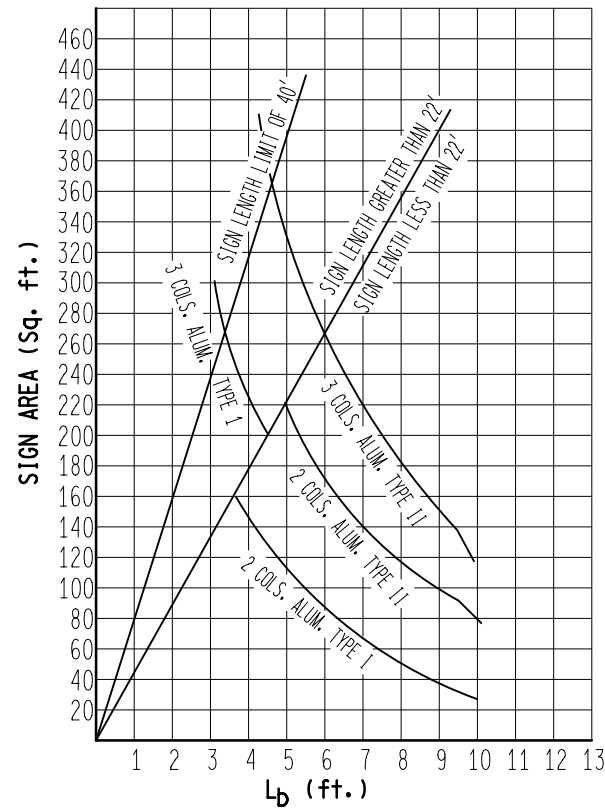
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.

| AS-LET PLAN REVISIONS | | | | | | | |
|-----------------------|------|------|-------------|-----|------|------|-------------|
| NO. | DATE | AUTH | DESCRIPTION | NO. | DATE | AUTH | DESCRIPTION |
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| FILE: | DATE: | CS: | DRAWING | SHEET |
| | DESIGN UNIT: | | | |
| | TSC: | JN: | | |

| TYPE | ALUMINUM COLUMN |
|------|----------------------------------------------------|
| I | 5" x 5" x 5.37 lbs/ft WIDE FLANGE-ARMY-NAVY SERIES |
| II | 6" x 6" x 7.85 lbs/ft WIDE FLANGE-H BEAMS |



COLUMN SELECTION PROCEDURE

- Determine B using the longest required column. (B = 0.0" Min.)
- $L_b = 1/2$ of the distance between the top the sign and the top clip angle bolt.
 $L_b = 1/2 (H + B - 2')$
- Determine the sign area (ft²) according to the example given below include exit no. sign if any,
A = Exit no. sign 10ft x 2ft = 20.0 (ft²)
A = Parent sign 15ft x 7.5ft = 112.5 (ft²)
TOTAL AREA = 132.5 (ft²)
Average height = $H = \frac{\text{TOTAL AREA (ft}^2\text{)}}{\text{Parent sign length (ft)}}$
Average height = $H = \frac{132.5 \text{ (ft}^2\text{)}}{15.0\text{ft}} = 8.83\text{ft}$
- Use the chart on this sheet, to determine the size and number of columns required.

TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

NOTES:

- All bolts shall be galvanized high strength bolts.
- All bolts, nuts and washers shall be hot dip galvanized. Nuts shall be tapped 0.015" oversize.
- All aluminum and steel components shall per current MDOT Standard Specifications For Construction. All steel components shall be hot-dip galvanized
- Sign location may be shifted to avoid joints or stiffeners.
- Bottom edge of sign shall be horizontal when erected and shall be a minimum of 18" above the lower bridge beam flange at all points.
- Type C Connection denotes a two-bracket sign connection.
- Type D Connection denotes a three-bracket sign connection.
- Sign connections to mounting support columns shall have the same bolt arrangement as shown for connections for sign to mounting supports for cantilevers and trusses. (Typical Plan Sign-700 Series)

OLD VIII-820E

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN

(SPECIAL DETAIL)
F.H.W.A. APPROVAL

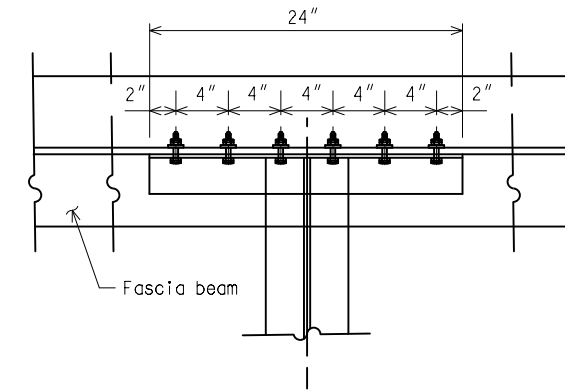
03/20/12
PLAN DATE

SIGN-898-A

SHEET
3 OF 4

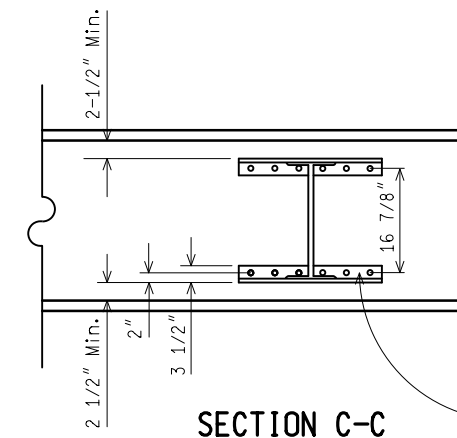
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- When the sign support is attached to A-588 Bridge Beams the connection interface shall be blast cleaned, and primed with organic zinc-rich paint before placing the new connection. The paint shall overlap the perimeter of the connection by 2 inches. The paint color shall be "brown weathering steel", Federal Code Number 10062. The perimeter of the contact surface of the sign supports connection to the beam web shall be sealed in accordance to Subsection 713.03.F of the Standard Specifications for Construction.
- The bolted connection of the sign support to the beam web shall be according to Subsection 707.03.D.7 of the Standard Specifications For Construction.



If beam web is less than 7/16" thick add 3/8"x 3"x 24" steel E on inside face.

DETAIL B



SECTION C-C

Steel L3"x 3-1/2"x 3/8"x 24"
(Typ.) Drill 11/16" dia. holes to template for 2 1/2"x 5/8" dia. bolts, nuts, flat washers and lock washers.

TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

OLD VIII-820E

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN

(SPECIAL DETAIL)
F.H.W.A. APPROVAL

03/20/12
PLAN DATE

SIGN-898-A

SHEET
4 OF 4

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AS-LET PLAN REVISIONS

| NO. | DATE | AUTH | DESCRIPTION | NO. | DATE | AUTH | DESCRIPTION |
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FILE:

DATE:
DESIGN UNIT:
TSC:

CS:
JN:

DRAWING SHEET