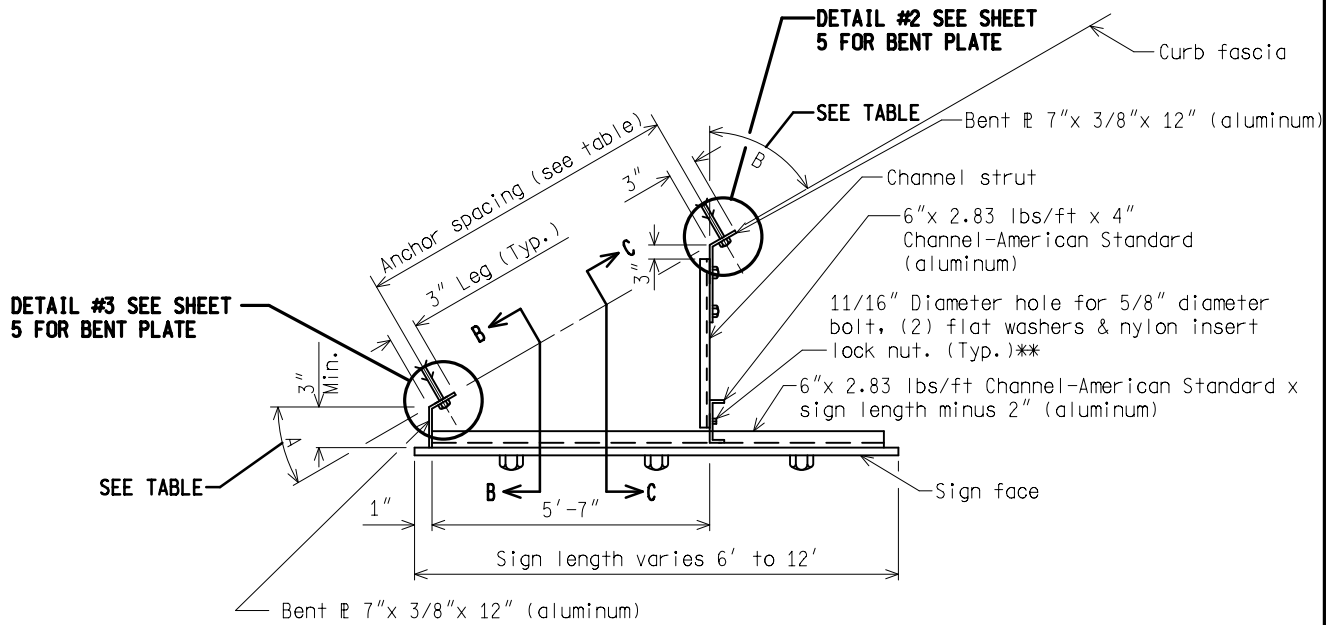


PLAN 0° CONNECTION



PLAN 10°, 20°, 30°, & 40° CONNECTIONS

** See page 2 of 5 for bolt detail

TYPE A BRIDGE CONNECTION TABLE

SKEW	CONNECTION		CHANNEL STRUT LENGTH (inches)	ANCHOR SPACING
	ANGLE A	ANGLE B		
0° -10°	0°			MATCH SIGN HOLES
11° -20°	10°	80°	6 x 2.83 lbs/ft x 1'-4 3/4" CHANNEL-AMERICAN STANDARD	5'-6"
21° -30°	20°	70°	6 x 2.83 lbs/ft x 2'-11 1/2" CHANNEL-AMERICAN STANDARD	5'-11 1/2"
31° -40°	30°	60°	6 x 2.83 lbs/ft x 3'-7 1/2" CHANNEL-AMERICAN STANDARD	6'-5 1/2"
41° -50°	40°	50°	6 x 2.83 lbs/ft x 5'-1 1/4" CHANNEL-AMERICAN STANDARD	7'-3 1/4"

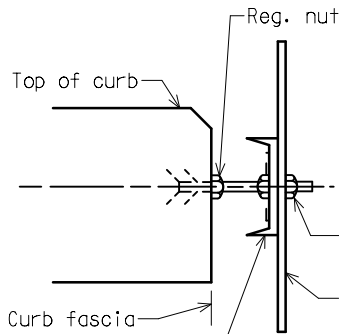
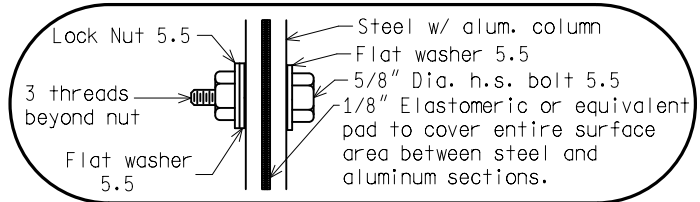
BRIDGE CONNECTION TYPE A

TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

OLD VIII-810E

<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. Stedile</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 A & B</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-897-A</p>	<p>SHEET 1 OF 5</p>

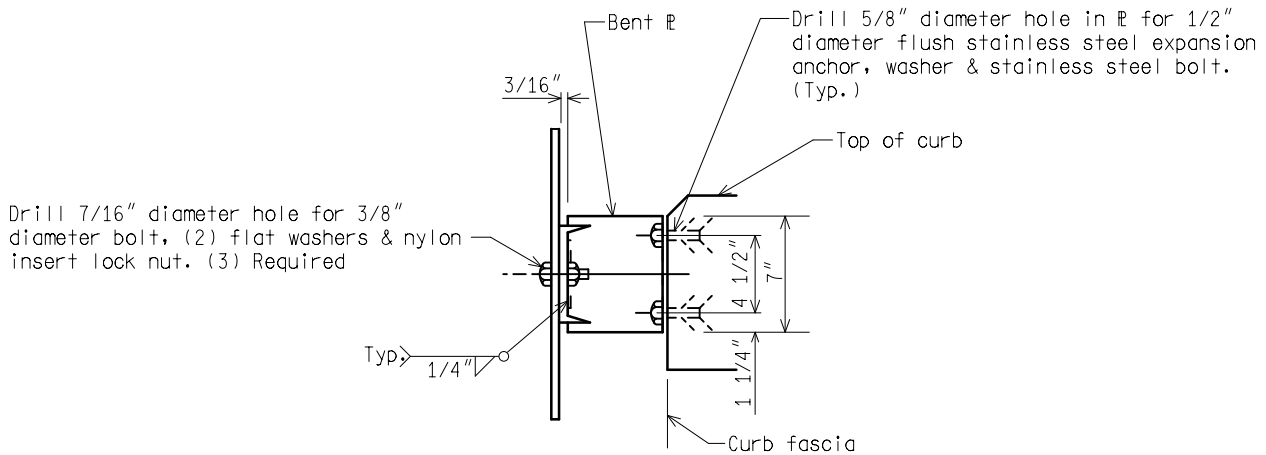
**** Bolt Detail**



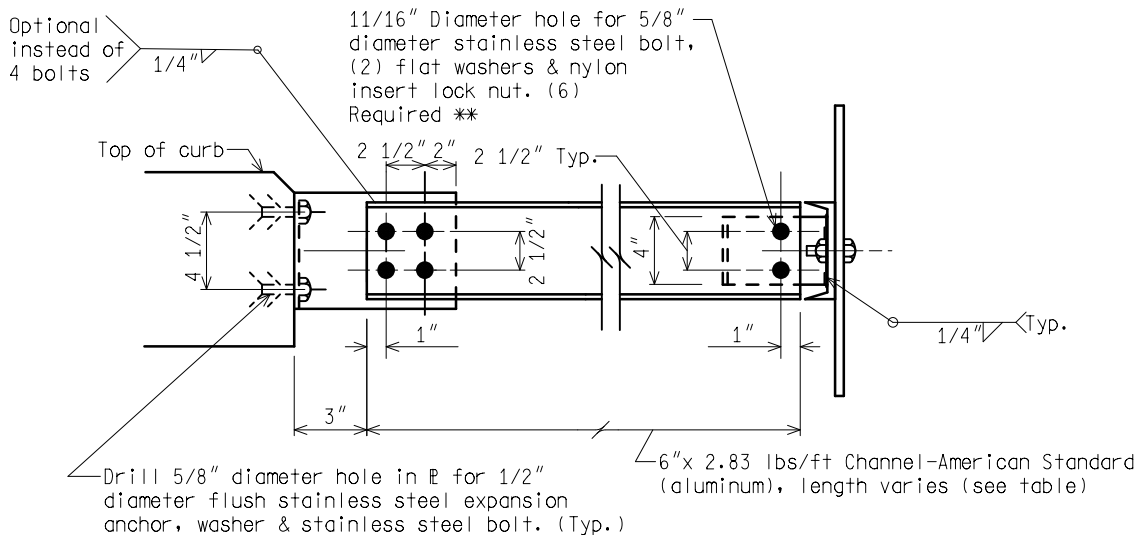
Drill 5/8" diameter hole for 1/2" flush stainless steel expansion anchor, washer, 1/2" diameter x 5" stainless steel stud bolt, regular nut & nylon insert lock nut. (Typ.)

6" x 2.83 lbs/ft Channel-American Standard x sign length (aluminum)

SECTION A-A



SECTION B-B



**SECTION C-C
BRIDGE CONNECTION TYPE A**

TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN

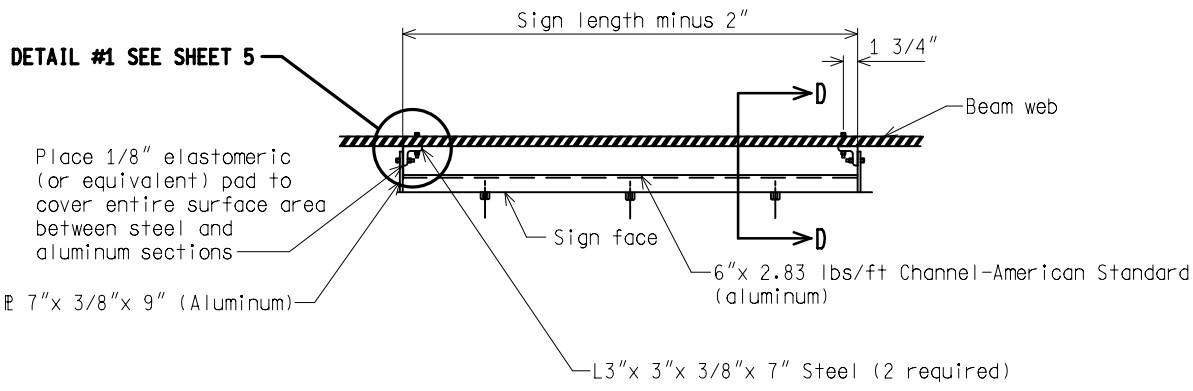
(SPECIAL DETAIL)
F.H.W.A. APPROVAL

03/20/12
PLAN DATE

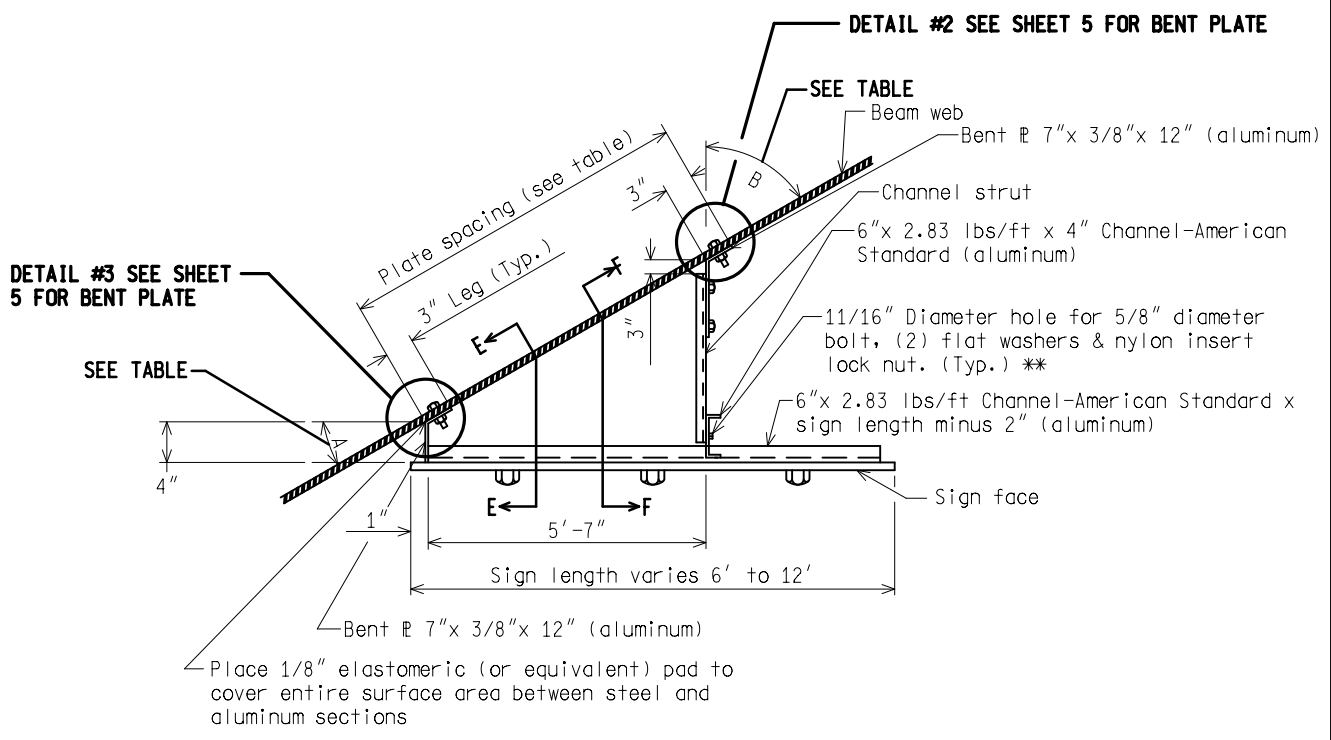
SIGN-897-A

SHEET
2 OF 5

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



PLAN 0° CONNECTION



PLAN 10°, 20°, 30°, & 40° CONNECTIONS

** See page 2 of 5 for bolt detail

TYPE B BRIDGE CONNECTION TABLE				
SKEW	CONNECTION		CHANNEL STRUT LENGTH (inches)	ANCHOR SPACING
	ANGLE A	ANGLE B		
0° -10°	0°			MATCH SIGN HOLES
11° -20°	10°	80°	6 x 2.83 lbs/ft x 1'-4 3/4" CHANNEL-AMERICAN STANDARD	5'-11"
21° -30°	20°	70°	6 x 2.83 lbs/ft x 2'-11 1/2" CHANNEL-AMERICAN STANDARD	6'-2 1/2"
31° -40°	30°	60°	6 x 2.83 lbs/ft x 3'-7 1/2" CHANNEL-AMERICAN STANDARD	6'-8 1/2"
41° -50°	40°	50°	6 x 2.83 lbs/ft x 5'-1 1/4" CHANNEL-AMERICAN STANDARD	7'-6 1/2"

BRIDGE CONNECTION TYPE B

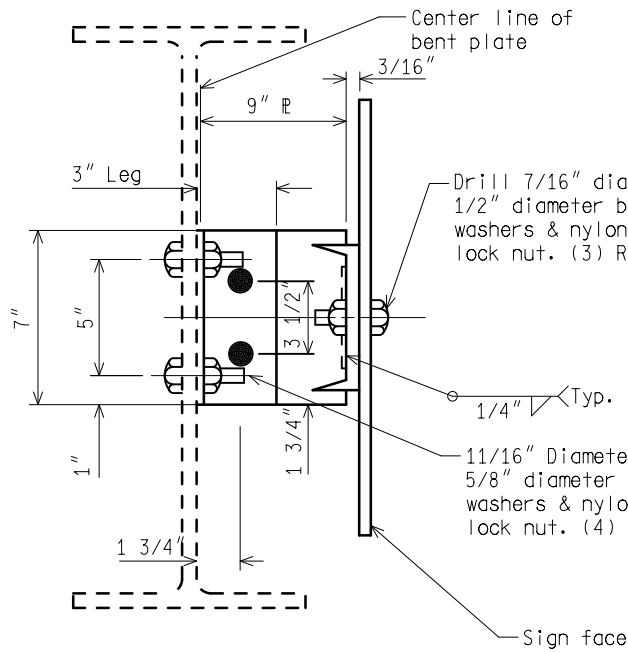
TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

OLD VIII-810E

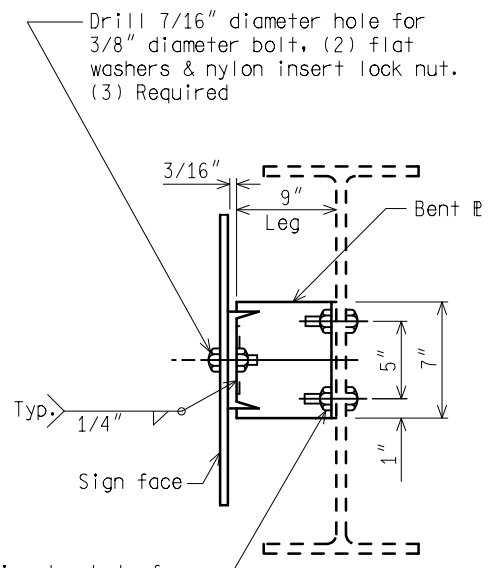
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN	(SPECIAL DETAIL) F.H.W.A. APPROVAL	03/20/12 PLAN DATE	SIGN-897-A	SHEET 3 OF 5
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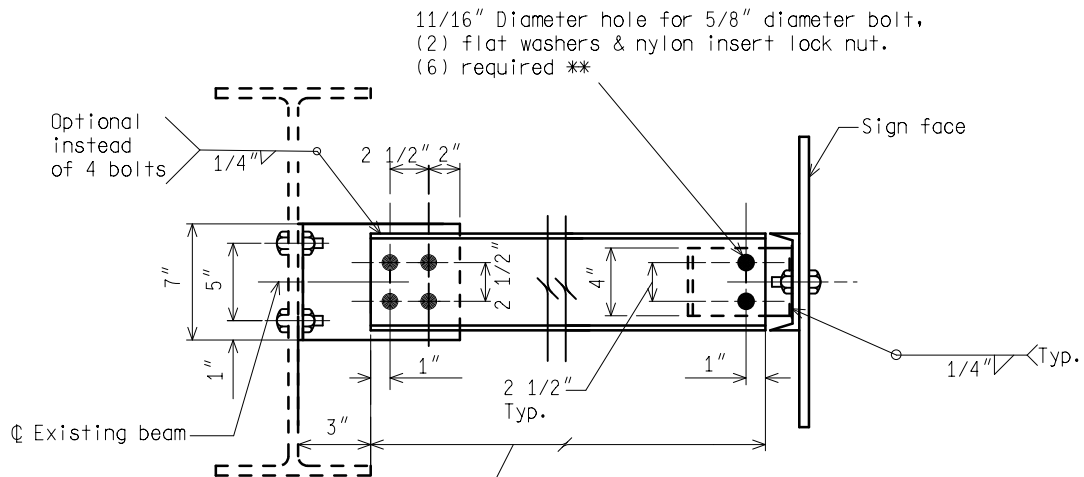
NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.



SECTION D-D



SECTION E-E



6" x 2.83 lbs/ft Channel-American Standard (aluminum), length varies (see table)

SECTION F-F

NOTE:
PLACE 1/8" ELASTOMERIC (OR EQUIVALENT) PAD TO COVER ENTIRE SURFACE AREA BETWEEN STEEL AND ALUMINUM SURFACES.

** See page 2 of 5 for bolt detail

BRIDGE CONNECTION TYPE B

TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

OLD VIII-810E

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN

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

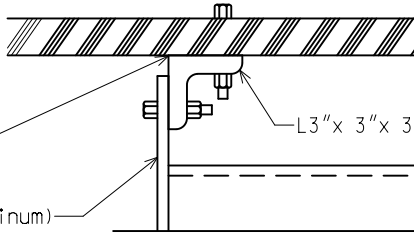
03/20/12
PLAN DATE

SIGN-897-A

SHEET
4 OF 5

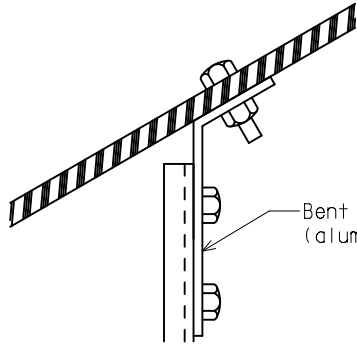
Place 1/8" elastomeric (or equivalent) pad to cover entire surface area between steel and aluminum sections

⌀ 7" x 3/8" x 9" (Aluminum)



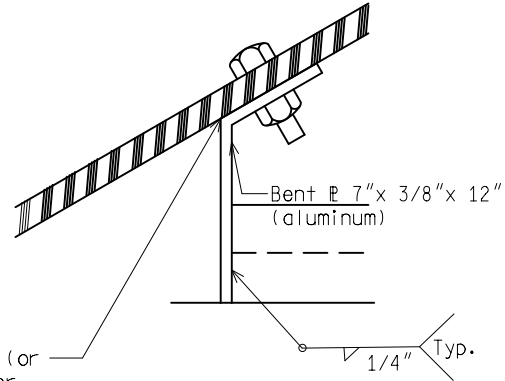
L3" x 3" x 3/8" x 7" (Steel) (2 required)

DETAIL #1



Bent ⌀ 7" x 3/8" x 12" (aluminum)

DETAIL #2



Bent ⌀ 7" x 3/8" x 12" (aluminum)

1/4" Typ.

Place 1/8" elastomeric (or equivalent) pad to cover entire surface area between steel and aluminum sections

DETAIL #3

TO BE USED FOR MAINTENANCE PURPOSES FOR EXISTING BRIDGE CONNECTIONS ONLY

NOTES: (APPLY TO TYPE A & B)

1. All bolts, nuts, and washers shall be high strength galvanized on Type B Bridge Connections, and stainless steel on Type A Bridge Connections, unless otherwise noted.
2. All aluminum and steel components shall be per current MDOT Standard Specifications for Construction. All steel components shall be hot-dip galvanized.
3. Sign location may be shifted to avoid joints or stiffeners.
4. Bottom edge of sign shall be horizontal when erected and shall be a minimum of 18" above the bridge beam flange at all points.
5. All 1/2" x 16 diameter stainless steel bolts used with 1/2" stainless steel expansion anchors shall be 1" long ($\pm 0"$) and shall engage expansion anchors 1 1/2" x bolt diameter or (9) threads minimum except for 0° connections to bridge fascia (Type A).
6. These bridge connections are to be used with Type II or III Sign.
7. Extreme caution shall be exercised when drilling holes for the 1/2" dia. expansion anchors
8. Expansion anchors shall be chosen from the current Qualified Products List.
9. Expansion anchors shall be installed as per manufacturer's recommendations.

OLD VIII-810E

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

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