

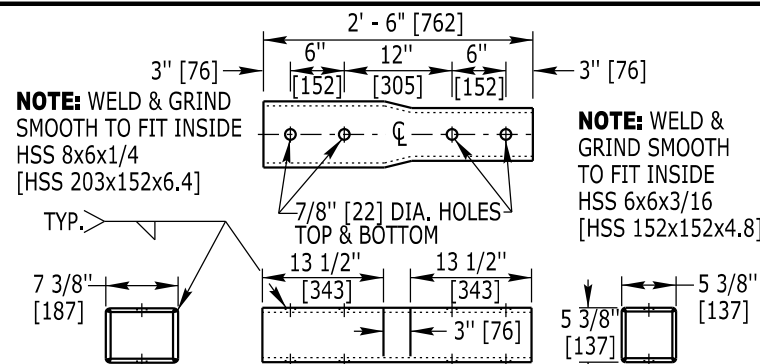
**BOX BEAM FABRICATION INDEX OF SHEETS**

SHEET	TOPIC
01 - 02	Box Beam Standard Components
03	Transition A & B Specialized Components
04 - 05	Transition C, D & E Specialized Components
06 - 09	Transition F Specialized Components
10	End Anchorage Type I & Type II Specialized Components

**GENERAL FABRICATION NOTES**

- All welding must be performed by certified welders using industry standard practices.
- Galvanize all steel components after welding and fabrication is complete.
- Typical rail elements are depicted here. Use standard rail elements whenever possible; certain guardrail layouts may require specially fabricated components.
- Ensure a minimum nominal rail length of 18 ft. [5485] unless otherwise approved by the engineer.

**NOTE:** MPN [ ] = Maintenance Part Number

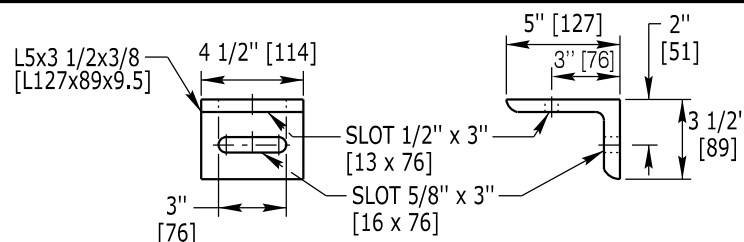


**NOTE:** Fabricate sleeve from 3/8" [10] A36 steel. Cut each top & bottom wall from continuous steel plate. Weld side walls at all junctions.

**C5 MEDIAN BARRIER CONNECTION SLEEVE**

USE (4) - (HS8) BOLTS

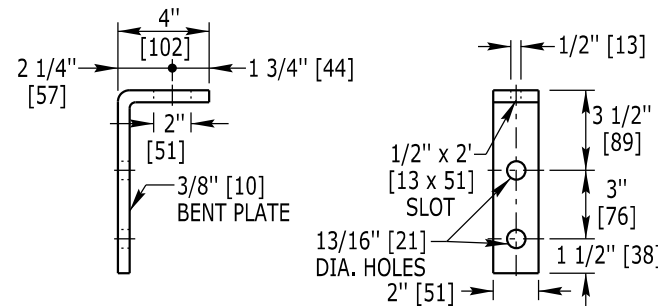
MPN 101323



**B1 STANDARD BOX BEAM SUPPORT ANGLE**

MPN 101278

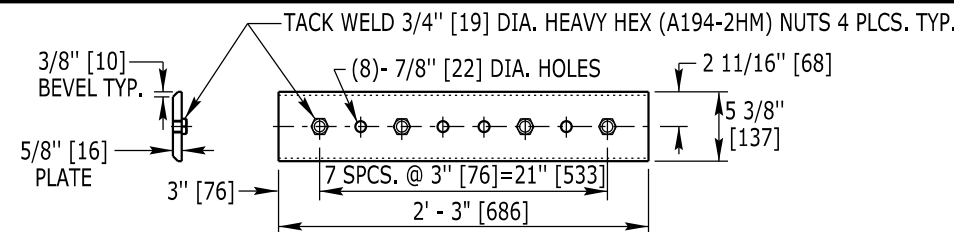
USE (1) - (P1) BOLT AND EITHER (1) - (R7) BOLT FOR HSS 6x6 [HSS 152x152] RAIL OR (1) - (R3) BOLT FOR HSS 6x2 [HSS 152x51] RAIL



**B2 MEDIAN BARRIER SUPPORT BRACKET**

MPN 101246

USE (2) - (M1) & (1) - (R7) BOLTS

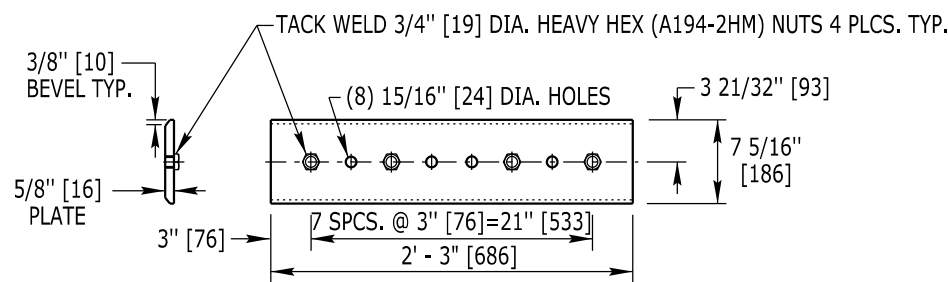


**C1 STANDARD BOX BEAM SPLICE PLATE**

MPN 101258

(Use 2 per splice)

USE (4) - (HS2) BOLTS FOR EACH SPLICE PLATE



**C2 STANDARD BOX BEAM MEDIAN BARRIER SPLICE PLATE**

MPN 101292

(Use 2 per splice)

USE (4) - (HS2) BOLTS FOR EACH SPLICE PLATE

**BOLT REQUIREMENTS**

**3/4" A325 HIGH STRENGTH HEAVY HEX BOLTS (TYP. SPLICE BOLT)**

- (HS2) 3/4" x 2" [19 x 50] (A325) + 1 HARDENED WASHERS (F436) OR AS NOTED
- (HS3) 3/4" x 3 1/2" [19 x 90] (A325) + 2 HARDENED WASHERS (F436) + 1 NUT (A194-2HM)
- (HS4) 3/4" x 4" [19 x 102] (A325) + 2 HARDENED WASHERS (F436) + 1 NUT (A194-2HM)
- (HS7) 3/4" x 7 1/2" [19 x 190] (A325) + 2 HARDENED WASHERS (F436) + 1 NUT (A194-2HM)
- (HS8) 3/4" x 8" [19 x 205] (A325) + 2 HARDENED WASHERS (F436) + 1 NUT (A194-2HM)

**3/4" A307 HEX BOLTS (TYP. MEDIAN POST BOLT)**

- (M1) 3/4" x 1 1/2" [19 x 40] (A307) + 2 WASHERS (F844) + 1 NUT (A563)

**5/8" A325 HEX BOLTS (TRANSITION F MOUNTING BOLT)**

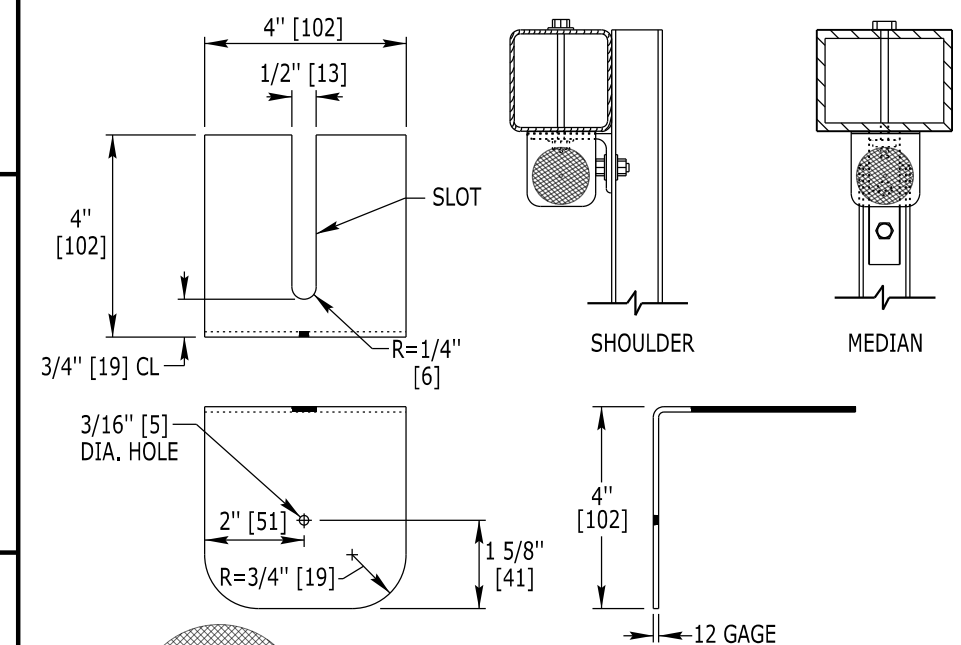
- (TM3) 5/8" x 3 1/2" [16 x 89] (A325) + 2 WASHERS (F436) + 1 NUT (A194-2HM)

**1/2" A307 HEX BOLTS (TYP. POST)**

- (P1) 1/2" x 1 1/2" [13 x 40] (A307) + 2 WASHERS (F844) + 1 NUT (A563)

**3/8" A307 HEX BOLTS (TYP. RAIL BOLT)**

- (R3) 3/8" x 3 1/2" [10 x 90] (A307) + 2 WASHERS (F844) + 1 NUT (A563)
- (R7) 3/8" x 7 1/2" [10 x 190] (A307) + 2 WASHERS (F844) + 1 NUT (A563)



**REFLECTOR TAB DETAIL**

MPN 101342

Manufacture reflector tabs from 12 gage [2.8 thick] steel. Place a reflective tab on every fourth post for standard runs of box beam & 2 tabs (one each direction) for box beam median barrier. Place a standard bolt washer under the head and nut.

Designed by: WBW  
 Drawn by: GLD  
 Checked by: WBW  
 Previous Dwg. No. 606-7B

BOX BEAM STANDARD COMPONENTS



WYOMING DEPARTMENT OF TRANSPORTATION

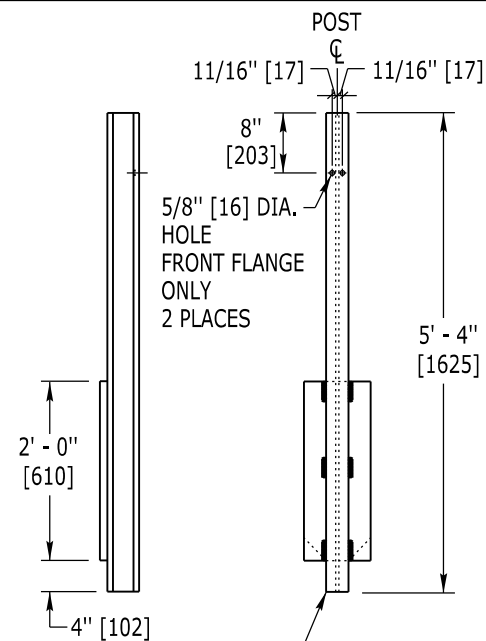


BOX BEAM GUARDRAIL FABRICATION STANDARDS

STANDARD PLAN NUMBER  
**606-7C**  
 SHEET 1 of 10  
 Issued by: ENGINEERING SERVICES  
 Date Issued: SEPTEMBER 2023

STANDARD PLAN

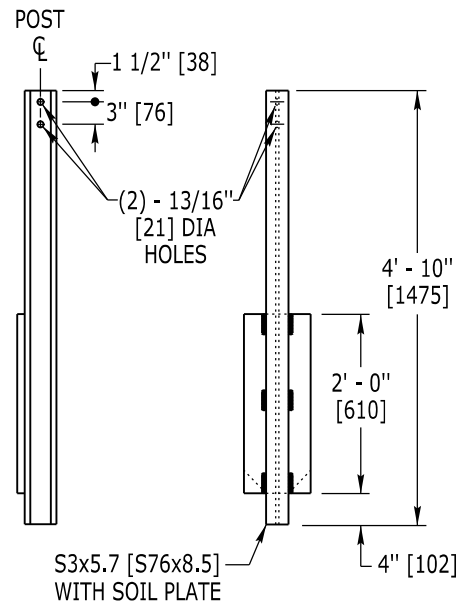
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



**TYPE A POST**

(STANDARD BOX BEAM POST)  
 FOR: 1) STANDARD BOX BEAM GUARDRAIL RUNS  
 2) WYBET POST 2 - 8  
 3) END ANCHORAGE TYPE I, POST 2  
 4) END ANCHORAGE TYPE I, POST 2

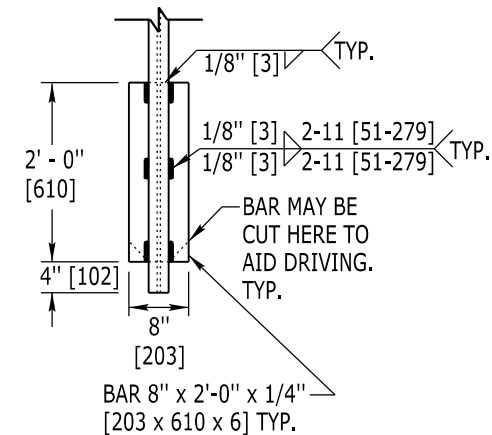
MPN 101280



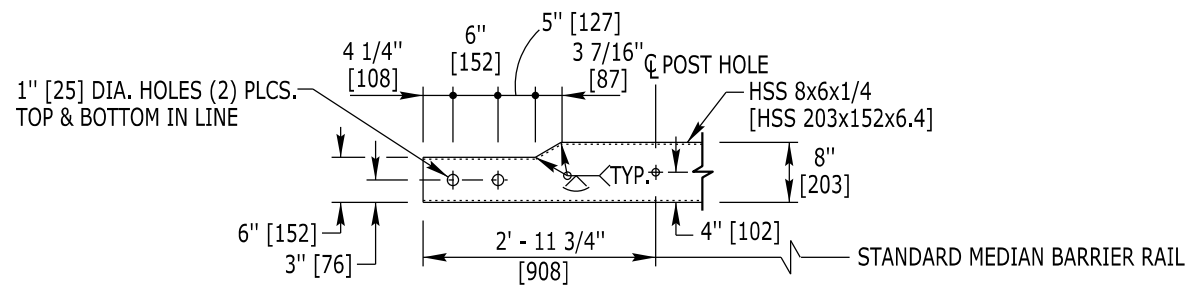
**TYPE E POST**

(STANDARD MEDIAN BARRIER POST)  
 FOR: 1) STANDARD MEDIAN BARRIER RUNS  
 2) WYBET (MB) POST 5 - 8

MPN 101418

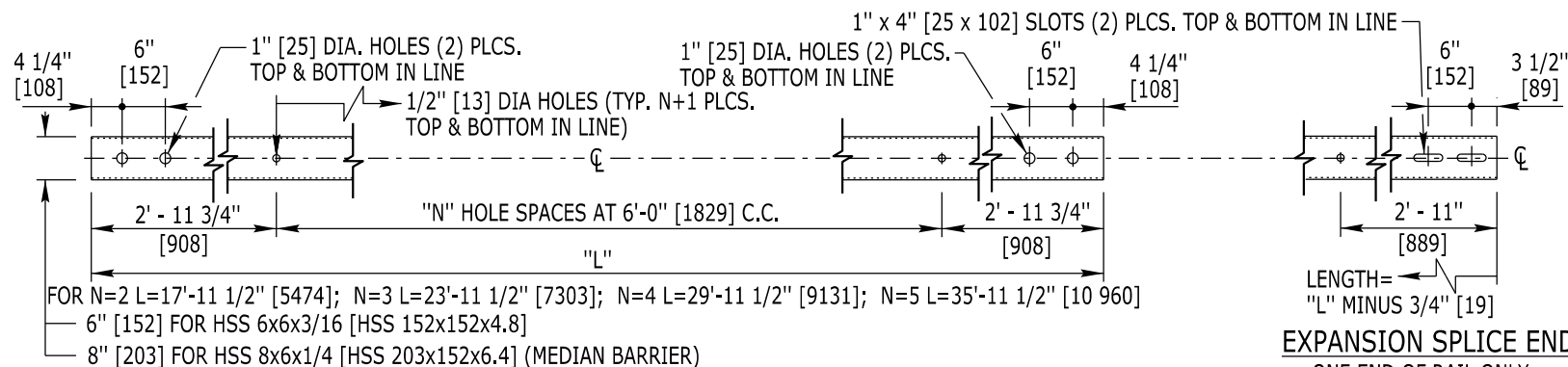


**TYPICAL SOIL PLATE DETAIL**



**EXIT END BRIDGE CONNECTION DETAIL FOR MEDIAN BARRIER RAIL**

(ONE-WAY TRAFFIC BRIDGES ONLY)



**STANDARD RAIL ELEMENTS (6'-0" [1829] POST SPACING) FOR:**

- 1) BOX BEAM GUARDRAIL HSS 6x6x3/16 [HSS 152x152x4.8]
- 2) BOX BEAM MEDIAN BARRIER (MB) HSS 8x6x1/4 [HSS 203x152x6.4]

MPN 101255

**EXPANSION SPLICE END**  
 ONE END OF RAIL ONLY.  
 USE REQ'D FOR BOTH RAILS AT THE EXPANSION SPLICE.

Designed by: WBW  
 Drawn by: GLD  
 Checked by: WBW  
 Previous Dwg. No. 606-7B

**BOX BEAM STANDARD COMPONENTS**

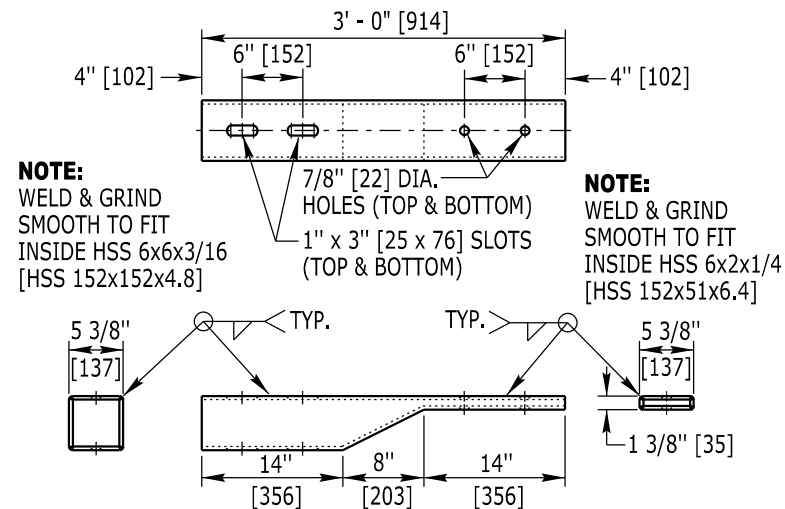
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



**BOX BEAM GUARDRAIL FABRICATION STANDARDS**

STANDARD PLAN

STANDARD PLAN NUMBER  
**606-7C**  
 SHEET 2 of 10  
 Issued by: ENGINEERING SERVICES  
 Date Issued: SEPTEMBER 2023



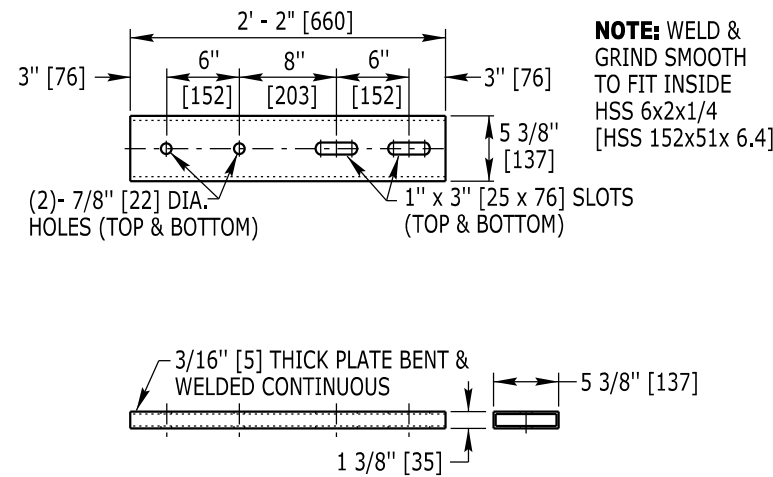
**NOTE:** WELD & GRIND SMOOTH TO FIT INSIDE HSS 6x6x3/16 [HSS 152x152x4.8]

**NOTE:** WELD & GRIND SMOOTH TO FIT INSIDE HSS 6x2x1/4 [HSS 152x51x6.4]

**NOTE:** Fabricate sleeve from 3/8" [10] A36 steel. Cut top & side walls to shape. Bend bottom wall as shown.

**C3 UPPER BRIDGE RAIL CONNECTION SLEEVE** [MPN 101287]

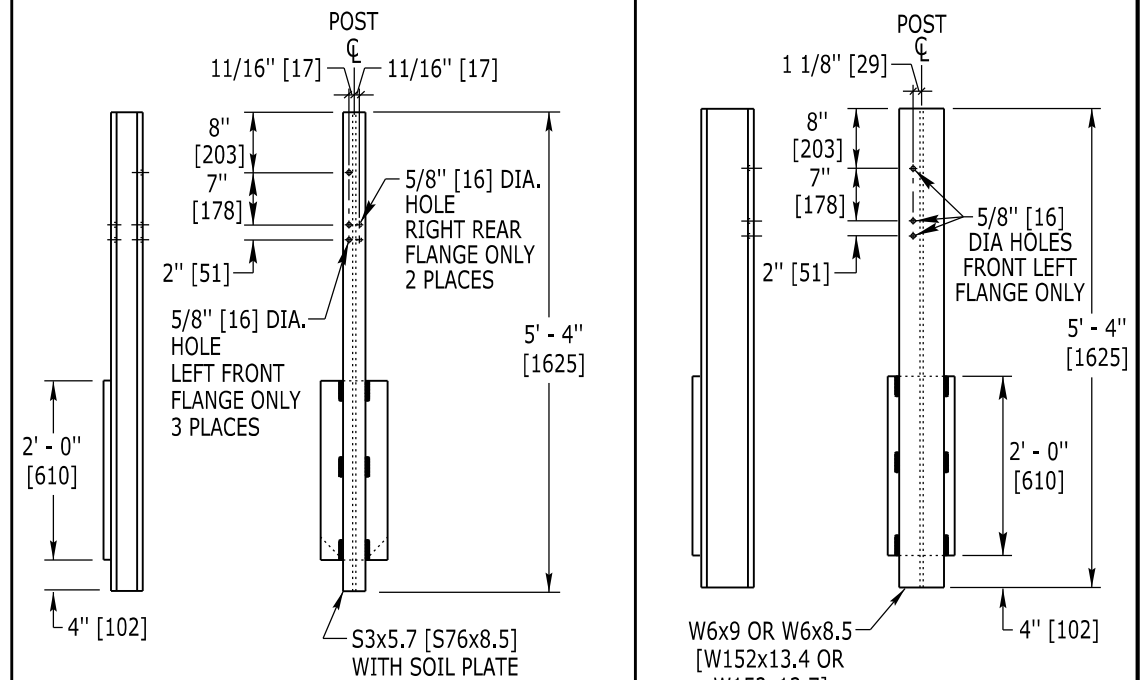
FOR USE WITH TRANSITIONS A & B  
USE (2) - (HS3) & (2) - (HS8) BOLTS



**NOTE:** WELD & GRIND SMOOTH TO FIT INSIDE HSS 6x2x1/4 [HSS 152x51x6.4]

**C4 LOWER BRIDGE RAIL CONNECTION SLEEVE** [MPN 100241]

FOR USE WITH TRANSITIONS A & B  
USE (4) - (HS3) BOLTS

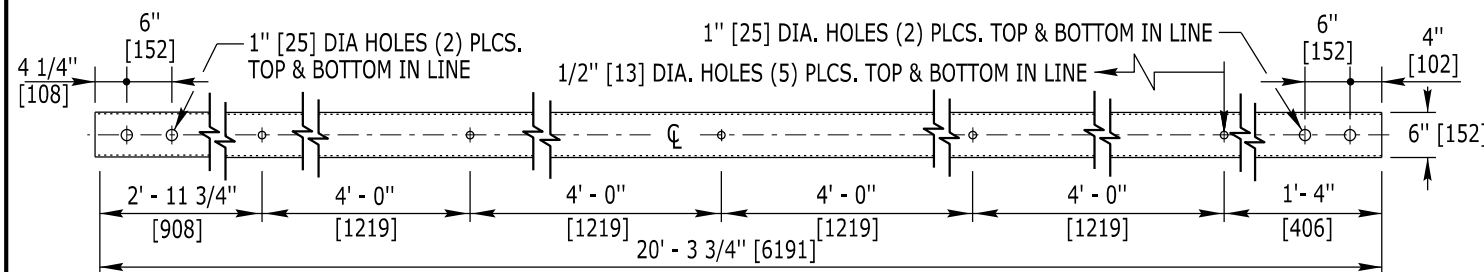


**TYPE B POST** [MPN 101281]

FOR USE WITH TRANSITIONS A & B  
POSTS T7 - T9

**TYPE G POST** [MPN ]

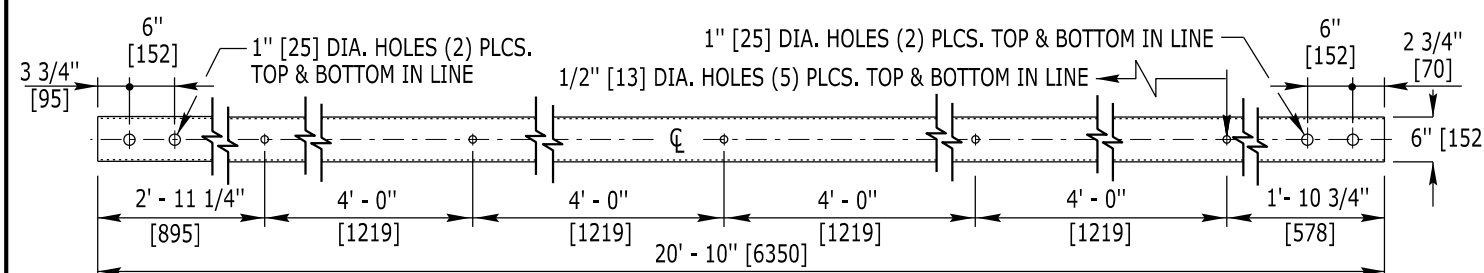
FOR USE WITH TRANSITIONS A & B  
POSTS T1 - T6



**BRIDGE RAIL CONNECTION - TRANSITION SECT. (1st UPPER TUBE) HSS 6x6x3/16 [HSS 152x152x4.8]**

FOR USE WITH TRANSITIONS A & B

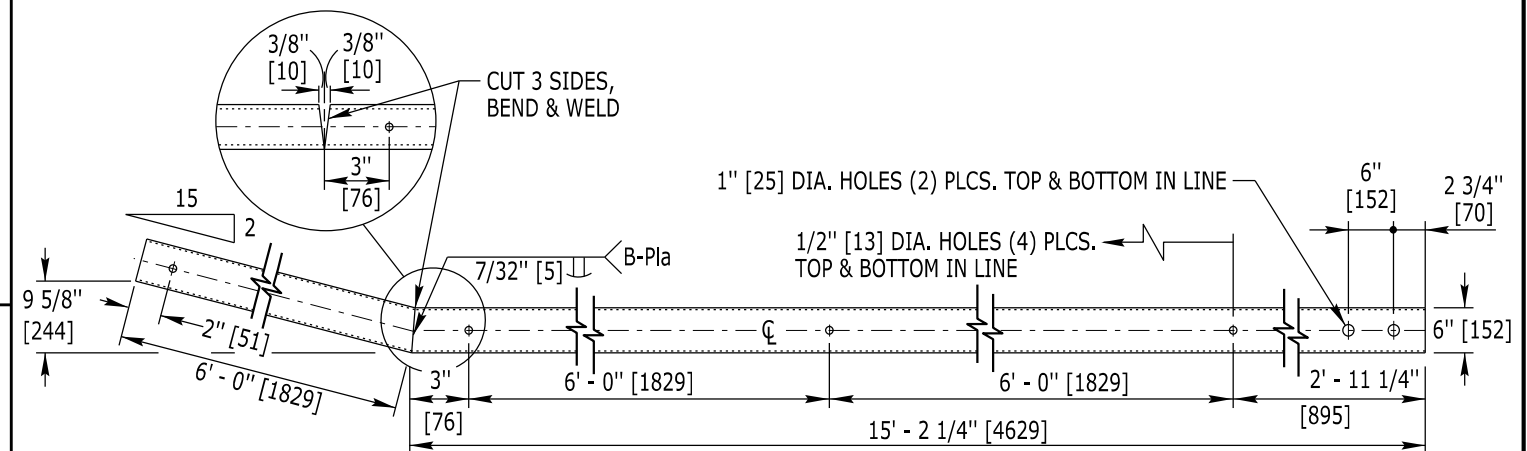
[MPN 100242]



**BRIDGE RAIL CONNECTION - TRANSITION SECT. (1st LOWER TUBE) HSS 6x2x1/4 [HSS 152x51x6.4]**

FOR USE WITH TRANSITIONS A & B

[MPN ]



**BRIDGE RAIL CONNECTION - TRANSITION SECT. (FLARED LOWER TUBE) HSS 6x2x1/4 [HSS 152x51x6.4]**

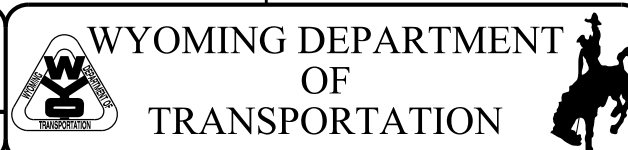
FOR USE WITH TRANSITIONS A & B

[MPN 100265]

Designed by: WBW  
Drawn by: GLD  
Checked by: WBW  
Previous Dwg. No. 606-7B

TRANSITION A & B SPECIALIZED COMPONENTS

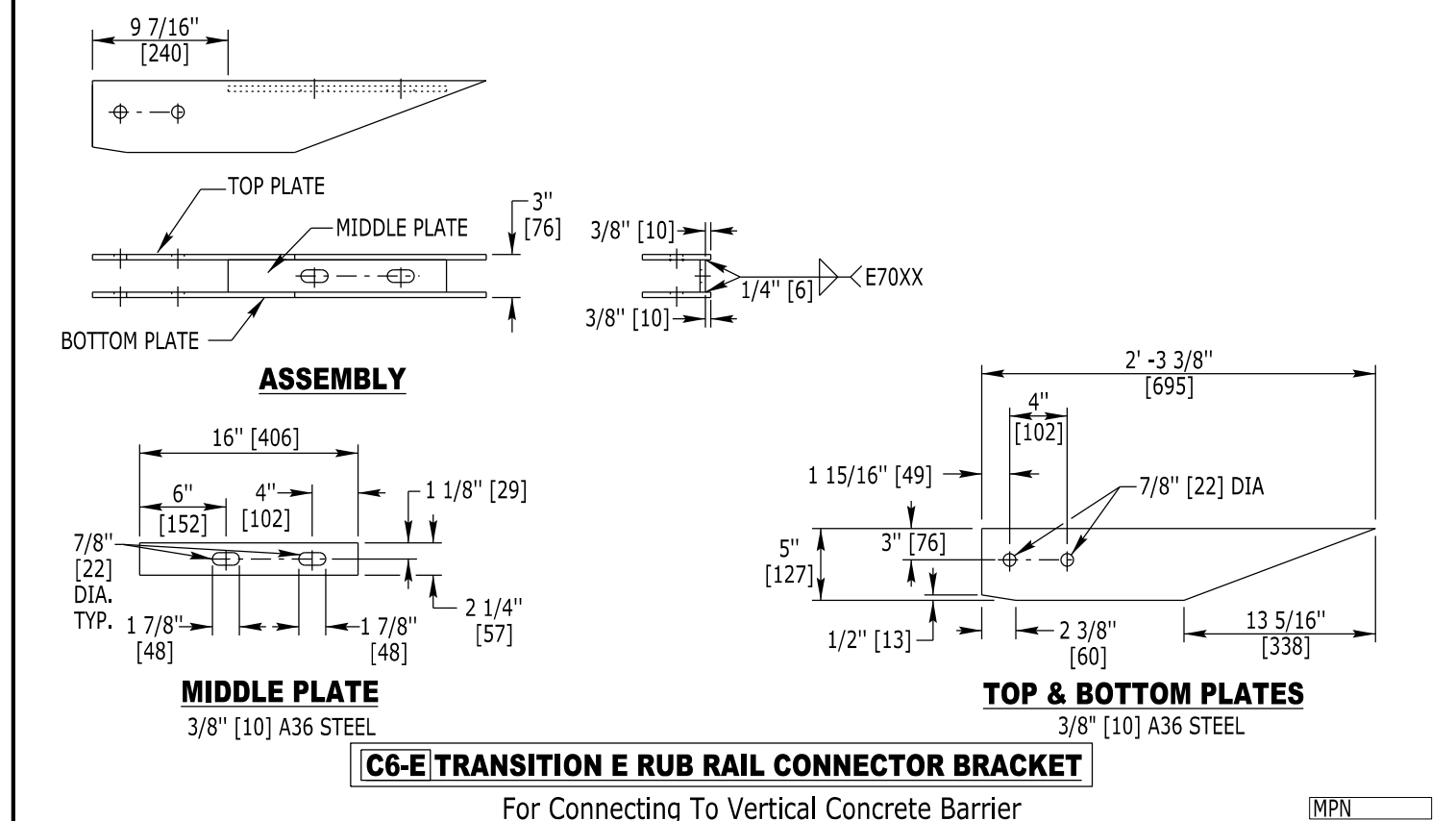
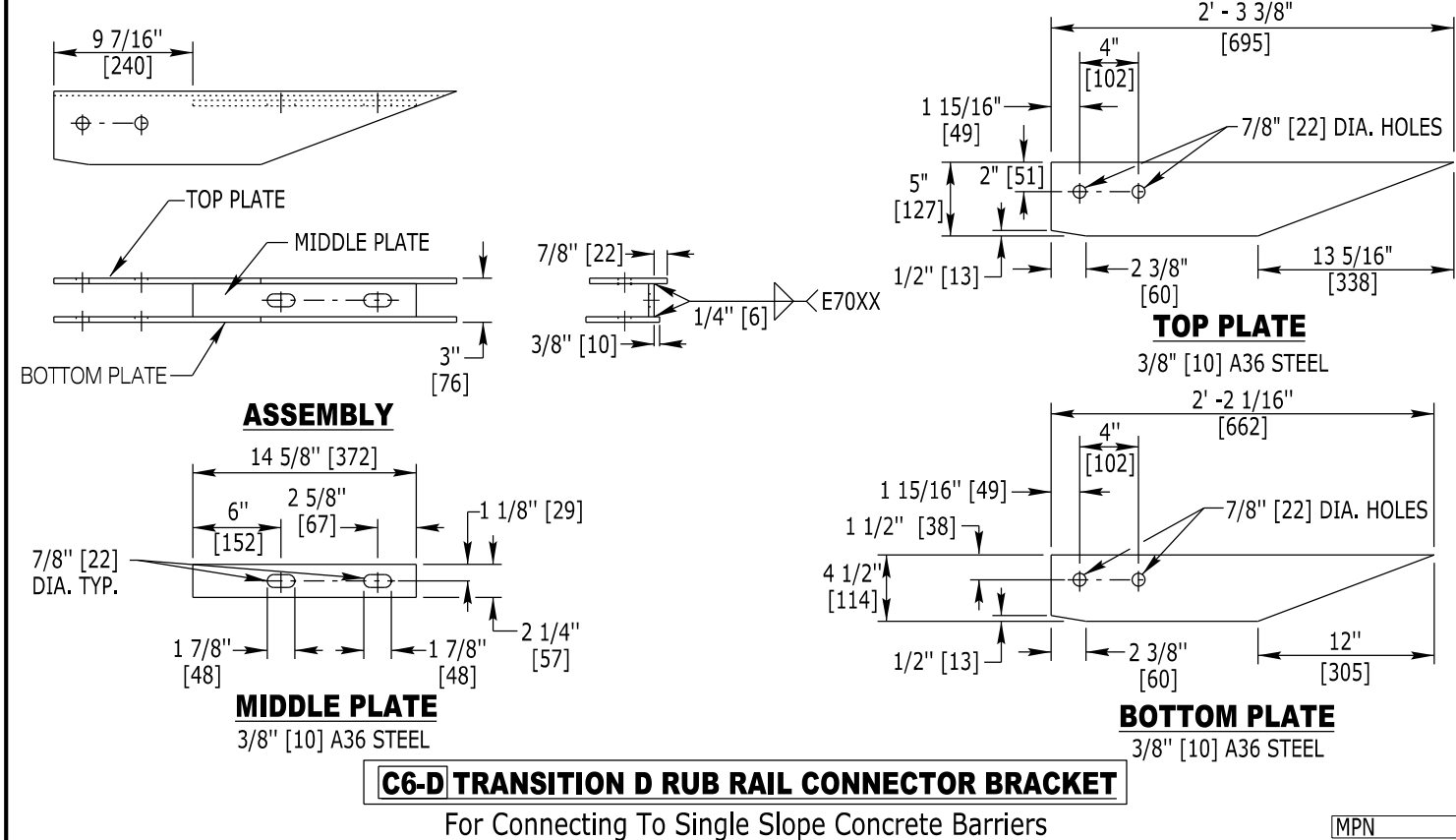
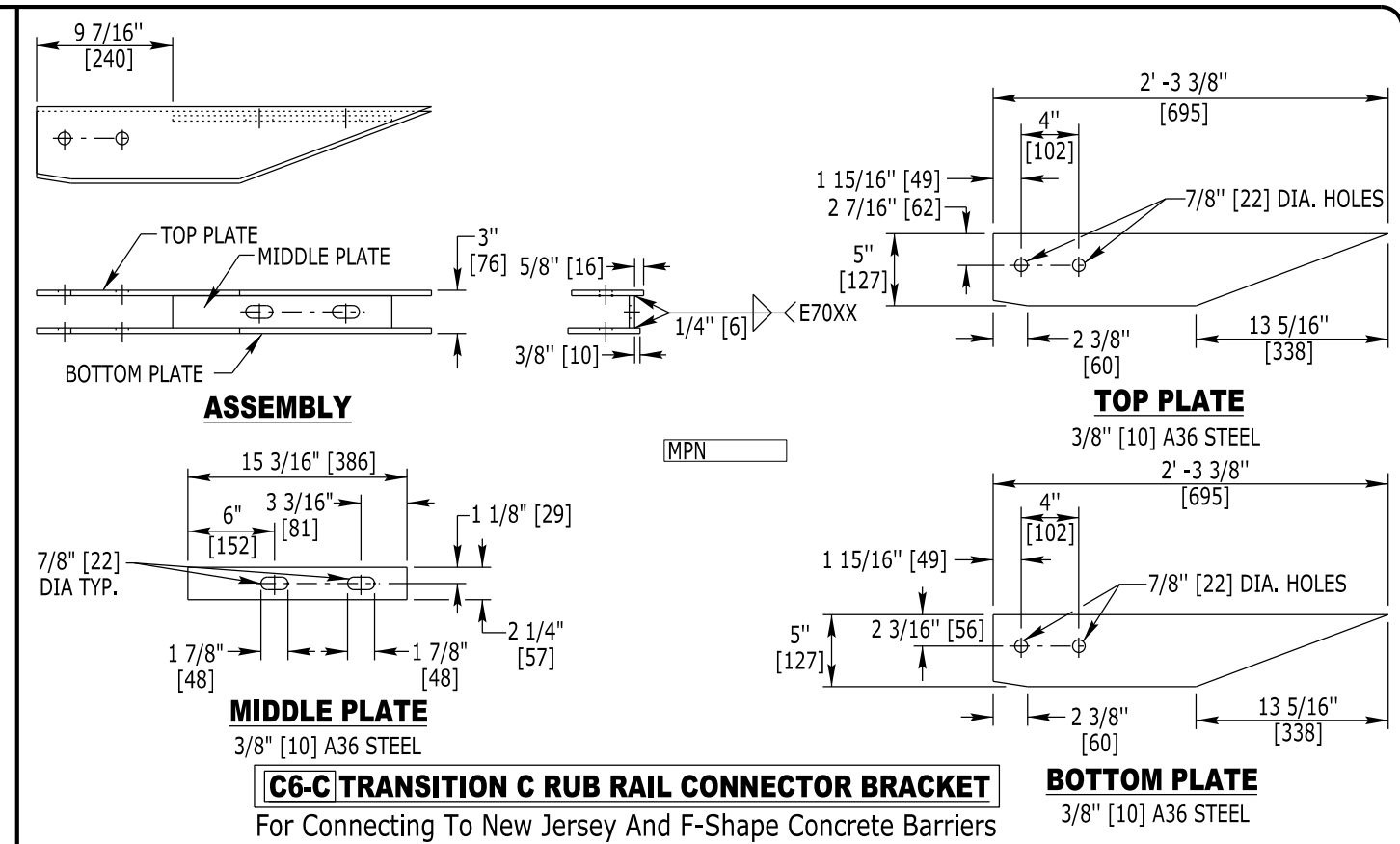
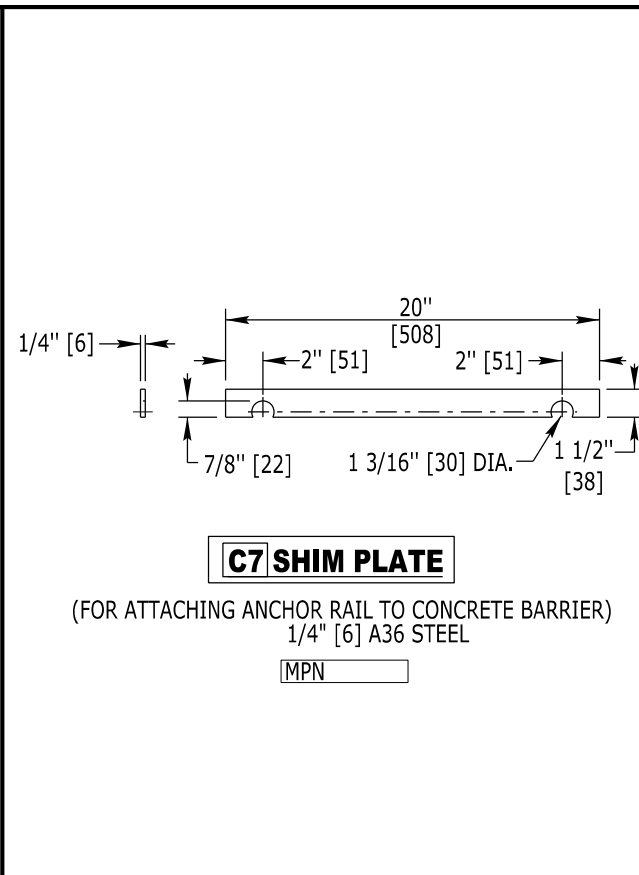
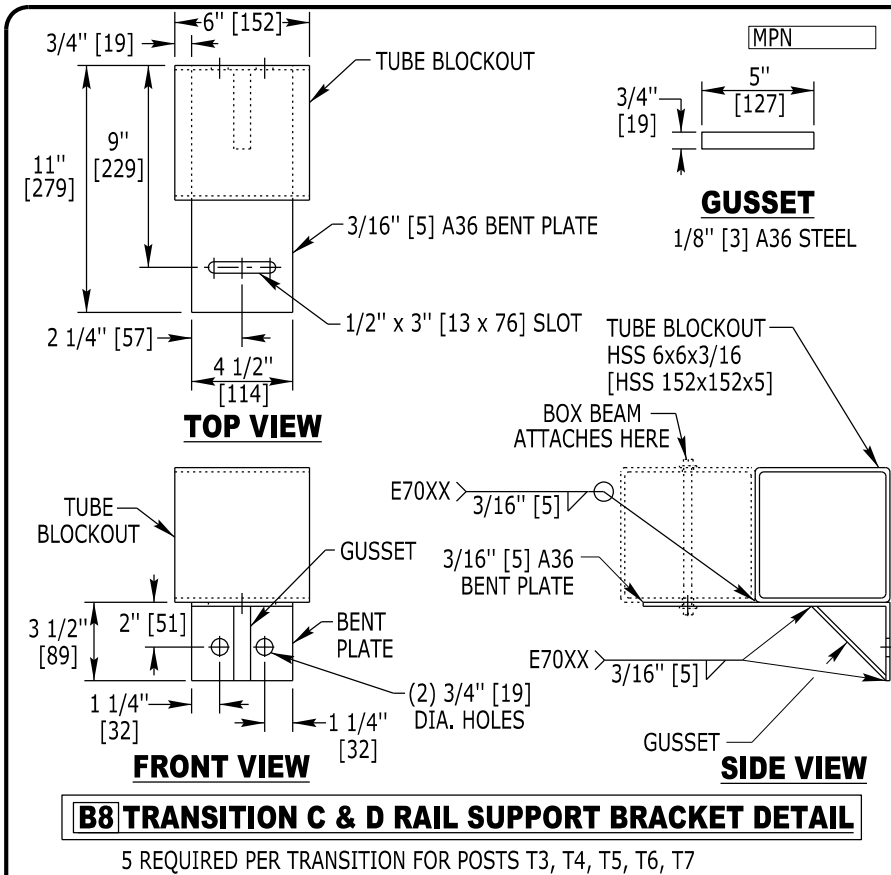
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.

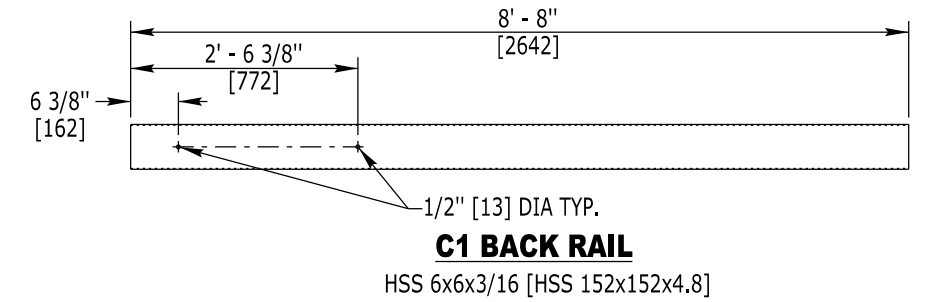
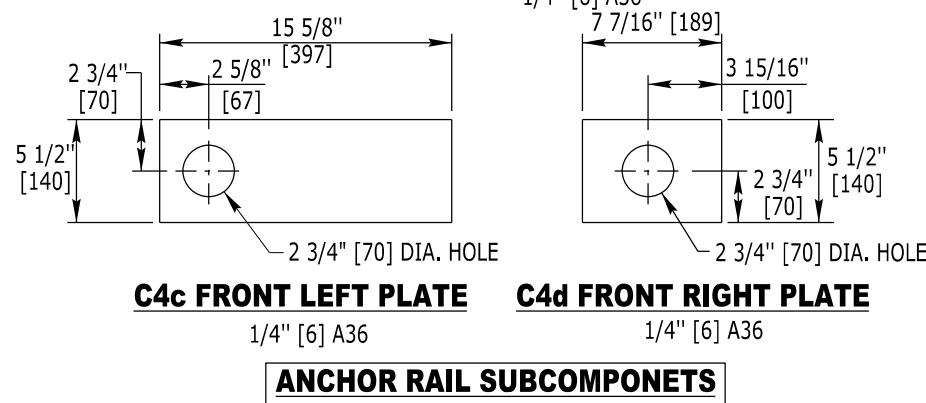
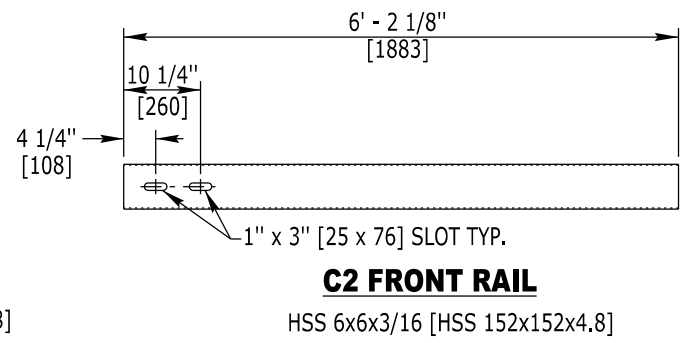
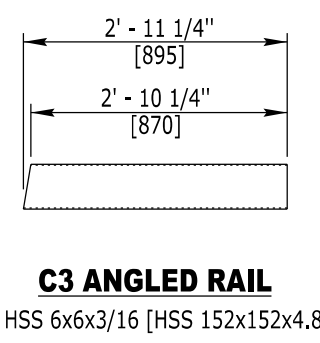
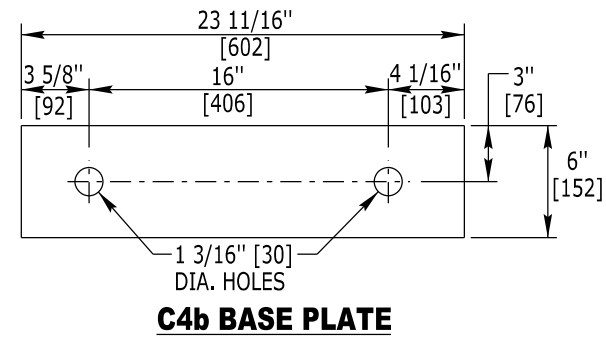
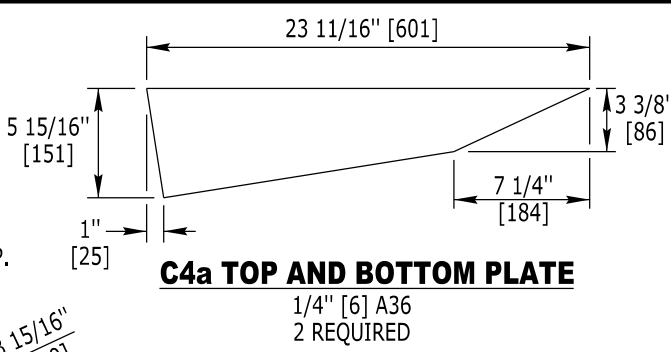
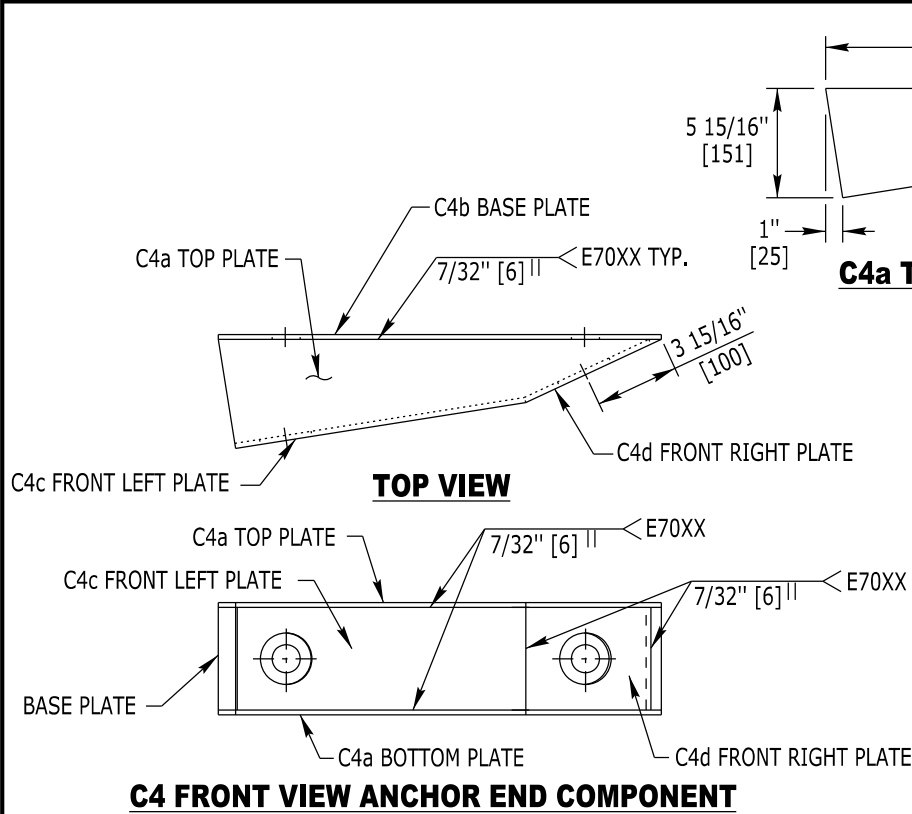
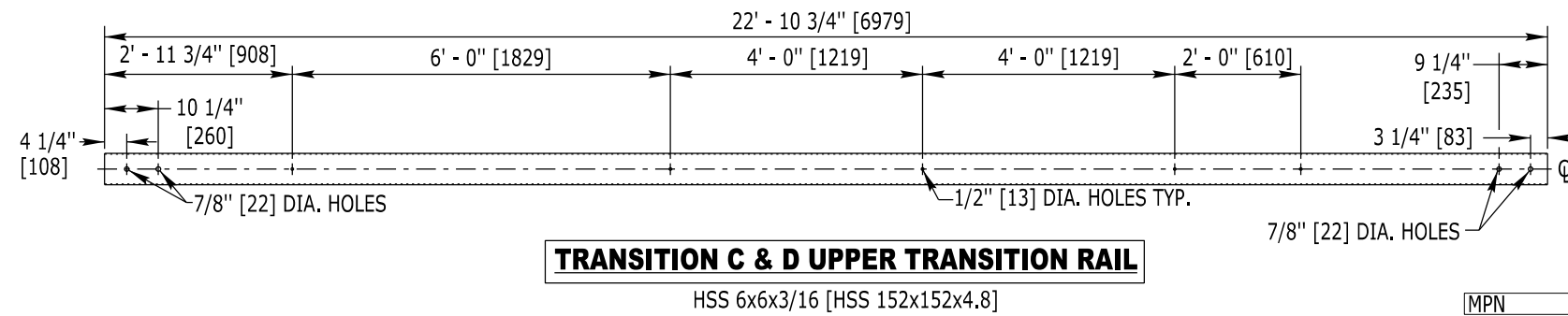
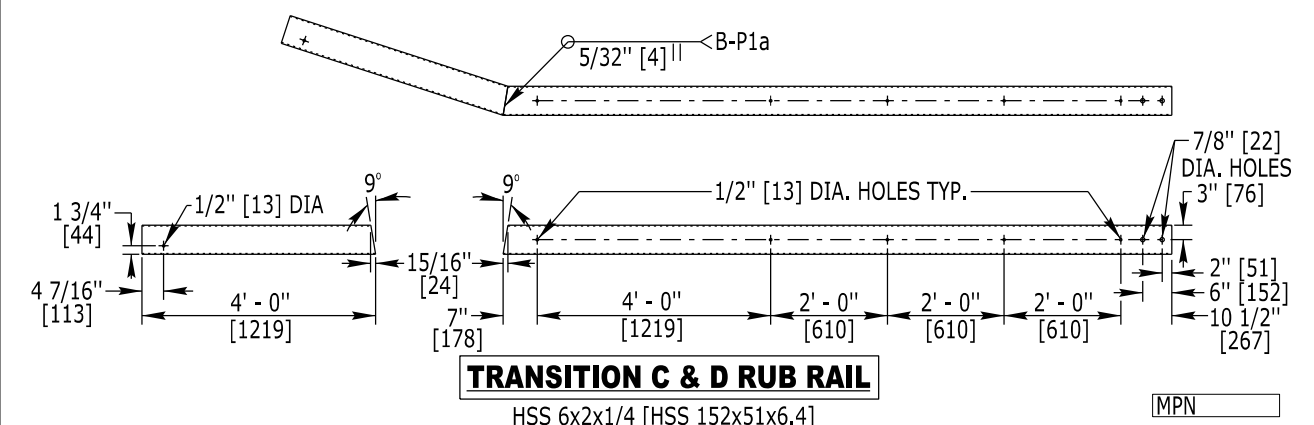
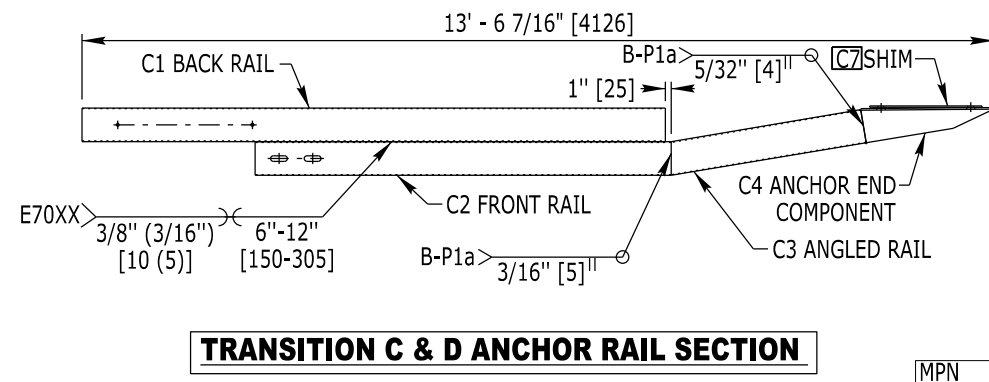
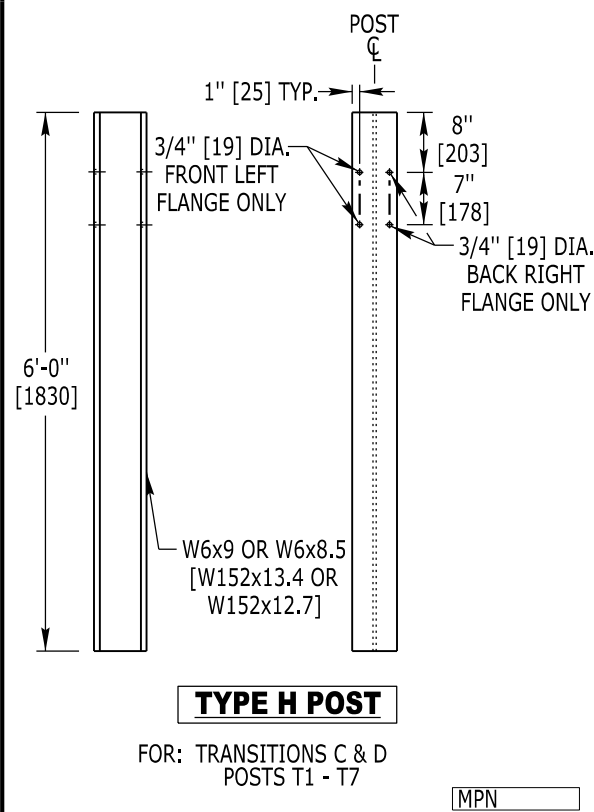


BOX BEAM GUARDRAIL FABRICATION STANDARDS

STANDARD PLAN

STANDARD PLAN NUMBER  
**606-7C**  
SHEET 3 of 10  
Issued by: ENGINEERING SERVICES  
Date Issued: SEPTEMBER 2023

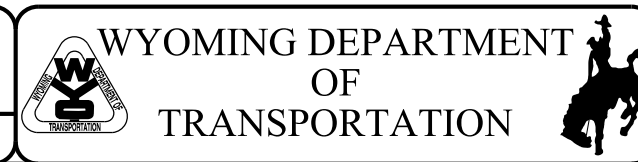




Designed by: WBW  
Drawn by: GLD  
Checked by: WBW  
Previous Dwg. No. 607-7B

**TRANSITION C, D & E SPECIALIZED COMPONENTS**

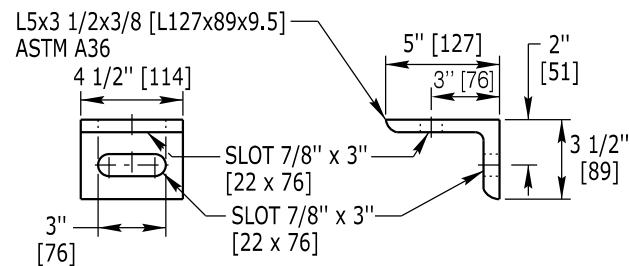
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



**BOX BEAM GUARDRAIL FABRICATION STANDARDS**

STANDARD PLAN NUMBER  
**606-7C**  
SHEET 5 of 10  
Issued by: ENGINEERING SERVICES  
Date Issued: SEPTEMBER 2023

STANDARD PLAN

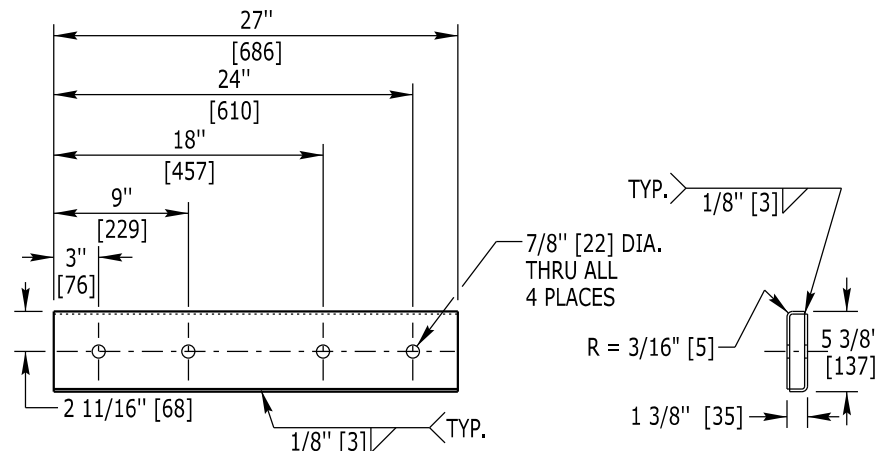


**B3 TRANSITION F SUPPORT BRACKET**

USE (1) - (HS2) BOLT AND EITHER  
(1) - (HS8) BOLT FOR HSS 6x6 [HSS 152x152] RAIL  
OR (1) - (HS4) BOLT FOR HSS 6x2 [HSS 152x51] RAIL

MPN

**NOTE:** WELD & GRIND SMOOTH  
TO FIT INSIDE HSS 6x2x1/4  
[HSS 152x51x 6.4]

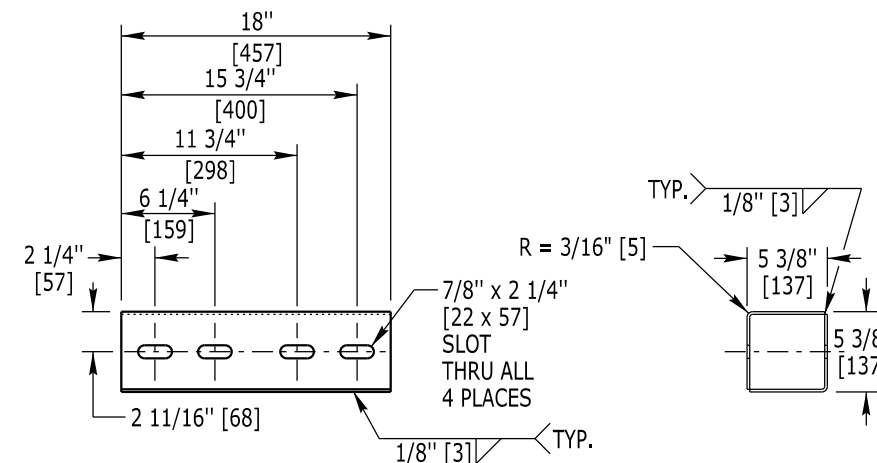


**C8 RUB RAIL SPLICE SLEEVE**

ASTM A36 PLATE,  
27" x 3/16" [686 x 5]  
USE (4) - (HS3) BOLTS

MPN

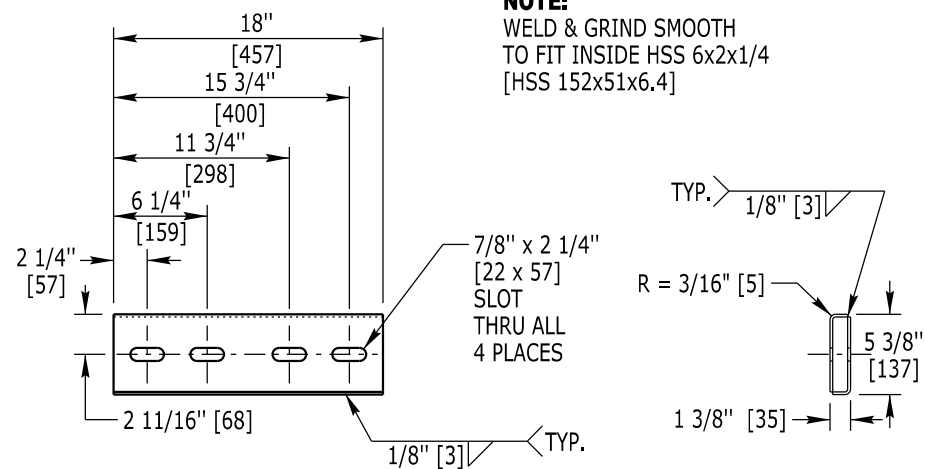
**NOTE:**  
WELD & GRIND SMOOTH  
TO FIT INSIDE HSS 6x6x3/16  
[HSS 152x152x4.8]



**C9 UPPER BRIDGE RAIL CONNECTION SLEEVE**

ASTM A36 PLATE,  
18" x 3/16" [457 x 5]  
USE (4) - (HS7) BOLTS

MPN



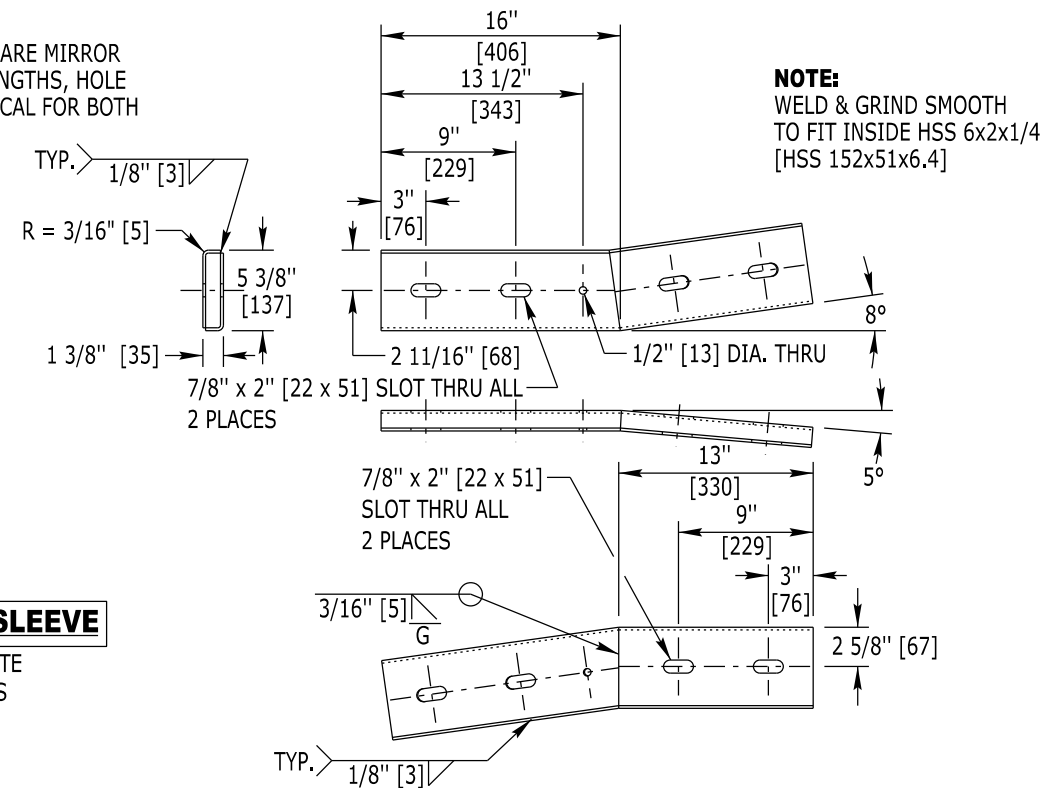
**C10 LOWER BRIDGE RAIL CONNECTION SLEEVE**

ASTM A36 PLATE,  
18" x 3/16" [457 x 5]  
USE (4) - (HS3) BOLTS

MPN

**NOTE:**  
WELD & GRIND SMOOTH  
TO FIT INSIDE HSS 6x2x1/4  
[HSS 152x51x6.4]

**NOTE:**  
RIGHT SIDE PART SHOWN. THE PARTS ARE MIRROR  
IMAGES OF EACH OTHER, SO PLATE LENGTHS, HOLE  
SIZES AND HOLE LOCATIONS ARE TYPICAL FOR BOTH  
PARTS.



**C11 RUB RAIL FLARE SLEEVE**

3/16" [5] ASTM A36 PLATE  
USE (4) - (HS3) BOLTS

MPN

**NOTE:**  
WELD & GRIND SMOOTH  
TO FIT INSIDE HSS 6x2x1/4  
[HSS 152x51x6.4]

Designed by: WBW  
Drawn by: GLD  
Checked by: WBW  
Previous Dwg. No. 606-7B

TRANSITION F SPECIALIZED COMPONENTS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



WYOMING DEPARTMENT  
OF  
TRANSPORTATION



BOX BEAM GURADRAIL FABRICATION STANDARDS

STANDARD PLAN

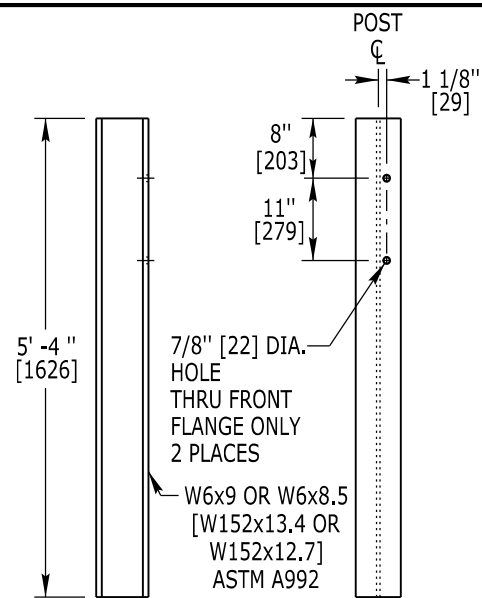
STANDARD PLAN NUMBER

606-7C

SHEET 6 of 10

Issued by: ENGINEERING SERVICES  
Date Issued: SEPTEMBER 2023

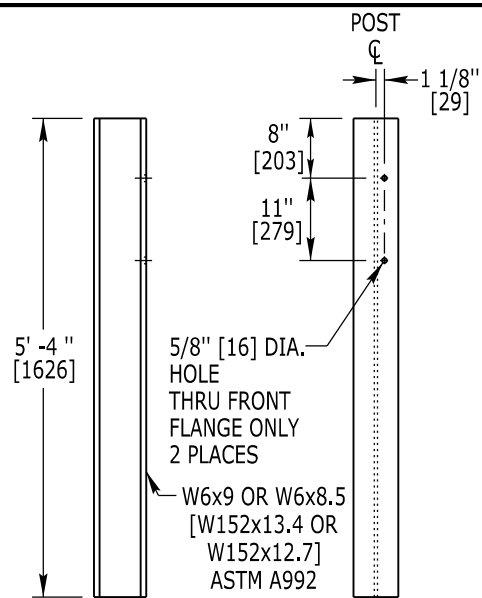




**TYPE J POST**

FOR: TRANSITION F POSTS T1 - T5

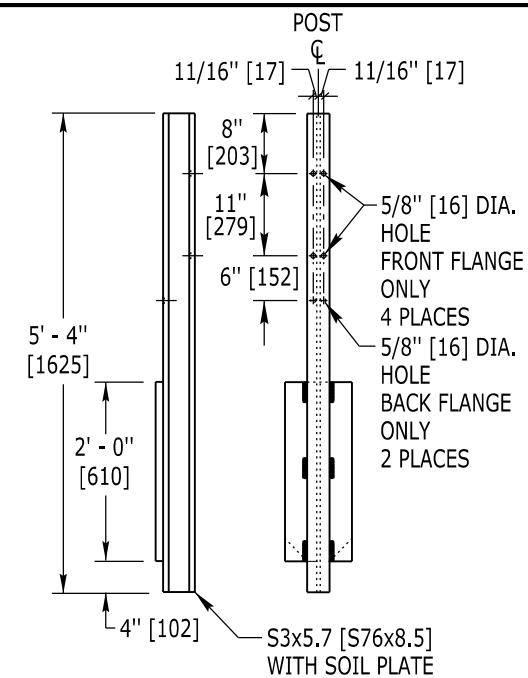
MPN



**TYPE K POST**

FOR: TRANSITION F POSTS T6 - T9

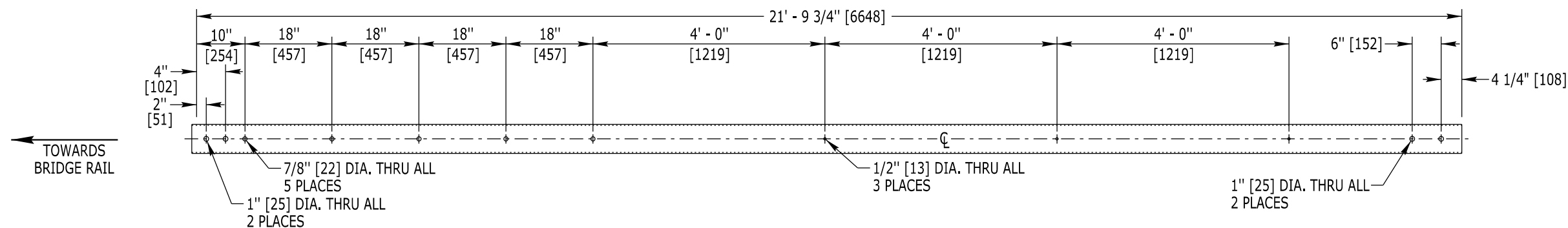
MPN



**TYPE L POST**

FOR: TRANSITION F POSTS T10 - T12

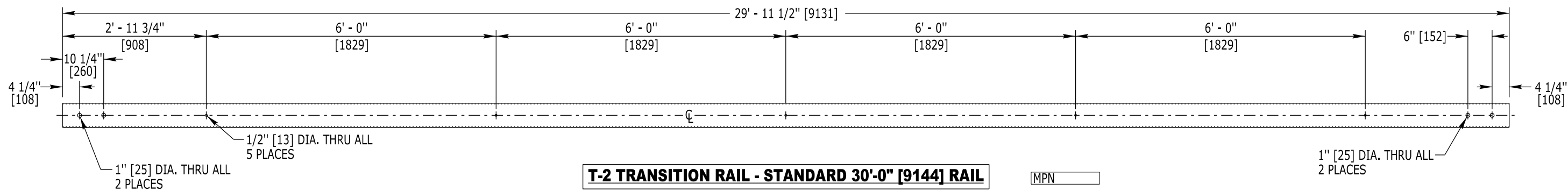
MPN



**T-1 TRANSITION RAIL**

HSS 6x6x3/16 [HSS 152x152x4.8] ASTM A500 Grade B

MPN



**T-2 TRANSITION RAIL - STANDARD 30'-0" [9144] RAIL**

HSS 6x6x3/16 [HSS 152x152x4.8] ASTM A500 Grade B

MPN

Designed by: WBW  
 Drawn by: GLD  
 Checked by: WBW  
 Previous Dwg. No. 606-7B

TRANSITION F SPECIALIZED COMPONENTS

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



WYOMING DEPARTMENT OF TRANSPORTATION

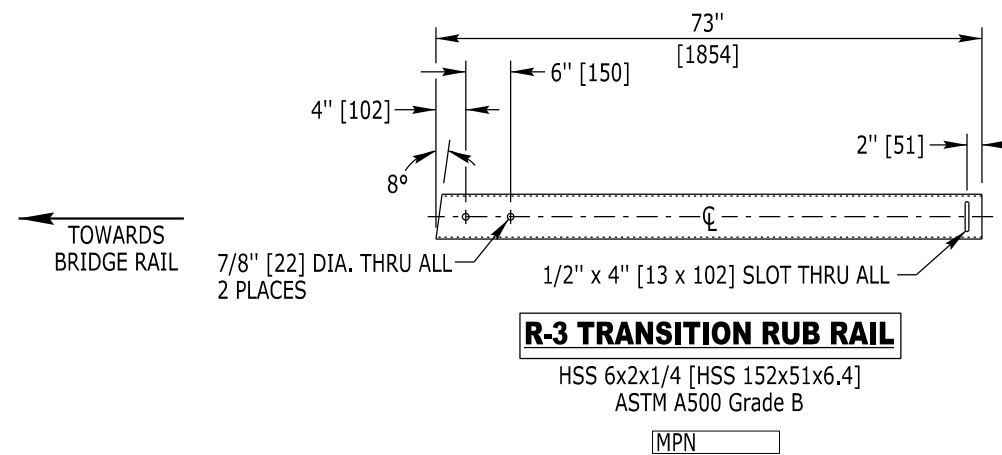
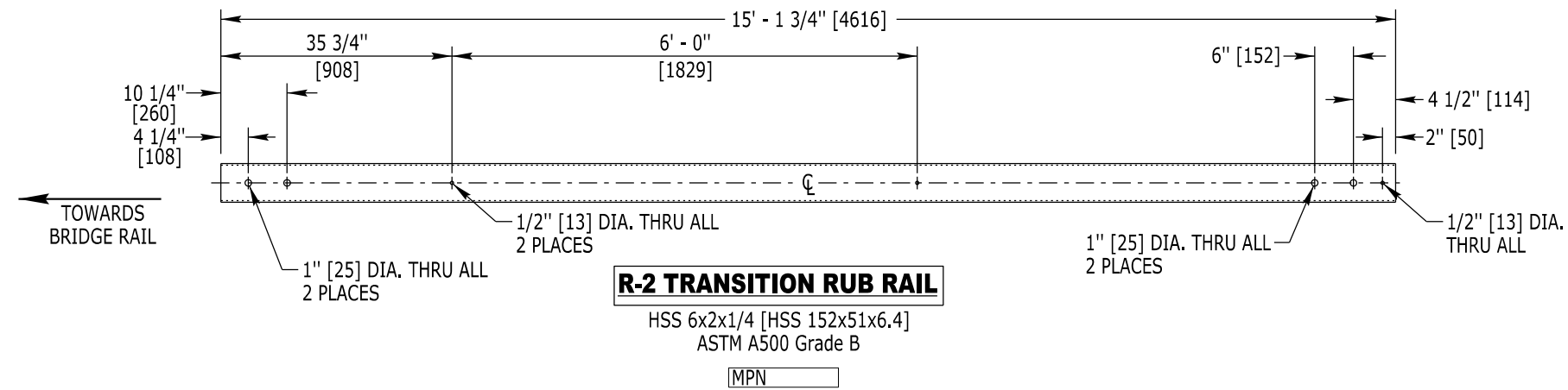
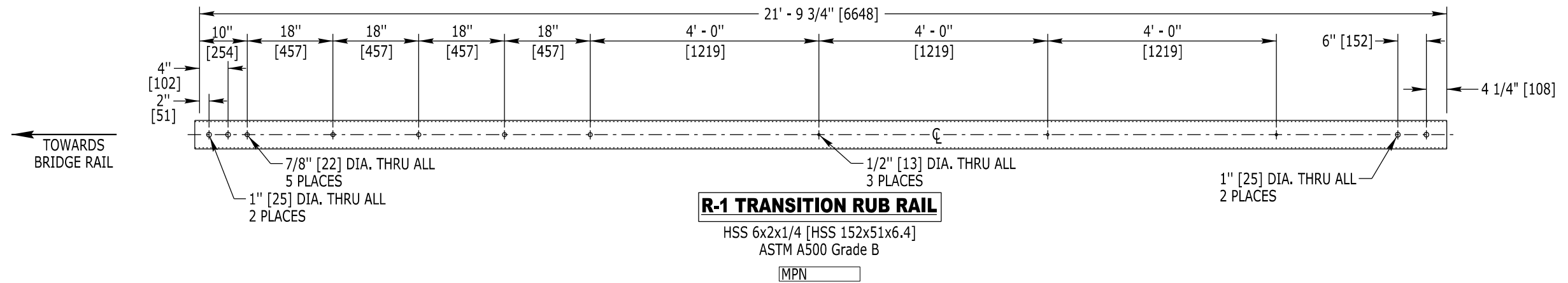


BOX BEAM GUARDRAIL FABRICATION STANDARDS

STANDARD PLAN

STANDARD PLAN NUMBER  
**606-7C**  
 SHEET 8 of 10  
 Issued by: ENGINEERING SERVICES  
 Date Issued: SEPTEMBER 2023





Designed by: WBW  
 Drawn by: GLD  
 Checked by: WBW  
 Previous Dwg. No. 606-7B

TRANSITION F SPECIALIZED COMPONENTS

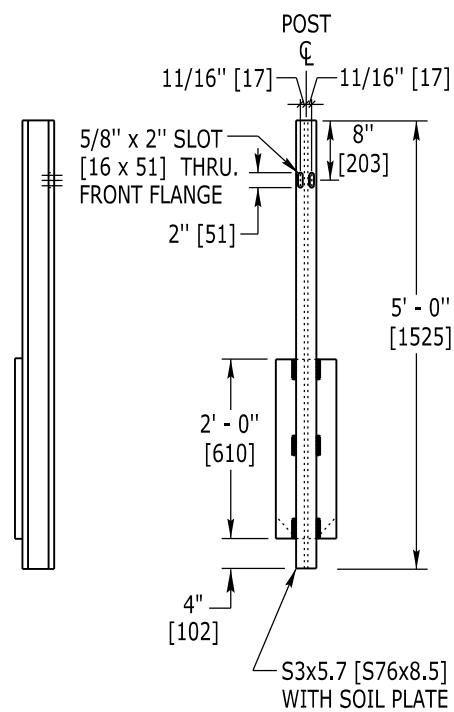
Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



BOX BEAM GUARDRAIL FABRICATION STANDARDS

STANDARD PLAN

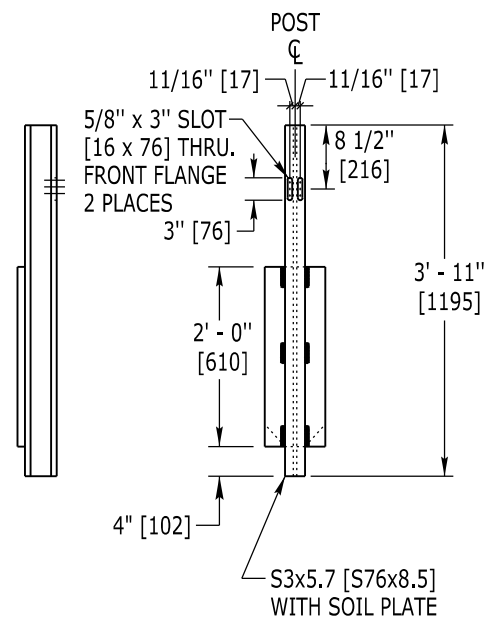
STANDARD PLAN NUMBER  
**606-7C**  
 SHEET 9 of 10  
 Issued by: ENGINEERING SERVICES  
 Date Issued: SEPTEMBER 2023



**TYPE C POST**

FOR: BB END ANCHORAGE TYPE I, POST 1

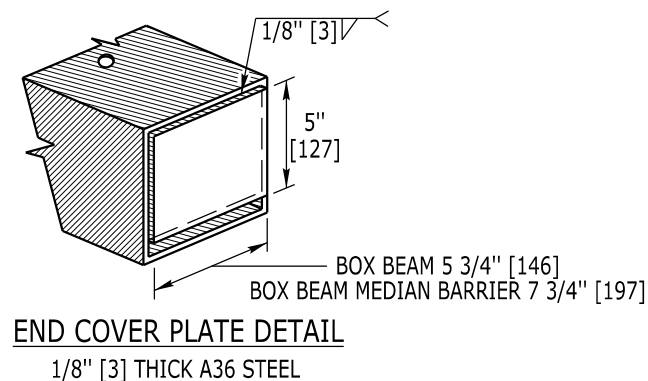
MPN 101416



**TYPE D POST**

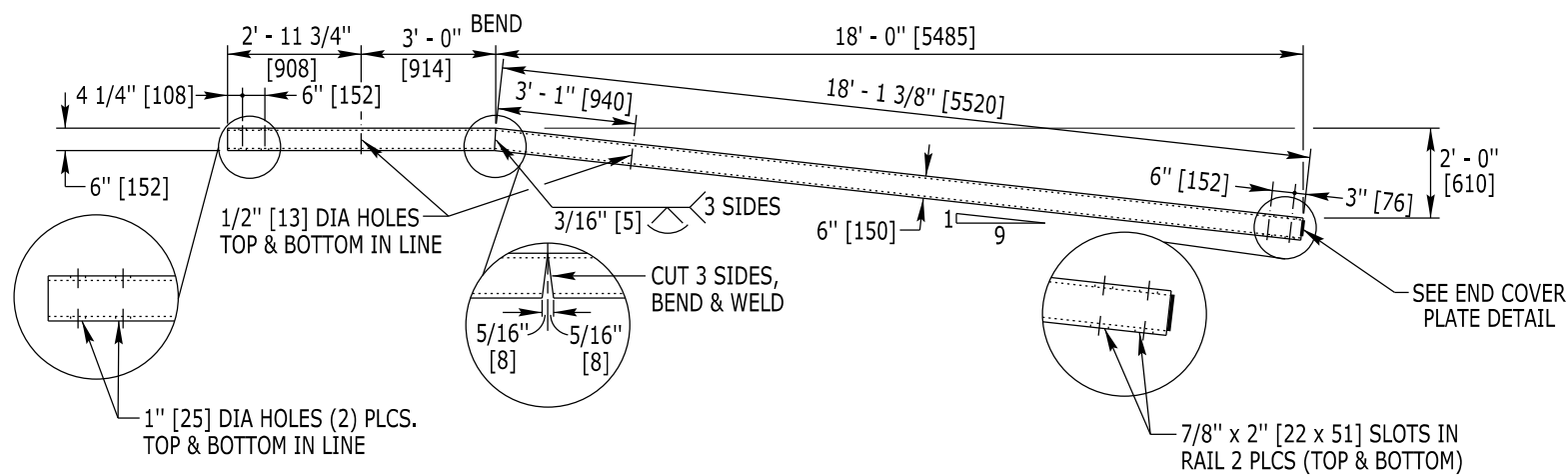
FOR: BB END ANCHORAGE TYPE II, POST 1

MPN 101417



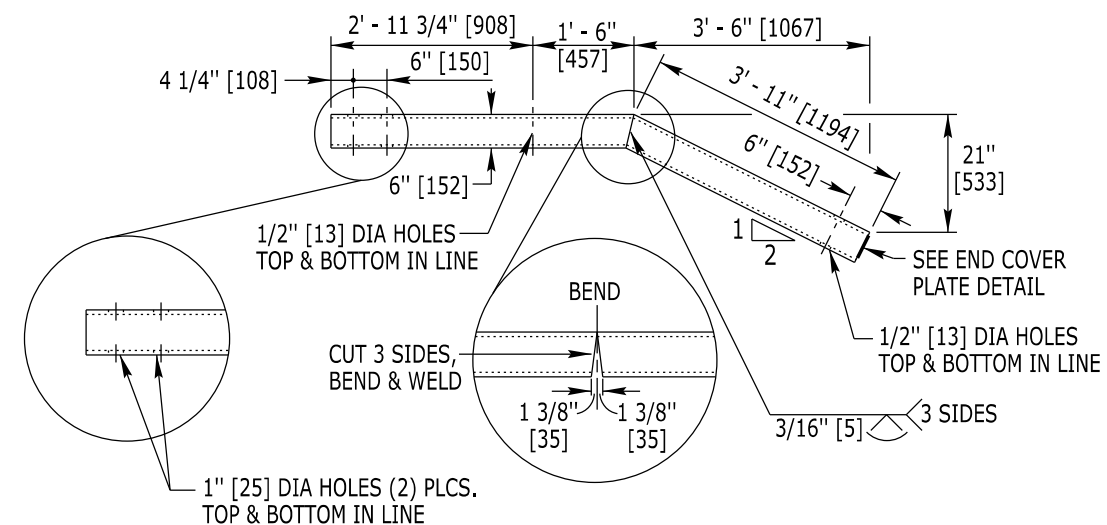
**END COVER PLATE DETAIL**

1/8" [3] THICK A36 STEEL



**END ANCHORAGE TYPE I-**

BOX BEAM GUARDRAIL - HSS 6x6x3/16 [HSS 152x152x4.8] MPN 101256  
 BOX BEAM MEDIAN BARRIER - HSS 8x6x1/4 [HSS 203x152x6.4] MPN 101262



**END ANCHORAGE TYPE II-**

BOX BEAM GUARDRAIL - HSS 6x6x3/16 [HSS 152x152x4.8] MPN 101257  
 BOX BEAM MEDIAN BARRIER - HSS 8x6x1/4 [HSS 203x152x6.4] MPN

Designed by: WBW  
 Drawn by: GLD  
 Checked by: WBW  
 Previous Dwg. No. 606-7B

**END ANCHORAGE TYPE I & TYPE II SPECILAIZED COMPONENTS**

Note: Units shown in brackets [ ] are metric and are in millimeters (mm) unless other units are shown.



WYOMING DEPARTMENT OF TRANSPORTATION



**BOX BEAM GUARDRAIL FABRICATION STANDARDS**

STANDARD PLAN

STANDARD PLAN NUMBER  
**606-7C**  
 SHEET 10 of 10  
 Issued by: ENGINEERING SERVICES  
 Date Issued: SEPTEMBER 2023