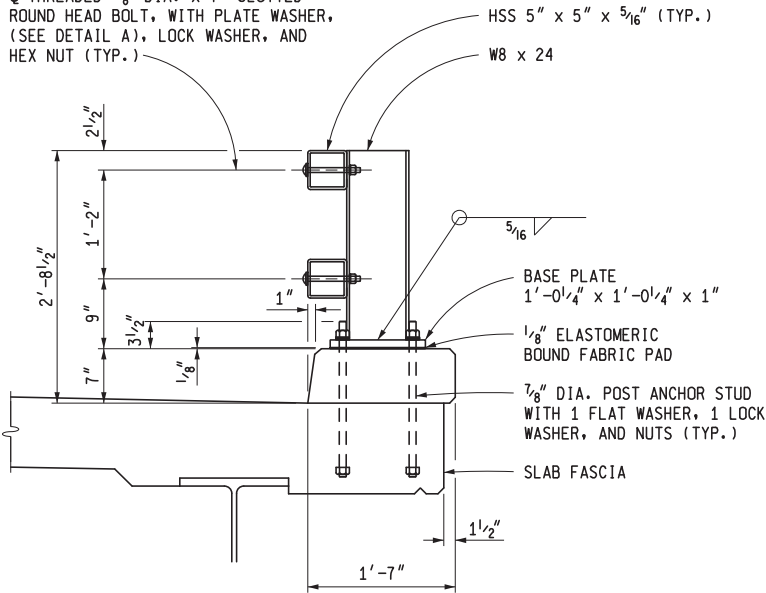
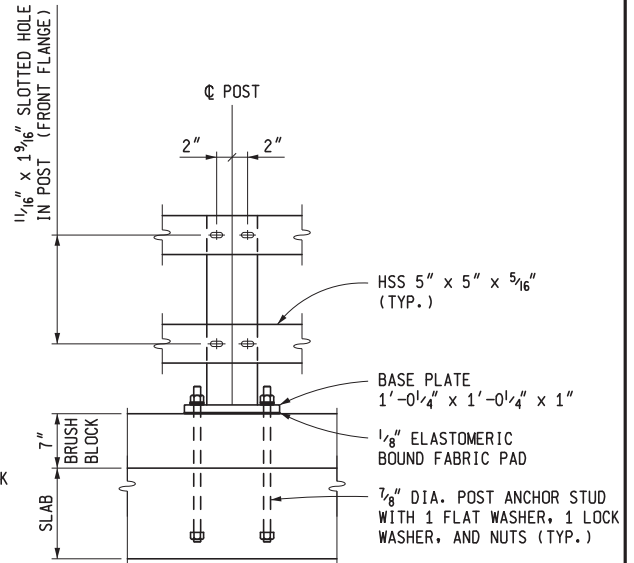


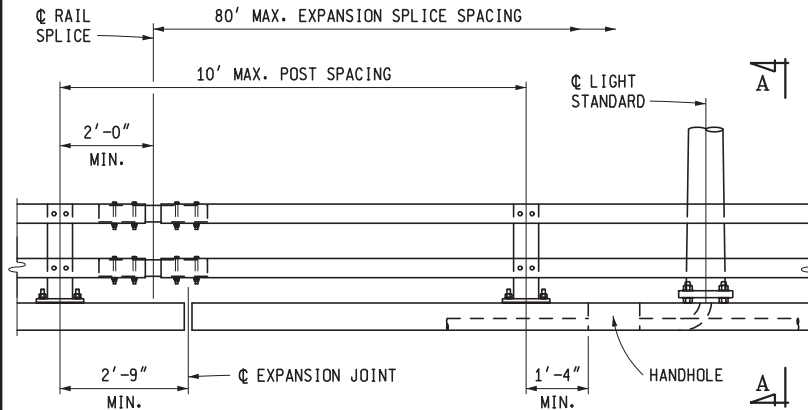
1 1/16" DIA. HOLE IN RAIL  
 5/8" THREADED 5/8" DIA. x 7" SLOTTED  
 ROUND HEAD BOLT, WITH PLATE WASHER,  
 (SEE DETAIL A), LOCK WASHER, AND  
 HEX NUT (TYP.)



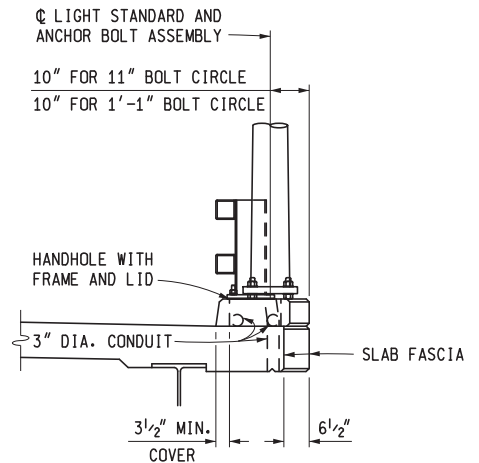
SECTION THROUGH  
BRUSH BLOCK AND RAILING



POST ELEVATION



RAILING ELEVATION



SECTION A-A



PREPARED  
 BY  
 DESIGN DIVISION

DRAWN BY: B.L.T.

CHECKED BY: V.Z.

DEPARTMENT DIRECTOR

Kirk T. Steudle

Randel R. Van  
 Portfliet

APPROVED BY: \_\_\_\_\_  
 DIRECTOR, BUREAU OF FIELD SERVICES

Bradley C.  
 Wieferich

APPROVED BY: \_\_\_\_\_  
 DIRECTOR, BUREAU OF DEVELOPMENT

Digitally signed by Randel R. Van Portfliet  
 DN: cn=Randel R. Van Portfliet, o=Michigan  
 Department of Transportation, ou=Director,  
 Bureau of Field Services/Supervisor Region Engineer,  
 email=vportfliet@michigan.gov, c=US  
 Date: 2015.12.10 13:25:47 -0500

Digitally signed by Bradley C. Wieferich  
 DN: cn=Bradley C. Wieferich, o=Michigan  
 Department of Transportation, ou=Design  
 Division, email=wieferich@michigan.gov, c=US  
 Date: 2015.12.10 13:25:47 -0500

MICHIGAN DEPARTMENT OF TRANSPORTATION  
 BUREAU OF DEVELOPMENT STANDARD PLAN FOR

BRIDGE RAILING, 2 TUBE

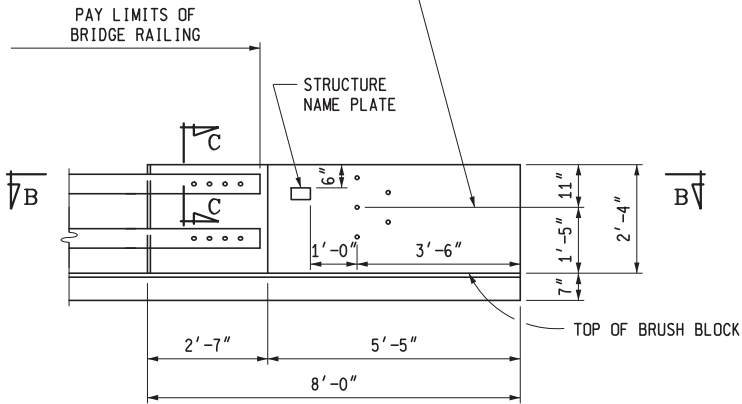
5-20-2016  
 F.H.W.A. APPROVAL

11-20-2015  
 PLAN DATE

B-21-J

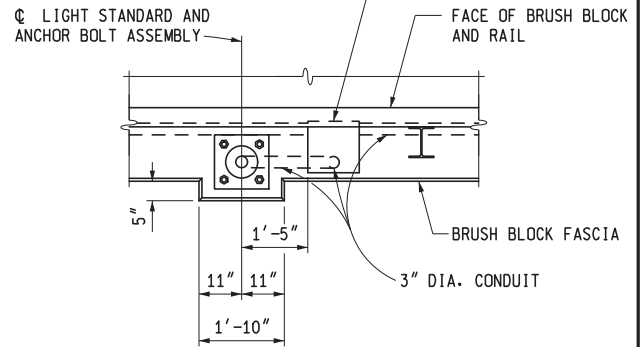
SHEET  
 1 OF 4

☐ OF BOLTS FOR GUARDRAIL ANCHORAGE  
SEE STANDARD PLAN R-67-SERIES FOR DETAILS  
BOLTS TO BE FURNISHED AND INSTALLED BY  
BRIDGE CONTRACTOR. (INCLUDED IN THE BID  
ITEM "BRIDGE RAILING, 2 TUBE")

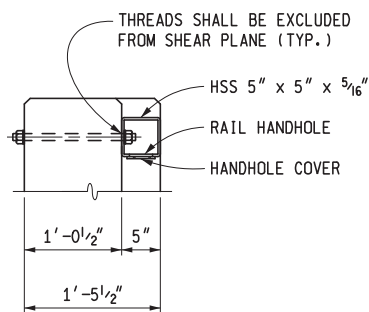


END WALL ELEVATION

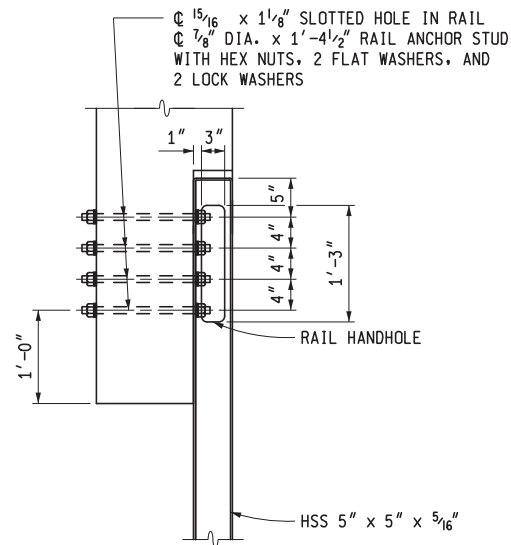
HANDHOLE WITH FRAME ANCHORED AND LID  
BOLTED TO FRAME. FRAME AND LID SHALL  
BE R-6687-A1 NEENAH FOUNDRY COMPANY,  
8111 EAST JORDAN IRON WORKS, OR  
APPROVED EQUAL.



PLAN VIEW AT LIGHT STANDARD



SECTION C-C



SECTION B-B

MICHIGAN DEPARTMENT OF TRANSPORTATION  
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

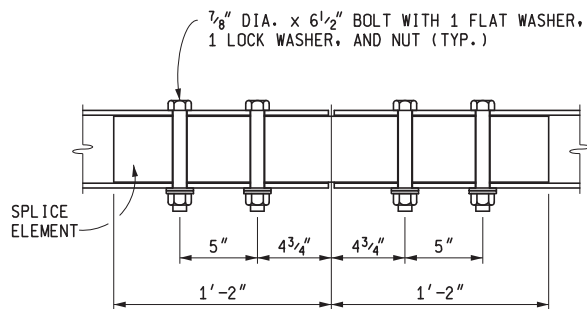
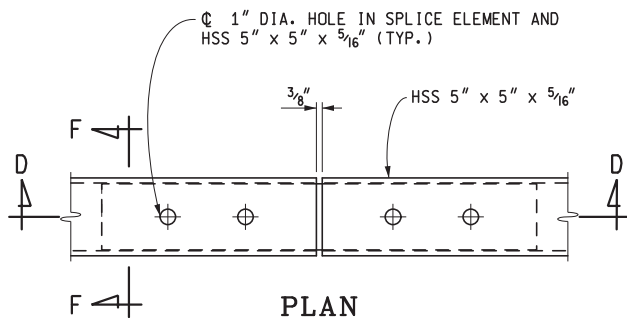
## BRIDGE RAILING, 2 TUBE

5-20-2016  
F.H.W.A. APPROVAL

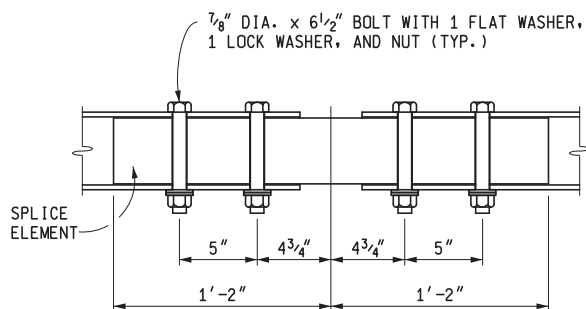
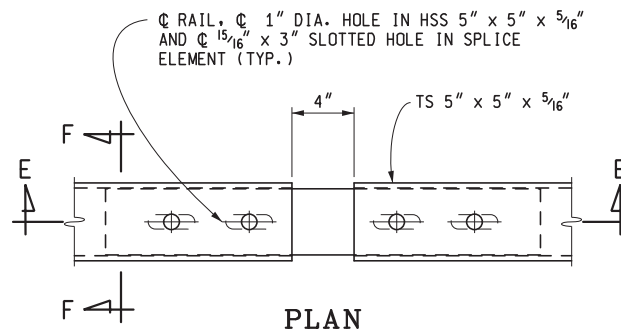
11-20-2015  
PLAN DATE

B-21-J

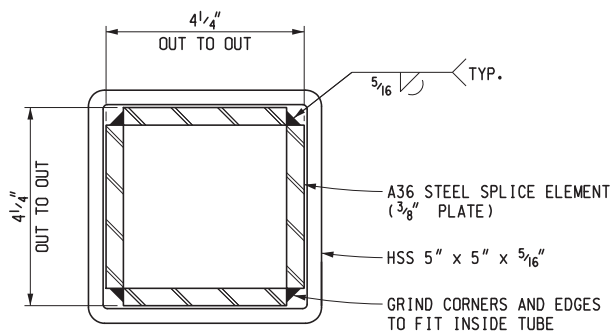
SHEET  
2 OF 4



SECTION D-D  
FIXED SPLICE DETAILS



SECTION E-E  
EXPANSION SPLICE DETAILS



SECTION F-F

MICHIGAN DEPARTMENT OF TRANSPORTATION  
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

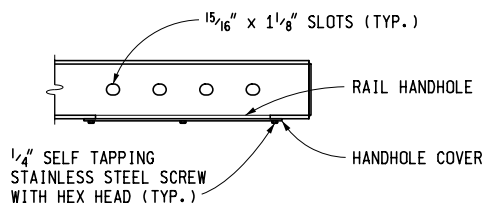
## BRIDGE RAILING, 2 TUBE

5-20-2016  
F.H.W.A. APPROVAL

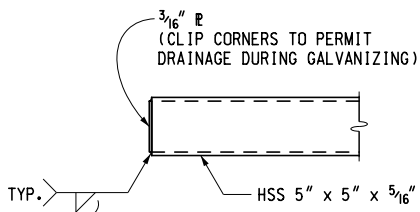
11-20-2015  
PLAN DATE

B-21-J

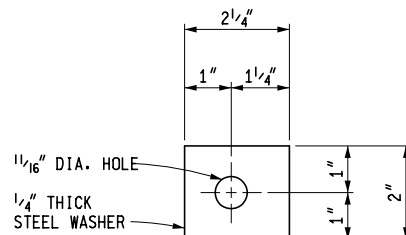
SHEET  
3 OF 4



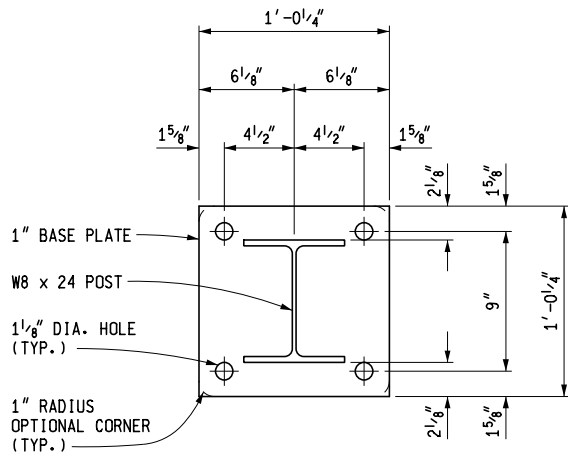
END OF RAIL SECTION



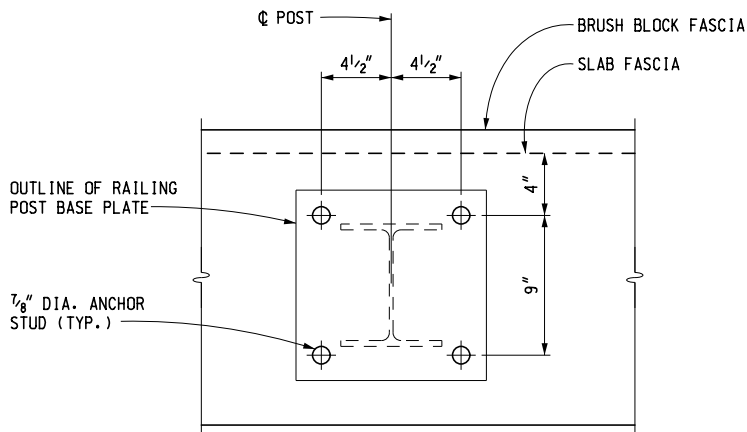
END OF RAIL



DETAIL A

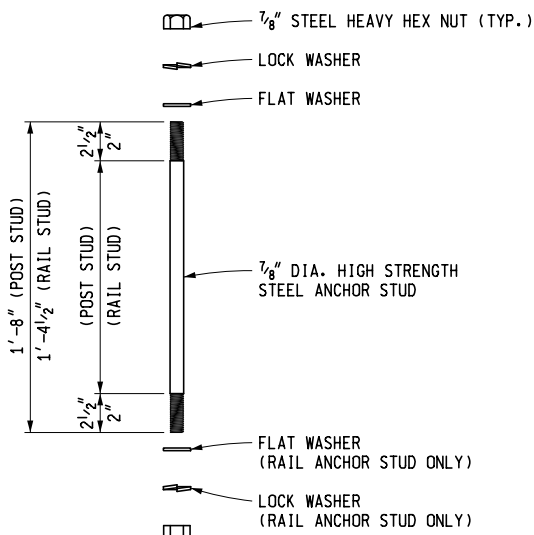


BASE PLATE DETAIL



ANCHOR STUD LAYOUT

NOTE: SURFACE UNDER POST IS TO BE FINISHED LEVEL



ANCHOR STUD DETAIL

NOTES:

DETAILS SHOWN ARE IN ACCORDANCE WITH CURRENT AASHTO SPECIFICATIONS. ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

THIS RAILING SHALL BE USED ONLY WITH THE BRUSH BLOCK SHOWN ON THIS SHEET.

FOR LIGHT STANDARD ANCHOR BOLT ASSEMBLY DETAILS, SEE STANDARD PLAN B-103-SERIES.

FENCING MAY BE ATTACHED TO THE NON-TRAFFIC SIDE OF THE 2 TUBE RAILING TO PROTECT PEDESTRIANS.

MICHIGAN DEPARTMENT OF TRANSPORTATION  
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

BRIDGE RAILING, 2 TUBE

5-20-2016  
F.H.W.A. APPROVAL

11-20-2015  
PLAN DATE

B-21-J

SHEET  
4 OF 4