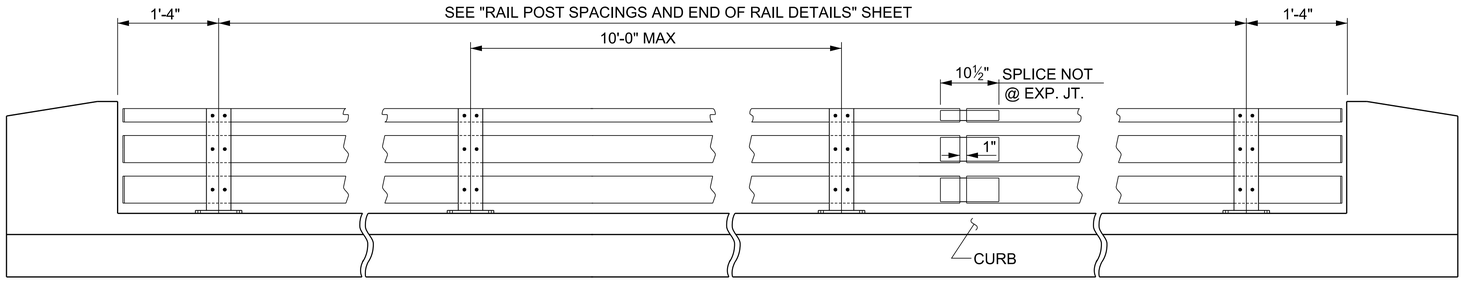
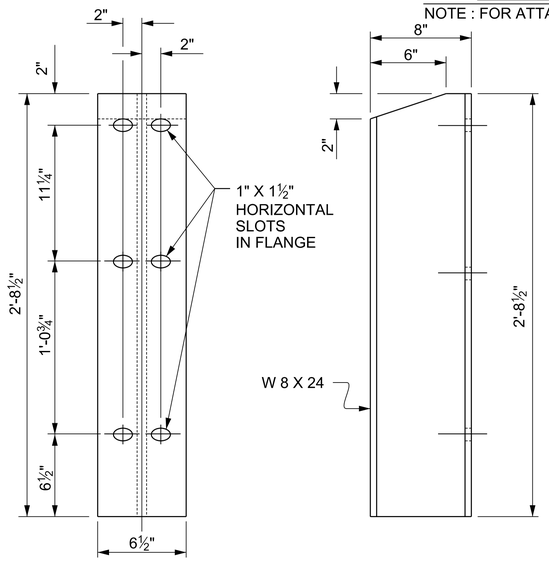
8/26/21



ELEVATION

NOTE : FOR ATTACHMENT OF METAL RAIL TO END POST, SEE STANDARD NO. BMR11.



FRONT ELEVATION

SIDE ELEVATION

DETAILS OF POST

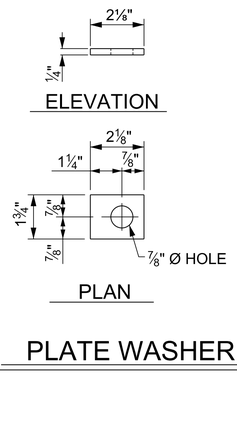
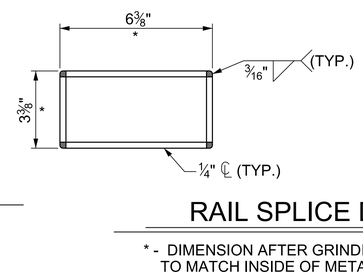
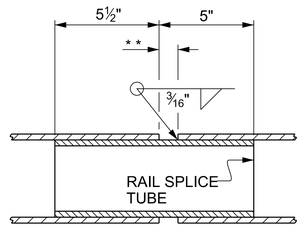


PLATE WASHER

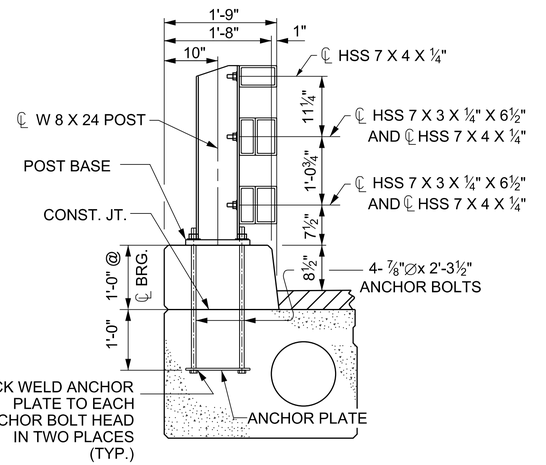




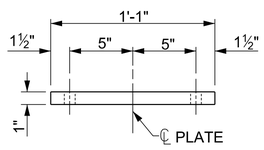
RAIL SPLICE DETAILS

* - DIMENSION AFTER GRINDING RADIUS ON CORNERS TO MATCH INSIDE OF METAL RAIL. GRIND ALL EDGES PRIOR TO GALVANIZING TO ASSURE FIT.

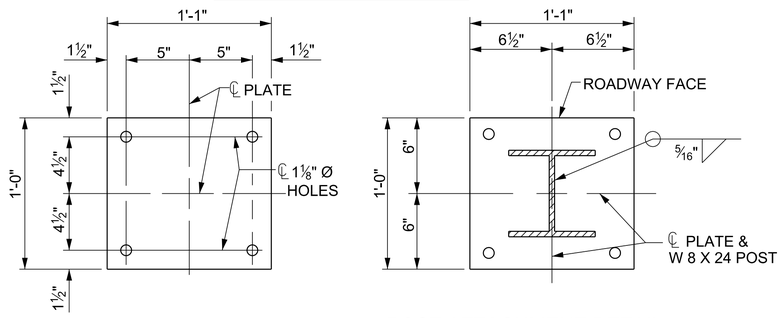
* * -1" FOR SPLICE NOT AT EXPANSION JOINT; SEE TABLE 1 FOR OPENING FOR SPLICES AT EXPANSION JOINTS.



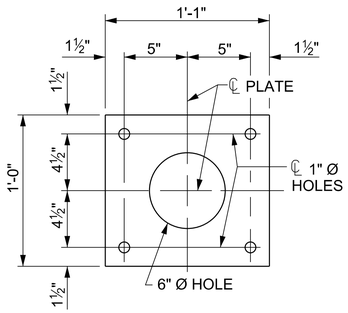
SECTION THRU RAIL

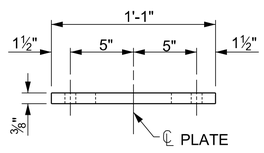


FRONT ELEVATION



POST BASE DETAILS





ANCHOR PLATE DETAILS

NOTES

METAL RAIL SHALL BE GALVANIZED STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF THE GENERAL NOTES AND THE FOLLOWING SPECIFICATIONS. ALUMINUM RAIL WILL NOT BE AN OPTION.

GALVANIZED STEEL RAILS

MATERIAL AND GALVANIZING ARE TO CONFORM TO THE FOLLOWING SPECIFICATIONS:

POST, POST BASES, ANCHOR PLATES AND RAIL SPLICE TUBES: ASTM A36 GRADE 36 STRUCTURAL STEEL-GALVANIZED TO ASTM A123.

THE CUT ENDS OF GALVANIZED STEEL RAILING, AFTER GRINDING SMOOTH SHALL BE GIVEN TWO COATS OF ZINC RICH PAINT MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION MIL-P-26915 USAF TYPE 1, OR OF FEDERAL SPECIFICATIONS TT-P-641.

RAILS: ASTM A500 GRADE B - GALVANIZED TO ASTM A123.

WELDED RAIL STUDS: ASTM A108-GALVANIZED TO ASTM A123.

HIGH STRENGTH ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GRADE 105. HEAVY HEX NUTS SHALL CONFORM TO ASTM A563 DH, AND WASHERS TO ASTM F436,TYPE 1. ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED TO ASTM A123.

GENERAL NOTES

RAILING SHALL BE CONTINUOUS FROM END POST TO END POST OF BRIDGE. EACH JOINT IN RAIL LENGTH SHALL BE SPLICED AS DETAILED. PANEL LENGTHS OF RAIL SHALL BE ATTACHED TO A MINIMUM OF THREE POSTS.

FOR END OF RAIL TO CLEAR FACE OF CONCRETE END POST DIMENSION, SEE STANDARD NO. BMR11.

CERTIFIED MILL REPORTS ARE REQUIRED FOR RAILS AND POSTS. SHOP INSPECTION IS NOT REQUIRED.

METAL RAIL POSTS SHALL BE SET NORMAL TO CURB GRADE.

CURVED RAIL USAGE: WHERE RAILS ARE TO BE USED ON BRIDGES ON HORIZONTAL AND/OR VERTICAL CURVATURE THE CONTRACTOR MAY, AT HIS OPTION, HAVE THE REQUIRED CURVATURE IN THE RAIL FORMED IN THE SHOP OR IN THE FIELD. IN EITHER EVENT, THE RAIL SHALL CONFORM WITHOUT BUCKLING OR KINKING TO THE REQUIRED CURVATURE IN A UNIFORM MANNER ACCEPTABLE TO THE ENGINEER.

TO INSURE FUTURE IDENTIFICATION OF THE FABRICATOR, A PERMANENT IDENTIFYING MARK SHALL BE PLACED ON EACH POST. THE METHOD OF MARKING AND LOCATION SHALL BE SUCH THAT IT DOES NOT DETRACT FROM THE APPEARANCE OF THE POST, BUT REMAINS VISIBLE AFTER RAIL PLACEMENT.

SHIMS SHALL BE USED AS NECESSARY FOR POST ALIGNMENT.

GROOVED CONTRACTION JOINTS,½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE CURB AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN CURB EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF CURB SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

THE RAIL SECTIONS SHALL BE ATTACHED TO THE POSTS BY TWO THREADED ¾" Ø WELDED STUDS, PLATE WASHERS, LOCKWASHERS, AND NUTS.

FOR 42" OREGON RAIL, SEE THE STANDARD SPECIFICATIONS.

METAL RAIL LENGTH 65.0 LIN. FT.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20777 CG287FCFC0223461 HARDY L. WILLIS
Digitally signed by Hardy Wills
6/4/2026

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT NO. B-5929

HENDERSON COUNTY

STATION: 13+45.76 -L-

SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD

42" OREGON RAIL

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S - 8
1			3			TOTAL SHEETS
2			4			25

Johnson, Mirmiran, & Thompson Inc.
1318 Patton Ave Suite F.
Asheville, NC, 28806
License No: C-3097

ASSEMBLED BY : WC	DATE : 6-2017
CHECKED BY : RTS	DATE : 7-2017
DRAWN BY : RWW 7/14	REV. 12/17 MAA/THC
CHECKED BY : TMG 7/14	REV. 10/23 BNB/SNM

5/29/2026
$$$$$$$$$$$$$$$$$$$$$$$$DGN$$$$$$$$$$$$$$$$$$$$$$$$
RMoore2

STD. NO. BMR10 Sht. 1