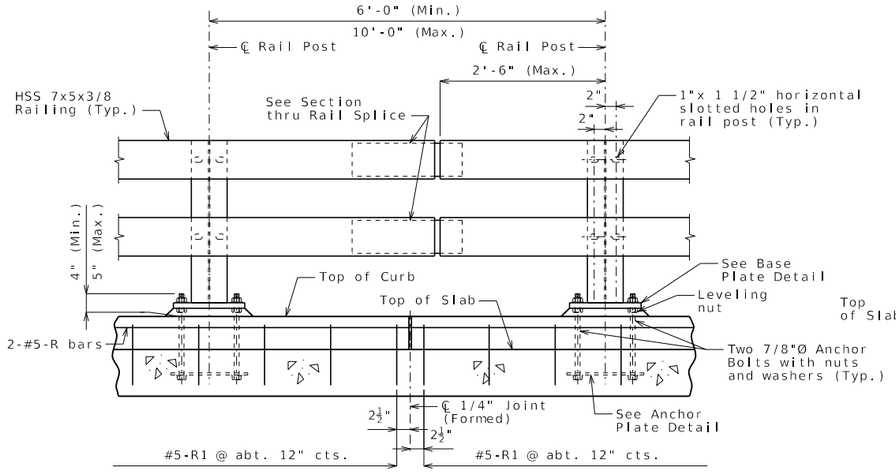
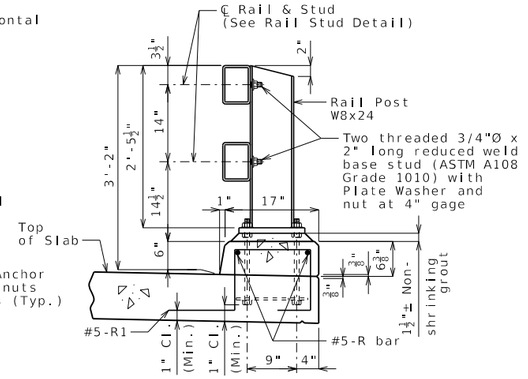
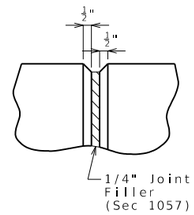


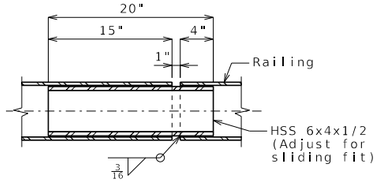
PART ELEVATION OF CURB & RAIL



TYPICAL SECTION



PART ELEVATION
AT FORMED JOINT



SECTION THRU RAIL SPLICE
(@ 50' maximum intervals)

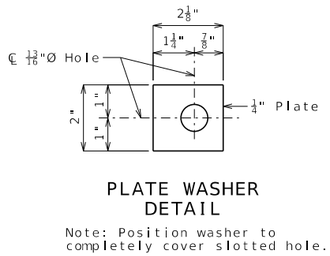
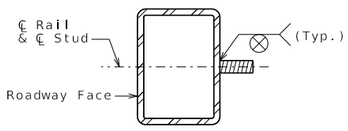
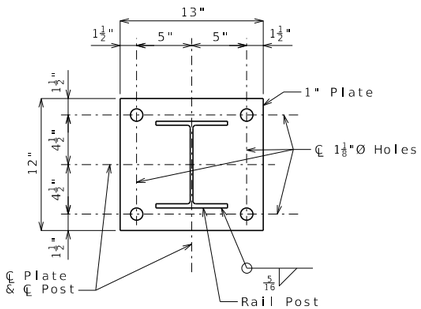


PLATE WASHER
DETAIL

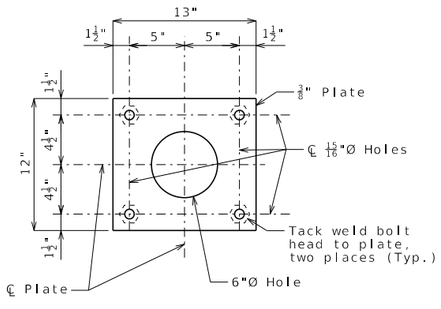
Note: Position washer to
completely cover slotted hole.



RAIL STUD DETAIL



BASE PLATE DETAIL



ANCHOR PLATE DETAIL

Note: Work this sheet with Sheet No. .

Bridge Rail Notes:

Rail posts shall be set perpendicular to roadway profile grade, vertically in cross section and aligned in accordance with Sec 713, except that the rail posts shall be aligned by the use of 6 1/2 x 6 1/2-inch shims such that the post deviates not more than 1/2 inch from true horizontal alignment after final adjustment. The shims shall be placed between the post and the rail. The thickness of the shims shall be determined by the contractor and verified by the engineer before ordering material for this work.

Rail posts shall be set plumb and aligned in accordance with Sec 713.

Payment for furnishing all materials and labor necessary to install bridge rail, complete in place, will be considered completely covered by the contract unit price for Bridge Rail (Two Tube Structural Steel) per linear foot.

Guardrail delineators shall be attached to the top of the guardrail post using galvanized anchorage as shown on Missouri Standard Plan 606.50 and in accordance with Sec 606. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Guardrail delineators will be considered completely covered by the contract unit price for Bridge Rail (Two Tube Structural Steel).

HSS = Hollow Structural Section

Dimensions of bridge rails are measured horizontally.

Bridge rails will be measured to the nearest linear foot for each structure measured from end of wing to end of wing.

Fabrication of structural steel shall be in accordance with Sec 1080.

Hollow structural sections shall be in accordance with ASTM A500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F, see Sec 1080 for reporting.

All other steel shapes and plates shall be in accordance with ASTM A709 Grade 50.

All anchor bolts shall be ASTM A449 Type 1 with ASTM A563 Grade DH heavy hex nuts and ASTM F436 hardened washers.

All anchor bolts, studs, nuts, and washers shall be galvanized in accordance with ASTM F2329.

All posts, railing, rail splices, and plates shall be galvanized after shop fabrication in accordance with AASHTO M 111 and ASTM A385. Galvanized rail shall not be painted.

Provide railing expansion joints at 50 foot maximum intervals. Railing shall be continuous over two posts minimum. Railing expansion joints are required in rail sections that span bridge expansion joints.

Use grout with a minimum 24-hour f'c of 3000 psi in single placement.

Curb Notes:

Top of curb shall be built parallel to grade and curb joints (except at end bents) normal to grade.

All exposed edges of curb shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Minimum lap for longitudinal R-bars is 2'-5".

The cross-sectional area of curb above the slab = 0.75 sq. ft.

Concrete in the curb shall be Class B-2.

The curb shall be cured by application of Type 1-D Liquid Membrane-Forming Curing Compound in accordance with Sec 1055 and sealed in accordance with Sec 703. The contractor shall remove all curing compound in accordance with the manufacturer's recommendations before the concrete sealer is applied.

Measurement of the curb is to the nearest linear foot for each structure, measured along the outside top of slab from end of wing to end of wing.

Payment for all concrete and reinforcement, complete in place, will be considered completely covered by the contract unit price for Concrete Curb (Bridge Rail) per linear foot.

DATE PREPARED
5/12/2026
ROUTE
STATE
MO
DISTRICT
SHEET NO.
004
COUNTY
JOB NO.
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION
DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

38-INCH TWO-TUBE RAIL

Detailed
Checked

Note: This drawing is not to scale. Follow dimensions.

Sheet No. of