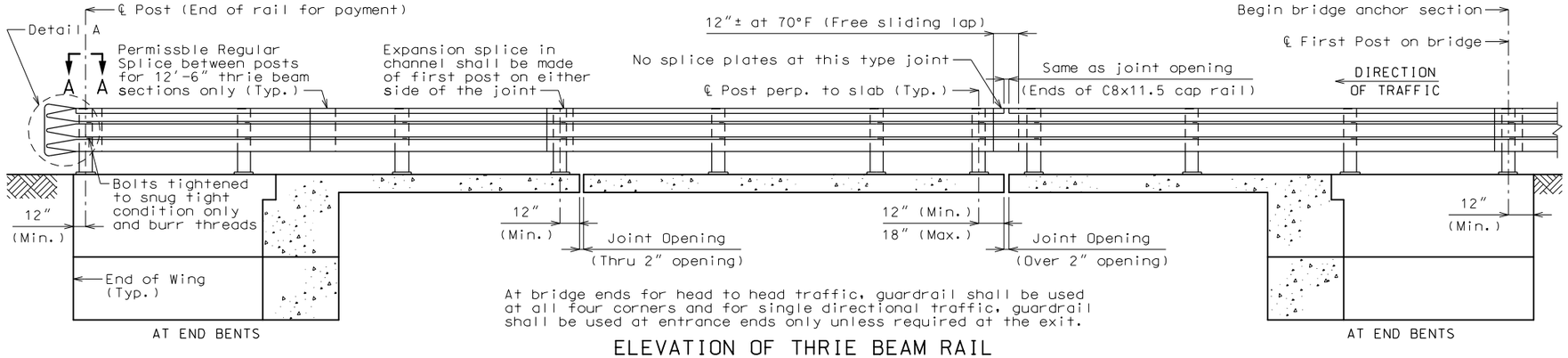
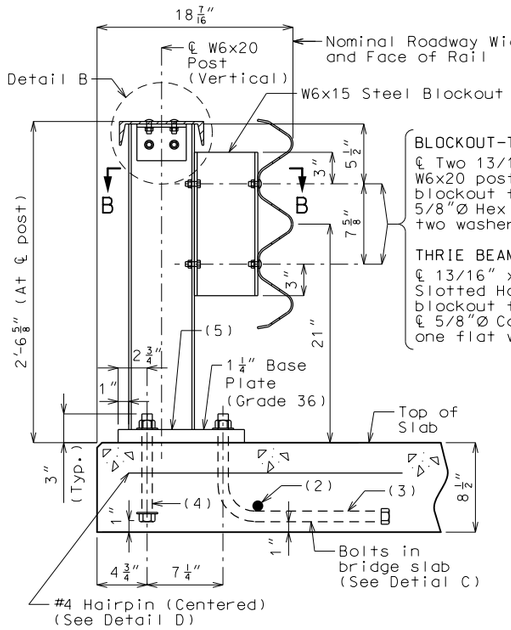


At bridge ends for head to head traffic, guardrail shall be used at all four corners and for single directional traffic, guardrail shall be used at entrance ends only unless required at the exit.

ELEVATION OF THRIE BEAM RAIL

For Plan A-A, see Sheet No. __.



BLOCKOUT-TO-POST CONN.
℄ Two 13/16"Ø Holes in W6x20 post flange and W6x15 blockout flange and ℄ Two 5/8"Ø Hex Head Bolts with two washers and hex nut

THRIE BEAM-TO-BLOCKOUT CONN.
℄ 13/16" x 2 1/2" Vertical Slotted Hole in W6x15 blockout flange (1) and ℄ 5/8"Ø Carriage Bolt with one flat washer and hex nut

PART SECTION AT RAIL POST

See slab sheet for rail post spacing.

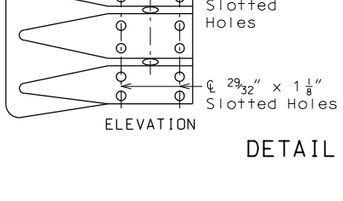
(1) Required on one side of web only, but may be provided on both sides of web at the contractor's option.

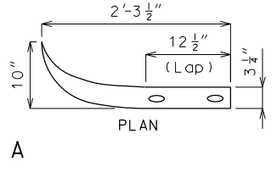
(2) Tack weld 32-inch long centered bar of the same size as longitudinal slab reinforcement. Optional to wrap bolt under longitudinal slab reinforcement provided that 1-inch clearance is maintained to bottom of slab.

(3) Three 1-inch diameter A307 bolts with hex nuts and washers.

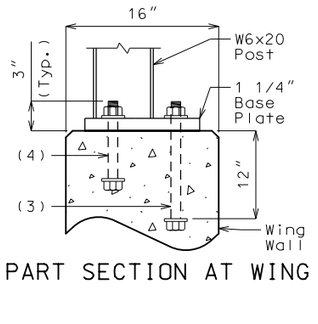
(4) Two 1-inch diameter A307 bolts with hex nuts and standard flat washers. Use same length bolts in end bent wing as in slab.

(5) Bevel bottom of post (slope 2% or slab elevation).

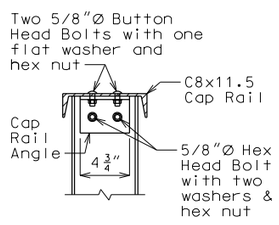




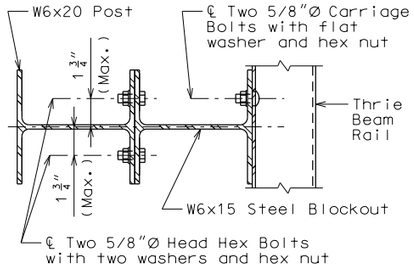
DETAIL A



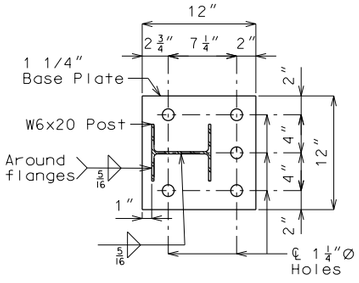
PART SECTION AT WING



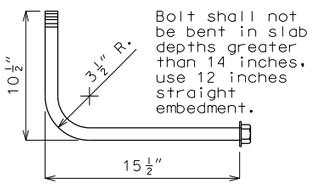
DETAIL B



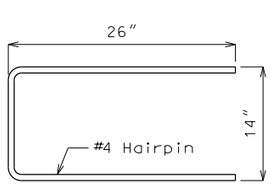
SECTION B-B



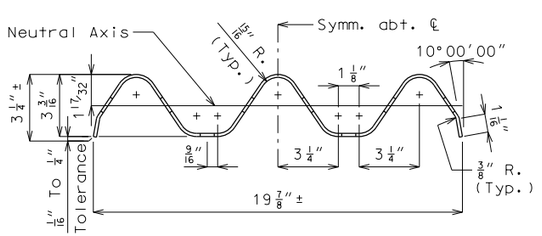
BASE PLATE



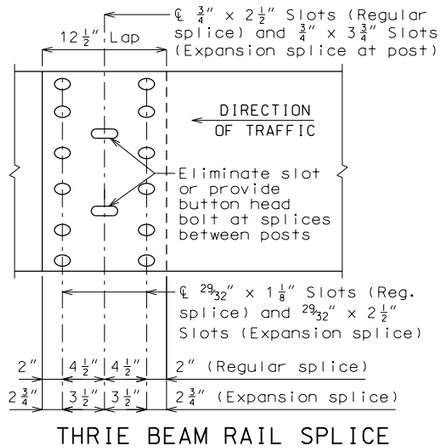
DETAIL C



DETAIL D



SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL SPLICE

General Notes:

Design Specifications: 2002 AASHTO LFD (17th Ed.)
Standard Specifications

Guardrail delineators shall be attached to the top of the guardrail and shall similarly use the delineator details of Missouri Standard Plan 617.10, except that the delineator body shall be attached to the top of the cap rail using galvanized anchorage as shown on Missouri Standard Plan 606.00. 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 Guardrail (Thrie Beam).

Panel lengths of channel members shall be attached continuously to a minimum of four posts and a maximum of six posts (except at end bents).

All bolts, nuts, washers, plates, reinforcement and elastomeric material will be considered completely covered by the contract unit price for Bridge Guardrail (Thrie Beam).

All steel connecting bolts and fasteners for posts and railing, and all anchor bolts, nuts, washers and plates shall be galvanized after fabrication. Protective coating and material requirement of steel railing shall be in accordance with Sec 1040.

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 3 x 1 3/4-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 blockout and the thrie beam 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 seated on 1/16-inch elastomeric pads having the same dimensions as the post base plate. Such pads may be any elastomeric material, plain or fibered, having a hardness (durometer) of 50 or above, as certified by the manufacturer. Additional pads or half pads may be used in shimming for alignment. Post heights shown will increase by the thickness of the pad.

At the expansion slots in the thrie beam rails and channels, the bolts shall be tightened and backed off one-half turn and the threads shall be burred.

At the thrie beam connection to blockout on wings, the bolts shall be tightened and backed off one-half turn and the threads shall be burred.

Minimum length of thrie beam sections is equal to one post space.

A 5/8-inch diameter button-head, oval shoulder bolt with a minimum 3/8-inch thick hex nut shall be used at all slots.

Thrie beam guardrail on the bridge shall be 12-guage steel.

Posts, cap rail angles, base plates, channels and channel splice plates shall be fabricated from ASTM A709 Grade 36 steel and galvanized.

Flat washers 3 x 1 3/4 x 3/16-inch minimum shall be used at all post bolts between the bolt head and beam. The washers shall be rectangular in shape with an 11/16 x 1-inch slot, or when necessary of such design as to fit the contour of the beam. Rectangular washers 3 x 1 3/4 x 5/8-inch shall be used between the blockout and the thrie beam rail.

Special drilling of the thrie beam may be required at the splices. All drilling details shall be shown on the shop drawings.

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

Expansion splices in the thrie beam rail shall be made at either the first or second post on either side of the joint and on structure at bridge ends. When the splice is made at the second post, an expansion slot shall be provided in the thrie beam rail for connection to the first post to allow for movement.

In addition to the expansion provisions at the expansion joints, expansion splices in the thrie beam rail and the channel shall be provided at other locations so that the maximum length without expansion provisions does not exceed 200 feet.

Shim plates 6 x 6 x 1/16-inch may be used between the top of the post and the channel member as required for vertical alignment.

Shim plates shall be galvanized after fabrication.

See Missouri Standard Plan 606.00 for details not shown.

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED 8/1/2019
ROUTE * STATE MO
DISTRICT BR SHEET NO. *
COUNTY *
JOB NO. *
CONTRACT ID.
PROJECT NO.
BRIDGE NO. THRIE 1A

DESCRIPTION | DATE | REV.

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

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

Detailed
Checked

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

Sheet No. of