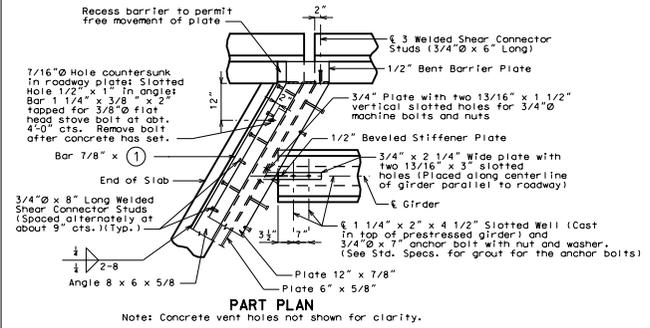
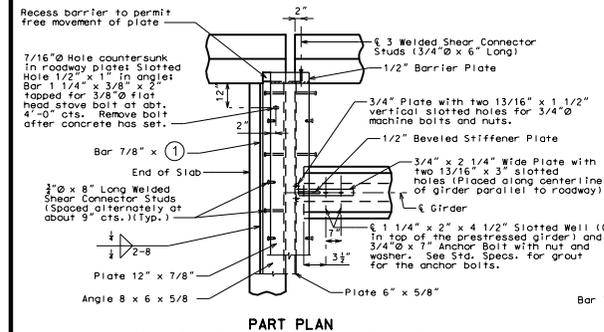


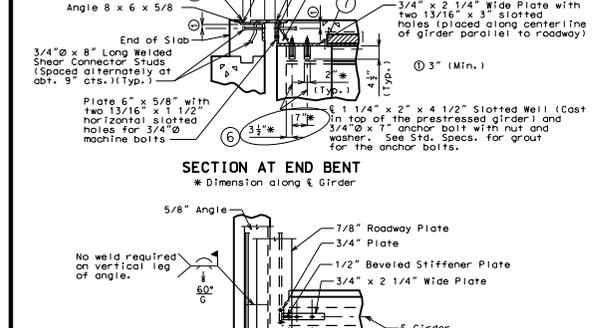
LA TYPE D BARRIER



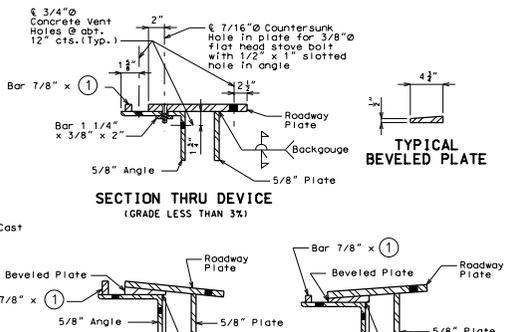
LA TYPE B BARRIER (SBC)



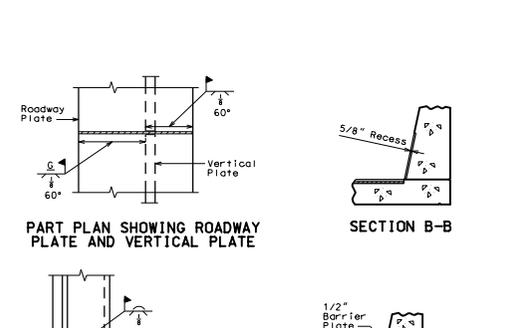
RA TYPE D BARRIER



RA TYPE B BARRIER (SBC)

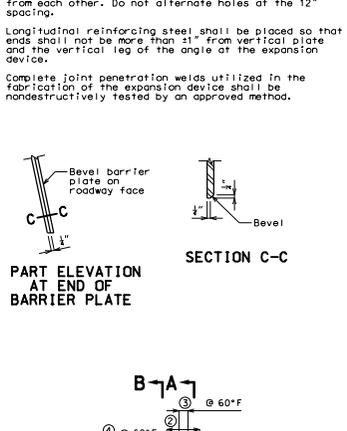


SECTION THRU DEVICE (GRADE LESS THAN 3%)



SECTIONS THRU DEVICE (GRADE 3% OR MORE)

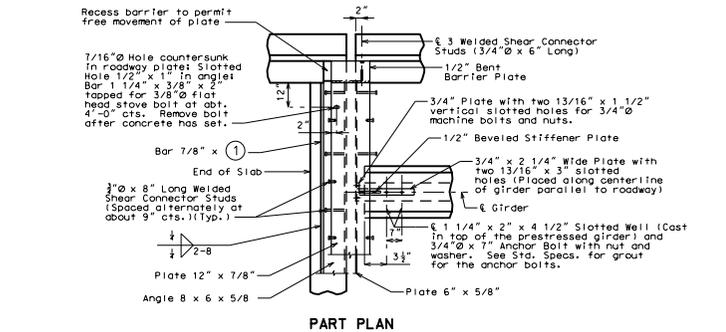
GENERAL NOTES:
 Expansion device shall be fabricated in one section, except for slope construction and when the length is over 50 feet. A complete joint penetration groove weld splice shall be required. Welds shall be ground flush to provide a smooth surface. The expansion device shall be fabricated and installed to the crown and grade of the roadway.
 Plan dimensions are based on installation at 60°F. The expansion gap and other dimensions shall be increased or decreased 1/4" for each 10° fall or rise in temperature at installation.
 Material for the expansion device shall be ASTM A709 Grade 36 structural steel. Anchors for the expansion device shall be in accordance with Sec 1037.
 Structural steel for the expansion device and barrier plate shall be coated with a minimum of two coats of Inorganic zinc primer to provide a total dry film thickness of 4 mils minimum, 6 mils maximum, or galvanized in accordance with ASTM A123. Anchors need not be protected from overpray.
 Payment for furnishing, coating or galvanizing and installing the structural steel for the expansion device will be considered completely covered by the contract unit price for Expansion Device (Flat Plate) per linear foot.
 Concrete shall be forced under and around flat plate, anchors and angles. Proper consolidation shall be achieved by localized internal vibration. Finishing of the concrete shall be achieved by hand finishing within one foot of the expansion device. The vertical and horizontal concrete vent holes shall be offset from each other. Do not alternate holes at the 12" spacing.
 Longitudinal reinforcing steel shall be placed so that ends shall not be more than 1" from vertical plate and the vertical leg of the angle at the expansion device.
 Complete joint penetration welds utilized in the fabrication of the expansion device shall be nondestructively tested by an approved method.



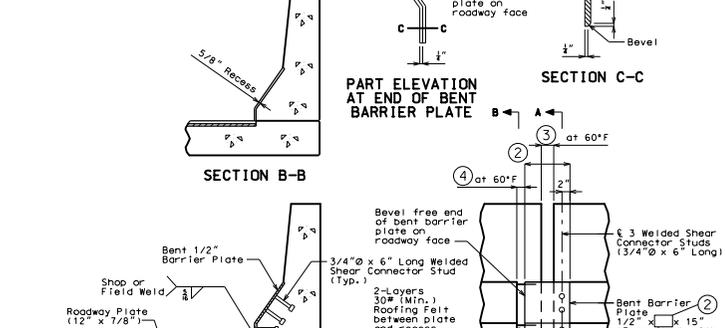
PART ELEVATION AT END OF BARRIER PLATE

DATE PREPARED	8/5/2020
NAME	MO
DISTRICT	BR
COUNTY	
JOB NO.	
CONTRACT ID.	
PROJECT NO.	
BRIDGE NO.	FLAT01
DESCRIPTION	
DATE	
MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
LOG BOOK CONTROL NUMBER	1-888-353-8800
LOG BOOK CONTROL NUMBER	1-888-353-8800

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

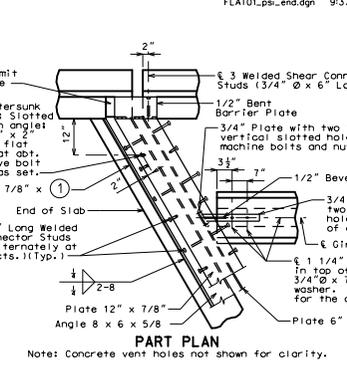
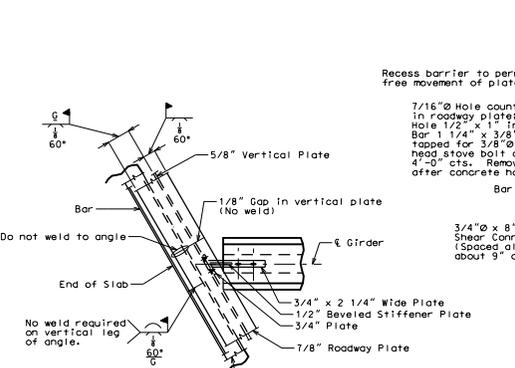
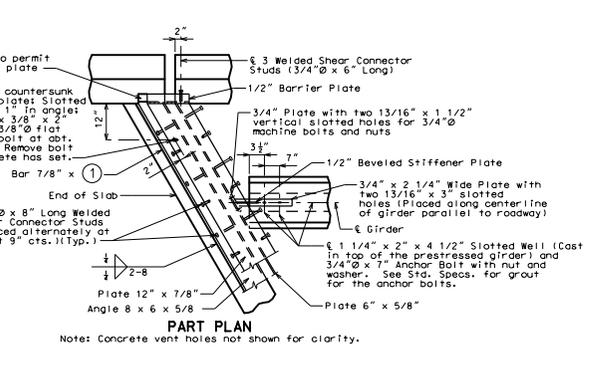
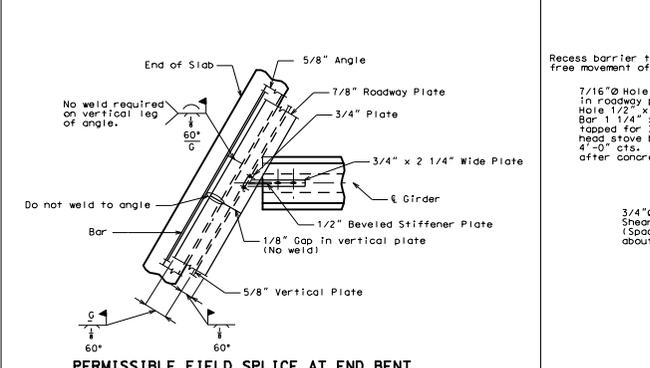


SQ TYPE B BARRIER (SBC)



PART ELEVATION AT END OF BENT BARRIER PLATE

FLAT PLATE EXPANSION DEVICE AT END BENT NO.



RA TYPE B BARRIER (SBC)

- STANDARD DRAWING GUIDANCE (do not show on plans):
- Bar height.
 - Plate length = $12"/\cos(\text{skew})$ [12" for 0° skew]
 - Barrier gap = $3\frac{1}{2}"/\cos(\text{skew})$ [3 1/2" for 0° skew]
 - Barrier recess gap = $2\frac{3}{8}"/\cos(\text{skew})$ [2 3/8" for 0° skew]. Assume recess ends at front edge of bar.
 - Installation gap adjustment for temperature: normal to joint.
 - Check and revise locations of slotted wells to clear girder end section reinforcement.
 - Delete panel for CIP slab.

RA TYPE D BARRIER

PERMISSIBLE FIELD SPLICE AT END BENT

RA TYPE B BARRIER (SBC)