

**Standard Drawing Guidance (do not show on plans):**  
 In the available space, draw the elevation of the barrier just past end bents showing:  
 - Joint location and spacing  
 - The horizontal #5-M bars in each span specified by bar mark  
 - Number of vertical #5-M bars along the entire length of the barrier  
 - Span ranges

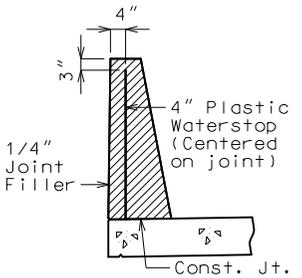
Adjust longitudinal dimensions note under elevation title as necessary.

In the Plan of Transition on Approach Slab, adjust orientation of end of slab and approach slab as required.

Do not include #5-M11 bars in the bar bill.

Plastic waterstop detail and notes are required for all grade separations except over railroads and county roads. Remove if not required and center the Elevation of Barrier Curb (Type D) with the sheet title.

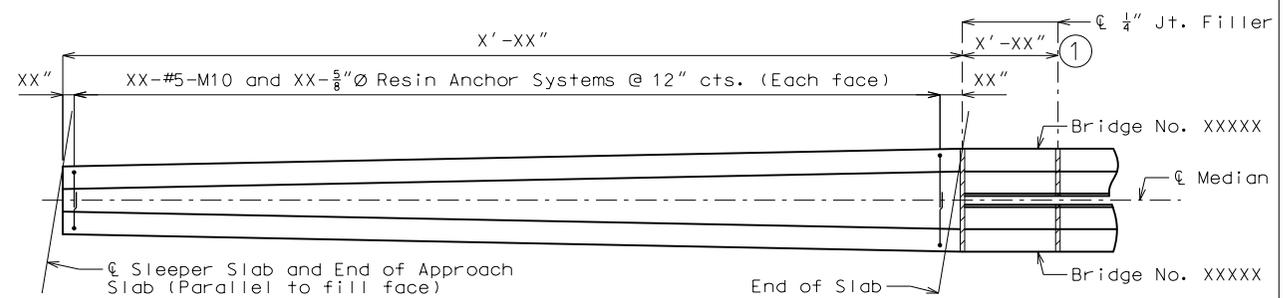
① 5'-0"±, consult SPM.  
 ② Curb transition details shall only be shown for one of the two bridges. Remove these details from one of the bridges including the underline portions of the notes.



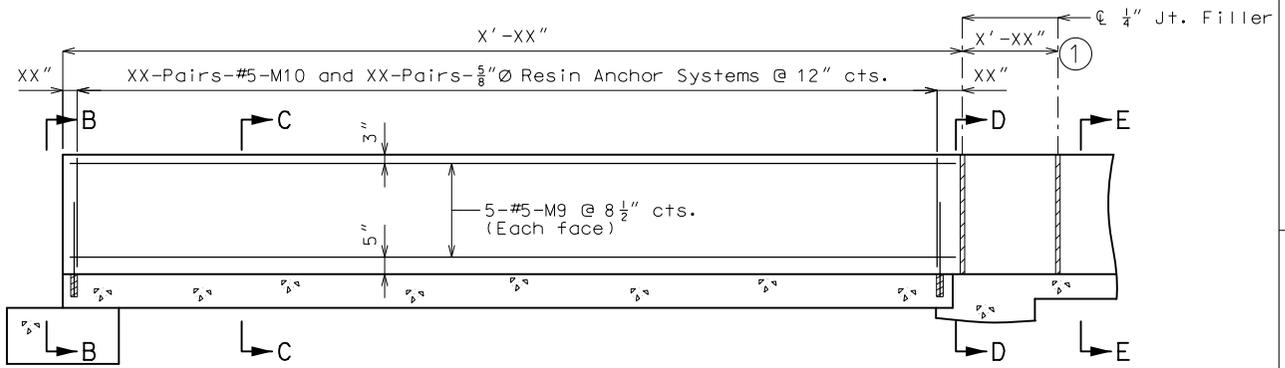
**PLASTIC WATERSTOP DETAIL**

Plastic waterstop shall be placed in all barrier curb (Type D) filled joints, except structures with superelevation, use on all lower barrier curb (Type D) joints only.

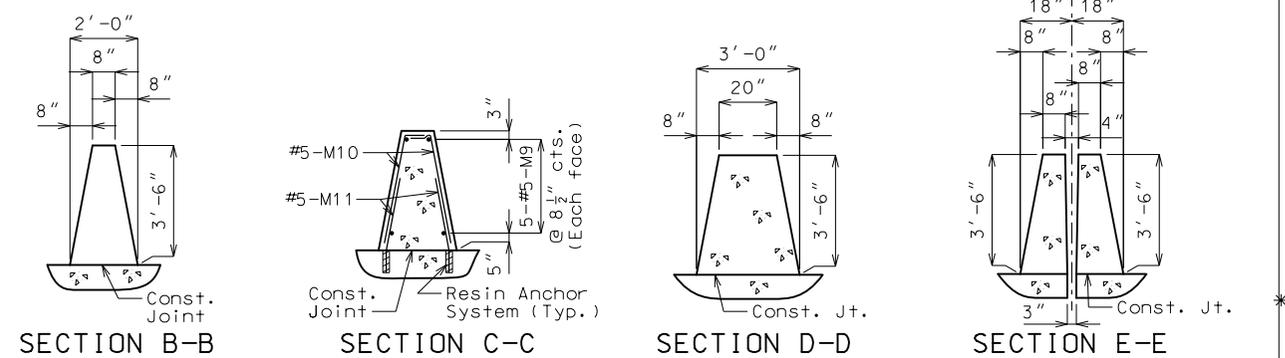
Cost of plastic waterstop, complete in place, will be considered completely covered by the contract unit price for Barrier Curb (Type D).



**PLAN OF TRANSITION ON APPROACH SLAB**  
 M9 bars not shown for clarity.



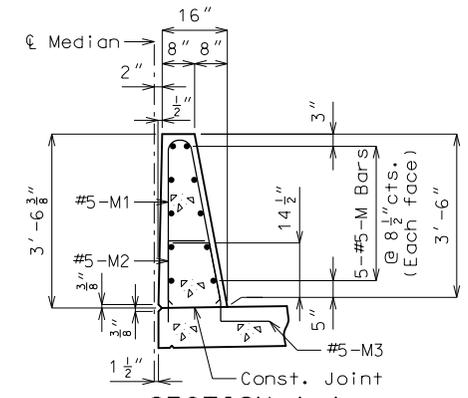
**ELEVATION OF TRANSITION ON APPROACH SLAB**



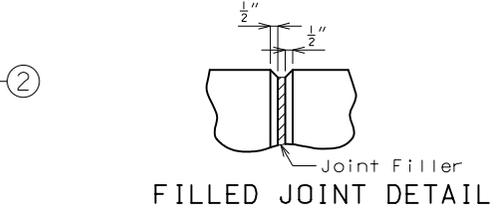
**DETAILS OF BARRIER CURB (TYPE D) AND MEDIAN BARRIER CURB TRANSITION (TYPE C)**

Note: This drawing is not to scale. Follow dimensions. Sheet No. of

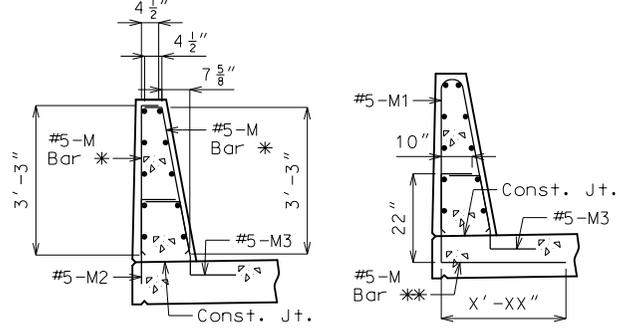
**ELEVATION OF BARRIER CURB (TYPE D)**  
 Longitudinal dimensions are horizontal.



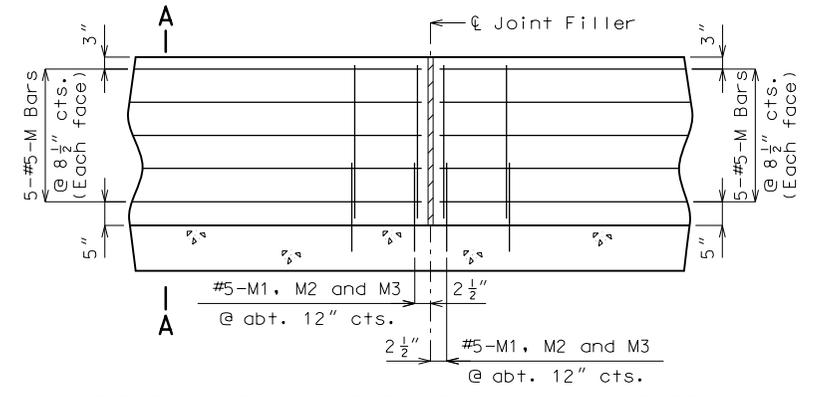
**SECTION A-A**  
 Use a minimum lap of 3'-1" for #5 horizontal barrier curb (Type D) bars.  
 The cross-sectional area above the slab = 3.59 sq. ft.



**FILLED JOINT DETAIL**



**M-BAR PERMISSIBLE ALTERNATE SHAPE**  
 \* The M1 bar may be separated into two bars as shown, at the contractor's option, only when slip forming is not used. (All dimensions are out to out.)  
 \*\* The M2 bar and #5 bottom transverse slab bar in cantilever (P/S panels only) combination may be furnished as one bar as shown, at the contractor's option.



**PART ELEVATION OF BARRIER CURB (TYPE D) (CAST-IN-PLACE CONVENTIONAL FORMING)**

**General Notes**

Top of barrier curb (Type D) and median barrier curb transition (Type C) shall be built parallel to grade with barrier curb joints (except at end bents) normal to grade.

All exposed edges of barrier curb (Type D) and median barrier curb transition (Type C) shall have either a 1/2-inch radius or a 3/8-inch bevel, unless otherwise noted.

Payment for all concrete and reinforcement, complete in place, will be completely covered by the contract unit price for Barrier Curb (Type D) and Median Barrier Curb Transition (Type C) per linear foot.

Concrete in the barrier curb (Type D) and median barrier curb transition (Type C) shall be Class B-1.

Measurement of barrier curb (Type D) is to the nearest linear foot for each structure, measured along the outside top of slab from end of slab to end of slab. Measurement of median barrier curb transition (Type C) is to the nearest linear foot for each structure, measured along the top of slab at centerline median from centerline sleeper slab to end of slab.

Concrete traffic barrier delineators shall be placed on top of the barrier curb (Type D) and median barrier curb transition (Type C) as shown on Missouri Standard Plans 617.10 and in accordance with Sec 617. Delineators on bridges with two-lane, two-way traffic shall have retroreflective sheeting on both sides. Concrete traffic barrier delineators will be considered completely covered by the contract unit price for Barrier Curb (Type D).

The contractor shall use one of the qualified resin anchor systems in accordance with 1039.

Cost of furnishing and installing the resin anchor system, complete in place, will be considered completely covered by the contract unit price for Median Barrier Curb Transition (Type C).

The minimum embedment depth in concrete with f'c = 4,000 psi for the resin anchor system shall be that required to meet the minimum ultimate pullout strength in accordance with Sec 1039 but shall not be less than 5".

An epoxy coated #5-M11 Grade 60 reinforcing bar shall be substituted for the 5/8"Ø threaded rod.

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

DATE PREPARED		3/17/2016	
ROUTE	STATE	BR	MO
DISTRICT	SHEET NO.	BR	*
COUNTY			
*			
JOB NO.			
*			
CONTRACT ID.			
PROJECT NO.			
BRIDGE NO.			
MBAC 01			

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION