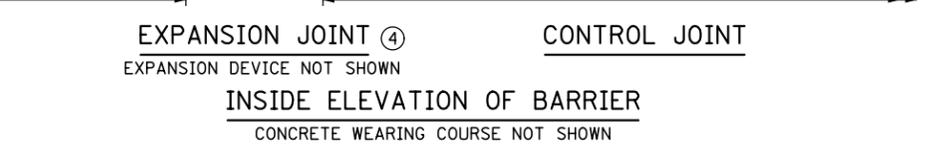
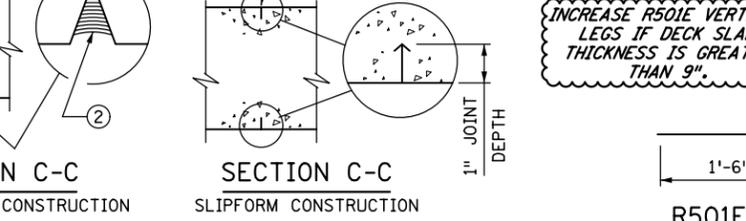
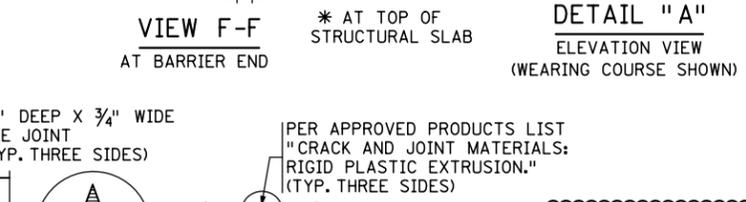
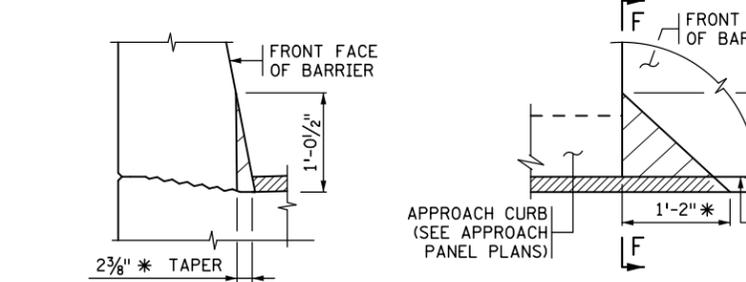
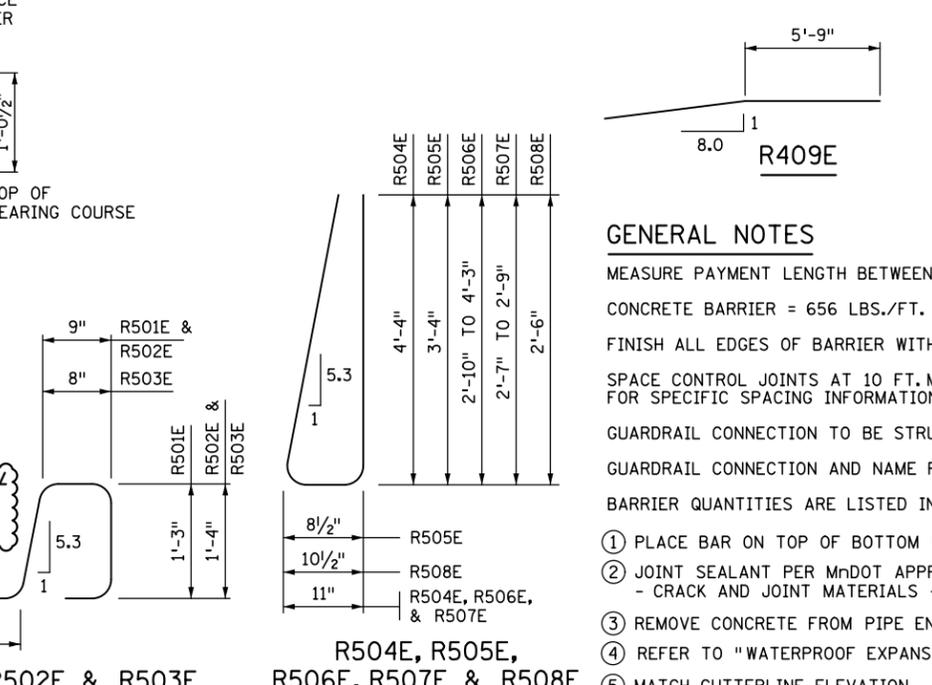


DESIGNER NOTE
 (REMOVE PRIOR TO PLOTTING FINAL PLAN):
 MINIMUM BARRIER LENGTH ON APPROACH PANEL IS 16'-8" WITH MINIMUM OF 22 R502E AND R503E DOWELS WITH ACCOMPANYING APPROPRIATE BARRIER VERTICAL BARS, 12" MAX. SPACING. VERIFY APPROACH BARRIER LENGTH, NEED FOR A GUARDRAIL CONNECTION, AND VERTICAL TAPER WITH ROADWAY DESIGNER. REFER TO MEMO TO DESIGNERS (2016-01) FOR ADDITIONAL REQUIREMENTS REGARDING BARRIER PLACEMENT AND LINK WITH ADJACENT RETAINING WALLS.



BARRIER MEETS NCHRP 350 TL-4 REQUIREMENTS ON BRIDGE DECK AND TL-3 ON APPROACH PANEL.



BAR NO.	LENGTH	SHAPE	LOCATION
R501E	5'-4"		BARRIER DOWEL
R502E	5'-6"		BARRIER DOWEL
R503E	5'-5"		BARRIER DOWEL
R504E	9'-6"		BARRIER VERTICAL
R505E	7'-4"		BARRIER VERTICAL
R506E	-- SER. OF 12 6'-7" TO 9'-5"		BARRIER VERTICAL
R507E	-- SER. OF 4 6'-1" TO 6'-5"		BARRIER VERTICAL
R508E	5'-6"		BARRIER VERTICAL
R409E	13'-0"		BARRIER LONGIT.
R410E	7'-7"		BARRIER LONGIT.
R4__E			BARRIER LONGIT.
R4__E			BARRIER LONGIT.
R4__E			BARRIER LONGIT.

GENERAL NOTES
 MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE BARRIER.
 CONCRETE BARRIER = 656 LBS./FT. (0.162 CU. YDS./FT.)
 FINISH ALL EDGES OF BARRIER WITH 1/2" CHAMFER, EXCEPT WHERE OTHERWISE NOTED.
 SPACE CONTROL JOINTS AT 10 FT. MAXIMUM. REFER TO SUPERSTRUCTURE SHEET FOR SPECIFIC SPACING INFORMATION.
 GUARDRAIL CONNECTION TO BE STRUCTURAL STEEL, SPEC. 3306.
 GUARDRAIL CONNECTION AND NAME PLATE TO BE CONSIDERED INCIDENTAL TO BARRIER.
 BARRIER QUANTITIES ARE LISTED IN SUMMARY OF QUANTITIES FOR SUPERSTRUCTURE.
 ① PLACE BAR ON TOP OF BOTTOM REINFORCEMENT MAT IN DECK.
 ② JOINT SEALANT PER MNDOT APPROVED/QUALIFIED PRODUCTS LIST - CRACK AND JOINT MATERIALS - SILICONE JOINT SEALERS.
 ③ REMOVE CONCRETE FROM PIPE ENDS AFTER SLIPFORMING OR FORM REMOVAL.
 ④ REFER TO "WATERPROOF EXPANSION DEVICE" STANDARD PLANS FOR COVER PLATE DETAILS.
 ⑤ MATCH GUTTERLINE ELEVATION.

REVISION: MAY 10, 2017
 APPROVED: AUGUST 24, 2016
 Kevin Weston
 STATE BRIDGE ENGINEER

CONTROL JOINT DETAILS
 FOR SLIPFORM CONSTRUCTION: IMMEDIATELY AFTER CONCRETE IS PLACED AND WHILE IT IS STILL WET, CREATE A ONE INCH STRAIGHT GROOVE USING A TROWEL. INSERT RIGID PLASTIC EXTRUSION INTO GROOVE TO A DEPTH 1/8" BELOW THE SURFACE; FINISH OVER GROOVE COMPLETELY HIDING THE EXTRUSION.

CERTIFIED BY _____
 LICENSED PROFESSIONAL ENGINEER DATE _____
 NAME: _____ LIC. NO. _____

TITLE: **CONCRETE BARRIER 54"**
 (TYPE S, TL-4)
 PARAPET ABUTMENT WITH GUARDRAIL CONNECTION
 (WITH 2" CONCRETE WEARING COURSE)

DES: _____ DR: _____
 CHK: _____ CHK: _____
 APPROVED: _____
 SHEET NO. OF SHEETS _____
 BRIDGE NO. _____

FIG. 5-397.143(B)