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DESIGNER NOTE
 (REMOVE PRIOR TO PLOTTING FINAL PLAN):
 MINIMUM BARRIER LENGTH ON APPROACH PANEL IS 10'-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.

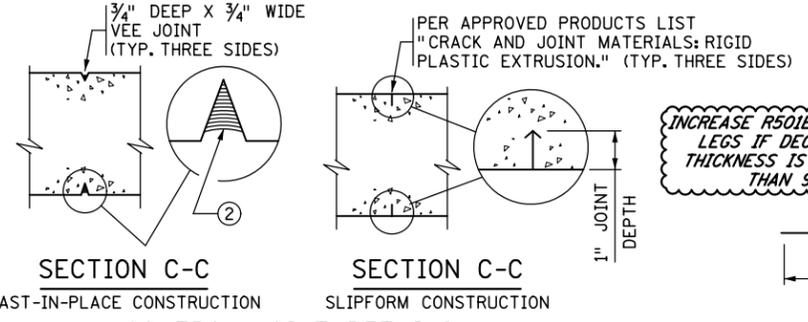
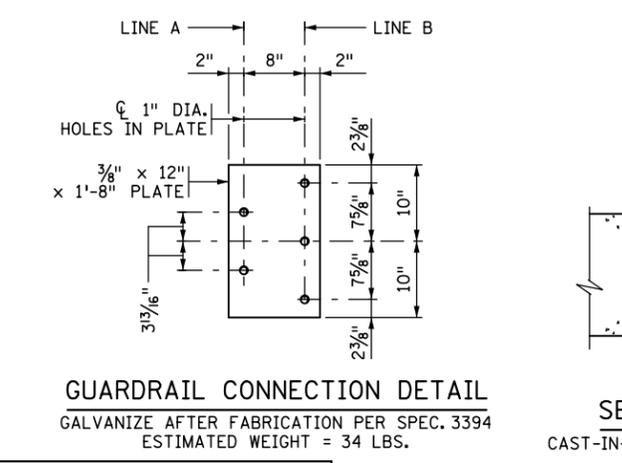
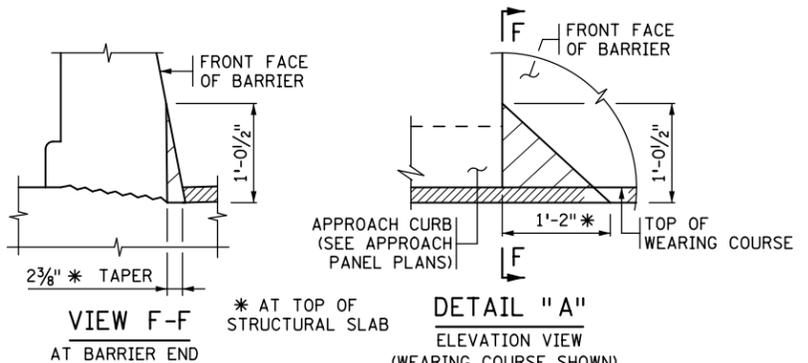
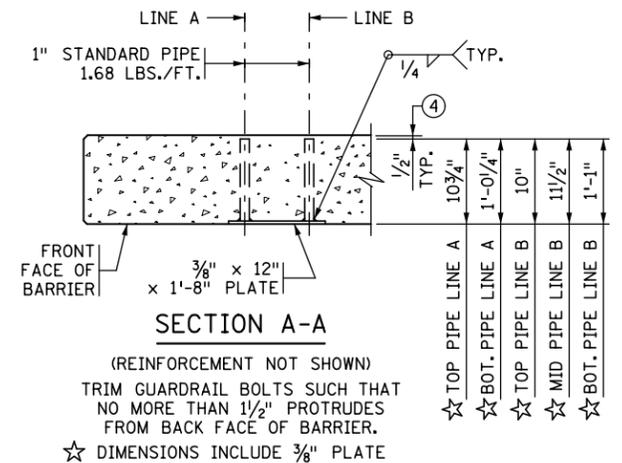
EXPANSION JOINT (5)
 EXPANSION DEVICE NOT SHOWN

INSIDE ELEVATION OF BARRIER
 CONCRETE WEARING COURSE NOT SHOWN

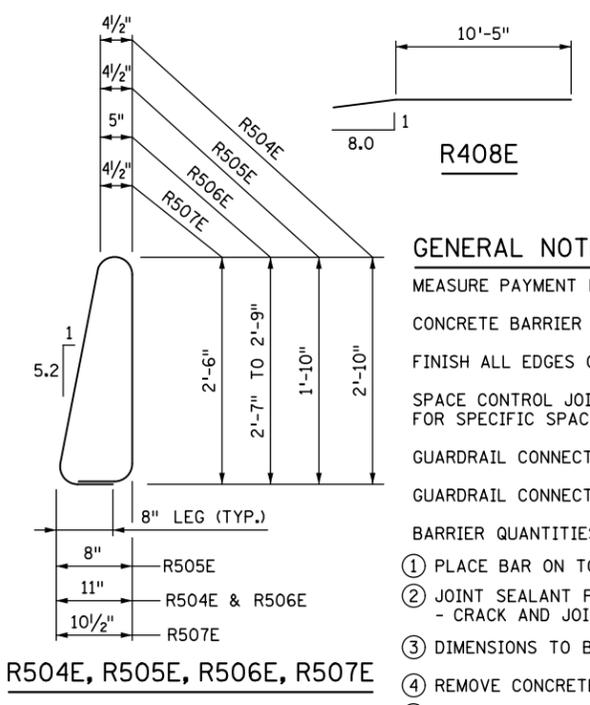
BARRIER MEETS NCHRP 350 TL-4 REQUIREMENTS ON BRIDGE DECK AND TL-3 ON APPROACH PANEL.

BILL OF REINFORCEMENT FOR BARRIER

BAR	NO.	LENGTH	SHAPE	LOCATION
R501E		5'-4"		BARRIER DOWEL
R502E		5'-6"		BARRIER DOWEL
R503E		5'-5"		BARRIER DOWEL
R504E		7'-5"		BARRIER VERTICAL
R505E		5'-5"		BARRIER VERTICAL
R506E	-- SER. OF 4	6'-11" TO 7'-3"		BARRIER VERTICAL
R507E		6'-9"		BARRIER VERTICAL
R408E		11'-7"		BARRIER LONGIT.
R4__E				BARRIER LONGIT.
R4__E				BARRIER LONGIT.
R4__E				BARRIER LONGIT.
R4__E				BARRIER LONGIT.



INCREASE R501E VERTICAL LEGS IF DECK SLAB THICKNESS IS GREATER THAN 9".



- GENERAL NOTES**
- MEASURE PAYMENT LENGTH BETWEEN THE OUTSIDE ENDS OF THE BARRIER.
 - CONCRETE BARRIER = 500 LBS./FT. (0.123 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 DIMENSIONS TO BE DETERMINED BASED ON THE BRIDGE DECK SLOPE.
 - ④ REMOVE CONCRETE FROM PIPE ENDS AFTER SLIPFORMING OR FORM REMOVAL.
 - ⑤ REFER TO "WATERPROOF EXPANSION DEVICE" STANDARD PLANS FOR COVER PLATE DETAILS.

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

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 36"**
 (TYPE S, TL-4)
 PARAPET ABUTMENT WITH BRIDGE SLAB SIDEWALK AND GUARDRAIL CONNECTION (WITH 2" CONCRETE WEARING COURSE)

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

FIG. 5-397.139(D)