

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.

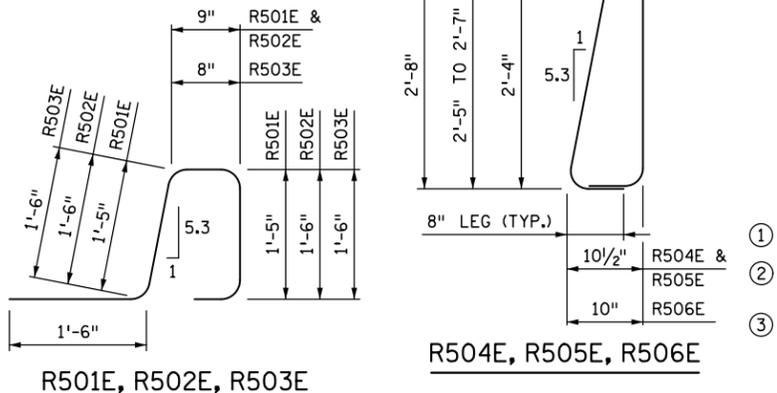
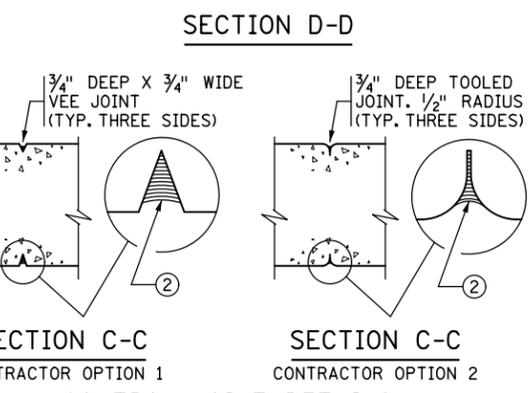
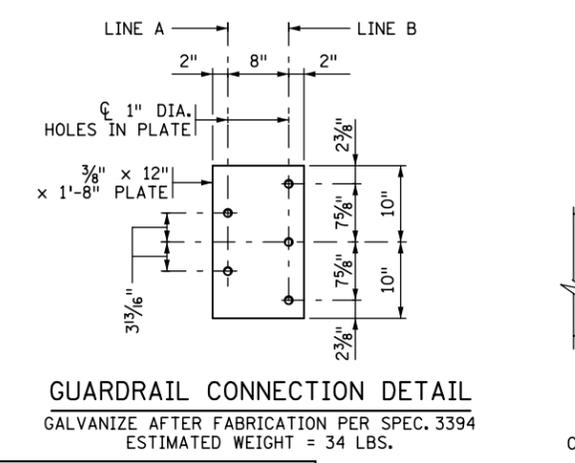
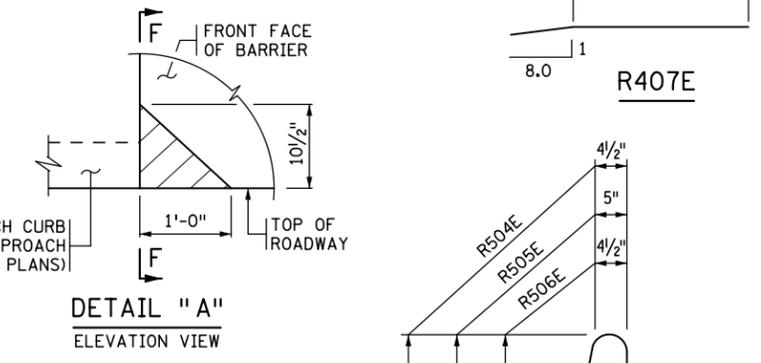
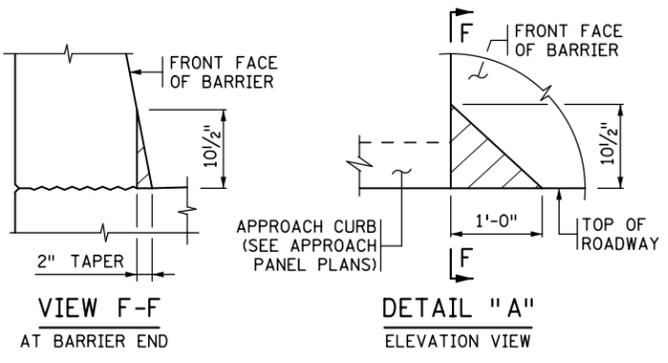
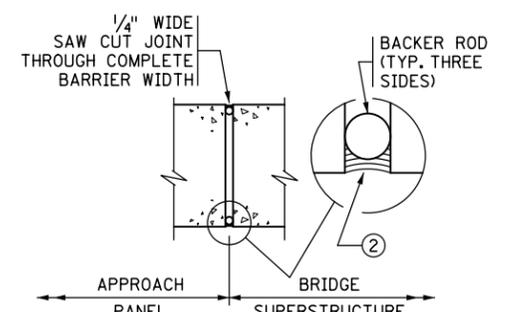
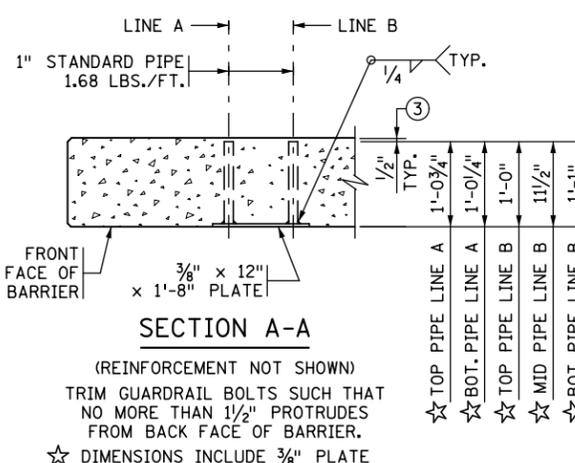
JOINT AT ABUTMENT
 (INTEGRAL OR SEMI-INTEGRAL ABUTMENT)

CONTROL JOINT

INSIDE ELEVATION OF BARRIER
 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'-7"		BARRIER DOWEL
R502E		5'-9"		BARRIER DOWEL
R503E		5'-8"		BARRIER DOWEL
R504E		7'-1"		BARRIER VERTICAL
R505E	-- SER. OF 4	6'-7" TO 6'-11"		BARRIER VERTICAL
R506E		6'-5"		BARRIER VERTICAL
R407E		10'-3"		BARRIER LONGIT.
R4__E				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 = 496 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 REMOVE CONCRETE FROM PIPE ENDS AFTER SLIPFORMING OR FORM REMOVAL.

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

CONTROL JOINT DETAILS
 CONTRACTOR OPTION 1
 CONTRACTOR OPTION 2
 WHEN USING SLIP FORM METHOD TO PLACE THE CONCRETE, CUT JOINT 3 INCHES DEEP USING MARGIN TROWEL OR SIMILAR MEANS IMMEDIATELY AFTER CONCRETE PLACEMENT (TYP. THREE SIDES).

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

TITLE: **SINGLE SLOPE CONCRETE BARRIER 36" (TYPE S, TL-4)**
 INTEGRAL OR SEMI-INTEGRAL ABUTMENT WITH GUARDRAIL CONNECTION (WITHOUT CONCRETE WEARING COURSE)

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

FIG. 5-397.138(A)