

\*\* DIMENSION SHOWN IS TO THE TOP OF THE WEARING COURSE AT GUTTERLINE.

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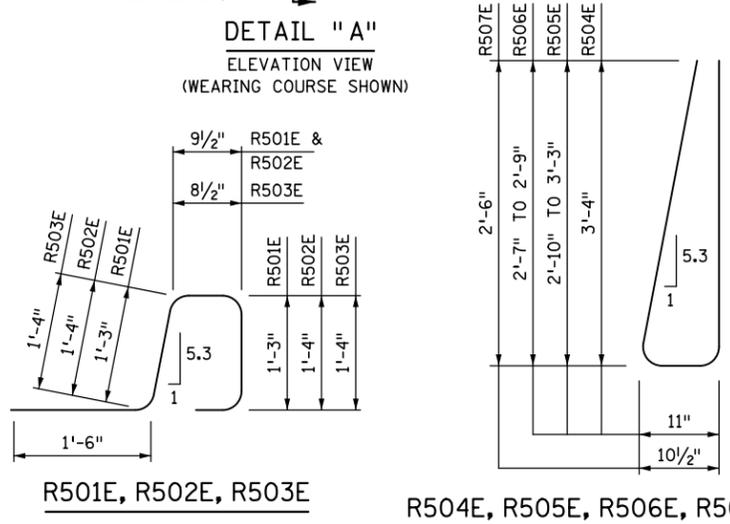
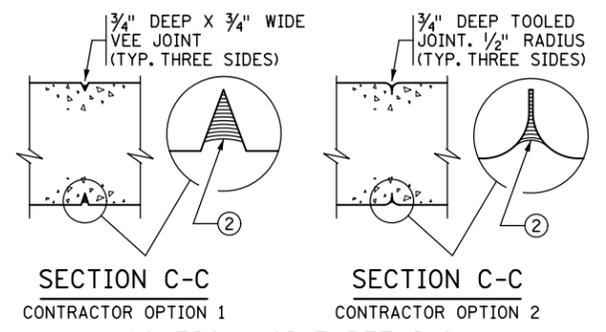
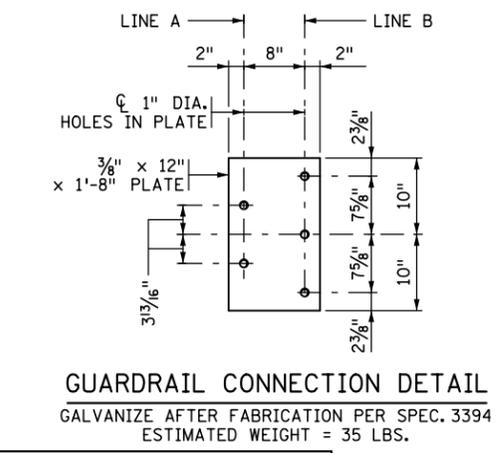
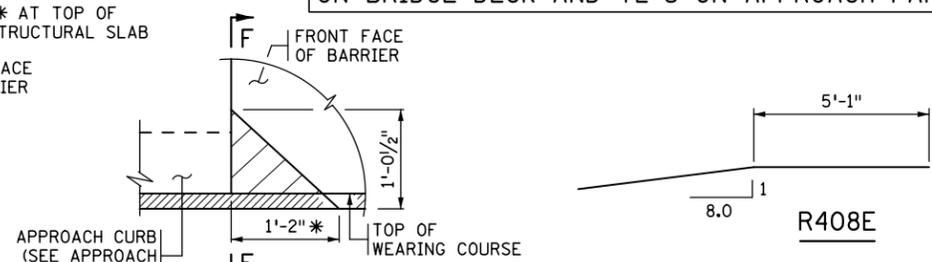
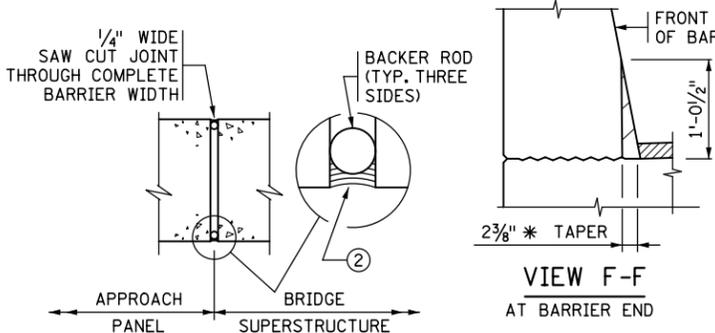
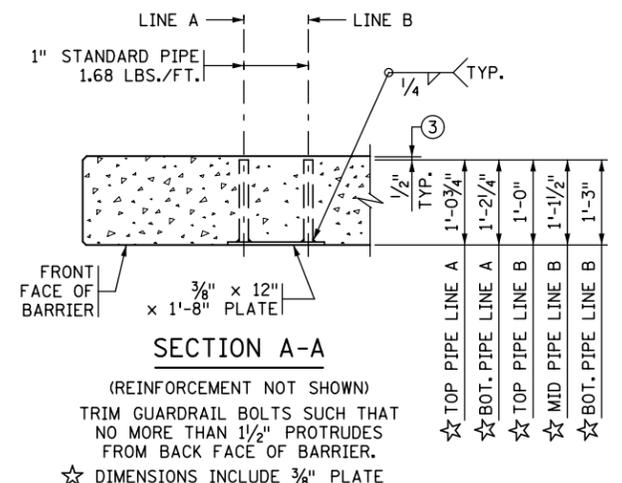
**DESIGNER NOTE**  
 (REMOVE PRIOR TO PLOTTING FINAL PLAN):  
 MINIMUM BARRIER LENGTH ON APPROACH PANEL IS 10'-8" WITH MINIMUM OF 22 R502E AND R503E DOWELS WITH ACCOMPANYING APPROPRIATE BARRIER VERTICAL BARS, 12" MAX. SPACING. VERIFY APPROACH BARRIER LENGTH, NEED FOR A GUARDRAIL CONNECTION, AND VERTICAL TAPER WITH ROADWAY DESIGNER. REFER TO MEMO TO DESIGNERS (2016-01) FOR ADDITIONAL REQUIREMENTS REGARDING BARRIER PLACEMENT.

**JOINT AT ABUTMENT**  
 (INTEGRAL OR SEMI-INTEGRAL ABUTMENT)

**CONTROL JOINT**  
**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'-6"		BARRIER VERTICAL
R505E	-- SER. OF 4	6'-7" TO 7'-5"		BARRIER VERTICAL
R506E	-- SER. OF 4	6'-1" TO 6'-5"		BARRIER VERTICAL
R507E		5'-10"		BARRIER VERTICAL
R408E		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 = 586 LBS./FT. (0.145 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

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 \_\_\_\_\_ DATE \_\_\_\_\_  
 LICENSED PROFESSIONAL ENGINEER  
 NAME: \_\_\_\_\_ LIC. NO. \_\_\_\_\_

TITLE: **SINGLE SLOPE CONCRETE BARRIER 42" (TYPE S, TL-4)**  
 INTEGRAL OR SEMI-INTEGRAL ABUTMENT WITH GUARDRAIL CONNECTION (WITH 2" CONCRETE WEARING COURSE)

DES: \_\_\_\_\_ DR: \_\_\_\_\_  
 CHK: \_\_\_\_\_ CHK: \_\_\_\_\_  
 APPROVED: \_\_\_\_\_  
 SHEET NO. OF SHEETS  
 BRIDGE NO. \_\_\_\_\_

FIG. 5-397.140(B)