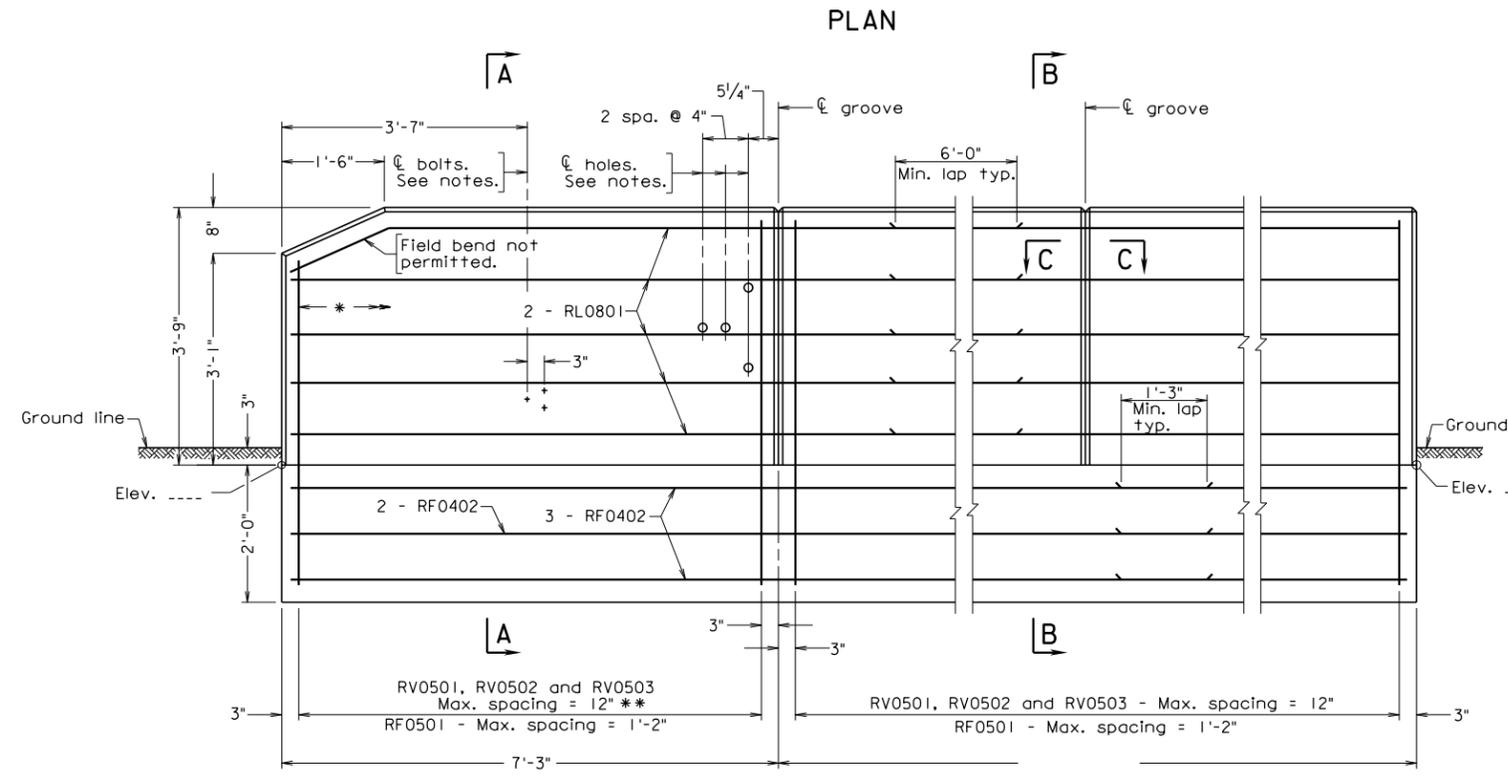
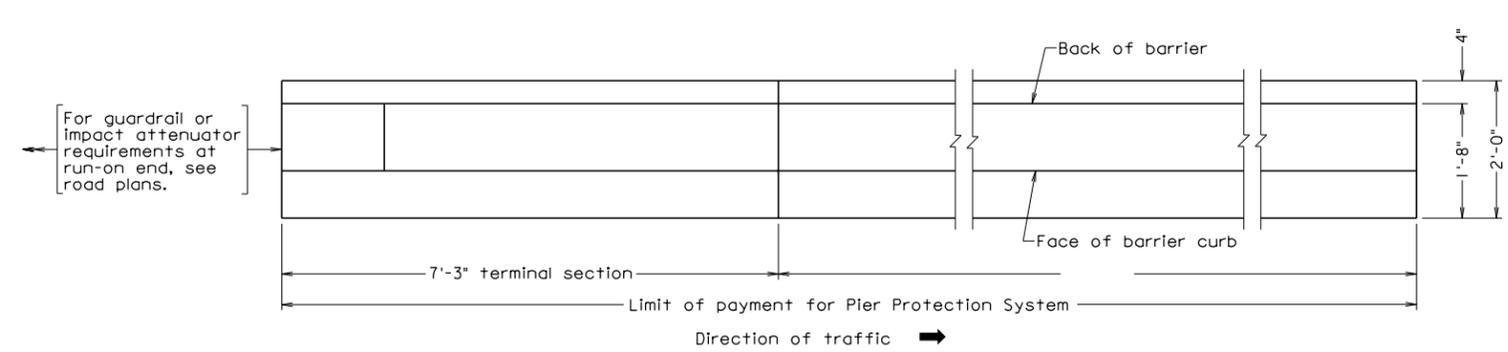
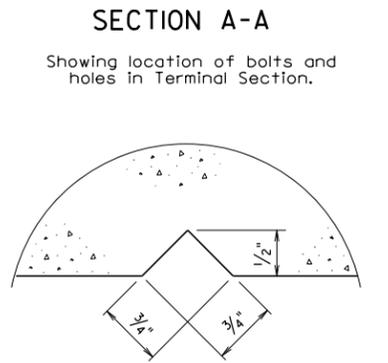
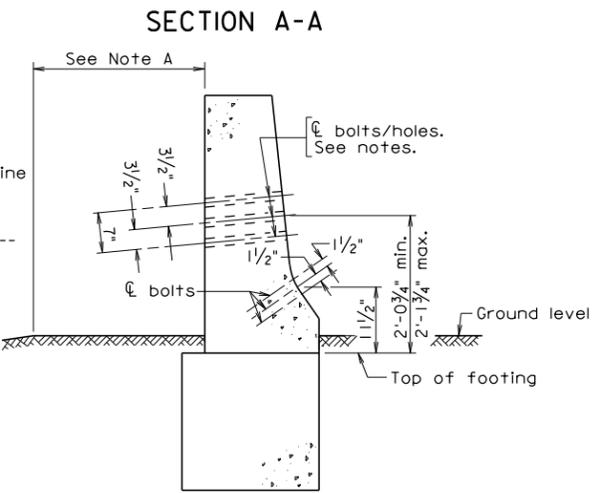
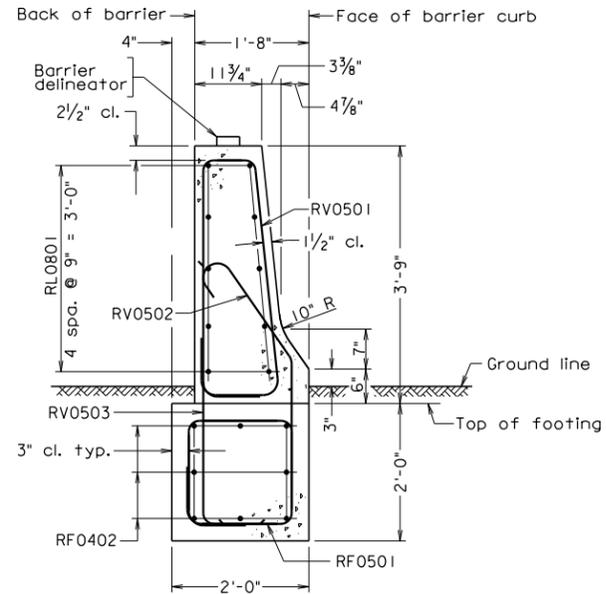


STATE	FEDERAL AID	STATE	SHEET NO.
ROUTE	PROJECT	ROUTE	PROJECT
VA.			



\* Adjust length of bars as needed at end.  
 \*\* Adjust spacing to clear bolts and holes.



Note A:  
 2'-6" min. from the break line of embankment unless footing adjacent to a permanent structure.

Notes:  
 Plan dimensions shown are measured in the respective horizontal and vertical planes.  
 The Contractor shall determine all dimensions and details necessary for installation.  
 All concrete shall be Class A4.  
 All chamfers for concrete shall be 3/4".  
 All reinforcing steel shall be ASTM A615, Grade 60.  
 Spacing of grooves shall be approximately 8'-0". Spacing of transverse construction joints for crack control shall be at approximately 24'-0" to coincide with centerline of groove. Transverse construction joint through barrier and footing shall be at the same location.  
 Barrier delineator size, color and spacing shall be in accordance with the Specifications.  
 Terminal sections are detailed to take guardrail attachment GR-FOA-2. Holes where shown, shall be formed with sleeves of 1/2" diameter nominal pipe. Bolts, where shown, shall be 3/8" diameter expansion bolts, 6" long and shall be drilled and installed when rub rail is attached.  
 For additional details not shown, see sheet ...  
 Payment: Pier Protection System shall be paid for on a lump sum basis, wherein no measurement shall be made, and shall be paid for at the contract lump sum price, which price shall include within the pay limits shown, the parapet, footing, excavation for footing and backfilling as directed by the Engineer and all miscellaneous hardware as detailed on the plans. Such price shall be full compensation for furnishing all materials, labor, tools, equipment and incidentals necessary to complete the work.

REINFORCING STEEL SCHEDULE					
Mark	No.	Size	Pin $\phi$	Length	Location
RV0501		#5	3 3/4"	9'-8 3/4"	Barrier
RV0502		#5	3 3/4"	5'-5 3/8"	Barrier
RV0503		#5	3 3/4"	4'-5 3/8"	Barrier
RL0801		#8			Barrier
RL08		#8			Barrier
RF0501		#5	3 3/4"	7'-0 1/4"	Footing
RF0402		#4			Footing
RF04		#4			Footing

Dimensions in bending diagram are out-to-out of bars, except as shown.  
 Cost of all bars listed in schedule to be included in price bid for Pier Protection System.

COMMONWEALTH OF VIRGINIA DEPARTMENT OF TRANSPORTATION					
STRUCTURE AND BRIDGE DIVISION					
PIER PROTECTION SYSTEM					
No.	Description	Date	Designed: S&B, DIV	Date	Plan No.
			Drawn: S&B, DIV		BPPS-3
			Checked: S&B, DIV		Sheet No.
Revisions					

LAYOUT OF BARRIER FOR PIER PROTECTION  
 Scale: -----

BPPS-3  
 05-18-2016  
 Sealed and Signed by:  
 Prasad L. Nallapaneni  
 Lic. No. 033003  
 On the date of  
 May 18, 2016  
 A copy of the original  
 sealed and signed  
 standard drawing  
 is on file in the  
 Central Office.  
 VDOT S&B DIVISION  
 RICHMOND, VA  
 STRUCTURAL ENGINEER

## PIER PROTECTION SYSTEM

### NOTES TO DESIGNER:

See Part 2, Chapter 15: Pier Details, of this manual for design guidance, detailing requirements and examples of pier protection system.

Designer shall coordinate with roadway designer for barrier termination at the run-on end (guardrail, impact attenuator, etc.). The terminal section is detailed to accommodate guardrail attachment GR-FOA-2.

Reference to barrier height is for portion above ground line. The standard indicates 3" of barrier below ground line to top of 2'-0" x 2'-0" footing.

### ADD THE FOLLOWING NOTES, DIMENSIONS, DETAILS, ETC. TO STANDARD:

#### PLAN:

Add dimension for length of 42" barrier. If project is "bridge only", add sheet number for details at end of barrier (run-on side).

#### ELEVATION:

Add dimension for length of 42" barrier. Use 1'-0" multiples for barrier length(s). Add elevations.

#### LAYOUT OF BARRIER FOR PIER PROTECTION:

Show plan view of pier column(s) or pier stem. Show tie point for intersection of  $\mathcal{C}$  pier and  $\mathcal{C}$  bridge such that the Contractor can lay out the footing for the Pier Protection System (location, orientation, etc.). The  $\mathcal{C}$  pier may not be parallel to the roadway. Show distance from face of barrier curb to  $\mathcal{C}$ L pier. Show terminal section (42" high barrier) and 42" high barrier section. Show stations of two ends at the face of barrier curb.