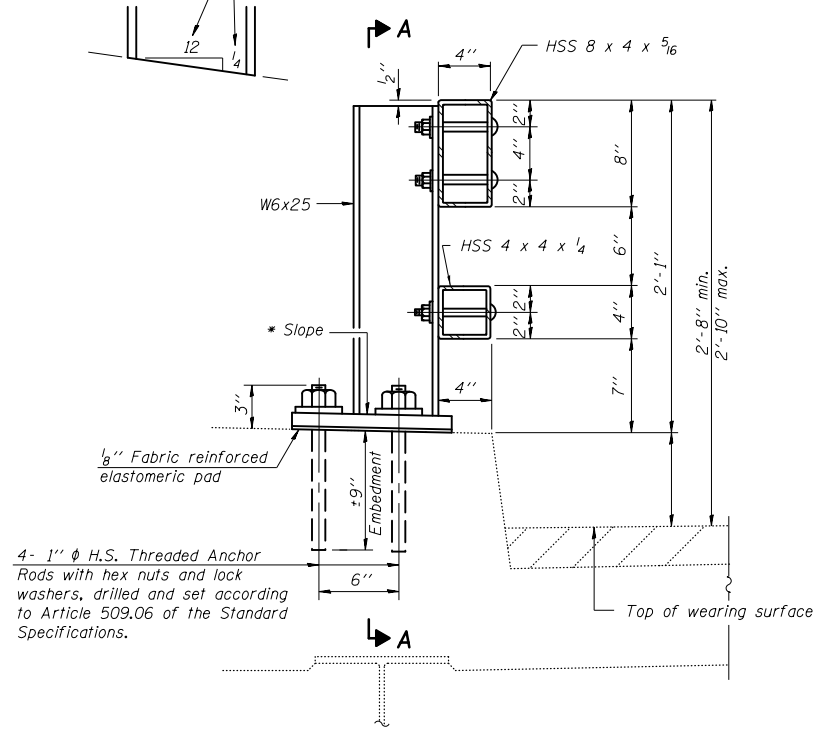
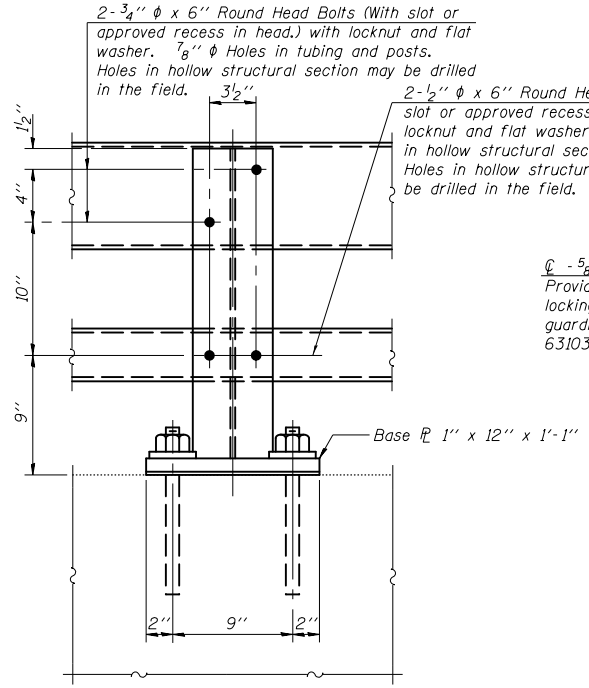


\* Cut bottom end of post to curb slope.



**SECTION AT RAIL POST**

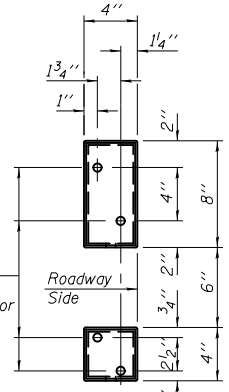


**SECTION A-A**

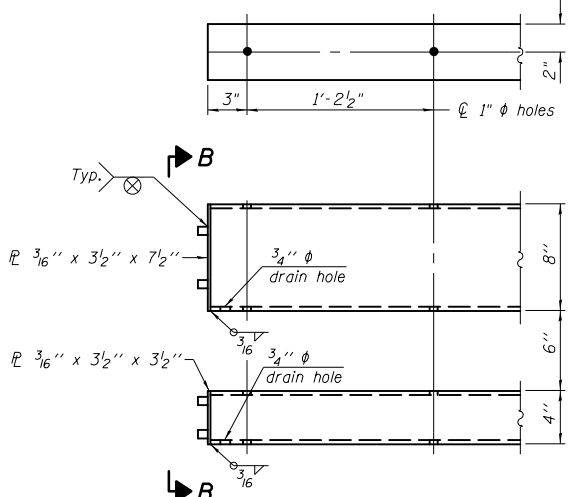
2- 3/4"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 7/8"  $\phi$  Holes in tubing and posts. Holes in hollow structural section may be drilled in the field.

2- 1/2"  $\phi$  x 6" Round Head Bolts (With slot or approved recess in head.) with locknut and flat washer. 5/8"  $\phi$  Holes in hollow structural section and post. Holes in hollow structural section may be drilled in the field.

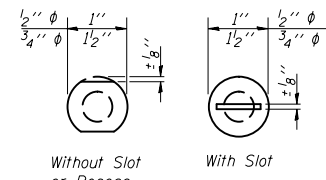
4- 5/8" reduced base welded studs. Provide 4- 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



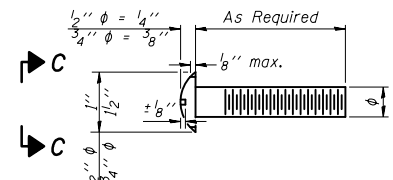
**VIEW B-B**



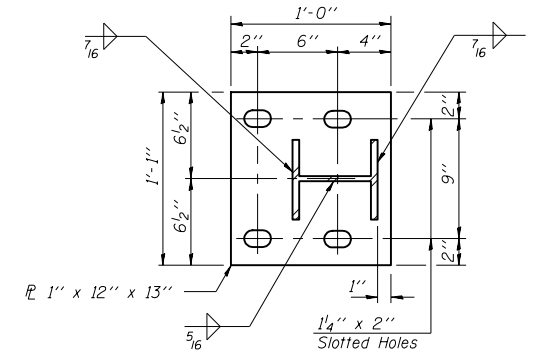
**END OF RAIL DETAILS**



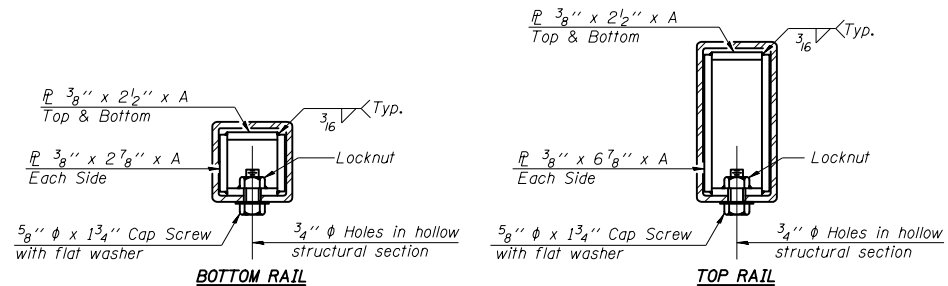
**VIEW C-C**



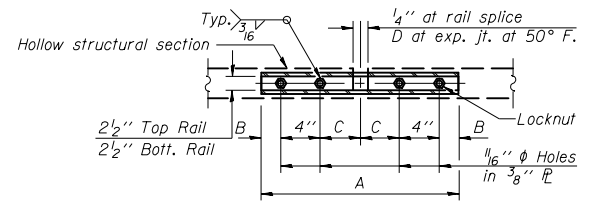
**DETAIL OF 1/2"  $\phi$  & 3/4"  $\phi$  ROUND HEAD BOLTS**



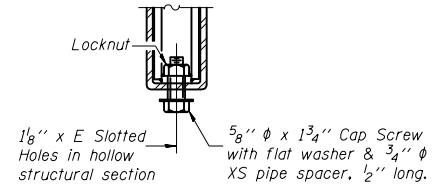
**BASE PLATE DETAIL**



**SECTIONS AT RAIL SPLICE**



**PLAN-BOTT. SPLICE TYPICAL**



**RAIL SPLICE CONNECTION AT EXPANSION JT.**

**Notes:**  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 Posts shall not be located closer than 1'-3" to an existing bridge expansion joint or end of bridge.  
 Steel Bridge Rail expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow ralling movement.  
 Provide one 1/8" and two 1/16" steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.  
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

**SPLICE DIMENSIONS**

T	D	A	B	C	E
≤4"	2 1/2"	1'-8"	2"	4"	2 1/2"
>4" ≤6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
>6 1/2" ≤9"	5"	2'-4"	3 1/2"	6 1/2"	9"
>9" ≤13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	—

T = Total movement at expansion joint as shown on the design plans.

**BILL OF MATERIAL**

Item	Unit	QUANTITY		
		SN 010-0171	SN 010-0172	TOTAL
Steel Railing, Type 2399	Foot	509	695	1204

R-31

7-1-10

(6'-3" Maximum Post Spacing)

FILE NAME =	USER NAME = keysrb	DESIGNED -	REVISED -
ei:\pwwork\pwwork\keysrb\d0158448\05707	6-sht-details.dgn	DRAWN -	REVISED -
	PLOT SCALE = 48.0000' / in.	CHECKED -	REVISED -
#MODELNAME#	PLOT DATE = 11/13/2012	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STEEL RAILING, TYPE 2399  
 STRUCTURE 010-0171 AND 010-0172**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(10-34, 10-35RS-2(NB))	CHAMPAIGN	53	46
CONTRACT NO. 70716				
ILLINOIS FED. AID PROJECT				