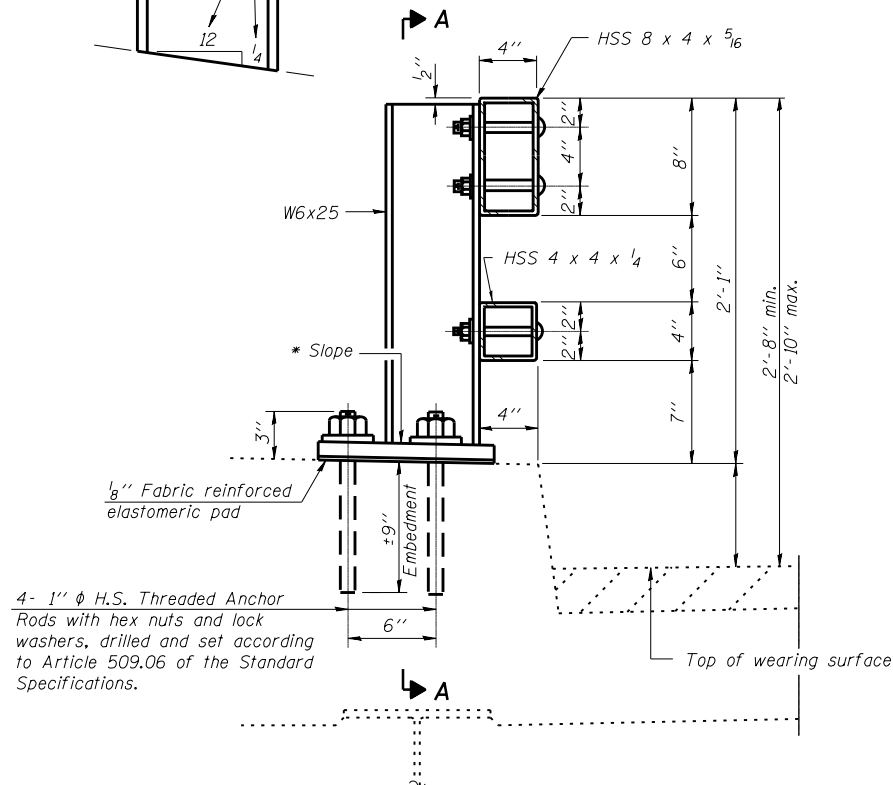
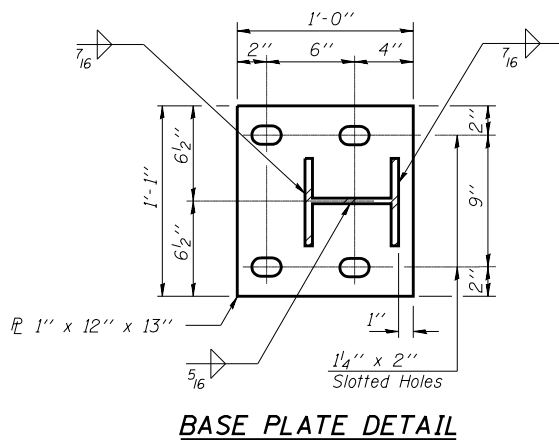


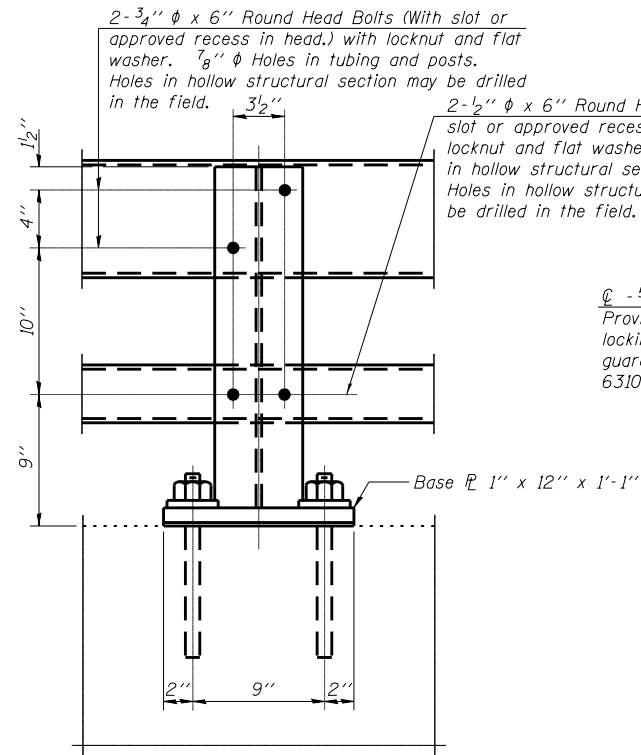
\* Cut bottom end of post to curb slope.



**SECTION AT RAIL POST**

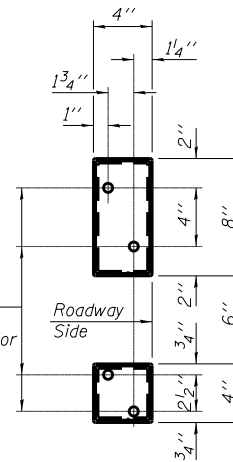


**BASE PLATE DETAIL**

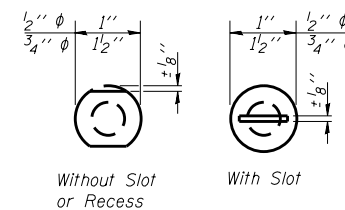


**SECTION A-A**

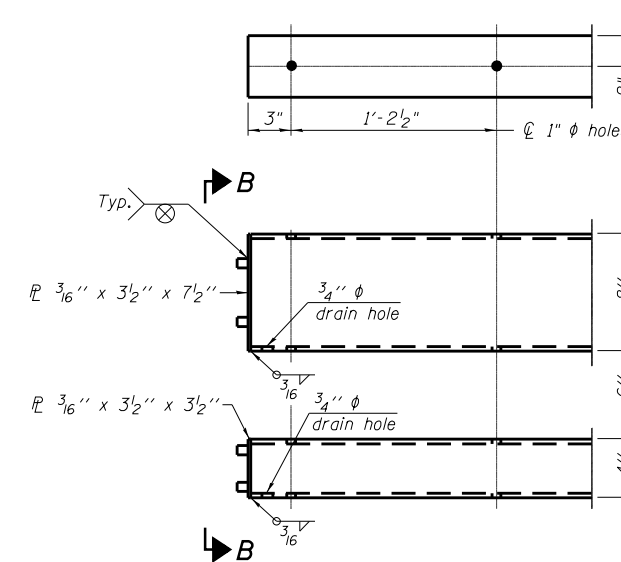
4 - 5/8" reduced base welded studs. Provide 4 - 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



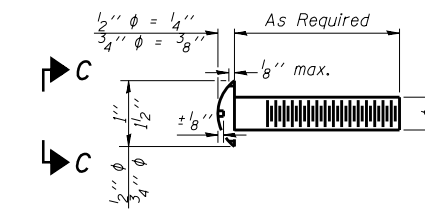
**VIEW B-B**



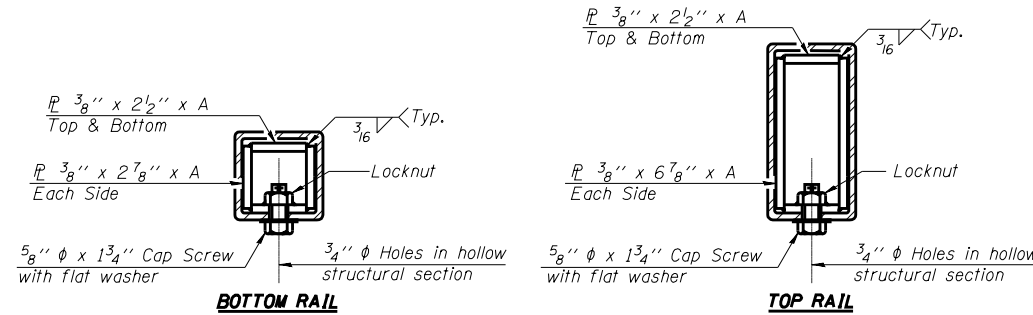
**VIEW C-C**



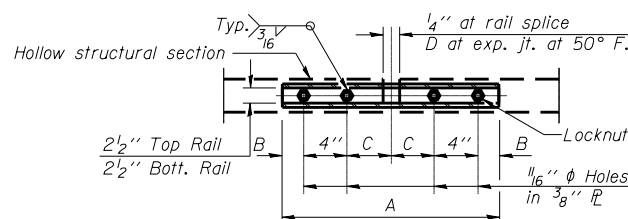
**END OF RAIL DETAILS**



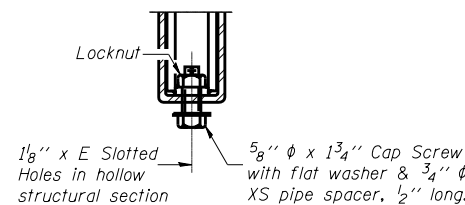
**DETAIL OF 1/2" & 3/4" ROUND HEAD BOLTS**



**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 railing movement.  
 Provide one 1/8" and two 1/6" 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
Steel Railing, Type 2399	Foot	23

R-31

7-1-10

(6'-3" Maximum Post Spacing)

STEEL RAILING, TYPE 2399  
 STRUCTURE NO.

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL RAILING, TYPE 2399	F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
et:\pwork\p1dot\pyrzenowskirb\d030700	pyrzenowskirb	ND142312-sht-plan.dgn				VAR.	2012-022 GRR	VARIOUS	23	19
		PLOT SCALE = 100.0000' / 11.								CONTRACT NO. 60174
		PLOT DATE = 8/8/2012				FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
					SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	