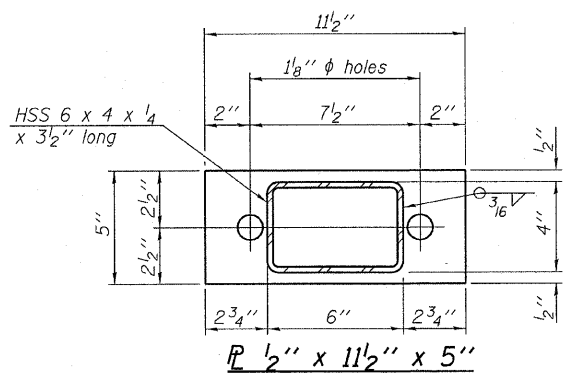
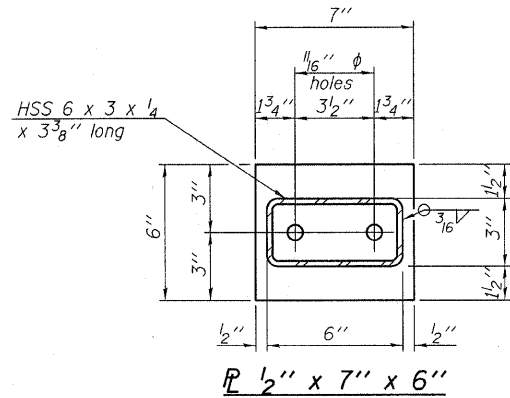


**VIEW A-A
ROUND HEAD BOLT**

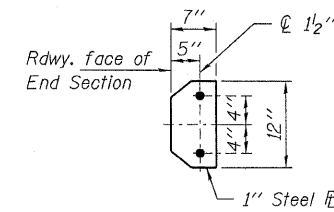


SECTION B-B

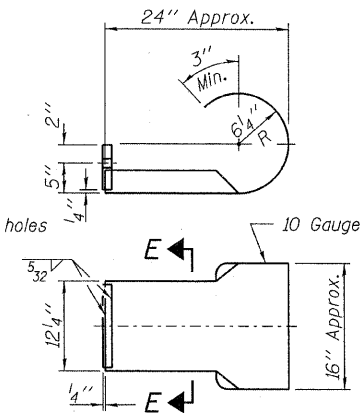


SECTION AT RAILING POST

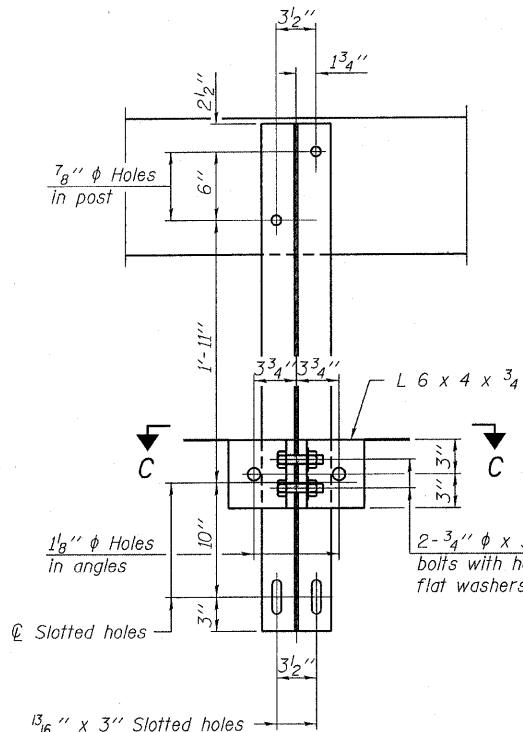
Note: Cost of curled end sections shall be included with the Steel Railing. (3 Required)



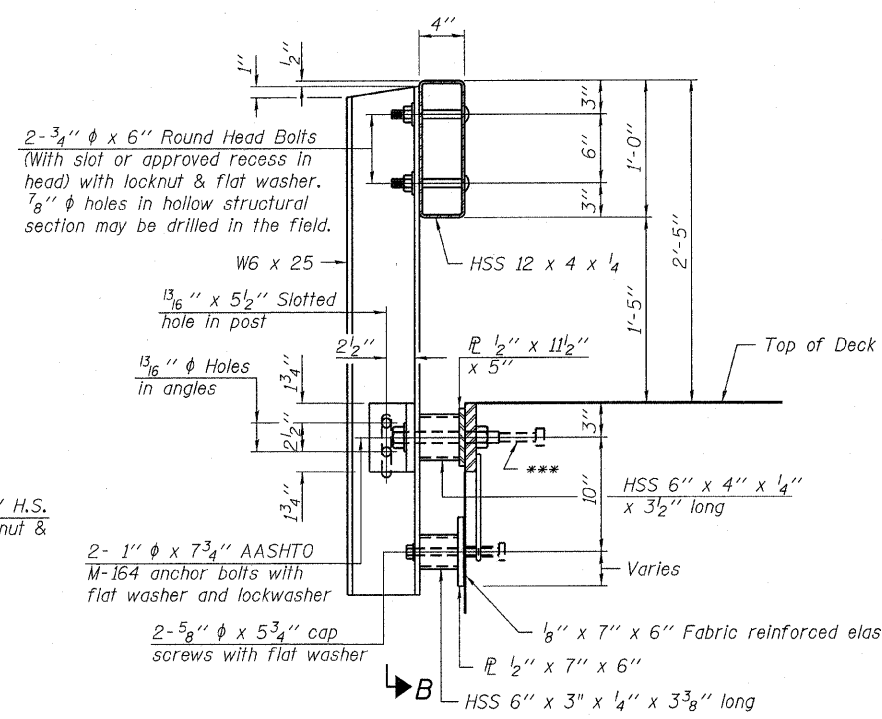
SECTION E-E



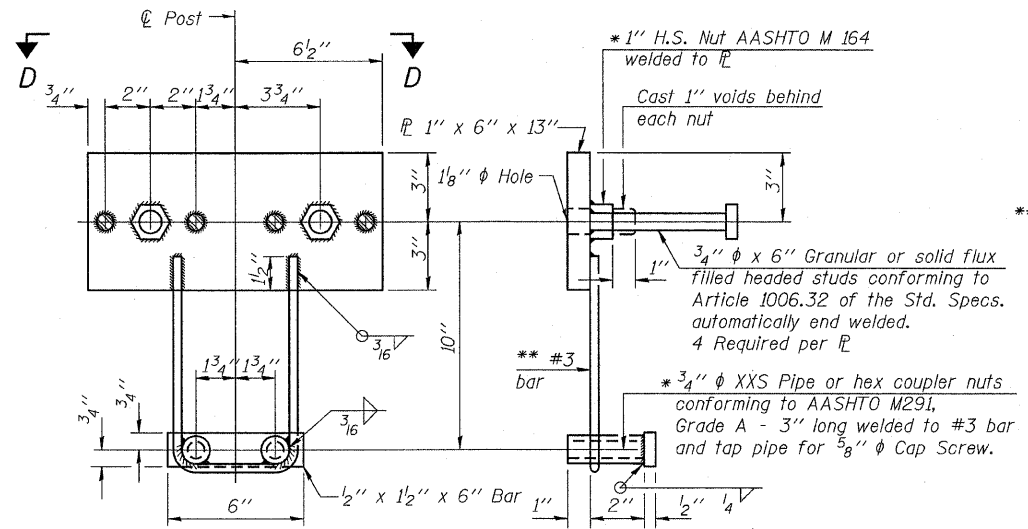
CURLED END SECTION DETAILS



SECTION C-C

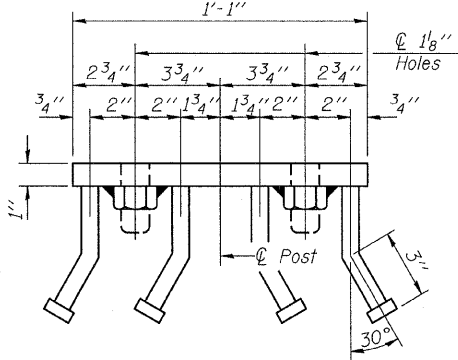


SECTION AT RAILING POST

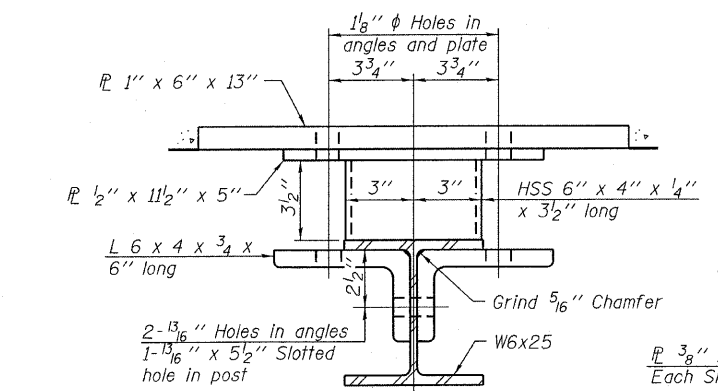


ANCHOR DEVICE

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4 inch x 6 inch x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

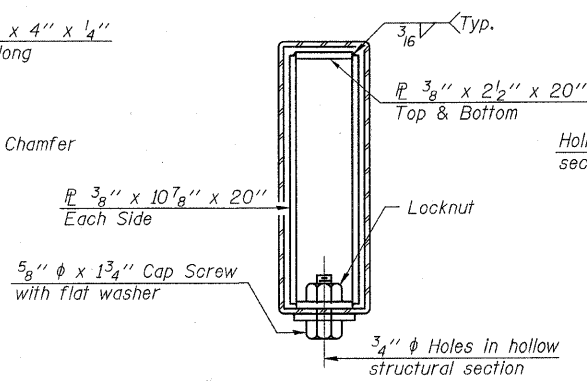


VIEW D-D

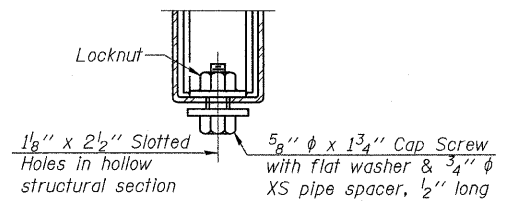


SECTION C-C

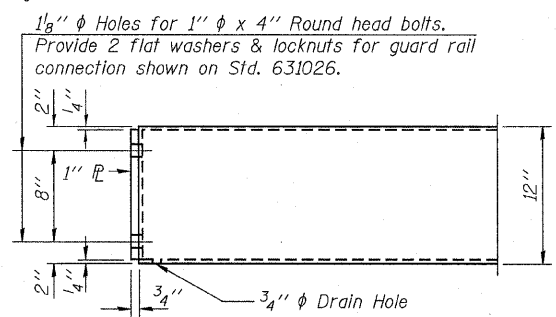
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



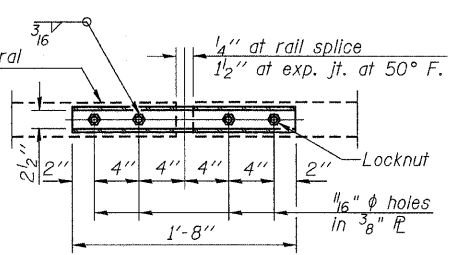
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



END OF RAIL DETAILS



PLAN-BOTT. SPLICE R TYPICAL

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	88

**STEEL RAILING, TYPE S-1
STRUCTURE NO. 033-3302**

DESIGNED - V.J.H.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - D.A.B.

R-23A

10-1-08 (10'-9" Maximum Post Spacing)

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com

SHEET NO. 5	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	52	06-04126-00-BR	HAMILTON	11	8
8 SHEETS	DAHLGREN ROAD DISTRICT		CONTRACT NO. 99416		
	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT: BROS-065(048)		

PROJECT NUMBER: 09.0070.130 DATE: 12/17/09