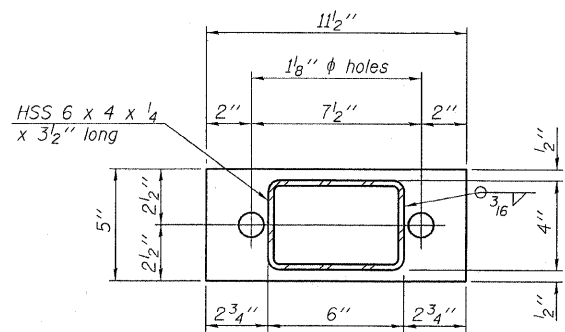
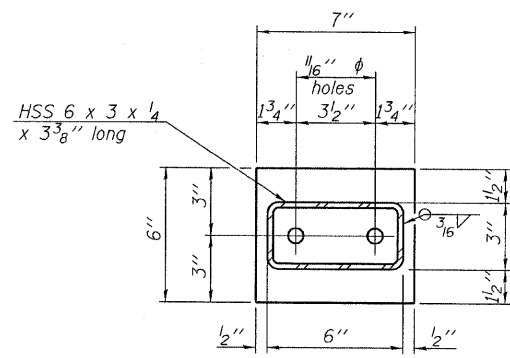


**VIEW A-A  
ROUND HEAD BOLT**

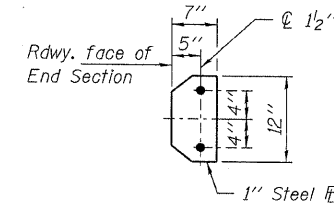


**SECTION B-B**

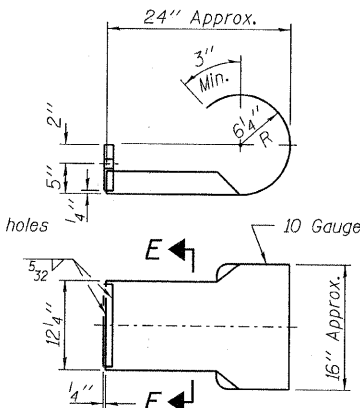


**SECTION AT RAILING POST**

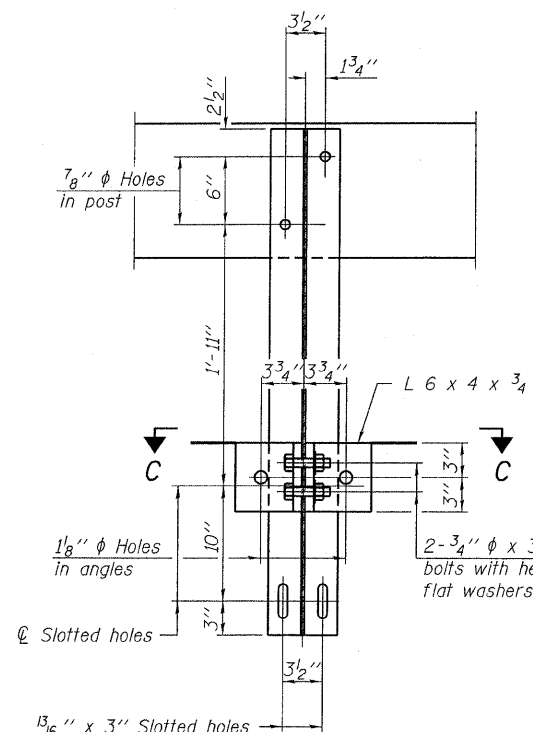
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



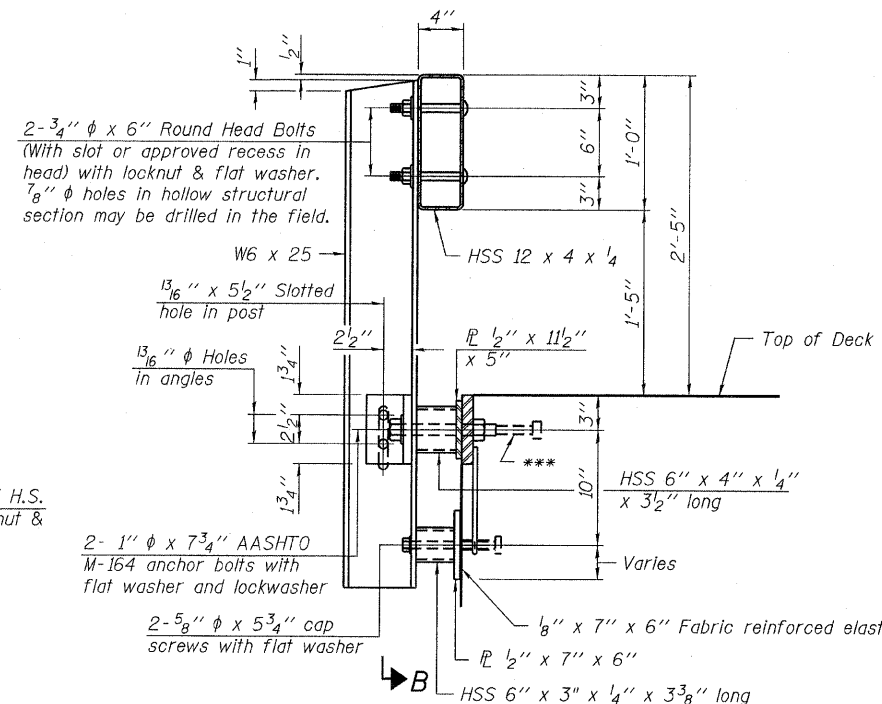
**SECTION E-E**



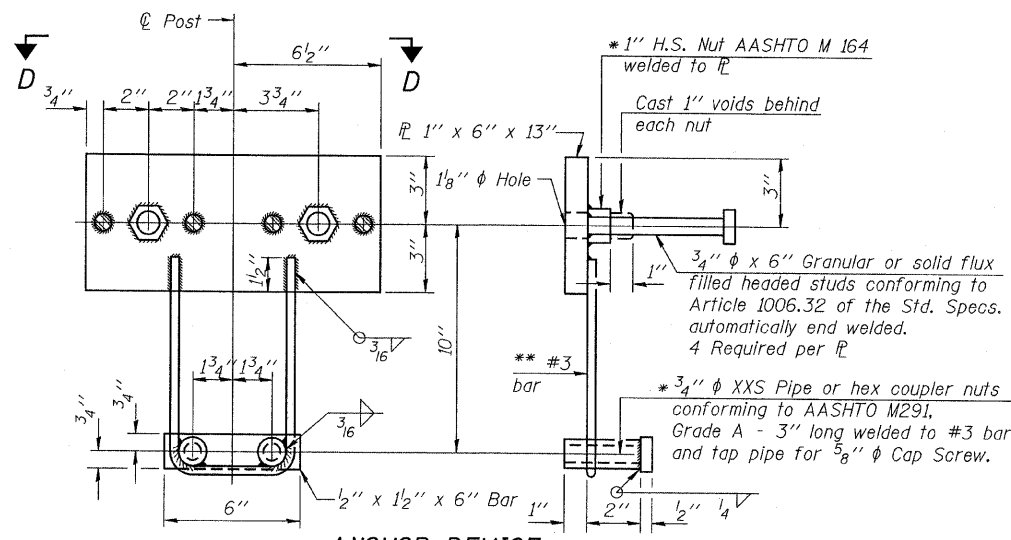
**CURLED END SECTION DETAILS**



**SECTION B-B**

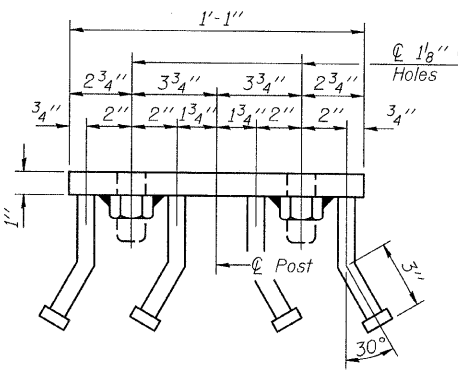


**SECTION AT RAILING POST**

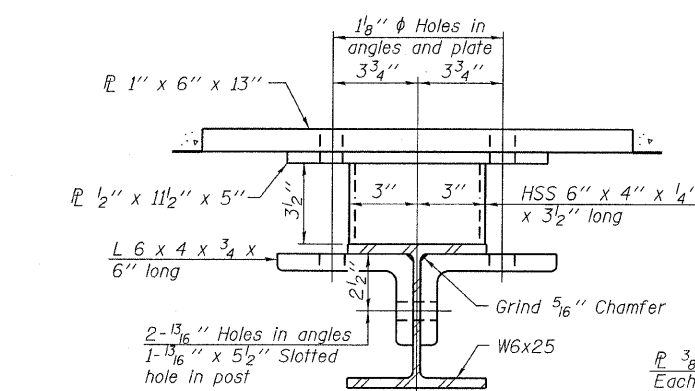


**ANCHOR DEVICE**

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 inch 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.

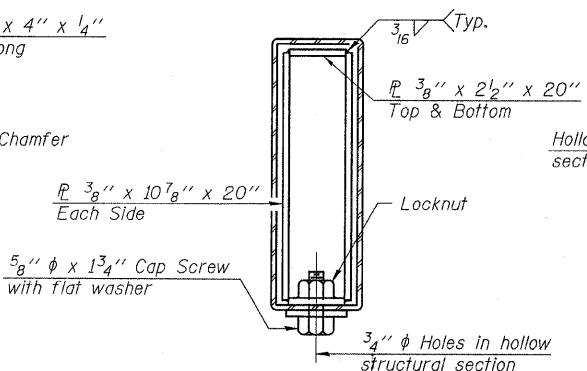


**VIEW D-D**

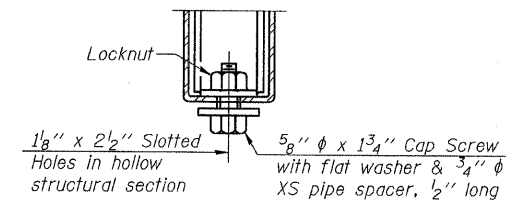


**SECTION C-C**

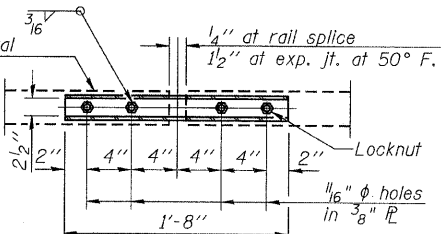
\*\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



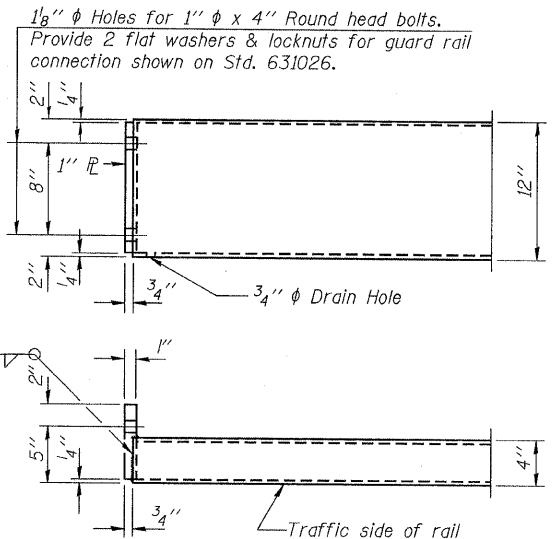
**SECTIONS AT RAIL SPLICE**



**RAIL SPLICE CONNECTION AT EXPANSION JT.**



**PLAN-BOTT. SPLICE RAIL TYPICAL**



**END OF RAIL DETAILS**

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	110

**STEEL RAILING, TYPE S-1  
STRUCTURE NO. 097-3255**

DESIGNED - S.M.S.
CHECKED - M.G.B.
DRAWN - D.T.M.
CHECKED - D.A.B.

R-23A

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

**HAMPTON, LENZINI & RENWICK, INC.**  
CIVIL & STRUCTURAL ENGINEERS  
LAND SURVEYORS  
3085 STEVENSON DRIVE, SUITE 201  
SPRINGFIELD, ILLINOIS 62703  
(217) 546-3400

SHEET NO. 5	T.R. 237	SECTION 06-02123-00-BR	COUNTY WHITE	TOTAL SHEETS 12	SHEET NO. 9
8 SHEETS	CONTRACT NO. 99364		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

PROJECT NUMBER: 08 0282 130 DATE: 05/26/99