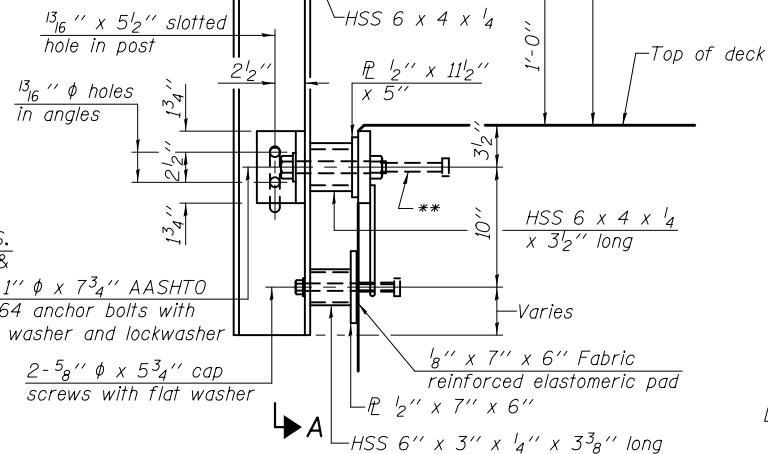
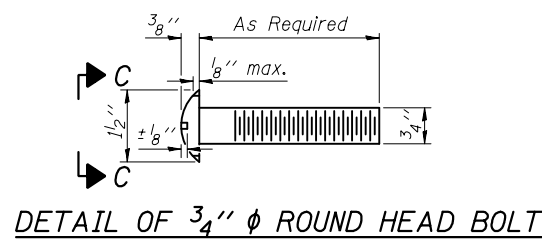


SECTION A-A

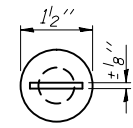
4- 3/4" φ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" φ holes in hollow structural section may be drilled in the field.



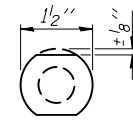
SECTION AT RAIL POST



DETAIL OF 3/4" φ ROUND HEAD BOLT

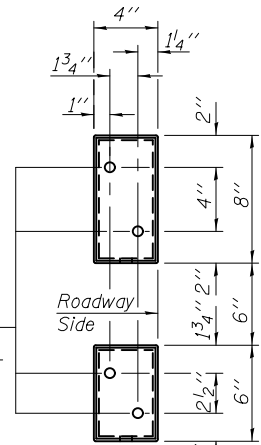


With Slot



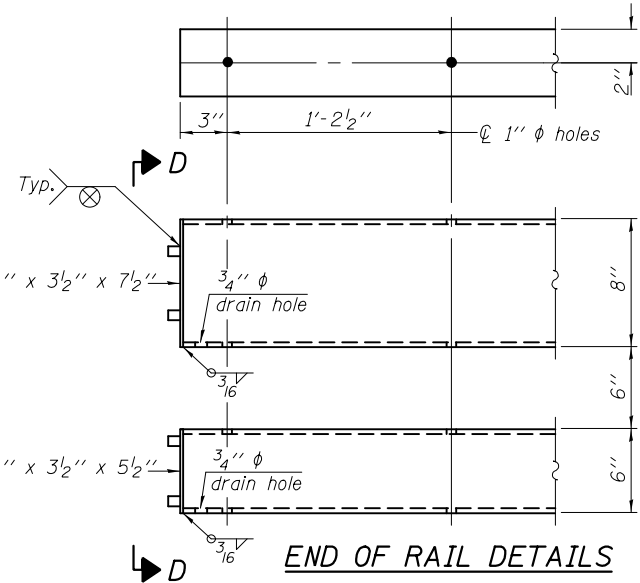
Without Slot or Recess

VIEW C-C

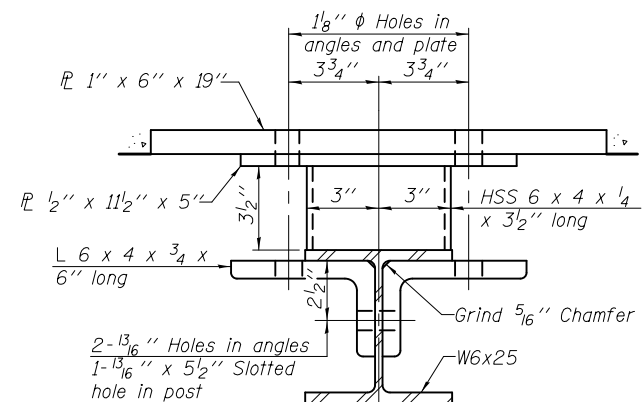


VIEW D-D

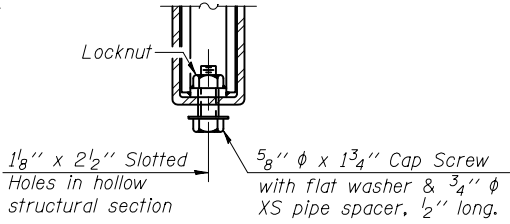
4- 5/8" reduced base welded studs. Provide 4- 5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



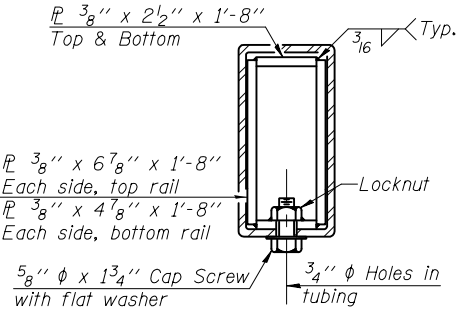
END OF RAIL DETAILS



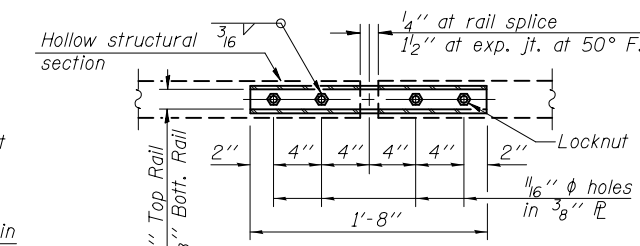
SECTION B-B



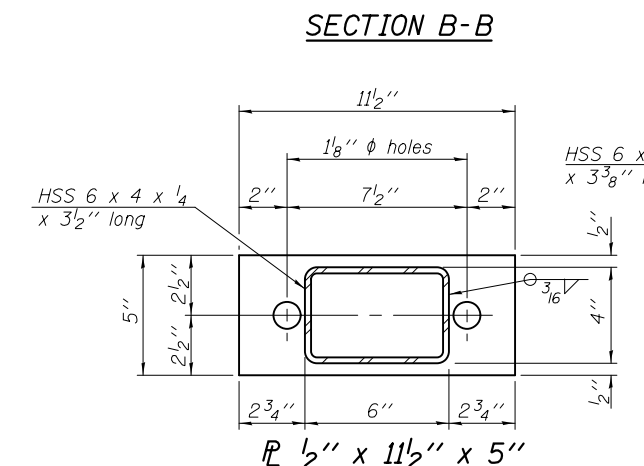
RAIL SPLICE CONNECTION AT EXPANSION JT.



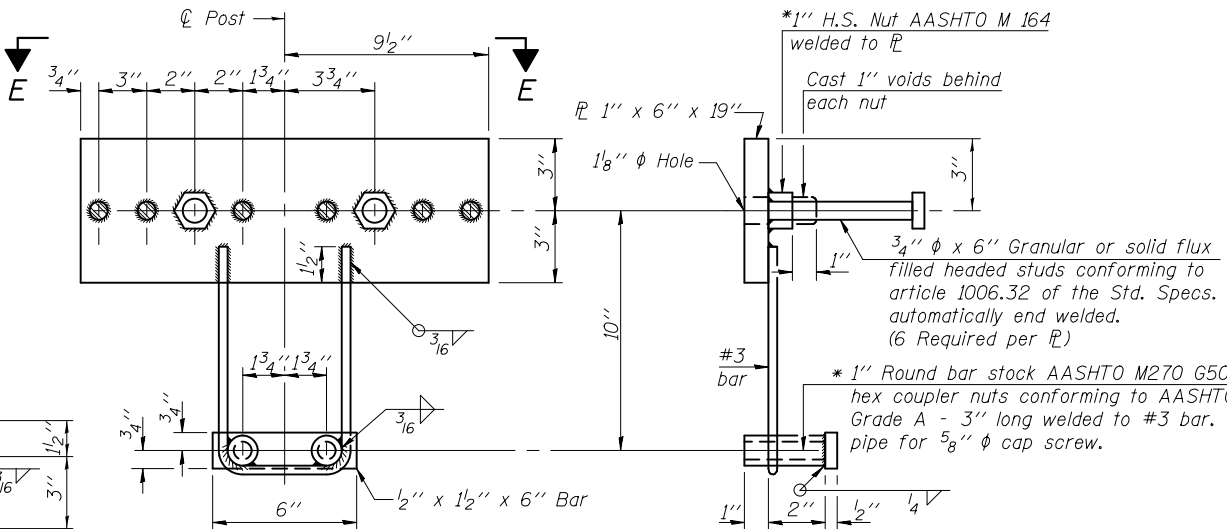
SECTION AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

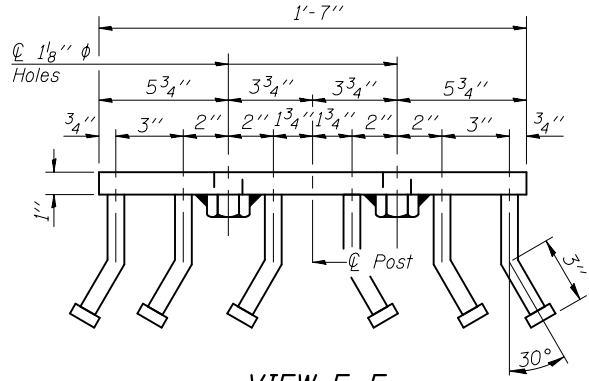


SECTION B-B



ANCHOR DEVICE

\*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.



VIEW E-E

Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
 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.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	280

DESIGNED - Paul S. Johnson  
 CHECKED - Zachary T. Bulva  
 DRAWN - h.t. duong  
 CHECKED - PSJ/ZTB

EXAMINED - *Joanne F. [Signature]*  
 PASSED - *Carl [Signature]*  
 ACTING ENGINEER OF BRIDGE DESIGN  
 ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - OCTOBER 16, 2014  
 REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE SM  
 STRUCTURE NO. 053-0157

SHEET NO. 12 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
370	(102BR)BR	LIVINGSTON	65	33
				CONTRACT NO. 66A18

ILLINOIS FED. AID PROJECT

(6'-3" Maximum Post Spacing)