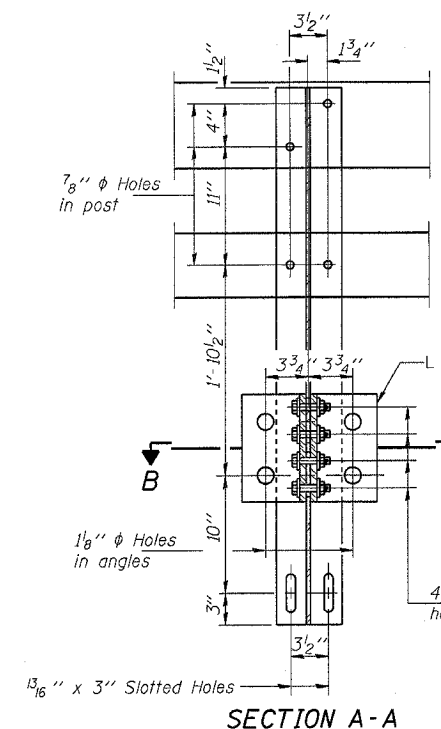
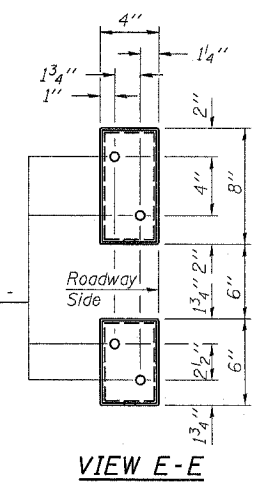
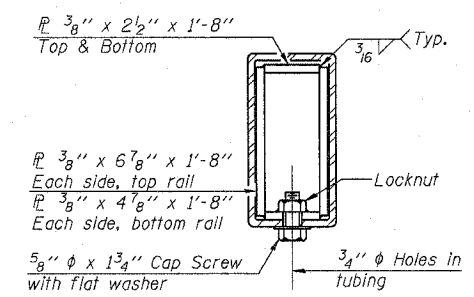
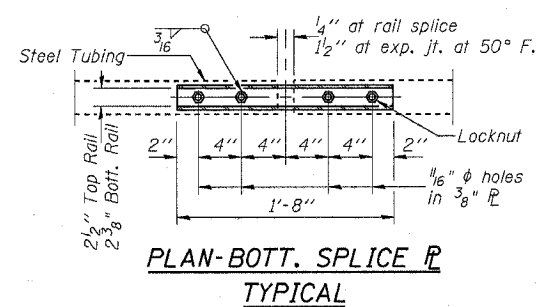
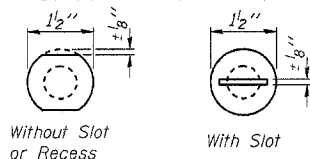
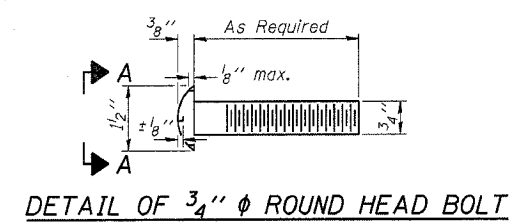
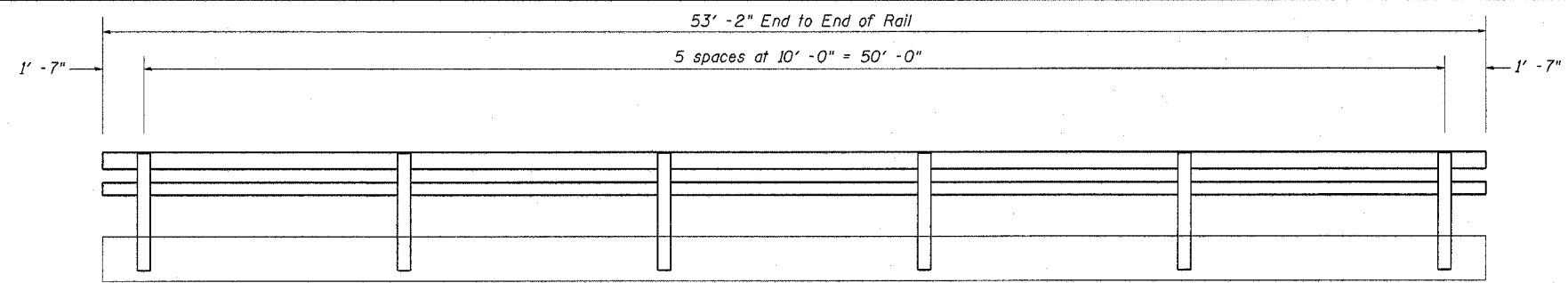


CONTRACT NO. 64C02				
F.A.P. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
549 117BR-M	Ogle	12	11	
STA. TO STA.				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

Sheet 5 of 6 sheets

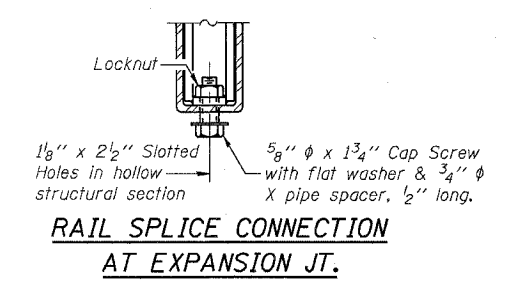
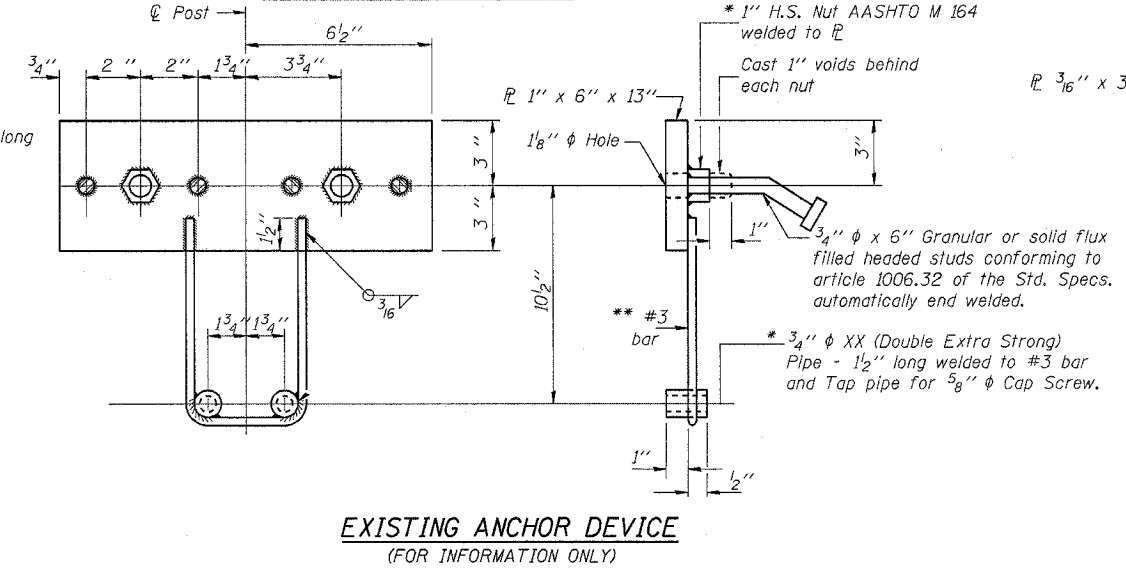
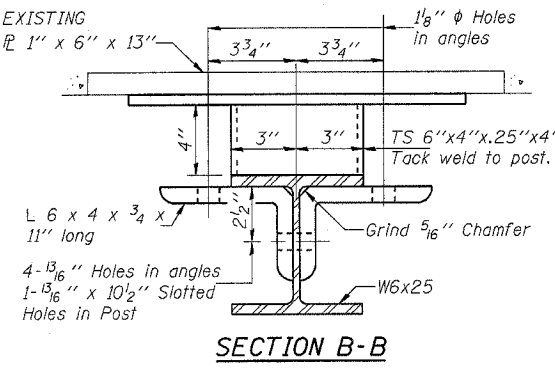
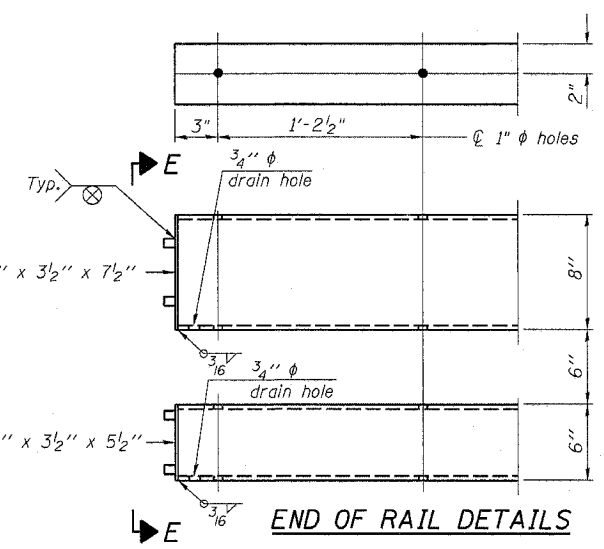
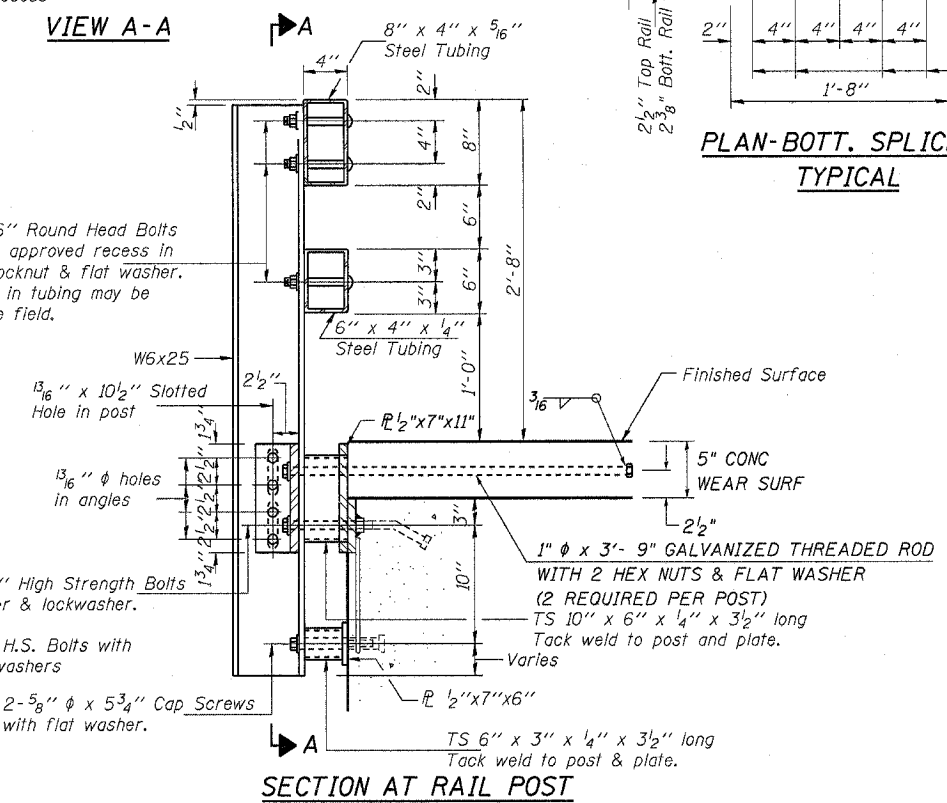


4-3/4" φ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" φ Holes in tubing may be drilled in the field.

2-1" φ x 7 3/4" High Strength Bolts with flat washer & lockwasher.

4-3/4" φ x 3 1/4" H.S. Bolts with hex nut & flat washers

2-5/8" φ x 5 3/4" Cap Screws with flat washer.



0-5/8" 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

**NOTES**

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Steel Bridge Rail, Type SM.

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 Bridge Rail, Type SM.

The 3/4" φ high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04(f)(2) of the Standard Specifications. The 1" φ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/2 turn. The 5/8" φ cap screws in bottom of posts shall be tightened to a snug fit only.

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	107

**TYPE SM (MODIFIED)**  
**STEEL BRIDGE RAIL SIDE MOUNTED WITH CONCRETE WEARING SURFACE**  
 Illinois Route 72 over Tributary to Mud Creek  
 FAP Route 549  
 Section 117BR-M  
 Ogle County  
 Structure No. 071-0068

PLOT DATE = Wed Mar 22 09:14:48 2006  
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