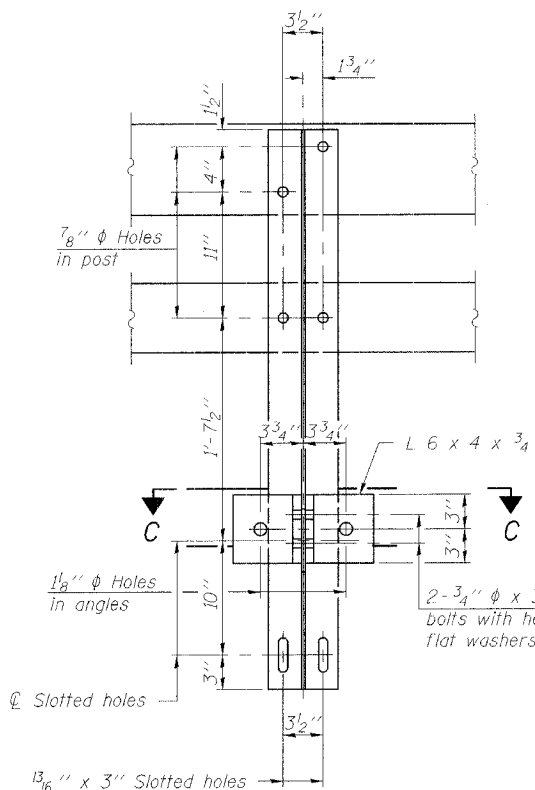
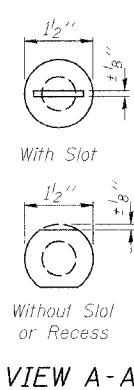
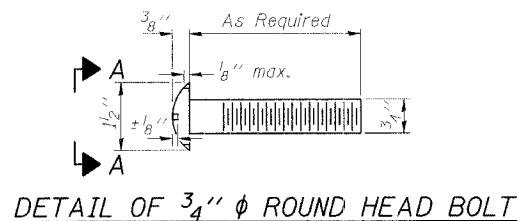
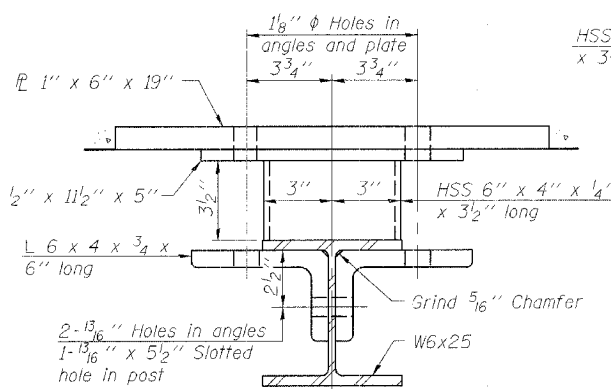


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

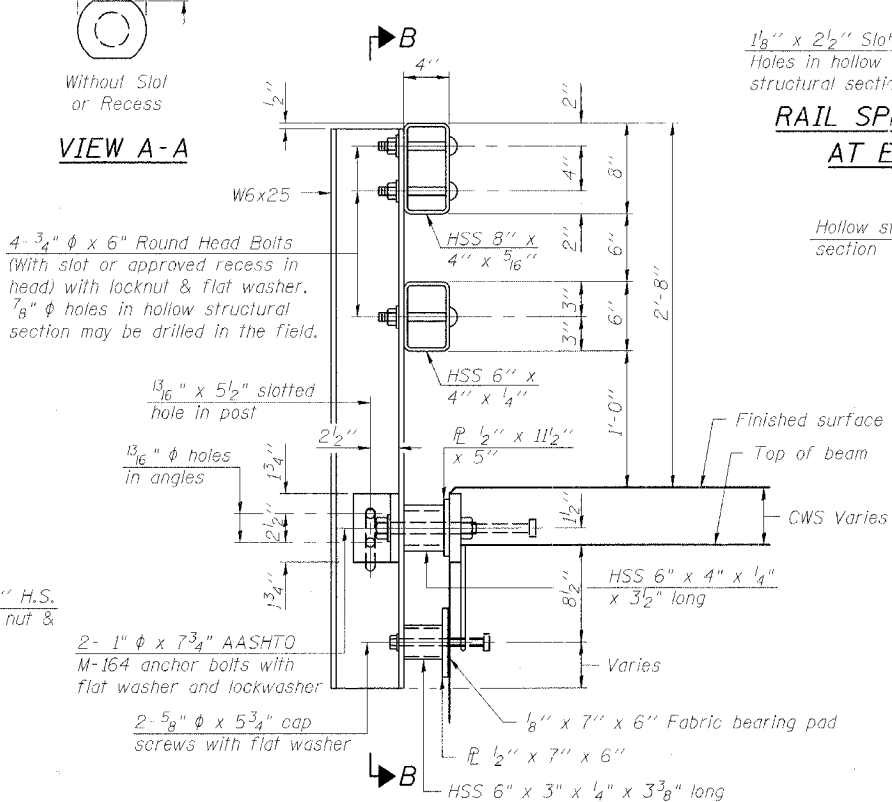
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 9 14 SHEETS
FAP 68	105 BR-1	LIVINGSTON	45	20	
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		Contract #66566



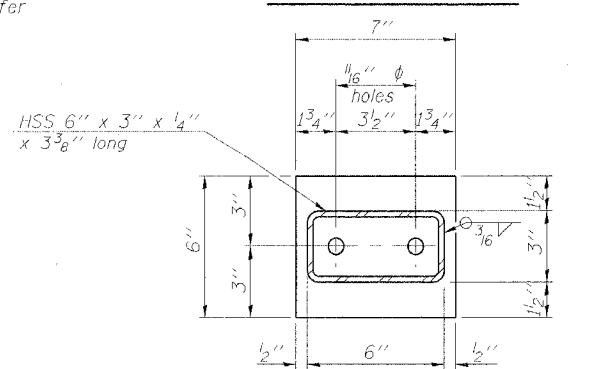
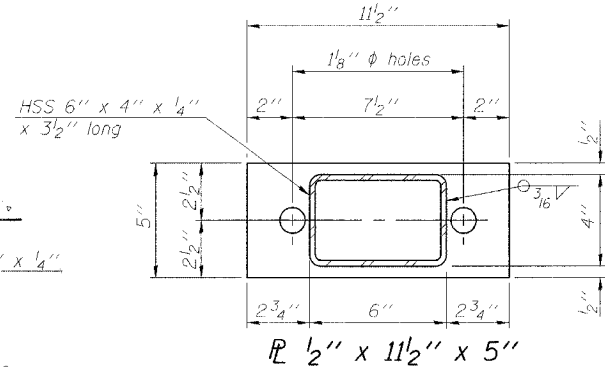
SECTION B-B



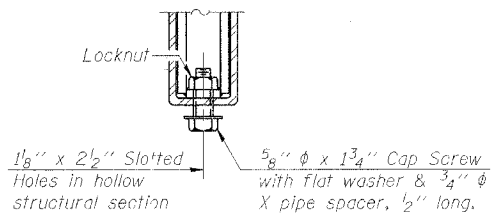
SECTION C-C



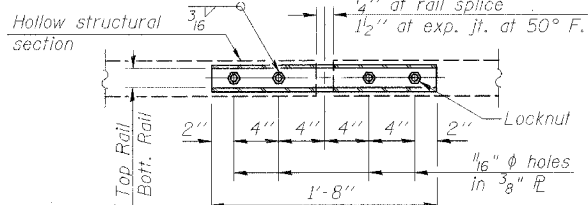
SECTION AT RAIL POST



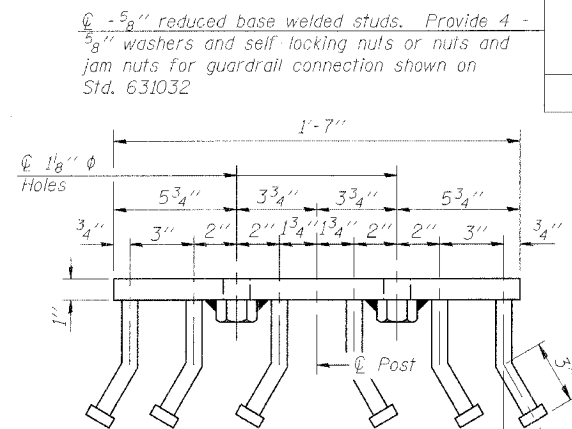
SECTION AT RAIL POST



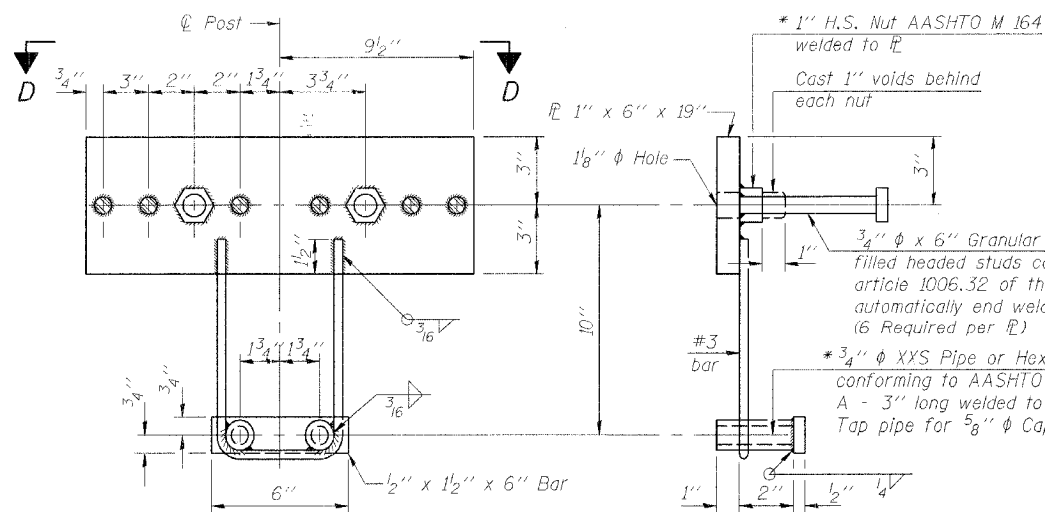
RAIL SPLICE CONNECTION  
AT EXPANSION JT.



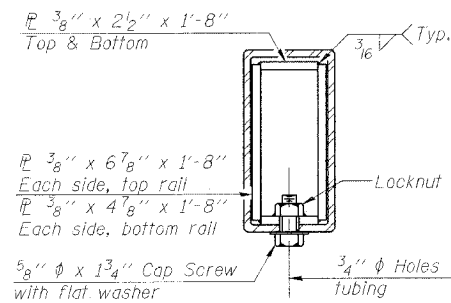
PLAN-BOTT. SPLICE TYPICAL



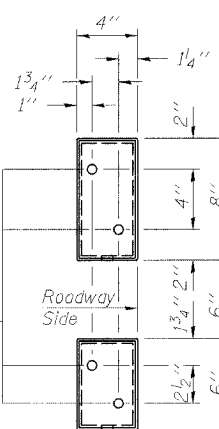
VIEW D-D



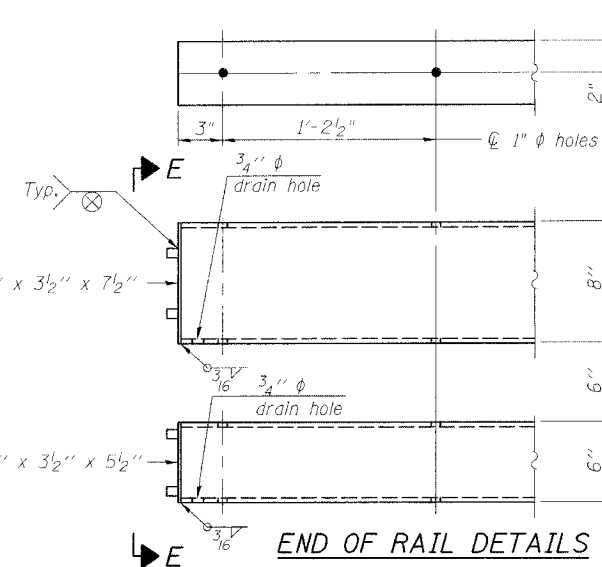
ANCHOR DEVICE



SECTION AT RAIL SPLICE



VIEW E-E



END OF RAIL DETAILS

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" 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" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" 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	215

ILLINOIS DEPARTMENT OF TRANSPORTATION  
TYPE SM STEEL BRIDGE RAIL  
SIDE MOUNTED WITH CONCRETE  
WEARING SURFACE

FAP RTE 68 (IL 23) OVER WOLF CREEK  
SECTION 105 BR-1 LIVINGSTON COUNTY  
STATION 586+62 S.N. 053-0148

SCALE: VERT. HORIZ. DATE: 9/6/05 DRAWN BY: LANDREY DESIGNED BY: SANFORD CHECKED BY: TRELLO

GREENE & BRADFORD, INC. OF SPRINGFIELD CONSULTING ENGINEERS PROJECT NO. 053-0148-0013 CONTRACT NO. 66566 DRAWN BY: LANDREY DESIGNED BY: SANFORD CHECKED BY: TRELLO

COMPUTER FILE NO. SN053-0148-RL PROJECT 03236 WO-11 12/16/05-MML

REVISIONS	
NAME	DATE

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

R-34CWS 10-28-05 (6'-3" Maximum Post Spacing) (5" minimum to 7 1/2" maximum CWS thickness)

FILE NAME = I:\03236\w011\dr\cwf\mg's\sn053-0148\SN053-0148-RL.dgn  
PLOT SCALE = 1/8"=1'-0"  
PLOT DATE = 12/16/05  
PLOT OPERATOR = mfcbrl