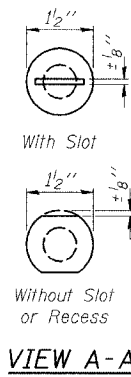
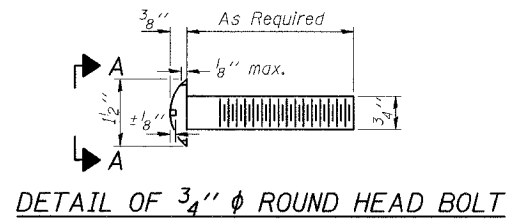


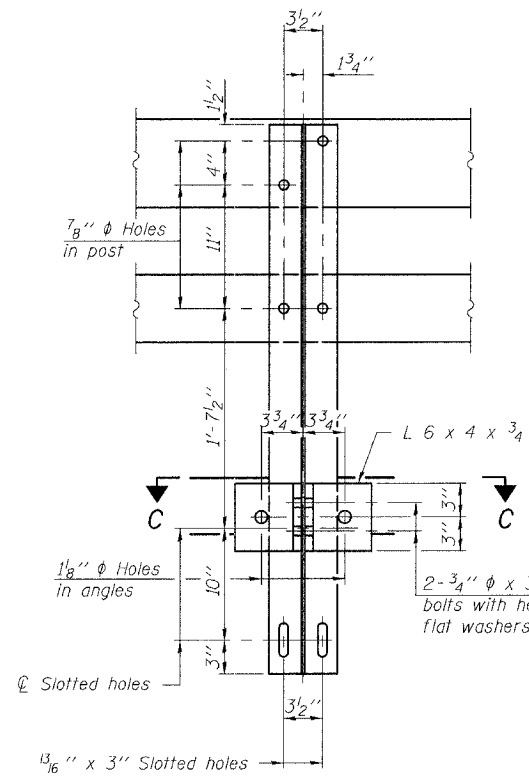
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 7 SHEETS
FAS 1324	38 BR-1	IROQUOIS	29	12	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT			

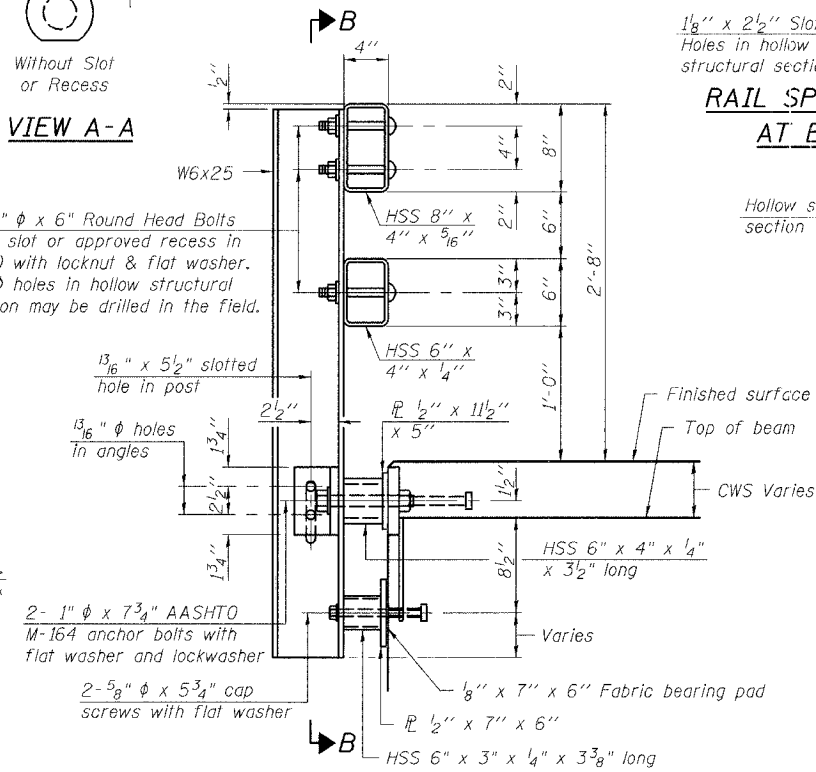
Contract # 66564



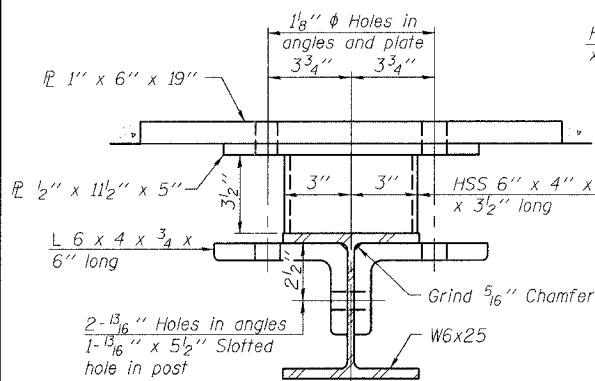
4- 3/4" ϕ x 6" Round Head Bolts
(With slot or approved recess in head) with locknut & flat washer.
7/8" ϕ holes in hollow structural section may be drilled in the field.



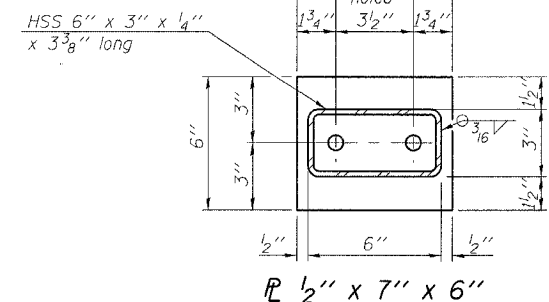
SECTION B-B



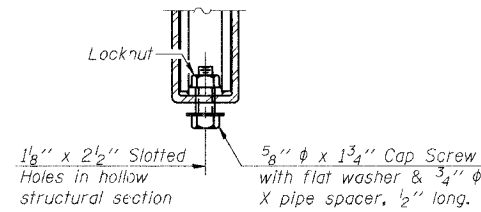
SECTION AT RAIL POST



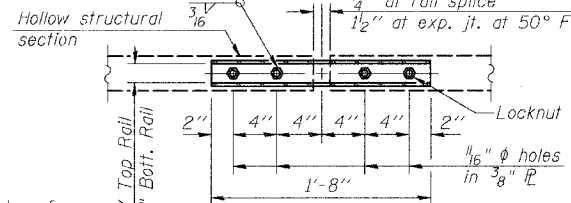
SECTION C-C



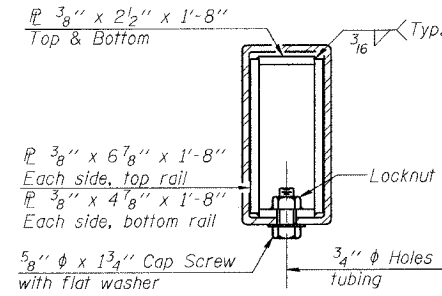
ANCHOR DEVICE



RAIL SPLICE CONNECTION
AT EXPANSION JT.

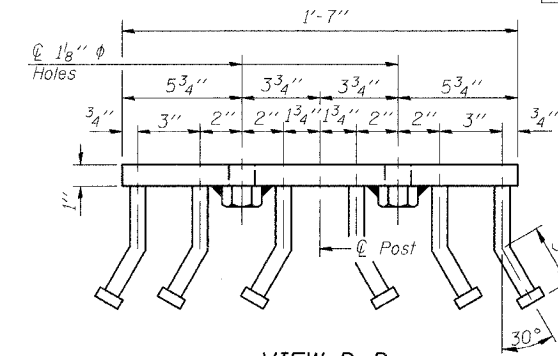


PLAN-BOTT. SPLICE R
TYPICAL

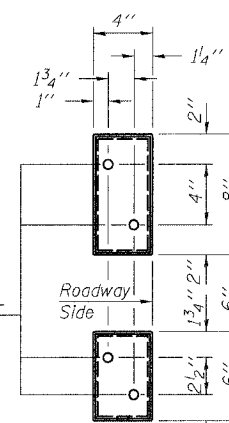


SECTION AT
RAIL SPLICE

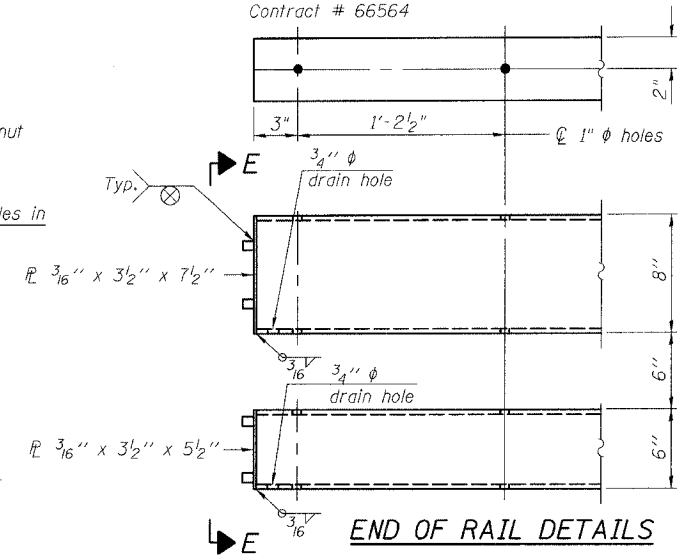
Hollow structural section
Locknut
5/8" ϕ x 1 3/4" Cap Screw with flat washer & 3/4" ϕ X pipe spacer, 1/2" long.
1/8" x 2 1/2" Slotted Holes in hollow structural section
1/2" at rail splice
1 1/2" at exp. jt. at 50° F.
Locknut
3/16" ϕ holes in 3/8" R



VIEW D-D



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" 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 1/8 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	256

ILLINOIS DEPARTMENT OF TRANSPORTATION
TYPE SM STEEL BRIDGE RAIL
SIDE MOUNTED
OLD US 45 OVER LANGAN CREEK
FAS ROUTE 1324 SECTION 38 BR-1
IROQUOIS COUNTY
STATION 558+74
S.N. 038-0185

REVISIONS	
NAME	DATE

SCALE: VERT. HORIZ. DATE: **/**/05
DRAWN BY: HEBERLING
DESIGNED BY: SANFORD
CHECKED BY:
COMPUTER FILE NO. SNO38-0185_RL.dgn
PROJECT WO-10 03236

GREENE & BRADFORD, INC.
OF SPRINGFIELD
CONSULTING ENGINEERS
AND ARCHITECTS
PROFESSIONAL DESIGN FIRM NO. 0098
1201 W. 84th, 1211 W. 82nd St. E. Des Moines, IA 50319
515-281-1111

FILE NAME = J:\03236\WORK\DRAWINGS\038-0185\SN038-0185_RL.dgn
PLOT SCALE = 1/8" = 1'-0"
PLOT DATE = 12/8/2005
PLOT TIME = 8:38:32 AM
OPERATOR = daveh

R-34CWS 10-28-05 (6'-3" Maximum Post Spacing) (5" minimum to 7 1/8" maximum CWS thickness)

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