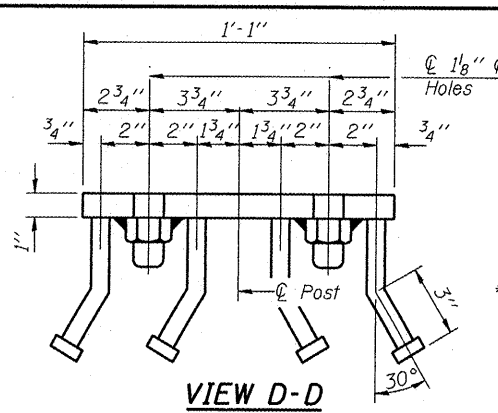


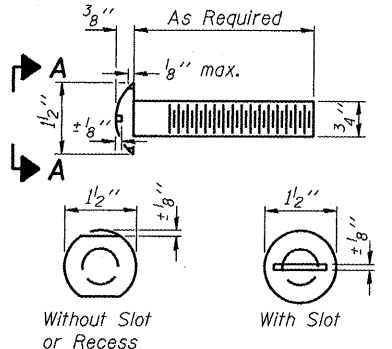
ELEVATION TYPE S-1 STEEL RAILING



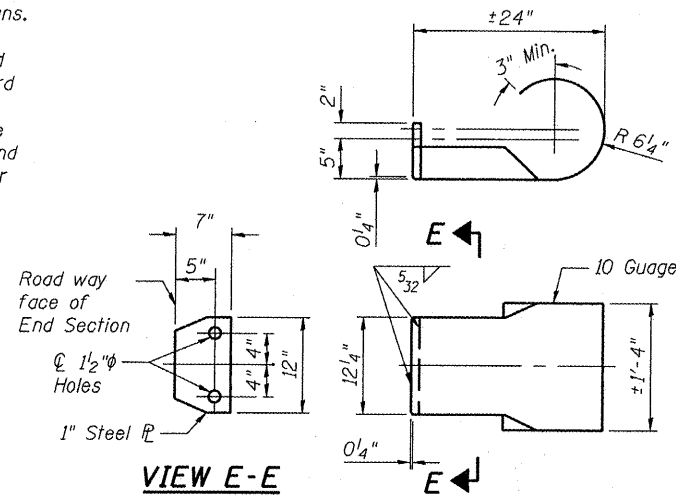
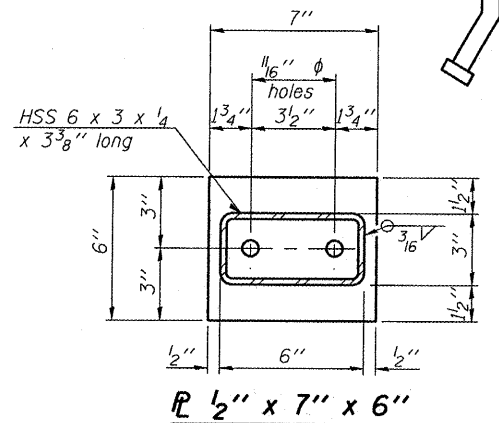
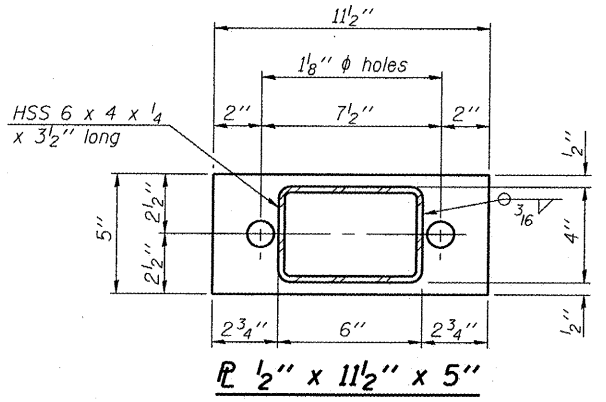
VIEW D-D

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 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.

| | | | | | |
|---------------------|----------------|--------------|--------------|-----------|-------------|
| RTS. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | SHEET NO. 4 |
| TR-195 | 06-08117-00-BR | MORGAN | 14 | 9 | 4 SHEETS |
| FED. ROAD DIST. NO. | ILLINOIS | CONTRACT NO. | 93461 | | |



VIEW A-A ROUND HEAD BOLT

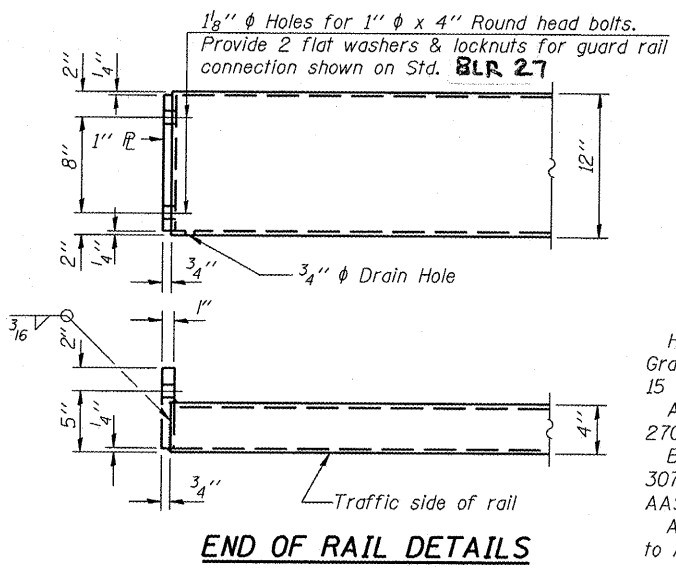


VIEW E-E CURLED END SECTION DETAILS

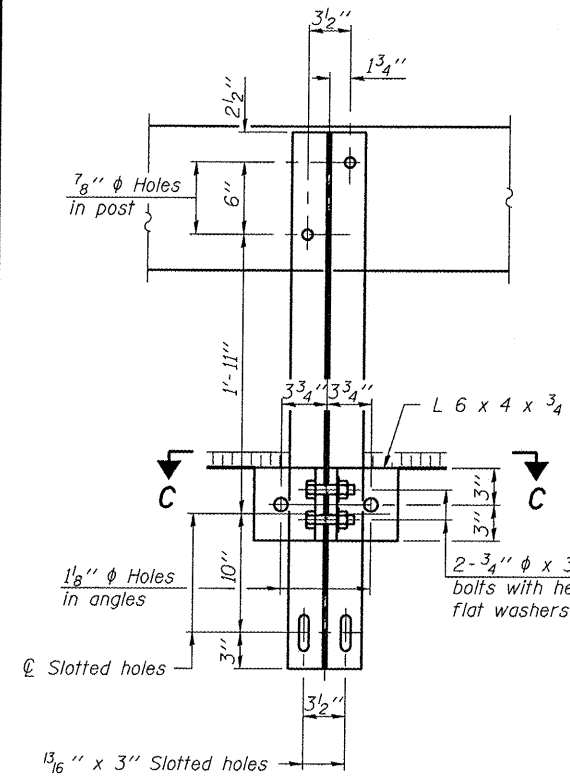
(2 Required)

NOTES

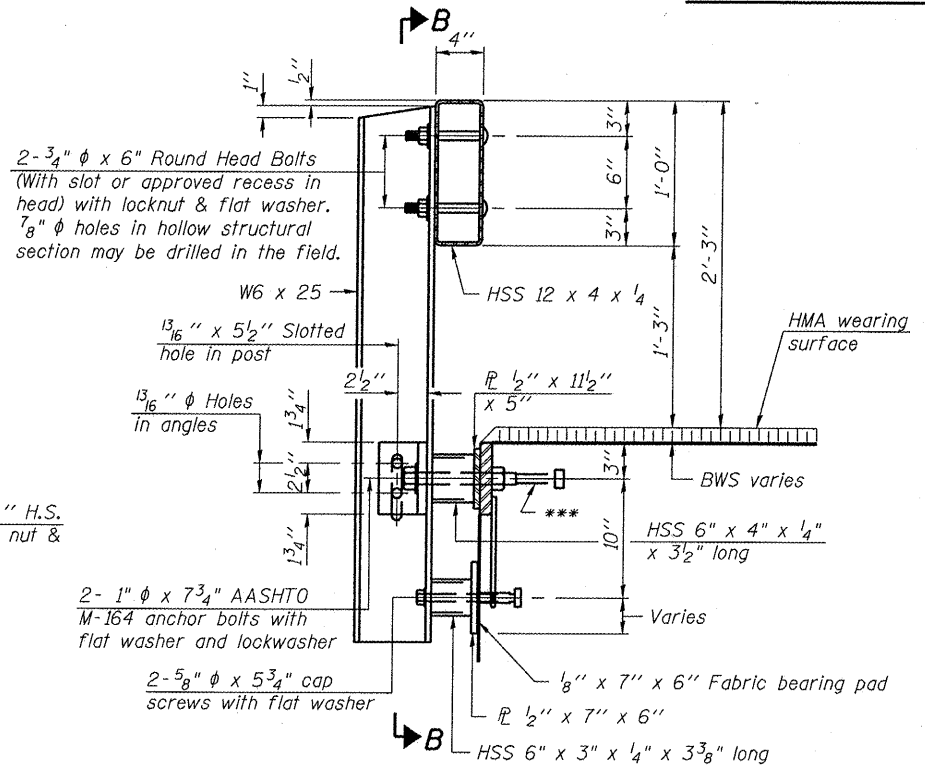
Hollow structural sections shall conform to the requirements of ASTM design A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.
 All other steel shapes and plates shall conform to the requirements of AASHTO M 270, Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50. Bolts, cap screws, and nuts shall conform to the requirements of ASTM design 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.



END OF RAIL DETAILS

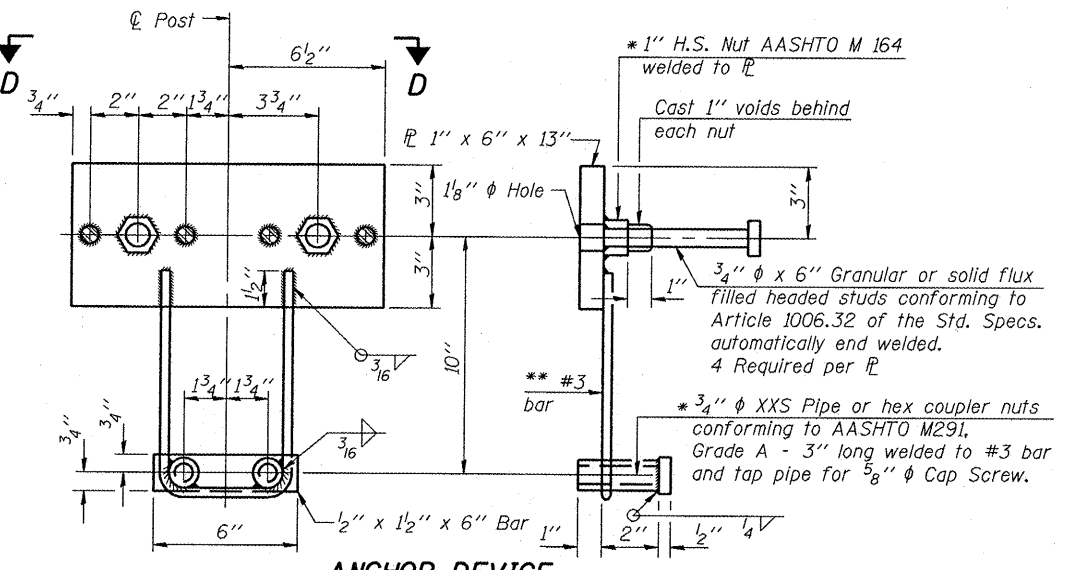


SECTION B-B



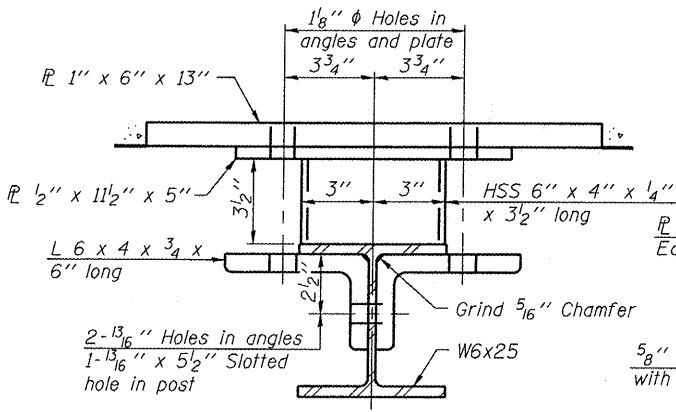
SECTION AT RAILING POST

** 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".

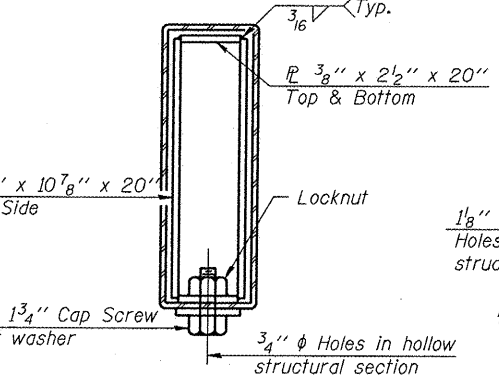


ANCHOR DEVICE

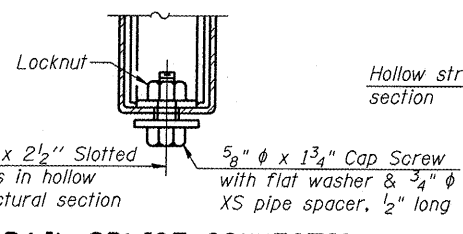
* Threaded areas shall be plugged or blocked off during casting of beam.



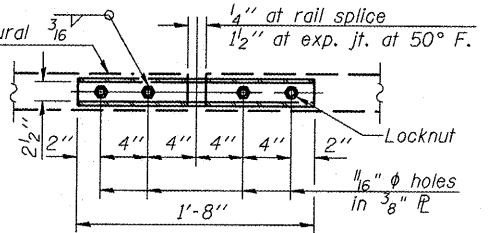
SECTION C-C



SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL

BILL OF MATERIAL

| Item | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 133 |

Curled End Sections shall be included in the cost of the Steel Railing.

STEEL RAILING, TYPE S-1
S.N. 069-3264
BRIDGE TR-195 OVER MAUVAISE TERRE CREEK TRIBUTARY
MORGAN COUNTY, ILLINOIS



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 Consulting Engineers / Land Surveyors
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 Phone: 217-245-4146 Fax: 217-245-4149
 IL Design Firm Registration No. 184-000852

| | |
|-------------|--------------|
| DRAWN BY | MBH |
| CHECKED BY | MBH |
| APPROVED BY | REG |
| DATE | JANUARY 2007 |
| REVISIONS | |
| DATE | BY |
| | |
| FIELD BOOK: | |