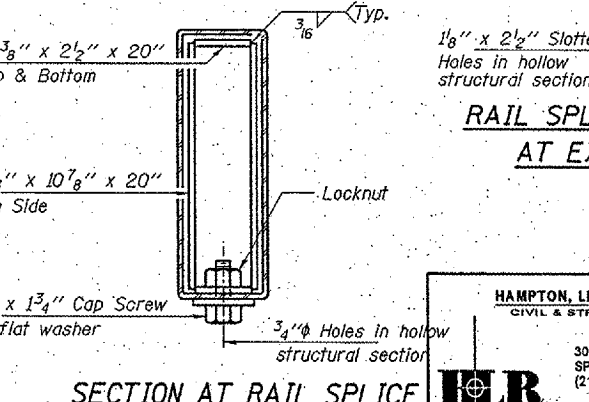
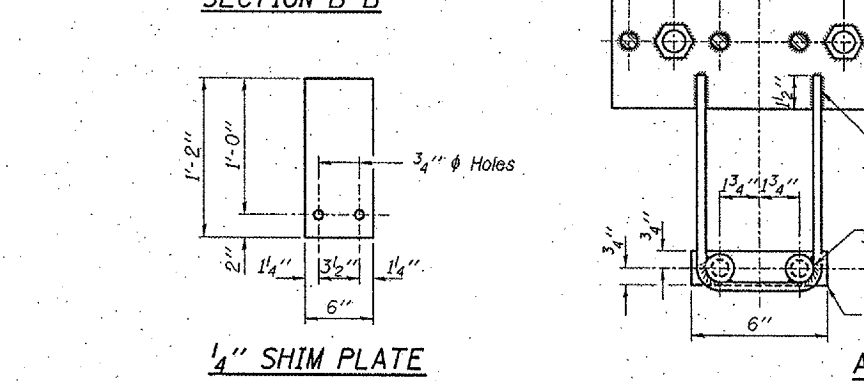
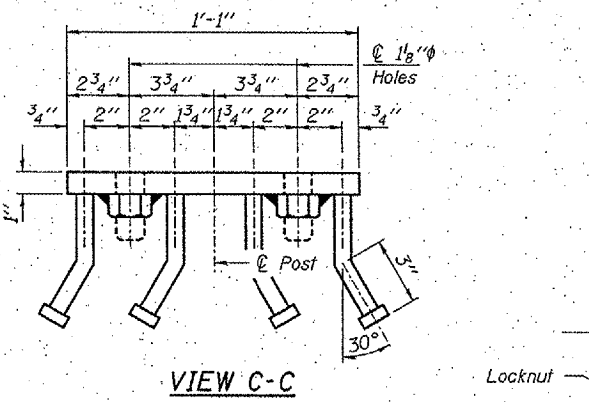
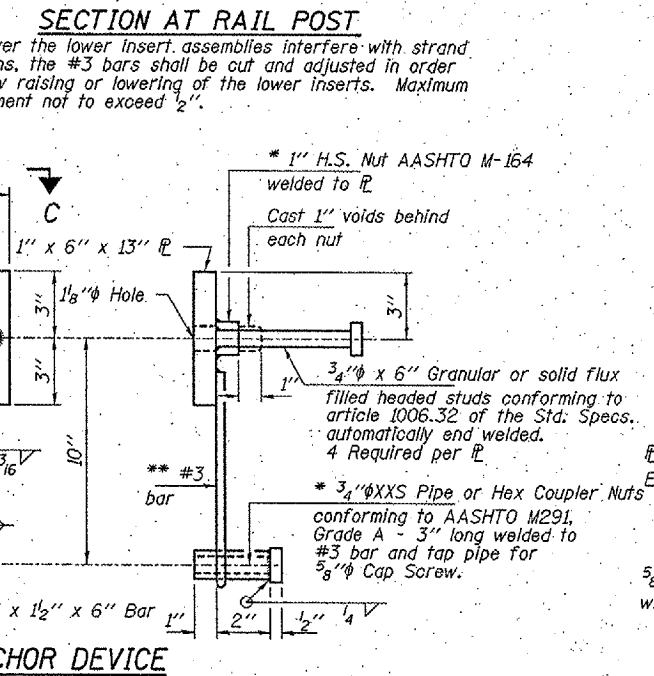
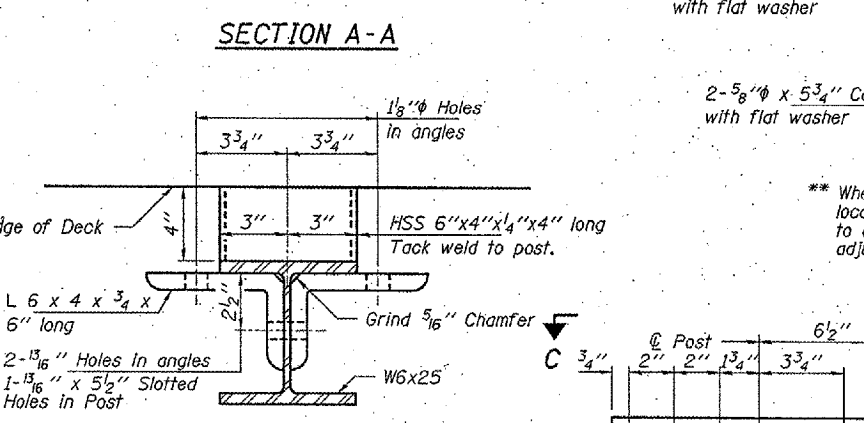
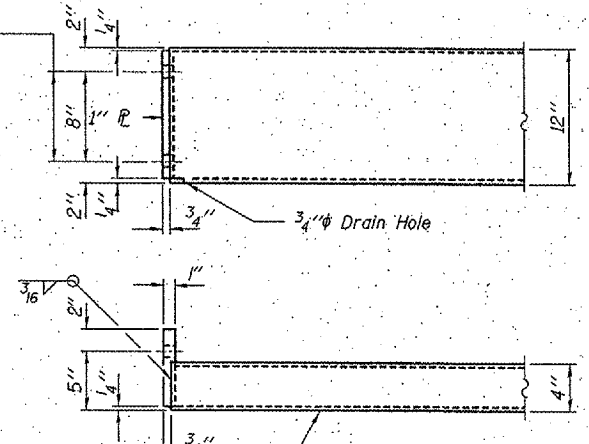
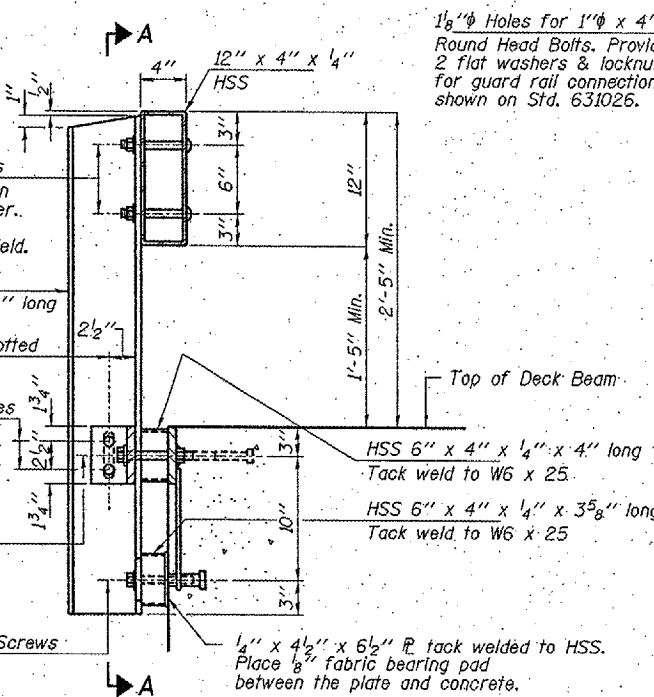
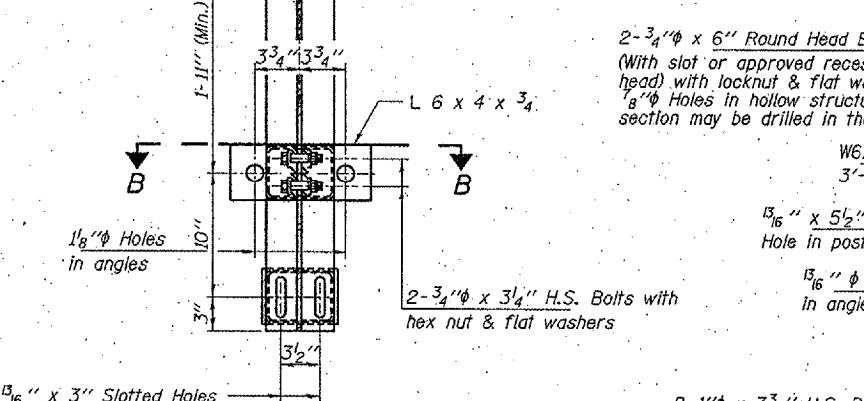
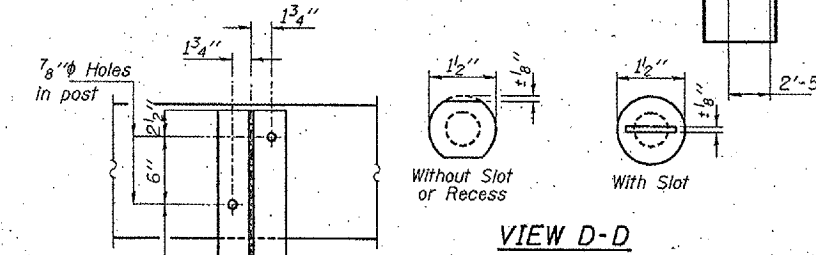
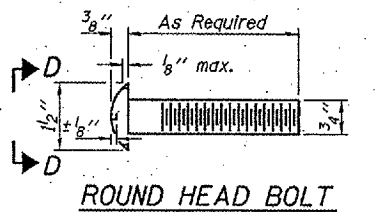
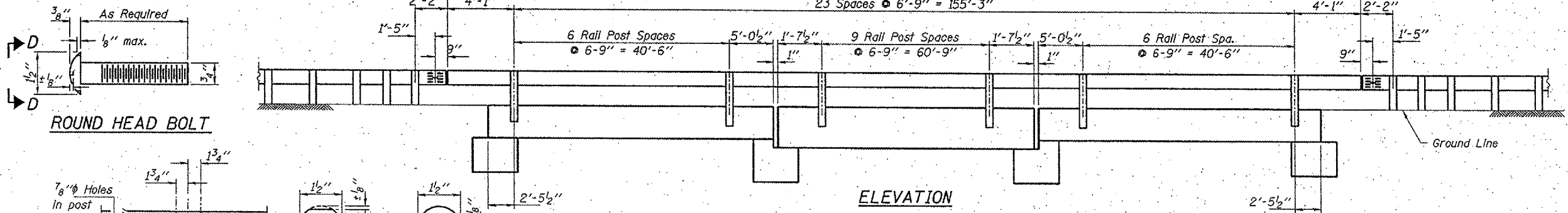


| | | | | |
|---------------------|----------------|-----------------------------------|--------------|-----------|
| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| T.R. 209A | 04-02119-00-BR | JACKSON | 20 | 14 |
| FED. ROAD DIST. NO. | | ILLINOIS PROJECT NO. BR05-077(41) | | |
| CONTRACT NO. 99261 | | | | |



NOTES

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

All other steel shapes and plates shall conform to the requirements of A.A.S.H.T.O. designation M-270 Grade 36 except posts and angles shall conform to A.A.S.H.T.O. M-270 Grade 50.

Bolts, cap screws, and nuts shall conform to the requirements of A.S.T.M. designation A-307 except for high strength bolts, nuts and washers noted which shall conform to A.A.S.H.T.O. designation M-164.

All bolts, nuts, cap screws, washers and lockwashers shall be galvanized in accordance with A.A.S.H.T.O. designation M-232.

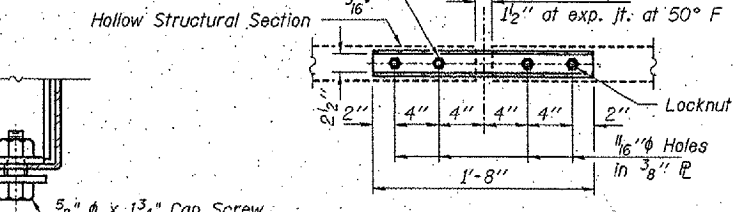
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.S.T.M. A-385 and A.A.S.H.T.O. M-111. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per foot for STEEL RAILING, TYPE S1.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Art. 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 3/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

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 S1.



RAIL SPLICE CONNECTION AT EXPANSION JT.

1 1/8" x 2 1/2" Slotted Holes in hollow structural section

5/8" x 1 3/4" Cap Screw with flat washer & 3/4" X pipe spacer, 1/2" long

BILL OF MATERIAL

| Item | Unit | Quantity |
|------------------------|------|----------|
| Steel Railing, Type S1 | Foot | 327 |

HAMPTON, LENZINI & RENWICK, INC.
 CIVIL & STRUCTURAL ENGINEERS

3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 (217) 648-3400

ELGIN • SPRINGFIELD

PROJECT NUMBER: 12-47-0017-1 DATE: 05/15/06
 DESIGNED: S.M.S. CHECKED: S.W.M. DRAWN: D.T.M.

RAILING DETAILS

SECTION 04-02119-00-BR

CARBONDALE ROAD DISTRICT

JACKSON COUNTY

STATION 9+96 / STRUCTURE NO. 039-3255

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