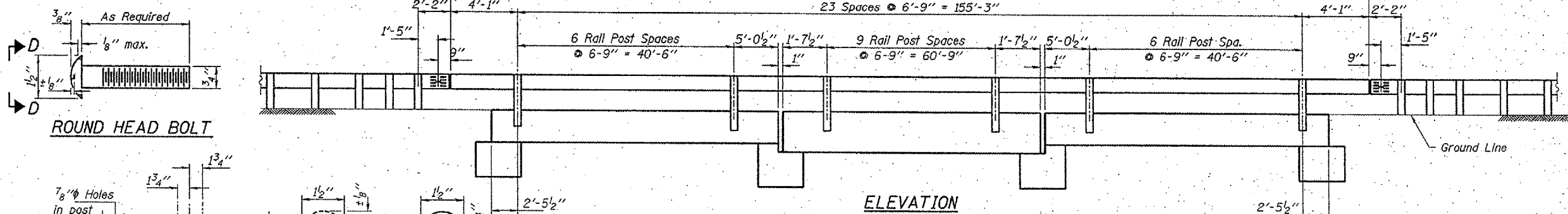


Traffic Barrier Terminal, Type 5A
See Standard 631026

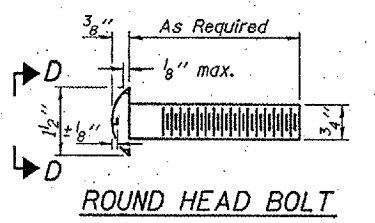
163'-5" end to end of rail

Traffic Barrier Terminal, Type 5A
See Standard 631026

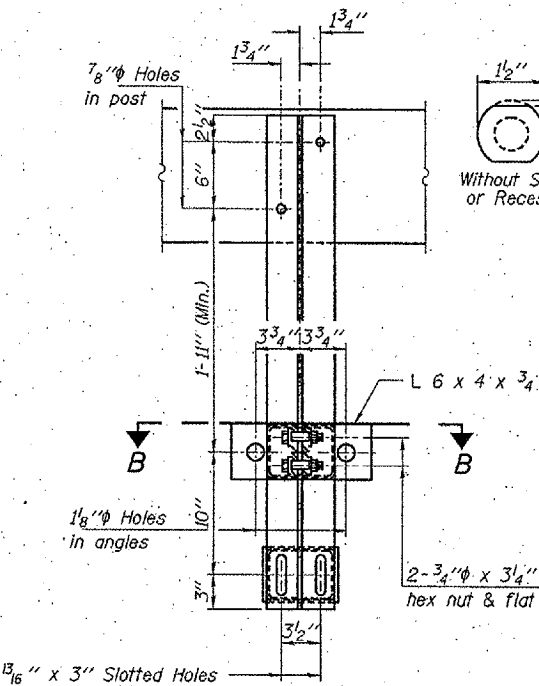
ROUTE NO.	SECTION	COUNTY	SHEET
T.R. 209A	04-02119-00-BR	JACKSON	20 14
CONTRACT NO. 99261		BR05-077(4D)	



ELEVATION



ROUND HEAD BOLT

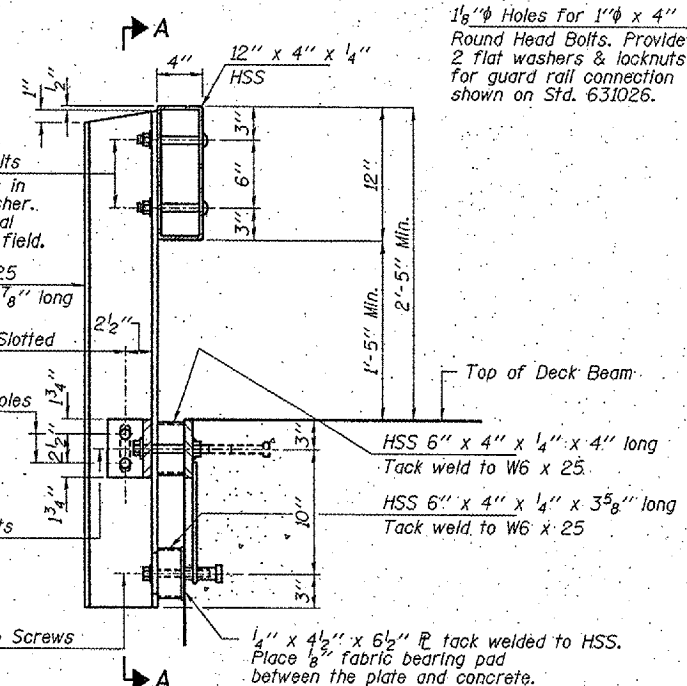


VIEW D-D

2-3/4" 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.

2-3/4" φ x 3/4" H.S. Bolts with hex nut & flat washers

SECTION A-A



SECTION AT RAIL 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 2".

* 1" H.S. Nut AASHTO M-164 welded to P

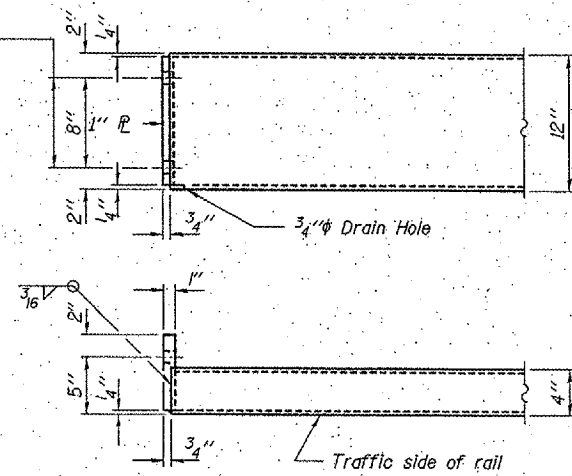
Cast 1" voids behind each nut

3/4" φ x 6" Granular or solid flux filled headed studs conforming to article 1006.32 of the Std. Specs. automatically and welded. 4 Required per P.

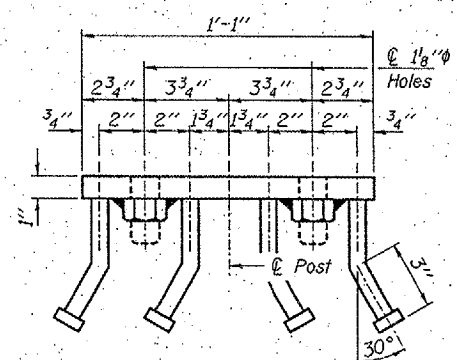
* 3/4" φ XXS Pipe or Hex Coupler Nuts conforming to AASHTO M291, Grade A - 3" long welded to #3 bar and tap pipe for 5/8" φ Cap Screw.

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

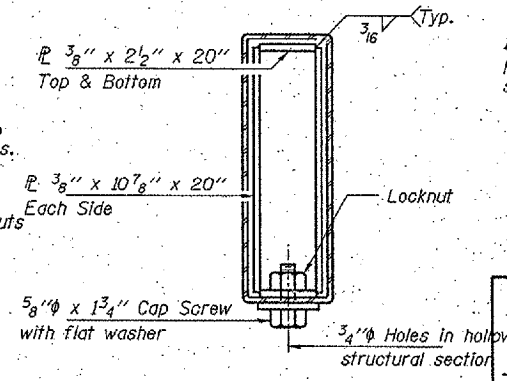
ANCHOR DEVICE



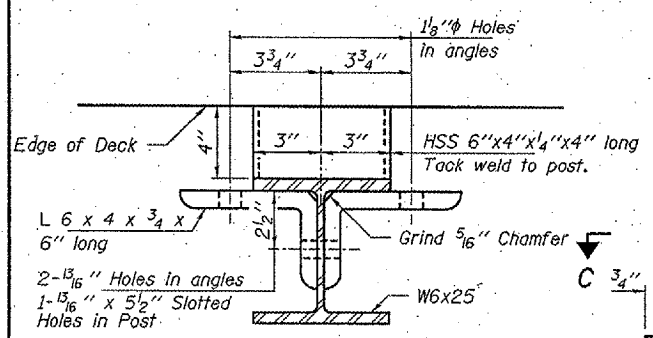
END OF RAIL DETAILS



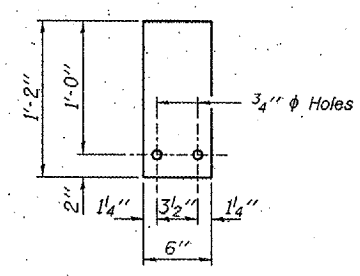
VIEW C-C



SECTION AT RAIL SPLICE



SECTION B-B



1/4" SHIM PLATE

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 CVN 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.

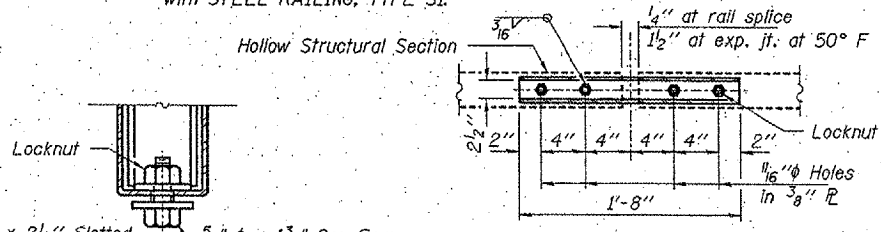
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with A.S.T.M. A-385 and A.A.S.H.T.O. M-111. Galvanized rail shall not be painted.

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" φ 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" 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.

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.



PLAN-BOTT. SPLICE P TYPICAL

RAIL SPLICE CONNECTION AT EXPANSION JT.

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) 646-3400

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