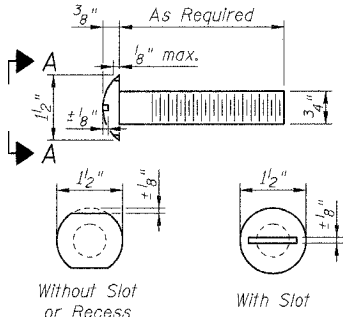
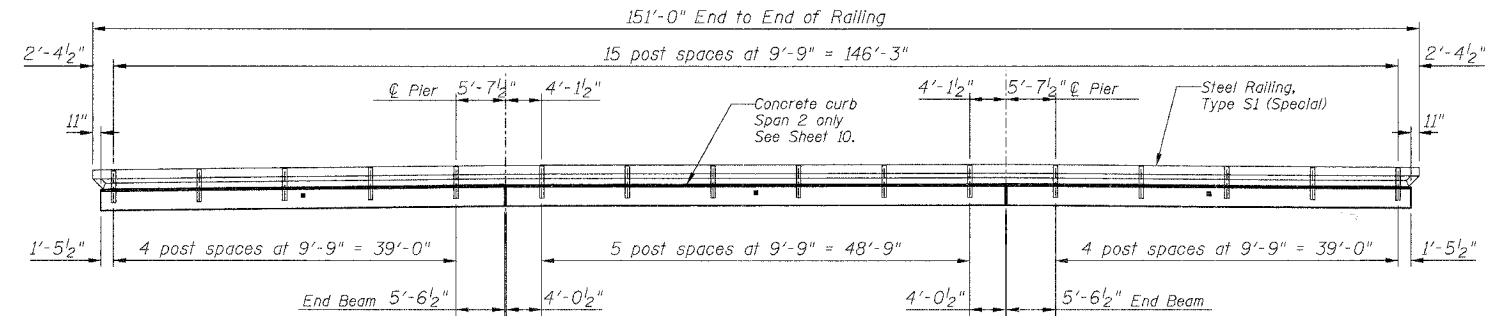


ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 293	96-10120-01-BR	CLAY	13	11
FED. ROAD DIST. NO. 7		ILLINOIS		FEDERAL AID PROJECT
CONTRACT NO. 95514				



VIEW A-A
ROUND HEAD BOLT



RAIL POST SPACING

NOTES

Hollow structural steel tubing 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 requirement 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 in accordance with AASHTO M-232.

All posts, railing, rail splices, end sections, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

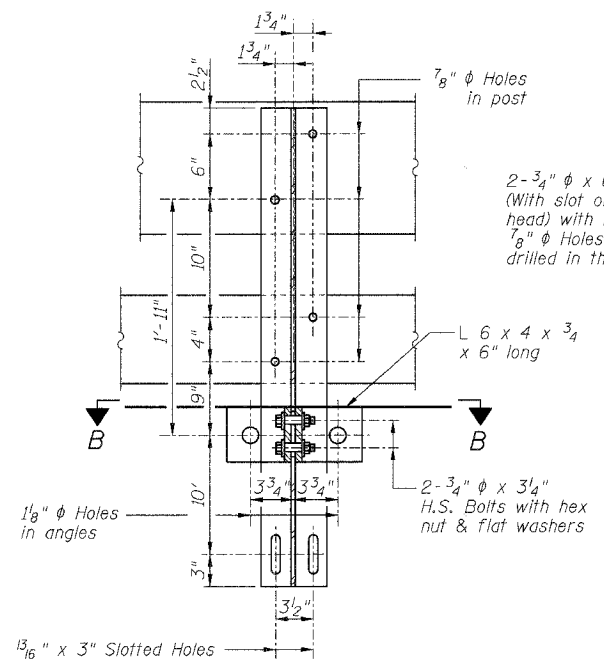
Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S1 (SPECIAL).

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

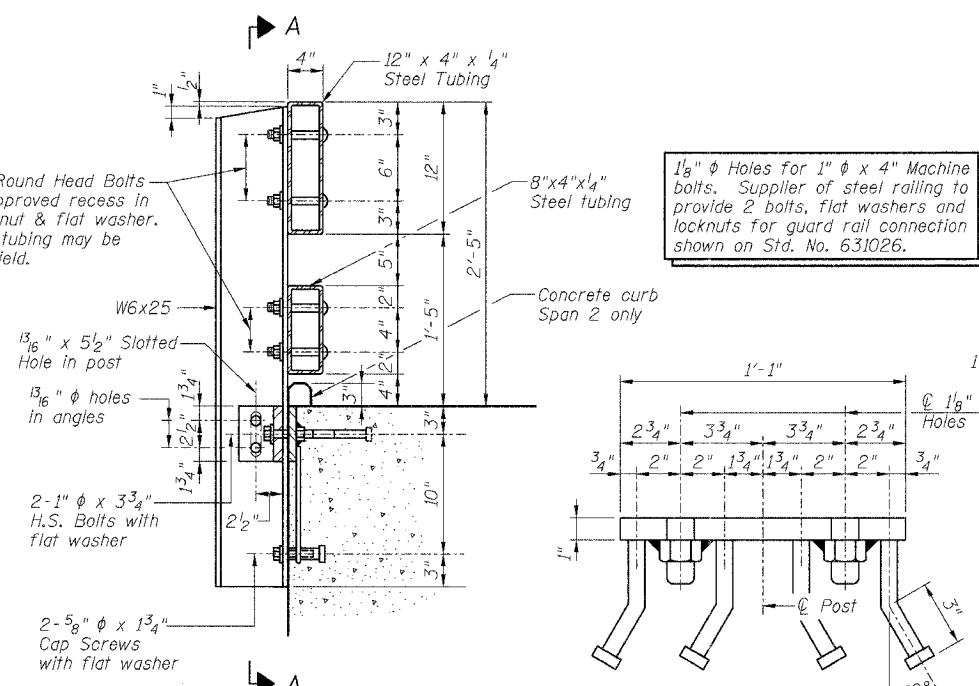
Any steel shape in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place 1/8" fabric bearing pad between the steel and concrete.

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 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 the posts shall be tightened to a snug fit only.

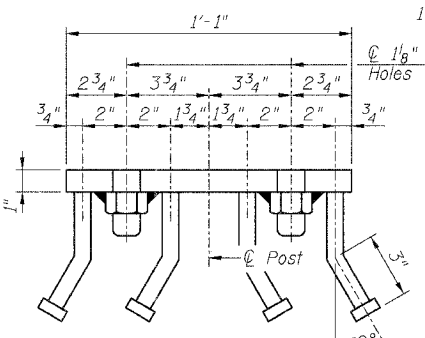
For Multi-span bridges, sufficient 1/4"x6"x1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included in the cost of STEEL RAILING, TYPE S1 (SPECIAL).



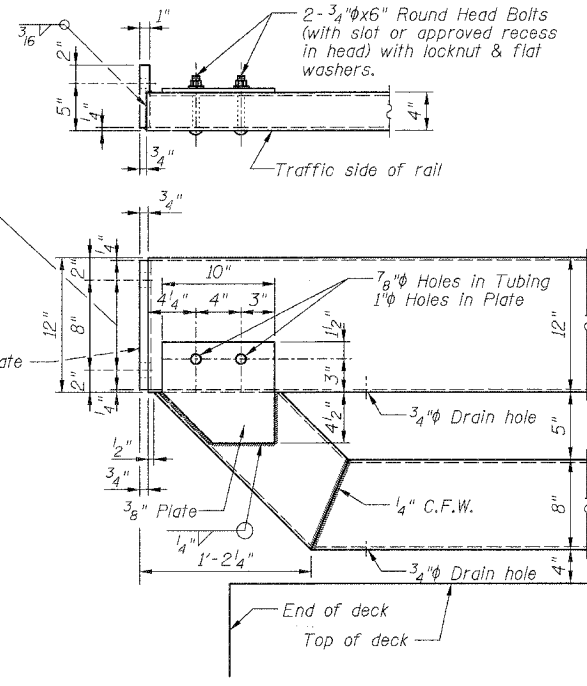
SECTION A-A



SECTION AT RAIL POST



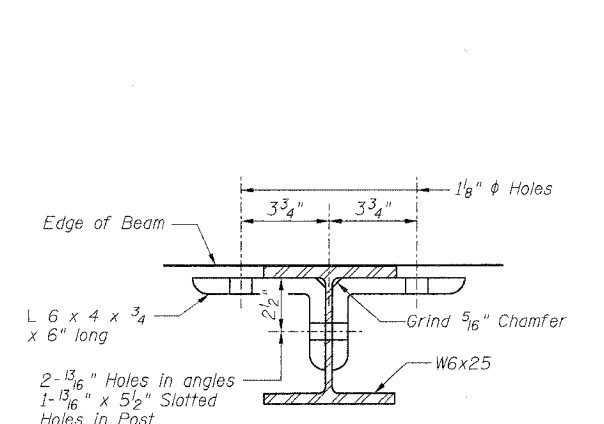
VIEW C-C



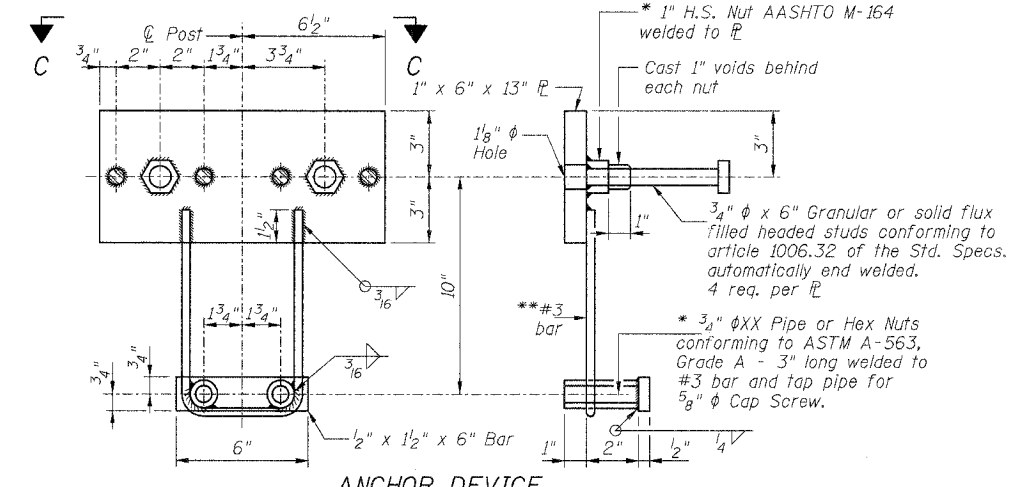
END OF RAIL DETAILS

BILL OF MATERIAL

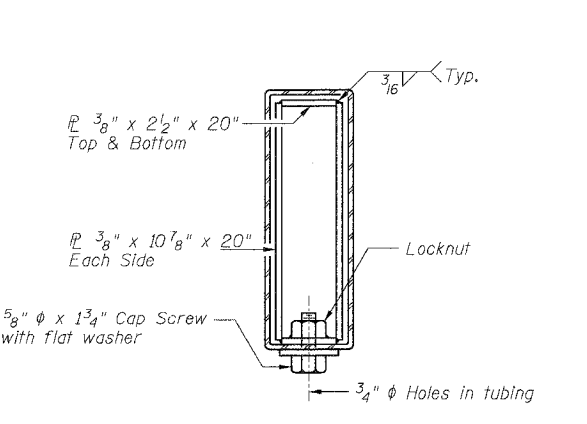
Item	Unit	Quantity
Steel Railing, Type S1 (Special)	Foot	302



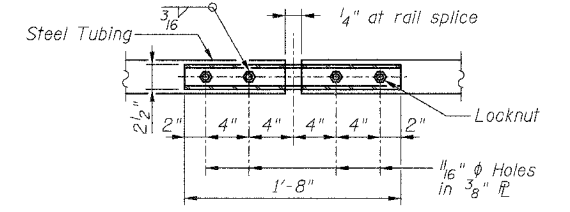
SECTION B-B



ANCHOR DEVICE



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE PL TYPICAL

STEEL RAILING,
TYPE S1 (SPECIAL) DETAILS
TR 293 BRIDGE OVER
CN / IC RAILROAD
SECTION 96-10120-01-BR
CLAY COUNTY, ILLINOIS

Sheet 11 of 13
Job No. 51005

** 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".

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

04/03/2007