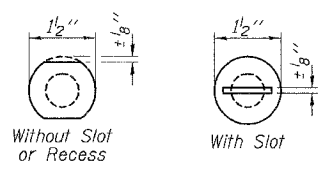
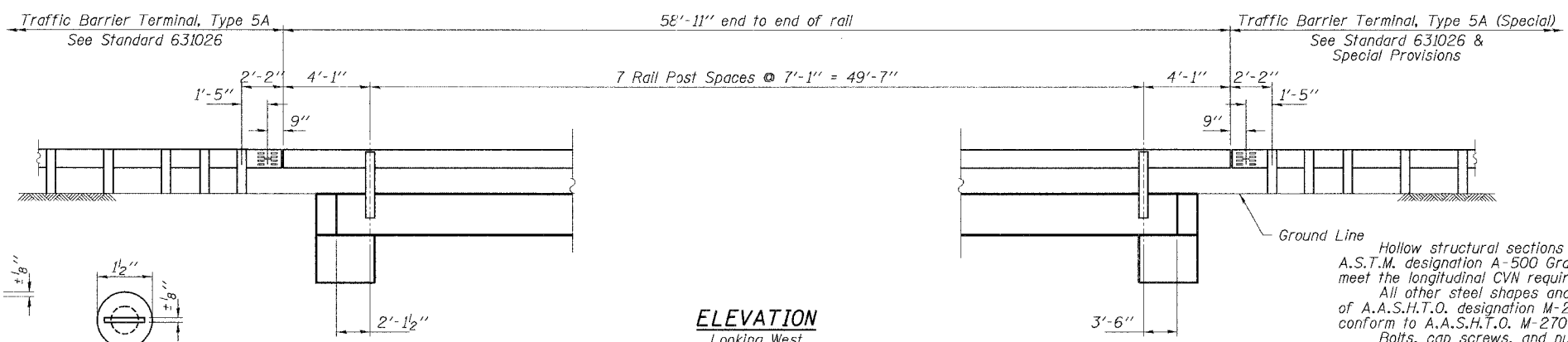
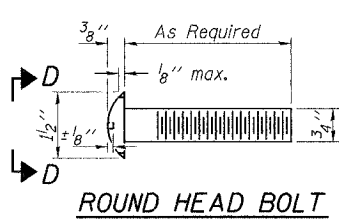
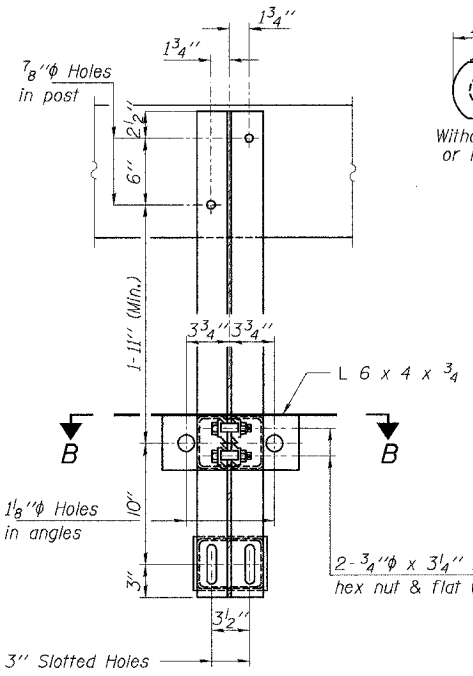


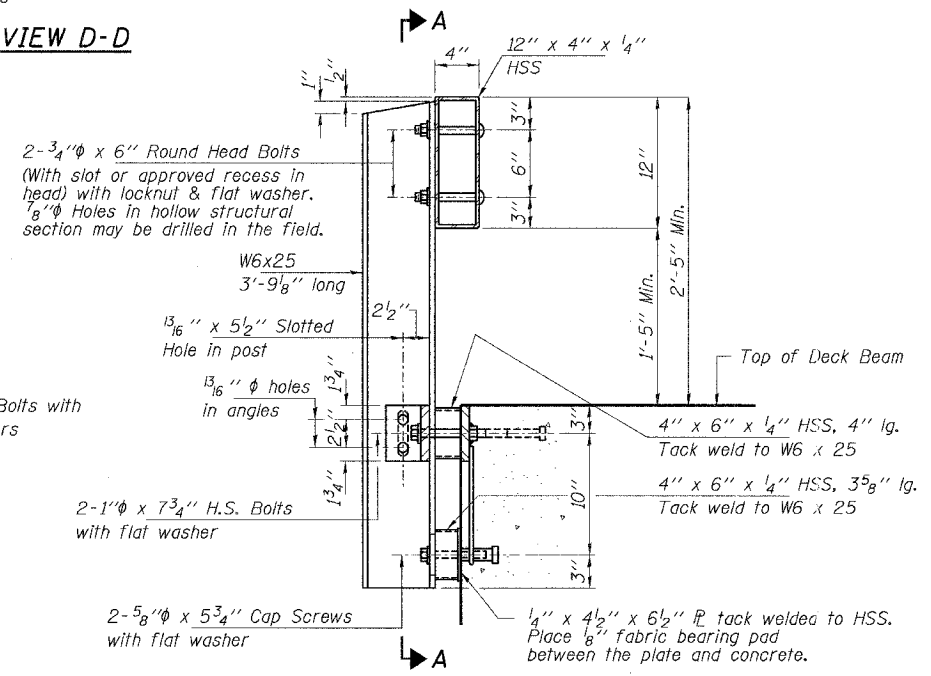
ROUTE NO.	SECTION	COUNTY	INVERT	SHEET
T.R. 90	02-01175-00-BR	UNION	18	16
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT NO. 99213				



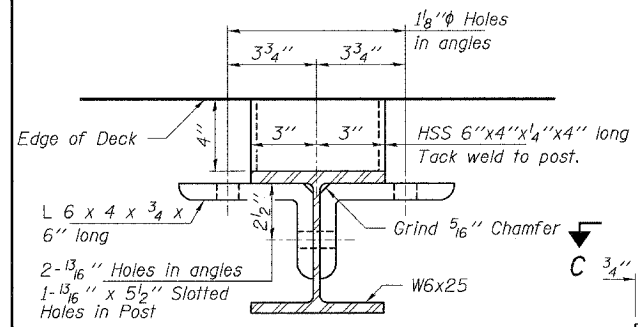
VIEW D-D



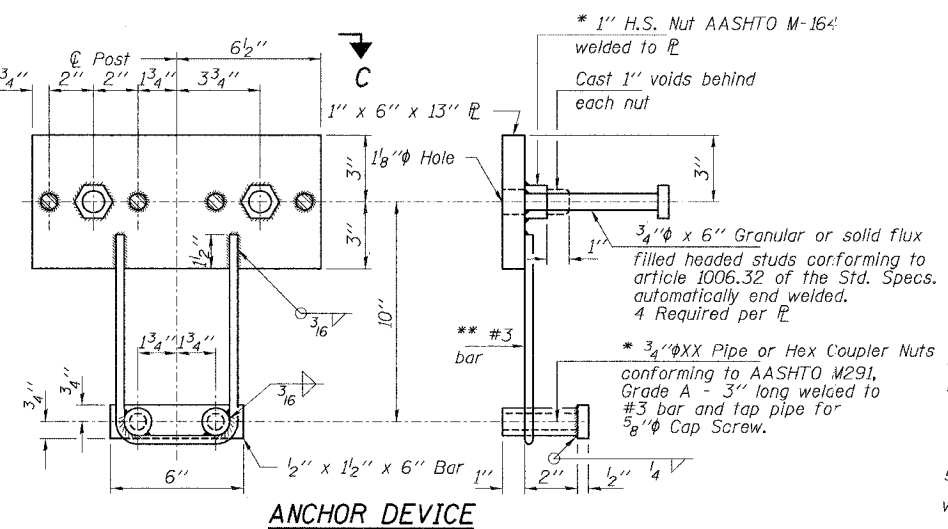
SECTION A-A



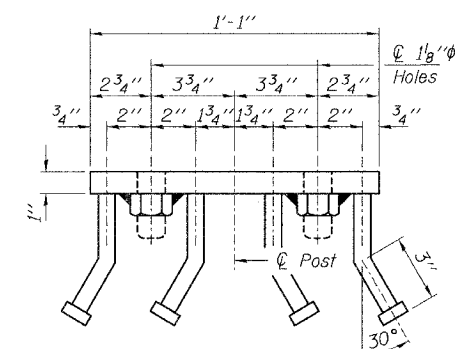
SECTION AT RAIL POST



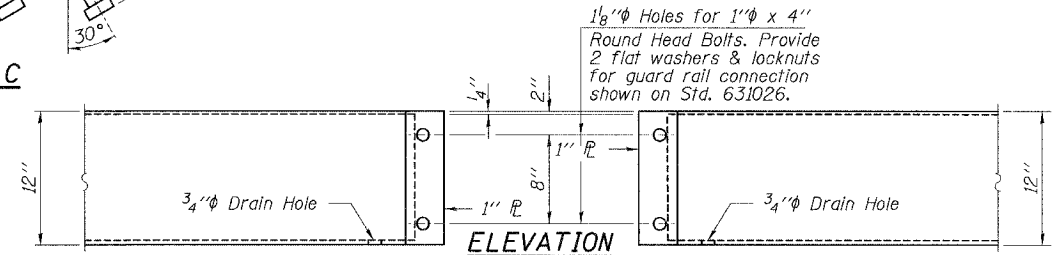
SECTION B-B



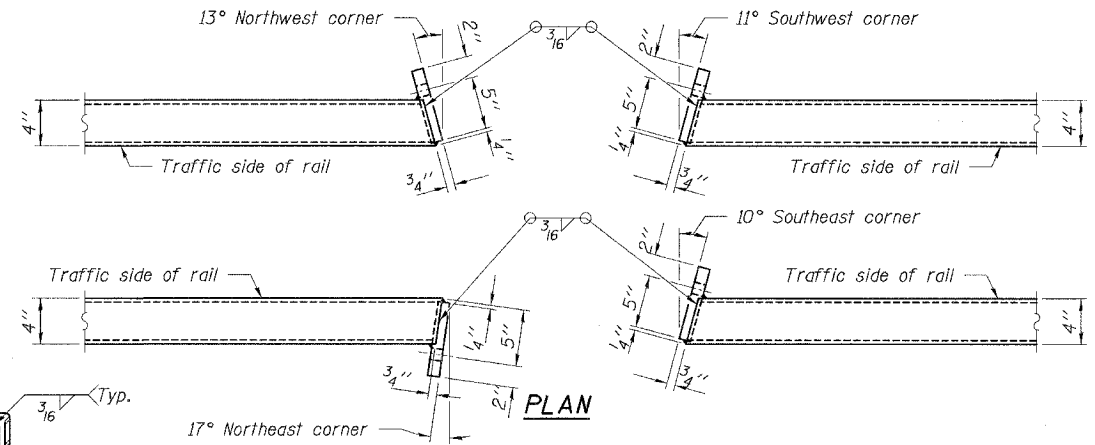
ANCHOR DEVICE



VIEW C-C



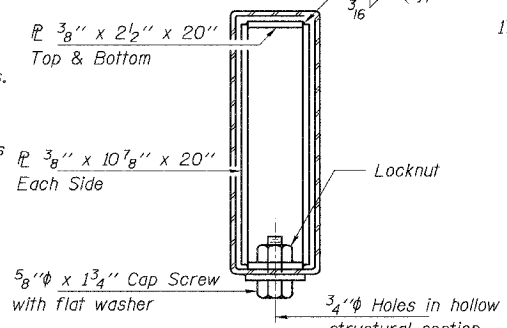
ELEVATION



PLAN

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type St, Special	Foot	118



SECTION AT RAIL SPLICE

**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 St, SPECIAL.

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

The 3/4 inch diameter 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(FX2) of the Standard Specifications. The 1 inch diameter 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 inch diameter cap screws in bottom of posts shall be tightened to a snug fit only.

**HLR**

Rice, Berry and Associates  
A Division of Hampton, Lenzini and Renwick, Inc.  
Civil & Structural Engineers  
801 S. Durkin Drive  
Springfield, Illinois 62704  
217-546-3400

P.O. Box 1036  
DuQuoin, Illinois 62832  
618-790-4637

Account Number 12-92-0006-1  
Date: 02/02/05  
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

**RAILING DETAILS**  
SECTION 02-01175-00-BR  
T.R. 90 / LINGLE CREEK ROAD  
UNION COUNTY  
STRUCTURE NO. 091-3217 / STATION 9+03