ELEVATION

43'-0½" End to End of Railing

5 Rail Post Spaces @ 7'-6" = 37'-6"

Along ℄ of Roadway

Bk. of West Abut.

Bk. of East Abut.

NOTES

Hollow structural steel tubing shall conform to the requirements of A.S.T.M. designation A-500 Grade B Structural Steel Tubing.

All other steel shapes and plates shall conform to the requirements of AASHTO M-183, except posts and angles shall conform to AASHTO M-223, 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.
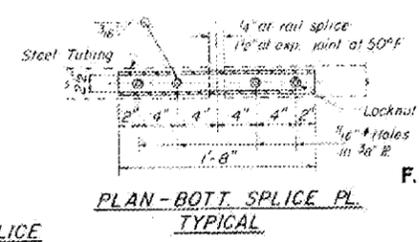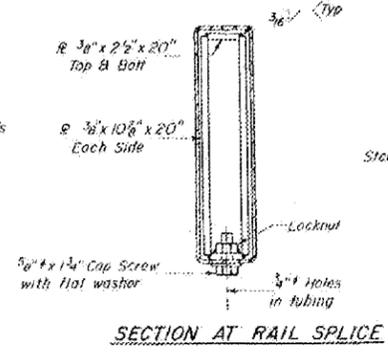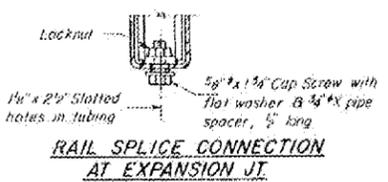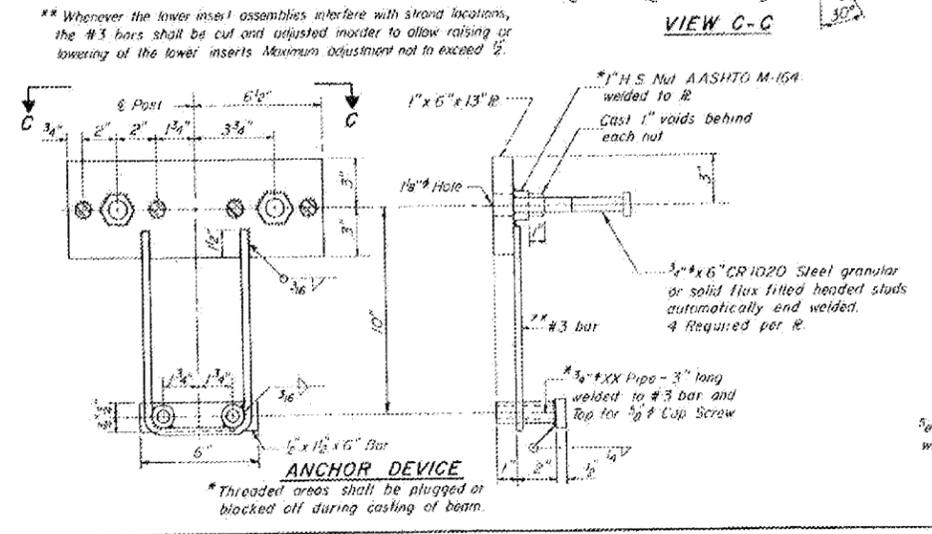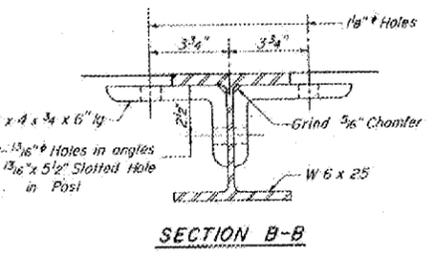
All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

Railing shall be in accordance with Section 508 of the Standard Specifications, except as noted, and shall be paid for at the contract unit price per lineal foot for STEEL RAILING, TYPE S-1.

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

The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 714.09 Type B or place 'a' fabric bearing pad between the post and concrete.

The ¾" high strength bolts used to connect the 6 x 4 x ¾ angles to the post shall be tightened in accordance with Article 507.04(g)(3) 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 ⅓ turn. The ⅜"⌀ cap screws in bottom of posts shall be tightened to a snug fit only.

SECTION A-A

⅞"⌀ Holes in post

2-¾"⌀x6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. ⅞"⌀ holes in tubing may be drilled in the field.

L 6 x 4 x ¾

1⅛"⌀ Holes in angles

2-¾"⌀x3¼" H.S Bolts with hex nut & flat washers

¹³⁄₁₆"x 3" Slotted Holes

SECTION AT RAIL POST

4"x12"x¼ Steel Tubing

W 6 x 25

¹³⁄₁₆"x 5½" Slotted Hole in post

¹³⁄₁₆"⌀ Holes in angle

Bituminous Surfacing

2-1"⌀x3¾" H.S. Bolts with flat washer

2-¾"⌀x3¼" H.S Bolts with flat washers

2-⅜"⌀x1¾"Cap Screws with flat washer

VIEW C-C

℄ Post

SECTION B-B

L 6 x 4 x ¾ x 6" lg

Grind ⁵⁄₁₆" Chamfer

2-¹³⁄₁₆"⌀ Holes in angles
1-¹³⁄₁₆"x 5½" Slotted Hole in Post

W 6 x 25

1⅛"⌀ Holes

END OF RAIL DETAILS

Drain Hole

1⅛"⌀Holes for 1"x4" Round Head Bolts. Provide 2 flat washers & locknuts for guard rail connection shown Std 2340.

Traffic side of rail

** 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 ½.

ANCHOR DEVICE

℄ Post

*1" H.S. Nut AASHTO M-164 welded to ℞
Cast 1" voids behind each nut

1"x 6"x13" ℞

1⅛"⌀ Hole

⅜"⌀x6"CR1020 Steel granular or solid flux filled headed studs automatically end welded. 4 Required per ℞.

*#3 bar

*⅜"⌀XX Pipe - 3" long welded to #3 bar and Top for ⅝"⌀ Cap Screw

6"x1⅜"x6" Bar

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

RAIL SPLICE CONNECTION AT EXPANSION JT.

Locknut

⅝"⌀x1¾"Cap Screw with flat washer & ¾"⌀X pipe spacer, 5" long

1¼"x 2½" Slotted holes in tubing

℞ ⅜"x 2½"x 20" Top & Bott

℞ ⅜"x 10⅞"x 20" Each Side

⅝"⌀x1¾" Cap Screw with flat washer

Locknut

¾"⌀ Holes in tubing

SECTION AT RAIL SPLICE

PLAN - BOTT. SPLICE PL. TYPICAL

Steel Tubing

¼" at rail splice
1½"at exp. joint at 50°F

Locknut
¾"⌀ Holes in ⅜" ℞

FOR INFORMATION ONLY

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Lin Ft	86

RAILING

F.A. RTE. 18 OVER TRIB. OF MISSISSIPPI R.
F.A. RTE. 18, SECTION 104 BY-1BR
CARROLL COUNTY
STA. 566 + 37.11

DESIGNED	R.H.C.
CHECKED	K.L.R.
DRAWN	MD
CHECKED	K.L.R.

R-23A   8-30-80   (10'-9" Maximum Post Spacing)