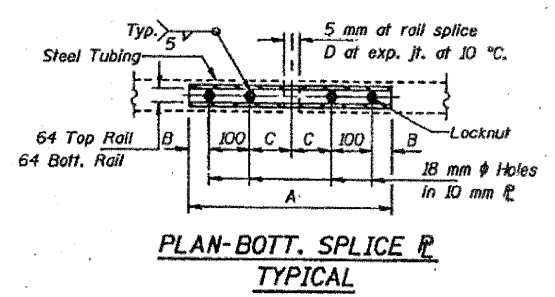
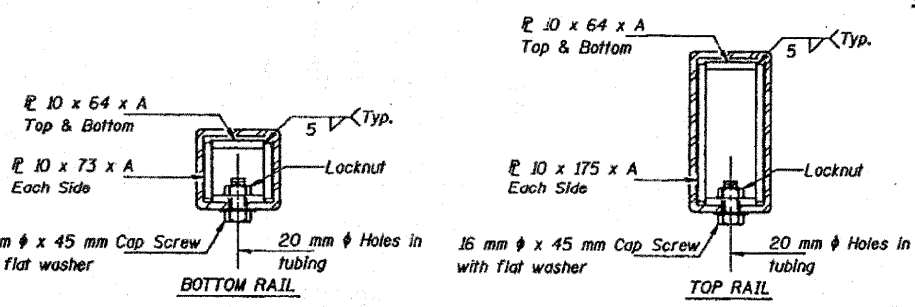
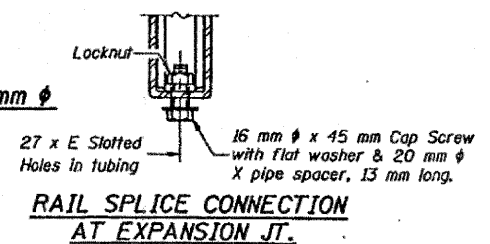
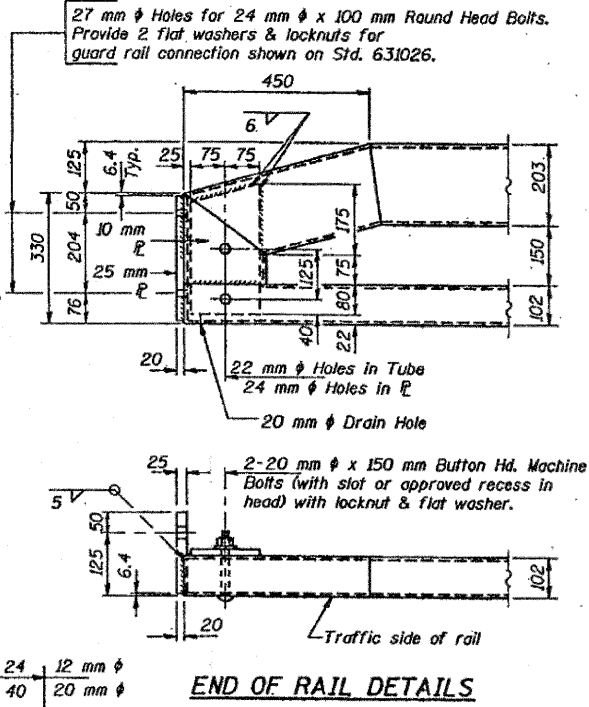
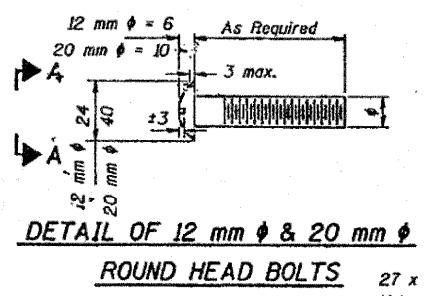
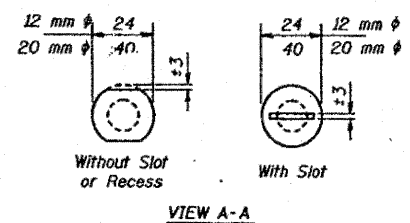
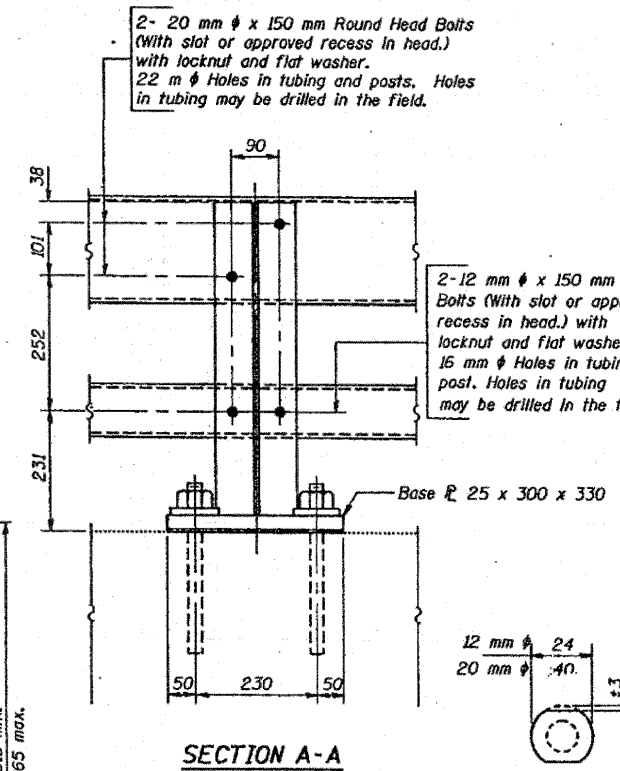
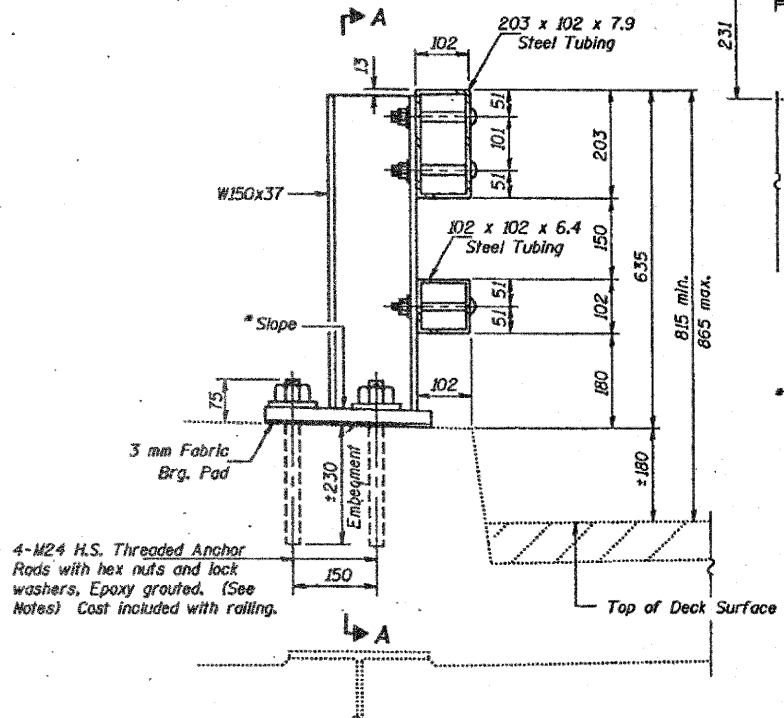
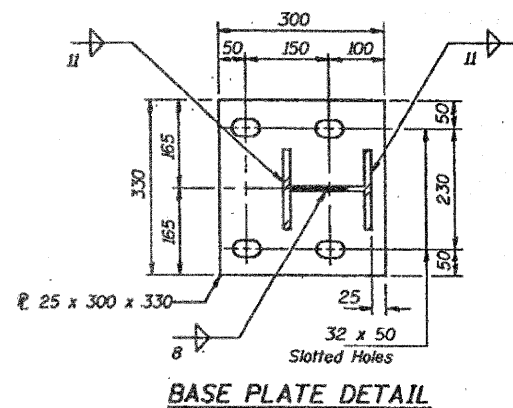


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74		HENRY	148	108
SHEETS				



**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 20 N m at 18 °C.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270M Grade 250 except posts shall conform to AASHTO M 270M, Grade 345.

Bolts, cap screws and nuts shall conform to the requirements of ASTM designation A 307 except that threaded rods, nuts and washers shall conform to AASHTO M 164M.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices and anchor rods shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per meter for STEEL BRIDGE RAIL.

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

Posts shall not be located closer than 400 mm to an existing bridge expansion joint or end of bridge.

STEEL BRIDGE RAIL expansion joint shall be provided between any two (2) posts which span a bridge expansion joint. Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.

Provide one 3 mm and two 1.6 mm steel shims for 25% of the posts. Shims shall be similar to base plates in size and holes.

Expansion joint width shall be "D" at 10 °C and shall be adjusted for other temperatures according to Article 503.10(c) of the Standard Specifications.

The Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures.

The capsule or the adhesive cartridge shall be a sealed glass capsule or a sealed glass adhesive cartridge containing premeasured amounts of the adhesive chemical.

Nuts for 24 mm  $\phi$  threaded anchor rods connecting the base plate to the concrete shall be tightened to a snug fit and given an additional 1/8 turn.

All dimensions are in millimeters (mm) except as noted.

**EXISTING BRIDGE PLANS FOR REFERENCE ONLY**

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Bridge Rail	m	143.60

**SPLICE DIMENSIONS**

T	D	A	B	C	E
$\leq 100$	65	500	50	100	65
$> 100 \leq 165$	95	610	65	140	90
$\geq 165 \leq 230$	125	710	90	165	230
$> 230 \leq 330$	175	860	115	215	280
Rail Splice	6	500	50	100	—

T = Total movement at expansion joint as shown on the design plans.  
SN 037-0015 & SN 037-0016  
**STEEL BRIDGE RAIL**  
CURB MOUNTED  
(2399)

DESIGNED: [Signature]  
CHECKED: [Signature]  
DRAWN: [Signature]  
CHECKED: [Signature]

EXAMINED: [Signature]  
PASSED: [Signature]  
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

R-31 (M) 4-30-97 (1.90 m Maximum Post Spacing)