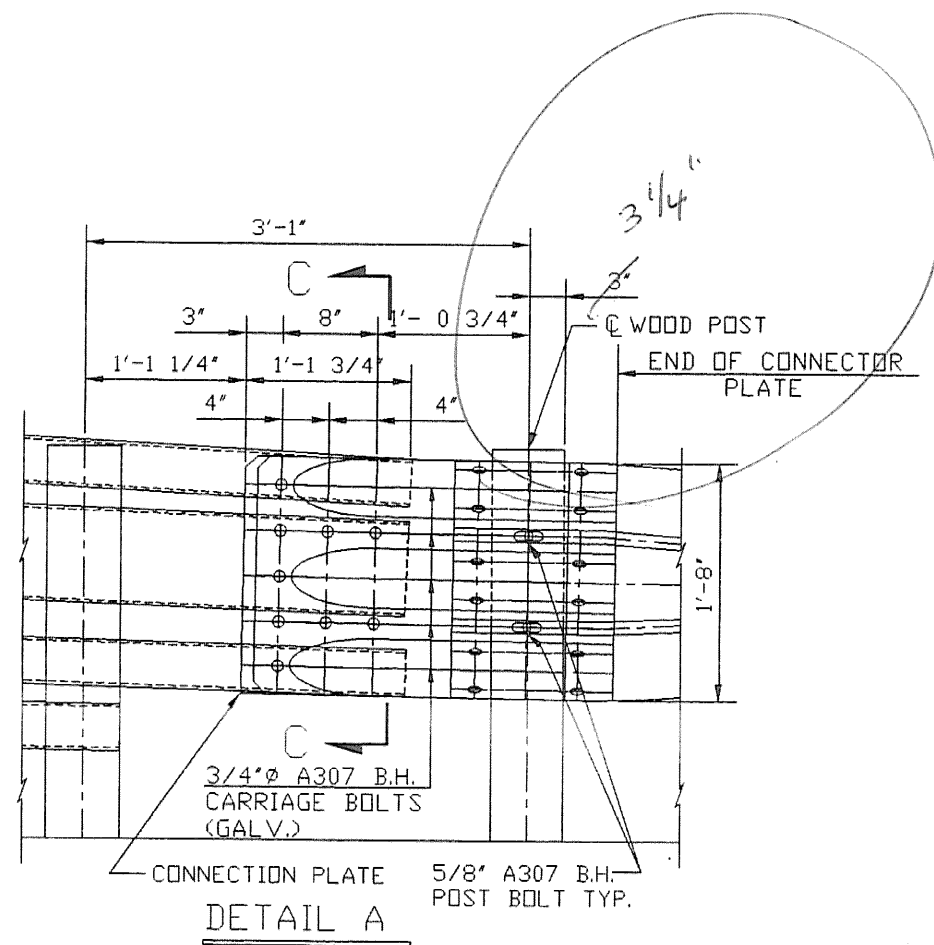
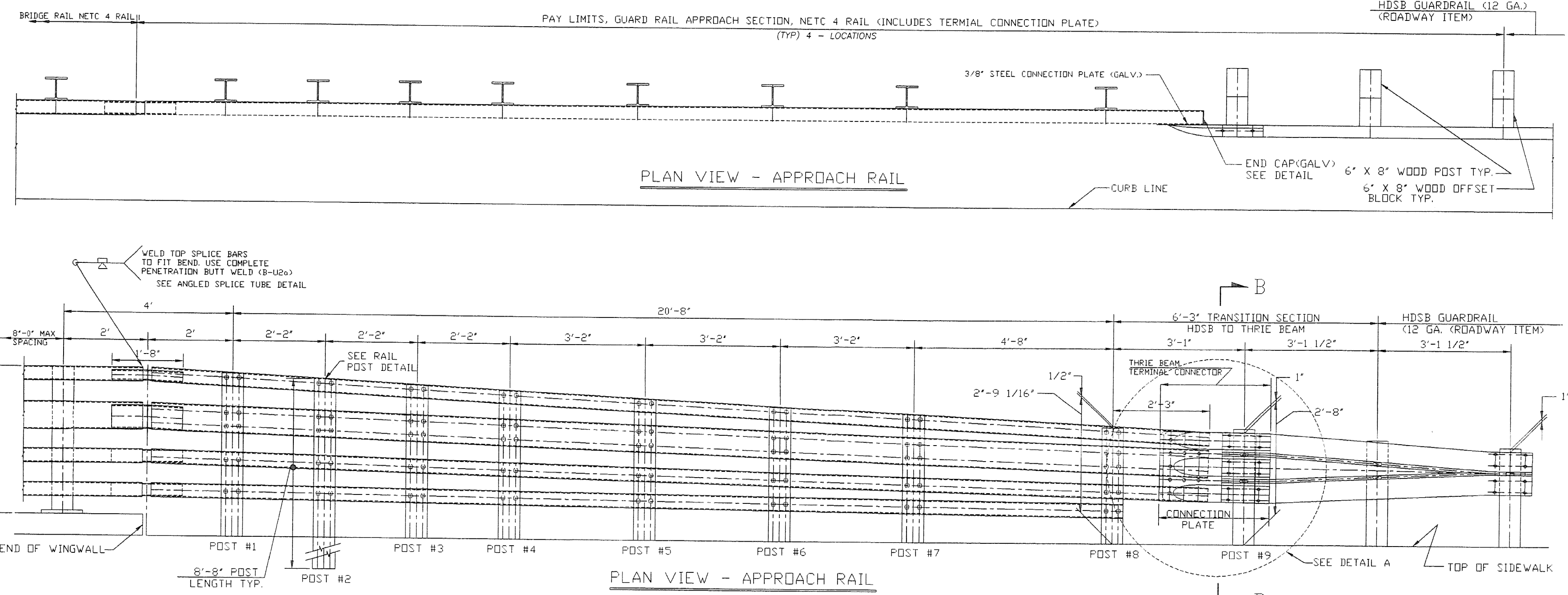
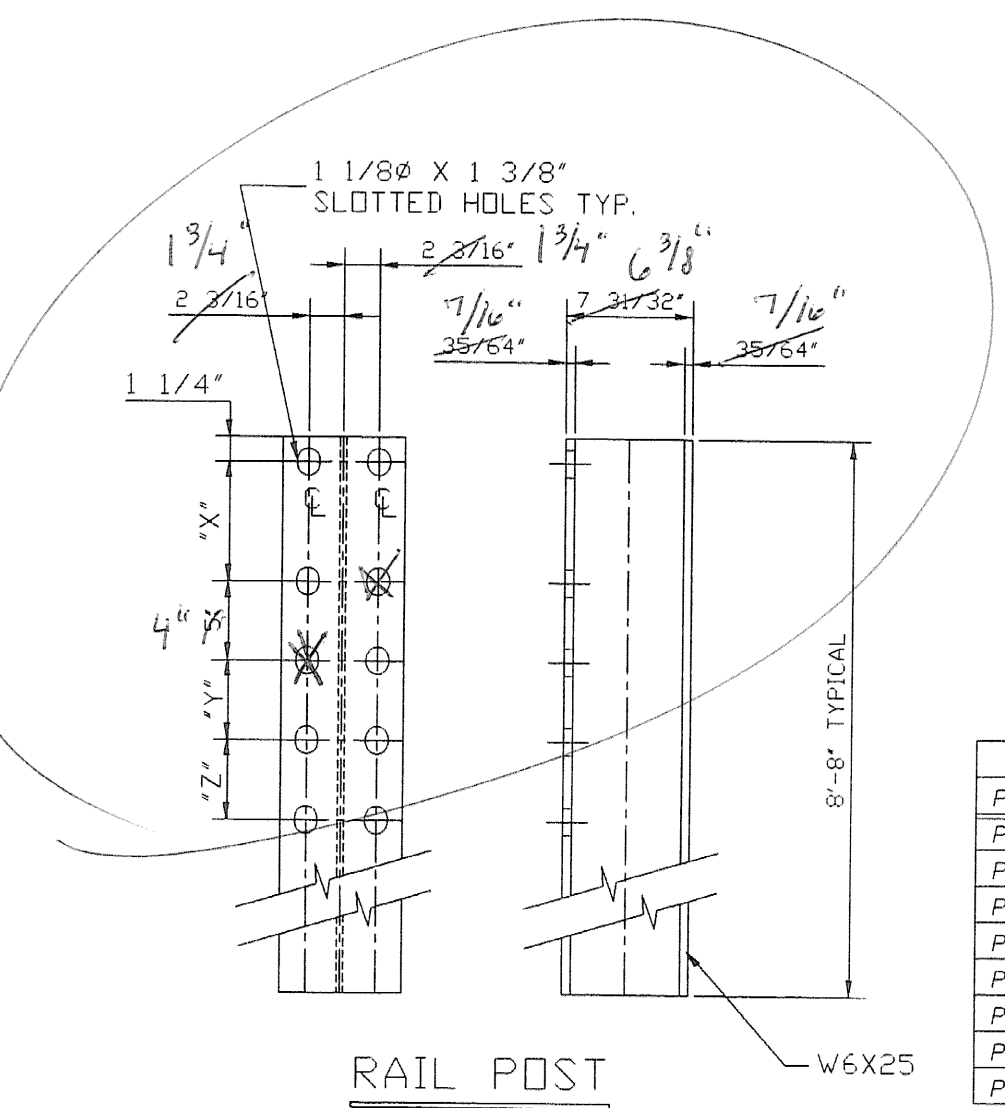
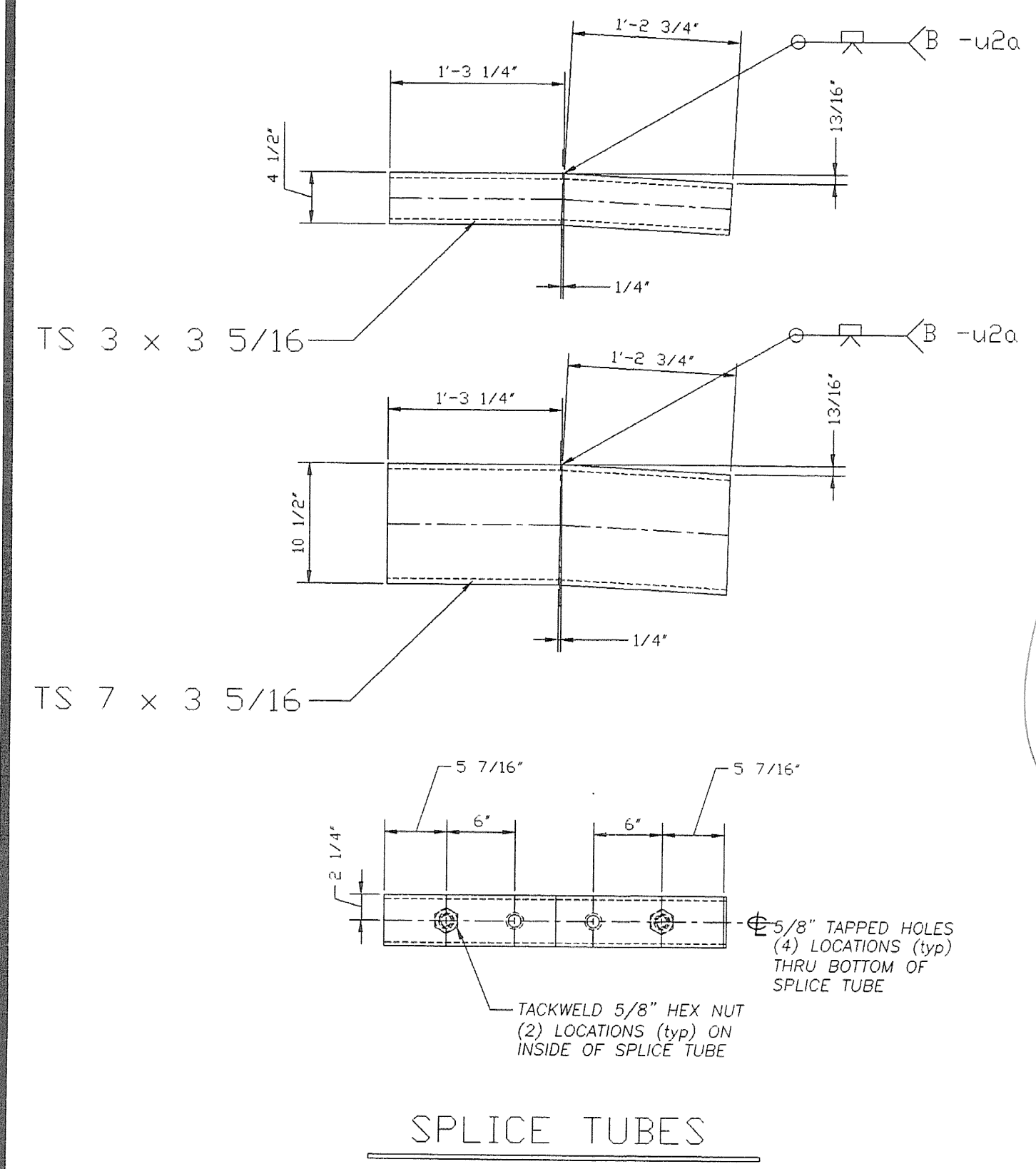


BILL OF MATERIAL				
Mk.	Qty.	Description	Material	Total wgt.
12		TUBE 4" X 4" X 24-11"	A500 GR B	
4		TUBE 8" X 4" 5/16" X 24-11"	A500 GR B	
4		12GA. THRIE TRANSITION PANEL 7'-3 1/2"	M180 A2	
4		THRIE TERMINAL CONNECTOR 2'-6"	M180 A2	
4		CONNECTOR PLATE	A36	
12		END CAP FOR 4" X 4" RAIL	A36	
4		END CAP FOR 8" X 4" RAIL	A36	
12		ANGLE SPLICE TUBE FOR 4" X 4" RAIL	A500 GR B	
4		ANGLE SPLICE TUBE FOR 8" X 4" RAIL	A500 GR B	
32		POST W6X25 X 8'-8"	A572 GR 50	
12		WOOD POST 6" X 8" X 7'-0"		
12		WOOD BLOCK 6" X 8" X 1'-10 1/2"		
80		5/8" PANEL SPLICE BOLT WITH NUT	A307	
36		3/4" X 8" CARRIAGE BOLT WITH NUT & FW	A307	
24		3/4" X 18 HEX BOLT WITH NUT & FW	A307	
256		3/4" X 6 SLOTTED HD BOLT WITH FW & LN	A325	
64		5/8" X 1.75 TUBE SPLICE BOLT WITH FW	A325	

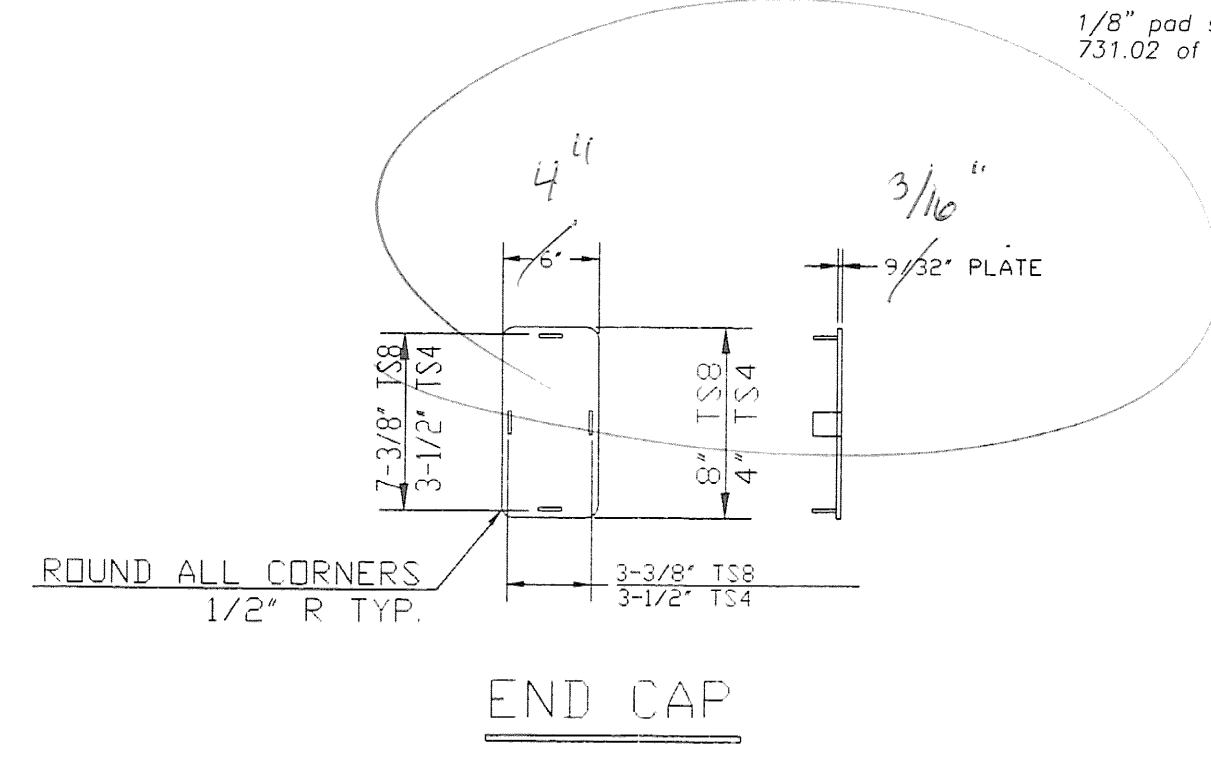
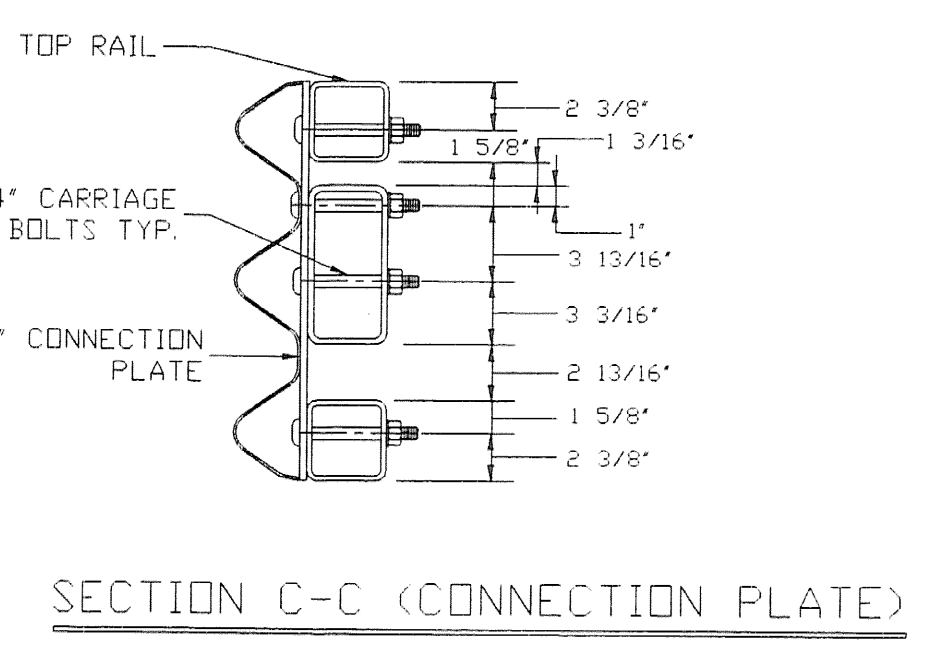
- GENERAL ERECTION NOTES**
- All work and materials shall conform to the provisions of Section 525 - Railings of the Vermont Standard Specifications for Construction.
 - Tubing & posts shall meet the requirements of Section 732 - Railing materials of the Standard Specifications for Construction.
 - All exposed cut or sheared edges shall be ground to a 1/16" radius & be free of burrs.
 - Rail posts shall be set normal to grade.
 - Sections of rail bar shall be attached to a minimum of two (2) posts and preferably to at least four (4) posts.
 - Rail bar expansion joints shall be provided in any rail bar spanning a superstructure expansion joint. Expansion joint width shall be "X" at 45° F and will be adjusted in the field by the engineer.
 - All parts shall be galvanized after fabrication in accordance with AASHTO M111, except that hardware shall meet the requirements of AASHTO M232.
 - Rail posts anchoring nuts shall be tightened to a snug-tight fit and given an additional 1/8 turn.
 - Rail bars shall be attached using 3/4" full diameter body head bolts AASHTO M164 (Type-I) inserted through the face of the bar. Holes in post shall be 1/16" larger than the bolt size.
 - Holes in rails for attachment to posts will be field-drilled. Holes shall be coated with an approved zinc-rich paint prior to erection.
 - Radiused rails (if required) will be shop-curved. No field-bending of rail tubes.
 - The drop-weight tear test in section 732 shall not apply to the structure tubing on this standard.



- MATERIALS**
- Rail bars.....ASTM A500 GR B or ASTM A501
 - Rail posts.....ASTM A500 GR 50
 - All other shapes & plates.....ASTM A709 GR 36
 - Anchor studs.....ASTM A449
 - All other bolts [unless noted].....AASHTO M164, TYPE I
- Nuts for ASTM A307 bolts & AASHTO M164 bolts shall comply with AASHTO M291. Nuts for anchor studs shall comply with ASTM A563.
- washers shall comply with ASTM F436
- 1/8" pad shall comply with standard specification subsection 731.01 or 731.02 of Vermont Standard Specifications.



HOLE PATTERN DIMENSIONS IN RAIL POSTS			
POST #	"X"	"Y"	"Z"
POST # 1	10 1/8"	9 9/16"	8 15/16"
POST # 2	9 3/4"	9 5/16"	8 9/16"
POST # 3	9 5/16"	9 1/8"	8 3/16"
POST # 4	8 15/16"	8 7/8"	7 13/16"
POST # 5	8 5/16"	8 1/2"	7 1/4"
POST # 6	7 11/16"	8 3/16"	6 11/16"
POST # 7	7 1/16"	7 13/16"	6 3/16"
POST # 8	6 3/16"	7 5/16"	5 5/16"



SHOP DRAWING REVIEW

REVIEWED AS REQUIRED BY THE CONSTRUCTION CONTRACT DOCUMENTS AND APPROVED, BUT ONLY FOR CONFORMANCE TO THE DESIGN CONCEPT OF THE WORK AND SUBJECT TO FURTHER LIMITATIONS AND REQUIREMENTS CONTAINED IN THE CONSTRUCTION CONTRACT DOCUMENTS.

REJECTED REVISE AND RESUBMIT FURNISH AS CORRECTED

Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for confirming and correlating all quantities and dimensions, selecting fabrication processes and techniques of construction, coordinating his work with that of all other trades, and performing his work in a safe and satisfactory manner.

VHB Vannesse Hangan Brugstin, Inc. Engineers, Planners, and Scientists
50 Bedford Pkwy., 6th Fl. Boston, MA 02109 617-552-0888

Job Number: 50937
Reviewed by: ASB
Date: 9-21-00

REVISIONS		
No.	Remarks	Date
0	Initial submittal	9/1/00

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 621.73 - BRIDGE RAILING - NETC 4 RAIL

CITY OF SOUTH BURLINGTON
US ROUTE 2 OVER I-89 @ EXIT 14
IM DECK(36) BRIDGE #68

GENERAL CONTRACTOR
SUB CONTRACTOR: F.R. LAFAYETTE, INC.

DRAWN: P. VUKAS
CHECKED: P.R.
DATE: 09-05-00
SCALE: NONE
HSC REFERENCE NO.: 1225
SIZE: D REVISION: 0
SHEET NO.: 1 of 1