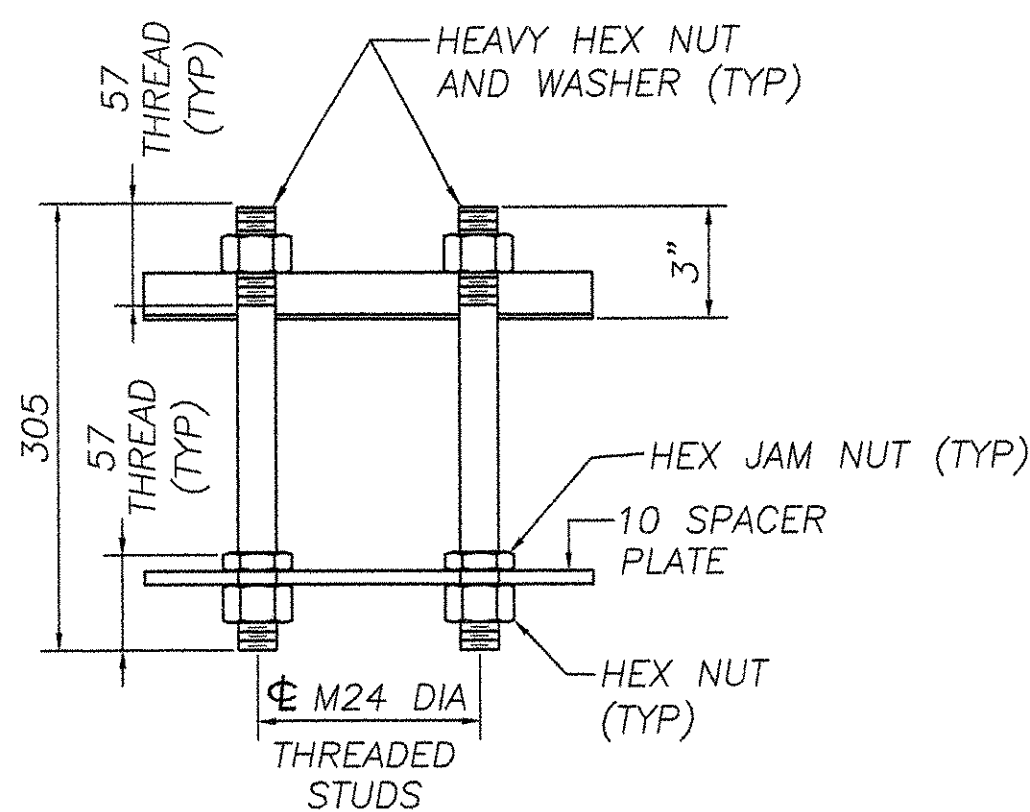
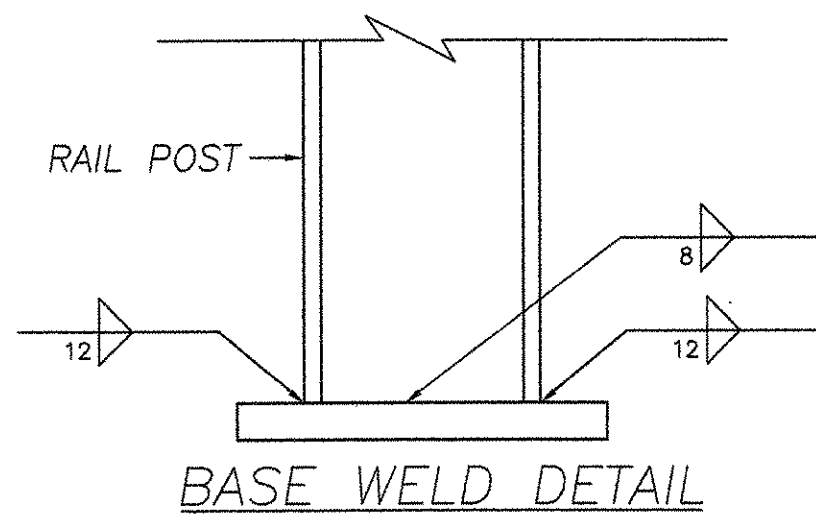


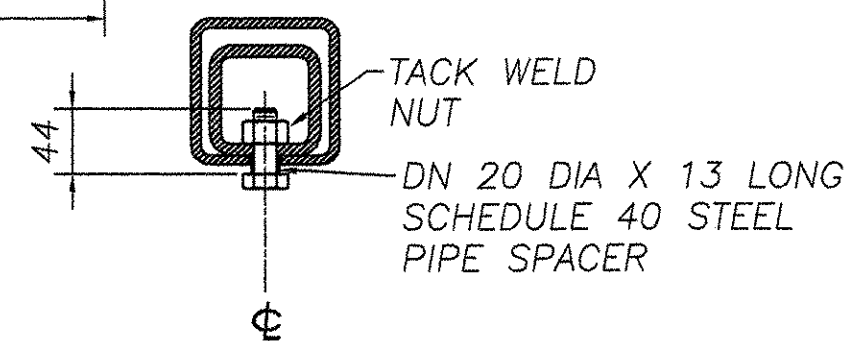
BRIDGE RAILING ELEVATION



RAIL POST ANCHORAGE (BY OTHERS)



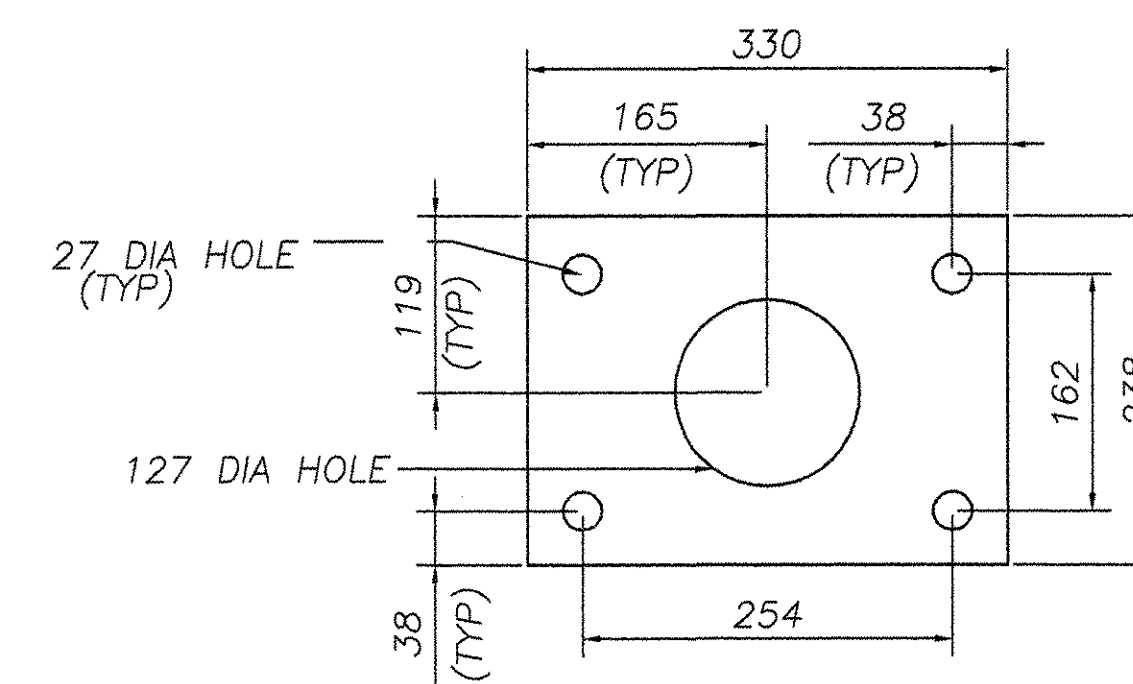
BASE WELD DETAIL



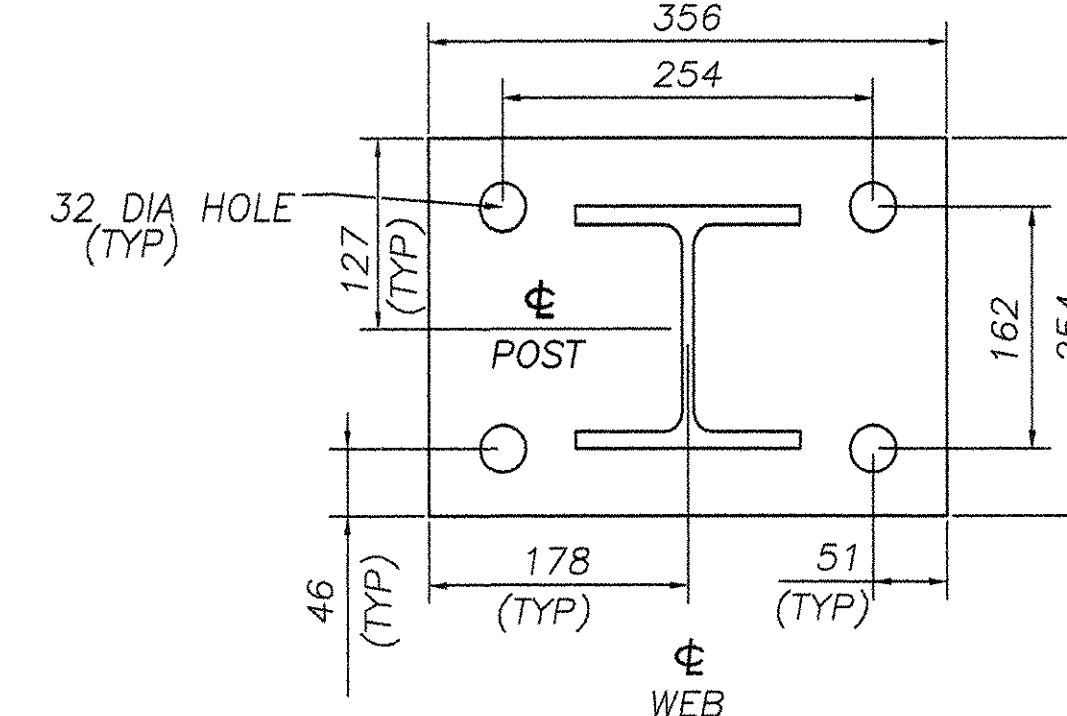
16 DIA TAPERED HOLE IN SPLICE TUBE AND 29 X 'C' SLOT IN RAIL TUBE FOR 5/8" DIA BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

FOR DETAILS NOT SHOWN, SEE "RAIL TUBE SPLICE SECTION"

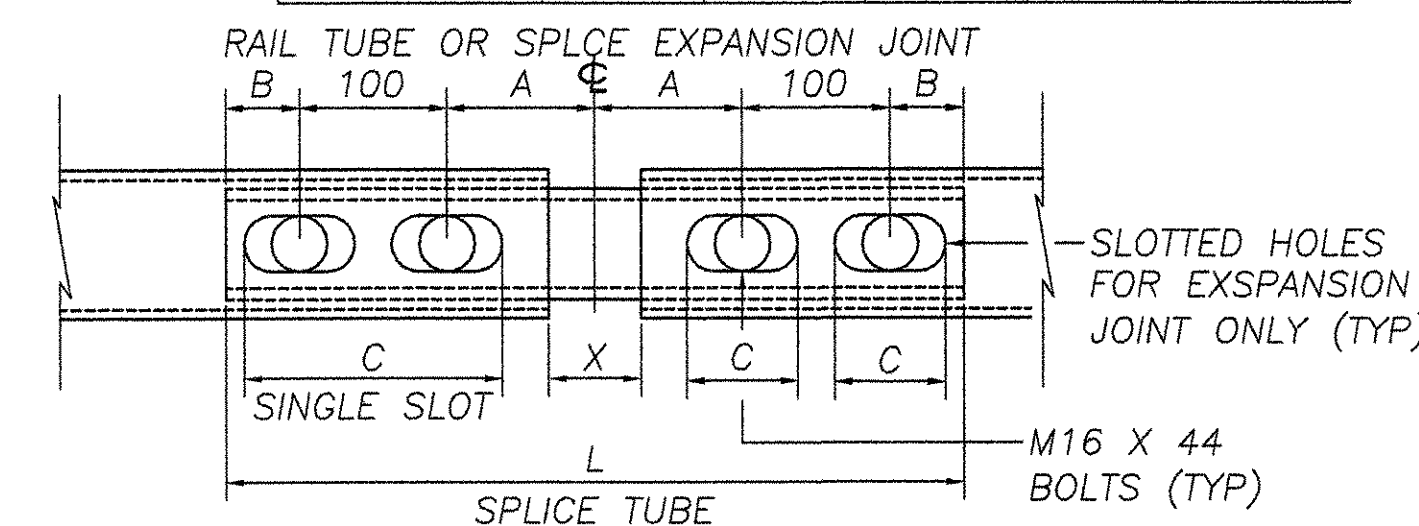


SPACER PLATE (BY OTHERS)

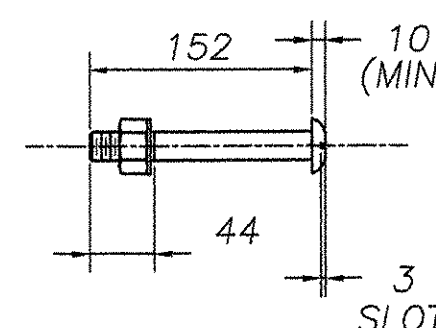


POST AND BASE PLATE

SPLICE TABLE					
T	A	B	C	L	X
NA	100	50		510	20
EXPANSION JOINT TABLE					
<100	100	50	65	510	65
>100 <165	140	60	90	605	105
>165 <230	165	85	230*	705	130
>230 <330	215	110	280*	860	180



RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL



M20 DIA M164M (TYPE 1) ROUND HEAD BOLT

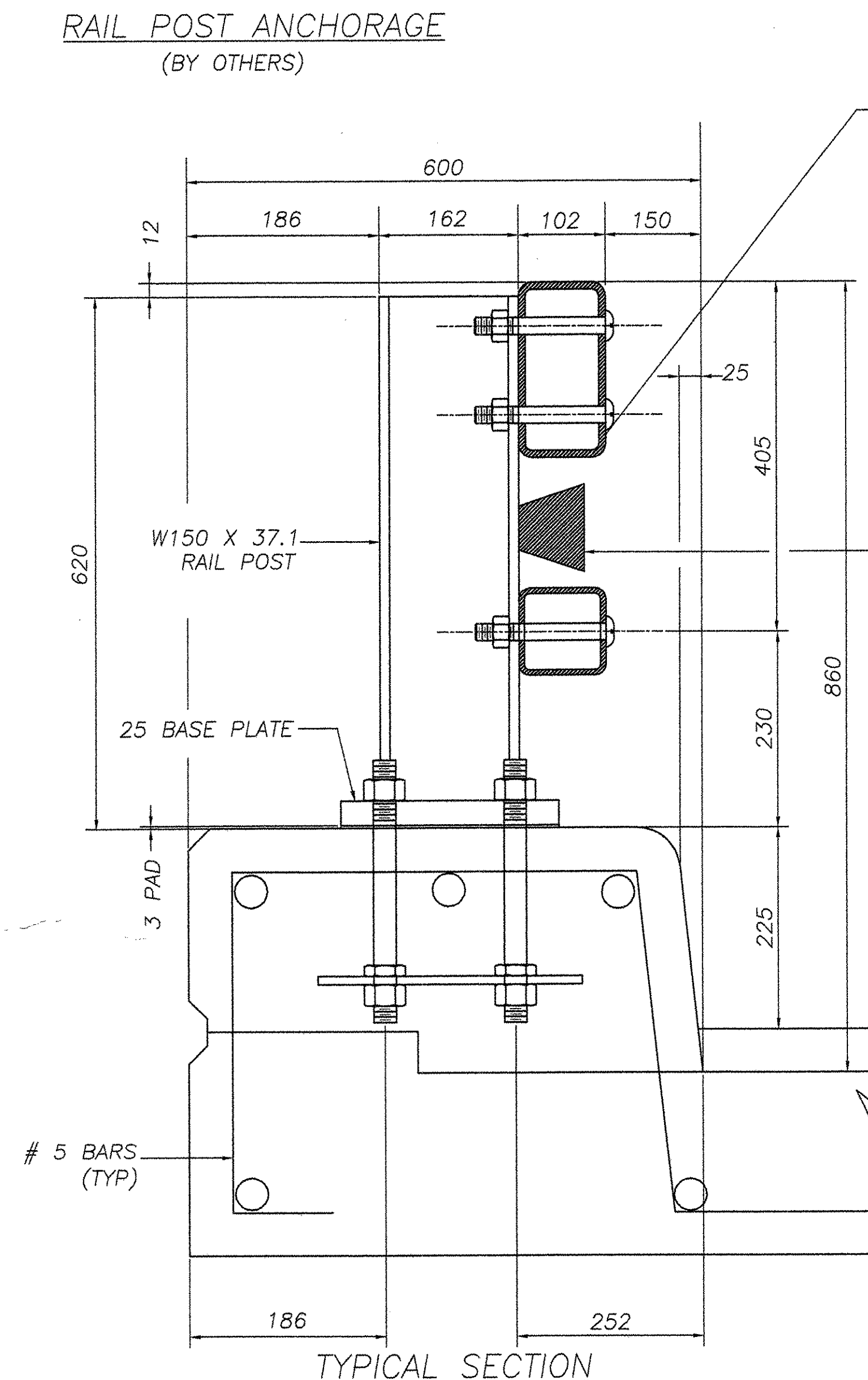
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT) (SEE NOTE #9) ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED

NOTES

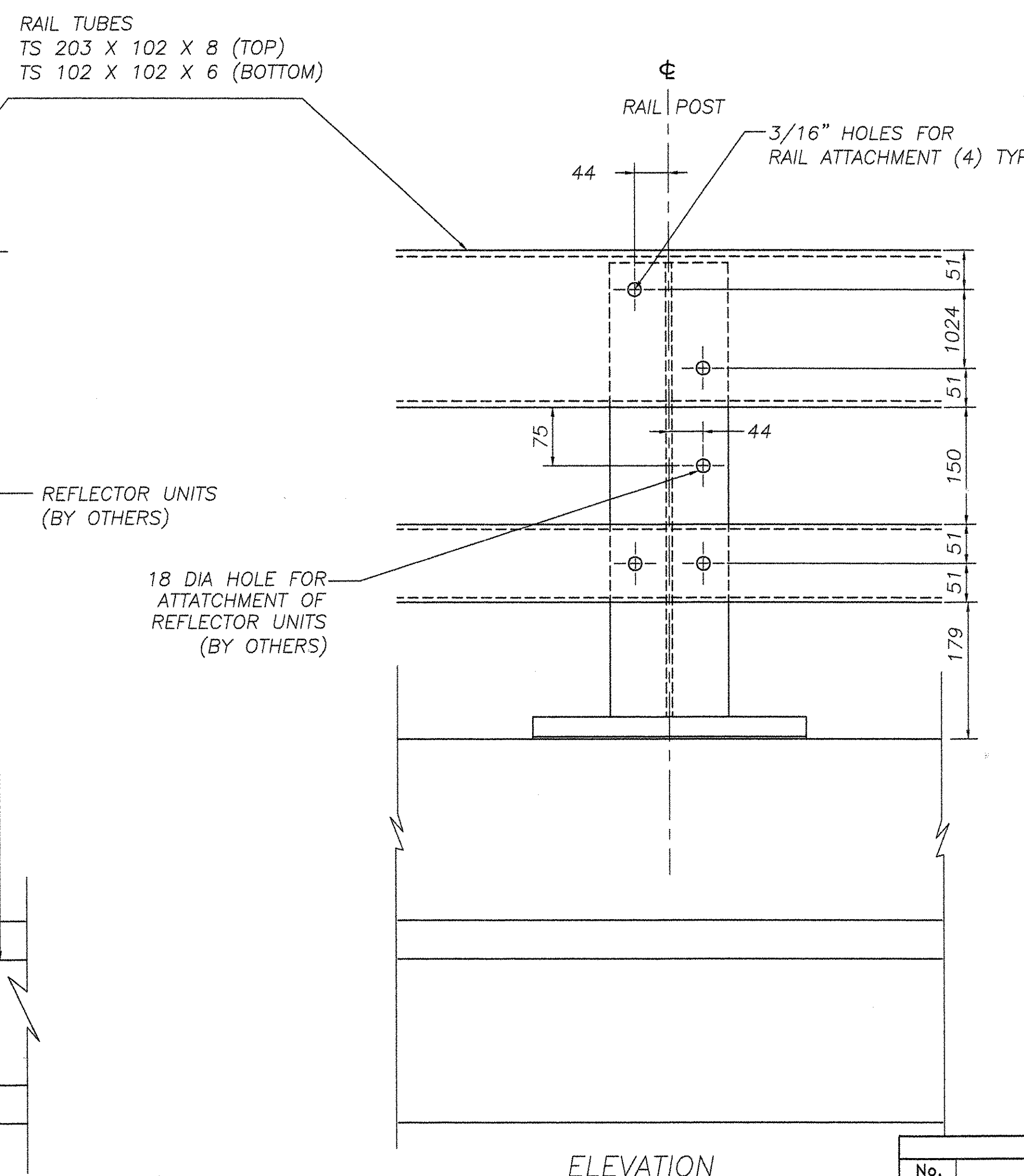
- 1 ALL WORK AND MATERIALS SHALL COMFORM TO THE PROVISIONS OF SECTION 525 "RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION".
- 2 TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION" EXCEPT THE DROP WEIGHT TEAR TEST IN SECTION 72 SHALL NOT APPLY TO THE STRUCTURAL TUBING IN THIS STANDARD.
- 3 ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 1/16" RADIUS AND BE FREE OF BURRS.
- 4 RAIL POSTS SHALL BE SET TO NORMAL GRADE.
- 5 SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
- 6 RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 45°F AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
- 7 ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M311, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M232.
- 8 RAIL POSTS ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
- 9 RAIL TUBES SHALL BE ATTACHED USING 3/4" FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 1/16" LARGER THAN THE BOLT SIZE.
- 10 HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT PRIOR TO ERECTION.
- 11 IF THERE IS A CONFLICT BETWEEN THESE STANDARD DETAILS AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWING SHALL BE FOLLOWED.
- 12 ANY BENDING OF RAIL SHALL BE DONE BY SHOP PROCEDURE ONLY.
- 13 THE FABRICATION SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
- 14 RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A-370 CHARPY IMPACT TESTING USING A SPECIMIN.

MATERIALS

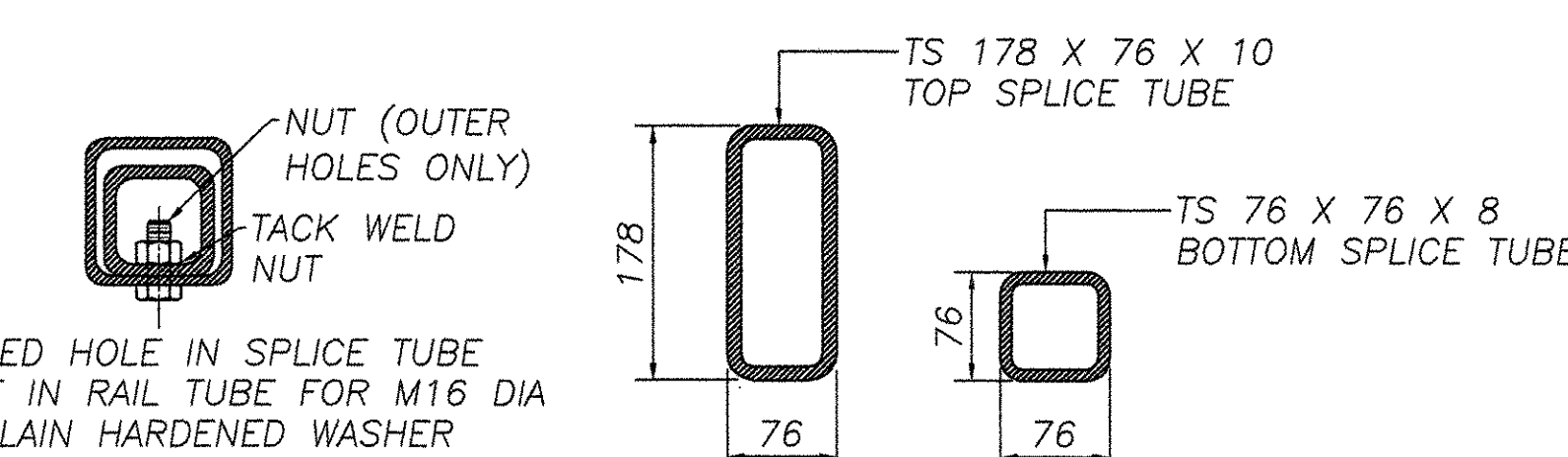
- RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
- RAIL POSTS AND BASE PLATES.....ASTM A709A709M, GRADE 50
- ALL OTHER SHAPES AND PLATES.....ASTM 1709/A709M, GRADE 36
- ANCHOR STUDS.....ASTM A449
- ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164, TYPE 1
- NUTS FOR AASHTO M164 (ASTM A325) BOLTS AND FOR ANCHOR STUDS SHALL COMPLY WITH AASHTO M291 (ASTM A563)
- WASHERS SHALL COMPLY WITH AASHTO M293 (ASTM F436) SPECIFICATIONS
- 1/8" PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02



TYPICAL SECTION



ELEVATION



RAIL TUBE SPLICE SECTION

REVISIONS		
No.	Remarks	Date
0	Initial submittal	1-13-05

RECEIVED  
 OK'D BY: [Signature]  
 JAN 20 2005  
 SUBMITTED BY: [Signature]  
 APPROVED: [Signature]  
 DATE: 2/11/05

**HIGHWAY SAFETY CORP.**  
 GLASTONBURY, CT

ITEM 525.33 BRIDGE RAILING - NETC 2 RAIL  
 TOWN OF JAMAICA  
 COUNTY OF WINDHAM  
 PROJECT AC BRF 013-1(8)  
 VT. ROUTE 100 OVER WEST RIVER

DRAWN: CJC  
 CHECKED: [Signature]  
 DATE: 12/27/04  
 SCALE: 3/16=12  
 HSC REFERENCE NO.: 1488  
 GENERAL CONTRACTOR: [Signature]  
 SUB CONTRACTOR: F.R. LAFAYETTE, INC.  
 SIZE: D  
 SHEET NO.: 3 of 4

