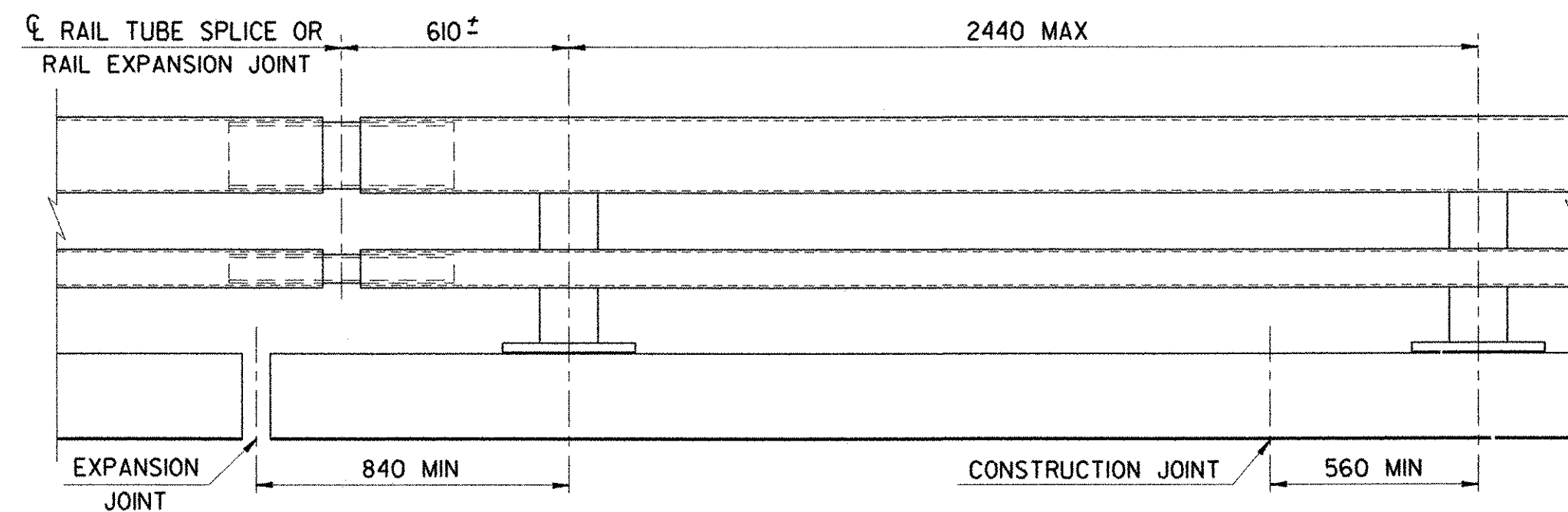
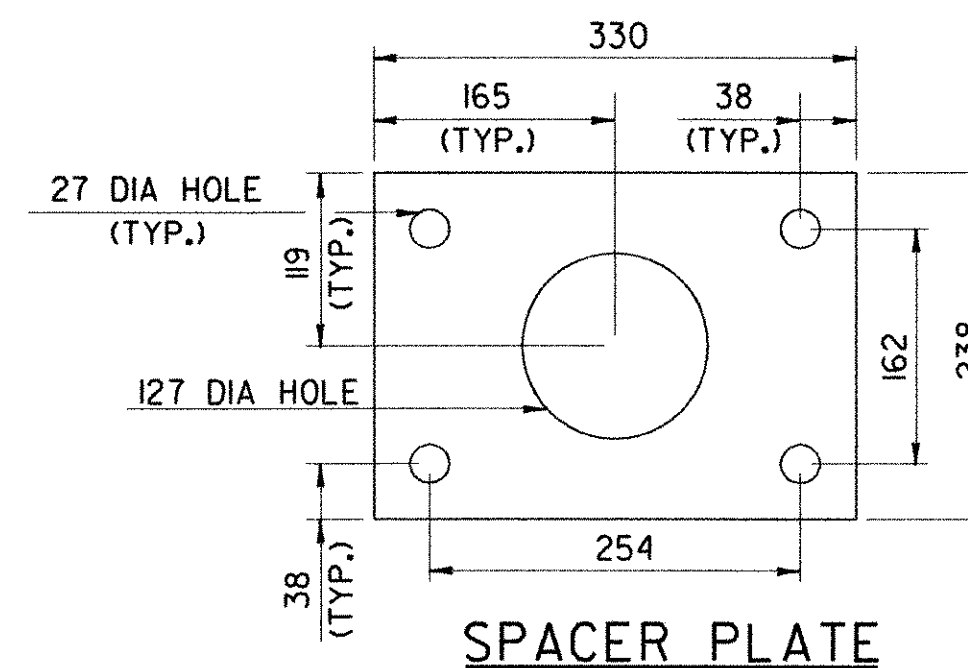


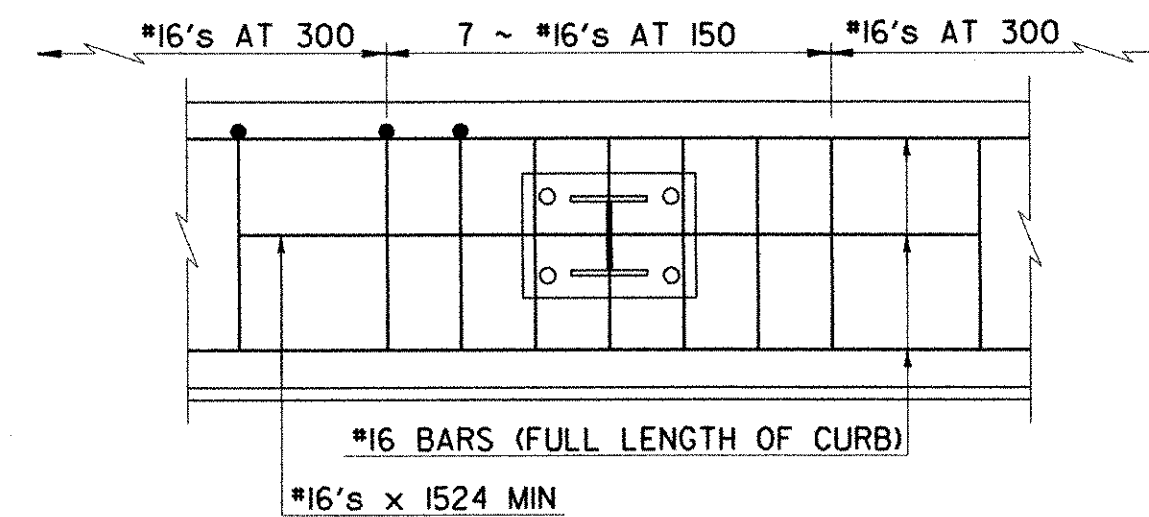
NOTE: UNLESS NOTED OTHERWISE, ALL STATIONS ARE IN KILOMETERS, ALL ELEVATIONS ARE IN METERS, AND ALL DIMENSIONS ARE IN MILLIMETERS.



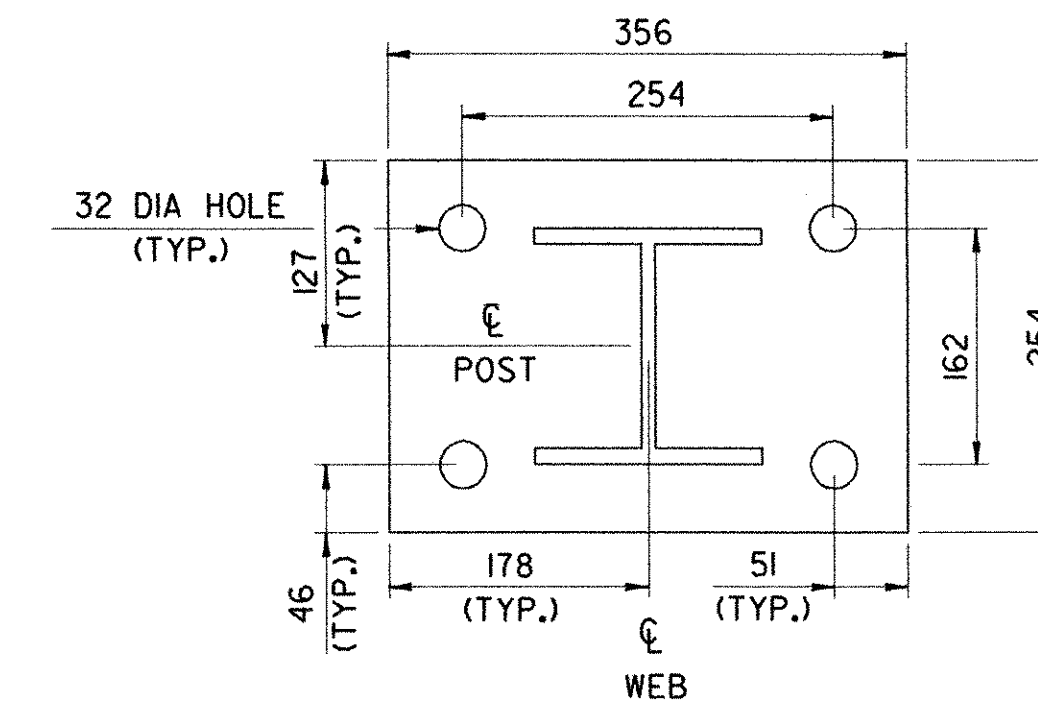
BRIDGE RAILING ELEVATION



SPACER PLATE



CURB REINFORCING PLAN



POST AND BASE PLATE

NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM 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 THAT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING IN THIS STANDARD.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2 mm RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO 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 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE RESIDENT ENGINEER FOR OTHER TEMPERATURES.
7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M232M.
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 M20 FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 2 mm 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. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
12. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10. SEE NOTE 13 ON SHEET NO. BR1 FOR SHOP DRAWINGS DISTRIBUTION LIST.
13. RAIL POST AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMENS.

MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501  
 RAIL POSTS AND BASE PLATE.....ASTM A709/A709M, GRADE 345  
 ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GRADE 250  
 ANCHOR STUDS.....ASTM F568M CLASS 8.8  
 ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164M, TYPE 1

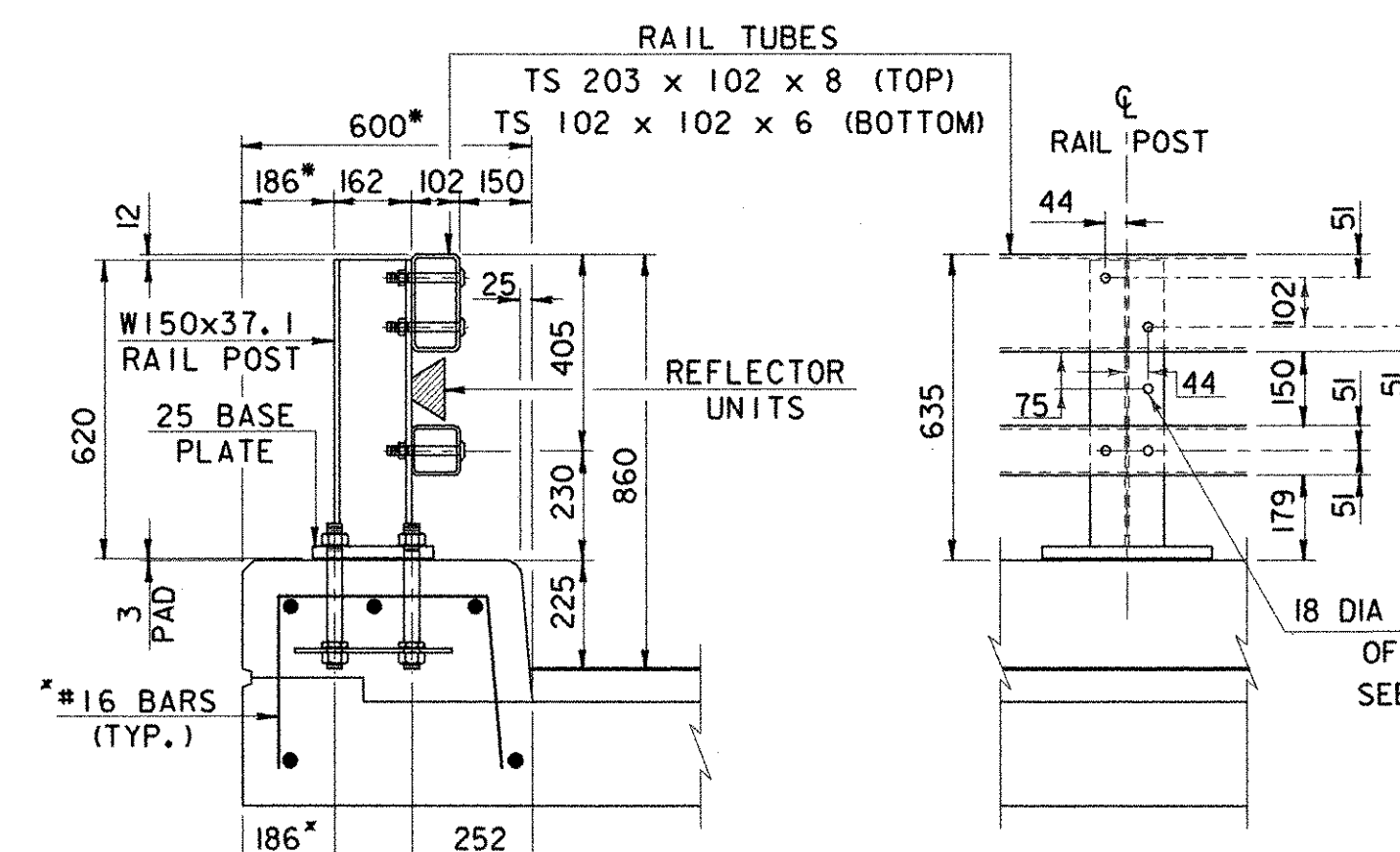
NUTS FOR AASHTO M164 BOLTS AND ANCHOR STUDS SHALL COMPLY WITH AASHTO M291M (ASTM A563M).

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFICATIONS.

3mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

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

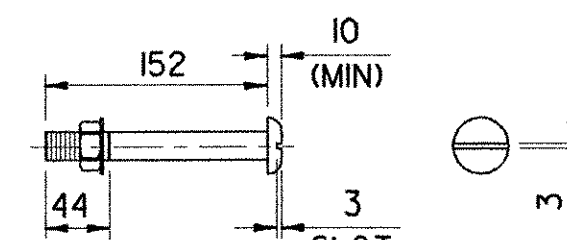
T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6  
 \* = SINGLE SLOT



TYPICAL SECTION

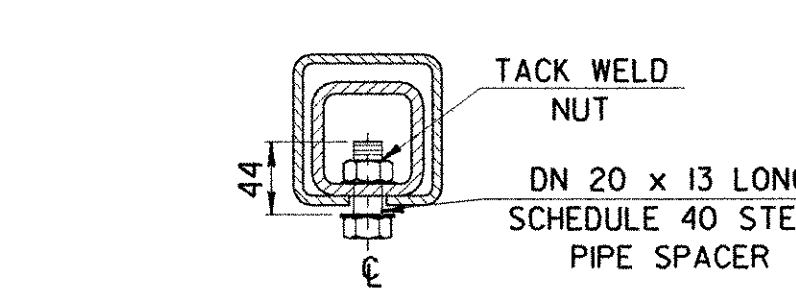
ELEVATION

REFER TO SHEET BR2 FOR DIMENSION AND REINFORCEMENT MODIFICATIONS.



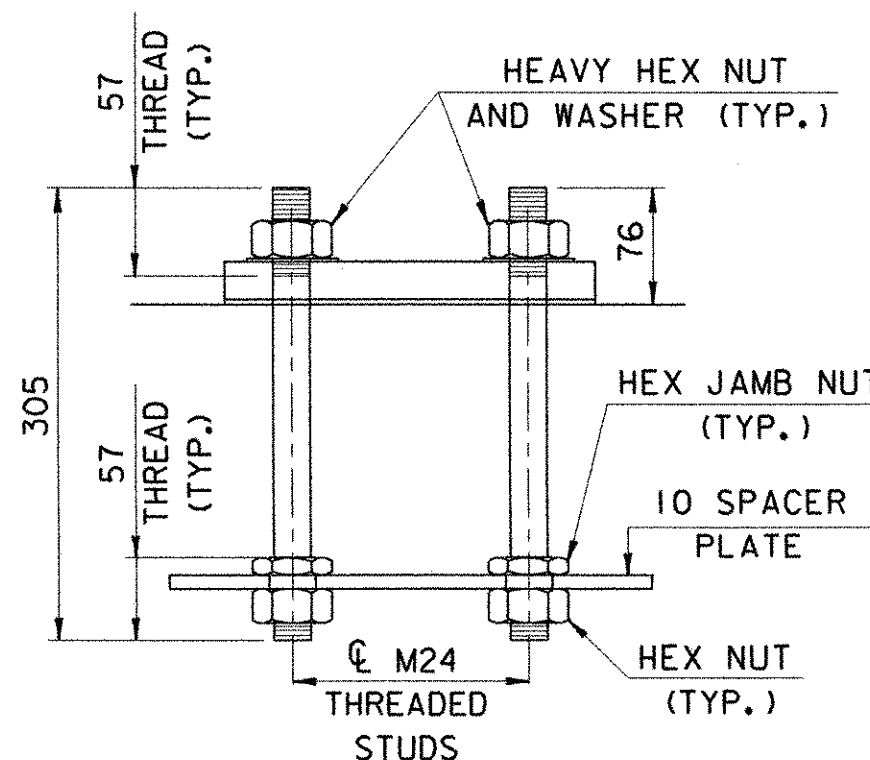
M20 DIA M164 (TYPE 1) ROUND HEAD BOLT

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

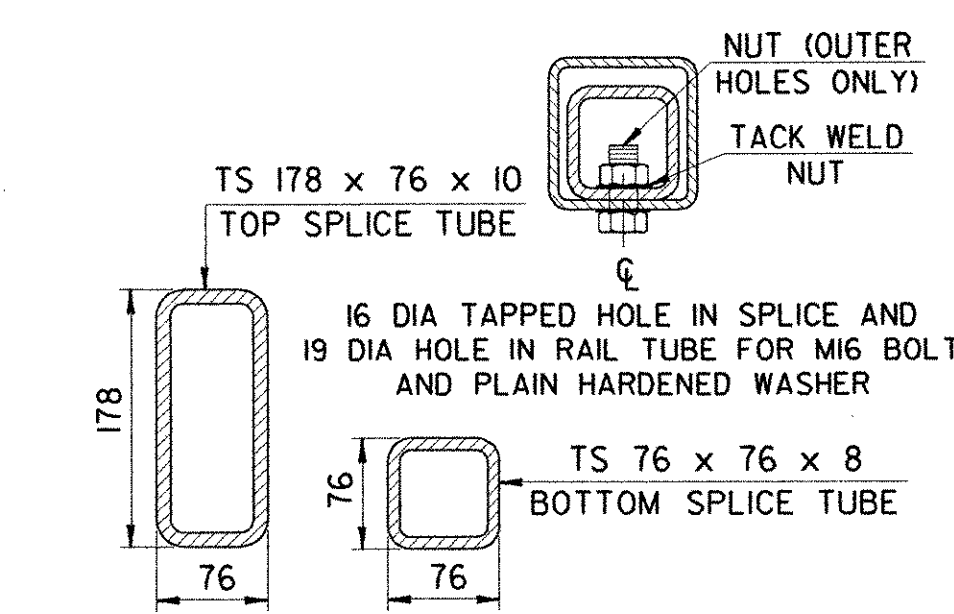


EXPANSION JOINT SECTION

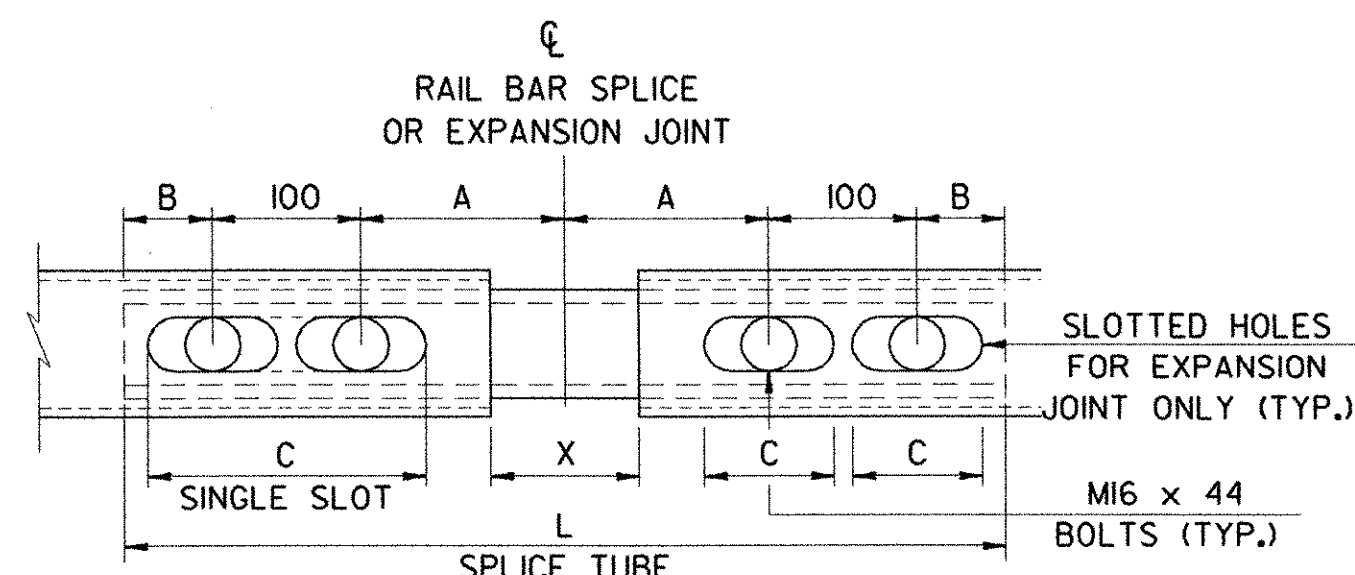
FOR DETAILS NOT SHOWN SEE "RAIL TUBE SPLICE SECTION"



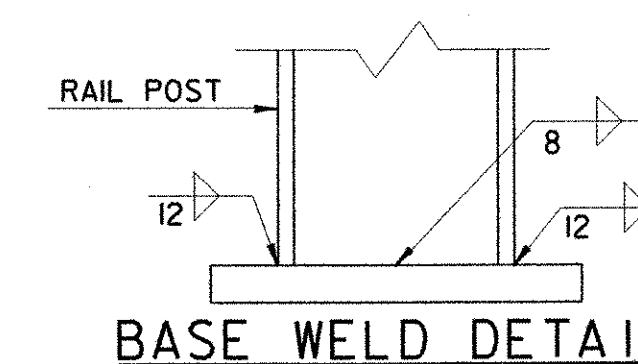
RAIL POST ANCHORAGE



RAIL TUBE SPLICE SECTION



RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL (BOTTOM VIEW)



BASE WELD DETAIL

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town of	BENNINGTON	Bridge No.	BR1200
Highway No.	VT. RTE. 279	Log Sta.	
		Surv. Sta.	17+853
VT. RTE. 279 OVER HISTORIC VT. ROUTE 7A			
BRIDGE RAILING - N.E.T.C. 2 RAIL			
Designed By	D. STECIAK	Drawn by	K. RAPELLO
Checked By	M. W. OLSTAD	Bridge Design Supervisor	M. W. OLSTAD
Date	02/04	Date	02/04
PROJECT	BENNINGTON-HOOSICK	PROJECT NO.	D.P.I. 0146(I) C/6
I.G.C. Info.			
Bridge Sheet No.	BR4	Sheet	60 OF 83