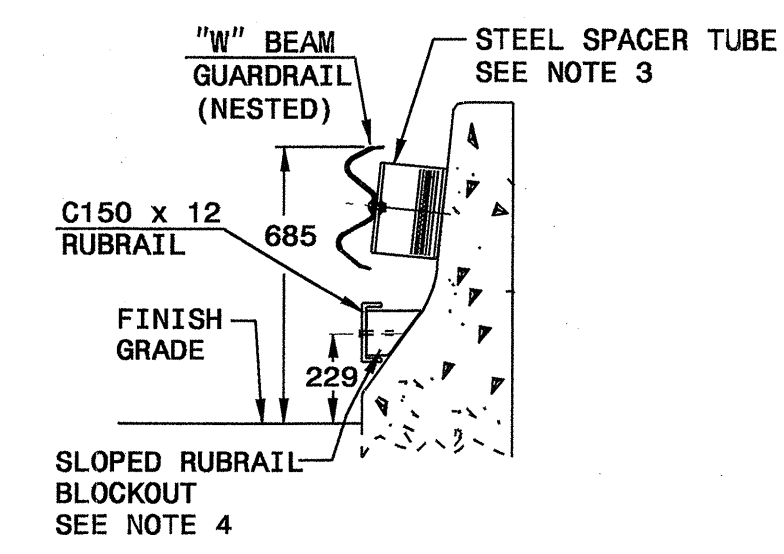
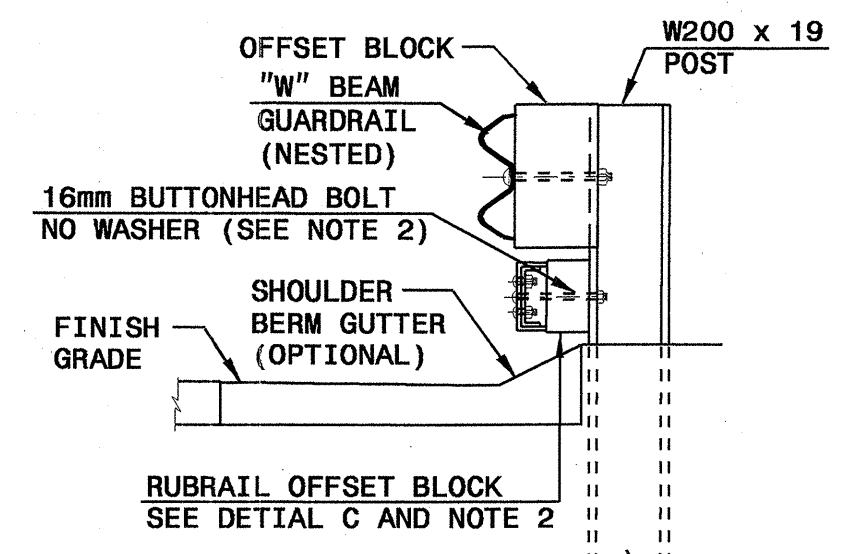


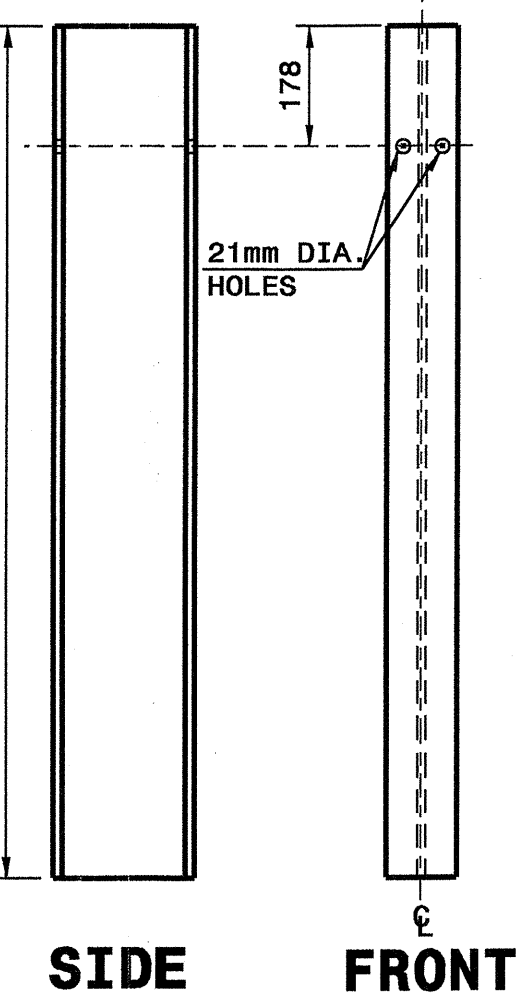
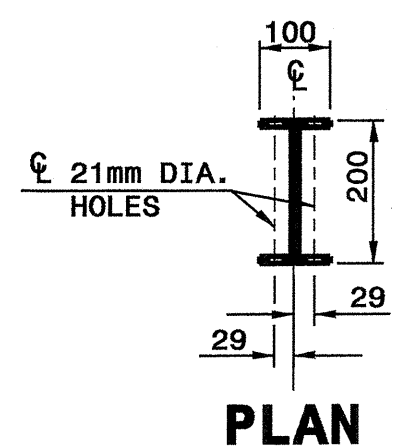
SECTION A-A



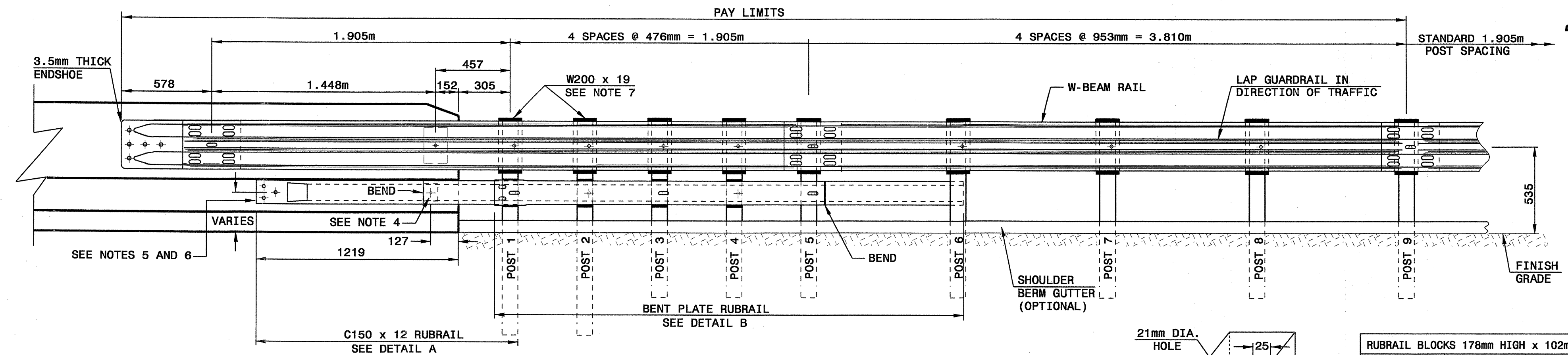
SECTION B-B



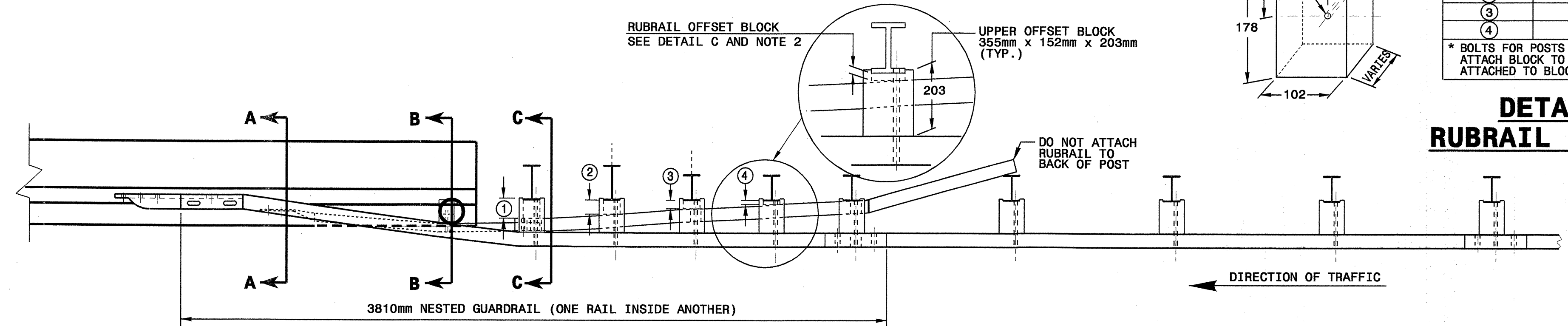
SECTION C-C



DETAIL F
"W200 X 19 X 2290mm STEEL POST



ELEVATION

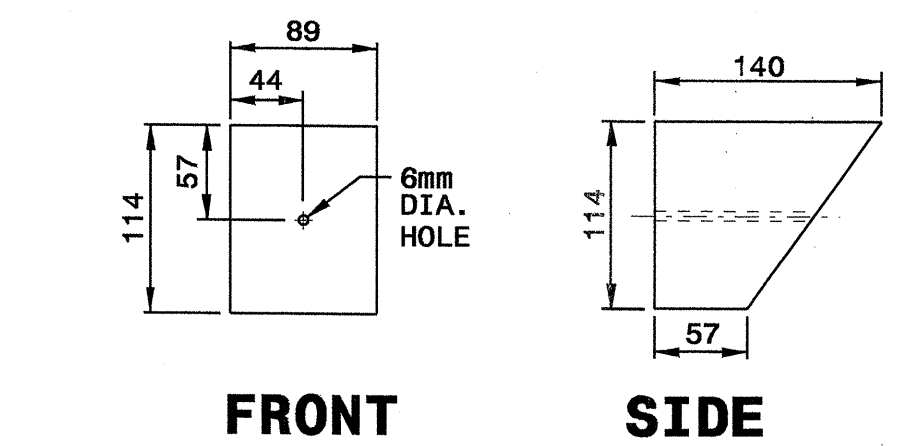


PLAN

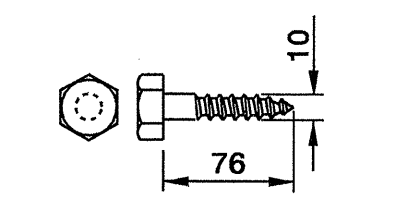
RUBRAIL BLOCKS 178mm HIGH x 102mm WIDE		
POST	THICKNESS	BOLT LENGTH
①	108	229
②	83	127*
③	51	152
④	25	76*

* BOLTS FOR POSTS 2 AND 4 ARE USED TO ATTACH BLOCK TO POST. RUBRAIL NOT ATTACHED TO BLOCK.

DETAIL C
RUBRAIL BLOCKOUT

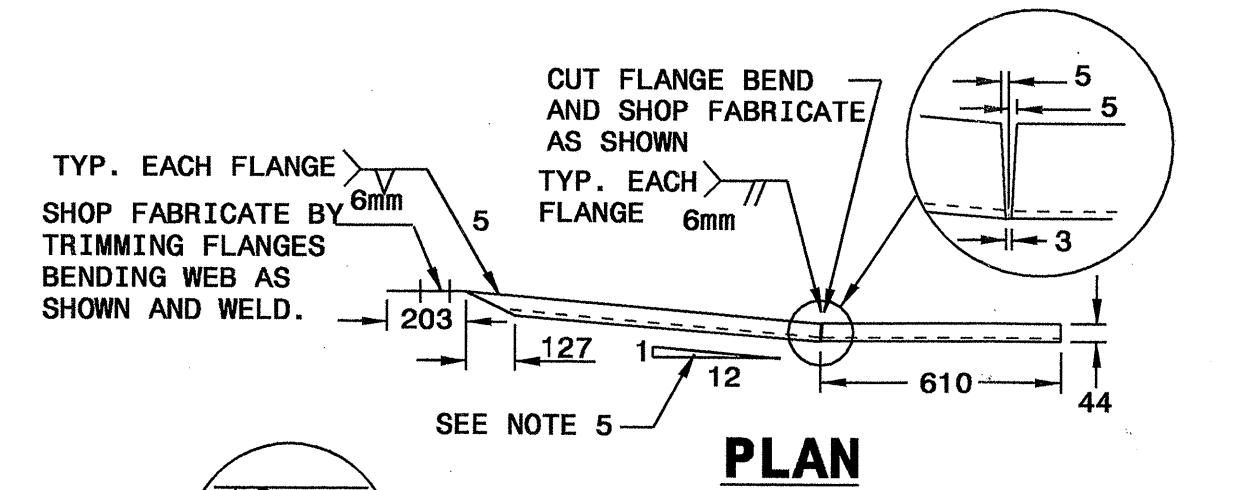


DETAIL D
SLOPED RUBRAIL BLOCKOUT

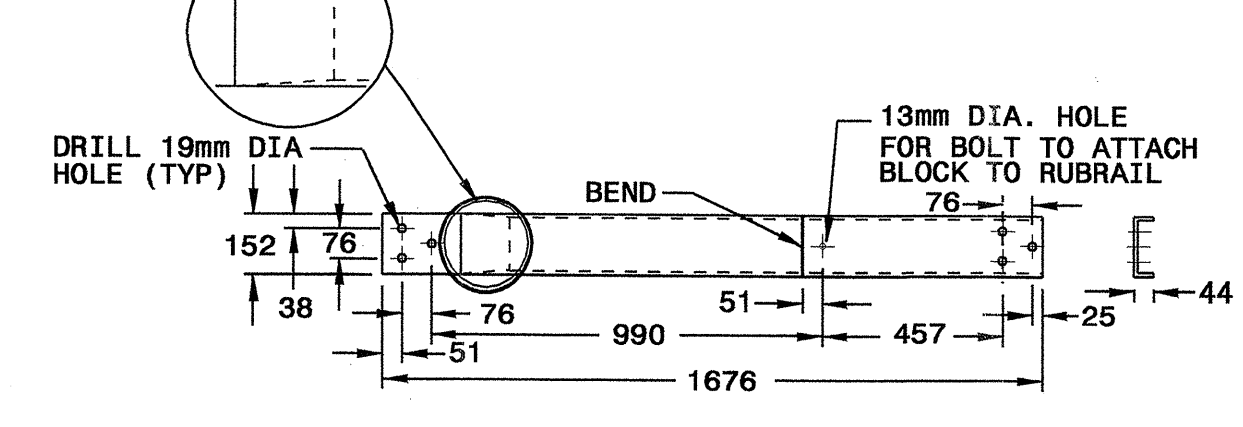


DETAIL E
LAG BOLT

- GENERAL NOTES:**
- POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS AND/OR RUBRAIL.
 - RUBRAIL BLOCKOUTS LOCATED ON POSTS 1 THROUGH 4 ARE OFFSET DRILLED AND SECURED WITH 16mm BUTTONHEAD BOLTS (SEE CHART FOR BOLT LENGTHS). SECURE BLOCKS ONLY TO POSTS 2 AND 4. SECURE RUBRAIL AND BLOCKOUTS TO POSTS 1 AND 3. RUBRAIL IS SECURED TO POST 5 WITH A 16mm x 114mm BUTTONHEAD BOLT. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.
 - STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 152mm INSIDE DIAMETER x 229mm LONG. ATTACH TUBE TO GUARDRAIL ONLY WITH 16mm x 32mm LONG BUTTONHEAD BOLT AND RECTANGULAR PIPE WASHER.
 - SEE DETAIL D FOR SLOPED RUBRAIL BLOCKOUT. BLOCKOUT IS ATTACHED TO RAIL ELEMENT ONLY. USE 10mm x 76mm LAG BOLT WITH FLAT WASHER.
 - SHOP FABRICATE THE C150x12 RUBRAIL END TO BE CONSISTENT WITH THE SLOPE OF THE JERSEY SHAPE AND ATTACH FLUSH WITH THE SLOPED TOE OF THE BARRIER OR BRIDGE RAIL.
 - ANCHORAGE:
 - AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, RUBRAIL SHALL BE ANCHORED USING THREE 16mm x 152mm CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS SHALL BE 13mm.
 - AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, THE W-BEAM END SHOE SHALL BE ANCHORED USING FIVE 22mm x 305mm CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS SHALL BE 13mm. THE W-BEAM END SHOE SHALL BE INSTALLED BEHIND THE NESTED W-BEAM ELEMENTS. THE 305mm MINIMUM LENGTH OF BOLTS MUST INCLUDE A MINIMUM EMBEDMENT DEPTH OF 254mm INTO SUITABLY REINFORCED CONCRETE.
 - AT NEW BRIDGE RAIL, THE W-BEAM END SHOE AND RUBRAIL SHALL BE ANCHORED AS DETAILED ON THE STRUCTURE PLANS.
 - POSTS 1 AND 2 ARE W200 x 19, 2290mm LONG. ALL OTHER POSTS IN THE ANCHOR UNIT ARE W150 x 13.5.

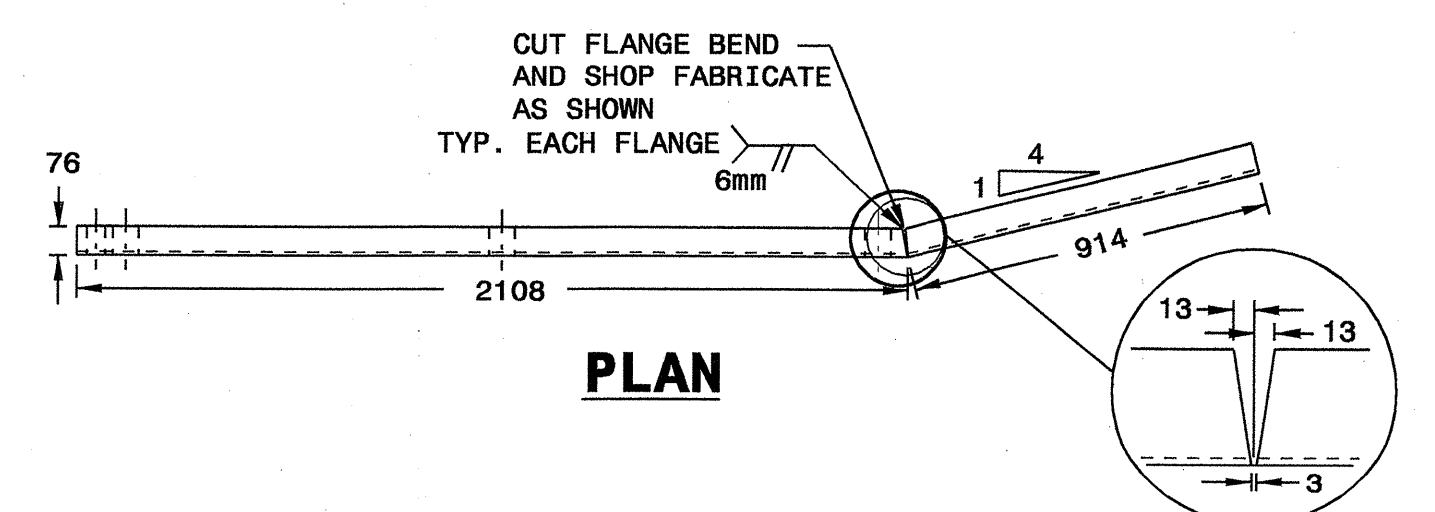


PLAN

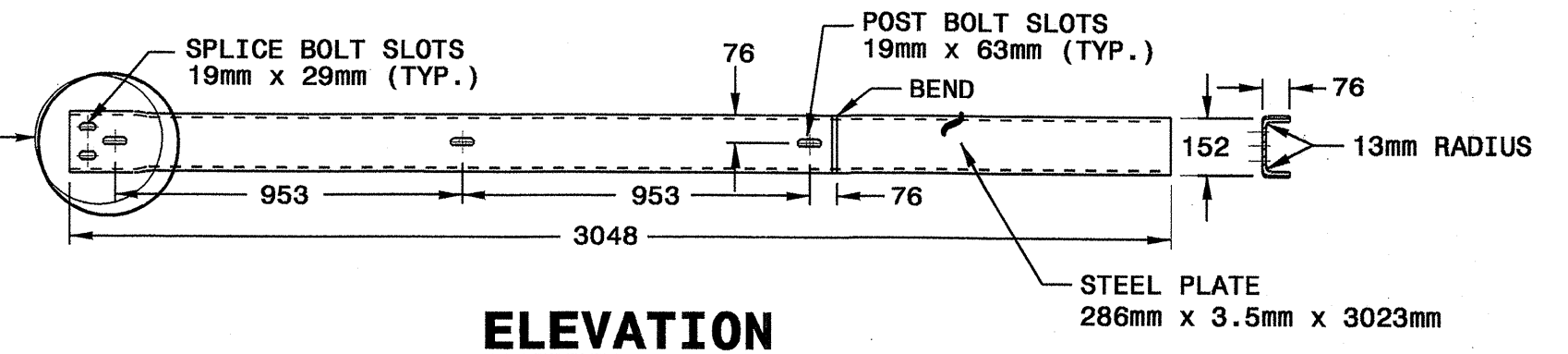


ELEVATION

DETAIL A
C150 x 12 RUBRAIL

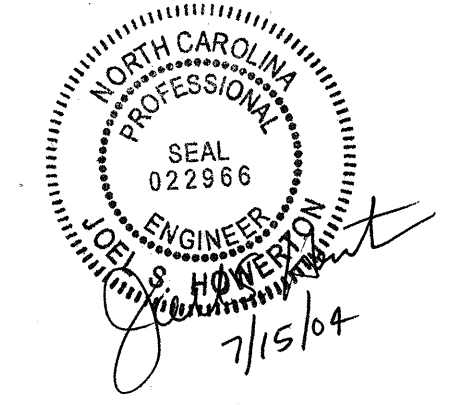


PLAN



ELEVATION

DETAIL B
BENT PLATE RUBRAIL



Note: This drawing is dimensioned in millimeters unless otherwise depicted within the drawing.

DESIGN SERVICES UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

GUARDRAIL ANCHOR UNIT
TYPE B-77

ORIGINAL BY: CONNDOT DATE: 10-01-00
 MODIFIED BY: F.E. WARD DATE: 6-10-02
 CHECKED BY: [Signature] DATE: 8-02
 FILE SPEC.:

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