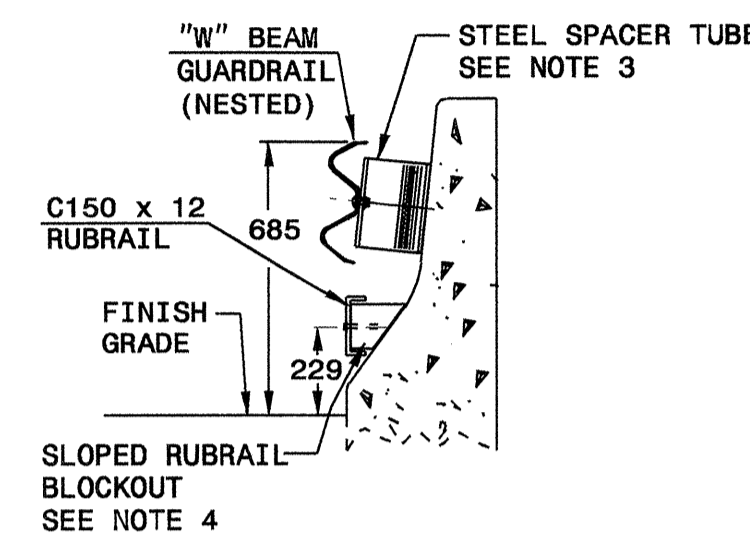
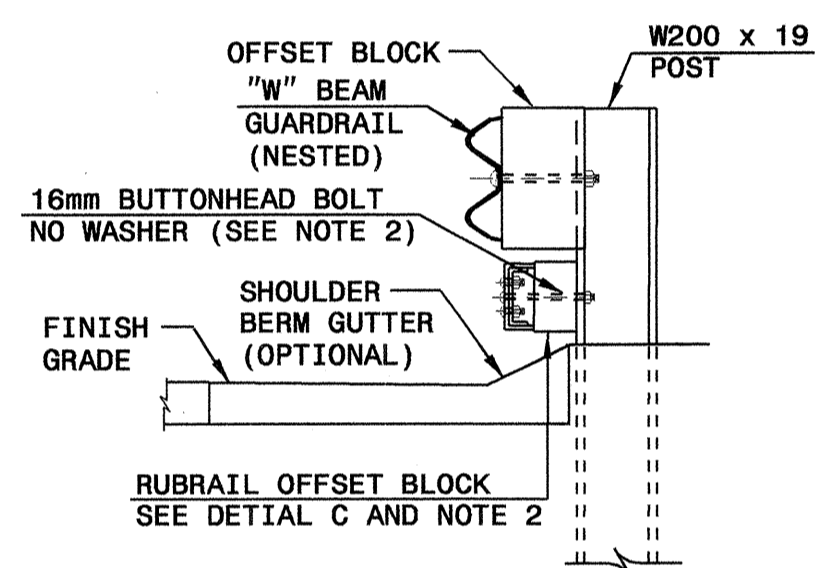


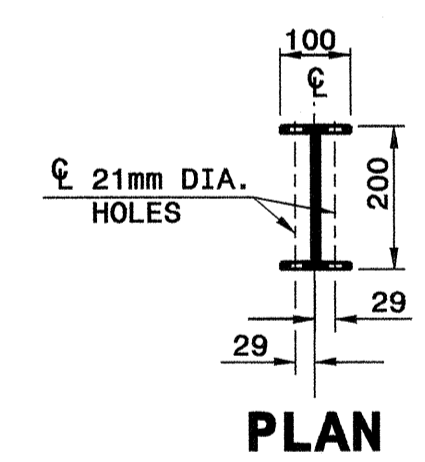
**SECTION A-A**



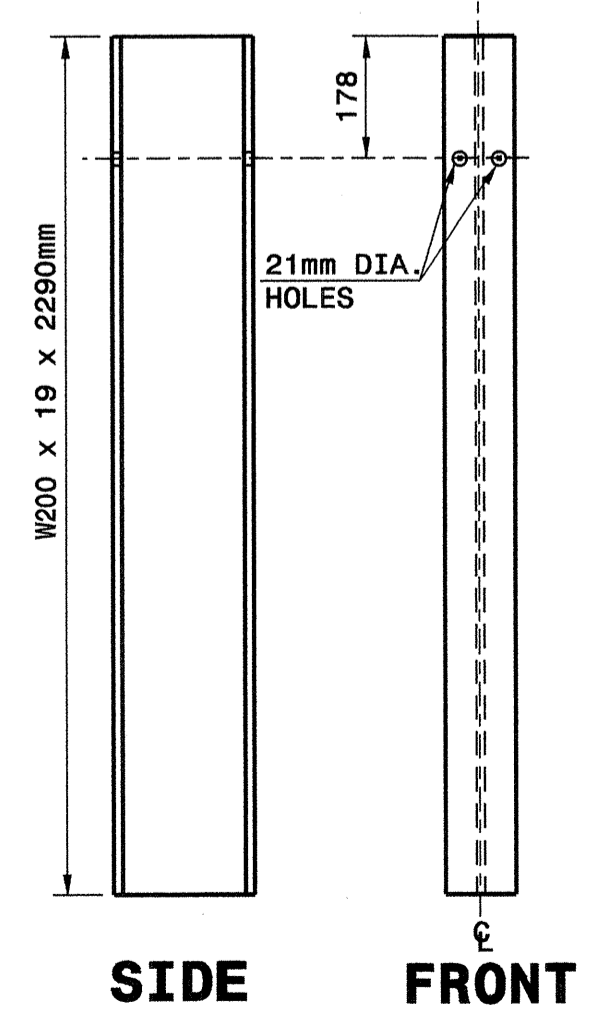
**SECTION B-B**



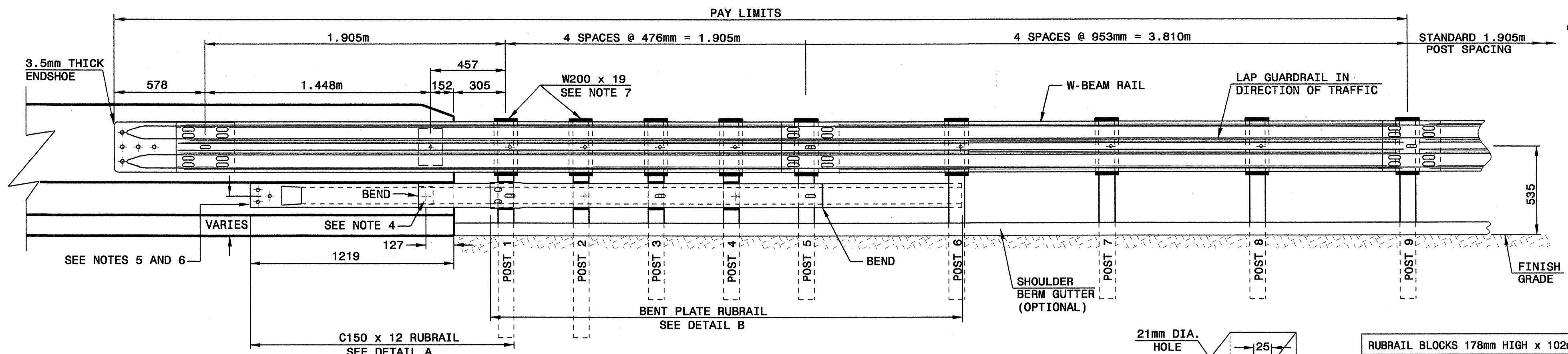
**SECTION C-C**



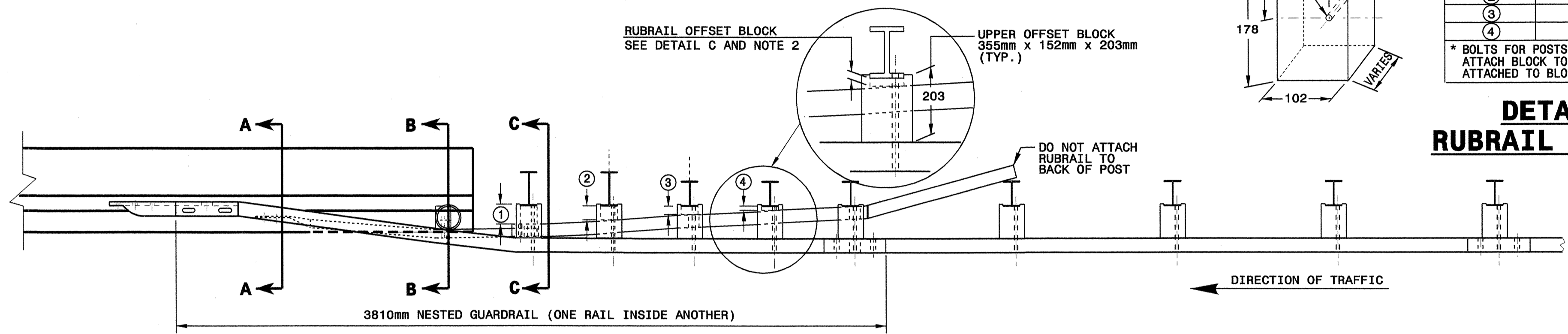
**PLAN**



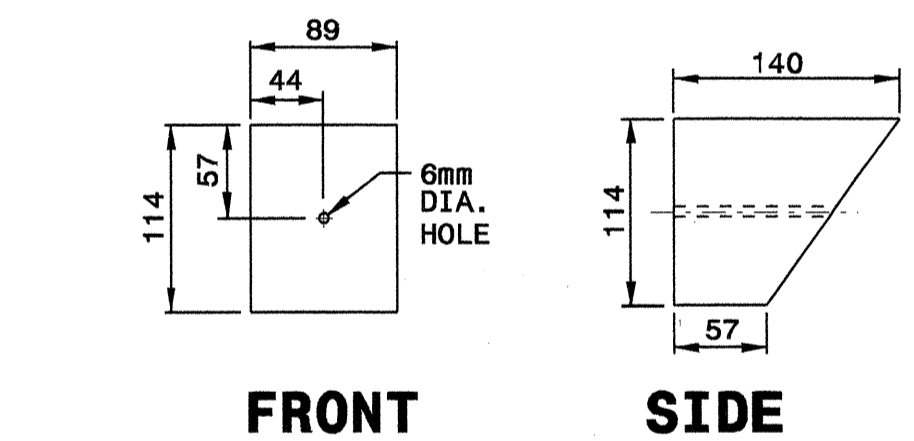
**DETAIL F**  
"W200 X 19 X 2290mm STEEL POST



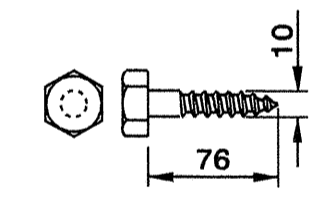
**ELEVATION**



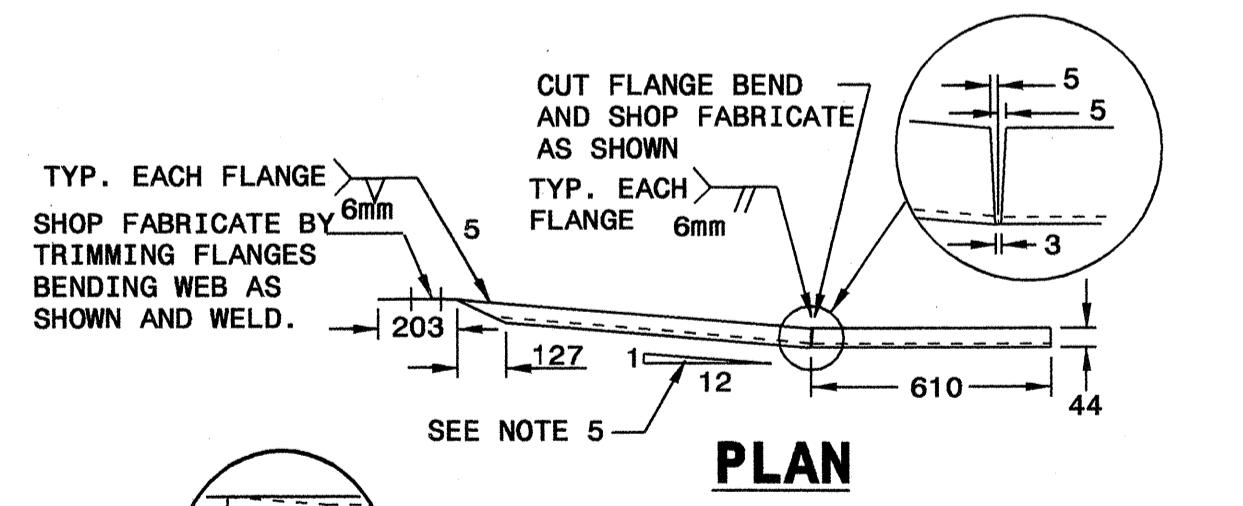
**PLAN**



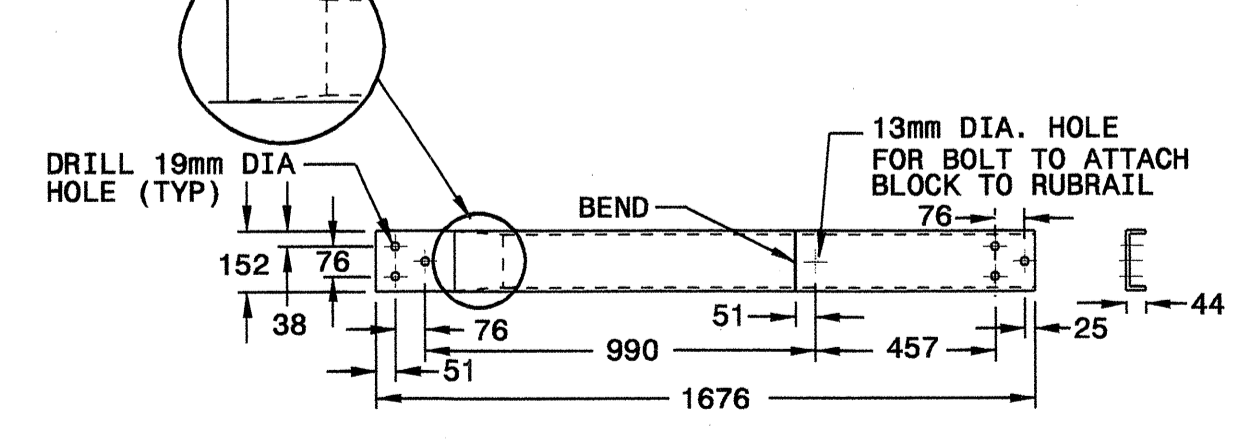
**DETAIL D**  
SLOPED RUBRAIL BLOCKOUT



**DETAIL E**  
LAG BOLT

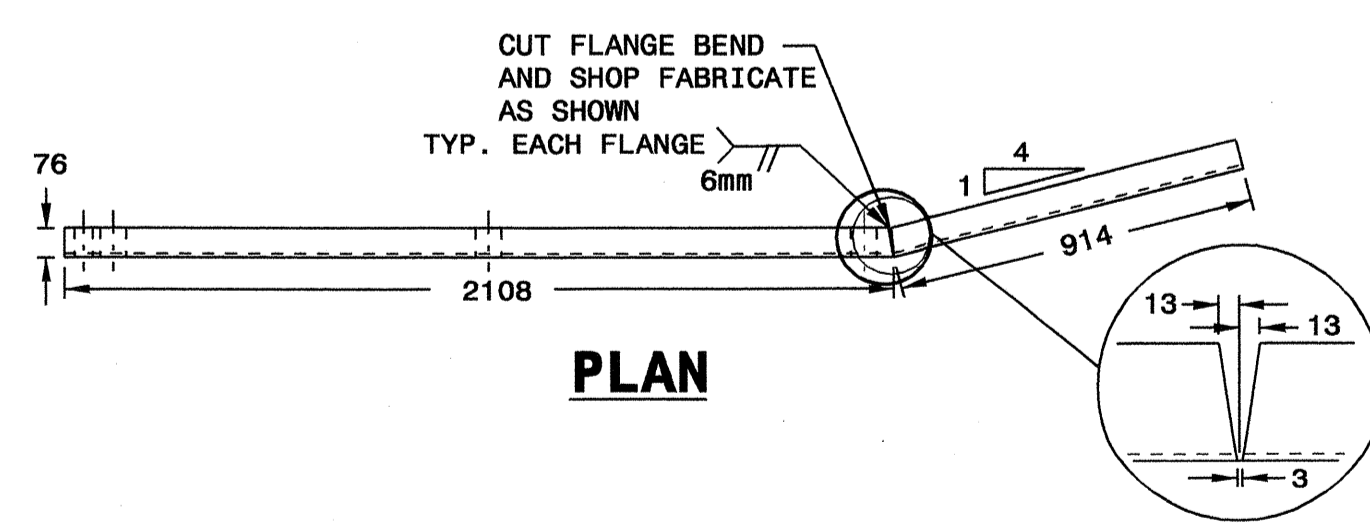


**PLAN**

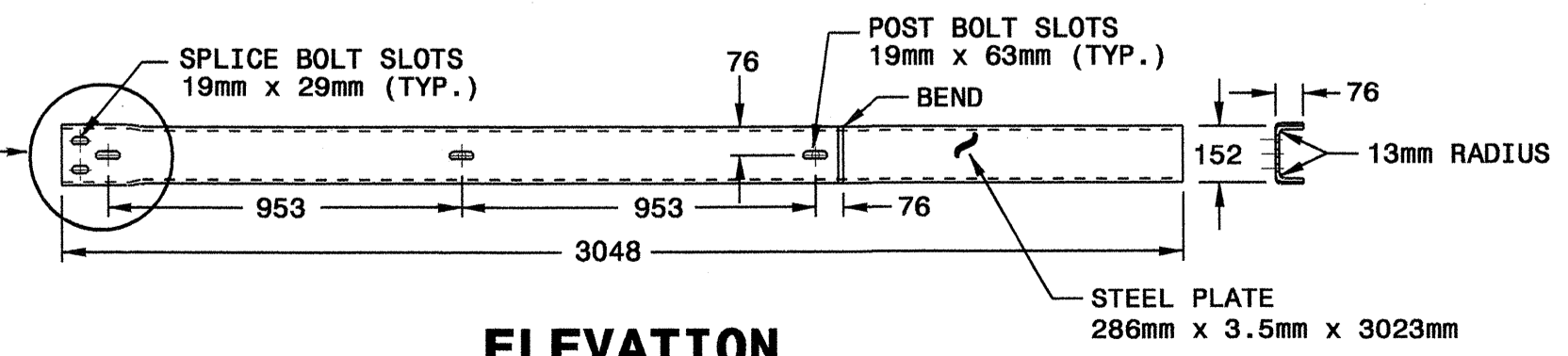


**ELEVATION**

**DETAIL A**  
C150 x 12 RUBRAIL

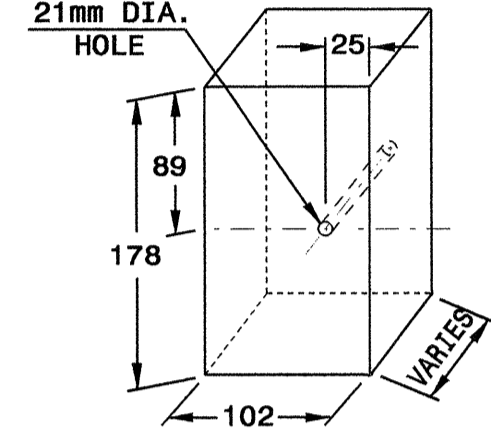


**PLAN**



**ELEVATION**

**DETAIL B**  
BENT PLATE RUBRAIL



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

- GENERAL NOTES:**
- POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS AND/OR RUBRAIL.
  - RUBRAIL BLOCKOUTS LOCATED ON POSTS 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 PLATE 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.
    - AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS, THE W-BEAM END SHOE SHALL BE ANCHORED USING A 4 BOLT HOLD-DOWN PLATE AS SHOWN ON DETAIL 857D01 SHEET 6. A 4 BOLT INSERT ASSEMBLY IS ALLOWED ON PRECAST REINFORCED CONCRETE BARRIER (857D01). THE W-BEAM END SHOE SHALL BE INSTALLED BEHIND THE NESTED W-BEAM ELEMENTS.
    - 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.



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: E.E. WARD DATE: 04-07-04  
CHECKED BY: A.B. Perry DATE: 4-12-04  
FILE SPEC.:

08-APR-2004 11:33 MS:\Special\Detail\misc\_guardrail\NCHRP 350 Approved\B-77 ConnDot.dgn