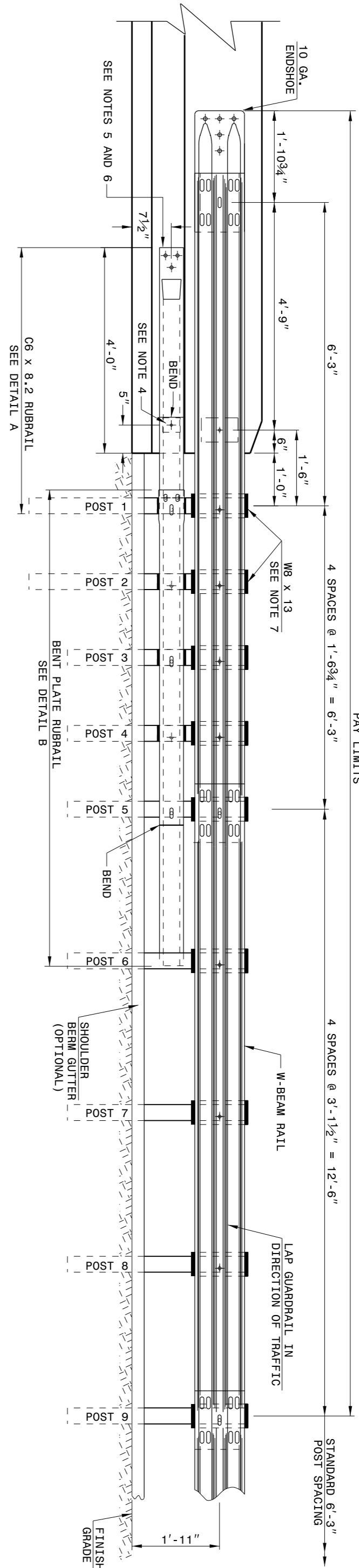
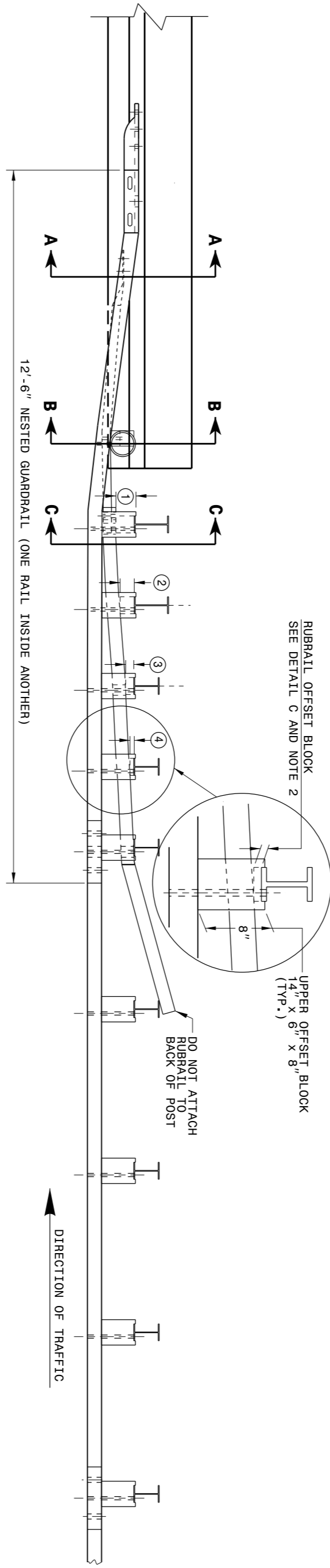


STATE OF NORTH CAROLINA DEPT. OF HIGHWAYS RALEIGH, N.C.



ELEVATION

- GENERAL NOTES:
- POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS AND/OR RUBRAIL.
 - BLOCKOUTS AND RUBRAIL ARE TO BE INSTALLED ON THE INSIDE OF THE GUARDRAIL. BUTTONEAD BOLTS (SEE CHART FOR BOLT TYPES) SHOULD BE SECURED TO THE INSIDE OF THE GUARDRAIL. RUBRAIL IS FLARED TO BACK OF POST 6 AND NOT SECURED.
 - STEEL SPACER TUBE IS A SCHEDULE 40 GALVANIZED PIPE 6" INSIDE DIAMETER X 9' LONG. ATTACH TUBE TO GUARDRAIL ONLY WITH 5/8" X 1 1/4" LONG BUTTONEAD BOLT AND RECTANGULAR PLATE WASHER.
 - SEE DETAIL D FOR SLOPED RUBRAIL BLOCKOUT. BLOCKOUT IS ATTACHED TO RAIL ELEMENT ONLY. USE 3/8" X 3" LAG BOLT WITH FLAT WASHER.
 - TYPE OF F-RAIL SHOLDER OR BRIDGE RAIL.
 - ANCHORAGE:
 - (a) AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS. ANCHOR RUBRAIL USING THREE 5/8" X 6" CHEMICALLY ANCHORED BOLTS WITH WASHERS. MAXIMUM PROJECTION FOR BOLTS IS 1/2".
 - (b) AT EXISTING BRIDGE RAIL AND NEW OR EXISTING BARRIERS. ANCHOR THE W-BEAM END SHOE USING A 4 BOLT HOLD DOWN PLATE (SEE STD. DWG. 862.04).
 - (c) AT NEW BRIDGE RAIL. ANCHOR THE W-BEAM END SHOE AND RUBRAIL AS DETAILED ON THE STRUCTURE PLANS.
 - TYPE OF F-RAIL SHOLDER OR BRIDGE RAIL.
 - POSTS 1 AND 2 ARE W8 X 13, 7'-6" LONG. ALL OTHER POSTS IN THE ANCHOR UNIT ARE W8 X 8.5.



PLAN

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNIT GUARDRAIL ANCHOR UNIT TYPE B-77 FOR F-SHAPE BARRIER

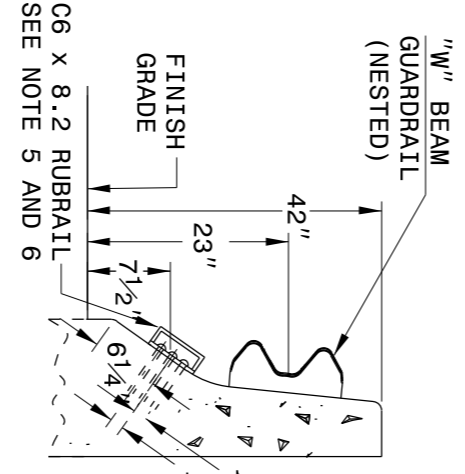
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

SHEET 4 OF 7 862D03

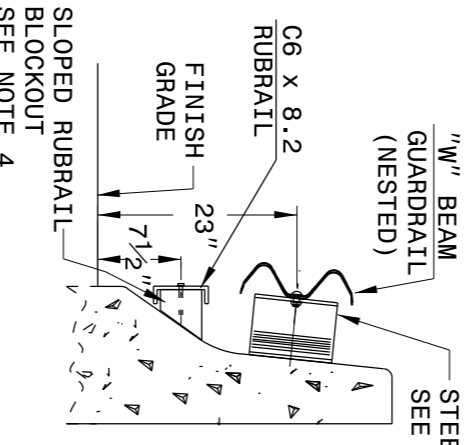
GUARDRAIL ANCHOR UNIT TYPE B-77

SHEET 4 OF 7 862D03

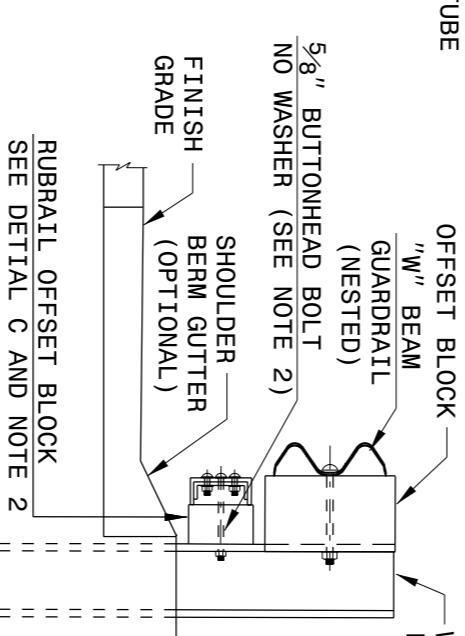
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.



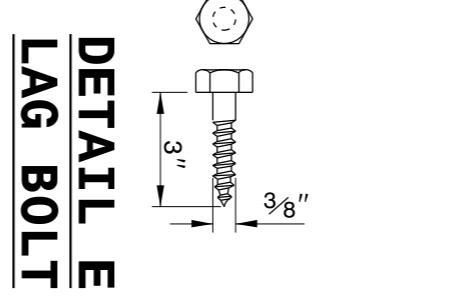
SECTION A-A



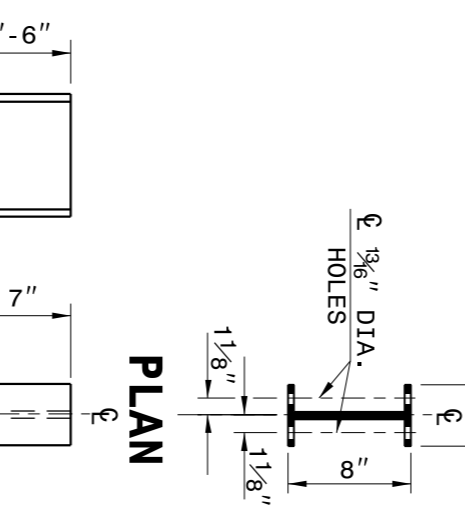
SECTION B-B



SECTION C-C

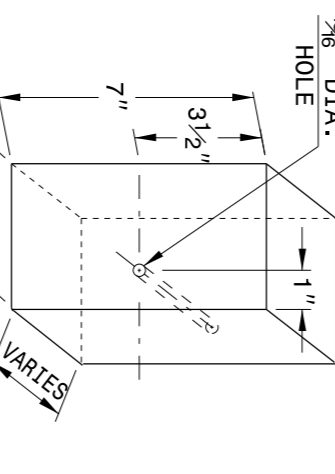


DETAIL E LAG BOLT



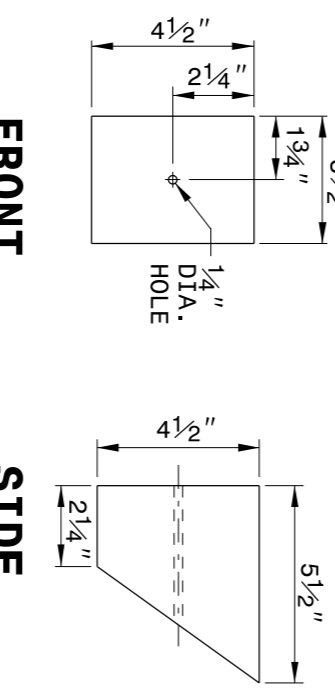
DETAIL F STEEL POST

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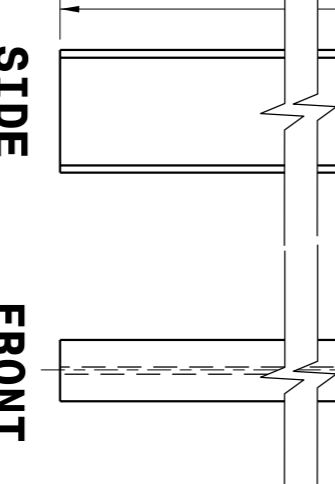
RUBRAIL BLOCKS 7" HIGH X 4" WIDE			
POST	THICKNESS	BOLT LENGTH	
1	4 1/4"	9"	
2	3 1/4"	5" *	
3	2"	6"	
4	1"	3" *	

* BOLTS FOR POSTS 3 AND 4 ARE USED TO ATTACH BLOCKOUT TO RUBRAIL AND NOT ATTACHED TO BLOCK.



FRONT

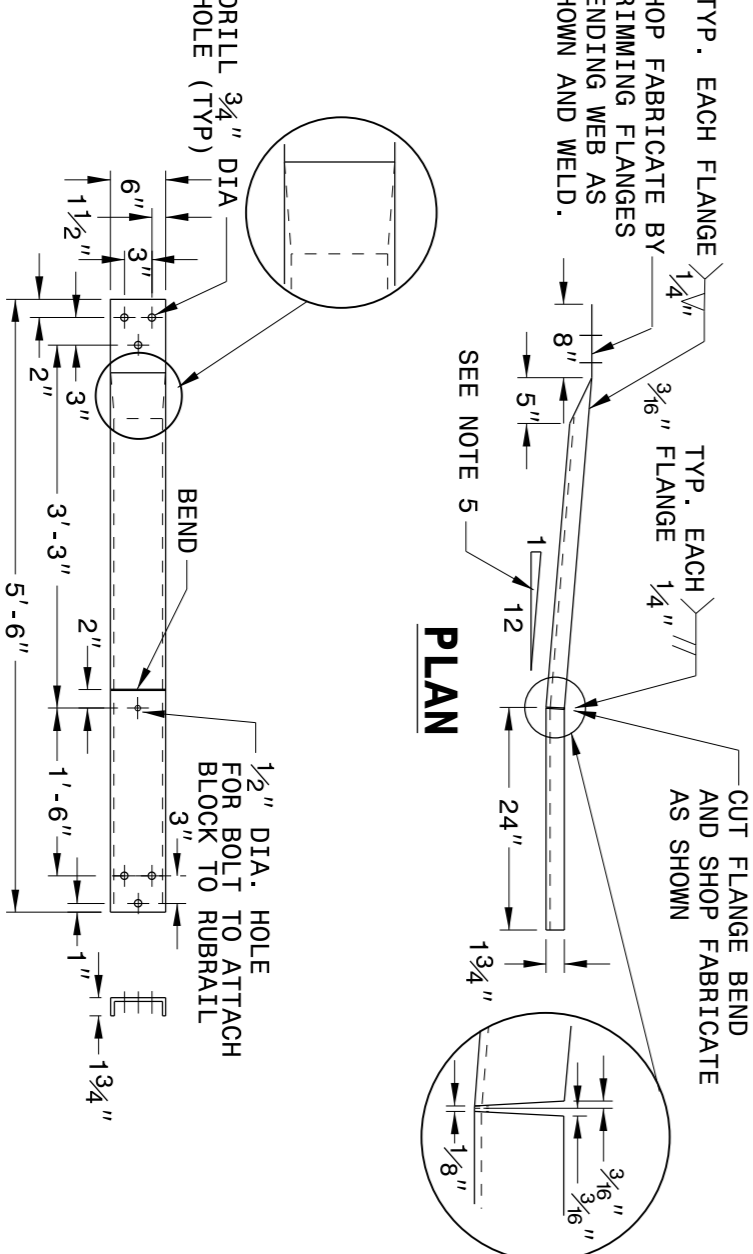
SIDE



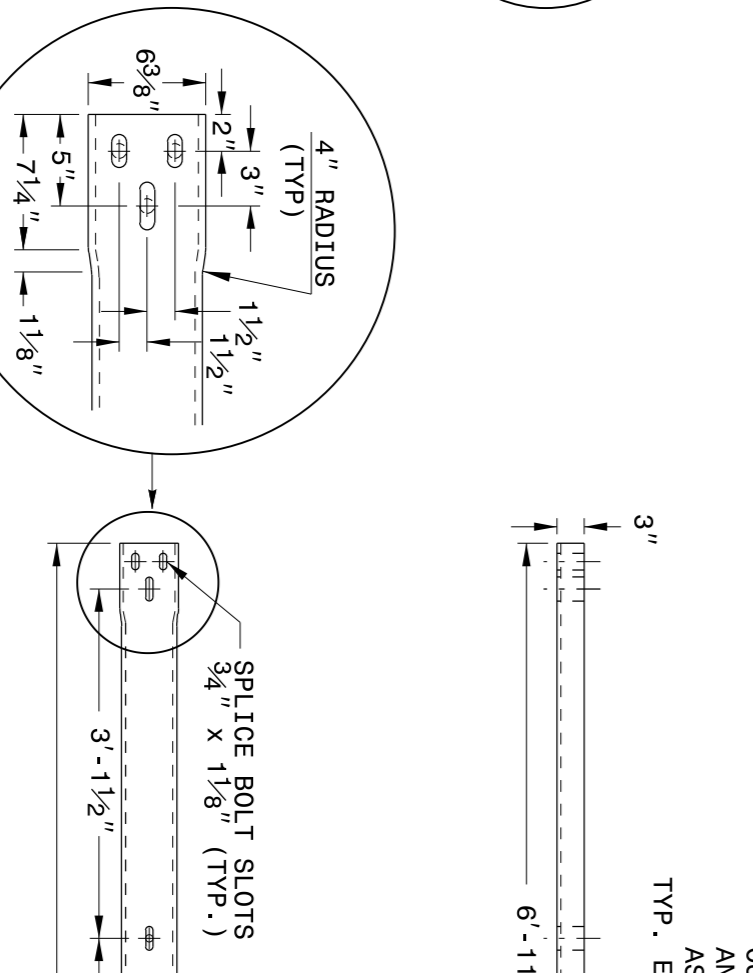
FRONT

SIDE

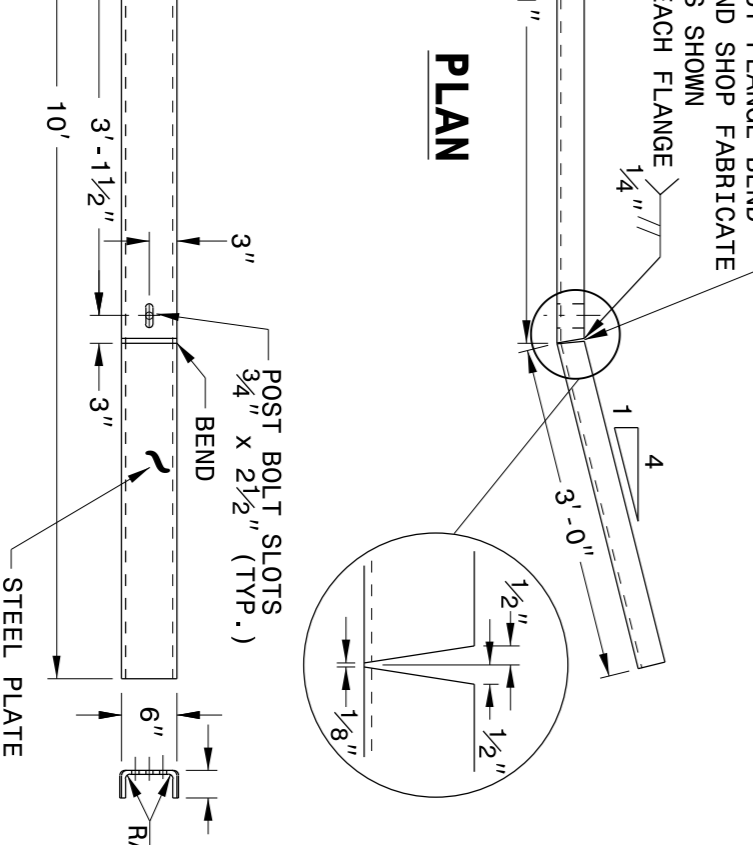
ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNIT GUARDRAIL ANCHOR UNIT TYPE B-77 FOR F-SHAPE BARRIER



DETAIL C RUBRAIL BLOCKOUT

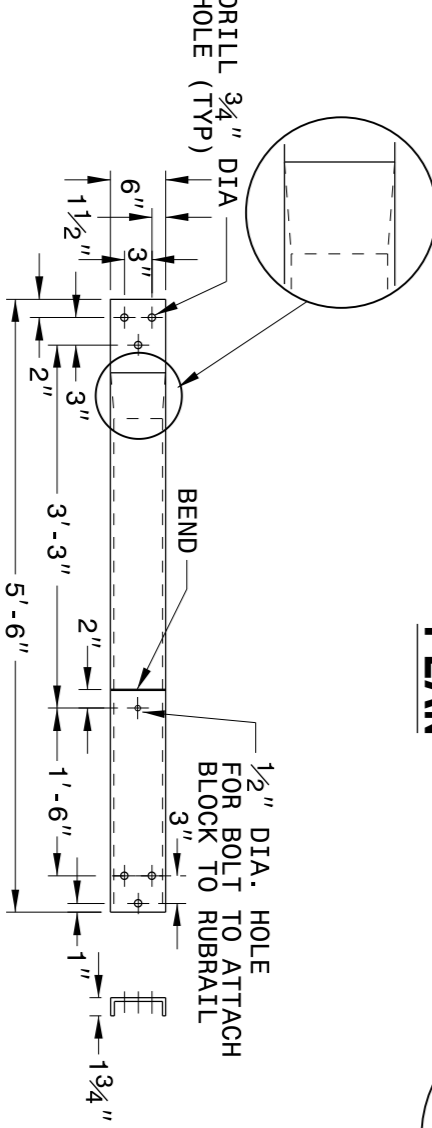


DETAIL D SLOPED RUBRAIL BLOCKOUT

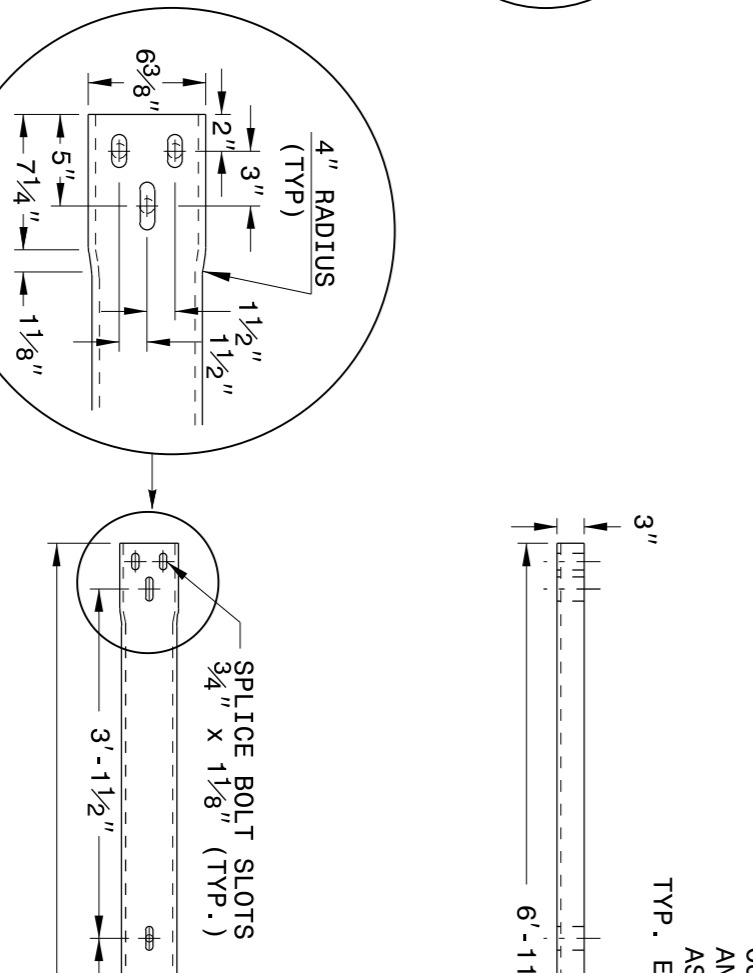


DETAIL B BENT PLATE RUBRAIL

DETAIL A C6 X 8.2 RUBRAIL



ELEVATION



ELEVATION

ENGLISH DETAIL DRAWING FOR STRUCTURE ANCHOR UNIT GUARDRAIL ANCHOR UNIT TYPE B-77 FOR F-SHAPE BARRIER

SHEET 5 OF 7 862D03

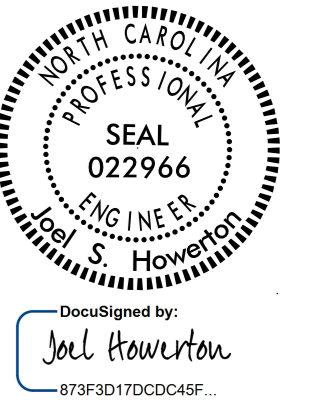
GUARDRAIL ANCHOR UNIT TYPE B-77

SHEET 5 OF 7 862D03

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

SEE TITLE BLOCK

ORIGINAL BY: J. HOWERTON DATE: 06-22-12
 MODIFIED BY: DATE:
 CHECKED BY: DATE:
 FILE SPEC.: DATE:



\$\$\$\$\$USER\$\$\$\$\$
 \$\$\$INVENTION\$\$\$\$\$
 \$\$\$\$DATE: 06/22/12\$\$\$\$\$