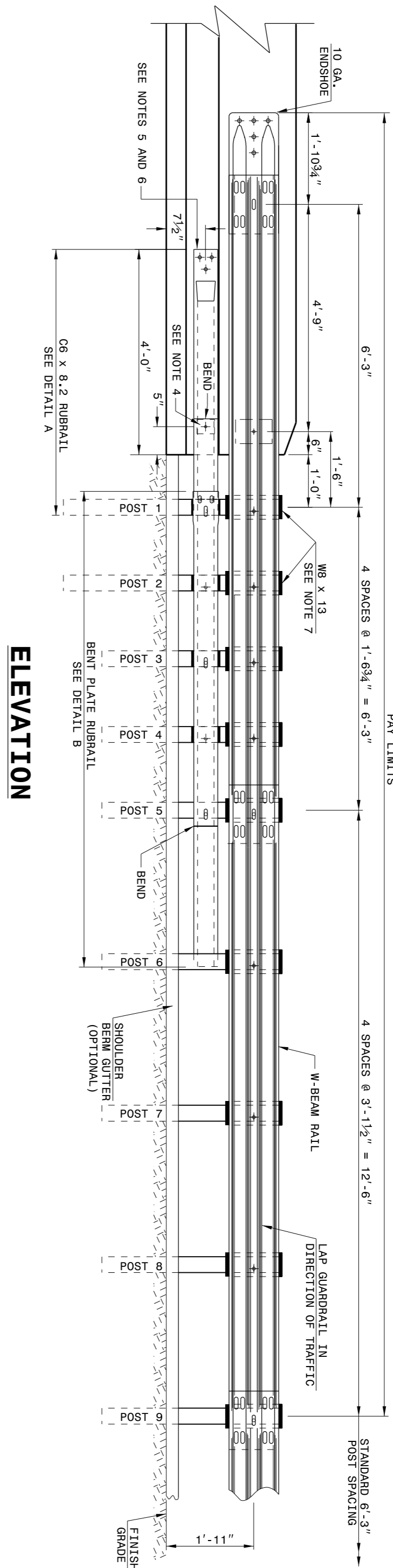
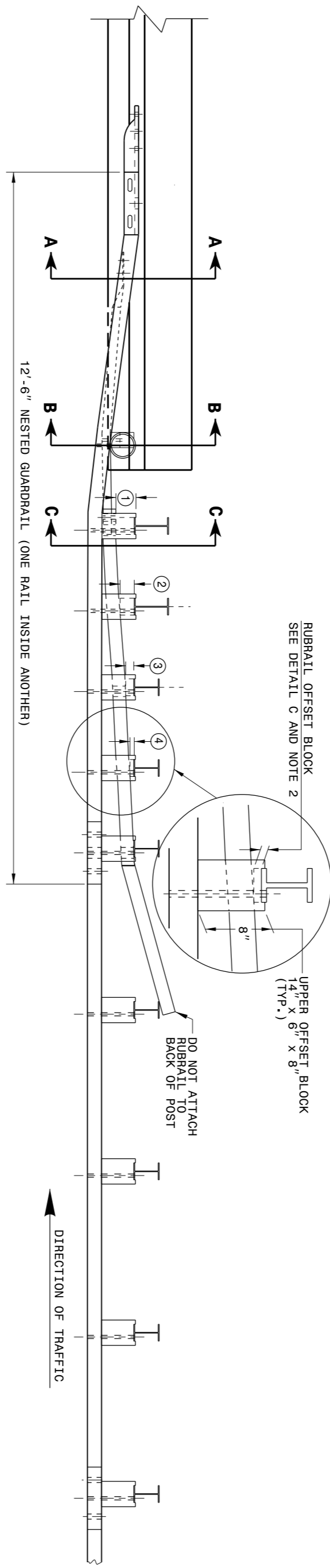


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ELEVATION

- GENERAL NOTES:
- POSTS 1 THROUGH 5 REQUIRE AN ADDITIONAL HOLE TO ATTACH LOWER BLOCKOUTS AND/OR RUBRAIL.
  - BLOCKOUT BLOCKS ON POSTS 6 AND 7 SHOULD BE ALIGNED WITH RUBRAIL BLOCKOUTS ON POSTS 8 AND 9. RUBRAIL IS SECURED TO POST 5 WITH A 5/8" x 4 1/2" BUTTONEAD BOLT. 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 VARIANTS ON 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).
  - THIS RAIL END SHOE SHOULD BE BEHIND THE NESTED GUARDRAIL BARRIER (SEE STD. DWG. 857.01).
  - (c) AT NEW BRIDGE RAIL, ANCHOR THE W-BEAM END SHOE AND RUBRAIL AS DETAILED ON THE STRUCTURE PLANS.
  - 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

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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.:

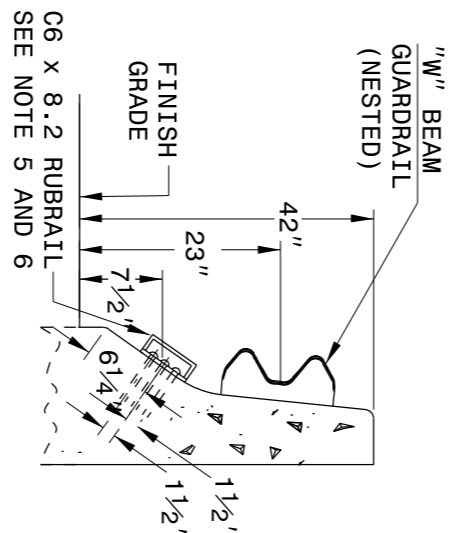


6/2/2016

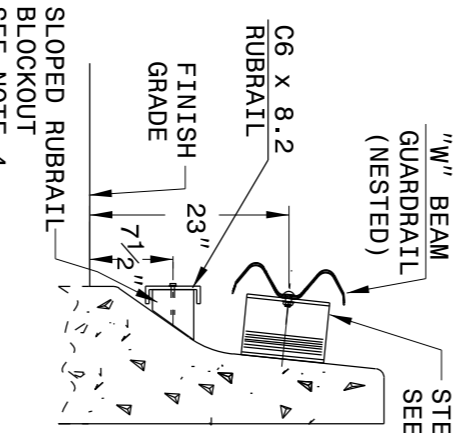
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ENGLISH DETAIL DRAWING FOR  
**GUARDRAIL ANCHOR UNIT**  
FOR F-SHAPE BARRIER  
DEPT. OF TRANSPORTATION  
NORTH CAROLINA  
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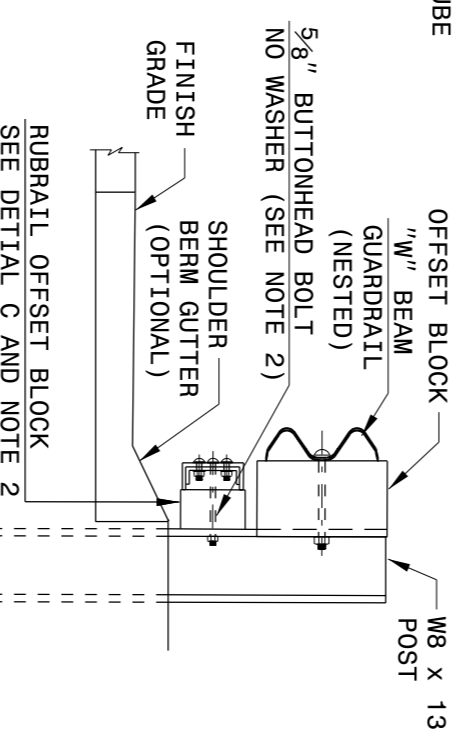
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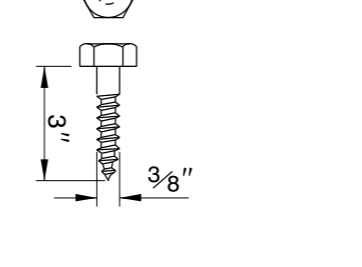
SECTION A-A



SECTION B-B



SECTION C-C

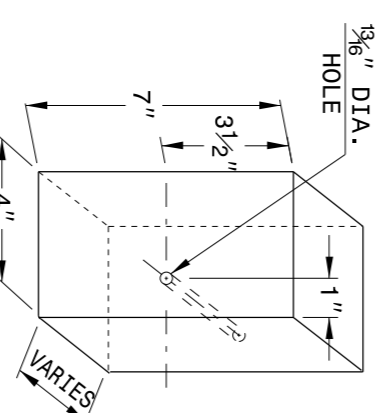


DETAIL E  
LAG BOLT

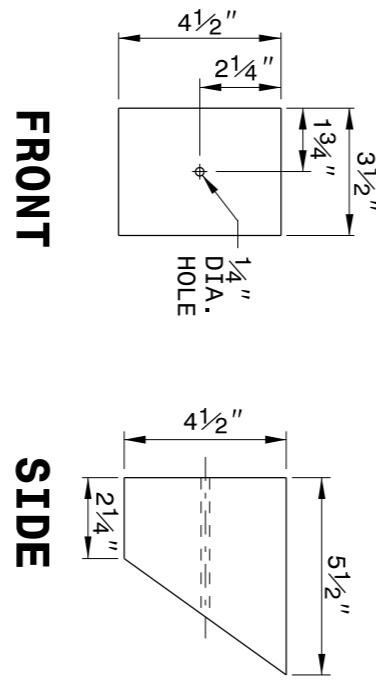
RUBRAIL BLOCKS 7" HIGH x 4" WIDE

POST	THICKNESS	BOLT LENGTH
1	4 1/4"	9"
2	3 1/4"	5"*
3	2"	6"
4	1"	3"*

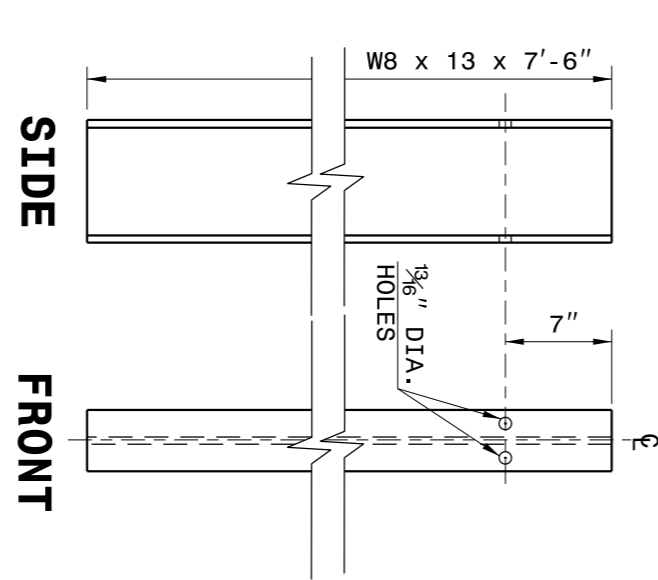
\* BOLTS FOR POSTS 4 AND 6 ARE USED TO ATTACH BLOCK TO POST. RUBRAIL NOT ATTACHED TO BLOCK.



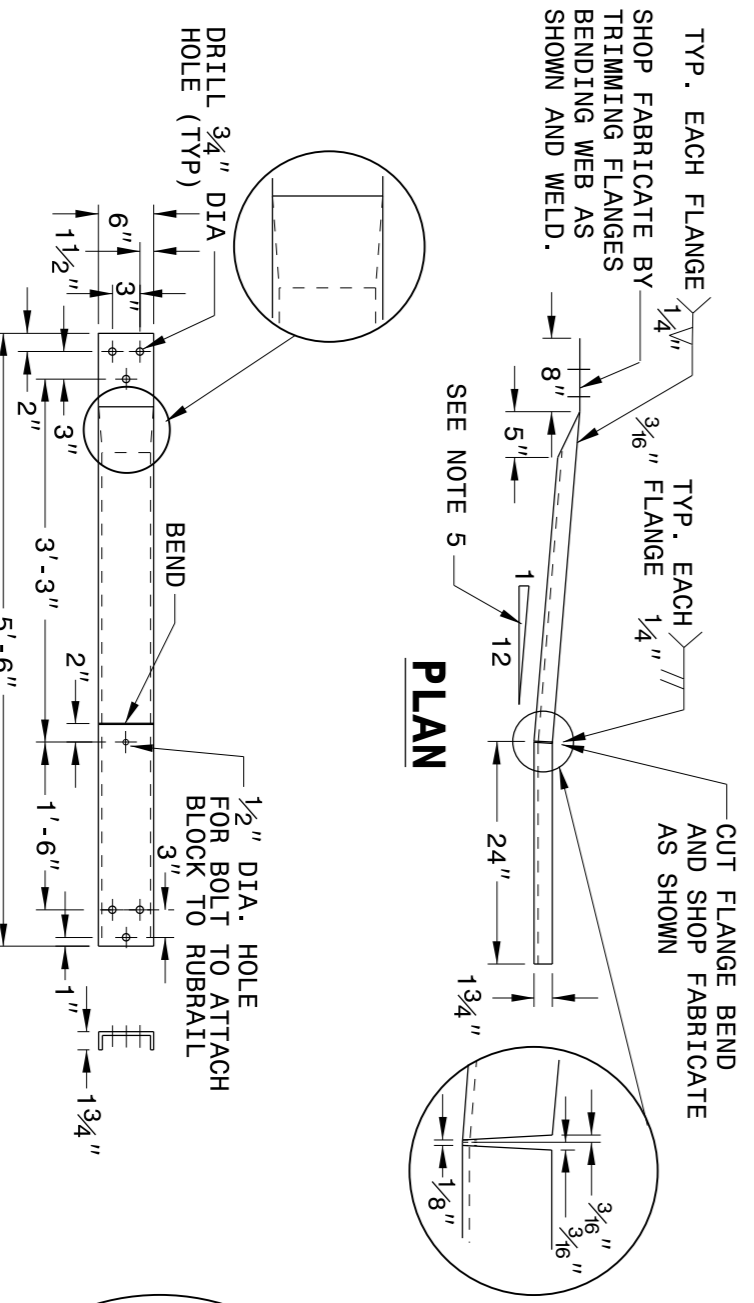
DETAIL C  
RUBRAIL BLOCKOUT



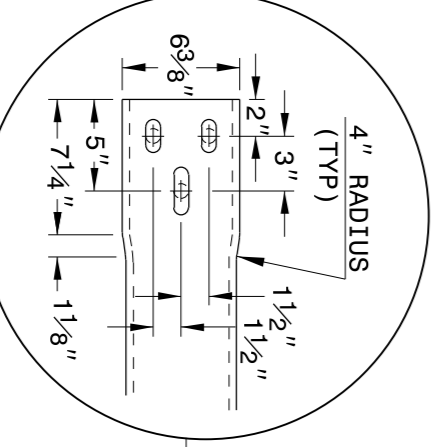
DETAIL D  
SLOPED RUBRAIL BLOCKOUT



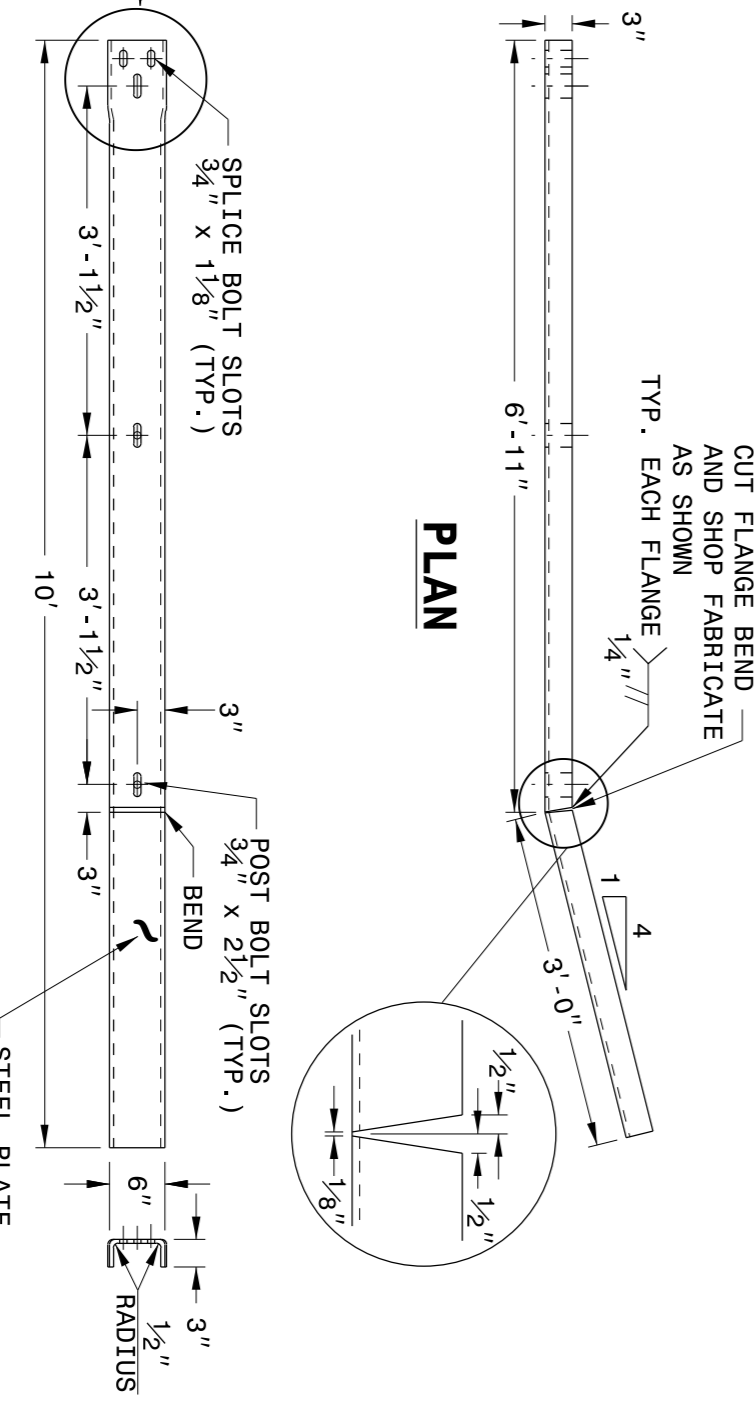
DETAIL F  
W8 X 13 X 7'-6"



ELEVATION  
DETAIL A  
C6 X 8.2 RUBRAIL



ELEVATION  
DETAIL B  
BENT PLATE RUBRAIL



ELEVATION  
DETAIL B  
BENT PLATE RUBRAIL

ENGLISH DETAIL DRAWING FOR  
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SHEET 5 OF 7  
862D03

SHEET 5 OF 7  
862D03

\*\*\*\*\*USER\*\*\*\*\*  
\*\*\*\*\*DATE: 11/29/12\*\*\*\*\*