

Revised:

8-March 1978

DIMENSIONS OF RAISED GUARDS						
RAIL SEC.	ANGLE-b	ANGLE-a	D	C	L	B
119	0°-34'-40"	7°-43'-50"	8'-0 ³ / ₁₆ "	22 ³ / ₁₆ "	2'-7"	7 ¹³ / ₁₆ "
132						
140 RE						

STRAIGHT CROSS RIBS
SPACED APPROXIMATELY
18" CENTER TO CENTER.

**FORMULA FOR VARIABLE RADIUS
OF RAISED GUARDS**

$$\tan \text{ANGLE } b = \frac{5\frac{1}{16}}{L}$$

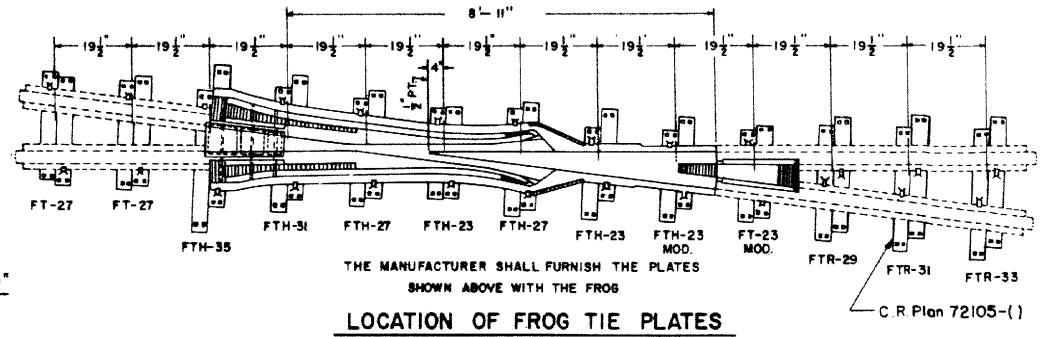
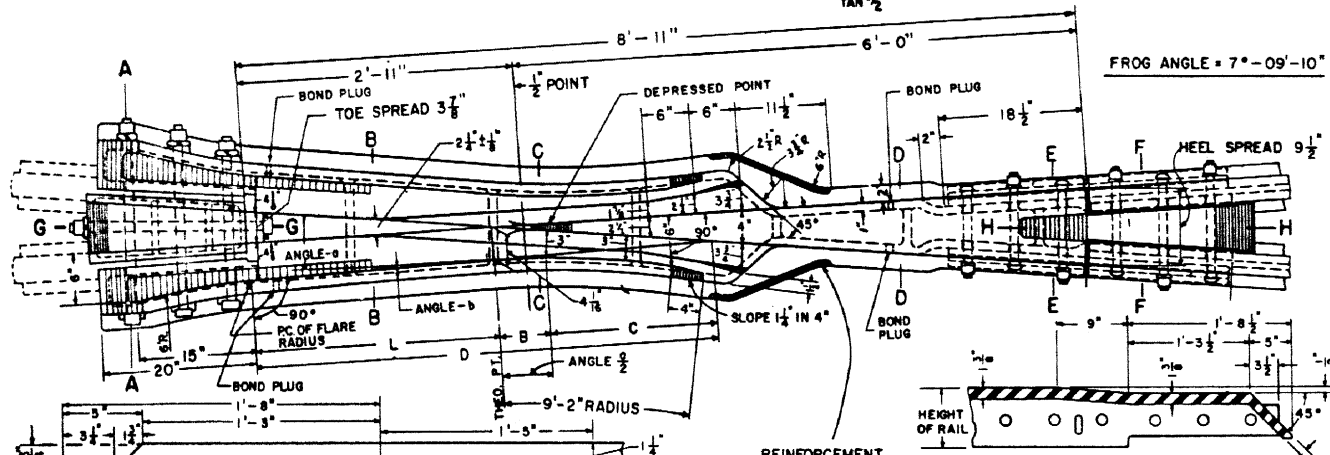
$$\text{ANGLE } a = \text{ANGLE } b + \text{FROG ANGLE}$$

$$D = \frac{\text{TOE SPREAD} + 4\frac{3}{8}}{\tan a}$$

$$C = \frac{3\frac{3}{8}}{\sin a}$$

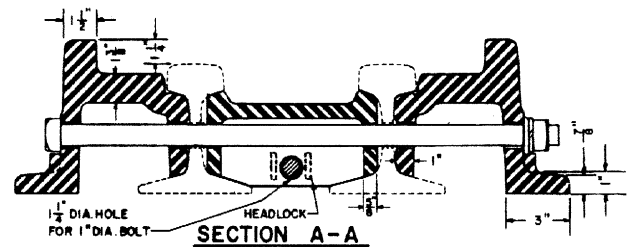
$$B = D - (L + C)$$

$$\text{RADIUS} = \frac{B}{\tan^2 \frac{a}{2}}$$

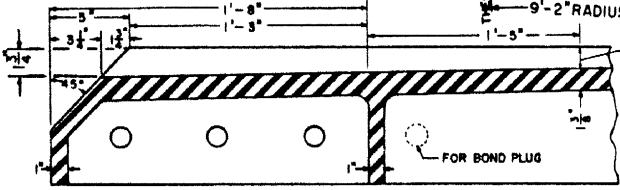


LOCATION OF FROG TIE PLATES

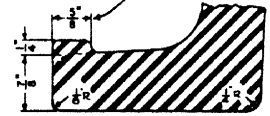
C.R. Plan 72105-(1)



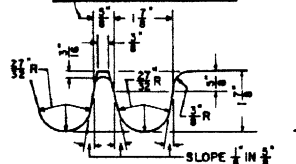
SECTION A-A



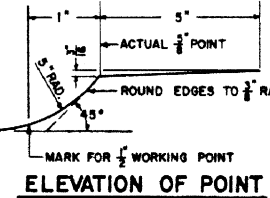
SECTION THRU TOE EXTENSION



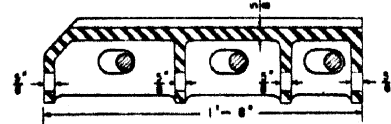
SECTION H-H



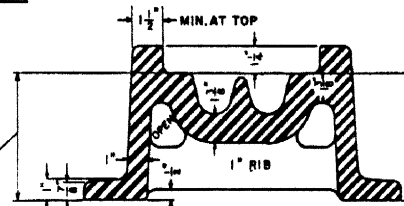
SECTION AT POINT



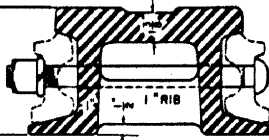
ELEVATION OF POINT



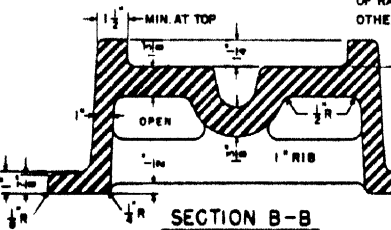
SECTION G-G



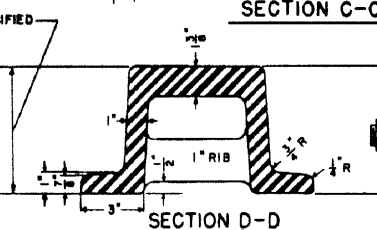
SECTION C-C



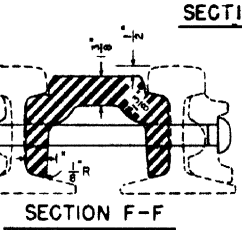
SECTION E-E



SECTION B-B

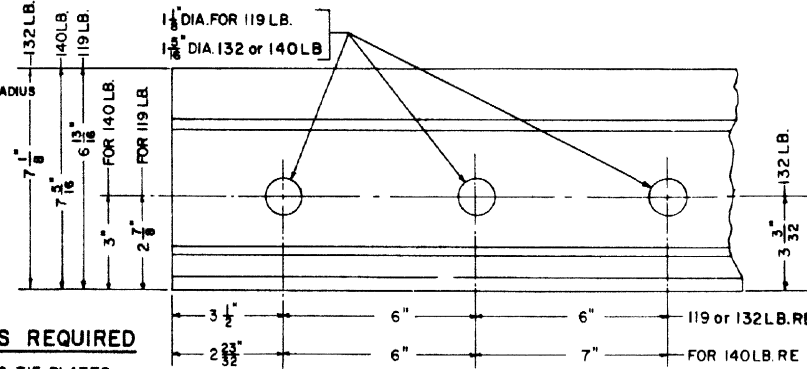


SECTION D-D



SECTION F-F

BEVELING OF
MANGANESE STEEL
AT SECTIONS A-A & F-F



RAIL END DRILLINGS

FROG TIE PLATES REQUIRED

- 2 - FT-23 MOD. FROG TIE PLATES
- 4 - FTH-23 FROG TIE PLATES
- 2 - FTH-23 MOD. FROG TIE PLATES
- 4 - FT-27 FROG TIE PLATES
- 4 - FTH-27 FROG TIE PLATES
- 2 - FTR-29 FROG TIE PLATES
- 2 - FTH-31 FROG TIE PLATES
- 2 - FTR-31 FROG TIE PLATES
- 2 - FTR-33 FROG TIE PLATES
- 2 - FTH-35 FROG TIE PLATES

- NOTES**
- 1 - THIS PLAN IS FOR USE WITH A.R.E.A. RECOMMENDED STANDARDS FOR 119 RE., 132 RE. or 140 RE. RAIL.
 - 2 - WORKMANSHIP AND MATERIALS SHALL BE PER CURRENT "A.R.E.A. SPECIFICATIONS."
 - 3 - BOND PLUGS TO BE PROVIDED BY MANUFACTURER.

- 4 - ALL BOLTS SHALL BE DIPPED IMMEDIATELY BEFORE APPLYING (SO THAT ALL THREADS ARE THOROUGHLY COATED) IN NO-OX-ID "GG" GREASE, MANUFACTURED BY THE DEARBORN CHEMICAL COMPANY.
- 5 - ALL FROG TIE PLATES MUST BE CLEARLY MARKED TO SHOW PLATE DESIGNATION, AS SHOWN ON C.R. PLAN NO. 72105-(1).

CONRAIL 74153-B

STANDARD

**No. 8 SOLID SELF-GUARDED
MANGANESE STEEL FROG**
119 RE, 132 RE and 140 RE RAIL

JANUARY, 1977

Chief Engineer - Maintenance of Way

 Chief Engineering Officer