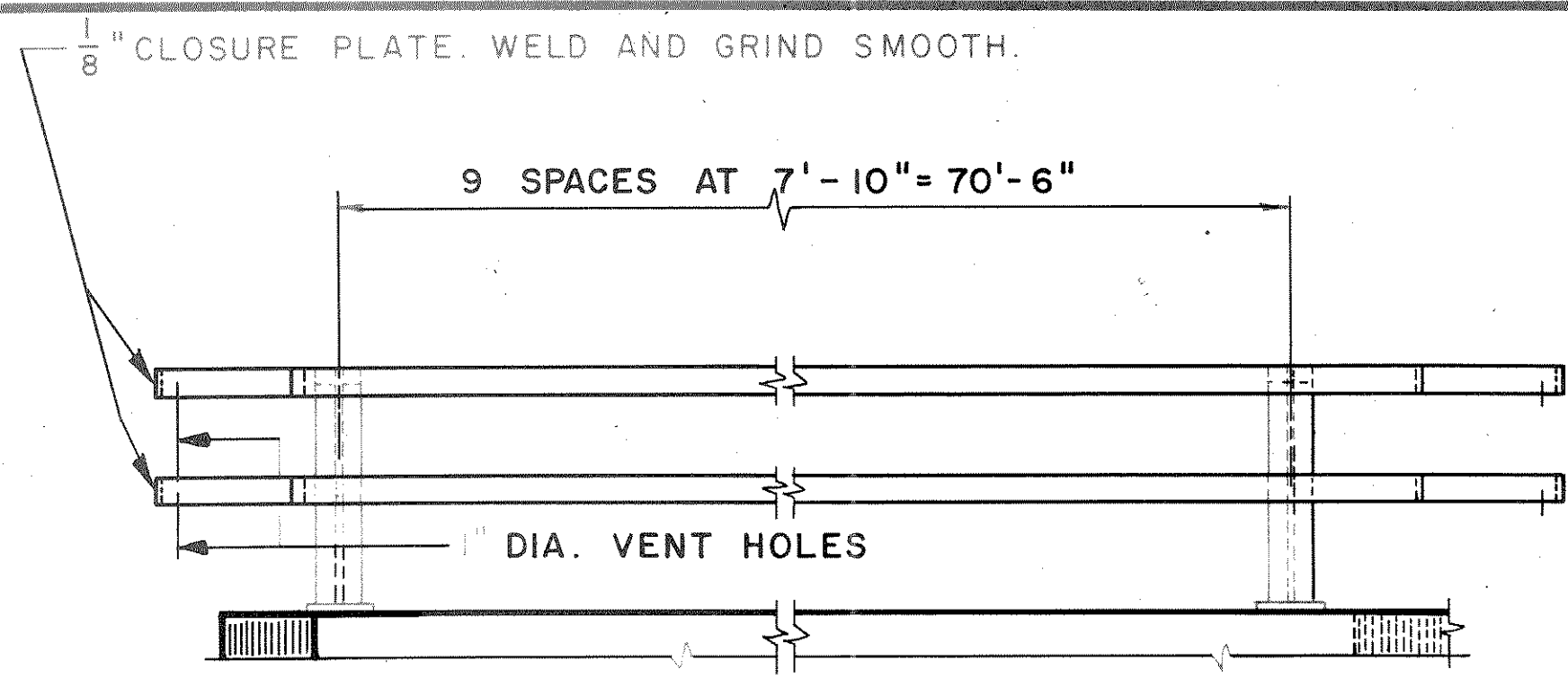
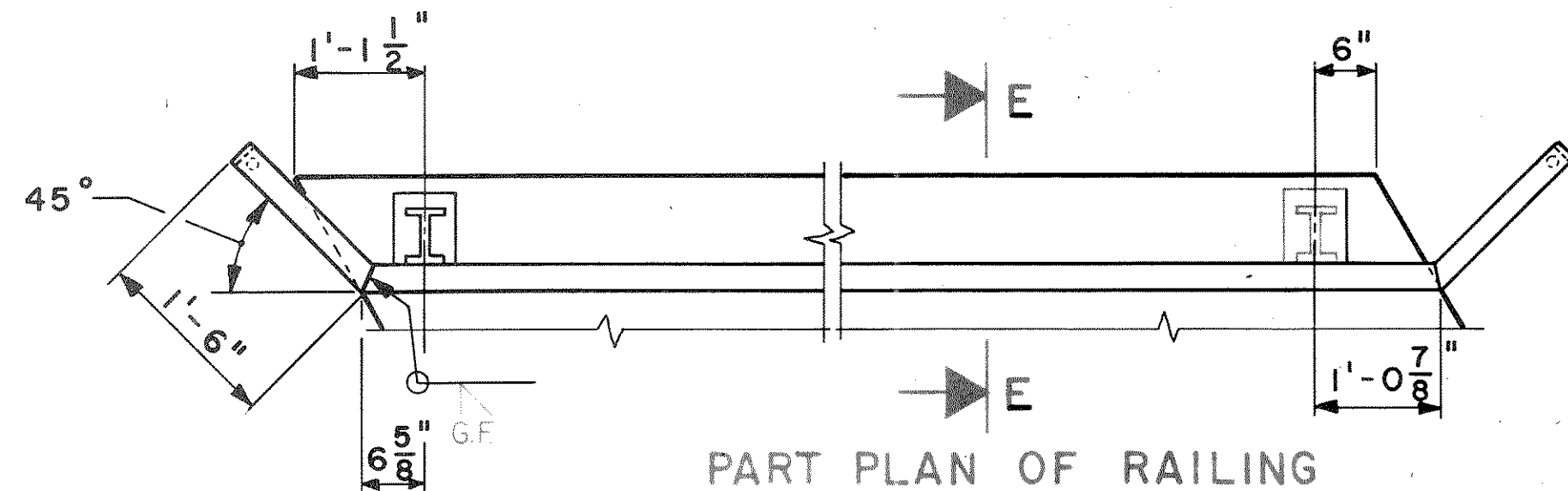


**GENERAL NOTES**

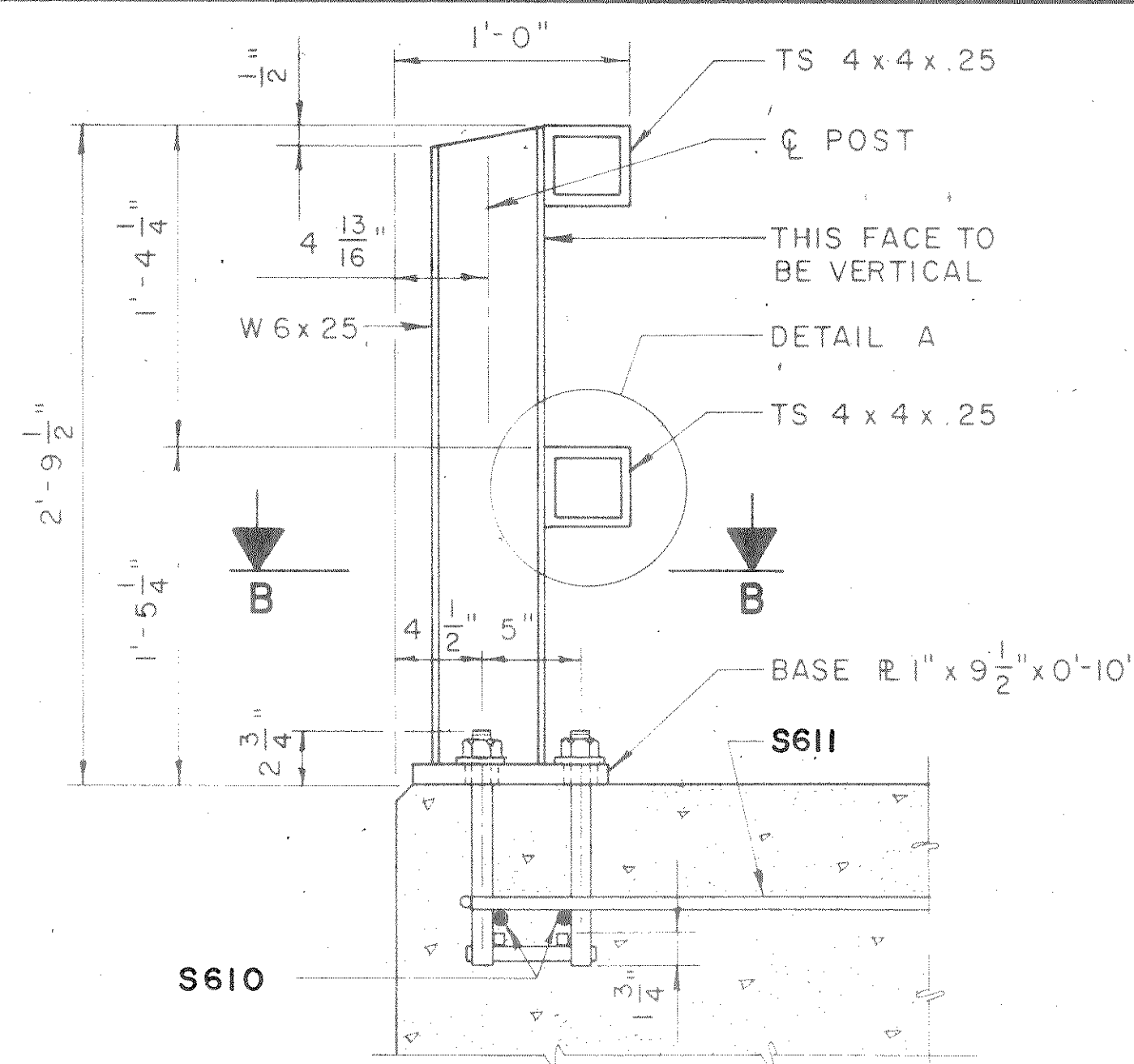
- BID ITEM SHALL BE "TUBULAR RAILING, TYPE F"
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.
- RAILING SHALL BE 4x4x.25 STRUCTURAL TUBING CONFORMING TO A.S.T.M. DESIGNATION A36.
- ANCHOR BOLTS SHALL BE  $\frac{7}{8}$ " DIA NOMINAL CONFORMING TO A.S.T.M. A449 WITH 3" THREAD AND HIGH STRENGTH NUTS AND WASHERS.
- CAULK EXPOSED OPENINGS BETWEEN SHIMS.
- POSTS, BASE PLATES AND SHIMS SHALL BE MADE FROM MATERIAL CONFORMING TO A.S.T.M. DESIGNATION A36. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST NORMAL TO GRADE LINE.
- PLACE ANCHOR BOLTS NORMAL TO BASE PLATE.
- ALL MEMBERS, INCLUDING UPPER 4" OF ANCHOR BOLTS, SHALL BE GALVANIZED OR PAINTED AFTER FABRICATION.
- BEAM GUARD ATTACHMENT MAY BE WELDED TO RAILS AND RAILS MAY BE WELDED TO POSTS.
- FILL POST ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
- RAILING SHALL BE FABRICATED IN 2 OR 3 PANEL LENGTHS.
- STEEL SHIMS SHALL BE USED UNDER POSTS WHERE REQUIRED FOR ALIGNMENT.
- FIELD ERECTION JOINTS SHALL BE ALTERNATIVE 1 OR ALTERNATIVE 2.



**PART ELEVATION OF RAILING**

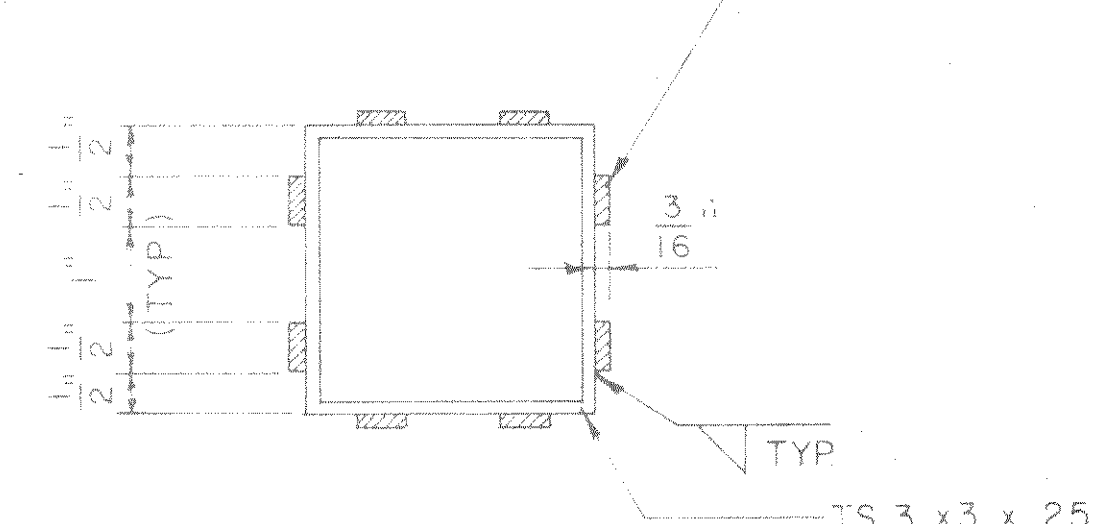


**PART PLAN OF RAILING**



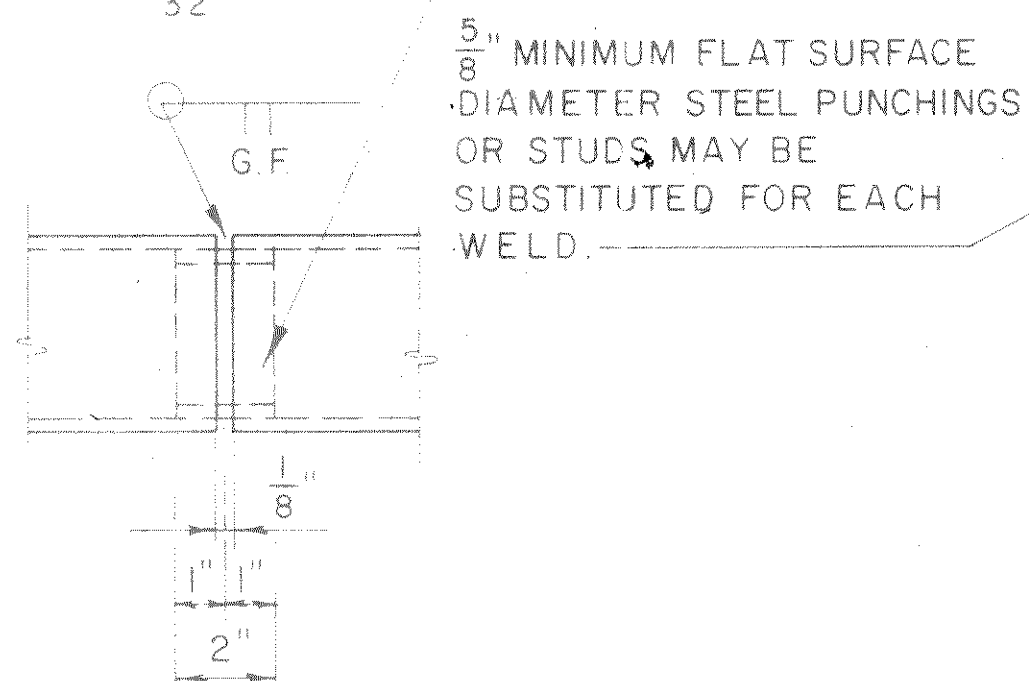
**SECTION E**

BAR  $\frac{1}{2}$ " x  $\frac{3}{16}$ " x 0'-6". GRIND AS REQUIRED FOR SLIDING FIT. SPACING OF BARS MAY BE ADJUSTED TO CLEAR SEAM ON INSIDE OF RAIL MEMBER.



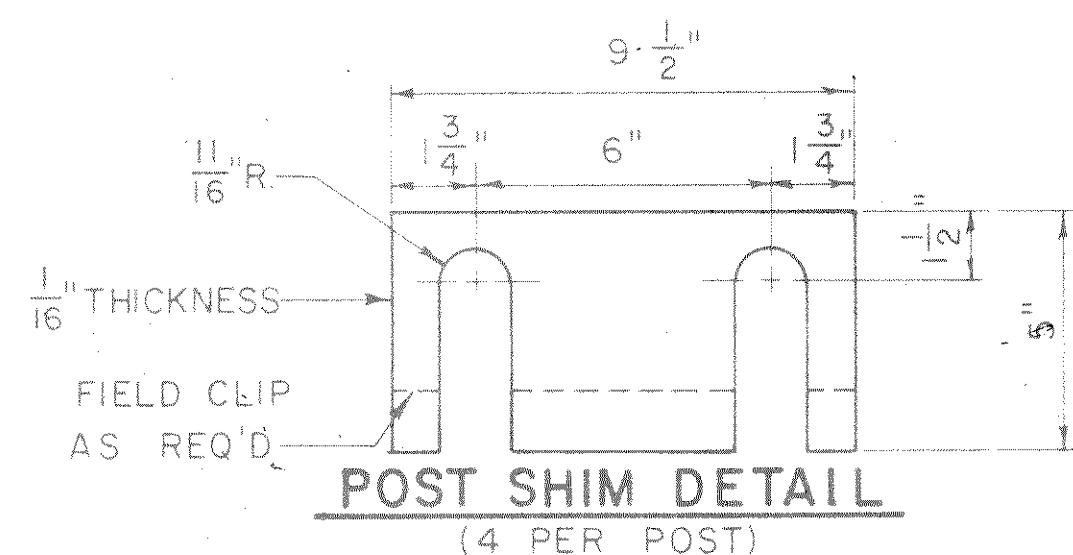
**SECTION THRU SLEEVE**

SLEEVE FABRICATED FROM  $\frac{1}{4}$ " PLATE. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF  $3 \frac{13}{32}$ "

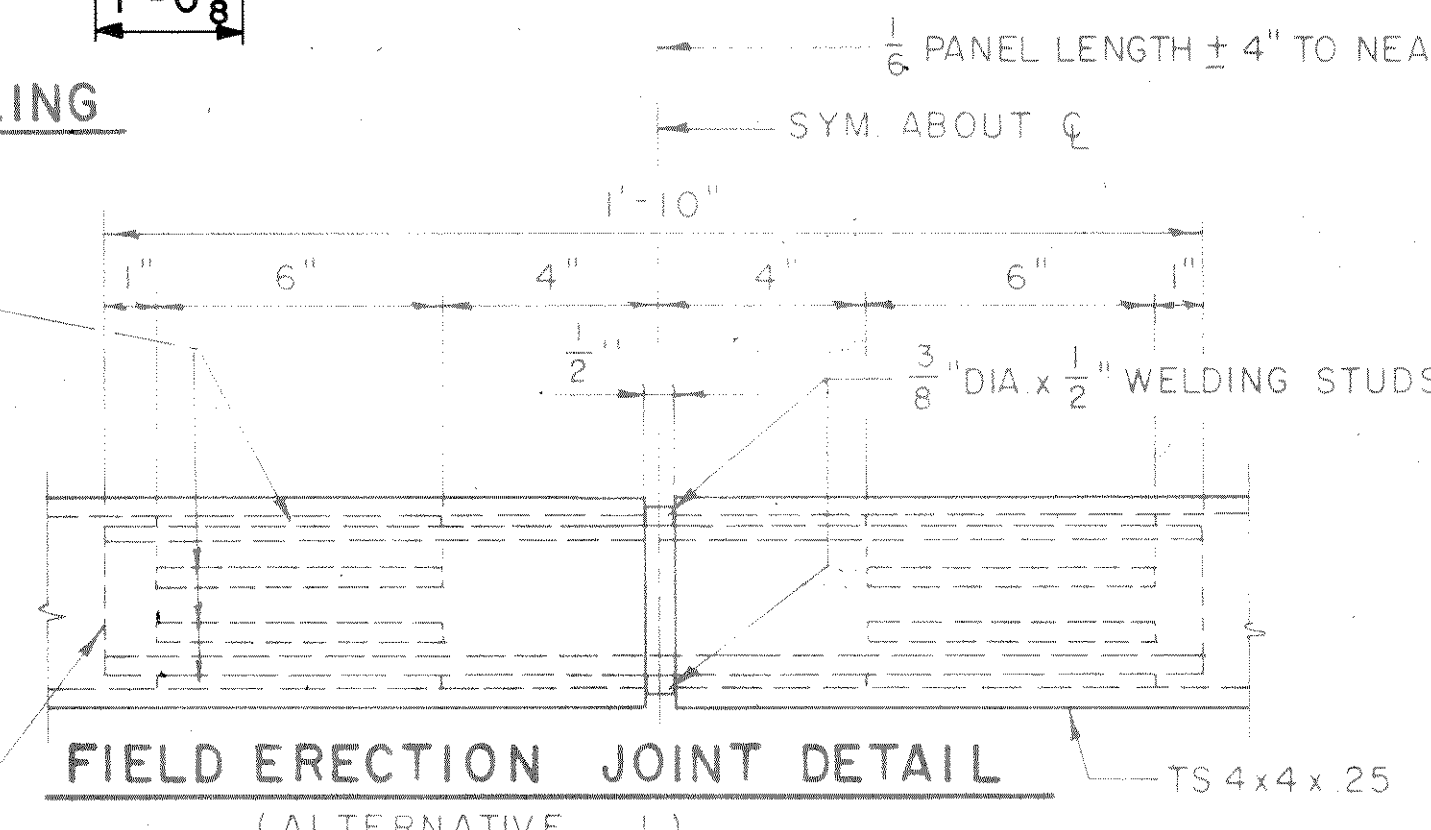


**SHOP RAIL SPLICE DETAIL**

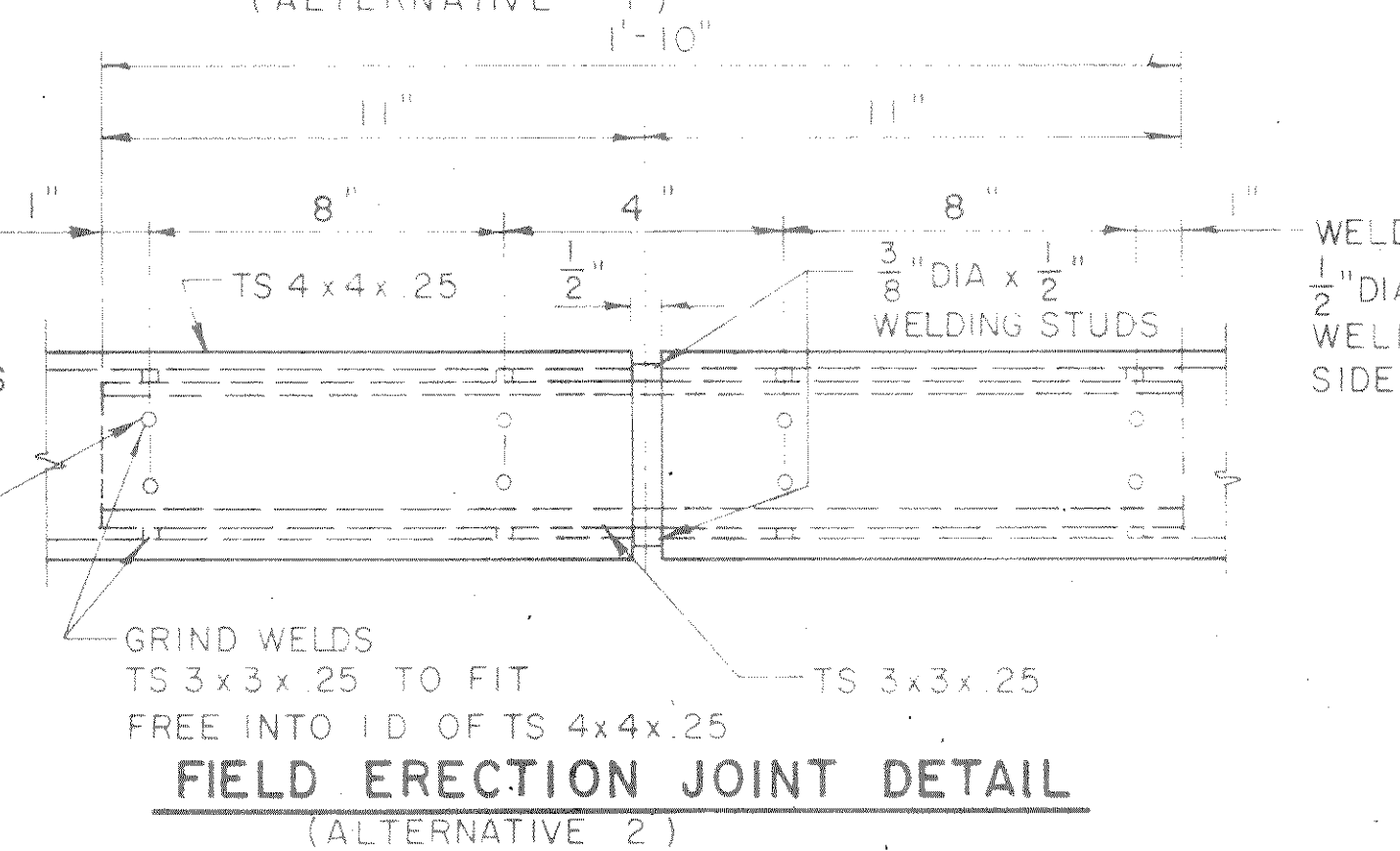
LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS



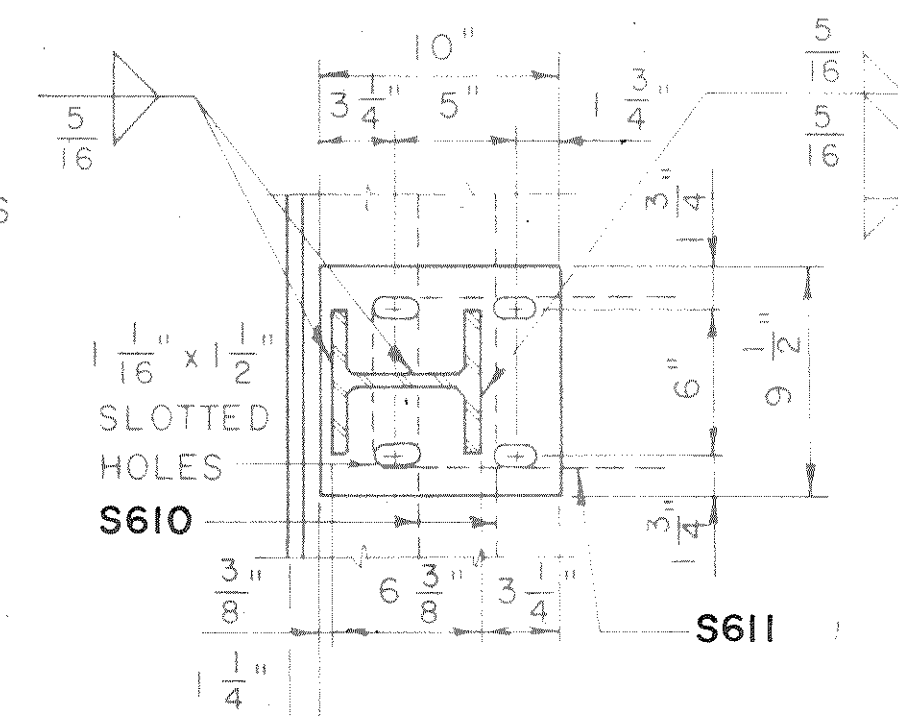
**POST SHIM DETAIL**  
(4 PER POST)



**FIELD ERECTION JOINT DETAIL**  
(ALTERNATIVE 1)



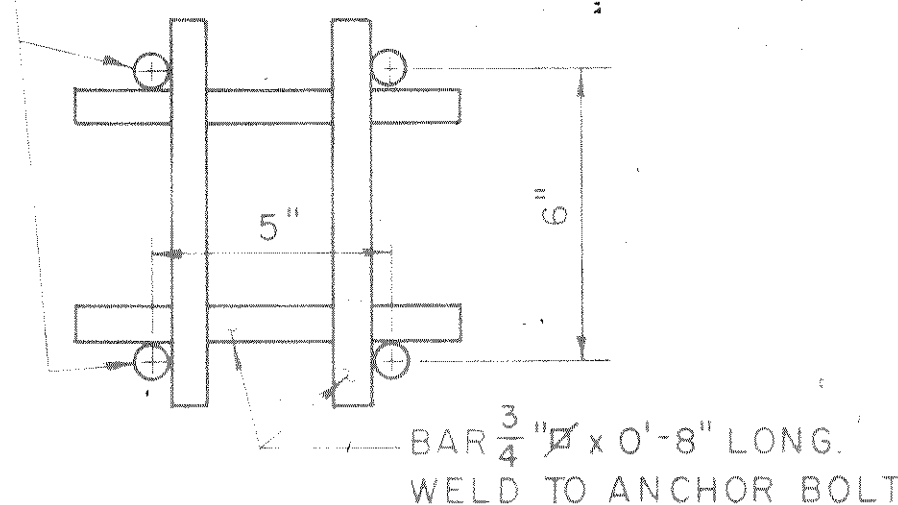
**FIELD ERECTION JOINT DETAIL**  
(ALTERNATIVE 2)



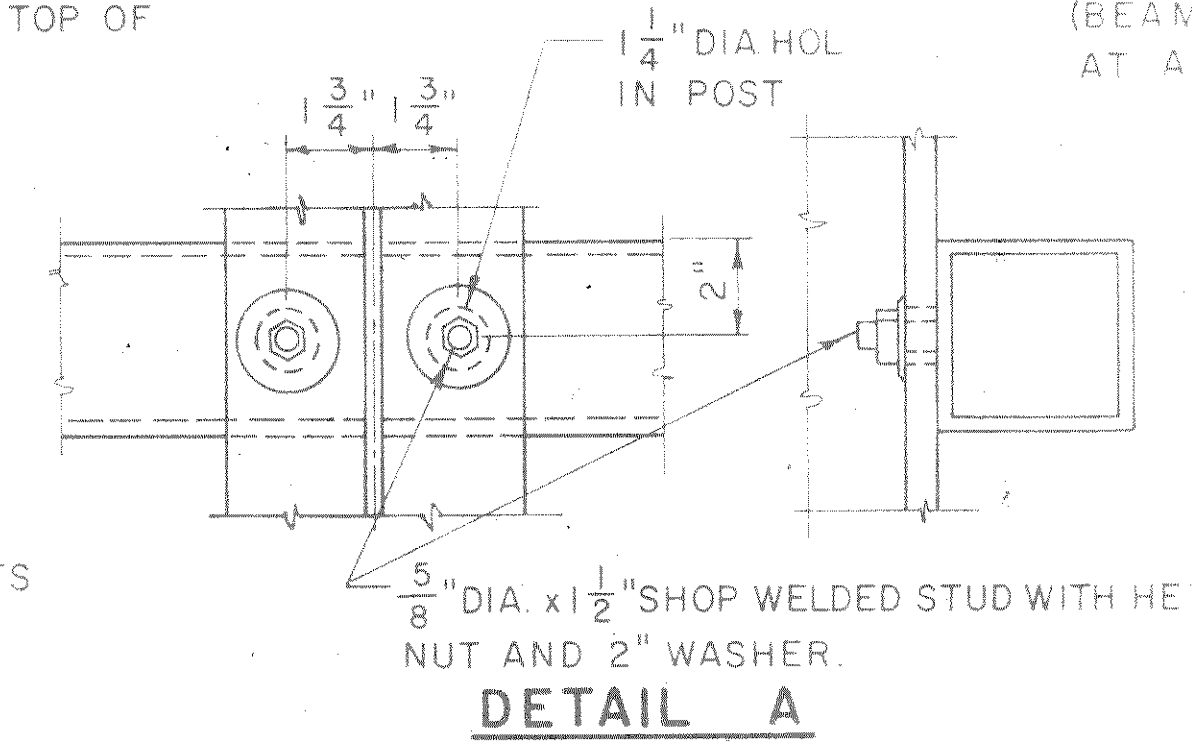
**SECTION B**

WELD SPACING -  $\frac{1}{2}$ " DIA SURFACE WELDS ON EACH SIDE.

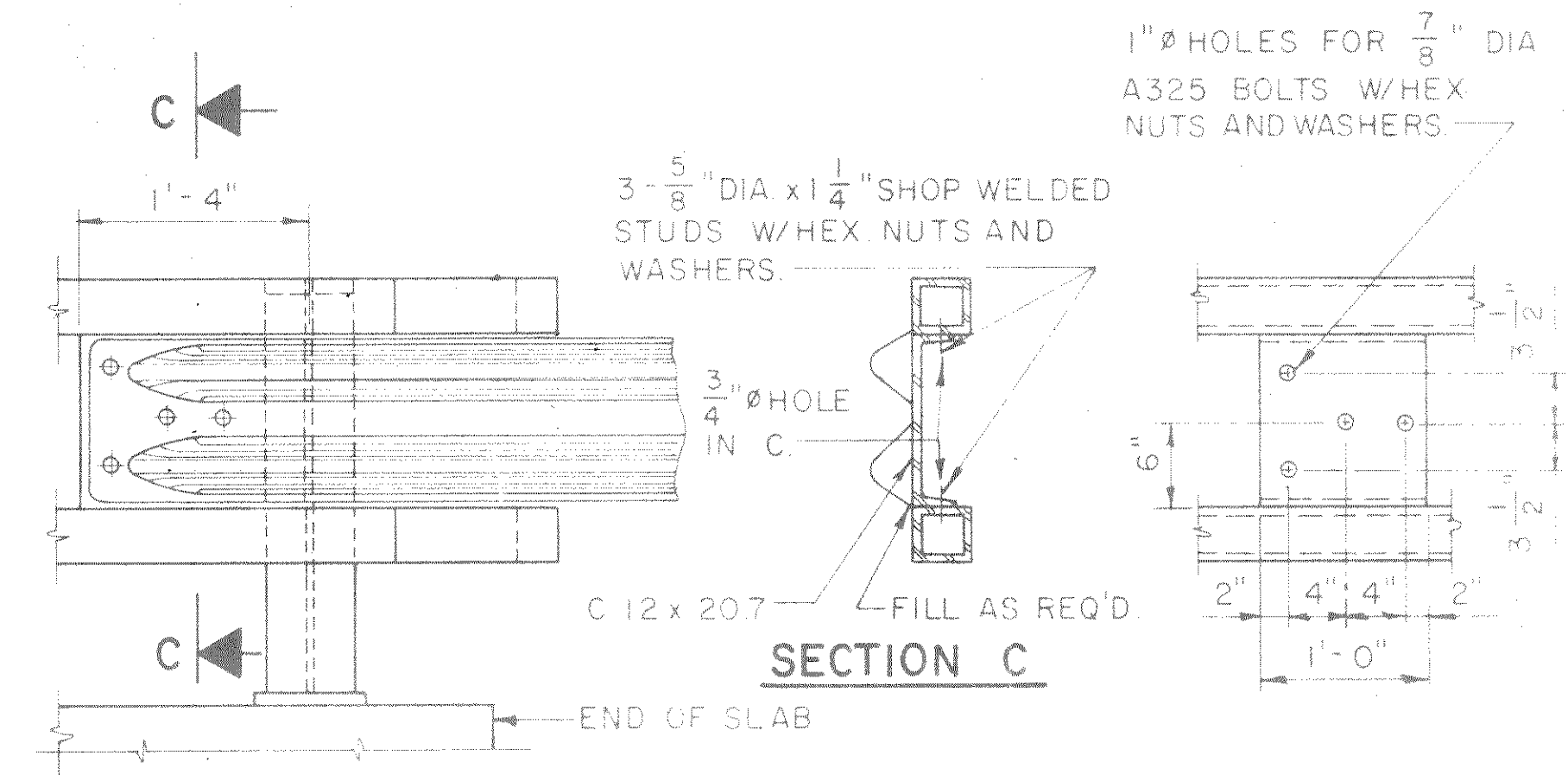
ANCHOR BOLTS  $\frac{7}{8}$ " DIA x 10" LONG WITH WASHER AND HEX NUT (4 BOLTS PER POST) CHAMFER TOP OF BOLTS BEFORE THREADING.



**ANCHOR BOLT DETAIL**



**DETAIL A**



**SECTION C**

**DETAIL AT END POST**

(BEAM GUARD RAIL ATTACHMENT REQUIRED AT ALL FOUR WINGS)

No.	Date	Revision
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
<b>STRUCTURE B-35-83</b>		
Const. WIS. 1975	Drawn By L.N.F.	Plans Checked J.A.R.
<b>TUBULAR RAILING, TYPE F</b>		SHEET-10 OF 10
		<b>X64840</b>