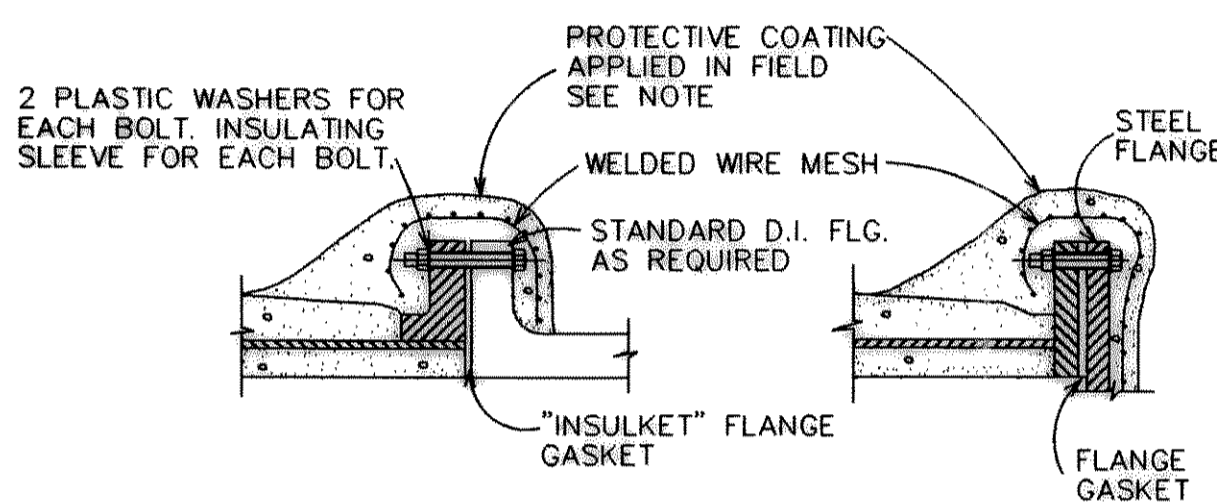


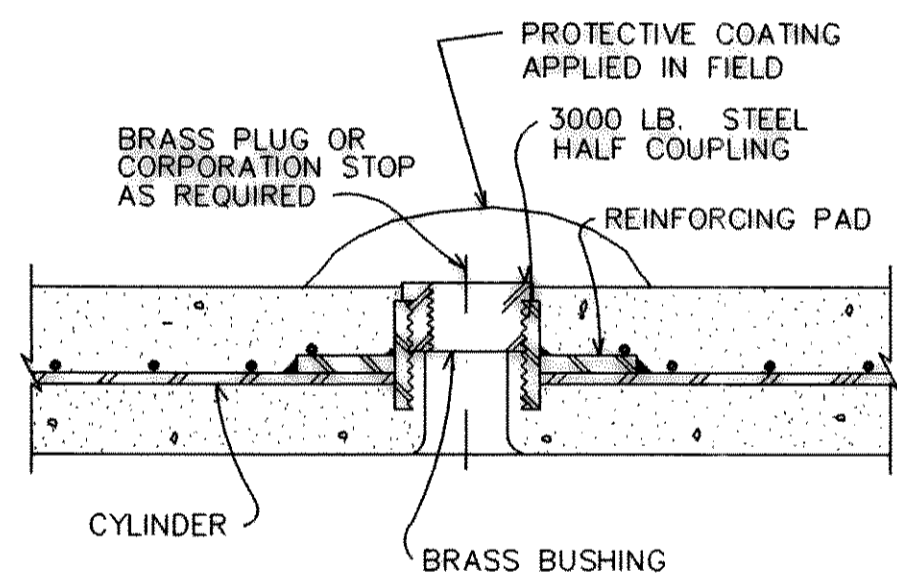
**STANDARD PRETENSIONED CONCRETE CYLINDER PIPE**

NOT TO SCALE



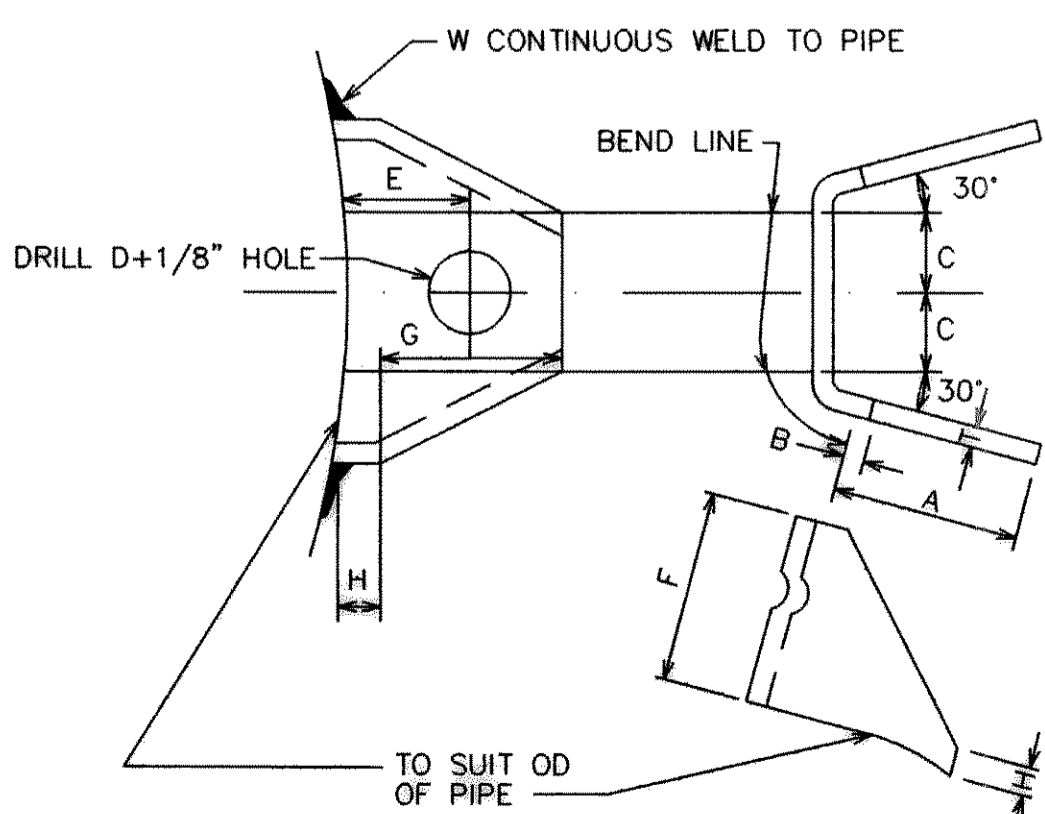
**FLANGED CONNECTIONS**

NOT TO SCALE



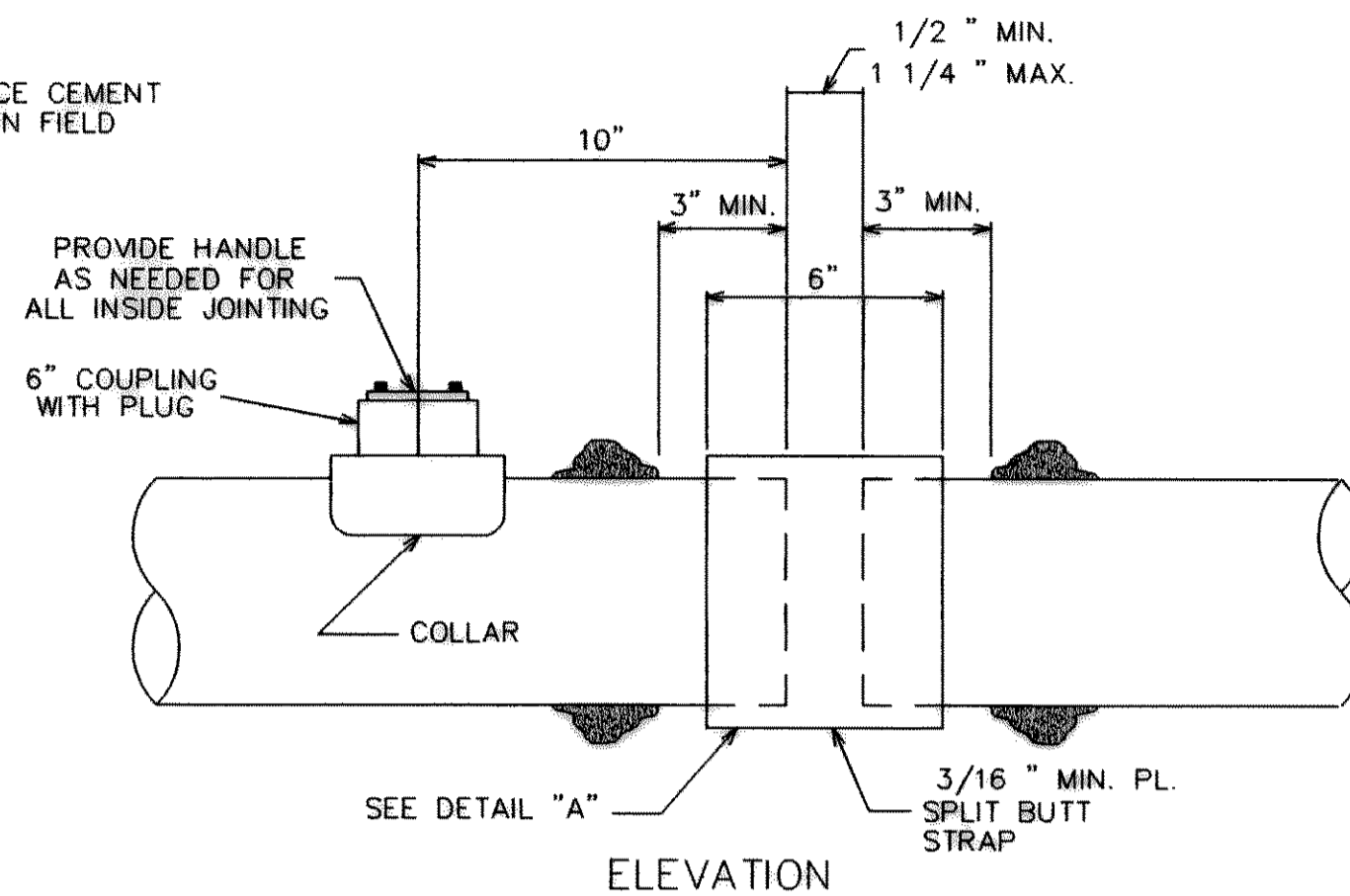
**THREADED OUTLETS FOR C.C.P.**

NOT TO SCALE



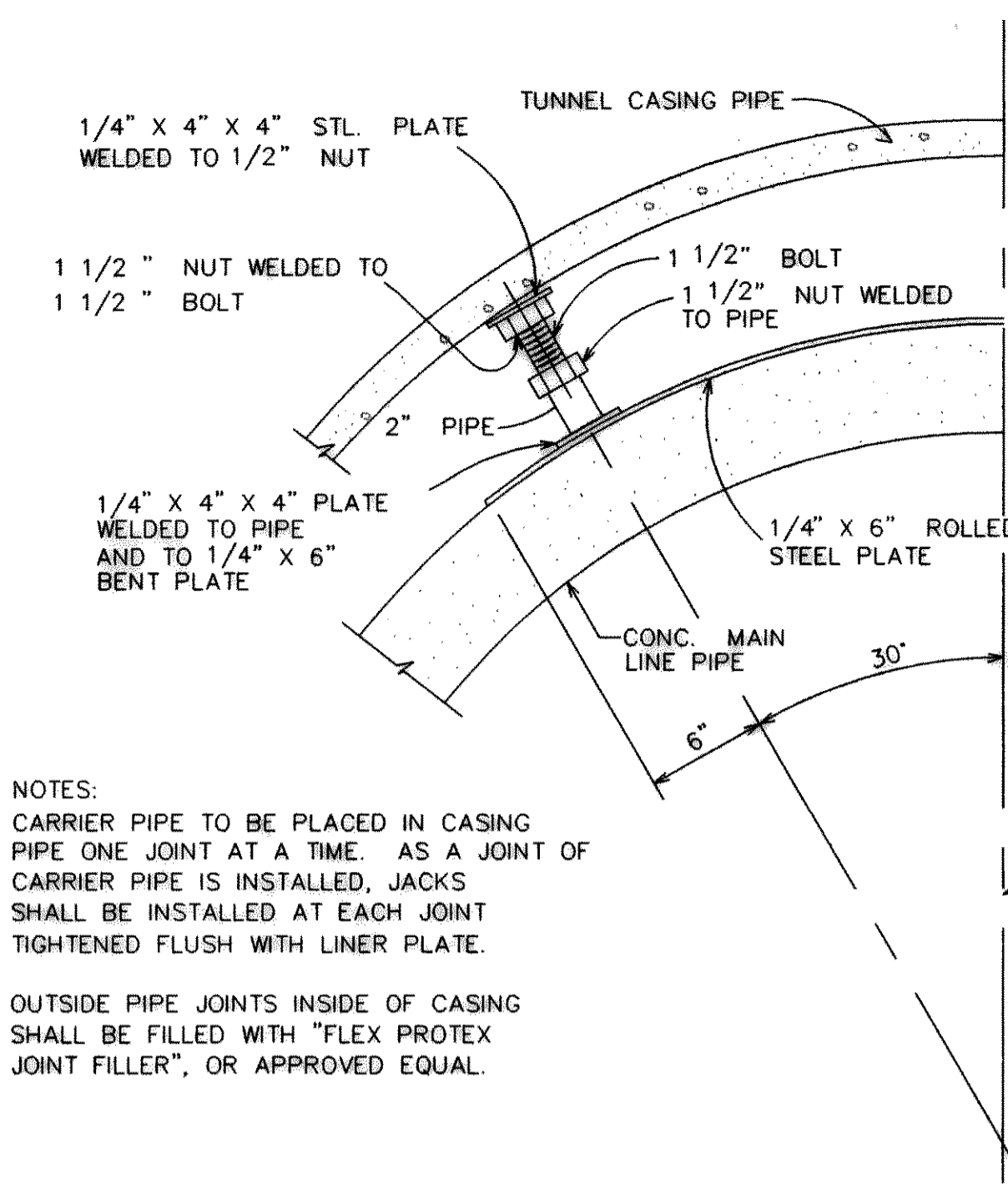
**LUG DETAIL**

- NOTES:  
 1. STUD DIAMETER=D INS.  
 2. STUD MATERIAL 60 SHALL CONFORM TO ASTM A193, GRADE B7.  
 3. LUG MATERIAL SHALL CONFORM TO ASTM A283 GRADE B7 OR ASTM A285 GRADE C.



**TYPICAL CONCRETE CYLINDER PIPE CLOSURE DETAIL**

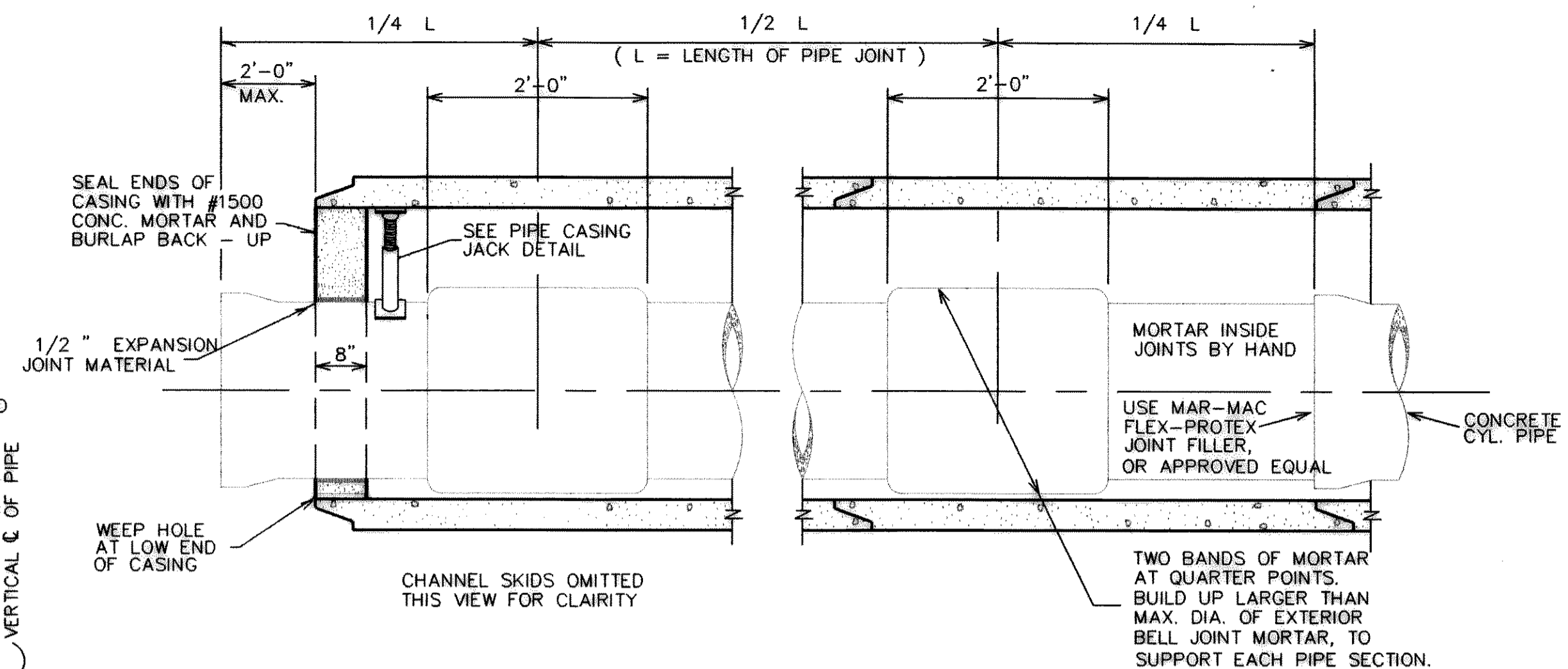
NOT TO SCALE



**PIPE CASING JACK DETAIL**

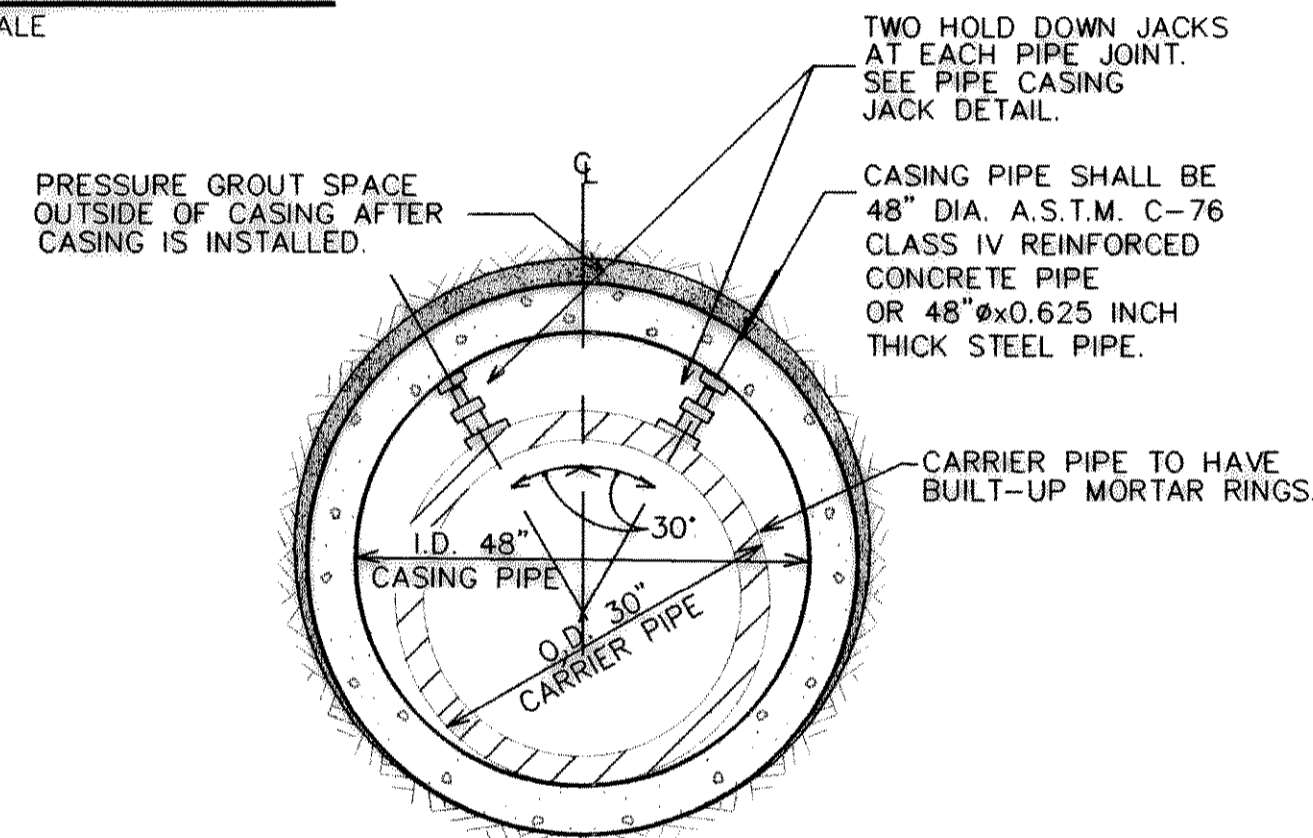
NOT TO SCALE

- NOTES:  
 CARRIER PIPE TO BE PLACED IN CASING PIPE ONE JOINT AT A TIME. AS A JOINT OF CARRIER PIPE IS INSTALLED, JACKS SHALL BE INSTALLED AT EACH JOINT TIGHTENED FLUSH WITH LINER PLATE.  
 OUTSIDE PIPE JOINTS INSIDE OF CASING SHALL BE FILLED WITH \"FLEX PROTEX JOINT FILLER\", OR APPROVED EQUAL.



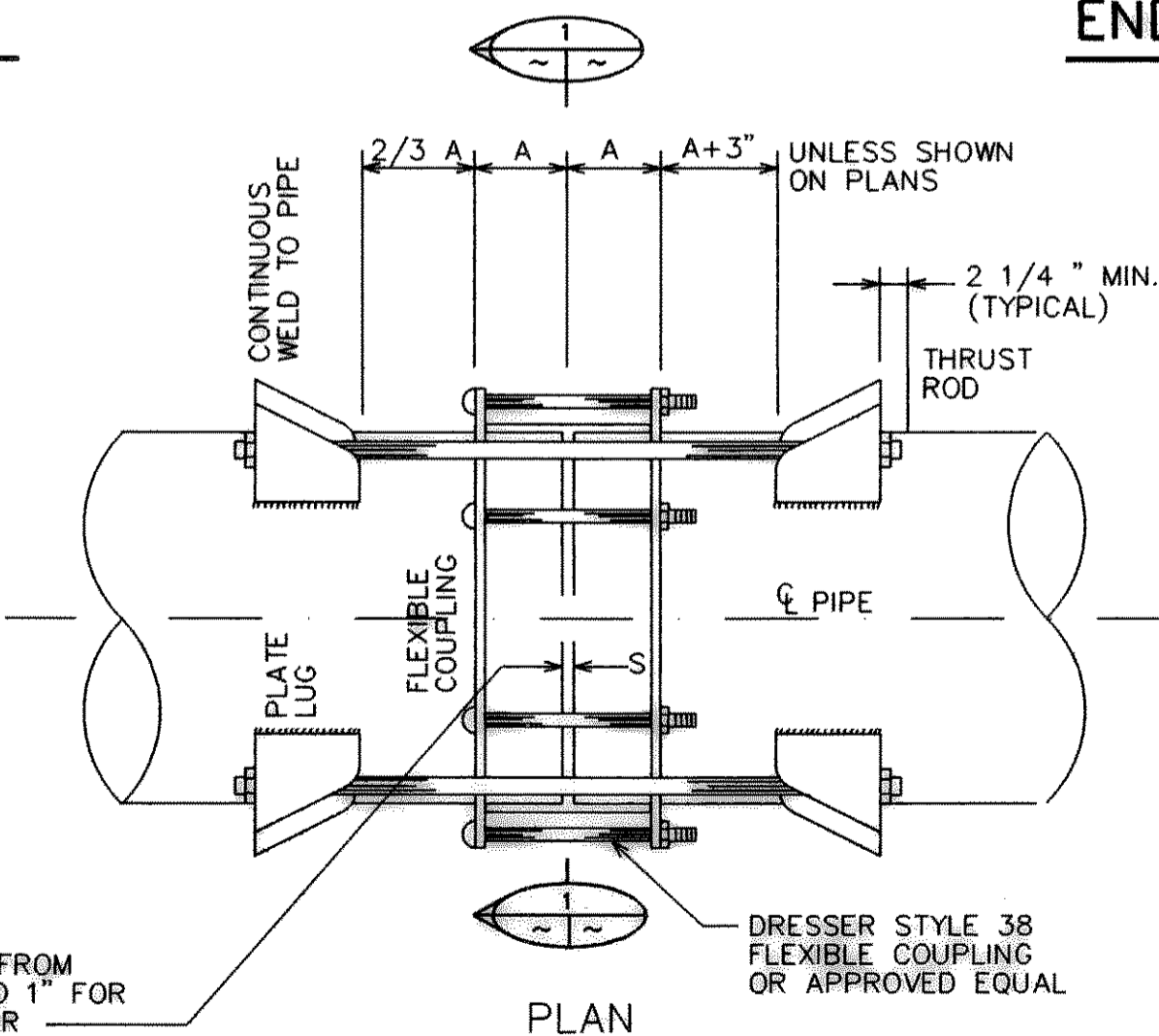
**SIDE VIEW - TYPICAL INSTALLATION IN CASING**

NOT TO SCALE



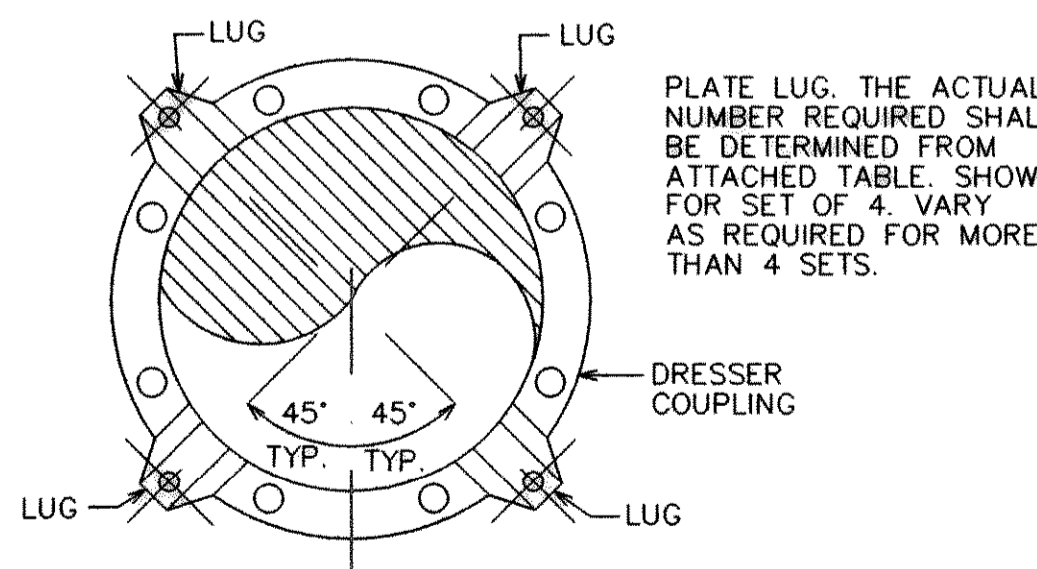
**END VIEW - TYPICAL INSTALLATION IN CASING**

NOT TO SCALE



**FLEXIBLE COUPLING WITH THRUST HARNESS**

NOT TO SCALE



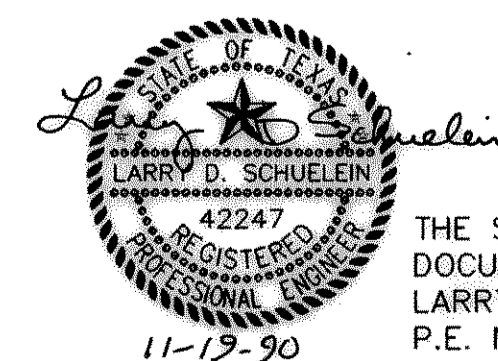
**SECTION**

NOT TO SCALE

**THRUST HARNESS COUPLING TABLE**

PIPE SIZE INS.	A INS.	B INS.	C INS.	E INS.	F INS.	G INS.	H INS.	T INS.	D+1/8 INS.	SETS PER JOINT	W INS.
6	1	1	1	3 1/2	5 1/2	5	1 7/16	1/4	1	4	1/4
18	6	1	1	3 1/2	5 1/2	5	1 7/16	1/4	1 1/8	4	1/4
20	6	1	1	3 3/4	5 1/2	5	1 11/32	5/16	1 1/4	4	1/4
24	6	1	1	3 3/4	5 1/2	5	1 3/16	5/16	1 1/2	4	1/4
30	6	1	1	3 3/4	5 1/2	5	1 1/32	5/16	1 3/8	4	1/4
36	8	1 1/4	1 1/4	3 3/4	5 3/4	4 3/4	1 25/32	5/16	1 1/2	4	1/4
42	8	1 1/4	1 1/4	3 3/4	5 3/4	4 3/4	1 11/16	5/16	1 1/2	6	1/4
48	10	1 1/4	1 1/4	3 3/4	5 3/4	4 3/4	1 13/16	3/8	1 3/4	6	5/16
54	10	1 1/4	1 1/4	3 3/4	5 3/4	4 3/4	1 23/32	7/16	1 7/8	6	3/8
60	12	1 1/2	1 1/2	3 7/8	6	5	1 15/16	1/2	2 1/8	6	3/8
66	13	1 1/2	1 1/2	3 7/8	6	5	2	1/2	2 1/4	6	7/16
72	14	2	1 1/2	4	6 1/4	5	2 1/4	5/8	2 3/8	6	1/2
84	14	2	1 1/2	4 1/2	6 1/2	5	2 11/32	5/8	2 1/2	8	1/2
96	14	2	1 1/2	4 1/2	6 1/2	5	2 1/4	3/4	2 1/2	10	1/2

INFORMATION GIVEN IN THE TABLE IS THE MINIMUM FOR PRESSURES UP TO AND INCLUDING 250 PSI. FOR PRESSURES IN EXCESS OF 250 PSI THE ABOVE INFORMATION SHALL BE AS DETERMINED BY THE ENGINEER.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY LARRY D. SCHUELEIN, TEXAS P.E. No. 42247 ON NOV. 19, 1990

**RECORD DRAWING**  
 BASED ON INFORMATION  
 SUPPLIED BY THE CONTRACTOR  
 DATE: 10/2/92 BY: LDS

DATE	REVISION

DESIGNED: _____	JOB NO. RDK89005
DRAWN: _____	DATE 11/19/90
TRACED: _____	SCALE AS SHOWN
CHECKED: _____	

**FREES AND NICHOLS, INC.**  
 CONSULTING ENGINEERS  
 FORT WORTH - ARLINGTON - AUSTIN, TEXAS

CITY OF ROCKWALL, TEXAS  
**EASTSIDE PUMP STATION**

MECHANICAL  
**PIPELINE DETAILS**