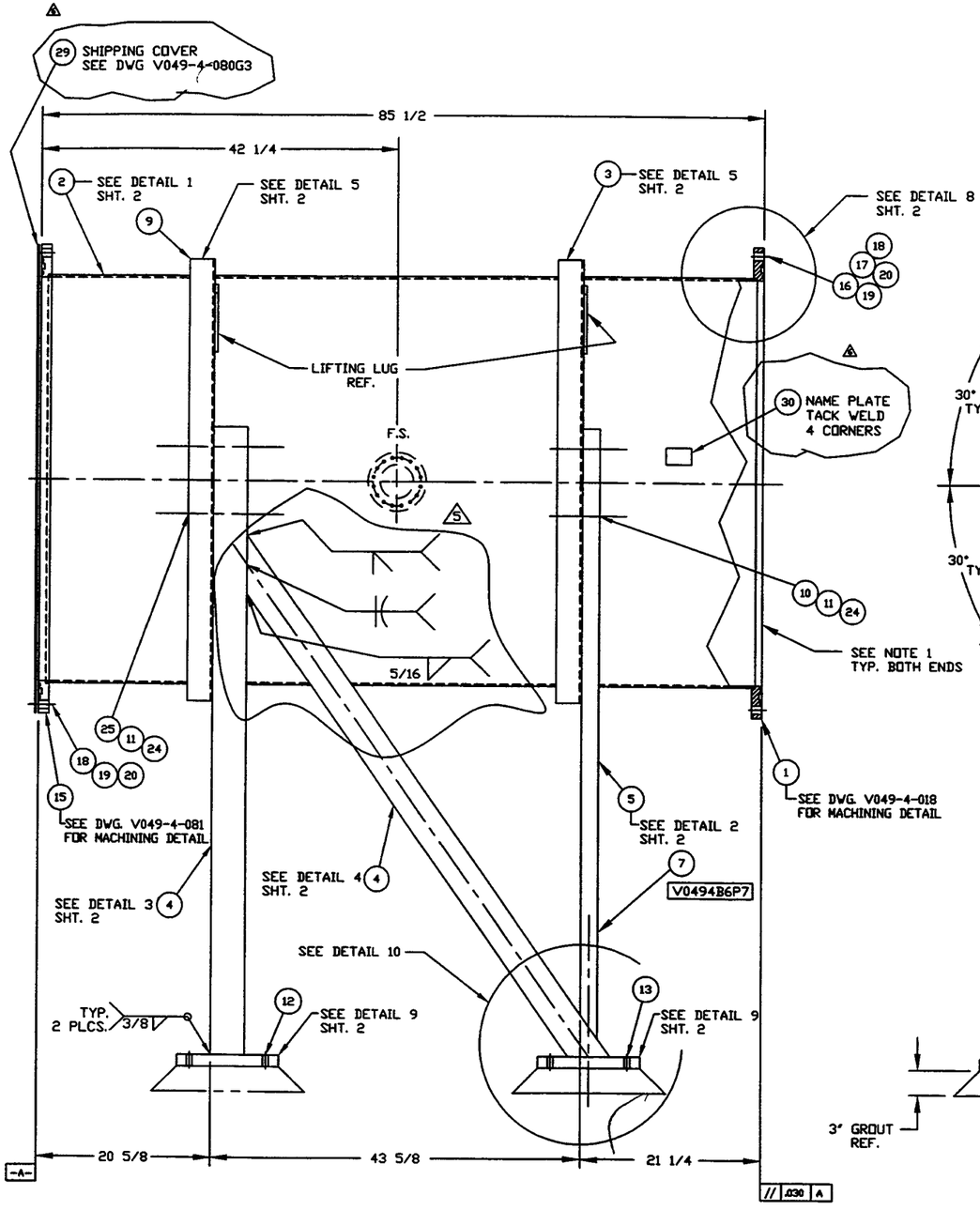

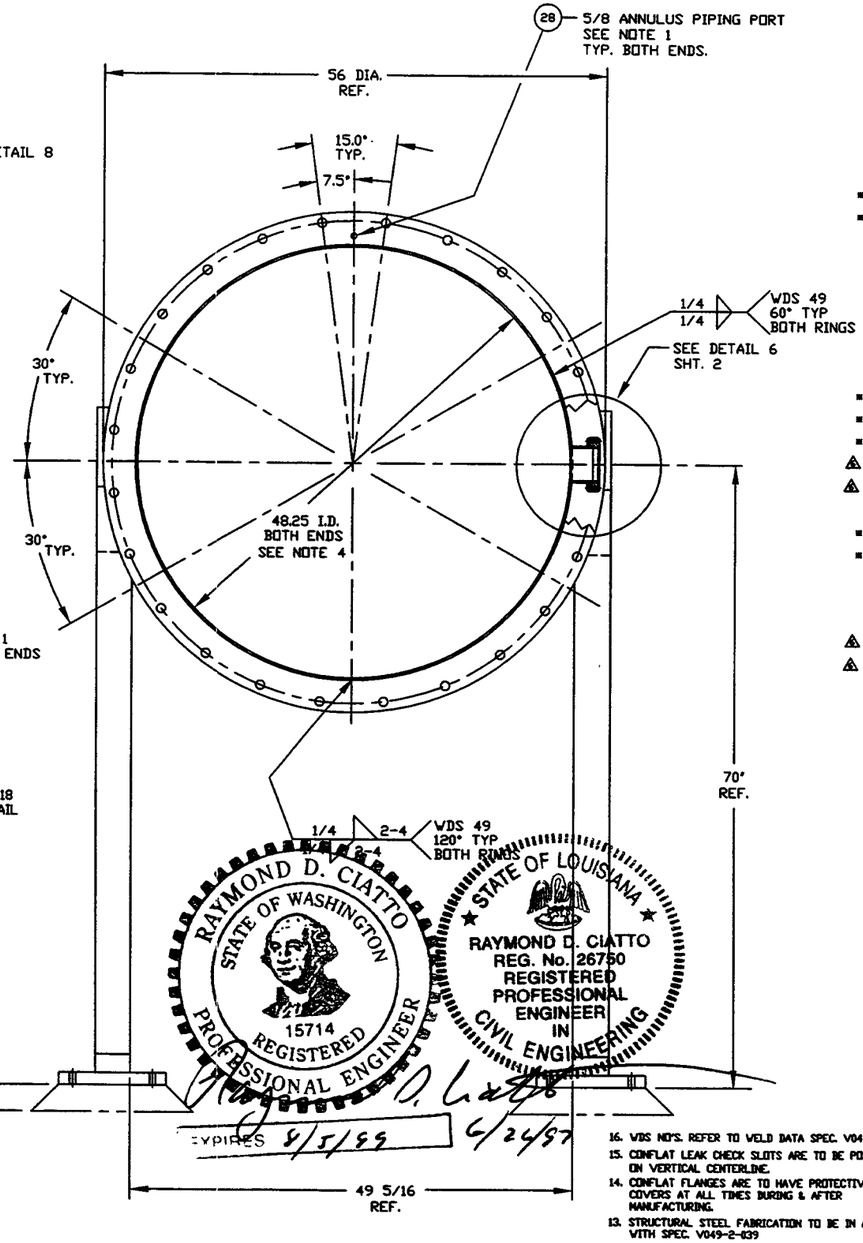

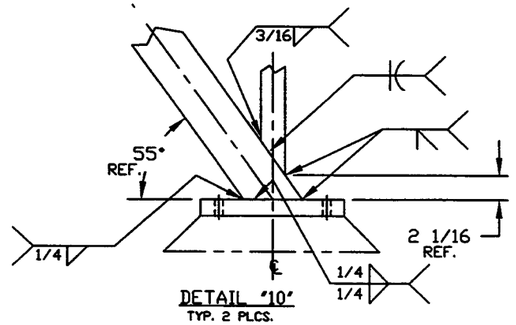

ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION
1	V0494018		1	EA	FLANGE, GROOVED, 48.25 I.D. X 56 O.D.
2	V0494B6P2		1	EA	SHELL, 304/304L SST. 1/4" THK.
3	V049M818	1	1	EA	SUPPORT RING, 304 SST. 4"x4"x1/4" ANGLE
4	———	1	24	FT	TUBE STL. (TS) A500 GRB 4"x4"x1/2"
5	———	1	13	FT	TUBE STL. (TS) 4"x2"x3/16" A500 GR B
6	V049M313	3	1	EA	HALF NIPPLE, SST 304L WITH FLANGE, CONFLAT, 8" O.D. X 6" O.D. TUBE, x .120 WT
7	V0494B6P7		2	EA	SUPPORT ASSY.
8	———	1	4	SF	PLATE, CS, A36 1 3/8" THK.
9	V049M825	1	1	EA	SUPPORT RING, 304SST 4"x3"x1/2" ANGLE
■ 10	V049M753	3	6	EA	BOLT, 5/8-11 UNC X 4" LG. A325
■ 11	V049M755	3	12	EA	NUT, 5/8-11 UNC A325
12	———		8	EA	ANCHOR BOLT, HILTI HVA 1" DIA-12 3/8" MIN EMBED.
13	———		8	EA	ANCHOR BOLT, HILTI SUPER HVA 1" DIA.
					12 3/8" MIN. EMBEDMENT
14	V049M852	3	3	FT	BAR, 4" X 3/8" 304 SST
15	V0494081		1	EA	FLANGE, GROOVED, 48.25 I.D. X 56 O.D.
16	V049M824		2	EA	O-RING, VITRON (PER SPEC V049-2-045)
17	V049M825		2	EA	O-RING, VITRON (PER SPEC V049-2-045)
■ 18	202678	3	48	EA	BOLT, SA 193 B7, HEX, 7/8-9 UNC X 4" LG.
■ 19	202679	3	48	EA	NUT, SA 194 2H, HEX, 7/8-9 UNC
■ 20	202581	3	96	EA	WASHER, STL, 1 3/4" O.D. X 15/16" I.D. X 1/4" THK.
⚠ 21	V0494196	3	1	EA	BLANK, CONFLAT, SST 304L, 8" O.D. X 2.50" F.
⚠ 22	V049M263	3	1	EA	GASKET, COP COFH, CONFLAT, 8" O.D. (x 2" F)
23	V049M777		20	EA	BOLT, 18-8 SST, HEX HD. 5/16-18x2 1/2" LG.
■ 24	V049M773	3	12	EA	WASHER, LOCK, 5/8", A325
■ 25	V049M759	3	6	EA	BOLT, 5/8-11 UNC X 5 1/2" LG. A325
26	V049M782		20	EA	NUT, SILICON BRZ. HEX 5/16-18
27	V049M785		40	EA	WASHER, 18-8 SST, FLAT 5/16"
28	V0494061		2	EA	3/4" O.D. ELBOW x 2 3/4" O.D. CONFLAT FLANGE
⚠ 29	V0494080G3		1	EA	SHIPPING COVER ASSY
⚠ 30	V049M740		1	EA	PSI NAME PLATE, 2" X 3"

■ ELECTROLESS NICKEL PLATE

TAG NO. WB-6

APPROX. WEIGHT: 2282#

NOTES:

10. MACHINING & ROLLING PER SPEC V049-2-136.
9. LEAK TEST & METHOD PER PSI SPEC: V049-2-014
8. CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED AS NOTED.
7. BOLT HOLES OF ALL FLANGES TO STRADDLE VERTICAL CENTERLINE +/-.015
6. CLEAN PER SPEC V049-2-015
5. DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL.
4. THE CENTER LINES OF ALL SHELLS AND END FLANGES ARE TO LIE ON THE COMMON CENTER LINE WITHIN +/_ 1/16.
3. CHAMBER FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-097.
2. FOR FLANGE DETAILS SEE DWG. V049-4-018 & -081.
1. FLANGES INCLUDE AN ANNULAR CHANNEL BETWEEN O-RINGS, FOR A SINGLE PUMPOUT PORT SEE DWG V049-4-061.

16. WDS NO'S. REFER TO WELD DATA SPEC. V049-2-084.
15. CONFLAT LEAK CHECK SLOTS ARE TO BE POSITIONED ON VERTICAL CENTERLINE.
14. CONFLAT FLANGES ARE TO HAVE PROTECTIVE COVERS AT ALL TIMES DURING & AFTER MANUFACTURING.
13. STRUCTURAL STEEL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-039
12. EACH FINISHED SHELL IS TO BE MARKED WITH A SEQUENTIAL PSI SERIAL NUMBER. THE NUMBER IS TO BE MADE FROM THE DRAWING PLUS THE SEQUENTIAL NUMBER. V0494123-01, 02 ETC.
11. PLATES PRIOR TO ROLLING MUST HAVE DIAGONAL CORNER TO CORNER DIMENSIONS WITHIN 1/16" OF EACH OTHER.

RAYMOND D. CIATTO STATE OF WASHINGTON 15714 REGISTERED PROFESSIONAL ENGINEER
STATE OF LOUISIANA RAYMOND D. CIATTO REG. No. 26750 REGISTERED PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
EXPIRES 6/5/99 6/24/97

PROPRIETARY AND CONFIDENTIAL
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DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES
FRACTIONAL ± 1/64
ANGULAR MACH ± 30' BEND ± 2°
TWO PLACE DECIMAL ± .03
THREE PLACE DECIMAL ± .015
FINISHED SURFACE RMS
BREAK CORNERS ON
REMOVE ALL BURRS
DO NOT SCALE THIS DRAWING
USED ON
NEXT ASS'Y:

REV	DESCRIPTION	DRWN	CHKD
6	REISSUED FOR FAB/SHIPPING AS NOTED	DMW	DJM
5	REISSUED FOR FABRICATION	DMW	PEF
4	REISSUED FOR FABRICATION		PEF
3	ISSUED FOR FABRICATION		PEF
2	DESIGN UPDATE (SHELL ONLY)		PEF
1	DESIGN UPDATE/FABRICATION		

ENGR	CHKD	DRWN	DATE	DEI#
GS	RDC	REC	5/14/97	0485
GS	RDC	REC	PV 1/29/97	0424
GS	RDC	REC	11/22/96	0180
GS	RDC	REC	BAR 11/1/96	0339
GS	RDC	REC	PV 10/7/96	0313
GS	RDC	REC	10/1/96	0283

ISSUE DESCRIPTION

PROCESS SYSTEMS INTERNATIONAL INC.
20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA

SPOOL B-6
48.25" ID

LIGO VACUUM EQUIPMENT

CAD FILE: V0494B6/4B6S1 | SIZE: D | DWG NO.: V049-4-B6 | REV: 6
SCALE: AS NOTED | SHEET: 1 OF 2

LIGO-D961156-06-V

Jun 29, 1997 - 15:44:07

PROCESS SYSTEMS INTERNATIONAL INC.
30 MAUPE DR. HOPKINTON, MASSACHUSETTS 01581 USA

SPOOL B6
48.25" ID

LIGO VACUUM EQUIPMENT

SIZE	DWG NO.	REV
D	V049-4-B6	6
SCALE AS NOTED	SHEET 2 OF 2	

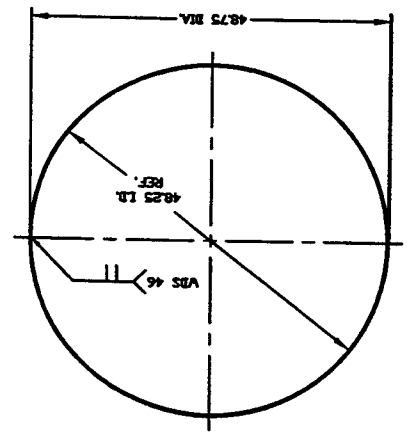
REVISIONS

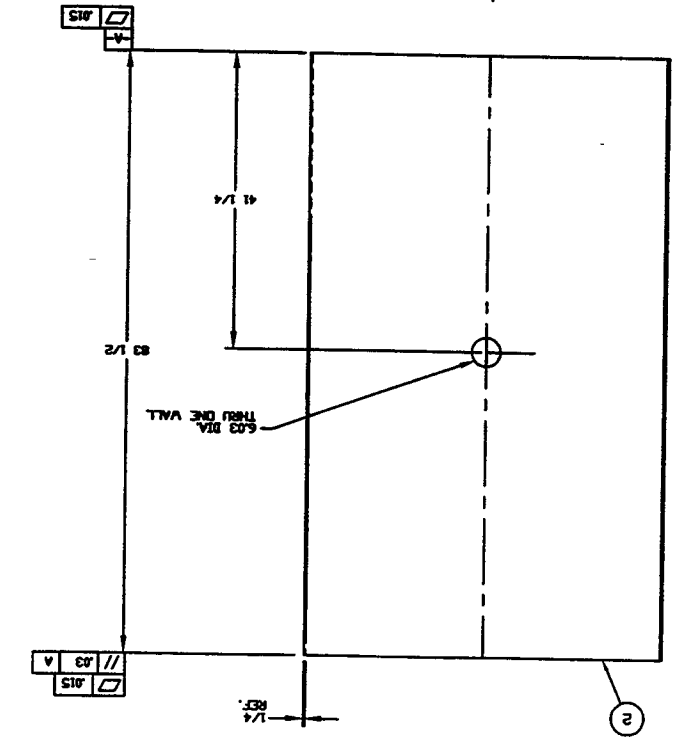
REV	DESCRIPTION	DATE	APPROVED
6	ADDED DETAIL 12	6/26/97	
5	ADDED DETAIL 11	8/5/96	

RAYMOND D. CIATTO
REG. No. 26750
REGISTERED
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING
STATE OF LOUISIANA

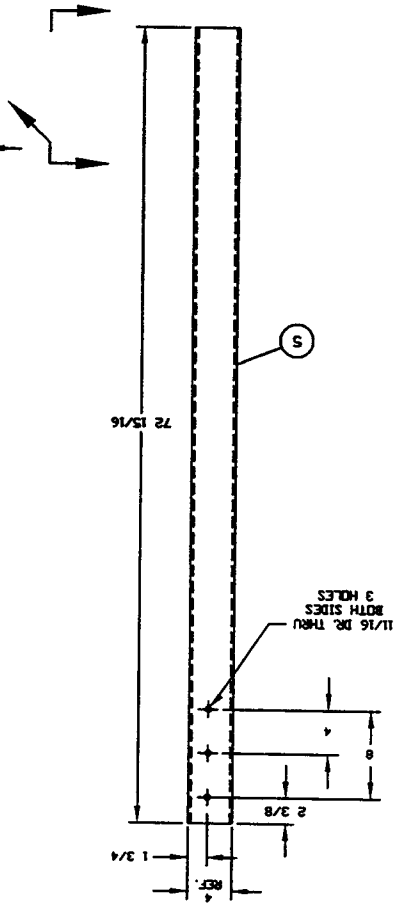
PROFESSIONAL ENGINEER
REGISTERED
15714
RAYMOND D. CIATTO
STATE OF WASHINGTON

DETAIL "1"
QTY. 1
MADE FROM V049MB66-1

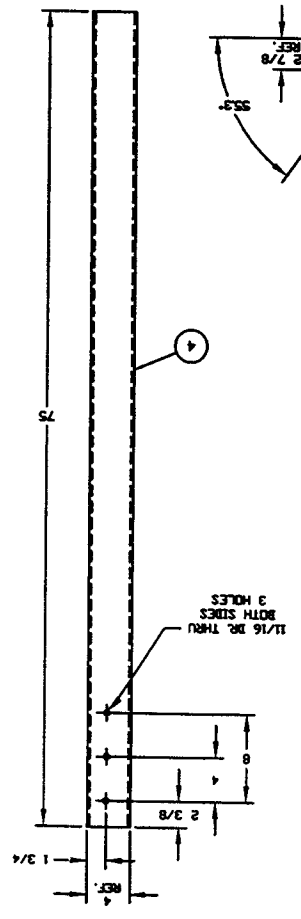




DETAIL "2"
QTY. 2
(1 AS SHOWN
1 OPP HAND)



DETAIL "3"
QTY. 2



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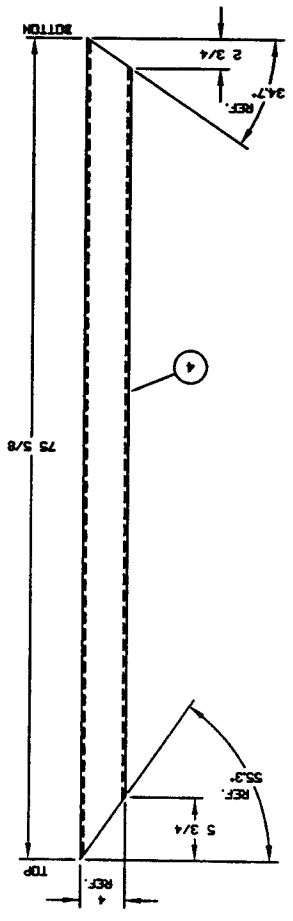
QTY. 2



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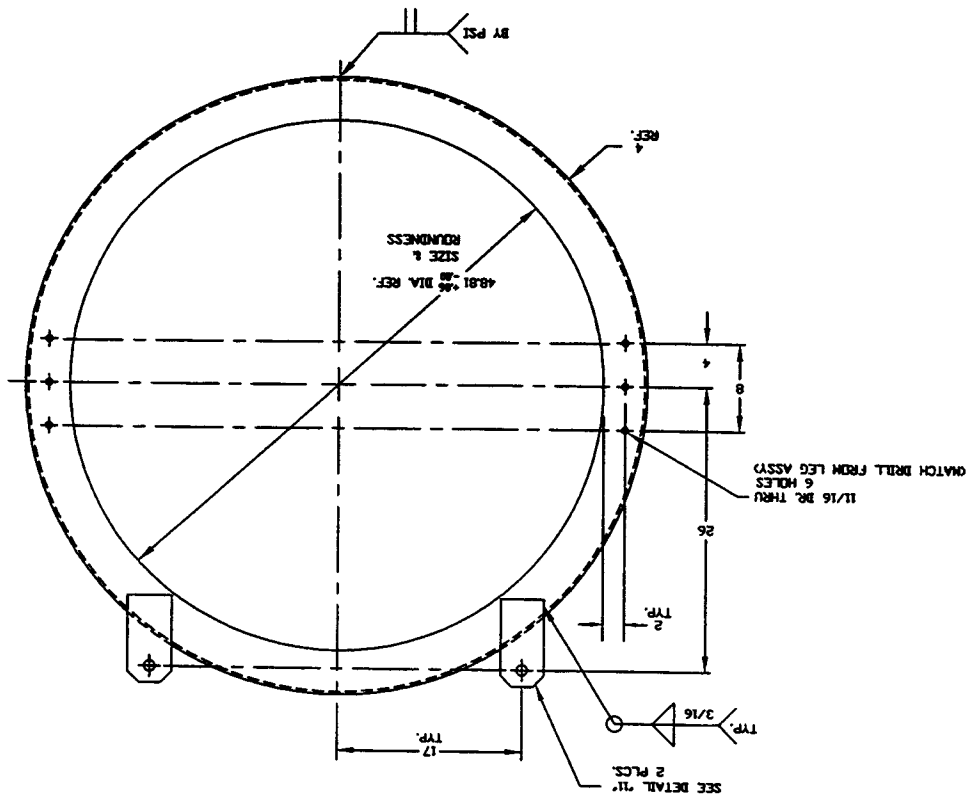
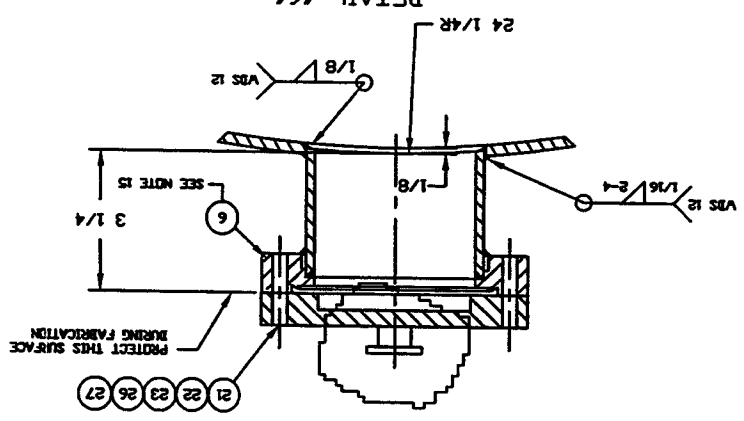


DETAIL "6"
QTY. 1



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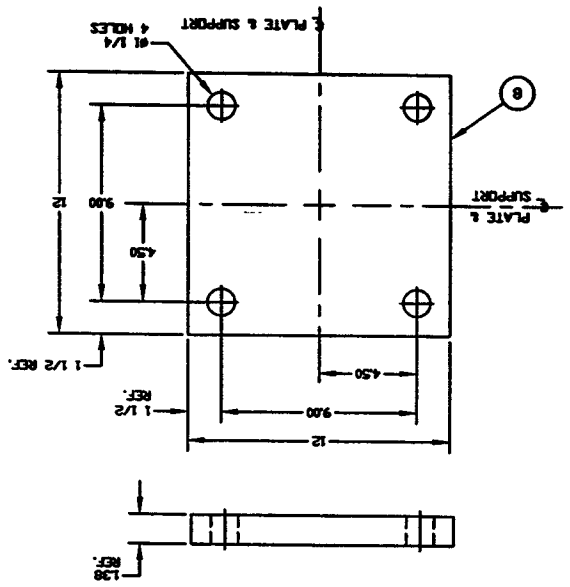
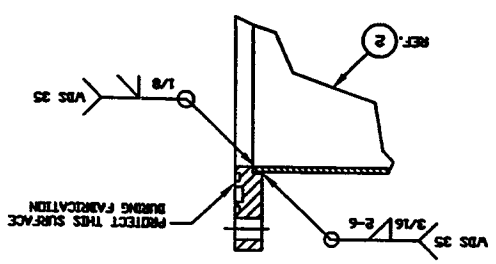
QTY. 4



DETAIL "8"
TYP. BOTH ENDS



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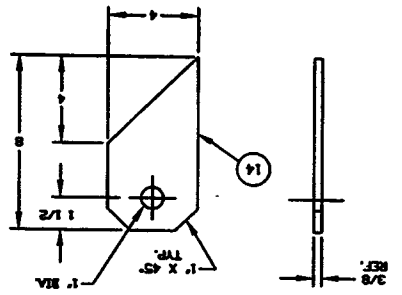
QTY. 4



STATE OF WASHINGTON
8/5/96
6/26/97