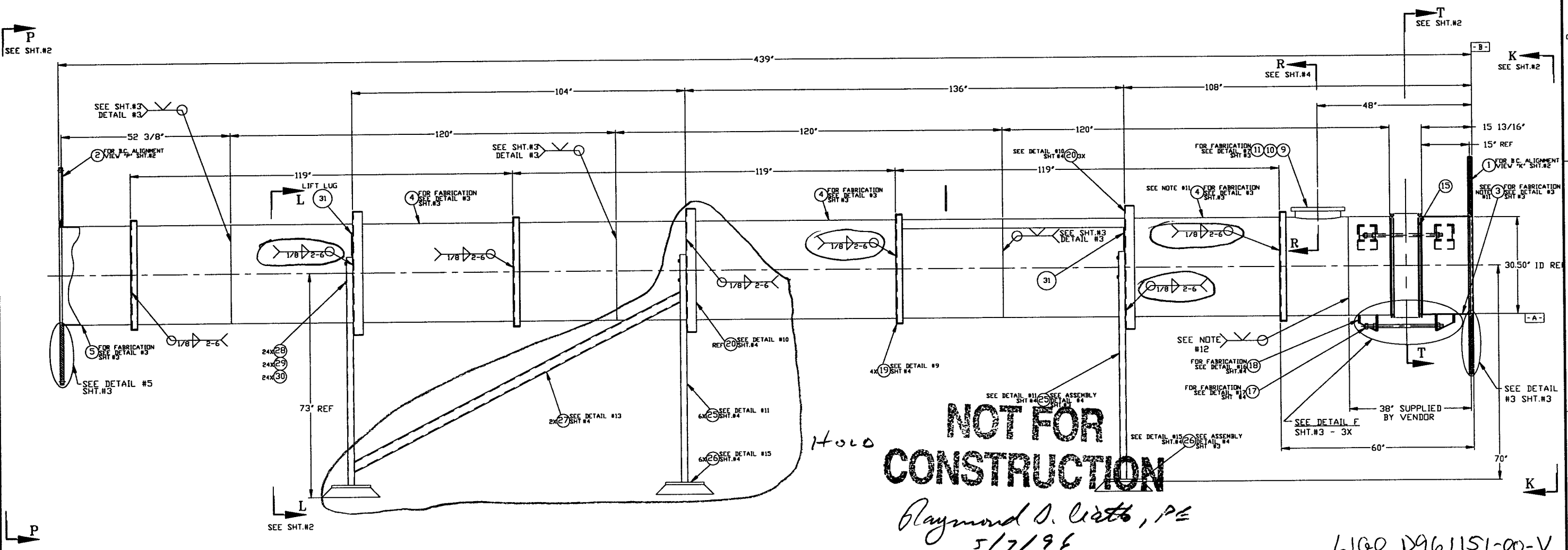


NOTES:

- REGISTERED TRADEMARK, VARIAN VACUUM PRODUCTS; COMPATIBLE ALTERNATIVES ARE ACCEPTABLE.
- THESE FLANGES EACH INCLUDE AN ANNULAR CHANNEL BETWEEN O-RINGS, MANIFOLD TO A SINGLE PUMPOUT PORT ON EACH CHAMBER, SEE DWG V049-4-057.
- FOR FLANGE DETAILS SEE DWGS. V049-4-056 & 057.
- SPOOL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-097.
- DO NOT USE CARBON STEEL BRUSHES OR BRUSHES CONTAMINATED WITH CARBON STEEL ON STAINLESS OR ALUMINUM MATERIAL.
- CLEAN PER SPEC. V049-2-015
- BOLT HOLES TO STRADDLE CENTERLINES AS SHOWN. +/- .015
- CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED.
- LEAK TEST & METHOD PER PSI SPEC. V049-2-014

ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION
1	V049-4-057	3	1		30.5 I.D. FLANGE DETAIL (GROOVED)
2	V049-4-056	3	1		30.50 I.D. FLANGE DETAIL (FLAT)
3	DETAIL #3	-	1		PLATE 96" X 28" X 1/4" THK 304L SST (BY VENDOR)
4	DETAIL #3	-	3		PLATE 96" X 120" X 1/4" THK 304L SST (BY VENDOR)
5	DETAIL #3	-	1		PLATE 96" X 40 3/16" X 1/4" THK 304L SST
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	1		FLANGE - CONFLAT 16.5
10	-	-	1		BLANK - CONFLAT 16.5" O.D.
11	DETAIL #7	-	1		TUBE - 14" OD X .25" THK 304L SST.
12	-	-	-	-	-
13	-	-	-	-	-
14	-	-	-	-	-
15	-	-	1		BELLOWS 10" WIDE (BY VENDOR)
16	-	-	12		NUT, HEX 1"-8UNC-2B 304 SST
17	DETAIL #18	-	3		ROD-THREAD 1/8"-8UNC X 27" LG. 304 SST (BY VENDOR)
18	DETAIL #16	-	3		LUG 6" X 6" X 5 THK SQ. TUBE 304 SST (BY VENDOR)
19	DETAIL #9	-	4		SUPPORT RING 2" X 2" X 1/4" THK ANGLE 304 SST.
20	DETAIL #10	-	3		SUPPORT RING 4" X 3" X 1/4" THK. ANGLE 304 SST
21	-	-	6		WASHER - 1.0 FLAT SST.
22	-	-	6		PLAT 4" X 3" X 3/8" THK SST.
23	-	-	-	-	-
24	DETAIL #14	-	2		POST- LEG 3" X 2" X 1/4" THK SQ. TUBE 304 SST.
25	DETAIL #11	-	4		LEG- LONG 3" X 2" X 1/4" THK SQ. TUBE 304 SST
26	DETAIL #15	-	4		PAD- LEG 4" X 12" X .75" THK. PLT. 304 SST
27	DETAIL #13	-	2		GUSSET - LEG 3" X 2" X 1/4" THK REC. TUBE 304 SST
28	-	-	24		BOLT-HEX 1/2"-13UNC X 3.5 LG. 303 SST
29	-	-	24		NUT-HEX 1/2"-13UNC 303 SST
30	-	-	24		WASHER - .5 FLAT 303 SST



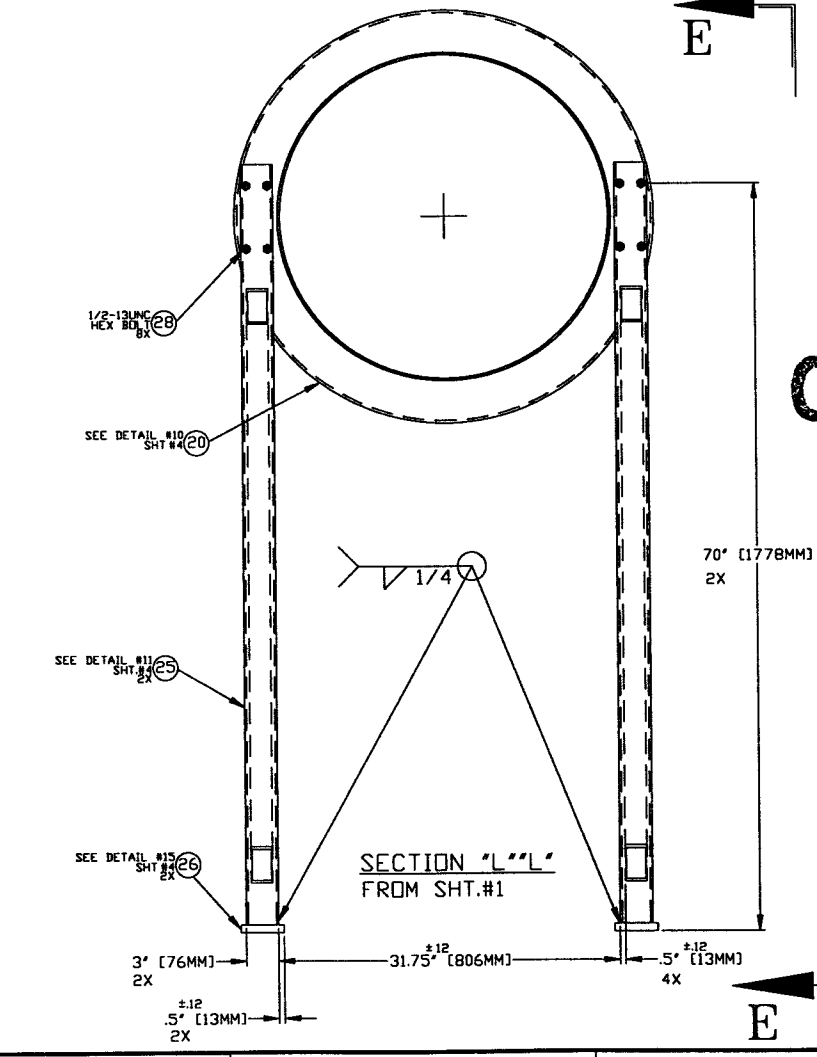
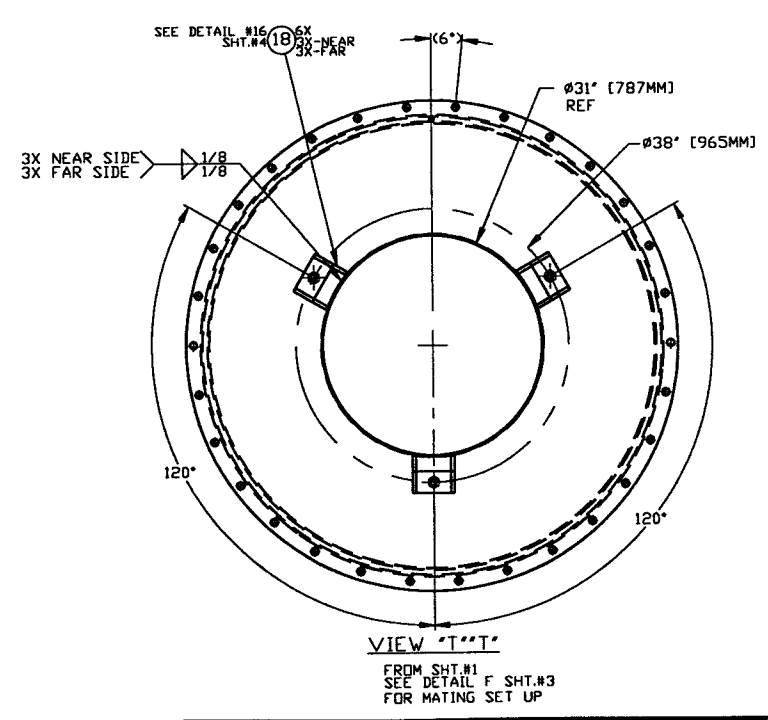
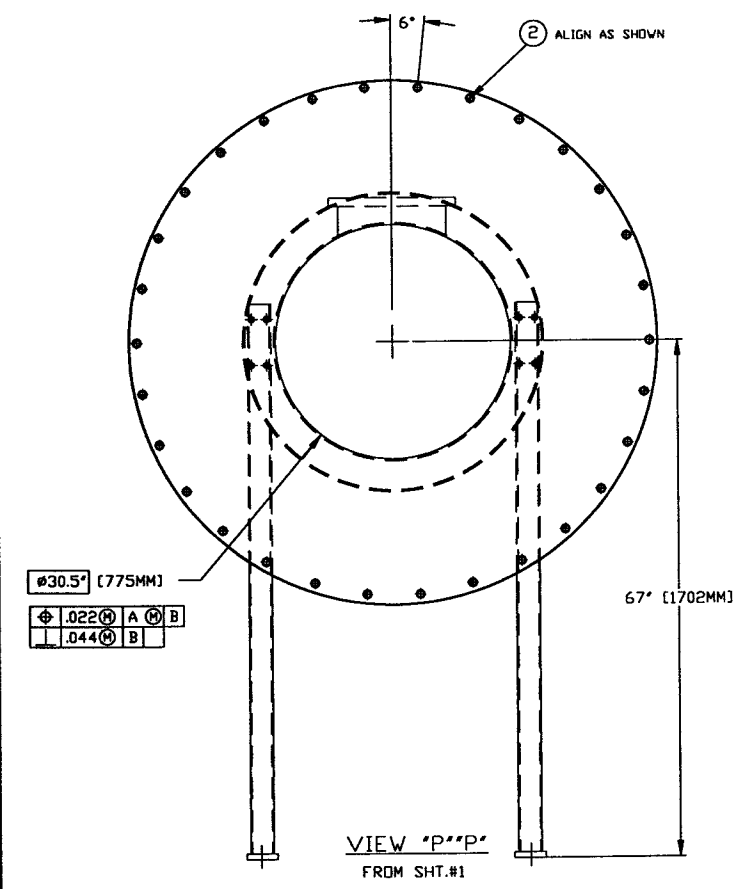
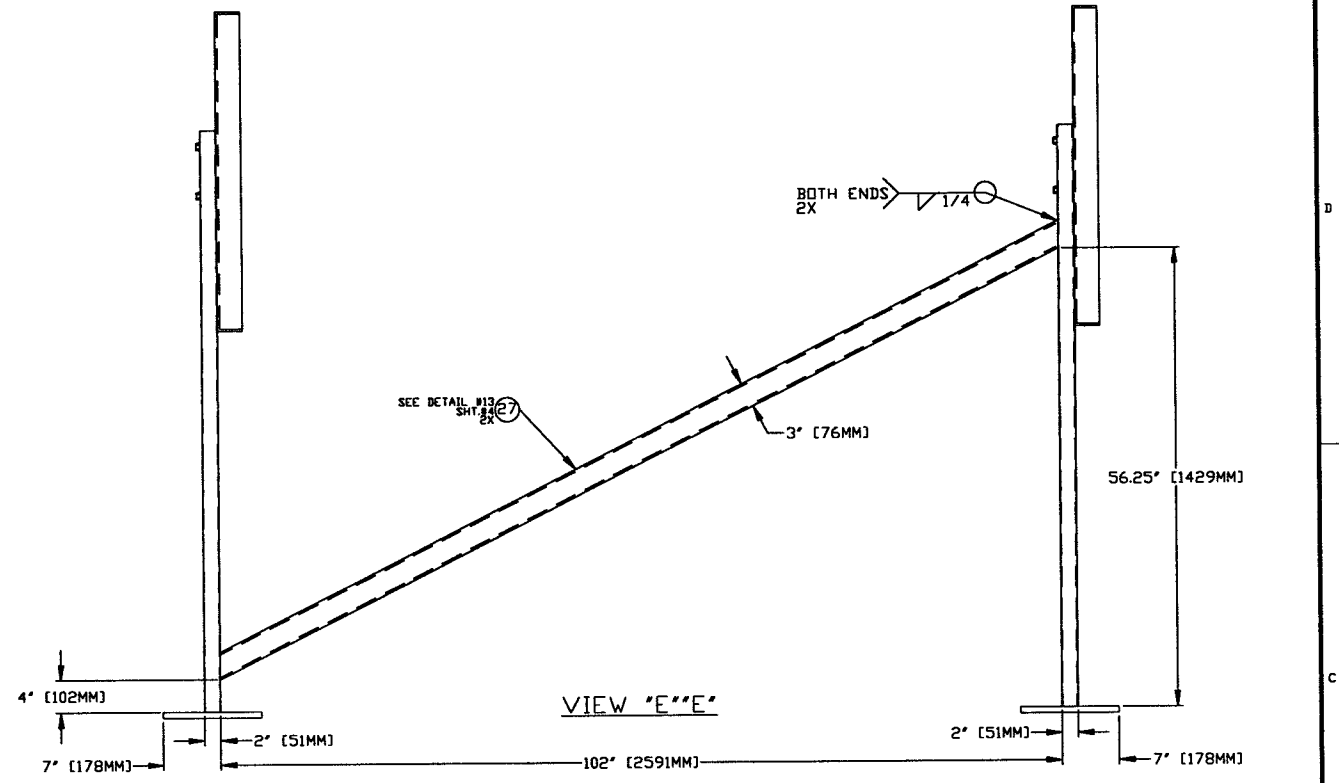
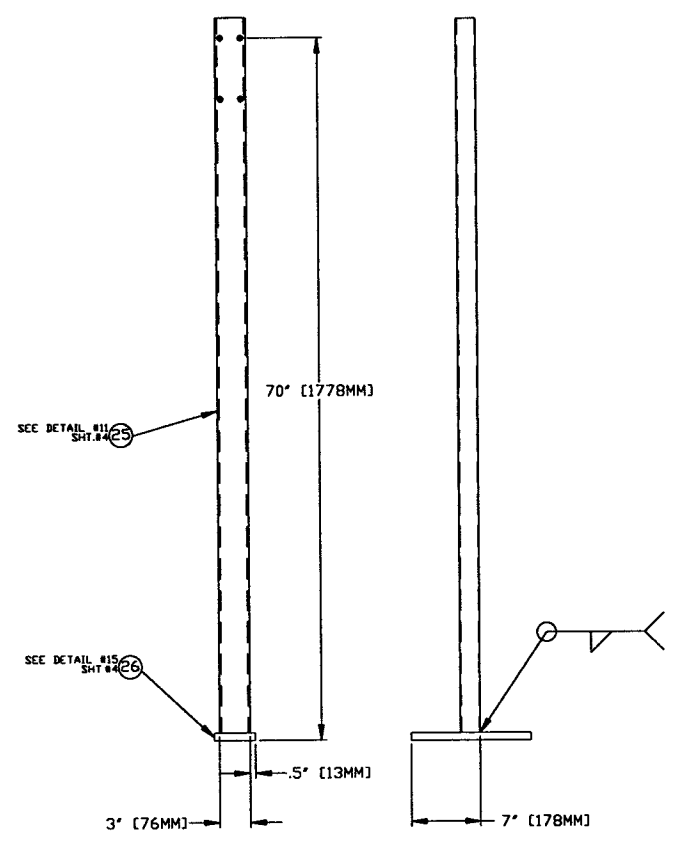
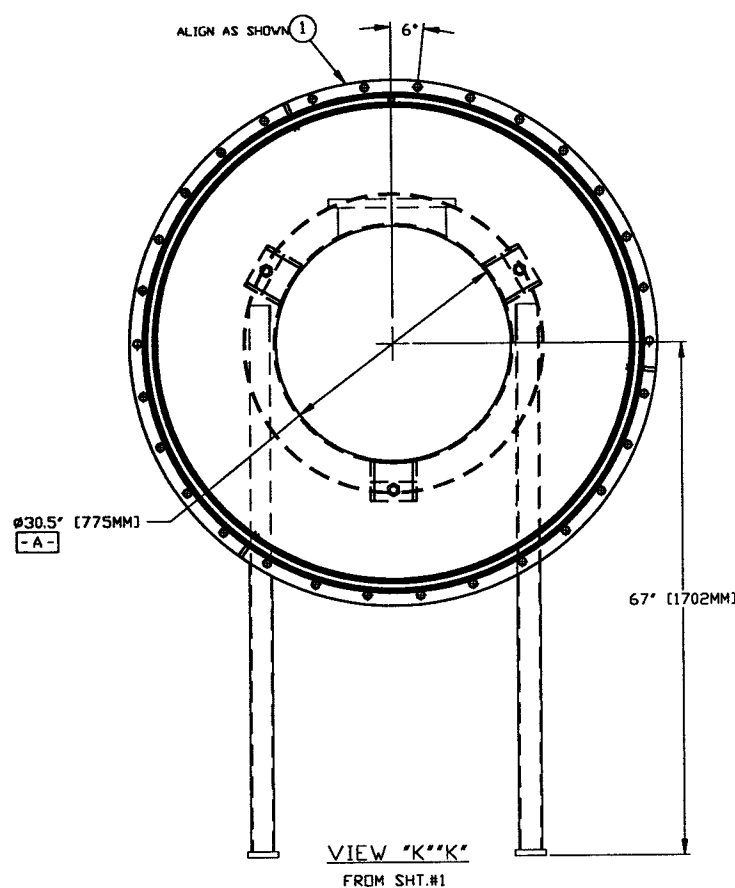
<p>THIS DRAWING IS THE PROPERTY OF PROCESS SYSTEMS INTERNATIONAL, INC. OR ITS AFFILIATED COMPANIES AND SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT WAS SUPPLIED. IT SHALL NOT BE COPIED, REPRODUCED OR OTHERWISE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN CONSENT OF PROCESS SYSTEMS INTERNATIONAL, INC. AND SHALL BE RETURNED UPON REQUEST.</p>		<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± .1 ANGULAR ± .02° BEND ± .02° TWO PLACE DECIMAL ± .015 THREE PLACE DECIMAL ± .005 FINISHED SURFACE RMS BREAK CORNERS IN OUT REMOVE ALL BURRS</p>		<p>DO NOT SCALE THIS DRAWING</p>		<p>ISSUED FOR FDR</p>		<p>TOV 4/27/96 0145</p>		<p>SCALE NONE</p>	
DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION	REV	DESCRIPTION	CHKD	DRWN	DATE	DEGN	SCALE	SHEET
	REFERENCE DRAWINGS				ISSUE DESCRIPTION					NONE	1 OF 4

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

SPPOOL B-2A  
30.50" ID x 60.50" ID  
MODE CLEANER TUBE  
LIGO VACUUM EQUIPMENT

CAD FILE: V0494B2A/494B2AS1  
SIZE: B  
DWG. NO.: V049-4-B2A  
REV: 0

MAY 06, 1996 - 0955231



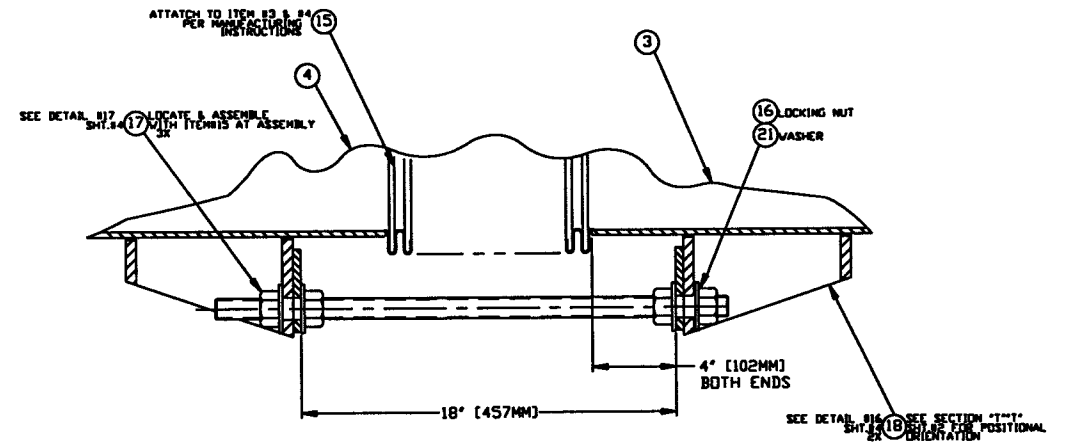
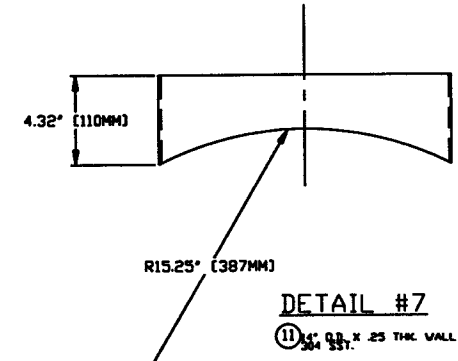
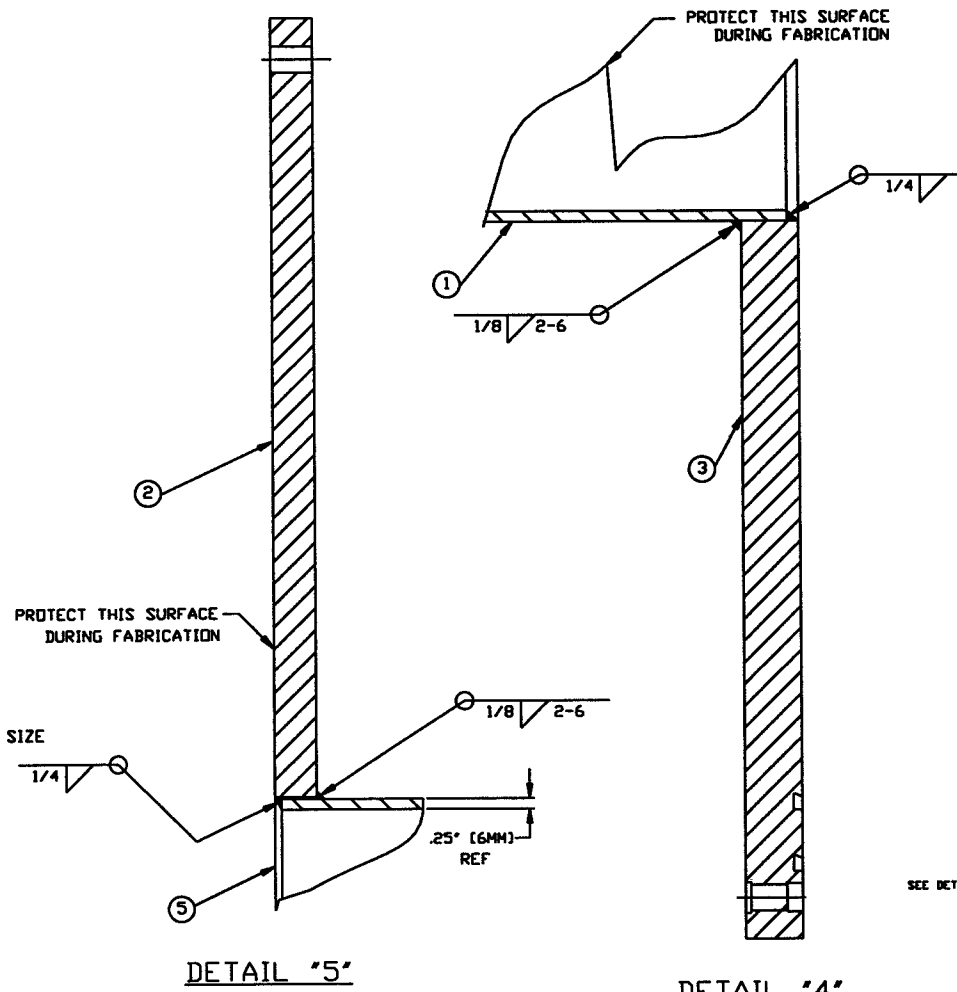
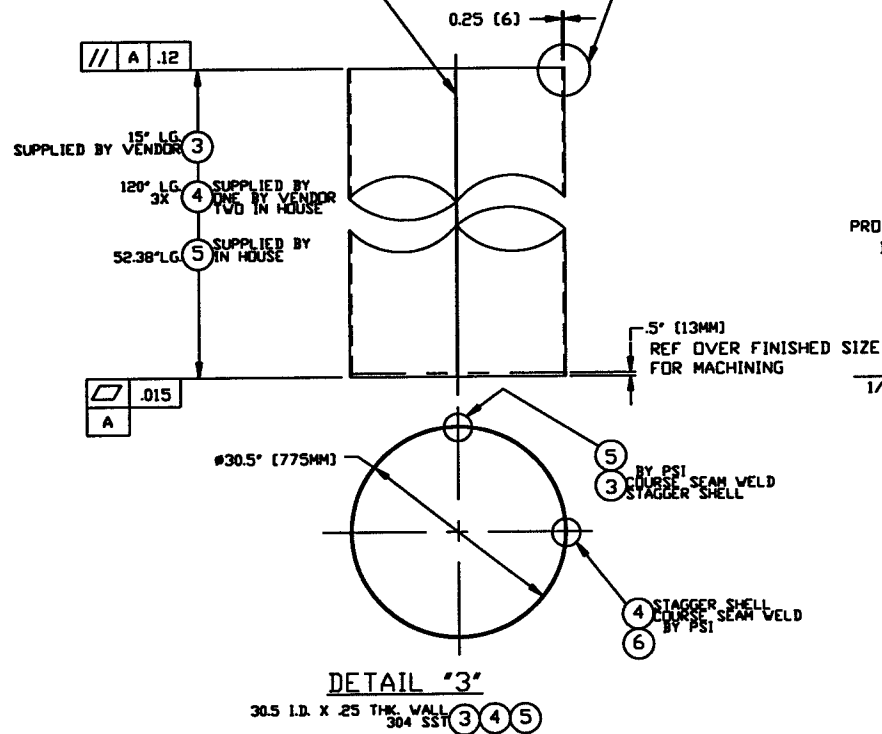
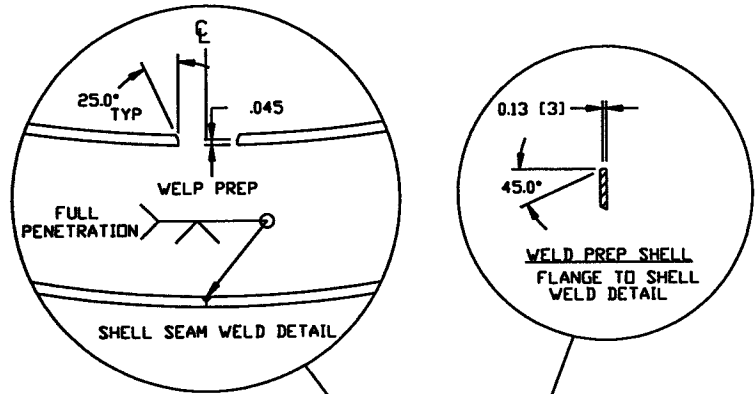
**NOT FOR CONSTRUCTION**

*Raymond A. Latta, P.E.*  
5/7/96

**Hold**  
LIGO D961151-00-V

<b>PROCESS SYSTEMS INTERNATIONAL INC.</b> 20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
SPOOL B-2A 30.50" ID x 60.50" ID MODE CLEANER TUBE LIGO VACUUM EQUIPMENT			
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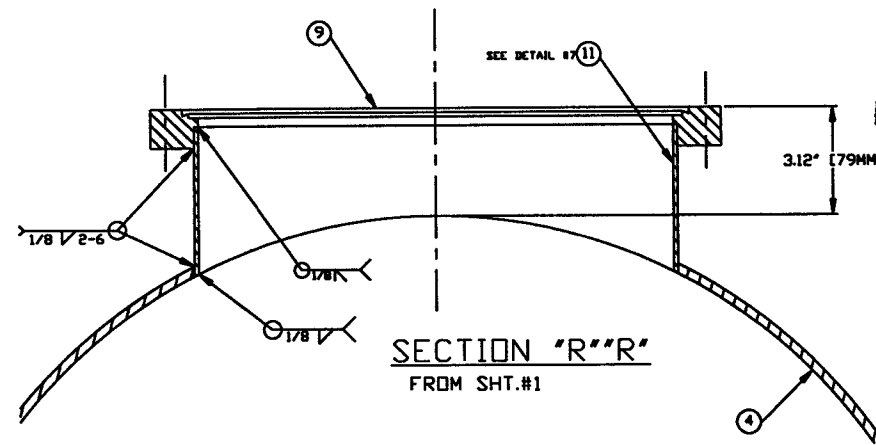
May 06, 1996 - 093459



FROM SHT.#1  
SEE SECTION "T" SHT.#2 FOR CLOCKING  
3X

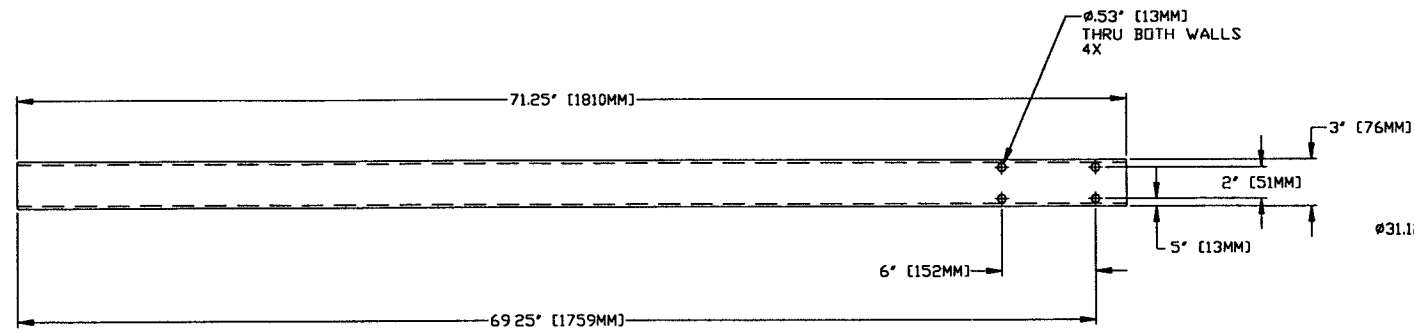
**NOT FOR CONSTRUCTION**

*Raymond S. Ciatt, P.E.*  
5/7/96 LIGO 0961151-000



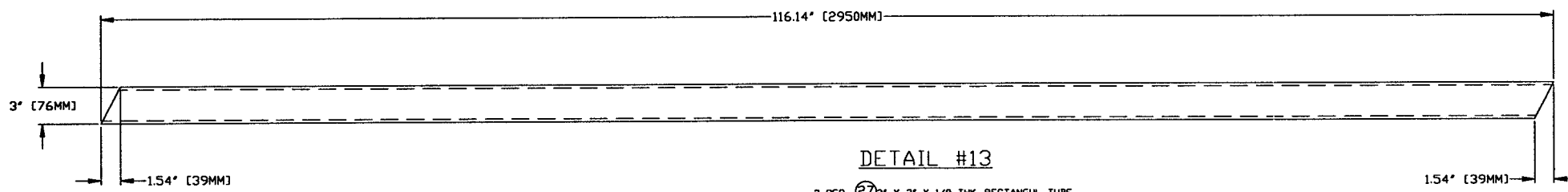
<b>PROCESS SYSTEMS INTERNATIONAL INC.</b> 20 WILLOW DR. WESTBOROUGH, MASSACHUSETTS 01581 USA			
SPOOL B-2A 30.50" ID x 60.50" ID MODE CLEANER TUBE LIGO VACUUM EQUIPMENT			
CAD FILE	SIZE	REV. NO.	REV.
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SCALE	AS NOTED	SHEET	3 OF 4

May 07, 1996 - 140322



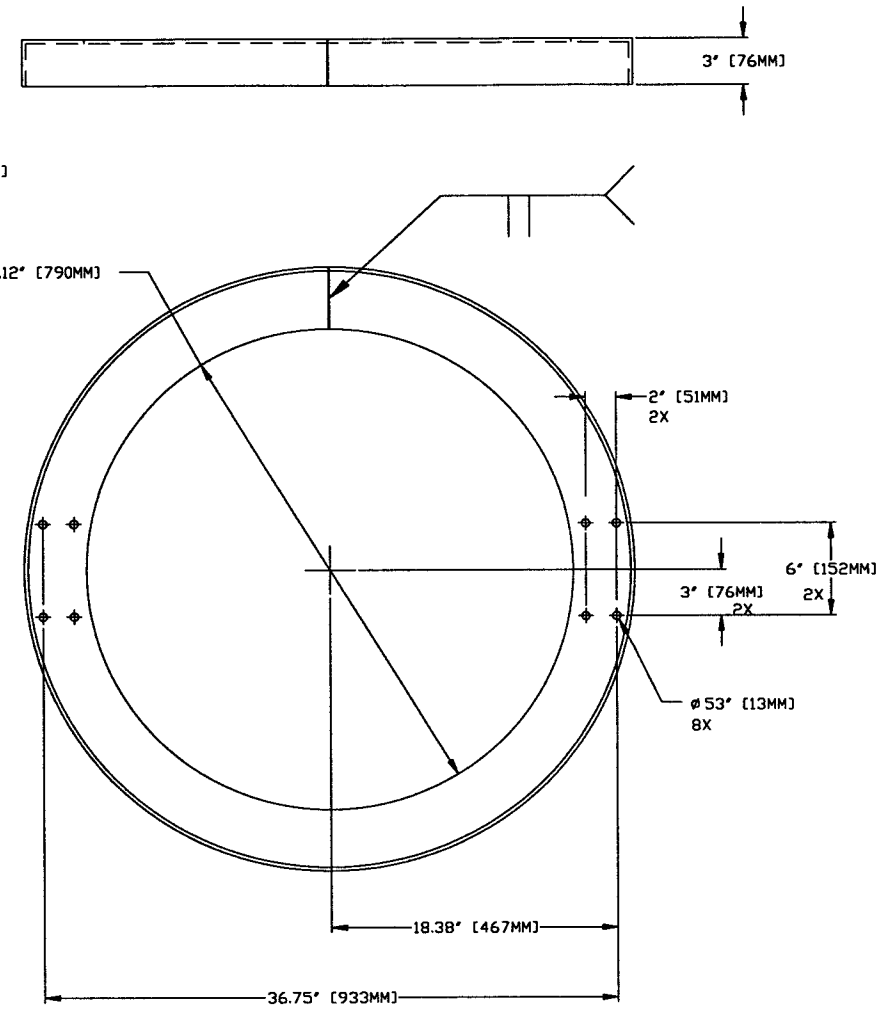
DETAIL #11

4 REQ (25) 2" X 3" X 1/8 THK. RECTANG. TUBE  
304 SST



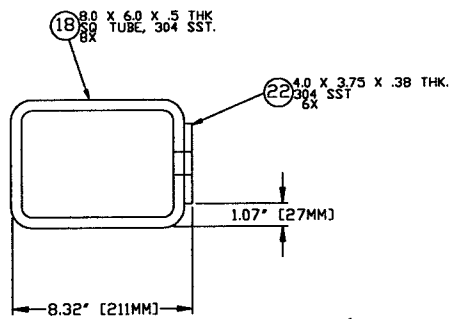
DETAIL #13

2 REQ (27) 2" X 3" X 1/8 THK. RECTANG. TUBE  
304 SST



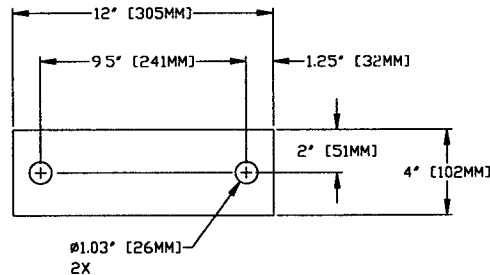
DETAIL #10

3 REQ (20) 3" X 3" X 1/4 THK ANGLE  
ROLL AS SHOWN  
304 SST



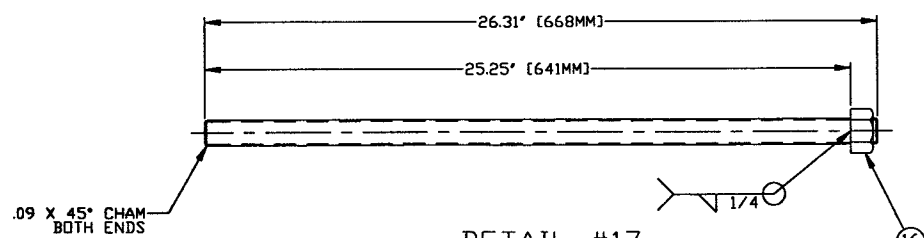
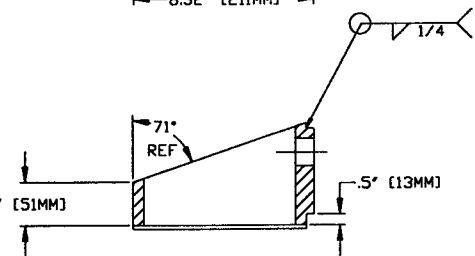
DETAIL #16

(18) 8.0 X 6.0 X .5 THK  
304 TUBE, 304 SST.  
(22) 4.0 X 3.75 X .38 THK  
304 SST.



DETAIL #15

4 REQ (26) 1/2" X 1/2" X 3/4 THK PLT  
304 SST



DETAIL #17

3 REQ (17) 1" ROD-THREAD 1"-BUNC  
304 SST



DETAIL #9

4 REQ (19) 3" X 3" X 1/4 THK ANGLE  
ROLL AS SHOWN  
304 SST

**NOT FOR  
CONSTRUCTION**

*Raymond D. Watts, PE*  
5/7/96

14045  
LIGO D90151-00M

<b>PROCESS SYSTEMS INTERNATIONAL INC.</b> 20 WALKUP DR., WESTBOROUGH, MASSACHUSETTS 01581 USA			
SPOOL B-2A 30.50" ID x 60.50" ID MODE CLEANER TUBE LIGO VACUUM EQUIPMENT			
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Apr 27, 1996 - 145047