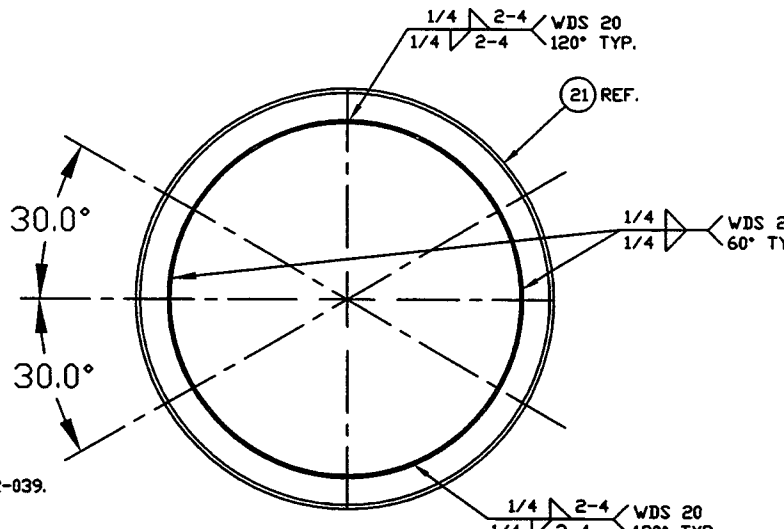


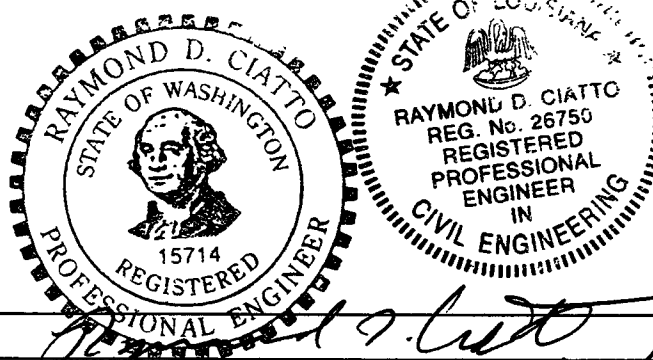
NOTES:

- EACH SHELL IS TO BE MARKED WITH THE PSI PART NO. AS SHOWN WITH THE SHELL ITEM NO.
- FLANGE INCLUDES AN ANNULAR CHANNEL BETWEEN D-RINGS
- 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 OF ALL FLANGES TO STRADDLE VERTICAL CENTERLINE. +/- .015
- CERTIFIED MANUFACTURER'S MATERIAL TEST REPORTS REQUIRED AS NOTED.
- LEAK TEST & METHOD PER PSI SPEC. V049-2-014
- THE CENTERLINES OF ALL SHELLS AND FLANGES ARE TO LIE ON THE COMMON CENTERLINE WITHIN ± 1/16.
- TIGHTEN TIE-ROD NUTS WITH BELLOWS IN 'FREE' POSITION TO 100 FT-LB PRIOR TO LEAK TEST
- MACHINING & ROLLING PER SPEC V049-2-136.
- PLATES PRIOR TO ROLLING MUST HAVE DIAGONAL CORNER TO CORNER DIMENSIONS WITHIN 1/16" OF EACH OTHER.
- EACH FINISHED SHELL ASSY. SET IS TO HAVE EACH OF THE PIECES MARKED WITH THE SAME SET NO. AND SHIPPED TOGETHER. THE NUMBER IS TO BE MADE FROM THE DRAWING NO. PLUS SEQUENTIAL LETTER. V0494B2B-A, B ETC.
- STRUCTURAL STEEL FABRICATION TO BE IN ACCORDANCE WITH SPEC. V049-2-039.
- CONFLAT FLANGES ARE TO HAVE PROTECTIVE COVERS AT ALL TIMES DURING & AFTER MANUFACTURING.
- WDS NO'S. REFER TO WELD DATA SPEC. V049-2-084.

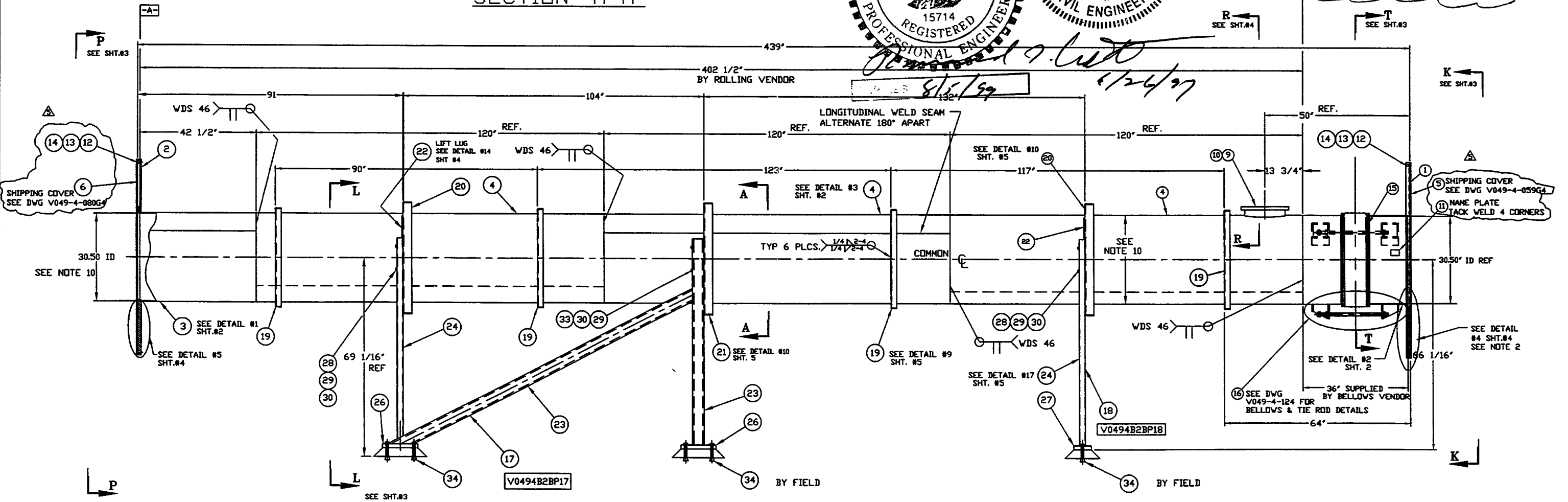


ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION
21	V049M821		1	EA	SUPPORT RING, 3"x3"x3/8" THK. ANGLE 304 SST
22	V049M852		3	FT	FLAT BAR, 4" X .38" THK SST 304
23			1	35 FT	4"x4"x1/2" TS A500 GR-B
24			1	25 FT	TUBE, RECT. 3"x 2"x 3/16" THK A500 GR-B
25					
26			3	4 FT	FLAT BAR, 12"x 1 3/8" A36
27			3	2 FT	FLAT BAR, 6"x 1 3/8" A36
28	V049M753		3	12 EA	BOLT, HEX, 5/8-11UNC x 3 1/2 LG. A325
29	V049M755		3	18 EA	NUT, HEX, 5/8-11UNC, A325
30	V049M773		3	18 EA	WASHER, LOCK, 5/8 A325
31	202670		3	1 EA	GASKET, OFHC, CONFLAT 16 1/2" OD
32	V049M780		36	EA	BOLT, 18-8 SST, HEX HD, 3/8-16x3" LG.
33	V049M759		3	6 EA	BOLT, HEX, 5/8-11UNC x 5 1/2 LG. A325
34			20	EA	BOLT, ANCHOR, HILTI HVA 1"x8 1/4" EMBEDM
35					
36	V049M783		36	EA	NUT, SILICON BRZ. HEX 3/8"-16
37	V049M786		72	EA	WASHER, 18-8 SST, FLAT 3/8"

ITEM	PART NUMBER	SUFFIX	QTY	UM	DESCRIPTION
1	V0494057		1	EA	30.5 ID x 60.5 ID FLANGE (GROOVED)
2	V0494056		1	EA	30.5 ID x 60.5 ID FLANGE (FLAT)
3	V0494B2BP3A		1		SHELL 1/4" THK 304/304L SST.
4	V0494B2BP4		3		SHELL 1/4" THK 304/304L SST
5	V0494059G4		1	EA	SHIPPING COVER ASSY
6	V0494080G4		1	EA	SHIPPING COVER ASSY
7	V0494022		1	EA	TIE-RING, VITON (PER SPEC V049-2-045)
8	V0494023		1	EA	TIE-RING, VITON (PER SPEC V049-2-045)
9	V049M308		3	1 EA	HALF NIPPLE, SST 304L, CONFLAT 16 1/2" OD
10	202666		3	1 EA	BLANK, CONFLAT 16.5" OD SST 304L
11	V049M740		1	EA	PSI NAME PLATE, 2" X 3"
12	202678		3	60 EA	BOLT, SAI93 B7, HEX HD 7/8-9UNCx4LG
13	202679		3	60 EA	NUT, SAI94 B7, HEX HD 7/8-9UNC
14	202581		3	150 EA	WASHER, STL, 1 3/4" OD x 15/16" ID x 1/4" THK
15	V0494B2BP1		1		BELLOWS ASSY. (PER SPEC V049-2-017)
16	***		3	EA	TIE-ROD ASSY. (PER V049-4-124)
17	V0494B2BP17		2	EA	SUPPORT ASSEMBLY
18	V0494B2BP18		2	EA	SUPPORT ASSEMBLY
19	V049M815		1	4 EA	SUPPORT RING 2" X 2" X 1/4" THK ANGLE 304 SST.
20	V049M820		1	2 EA	SUPPORT RING 3" X 3" X 1/4" THK ANGLE 304 SST.



SECTION "A-A"



TAG NO. WB-2B

APPROX. WEIGHT: 6358

PROPRIETARY AND CONFIDENTIAL
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION BELONGING TO 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, NOR SHALL SUCH INFORMATION BE FURNISHED IN WHOLE OR IN PART TO OTHERS EXCEPT IN ACCORDANCE WITH THE TERMS OF ANY AGREEMENT UNDER WHICH IT WAS SUPPLIED OR WITH THE PRIOR WRITTEN CONSENT OF PROCESS SYSTEMS INTERNATIONAL, INC. AND SHALL BE RETURNED UPON REQUEST.

DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± .01
DECIMAL .005 - .009 ± .005
TWO PLACE DECIMAL ± .01
THREE PLACE DECIMAL ± .005
FINISHED SURFACE THIS SIDE
BREAK CORNERS IN
REMOVE ALL BURRS
DO NOT SCALE THIS DRAWING
USED ON:
NEXT ASSY:

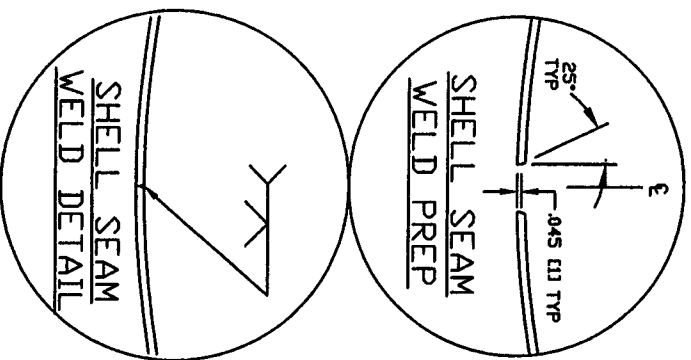
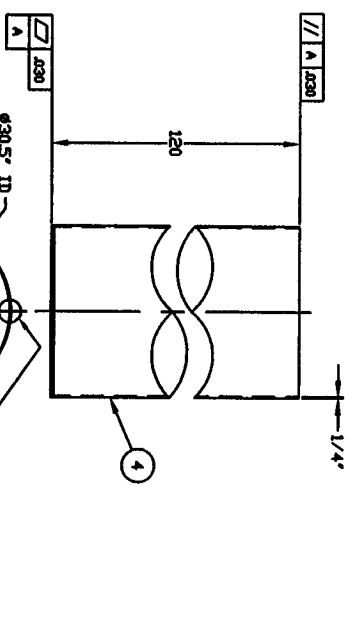
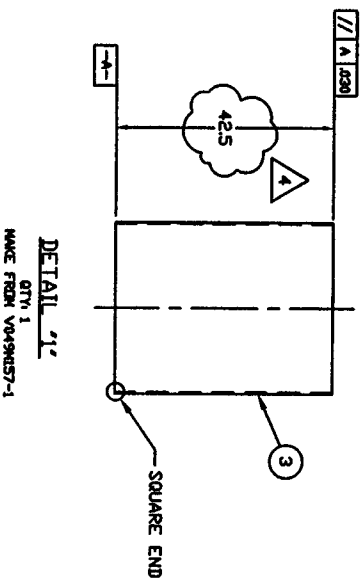
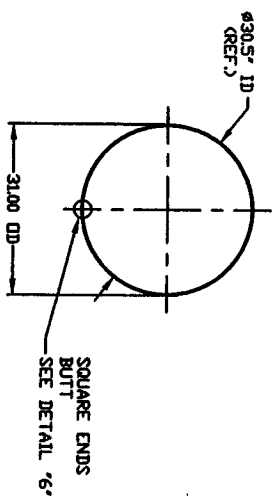
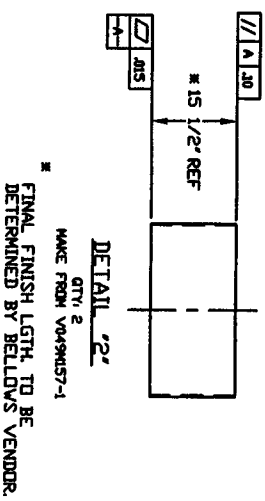
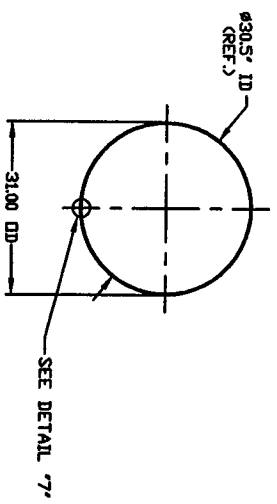
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3	DESIGN UPDATE/ISSUE FOR FABRICATION	DMW	PEF	RDC	GS	REC	12/2/96 0373
2	FABRICATION (SHELL ONLY)			RDC	GS	REC	PV 10/1/96 0283
1	DESIGN UPDATE/FABRICATION (BELLOWS ASSY. ONLY)			RDC	REC	SM	DA 9/11/96 0191
0	ISSUED FOR FDR			DMW	RDC	REC	TDV 4/27/96 0145

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

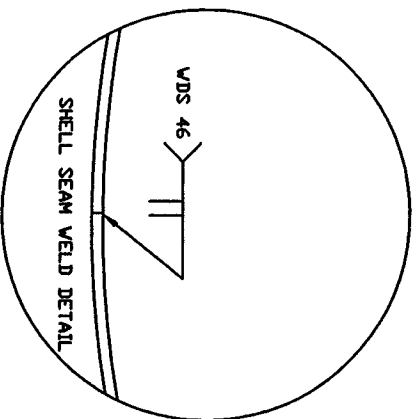
SPOOL B-2B
30.50" ID x 60.50" ID
MODE CLEANER TUBE
LIGD VACUUM EQUIPMENT

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DWG. NO.: V049-4-B2B
REV: 5

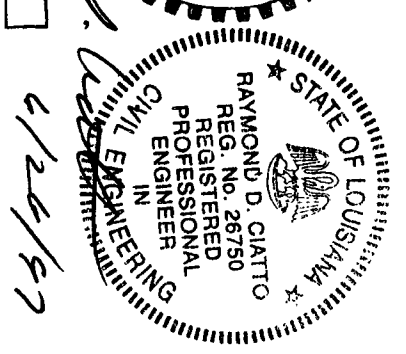
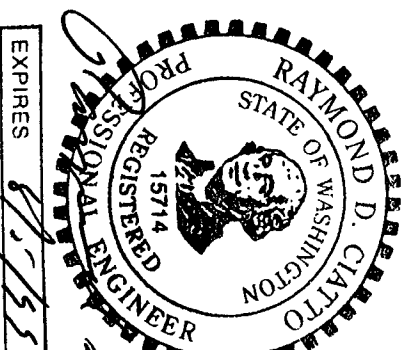
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SHEET: 1 OF 5



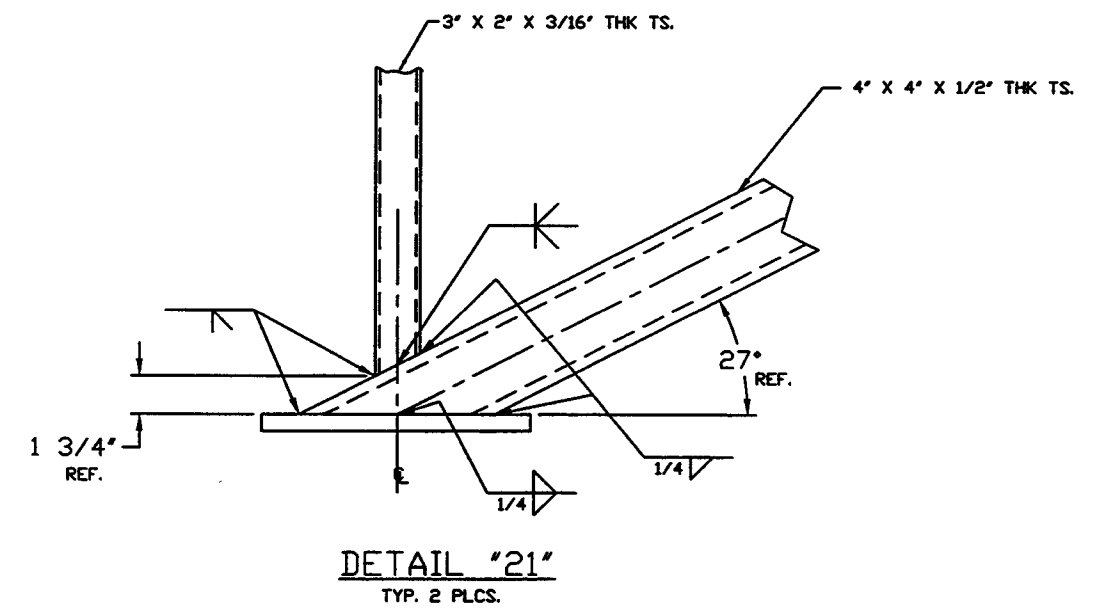
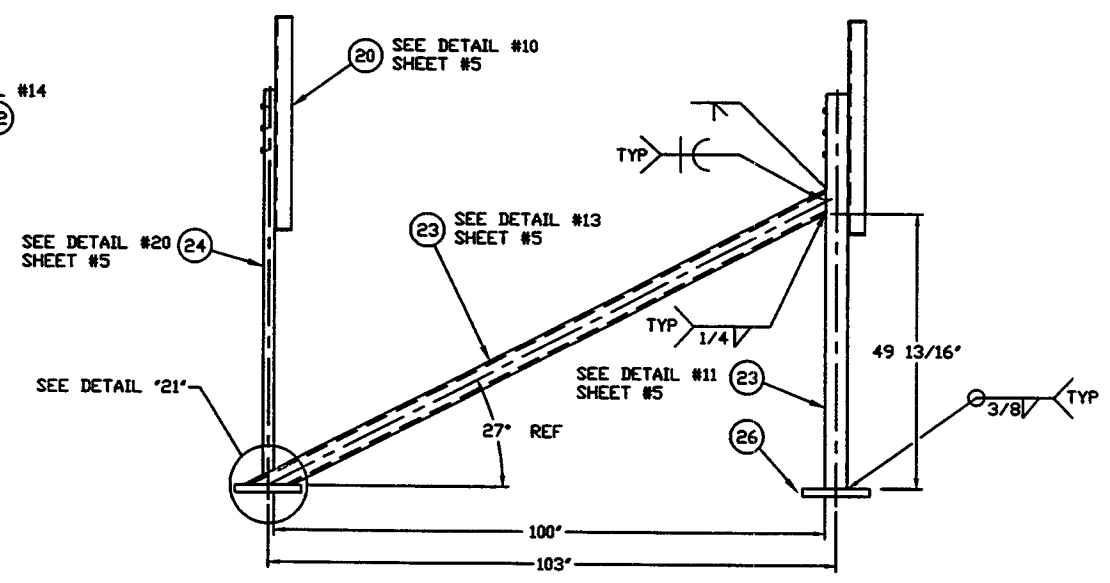
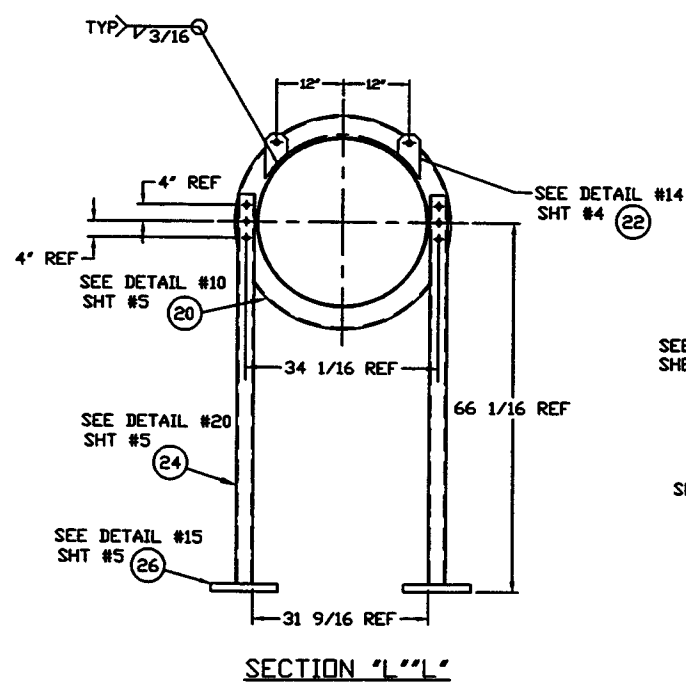
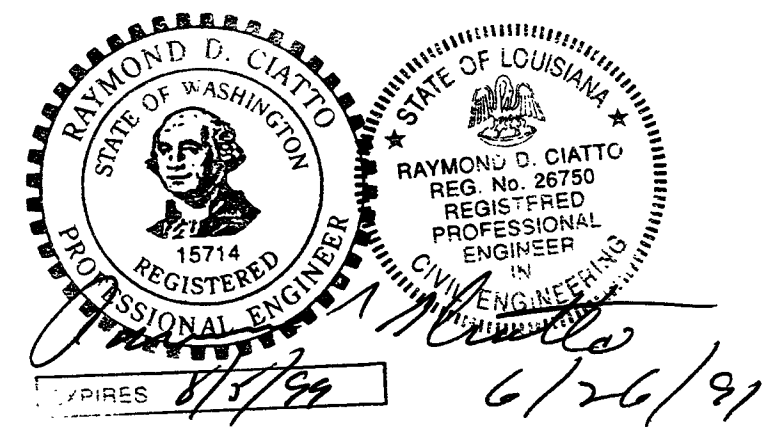
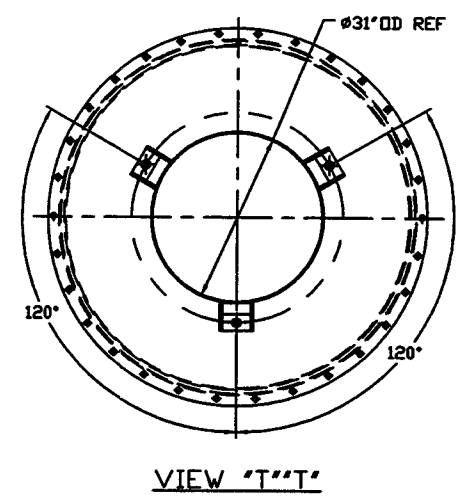
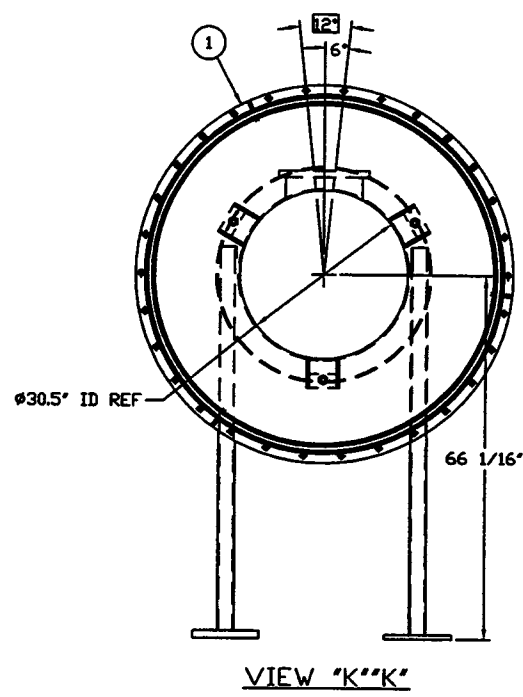
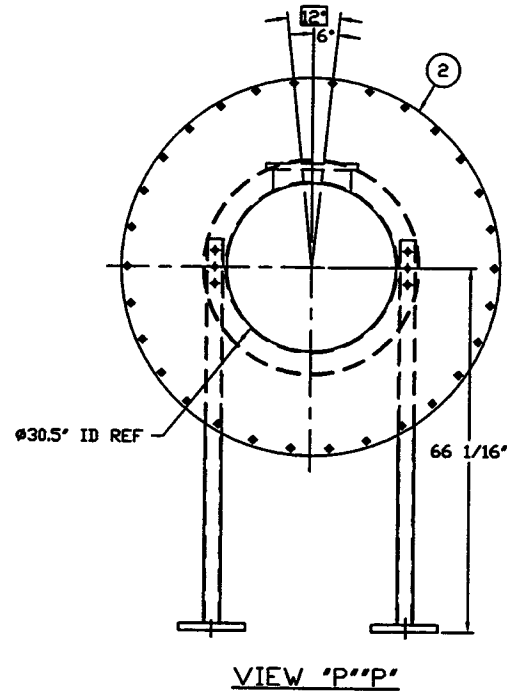
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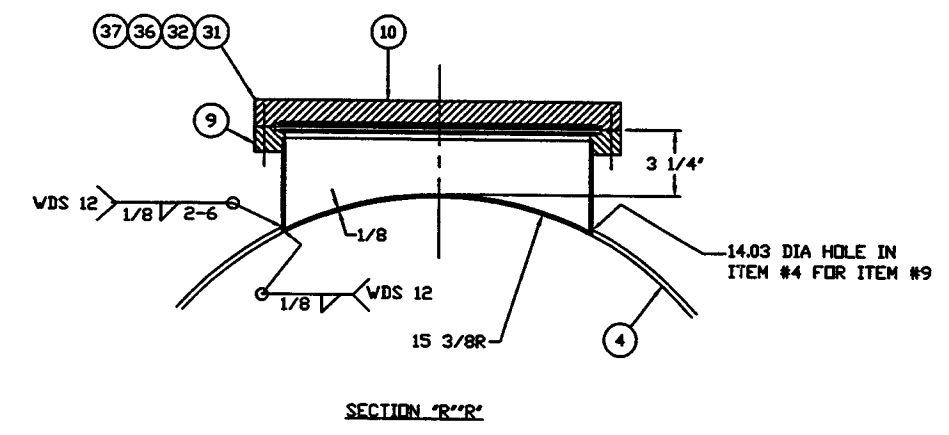
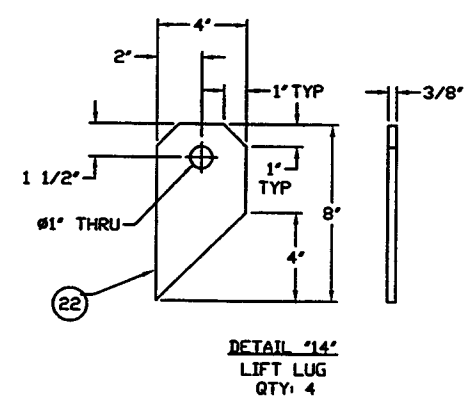
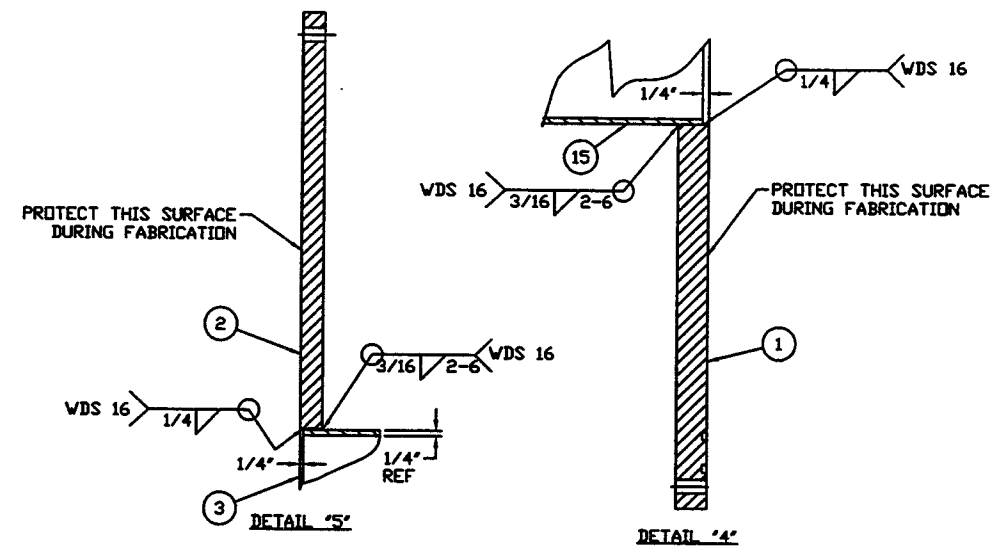
DETAIL '6'



PROCESS SYSTEMS INTERNATIONAL, INC.	
30.50" I.D. x 60.50" I.D.	
MIDE CLEANER TUBE	
LIGD VACUUM EQUIPMENT	
SCALE	1/4" = 1'-0"
NO.	V049B23/24/25/26
REV.	D
DATE	11/24/82
BY	V049-4-B2B
CHKD	
DATE	
SCALE	2 OF 5



PROCESS SYSTEMS INTERNATIONAL INC. <small>20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</small>			
SPOOL B-2B 30.50"ID x 60.50"ID MODE CLEANER TUBE LIGO VACUUM EQUIPMENT			
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<small>SCALE</small> 1/16	<small>SHEET</small> 3 OF 5	<small>Mar 19, 1997 - 17:06:57</small>	



RAYMOND D. CIATTO
STATE OF WASHINGTON
REGISTERED ENGINEER
15714

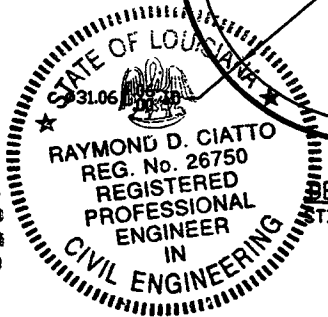
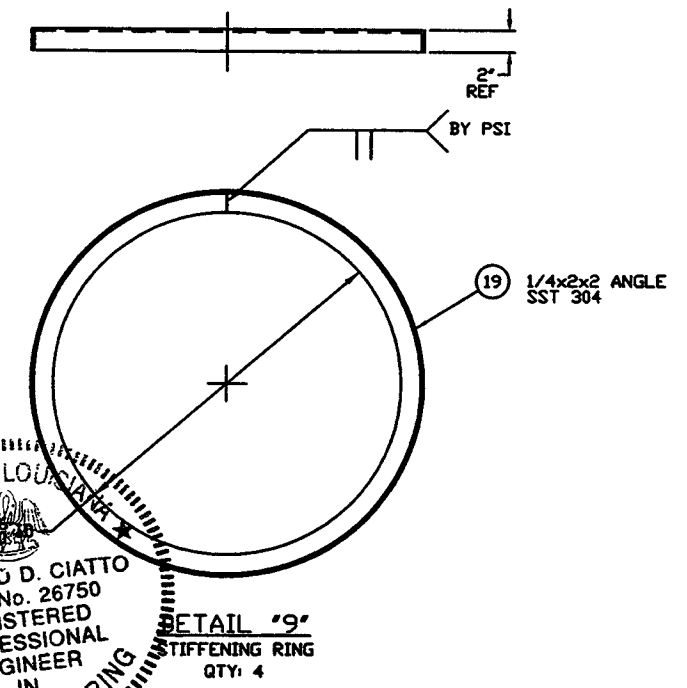
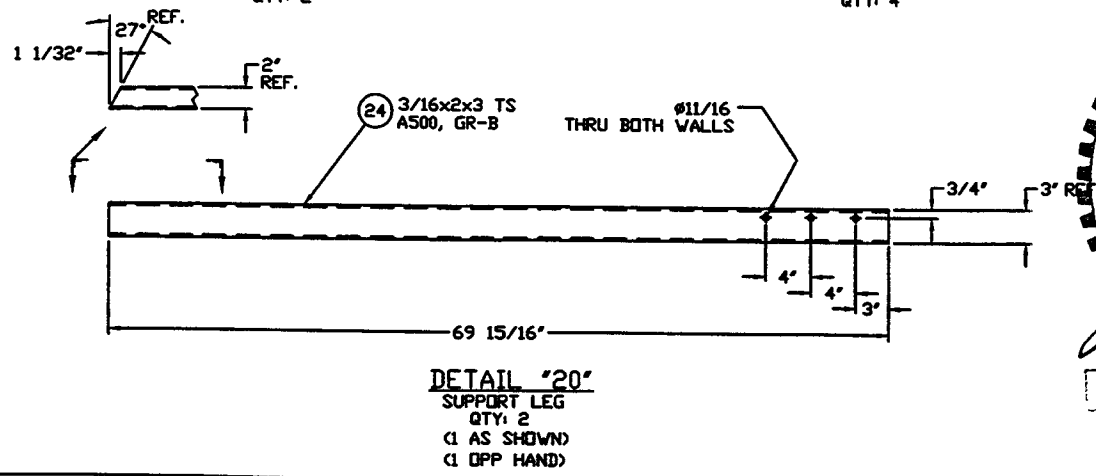
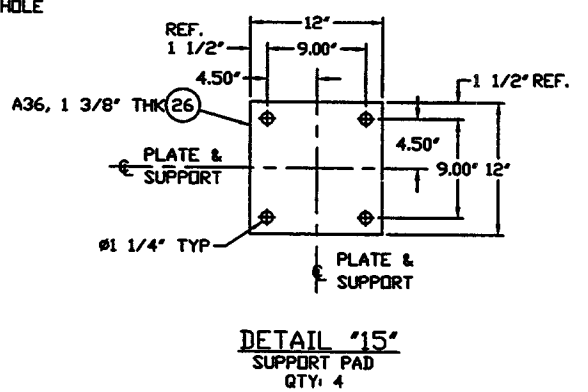
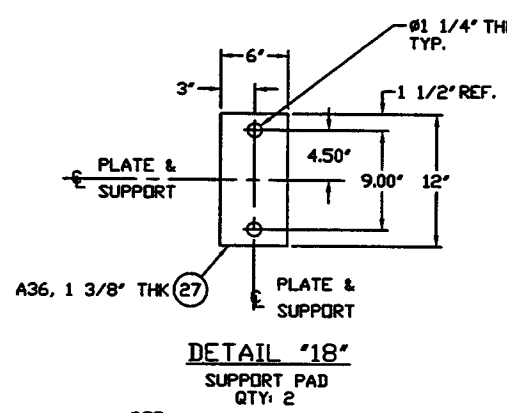
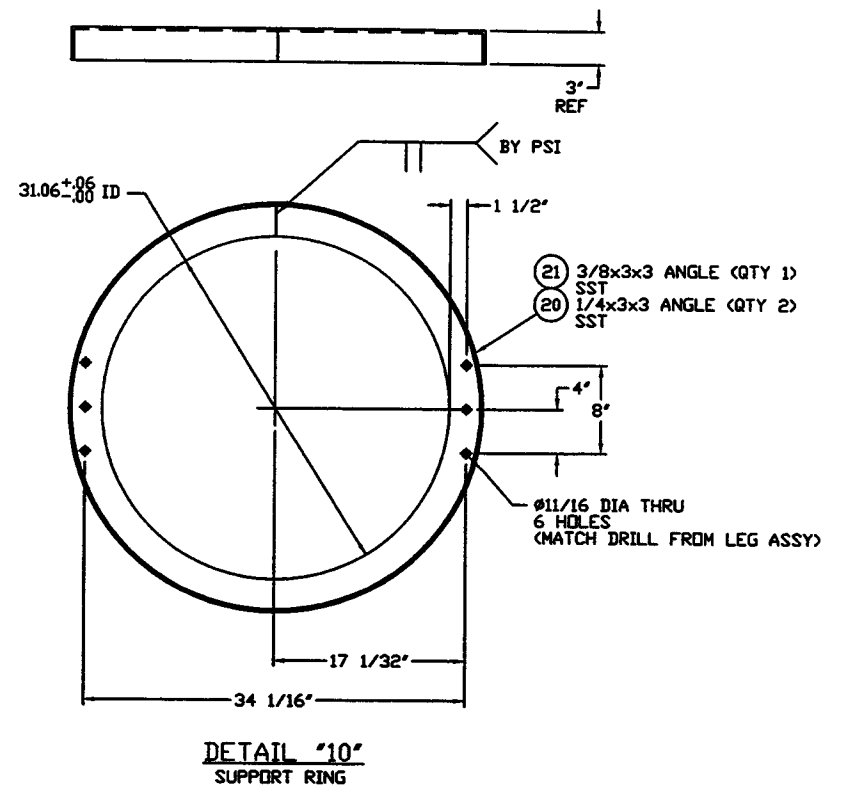
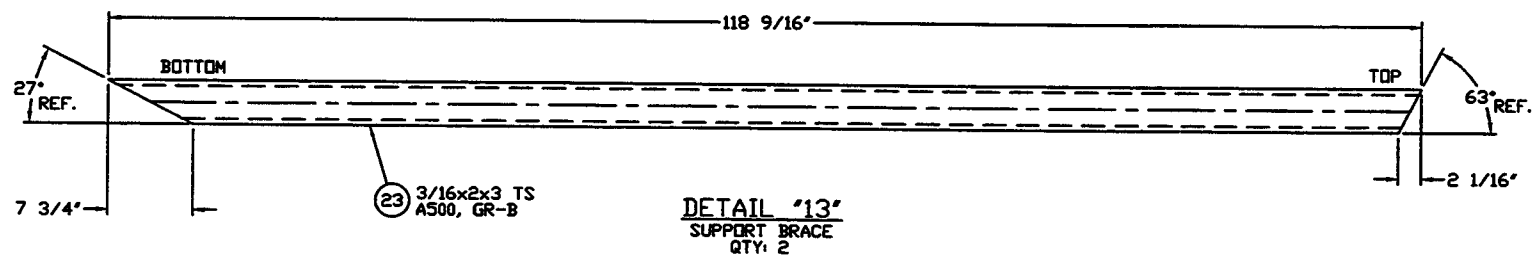
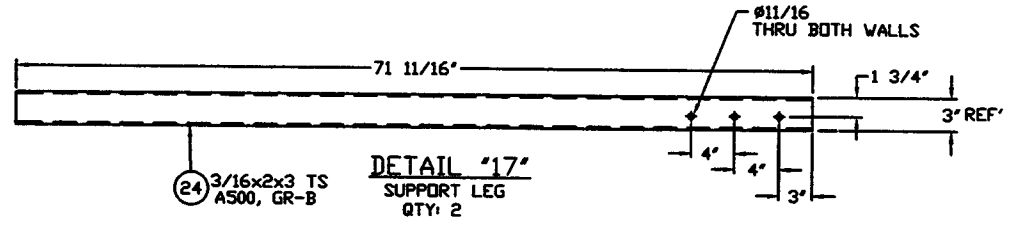
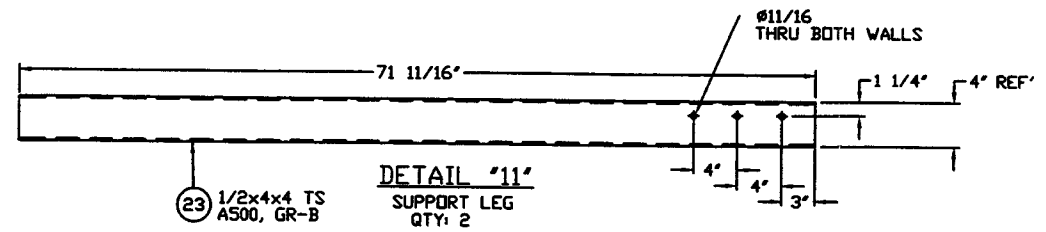
STATE OF LOUISIANA
RAYMOND D. CIATTO
REG. No. 26750
REGISTERED
PROFESSIONAL
ENGINEER
IN
CIVIL ENGINEERING

EXPIRES 8/2/99

6/26/97

PROCESS SYSTEMS INTERNATIONAL INC. <small>20 WILKIP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA</small>			
SPOOL B-2B 30.50" ID x 60.50" ID MODE CLEANER TUBE LIGO VACUUM EQUIPMENT			
<small>CAD FILE</small> V0494B2B/494B2B34	<small>SIZE</small> D	<small>DWG. NO.</small> V049-4-B2B	<small>REV.</small> 5
<small>SCALE</small> 1/4"	<small>SHEET</small> 4 OF 5		

Mar 15, 1997 - 17296



Raymond D. Ciatto
 EXPIRES 8/6/99
 6/26/97

SEE SHEET 1 FOR REVISIONS

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

SPOOL B-2B
 30.50"ID x 60.50"ID
 MODE CLEANER TUBE
 LIGD VACUUM EQUIPMENT

CAD FILE	REV	DATE	BY
V0494B2B/494B2BSS	D		V049-4-B2B
SCALE	NONE	SHEET	5 OF 5