
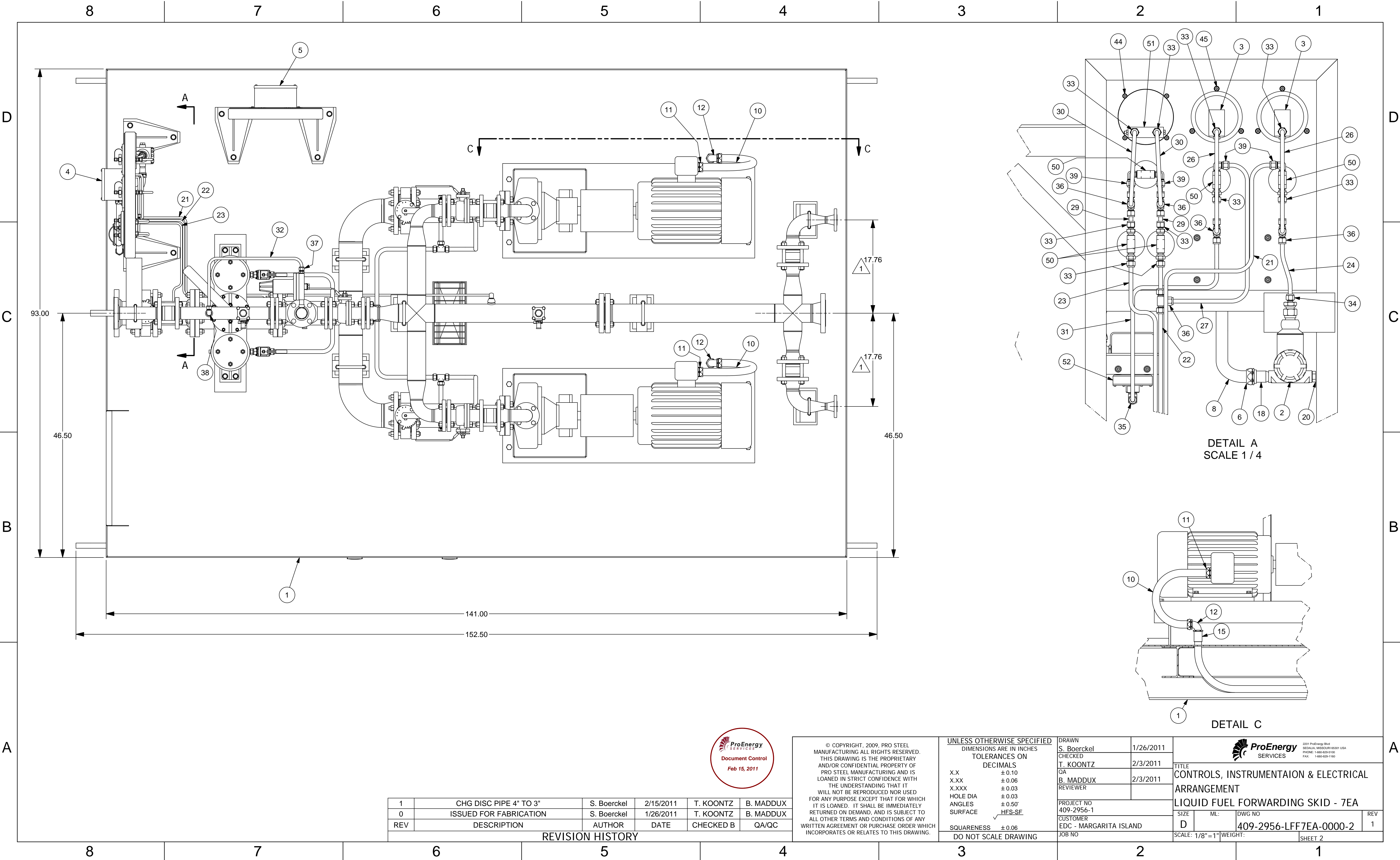


52	1	52NN-K117-M1-B2A-TT	PRESSURE & VACUUM SWITCH (40-0-40 IN WC)	SOR PRESSURE & VACUUM SWITCH				
51	1	120x4112	4-1/2" MODEL-120 FILTER MINDER GAUGE	MID-WEST INSTRUMENT FILTER MINDER GAUGE				
50	5	0153V3	1/4"FNPT GAGE VALVE w/STEM TEST CONN	DRAGON GAGE VALVE w/ STEM TEST				
49	2		1/4-20 x 1 in LONG HHCS	HEX BOLT CAD PLATED - GRADE-5			1.00 in	
48	10		1/4-20 x 3/4 in LONG HHCS	HEX BOLT CAD PLATED - GRADE-5			0.75 in	
47	6		10-24 x 1 in PHILLIPS PAN HEAD SCREW	10-24 UNC - Steel, High Strength Low Alloy			1.00 in	
46	10		HEX NUT	1/4-20 - HEX NUT CAD PLATED - GRADE-5				
45	6	4319-0832-00N	10-24 HEX KEPS NUT	KEPS HEX NUT				
44	4	4319-0832-00N	8-32 HEX KEPS NUT	KEPS HEX NUT				
43	12		HELICAL SPRING LOCK WASHER	1/4" - HELICOID SPRING LOCK WASHER - CAD				
42	14		Type A Plain Washer	1/4" - TYPE-A PLAIN FLAT WASHER - CAD				
41	6		Type A Plain Washer	#10 - TYPE-A PLAIN FLAT WASHER - CAD				
40	4		Type A Plain Washer	#8 - TYPE-A PLAIN FLAT WASHER - CAD				
39	4	SS-600-2-4	3/8"OD x 1/4" NPT ELBOW	SWAGelok MALE 90Deg ELBOW				
38	1	SS-810-2-8	1/2"OD x 1/2"NPT ELBOW	SWAGelok 90DEG ELBOW STAINLESS				
37	1	SS-810-1-8	1/2"OD x 1/2"MNPT FITTING	SWAGelok STRAIGHT FITTING STAINLESS				
36	5	SS-600-3	3/8" TEE - TUBE	SAWGELOK 3/8" TEE - TUBE				
35	2	SS-600-2-8	3/8"OD x 1/2"NPT 90Deg ELBOW	SWAGelok MALE 90Deg ELBOW NPT				
34	3	SS-600-1-8RS	3/8TUBE x 1/2MNPT FITTING	SWAGelok STRAIGHT FITTING				
33	10	SS-600-1-4RS	3/8TUBE x 1/4MNPT STRAIGHT FITTING	SWAGelok STRAIGHT MNPT FITTING				
32	1		BACK PRESSURE TUBE	1/2" OD TUBE - SS			28.91 in	
31	1		PRESSURE SWITCH LOW TUBE	3/8" OD TUBE - SS			25.47 in	
30	2		PRESSURE DIFF TUBE	3/8" OD TUBE - SS			10.84 in	
29	4		PRESSURE DIFF TUBE	3/8" OD TUBE - SS			1.75 in	
28	2		LOW PRESSURE GAUGE TUBE	3/8" OD TUBE - SS			2.82 in	
27	1		LOW PRESSURE GAUGE TUBE	3/8"OD TUBE - SS			21.84 in	
26	2		LOWE PRESSURE GAUGE TUBE	3/8" OD TUBE - SS			14.24 in	
25	1		PRESSURE DIFF TUBE	3/8" OD TUBE - SS			6.98 in	
24	1		PT TUBE	3/8" OD TUBE - SS			6.98 in	
23	1		PRESSURE DIFF TUBE	3/8" OD TUBE - SS			56.26 in	
22	1		PRESSURE DIFF TUBE	3/8" OD TUBE - SS			75.04 in	
21	1		PT TUBING	3/8" OD TUBE - SS			156.55 in	
20	1		1/2" Hex Head Plug	NPT HEX PLUG				
19	2		1/4" Hex Head Plug	NPT HEX PLUG				
18	1		3/4F x 1/2M REDUCING SOCKET	NPT MALE & FEMALE REDUCING SOCKET				
17	2	EYA100	1" EYA SEALING FITTING	1" NPT EYA SEALING FITTING				
16	2		1" STRAIGHT HUB CONNECTOR	STRAIGHT HUB CONNECTOR				
15	4		CONDUIT COUPLING	1 - CONDUIT COUPLING				
14	2		MOTOR CONDUIT	1 GALV RIDGED CONDUIT			20.00 in	
13	2		MOTOR CONDUIT	1 GALV RIDGED CONDUIT			5.88 in	
12	2	5354SST	1" LIQUID TIGHT 90Deg ELBOW	LIQUID TIGHT ELBOW				
11	2		1" LIQUID TIGHT STRAIGHT CONNECTOR	LIQUID TIGHT STRAIGHT CONNECTOR				
10	2		MOTOR LIQUID TIGHT	1" LIQUID TIGHT			22.53 in	
9	1		LIQUID TIGHT	3/4" LIQUID TIGHT			13.78 in	
8	1		LIQUID TIGHT	3/4" LIQUID TIGHT			12.09 in	
7	1		3/4" LIQUID TIGHT 90Deg ELBOW	LIQUID TIGHT ELBOW				
6	3		3/4" LIQUID TIGHT STARIGHT CONNECTOR	LIQUID TIGHT STRAIGHT CONNECTOR				
5	1		J-BOX	8x8x4 STAINLESS JUNCTION BOX				
4	1		J-BOX	6x6x4 STAINLESS JUNCTION BOX				
3	2	7112	4-1/2" PANEL MOUNT GRADE-2A	DWYER SERIES 7000 PRESSURE GUAGE				
2	1	3051TG2A2A21AB4C6	3051 PRESSURE TRANSMITTER	ROSEMOUNT PRESSURE TRANSMITTER				
1	1	409-2956-LFF7EA-700	MECHANICAL	ASSEMBLY				

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	DIMENSIONS ARE IN INCHES		S. Boerckel						1/26/2011
	TOLERANCES ON		CHECKED		2/3/2011		TITLE CONTROLS, INSTRUMENTAION & ELECTRICAL ARRANGEMENT LIQUID FUEL FORWARDING SKID - 7EA		
	DECIMALS		T. KOONTZ						
	X.X ± 0.10		QA		2/3/2011				
	X.XX ± 0.06		B. MADDUX						
	X.XXX ± 0.03		REVIEWER						
	HOLE DIA ± 0.03		PROJECT NO						
	ANGLES ± 0.50°		409-2956-1		SIZE		ML:	DWG NO	REV
	SURFACE <u>HFS-SF</u>		CUSTOMER		D				
SQUARENESS ± 0.06		EDC - MARGARITA ISLAND		409-2956-LFF7EA-0000-1				1	
DO NOT SCALE DRAWING		JOB NO		SCALE: NONE		WEIGHT: 6172 lbmass	SHEET 1		

1	CHG DISC PIPE 4" TO 3"	S. Boerckel	2/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	1/26/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					

NOTES:
1. CHECK PUMP CONNECTIONS FOR RESIDUAL STRESS



1	CHG DISC PIPE 4" TO 3"	S. Boerckel	2/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	1/26/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC

REVISION HISTORY

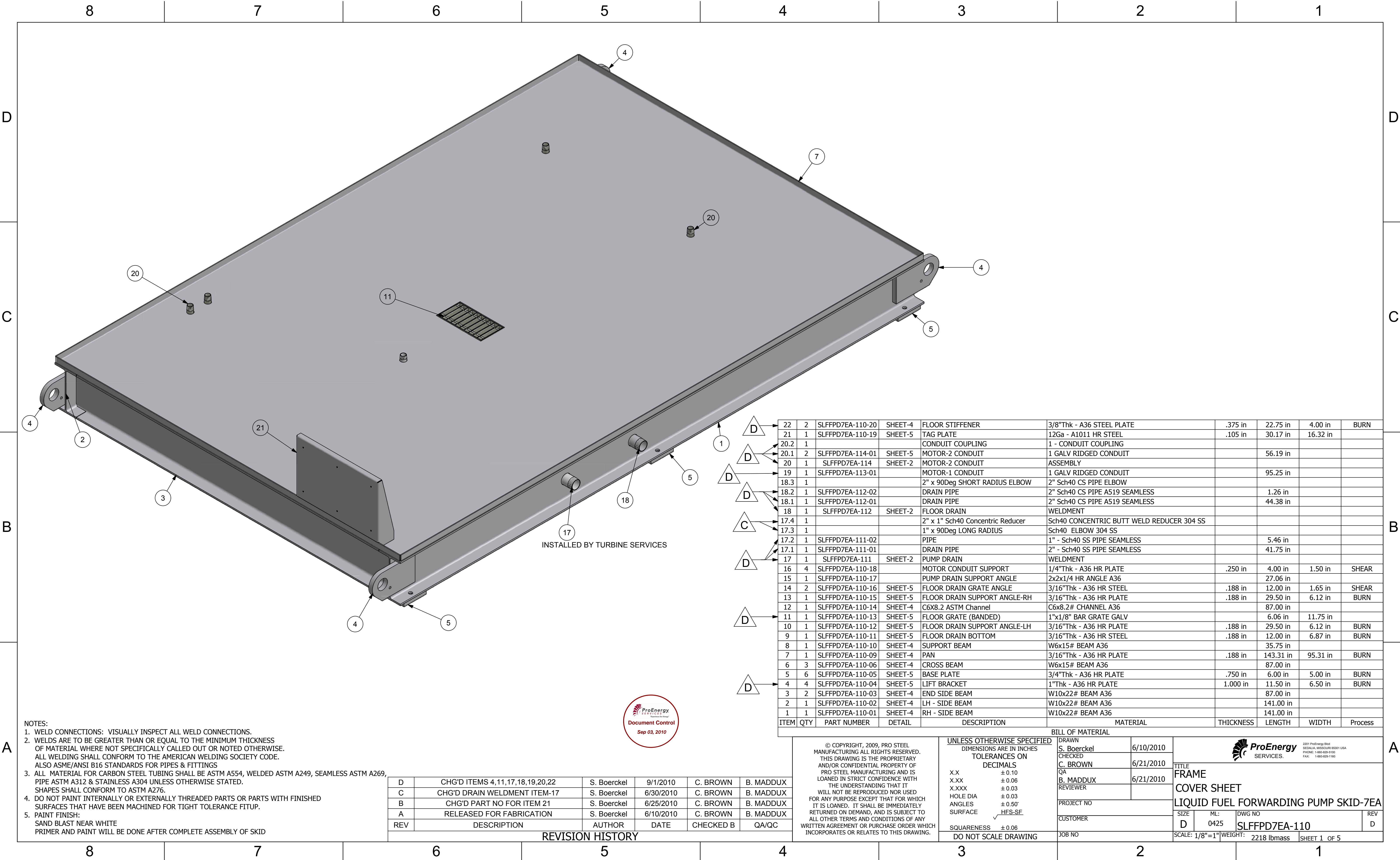


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UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
TOLERANCES ON	
DECIMALS	
X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	✓ HFS-SF
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

DRAWN	S. Boerckel	1/26/2011
CHECKED	T. KOONTZ	2/3/2011
QA	B. MADDUX	2/3/2011
REVIEWER		
PROJECT NO		
409-2956-1		
CUSTOMER		
EDC - MARGARITA ISLAND		
JOB NO		

ProEnergy SERVICES			
2201 ProEnergy Blvd SECALIA, MISSOURI 65501 USA PHONE: 1-800-829-5100 FAX: 1-800-829-1100			
TITLE			
CONTROLS, INSTRUMENTAION & ELECTRICAL			
ARRANGEMENT			
LIQUID FUEL FORWARDING SKID - 7EA			
SIZE	ML:	DWG NO	REV
D		409-2956-LFF7EA-0000-2	1
SCALE: 1/8" = 1"		WEIGHT:	
		SHEET 2	



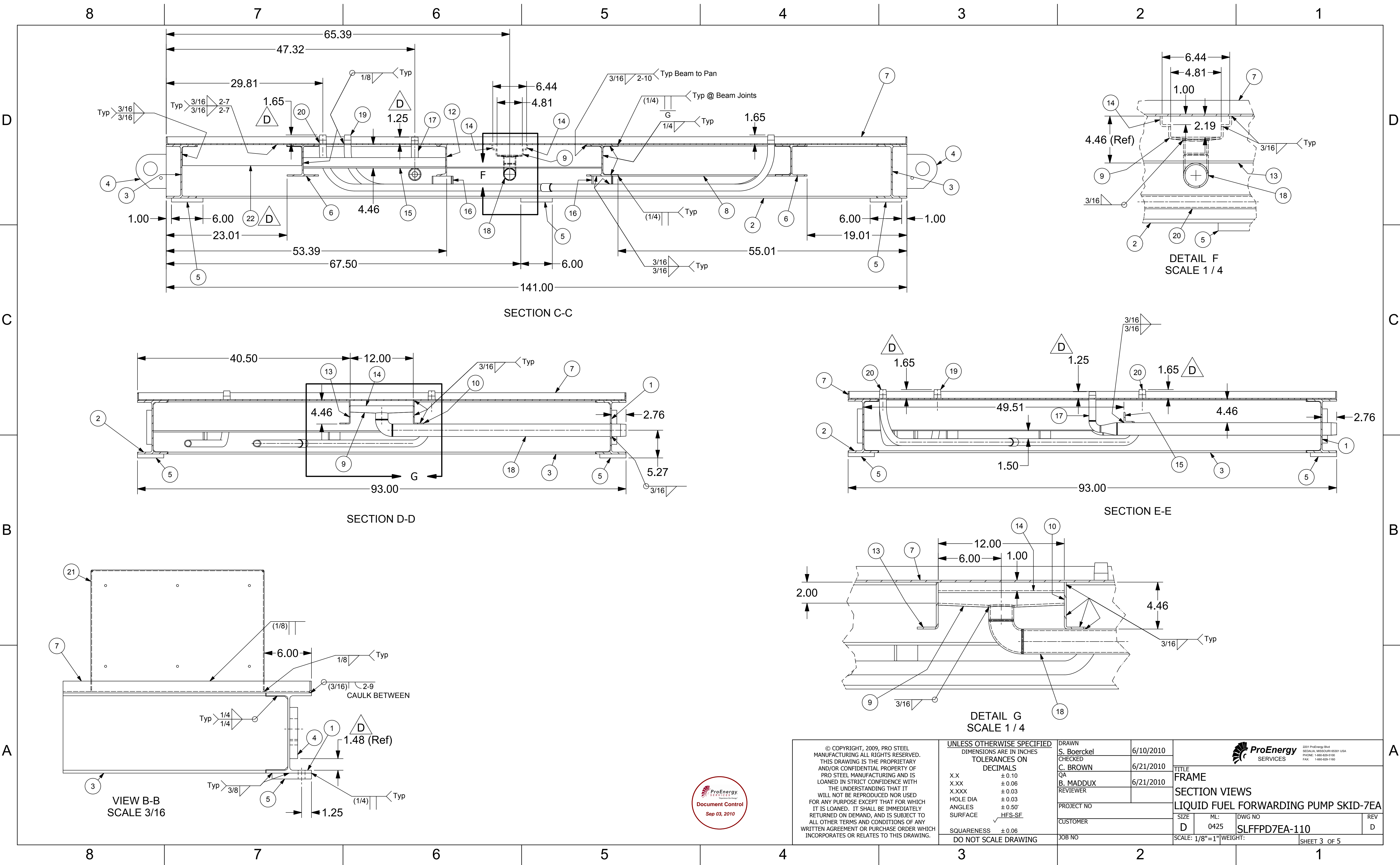
- NOTES:
- WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
 - WELDS ARE TO BE GREATER THAN OR EQUAL TO THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS
 - ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 & STAINLESS A304 UNLESS OTHERWISE STATED. SHAPES SHALL CONFORM TO ASTM A276.
 - DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
 - PAINT FINISH:
SAND BLAST NEAR WHITE
PRIMER AND PAINT WILL BE DONE AFTER COMPLETE ASSEMBLY OF SKID

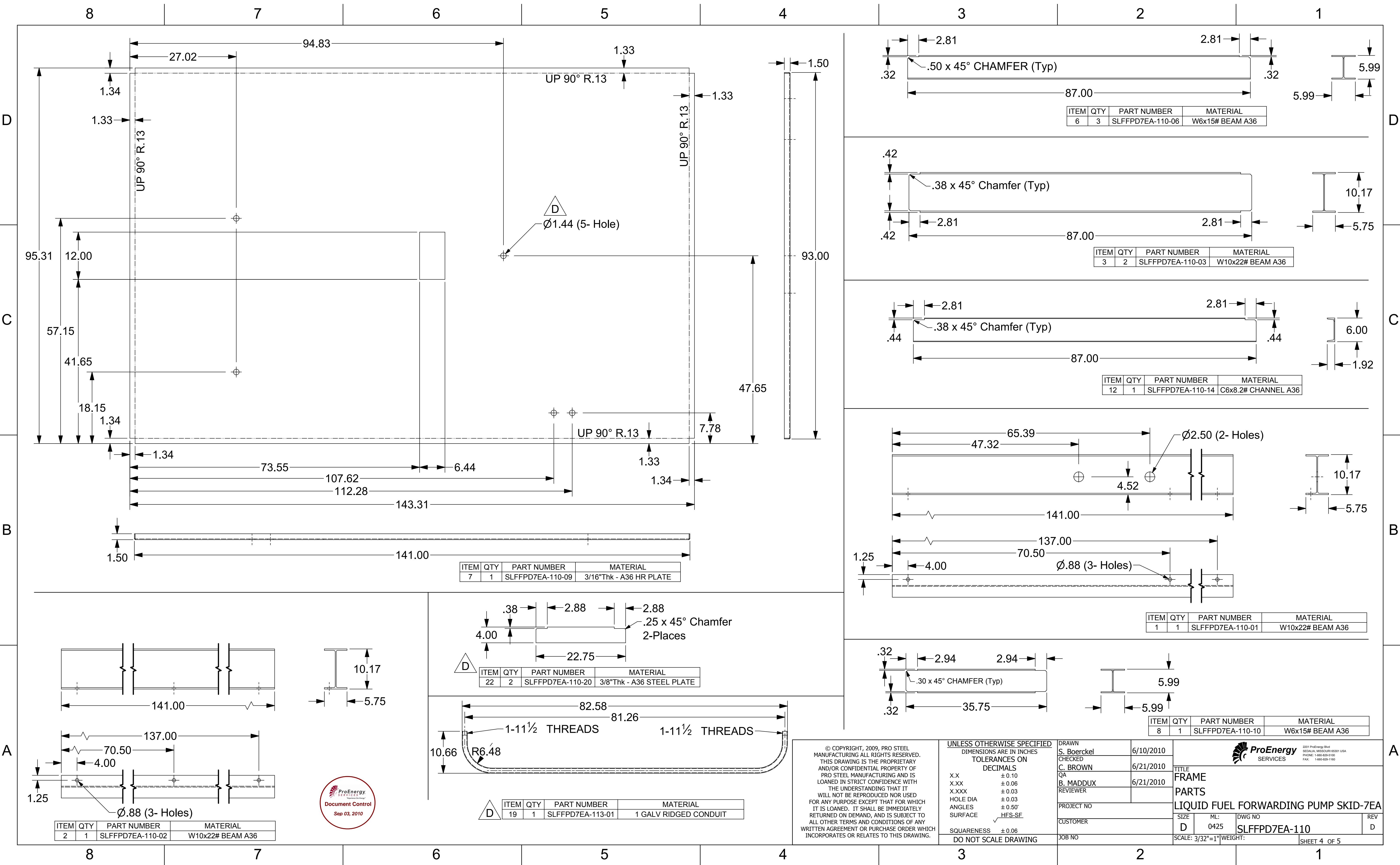
D	CHG'D ITEMS 4,11,17,18,19,20,22	S. Boerckel	9/1/2010	C. BROWN	B. MADDUX
C	CHG'D DRAIN WELDMENT ITEM-17	S. Boerckel	6/30/2010	C. BROWN	B. MADDUX
B	CHG'D PART NO FOR ITEM 21	S. Boerckel	6/25/2010	C. BROWN	B. MADDUX
A	RELEASED FOR FABRICATION	S. Boerckel	6/10/2010	C. BROWN	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC

REVISION HISTORY



22	2	SLFFPD7EA-110-20	SHEET-4	FLOOR STIFFENER	3/8"Thk - A36 STEEL PLATE	.375 in	22.75 in	4.00 in	BURN
21	1	SLFFPD7EA-110-19	SHEET-5	TAG PLATE	12Ga - A1011 HR STEEL	.105 in	30.17 in	16.32 in	
20.2	1			CONDUIT COUPLING	1 - CONDUIT COUPLING				
20.1	2	SLFFPD7EA-114-01	SHEET-5	MOTOR-2 CONDUIT	1 GALV RIDGED CONDUIT		56.19 in		
20	1	SLFFPD7EA-114	SHEET-2	MOTOR-2 CONDUIT	ASSEMBLY				
19	1	SLFFPD7EA-113-01		MOTOR-1 CONDUIT	1 GALV RIDGED CONDUIT		95.25 in		
18.3	1			2" x 90Deg SHORT RADIUS ELBOW	2" Sch40 CS PIPE ELBOW				
18.2	1	SLFFPD7EA-112-02		DRAIN PIPE	2" Sch40 CS PIPE A519 SEAMLESS		1.26 in		
18.1	1	SLFFPD7EA-112-01		DRAIN PIPE	2" Sch40 CS PIPE A519 SEAMLESS		44.38 in		
18	1	SLFFPD7EA-112	SHEET-2	FLOOR DRAIN	WELDMENT				
17.4	1			2" x 1" Sch40 Concentric Reducer	Sch40 CONCENTRIC BUTT WELD REDUCER 304 SS				
17.3	1			1" x 90Deg LONG RADIUS	Sch40 ELBOW 304 SS				
17.2	1	SLFFPD7EA-111-02		PIPE	1" - Sch40 SS PIPE SEAMLESS		5.46 in		
17.1	1	SLFFPD7EA-111-01		DRAIN PIPE	2" - Sch40 SS PIPE SEAMLESS		41.75 in		
17	1	SLFFPD7EA-111	SHEET-2	PUMP DRAIN	WELDMENT				
16	4	SLFFPD7EA-110-18		MOTOR CONDUIT SUPPORT	1/4"Thk - A36 HR PLATE	.250 in	4.00 in	1.50 in	SHEAR
15	1	SLFFPD7EA-110-17		PUMP DRAIN SUPPORT ANGLE	2x2x1/4 HR ANGLE A36		27.06 in		
14	2	SLFFPD7EA-110-16	SHEET-5	FLOOR DRAIN GRATE ANGLE	3/16"Thk - A36 HR STEEL	.188 in	12.00 in	1.65 in	SHEAR
13	1	SLFFPD7EA-110-15	SHEET-5	FLOOR DRAIN SUPPORT ANGLE-RH	3/16"Thk - A36 HR PLATE	.188 in	29.50 in	6.12 in	BURN
12	1	SLFFPD7EA-110-14	SHEET-4	C6X8.2 ASTM Channel	C6x8.2# CHANNEL A36		87.00 in		
11	1	SLFFPD7EA-110-13	SHEET-5	FLOOR GRATE (BANDED)	1"x1/8" BAR GRATE GALV		6.06 in	11.75 in	
10	1	SLFFPD7EA-110-12	SHEET-5	FLOOR DRAIN SUPPORT ANGLE-LH	3/16"Thk - A36 HR PLATE	.188 in	29.50 in	6.12 in	BURN
9	1	SLFFPD7EA-110-11	SHEET-5	FLOOR DRAIN BOTTOM	3/16"Thk - A36 HR STEEL	.188 in	12.00 in	6.87 in	BURN
8	1	SLFFPD7EA-110-10	SHEET-4	SUPPORT BEAM	W6x15# BEAM A36		35.75 in		
7	1	SLFFPD7EA-110-09	SHEET-4	PAN	3/16"Thk - A36 HR PLATE	.188 in	143.31 in	95.31 in	BURN
6	3	SLFFPD7EA-110-06	SHEET-4	CROSS BEAM	W6x15# BEAM A36		87.00 in		
5	6	SLFFPD7EA-110-05	SHEET-5	BASE PLATE	3/4"Thk - A36 HR PLATE	.750 in	6.00 in	5.00 in	BURN
4	4	SLFFPD7EA-110-04	SHEET-5	LIFT BRACKET	1"Thk - A36 HR PLATE	1.000 in	11.50 in	6.50 in	BURN
3	2	SLFFPD7EA-110-03	SHEET-4	END SIDE BEAM	W10x22# BEAM A36		87.00 in		
2	1	SLFFPD7EA-110-02	SHEET-4	LH - SIDE BEAM	W10x22# BEAM A36		141.00 in		
1	1	SLFFPD7EA-110-01	SHEET-4	RH - SIDE BEAM	W10x22# BEAM A36		141.00 in		
ITEM	QTY	PART NUMBER	DETAIL	DESCRIPTION	MATERIAL	THICKNESS	LENGTH	WIDTH	Process
					BILL OF MATERIAL				
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					DIMENSIONS ARE IN INCHES	S. Boerckel	6/21/2010		
					TOLERANCES ON	CHECKED	6/21/2010		
					DECIMALS	C. BROWN	6/21/2010		
					X.X ± 0.10	QA		TITLE FRAME COVER SHEET LIQUID FUEL FORWARDING PUMP SKID-7EA	
					X.XXX ± 0.06	B. MADDUX			
					X.XXX ± 0.03	REVIEWER			
					HOLE DIA ± 0.03	PROJECT NO		SIZE	ML:
					ANGLES ± 0.50°	CUSTOMER		D	0425
					SURFACE ± 0.06	JOB NO		DWG NO	SLFFPD7EA-110
					DO NOT SCALE DRAWING			REV	D
								SCALE: 1/8"=1"	WEIGHT: 2218 lbmass
								SHEET 1 OF 5	



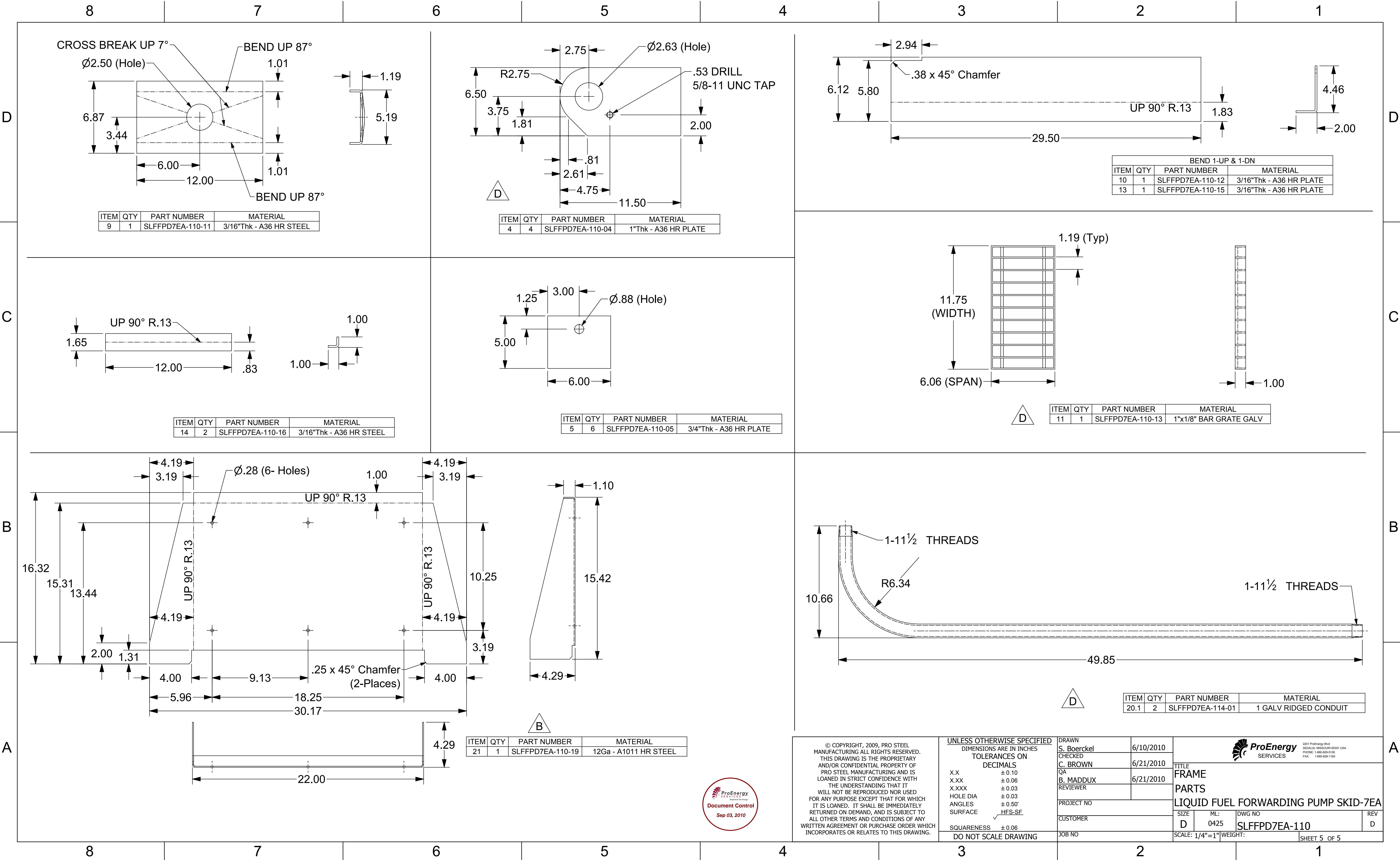


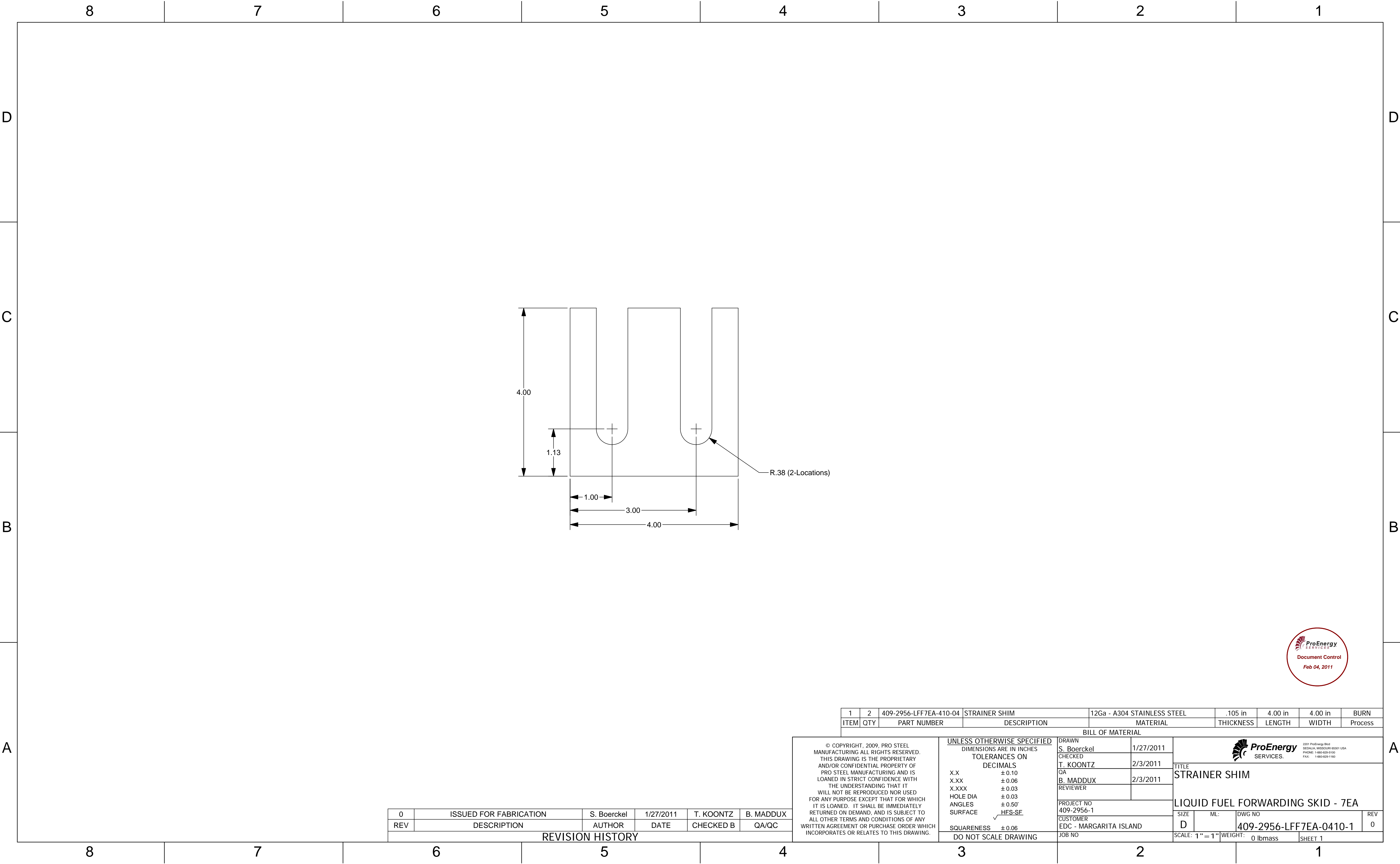
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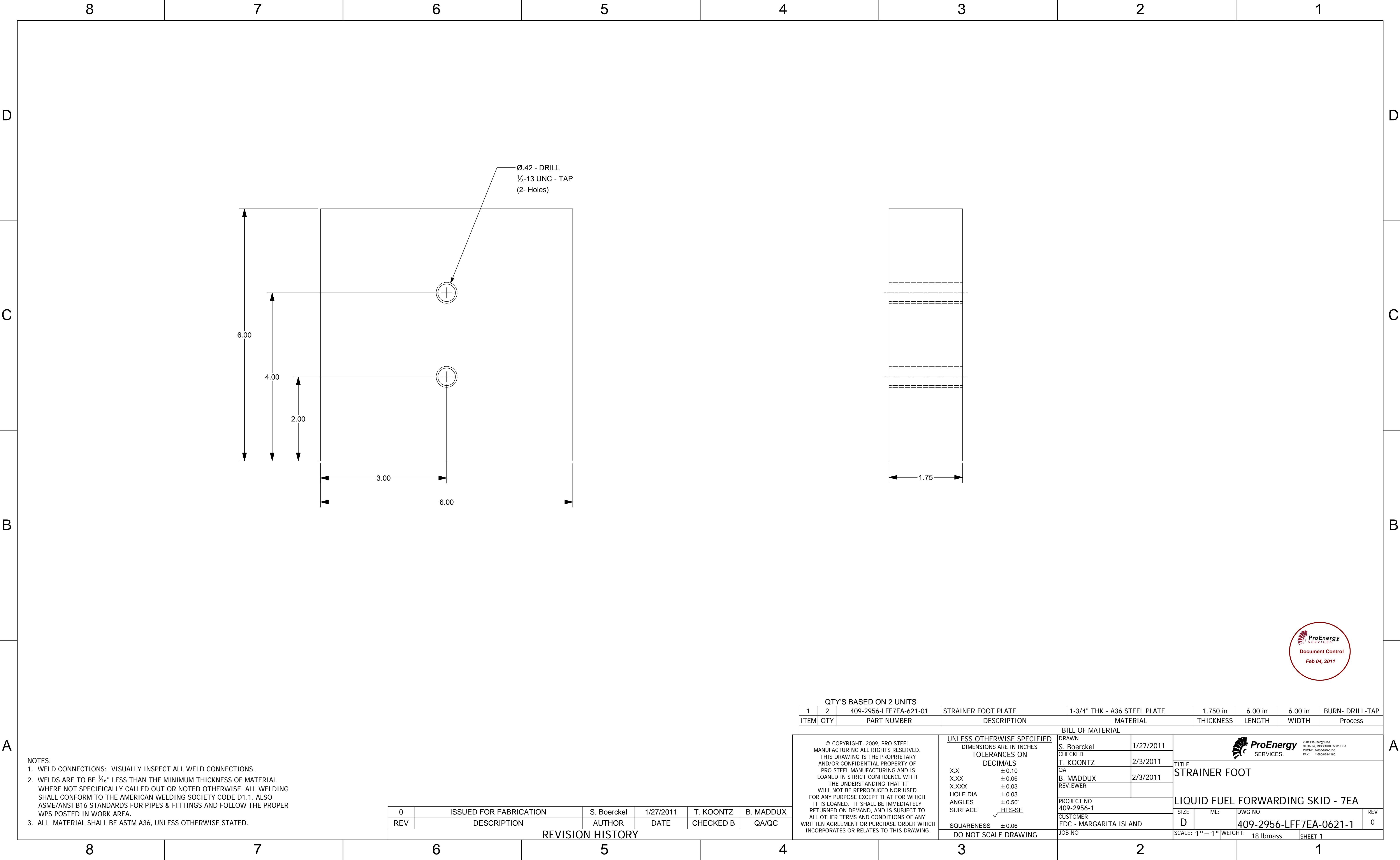
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DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS
X.X ± 0.10
X.XX ± 0.06
X.XXX ± 0.03
HOLE DIA ± 0.03
ANGLES ± 0.50°
SURFACE HFS-SF
SQUARENESS ± 0.06
DO NOT SCALE DRAWING

DRAWN S. Boerckel	6/10/2010
CHECKED C. BROWN	6/21/2010
QA B. MADDUX	6/21/2010
REVIEWER	
PROJECT NO	
CUSTOMER	
JOB NO	

ProEnergy SERVICES 2201 ProEnergy Blvd St. Louis, Missouri 63091 USA PHONE: 1-800-829-5100 FAX: 1-800-829-1100			
TITLE FRAME PARTS LIQUID FUEL FORWARDING PUMP SKID-7EA			
SIZE D	ML: 0425	DWG NO SLFFPD7EA-110	REV D
SCALE: 3/32"=1"		WEIGHT: SHEET 4 OF 5	





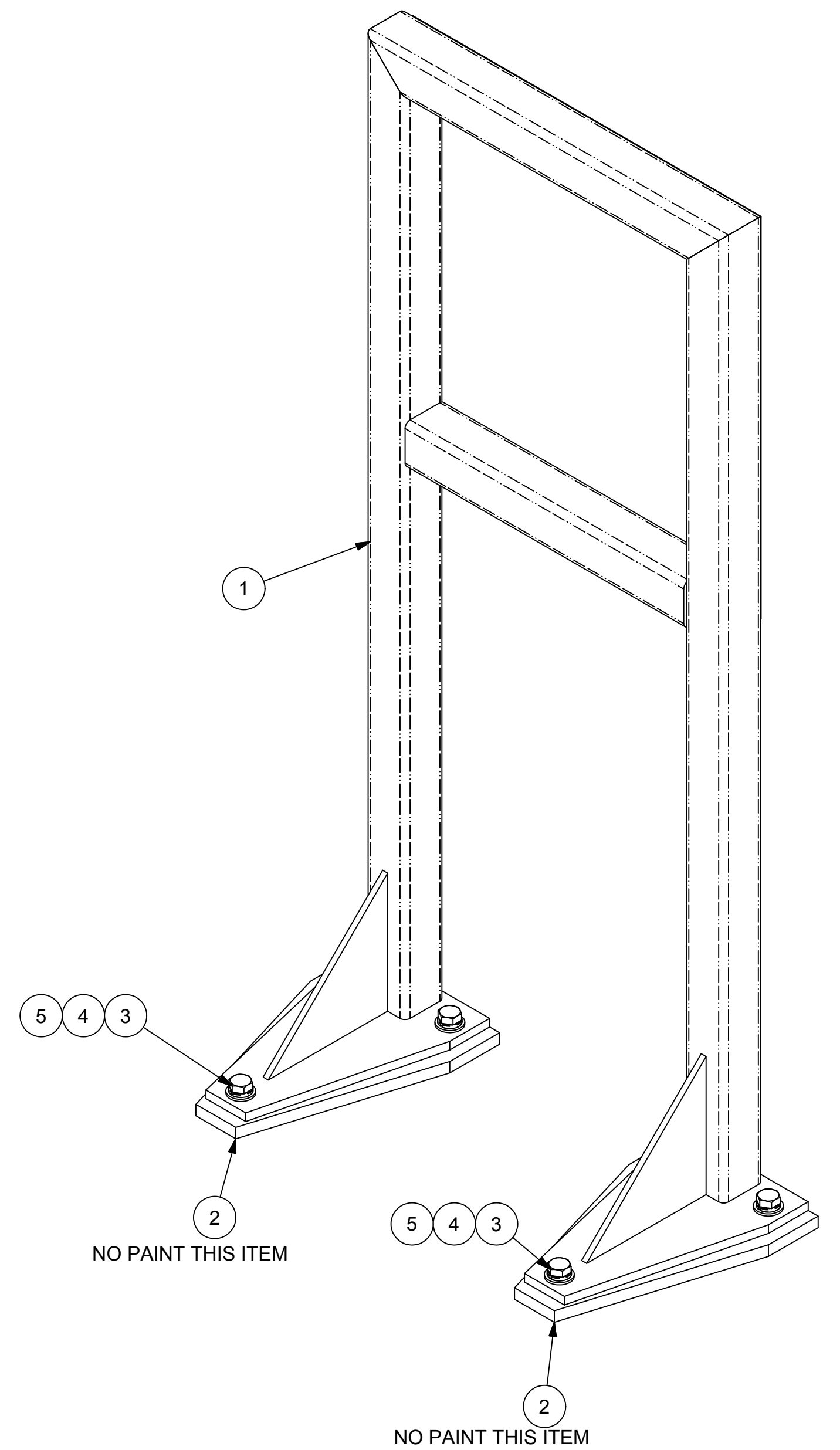
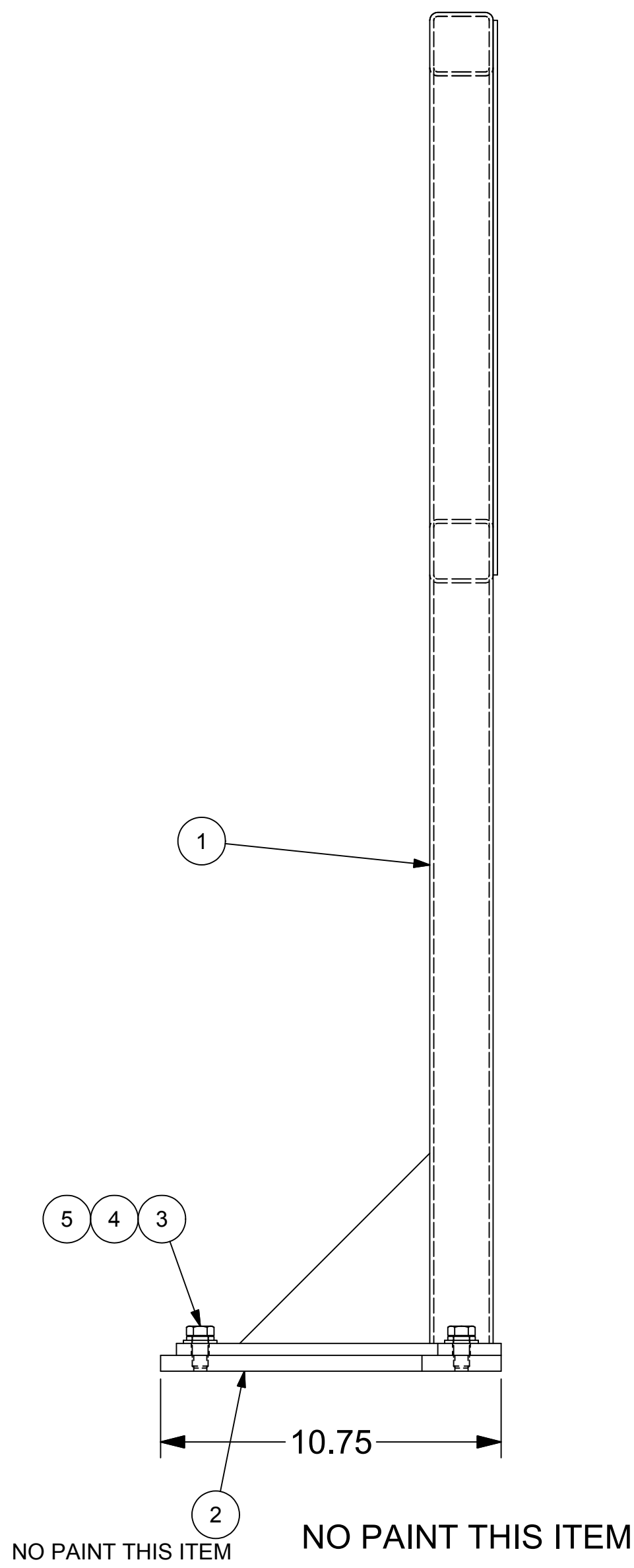
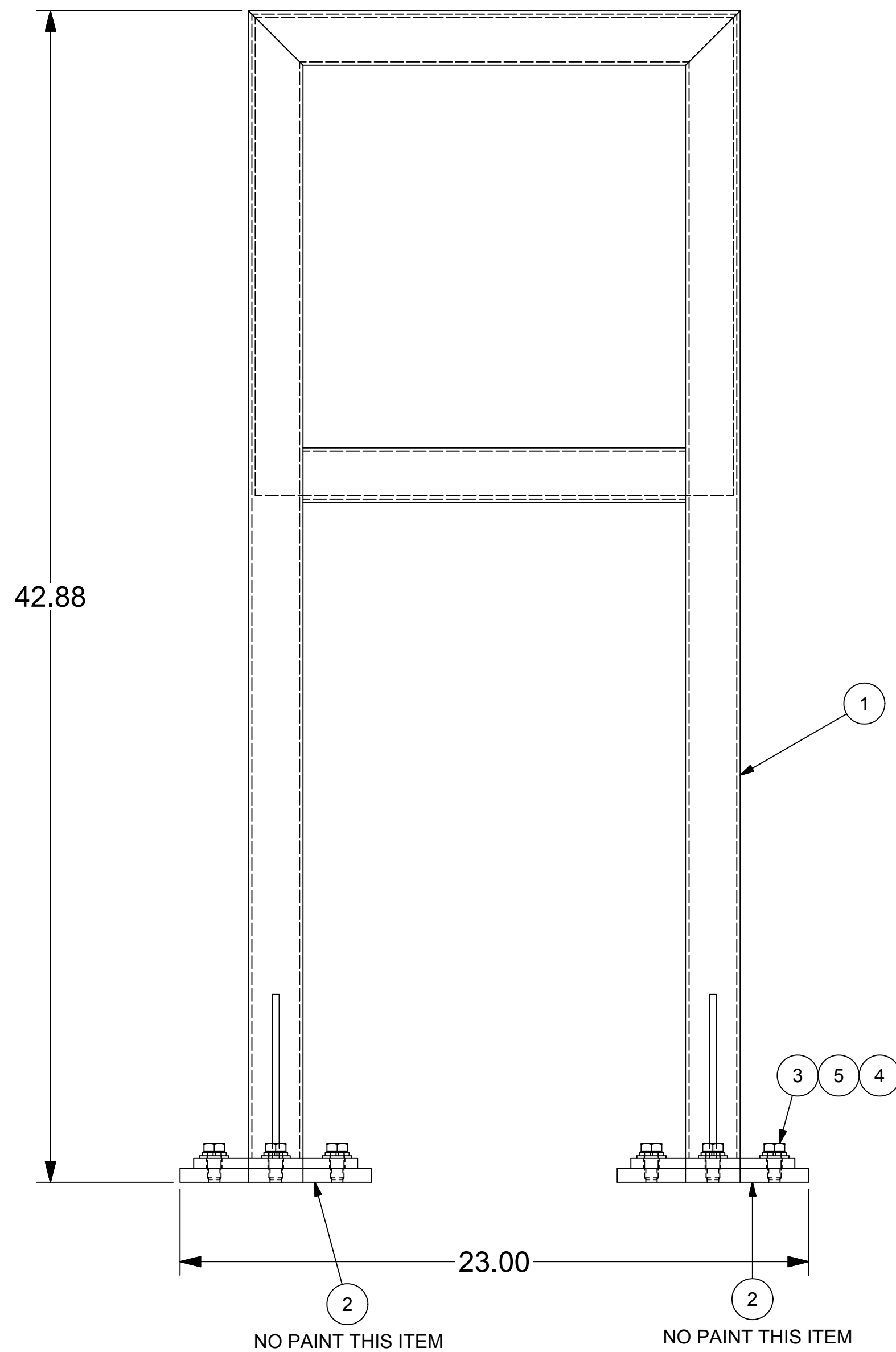


- NOTES:
- WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
 - WELDS ARE TO BE 1/16" LESS THAN THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE D1.1. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS AND FOLLOW THE PROPER WPS POSTED IN WORK AREA.
 - ALL MATERIAL SHALL BE ASTM A36, UNLESS OTHERWISE STATED.

0	ISSUED FOR FABRICATION	S. Boerckel	1/27/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					

QTY'S BASED ON 2 UNITS									
1	2	409-2956-LFF7EA-621-01	STRAINER FOOT PLATE	1-3/4" THK - A36 STEEL PLATE	1.750 in	6.00 in	6.00 in	BURN- DRILL-TAP	
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	THICKNESS	LENGTH	WIDTH	Process	
BILL OF MATERIAL									
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				X.X ± 0.10		CHECKED T. KOONTZ		2/3/2011	
				X.XX ± 0.06		QA B. MADDUX		2/3/2011	
				X.XXX ± 0.03		REVIEWER			
				HOLE DIA ± 0.03		PROJECT NO 409-2956-1			LIQUID FUEL FORWARDING SKID - 7EA
				ANGLES ± 0.50°		CUSTOMER EDC - MARGARITA ISLAND			
				SURFACE ± 0.06		JOB NO			
				DO NOT SCALE DRAWING		SCALE: 1" = 1"		WEIGHT: 18 lbmass	SHEET 1






- NOTES:

1. WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
2. WELDS ARE TO BE GREATER THAN OR EQUAL TO THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS
3. ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 & STAINLESS A304 UNLESS OTHERWISE STATED. SHAPES SHALL CONFORM TO ASTM A276.
4. DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
5. PAINT FINISH:
SAND BLAST SSP-SSP6
PRIME: KEM BOND HS (GRAY) UNIVERSAL METAL PRIMER - B50AZ8 (1-COAT / 2.0 - 5.0 mils dft)
PAINT: AMERCOAT 370 EPOXY (GRAY) (1-2 COATS 5mils dft)
PRIME & PAINT ITEM "1" (J-BOX MOUNT WELDMENT) ONLY
DO NOT PRIME OR PAINT ITEM "2" (J-BOX MOUNT PLATES)

A	RELEASED FOR FABRICATION	S. Boerckel	6/11/2010	C. BROWN	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					

	5	6			LOCK WASHER	1/2" HELICOID LOCK WASHER PLATED												
	4	6			FLAT WASHER	1/2" PLAIN FLAT WASHER PLATED												
	3	6	FST0816104BH		HEX BOLT	1/2"-13 x 1 HEX BOLT GRADE-5 PLATED		1.00 in										
	2	2	SLFFPD7EA-630-01	SHEET-3	J-BOX FOOT BASE	1/2"Thk - A36 STEEL PLATE	.500 in	7.00 in	10.75 in	BURN/DRILL								
	1.6	2	SLFFPD7EA-631-06	SHEET-3	J-BOX FOOT	3/8"Thk - A36 STEEL PLATE	.375 in	6.00 in	10.25 in	BURN								
	1.5	2	SLFFPD7EA-631-05	SHEET-3	J-BOX GUSSET	1/4"Thk - A36 STEEL PLATE	.250 in	6.00 in	6.00 in	SHEAR								
	1.4	1	SLFFPD7EA-631-04		J-BOX PLATE	10GA - A1011 HR STEEL	.135 in	17.50 in	17.50 in	SHEAR								
	1.3	1	SLFFPD7EA-631-03		J-BOX CROSS TUBE	2 Sq x 1/8 Wall TUBING A-500		14.00 in										
	1.2	1	SLFFPD7EA-631-02	SHEET-3	J-BOX TOP CROSS TUBE	2 Sq x 1/8 Wall TUBING A-500		18.00 in										
	1.1	2	SLFFPD7EA-631-01	SHEET-3	J-BOX VERTICAL TUBE	2 Sq x 1/8 Wall TUBING A-500		42.00 in										
	1	1	SLFFPD7EA-631	SHEET-2	J-BOX	WELDMENT												
ITEM	QTY	PART NUMBER	DETAIL		DESCRIPTION	MATERIAL	THICKNESS	LENGTH	WIDTH	Process								
BILL OF MATERIAL																		
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													SIZE		ML:		DWG NO	
					D		0425		SLFFPD7EA-630				A					
					SCALE: 1/4"=1"								WEIGHT: 6lb lbmass		SHEET 1 OF 3			



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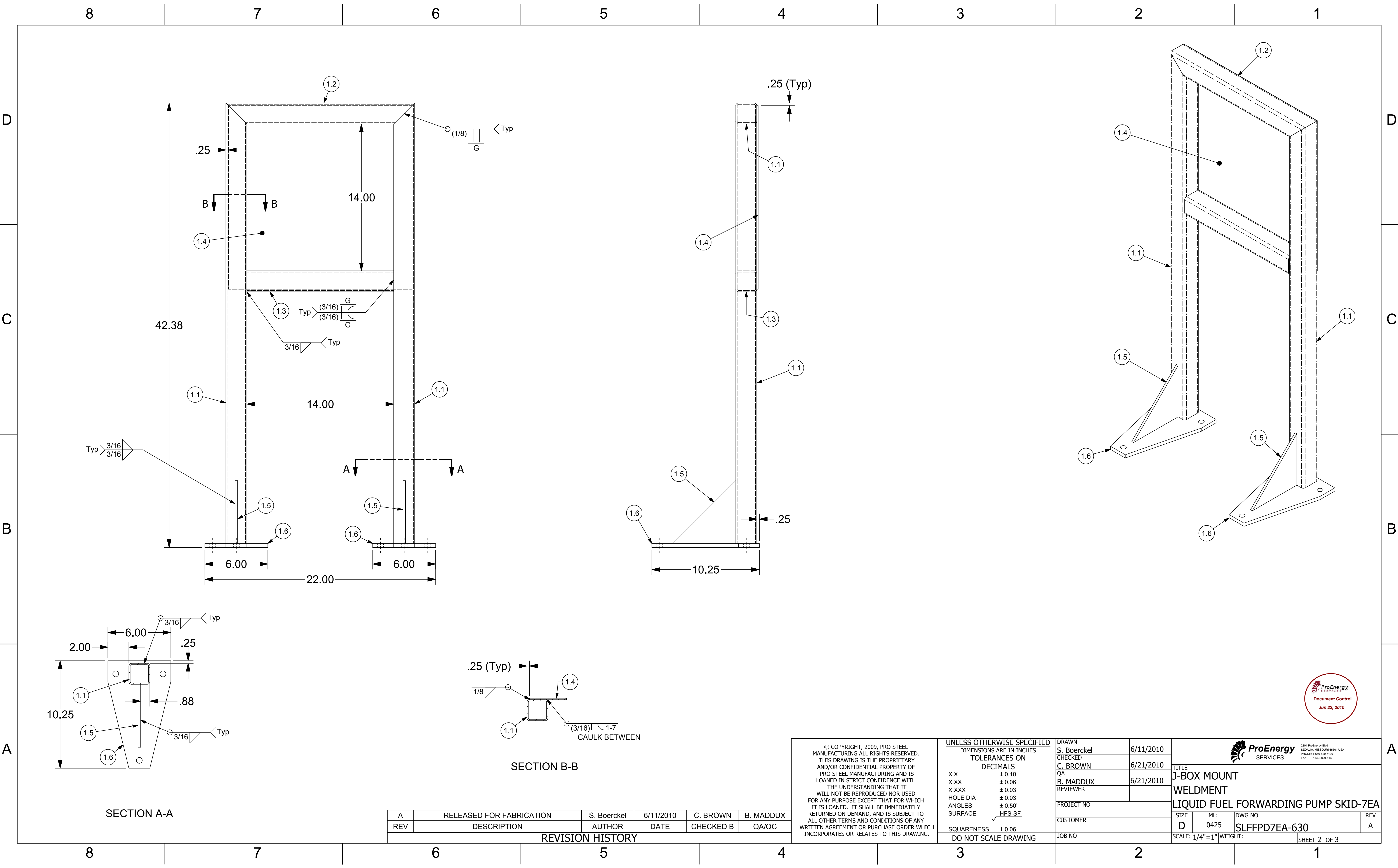
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DIMENSIONS ARE IN INCHES	
TOLERANCES ON	
DECIMALS	
X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	√ HFS-SF
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

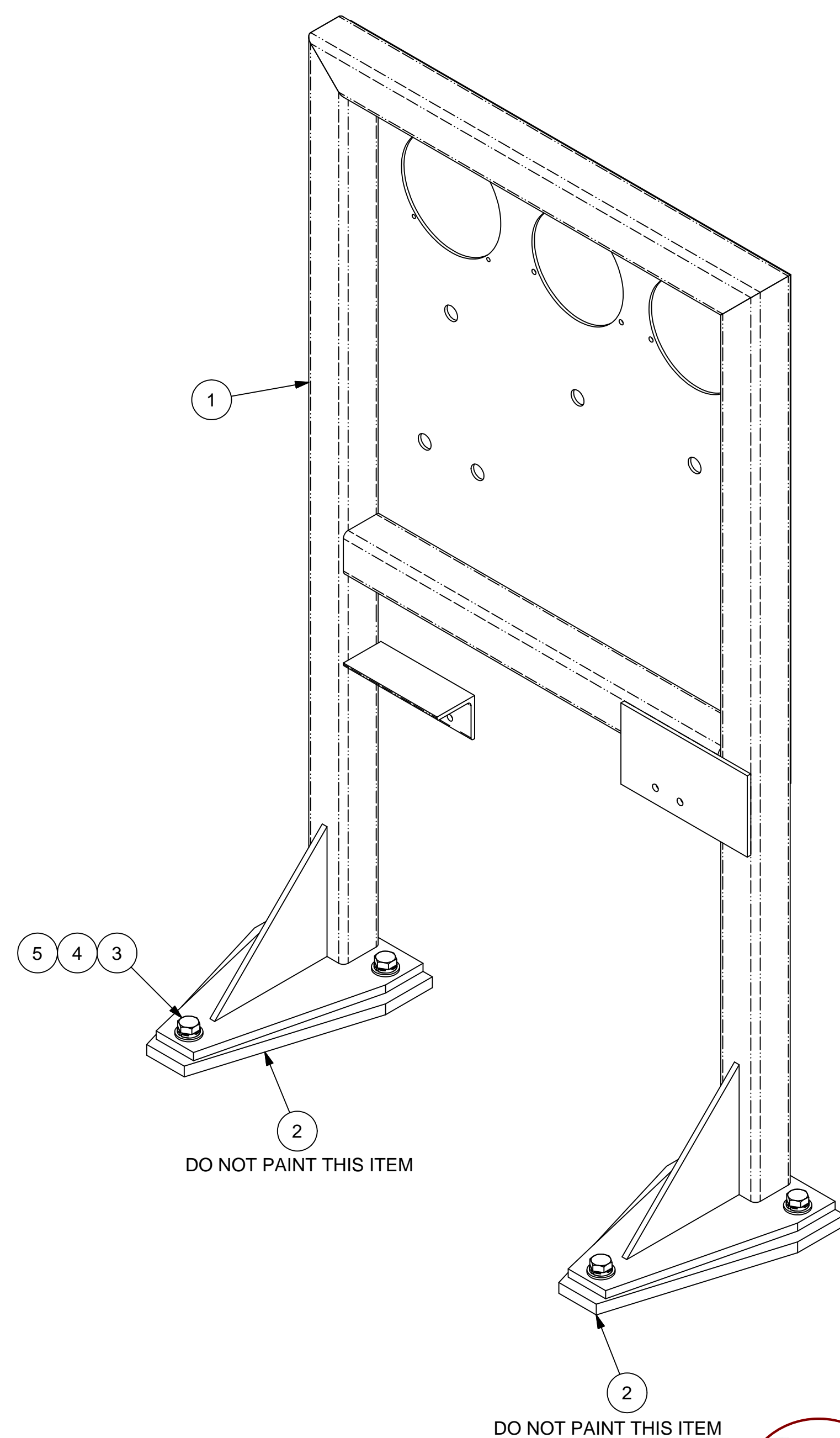
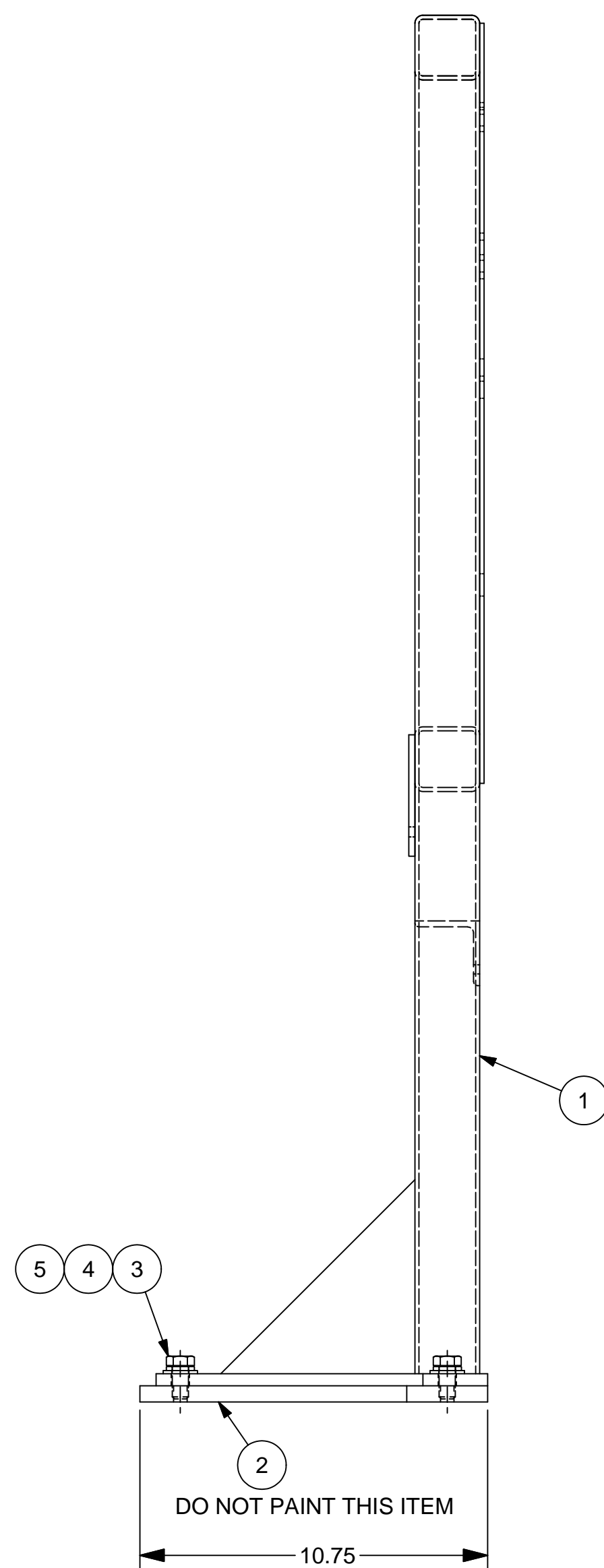
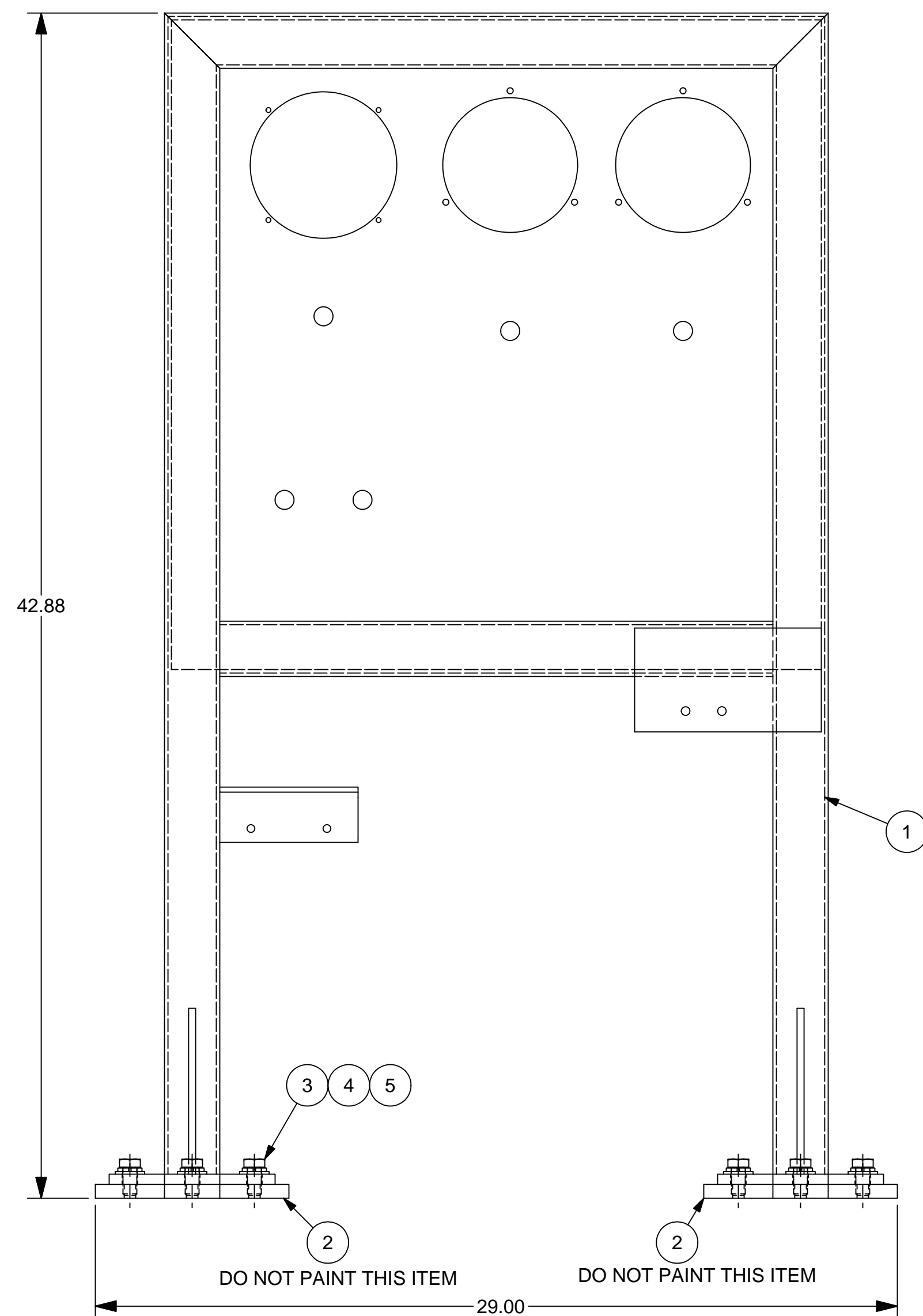
DRAWN S. Boerckel	6/11/2010
CHECKED C. BROWN	6/21/2010
QA B. MADDUX	6/21/2010
REVIEWER	
PROJECT NO	
CUSTOMER	
JOB NO	

TITLE			
J-BOX MOUNT			
ASSEMBLY			
LIQUID FUEL FORWARDING PUMP SKID-7EA			
SIZE	ML:	DWG NO	REV
D	0425	SLFFPD7EA-630	A
SCALE: 1/4"=1"		WEIGHT: 68 lbmass	SHEET 1 OF 3



2201 ProEnergy Blvd
SEDALIA, MISSOURI 65301 US
PHONE: 1-888-829-5100
FAX: 1-888-829-1160



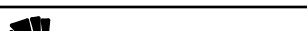


NOTES:

1. WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
2. WELDS ARE TO BE 1/16" LESS THAN THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE D1.1. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS AND FOLLOW THE PROPER WPS POSTED IN WORK AREA.
3. ALL MATERIAL SHALL BE ASTM A36, UNLESS OTHERWISE STATED.
4. DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
DO NOT PAINT ITEM #2.
5. PAINT FINISH:
 - BLAST SSPC-SP10/NACE 2, 2 mil
 - 2-COATS PHENICON HS (LIGHT GRAY)
 - PART-A (920A175)
 - PART-B (700-C-685)

0	ISSUED FOR FEBRICATION	S. Boerckel	1/31/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					

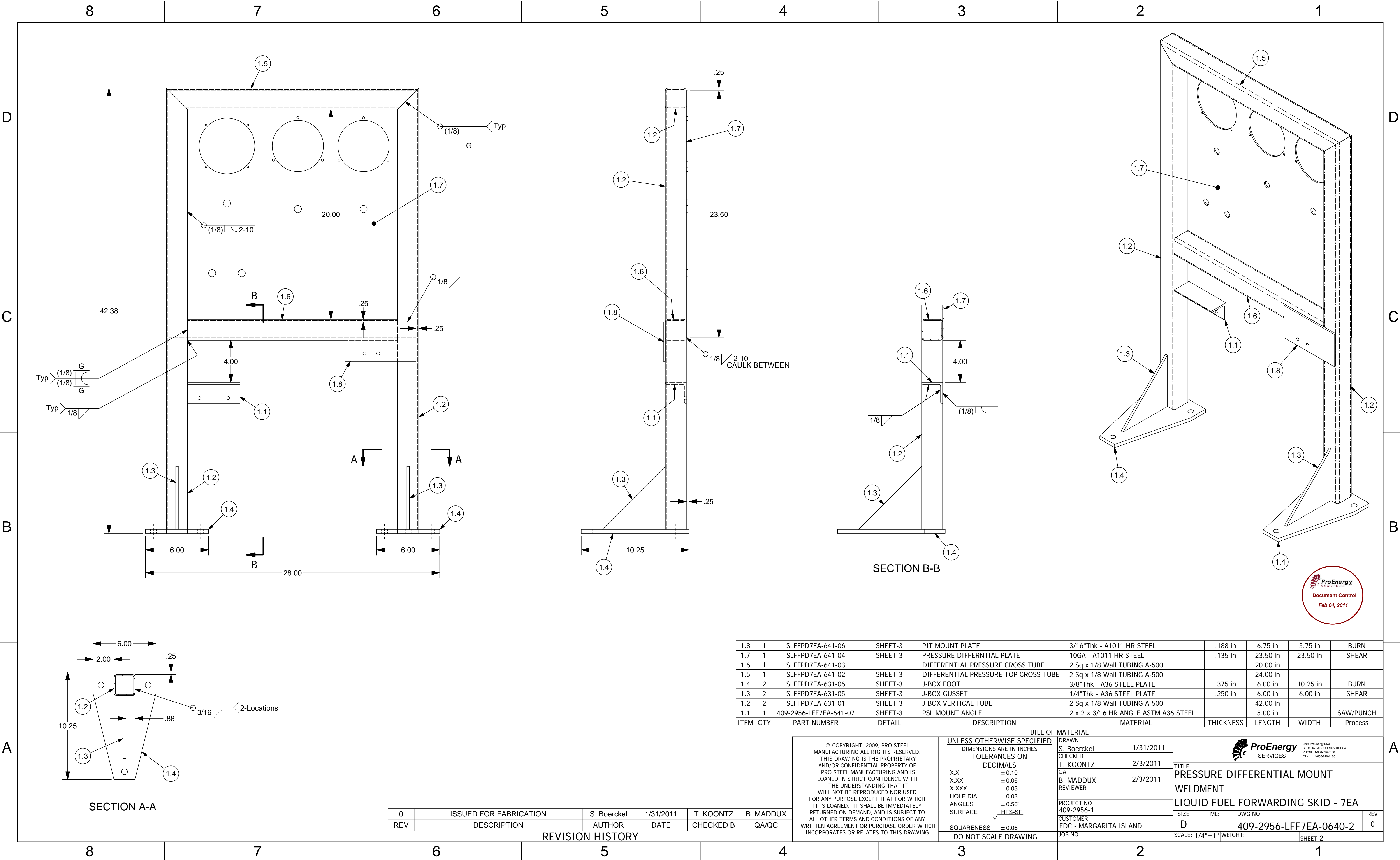
5	6			HELICAL SPRING LOCK WASHER	1/2" - HELICOID SPRING LOCK WASHER - CAD				
4	6			Type A Plain Washer	1/2" - TYPE-A PLAIN FLAT WASHER - CAD				
3	6			1/2-13 x 1.000 in LONG HHCS	HEX BOLT CAD PLATED - GRADE-5		1.00 in		
2	2	SLFFPD7EA-630-01	SHEET-3	J-BOX FOOT BASE	1/2"Thk - A36 STEEL PLATE	.500 in	7.00 in	10.75 in	BURN/DRILL
1	1	409-2956-LFF7EA-641	SHEET-2	PRESSURE DIFFERENTIAL MOUNT	WELDMENT				WELD
ITEM	QTY	PART NUMBER	DETAIL	DESCRIPTION	MATERIAL	THICKNESS	LENGTH	WIDTH	Process

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		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS		CHECKED T. KOONTZ		2/3/2011		TITLE PRESSURE DIFFERENTIAL MOUNT ASSEMBLY LIQUID FUEL FORWARDING SKID - 7EA			
		X.X ±0.10 X.XX ±0.06 X.XXX ±0.03 HOLE DIA ±0.03 ANGLES ±0.50° SURFACE <u>HFS-SF</u>		QA B. MADDUX		2/3/2011					
		✓		PROJECT NO 409-2956-1							
				CUSTOMER EDC - MARGARITA ISLAND							
ONTZ	B. MADDUX	SQUARENESS ±0.06		JOB NO		SCALE: 1/4"=1"		WEIGHT: 81 lbmass		SHEET 1	
KED B	QA/QC	DO NOT SCALE DRAWING				D		ML: DWG NO 409-2956-LFF7EA-0640-1		REV 0	



TITLE	PRESSURE DIFFERENTIAL MOUNT ASSEMBLY
	LIQUID FUEL FORWARDING SKID - 7EA

SIZE D	ML:	DWG NO 409-2956-LFF7EA-0640-1	REV 0
SCALE: 1/4"=1"		WEIGHT: 81 lbmass	SHEET 1



D

C

B

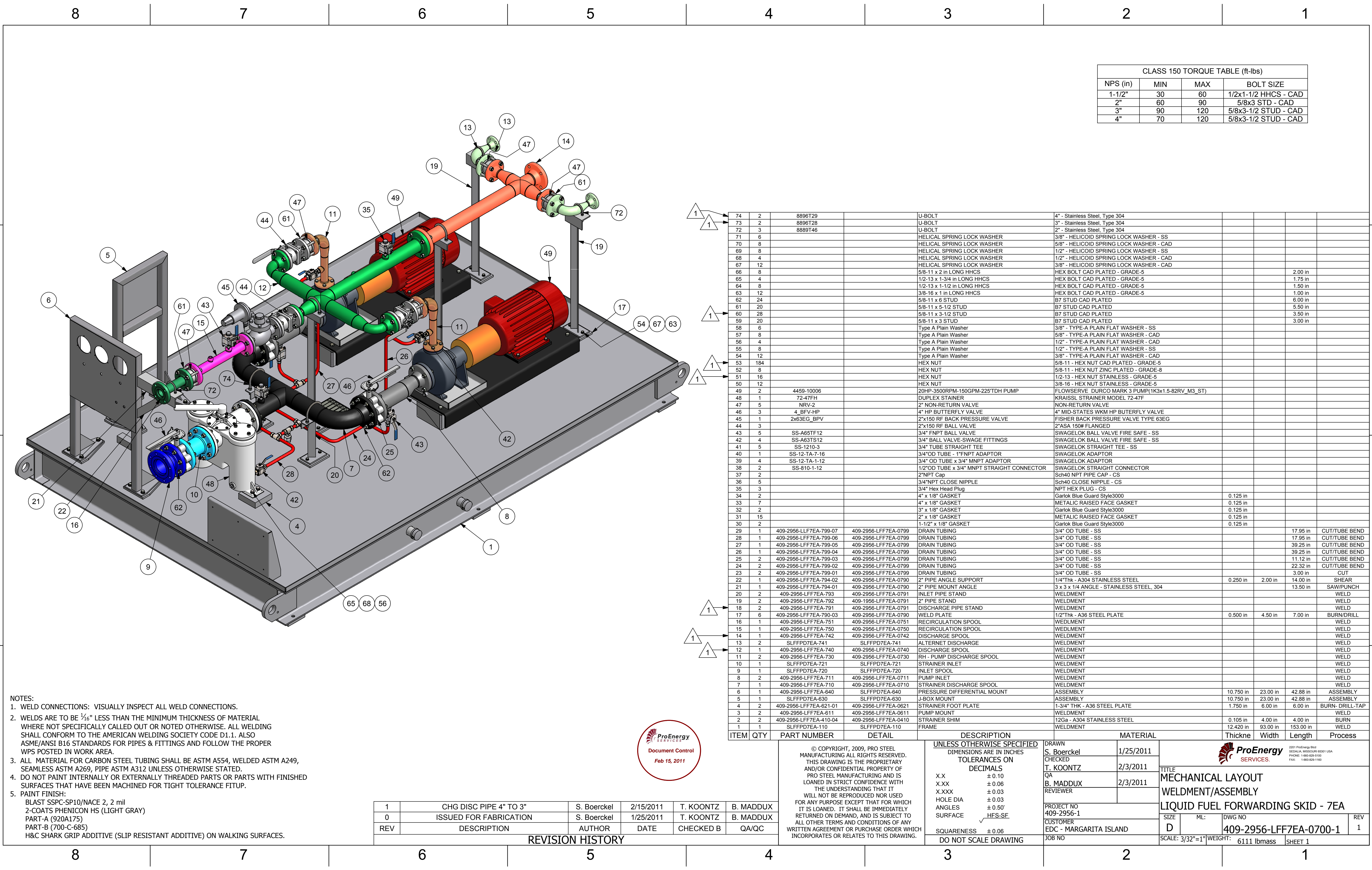
A

D

C

B

A



CLASS 150 TORQUE TABLE (ft-lbs)			
NPS (in)	MIN	MAX	BOLT SIZE
1-1/2"	30	60	1/2x1-1/2 HHCS - CAD
2"	60	90	5/8x3 STD - CAD
3"	90	120	5/8x3-1/2 STUD - CAD
4"	70	120	5/8x3-1/2 STUD - CAD

- NOTES:
- WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
 - WELDS ARE TO BE 3/16" LESS THAN THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE D1.1. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS AND FOLLOW THE PROPER WPS POSTED IN WORK AREA.
 - ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 UNLESS OTHERWISE STATED.
 - DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
 - PAINT FINISH:
BLAST SSPC-SP10/NACE 2, 2 mil
2-COATS PHENICON HS (LIGHT GRAY)
PART-A (920A175)
PART-B (700-C-685)
H&C SHARK GRIP ADDITIVE (SLIP RESISTANT ADDITIVE) ON WALKING SURFACES.

1	CHG DISC PIPE 4" TO 3"	S. Boerckel	2/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	1/25/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					

74	2	8896T29	U-BOLT	4" - Stainless Steel, Type 304					
73	2	8896T28	U-BOLT	3" - Stainless Steel, Type 304					
72	3	8896T46	U-BOLT	2" - Stainless Steel, Type 304					
71	6		HELICAL SPRING LOCK WASHER	3/8" - HELICOID SPRING LOCK WASHER - SS					
70	8		HELICAL SPRING LOCK WASHER	5/8" - HELICOID SPRING LOCK WASHER - CAD					
69	8		HELICAL SPRING LOCK WASHER	1/2" - HELICOID SPRING LOCK WASHER - SS					
68	4		HELICAL SPRING LOCK WASHER	1/2" - HELICOID SPRING LOCK WASHER - CAD					
67	12		HELICAL SPRING LOCK WASHER	3/8" - HELICOID SPRING LOCK WASHER - CAD					
66	8		5/8-11 x 2 in LONG HHCS	HEX BOLT CAD PLATED - GRADE-5				2.00 in	
65	4		1/2-13 x 1-3/4 in LONG HHCS	HEX BOLT CAD PLATED - GRADE-5				1.75 in	
64	8		1/2-13 x 1-1/2 in LONG HHCS	HEX BOLT CAD PLATED - GRADE-5				1.50 in	
63	12		3/8-16 x 1 in LONG HHCS	HEX BOLT CAD PLATED - GRADE-5				1.00 in	
62	24		5/8-11 x 6 STUD	B7 STUD CAD PLATED				6.00 in	
61	20		5/8-11 x 5-1/2 STUD	B7 STUD CAD PLATED				5.50 in	
60	28		5/8-11 x 3-1/2 STUD	B7 STUD CAD PLATED				3.50 in	
59	20		5/8-11 x 3 STUD	B7 STUD CAD PLATED				3.00 in	
58	6		Type A Plain Washer	3/8" - TYPE-A PLAIN FLAT WASHER - SS					
57	8		Type A Plain Washer	5/8" - TYPE-A PLAIN FLAT WASHER - CAD					
56	4		Type A Plain Washer	1/2" - TYPE-A PLAIN FLAT WASHER - CAD					
55	8		Type A Plain Washer	1/2" - TYPE-A PLAIN FLAT WASHER - SS					
54	12		Type A Plain Washer	3/8" - TYPE-A PLAIN FLAT WASHER - CAD					
53	184		HEX NUT	5/8-11 - HEX NUT CAD PLATED - GRADE-5					
52	8		HEX NUT	5/8-11 - HEX NUT ZINC PLATED - GRADE-8					
51	16		HEX NUT	1/2-13 - HEX NUT STAINLESS - GRADE-5					
50	12		HEX NUT	3/8-16 - HEX NUT STAINLESS - GRADE-5					
49	2	4459-10006	20HP-3500RPM-150GPM-225"TDH PUMP	FLOWSERVE DURCO MARK 3 PUMP(1K3x1.5-82RV_M3_ST)					
48	1	72-47FH	DUPLEX STRAINER	KRAISSL STRAINER MODEL 72-47F					
47	5	NRV-2	2" NON-RETURN VALVE	NON-RETURN VALVE					
46	3	4_BFV-HP	4" HP BUTTERFLY VALVE	4" MID-STATES WKM HP BUTTERFLY VALVE					
45	1	2x63EG_BP	2"x150 RF BACK PRESSURE VALVE	FISHER BACK PRESSURE VALVE TYPE 63EG					
44	3		2"x150 RF BALL VALVE	2"ASA 150# FLANGED					
43	5	SS-A65TF12	3/4" FNPT BALL VALVE	SWAGelok BALL VALVE FIRE SAFE - SS					
42	4	SS-A63TS12	3/4" BALL VALVE-SWAGE FITTINGS	SWAGelok BALL VALVE FIRE SAFE - SS					
41	5	SS-1210-3	3/4" TUBE STRAIGHT TEE	SWAGelok STRAIGHT TEE - SS					
40	1	SS-12-TA-7-16	3/4"OD TUBE - 1"FNPT ADAPTOR	SWAGelok ADAPTOR					
39	4	SS-12-TA-1-12	3/4" OD TUBE x 3/4" MNPT ADAPTOR	SWAGelok ADAPTOR					
38	2	SS-810-1-12	1/2"OD TUBE x 3/4" MNPT STRAIGHT CONNECTOR	SWAGelok STRAIGHT CONNECTOR					
37	2		2"NPT Cap	Sch40 NPT PIPE CAP - CS					
36	5		3/4"NPT CLOSE NIPPLE	Sch40 CLOSE NIPPLE - CS					
35	3		3/4" Hex Head Plug	NPT HEX PLUG - CS					
34	2		4" x 1/8" GASKET	Garlok Blue Guard Style3000	0.125 in				
33	7		4" x 1/8" GASKET	METALIC RAISED FACE GASKET	0.125 in				
32	2		3" x 1/8" GASKET	Garlok Blue Guard Style3000	0.125 in				
31	15		2" x 1/8" GASKET	METALIC RAISED FACE GASKET	0.125 in				
30	2		1-1/2" x 1/8" GASKET	Garlok Blue Guard Style3000	0.125 in				
29	1	409-2956-LFF7EA-799-07	DRAIN TUBING	3/4" OD TUBE - SS				17.95 in	CUT/TUBE BEND
28	1	409-2956-LFF7EA-799-06	DRAIN TUBING	3/4" OD TUBE - SS				17.95 in	CUT/TUBE BEND
27	1	409-2956-LFF7EA-799-05	DRAIN TUBING	3/4" OD TUBE - SS				39.25 in	CUT/TUBE BEND
26	1	409-2956-LFF7EA-799-04	DRAIN TUBING	3/4" OD TUBE - SS				39.25 in	CUT/TUBE BEND
25	2	409-2956-LFF7EA-799-03	DRAIN TUBING	3/4" OD TUBE - SS				11.12 in	CUT/TUBE BEND
24	2	409-2956-LFF7EA-799-02	DRAIN TUBING	3/4" OD TUBE - SS				22.32 in	CUT/TUBE BEND
23	2	409-2956-LFF7EA-799-01	DRAIN TUBING	3/4" OD TUBE - SS				3.00 in	CUT
22	1	409-2956-LFF7EA-794-02	2" PIPE ANGLE SUPPORT	1/4"Thk - A304 STAINLESS STEEL	0.250 in	2.00 in	14.00 in		SHEAR
21	1	409-2956-LFF7EA-794-01	2" PIPE MOUNT ANGLE	3 x 3 x 1/4 ANGLE - STAINLESS STEEL, 304			13.50 in		SAW/PUNCH
20	2	409-2956-LFF7EA-793	INLET PIPE STAND	WELDMENT					WELD
19	2	409-2956-LFF7EA-792	2" PIPE STAND	WELDMENT					WELD
18	2	409-2956-LFF7EA-791	DISCHARGE PIPE STAND	WELDMENT					WELD
17	6	409-2956-LFF7EA-790-03	WELD PLATE	1/2"Thk - A36 STEEL PLATE	0.500 in	4.50 in	7.00 in		BURN/DRILL
16	1	409-2956-LFF7EA-751	RECIRCULATION SPOOL	WEDLMENT					WELD
15	1	409-2956-LFF7EA-750	RECIRCULATION SPOOL	WEDLMENT					WELD
14	1	409-2956-LFF7EA-742	DISCHARGE SPOOL	WELDMENT					WELD
13	2	SLFFPD7EA-741	ALTERNET DISCHARGE	WELDMENT					WELD
12	1	409-2956-LFF7EA-740	DISCHARGE SPOOL	WELDMENT					WELD
11	2	409-2956-LFF7EA-730	RH - PUMP DISCHARGE SPOOL	WELDMENT					WELD
10	1	SLFFPD7EA-721	STRAINER INLET	WELDMENT					WELD
9	1	SLFFPD7EA-720	INLET SPOOL	WELDMENT					WELD
8	2	409-2956-LFF7EA-711	PUMP INLET	WELDMENT					WELD
7	1	409-2956-LFF7EA-710	STRAINER DISCHARGE SPOOL	WELDMENT					WELD
6	1	409-2956-LFF7EA-640	PRESSURE DIFFERENTIAL MOUNT	ASSEMBLY	10.750 in	23.00 in	42.88 in		ASSEMBLY
5	1	SLFFPD7EA-630	J-BOX MOUNT	ASSEMBLY	10.750 in	23.00 in	42.88 in		ASSEMBLY
4	2	409-2956-LFF7EA-621-01	STRAINER FOOT PLATE	1-3/4" THK - A36 STEEL PLATE	1.750 in	6.00 in	6.00 in		BURN-DRILL-TAP
3	2	409-2956-LFF7EA-611	PUMP MOUNT	WELDMENT					WELD
2	2	409-2956-LFF7EA-410-04	STRAINER SHIM	12Ga - A304 STAINLESS STEEL	0.105 in	4.00 in	4.00 in		BURN
1	1	SLFFPD7EA-110	FRAME	WELDMENT	12.420 in	93.00 in	153.00 in		WELD
ITEM	QTY	PART NUMBER	DETAIL	DESCRIPTION	MATERIAL	Thickne	Width	Length	Process

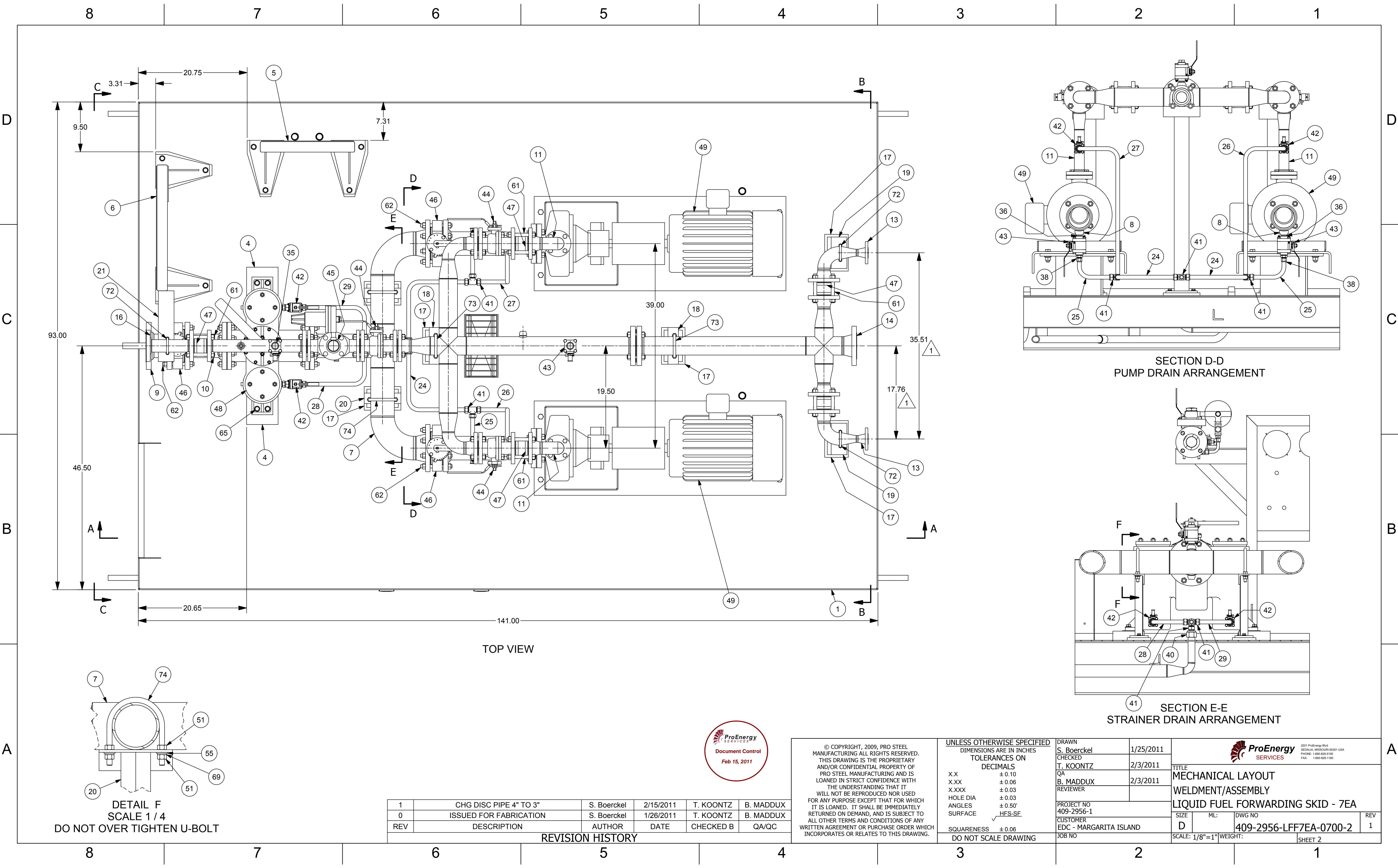
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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS
X.X ± 0.10
X.XX ± 0.06
X.XXX ± 0.03
HOLE DIA ± 0.03
ANGLES ± 0.50'
SURFACE HFS-SF
SQUARENESS ± 0.06
DO NOT SCALE DRAWING

DRAWN S. Boerckel 1/25/2011
CHECKED T. KOONTZ 2/3/2011
QA B. MADDUX 2/3/2011
REVIEWER
PROJECT NO 409-2956-1
CUSTOMER EDC - MARGARITA ISLAND
JOB NO

TITLE MECHANICAL LAYOUT
WELDMENT/ASSEMBLY
LIQUID FUEL FORWARDING SKID - 7EA
SIZE D ML: DWG NO 409-2956-LFF7EA-0700-1 REV 1
SCALE: 3/32"=1" WEIGHT: 6111 lbmass SHEET 1

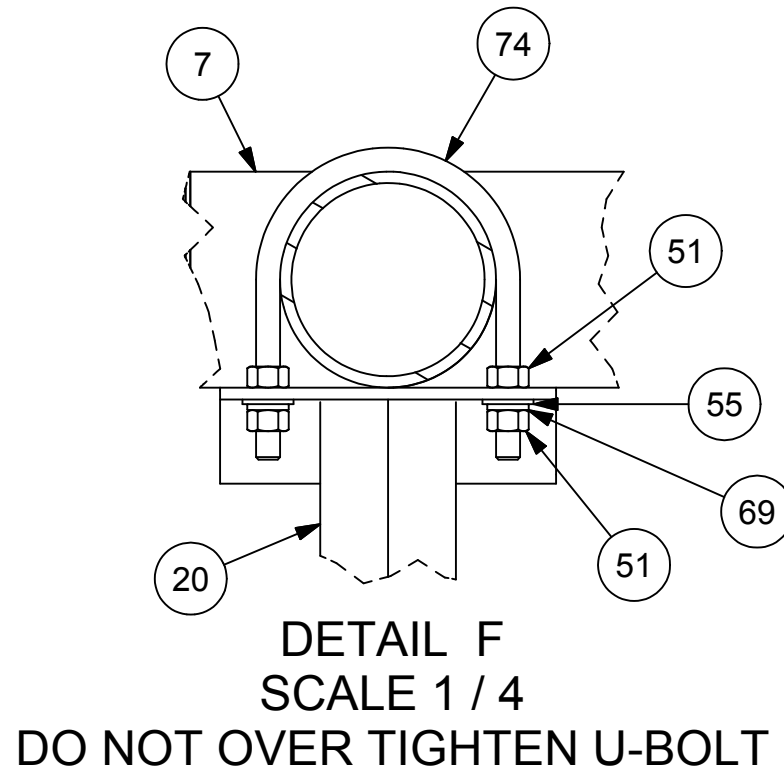




TOP VIEW

SECTION D-D
PUMP DRAIN ARRANGEMENT

SECTION E-E
STRAINER DRAIN ARRANGEMENT



1	CHG DISC PIPE 4" TO 3"	S. Boerckel	2/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	1/26/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC

REVISION HISTORY

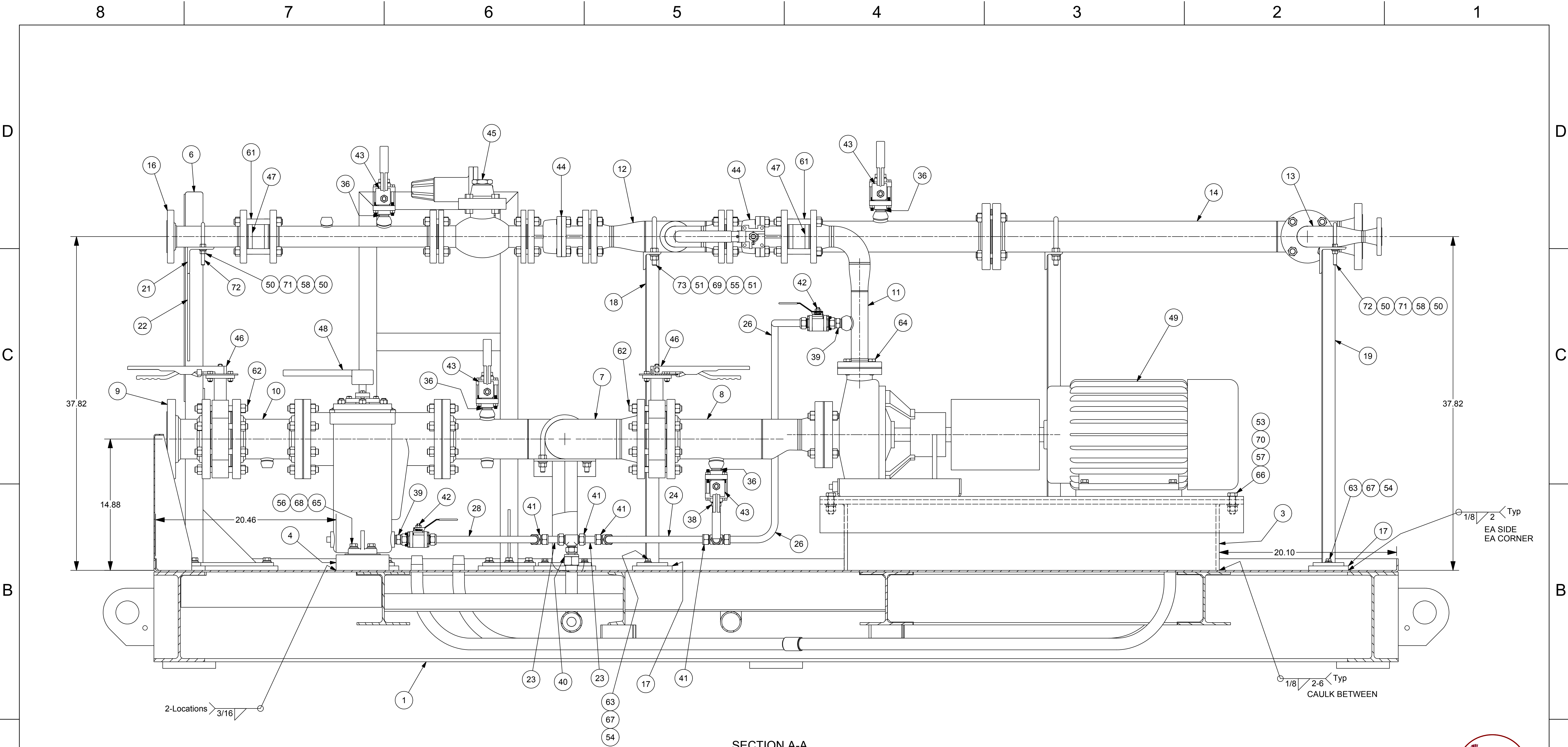


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UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
TOLERANCES ON DECIMALS	
X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	✓ HFS-SF
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

DRAWN	S. Boerckel	1/25/2011
CHECKED	T. KOONTZ	2/3/2011
QA	B. MADDUX	2/3/2011
REVIEWER		
PROJECT NO 409-2956-1		
CUSTOMER EDC - MARGARITA ISLAND		
JOB NO		

			
TITLE MECHANICAL LAYOUT WELDMENT/ASSEMBLY LIQUID FUEL FORWARDING SKID - 7EA			
SIZE D	ML	DWG NO 409-2956-LFF7EA-0700-2	REV 1
SCALE: 1/8"=1"		WEIGHT:	SHEET 2



SECTION A-A


REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
1	CHG DISC PIPE 4" TO 3"	S. Boerckel	2/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	1/25/2011	T. KOONTZ	B. MADDUX

REVISION HISTORY

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FOR ANY PURPOSE EXCEPT THAT FOR WHICH
IT IS LOANED. IT SHALL BE IMMEDIATELY
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WRITTEN AGREEMENT OR PURCHASE ORDER WHICH
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UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
DECIMALS
X.X ± 0.10
X.XX ± 0.06
X.XXX ± 0.03
HOLE DIA ± 0.03
ANGLES ± 0.50°
SURFACE HFS-SF
SQUARENESS ± 0.06
DO NOT SCALE DRAWING

DRAWN	S. Boerckel	1/25/2011
CHECKED	T. KOONTZ	2/3/2011
QA	B. MADDUX	2/3/2011
REVIEWER		
PROJECT NO	409-2956-1	
CUSTOMER	EDC - MARGARITA ISLAND	
JOB NO		

			
TITLE MECHANICAL LAYOUT WELDMEN/ASSEMBLY LIQUID FUEL FORWARDING SKID - 7EA			
SIZE D	ML	DWG NO 409-2956-LFF7EA-0700-3	REV 1
SCALE: 3/16"=1" WEIGHT: SHEET 3			



2201 ProEnergy Blvd
SEDAIA, MISSOURI 65201 USA
PHONE: 1-800-829-5100
FAX: 1-800-829-1100

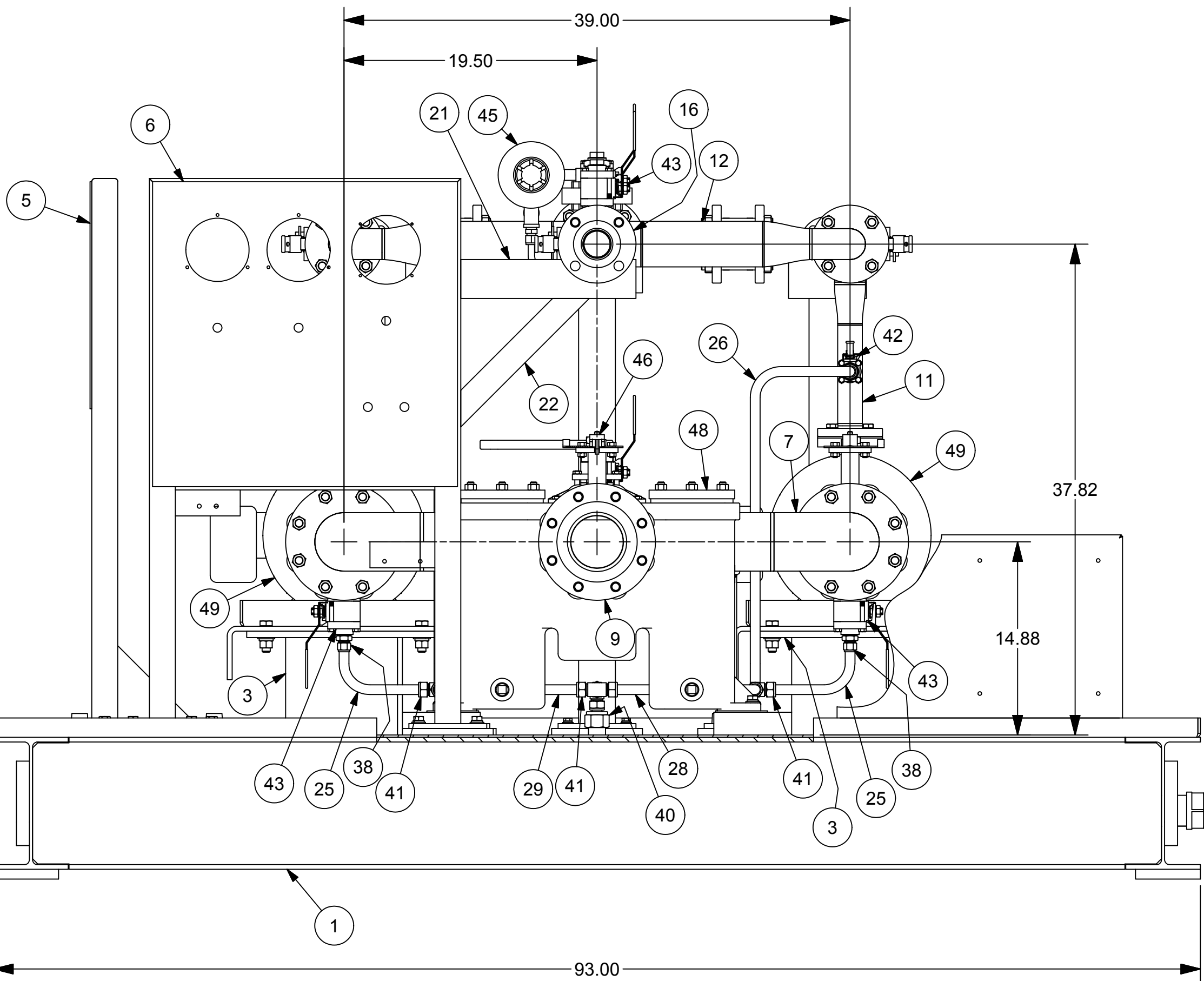
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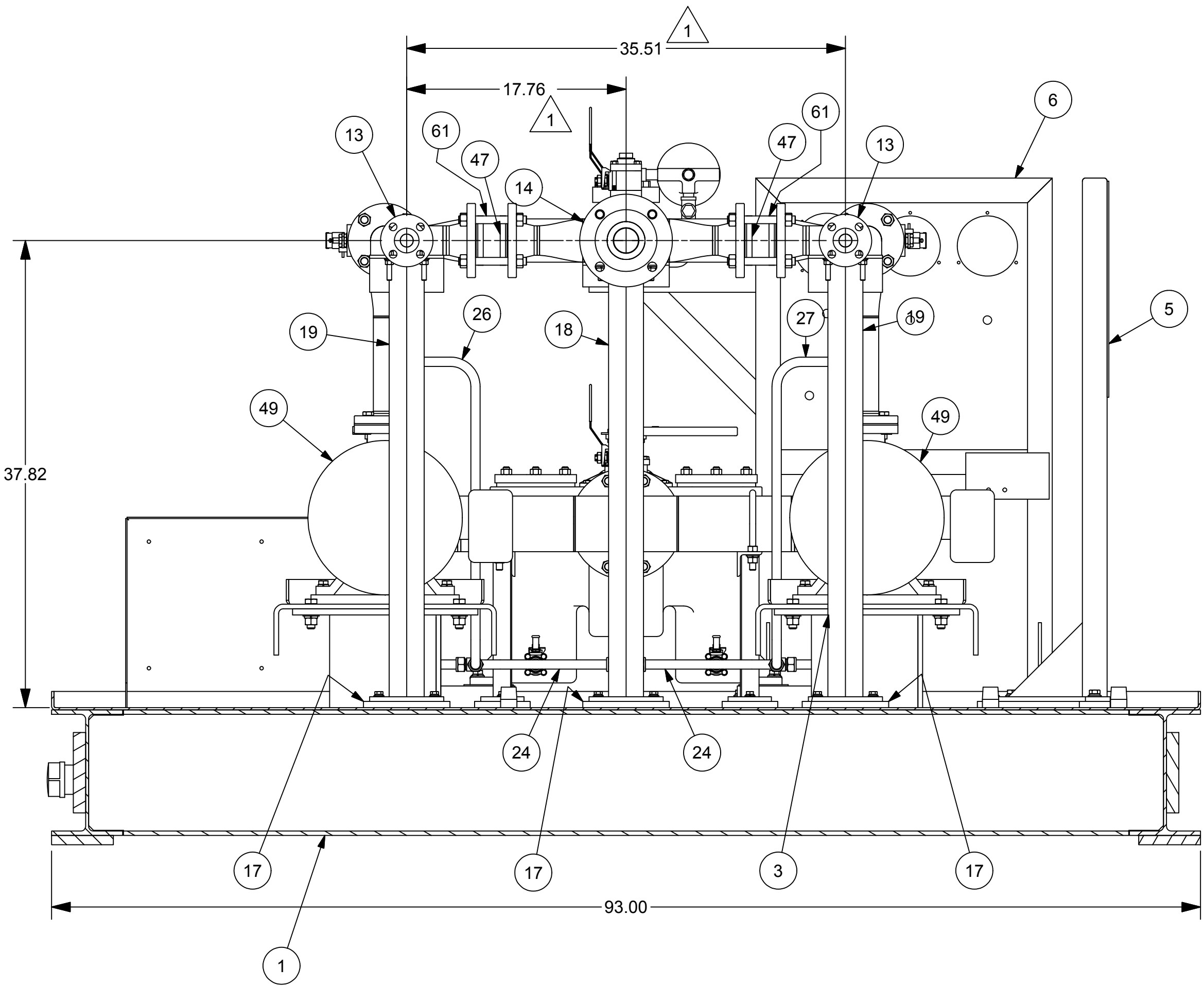
C

B

A



VIEW C-C




SECTION B-B



REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
1	CHG DISC PIPE 4" TO 3"	S. Boerckel	2/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	1/26/2011	T. KOONTZ	B. MADDUX

REVISION HISTORY

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	DIMENSIONS ARE IN INCHES		S. Boerckel					
	TOLERANCES ON		CHECKED		2/3/2011		TITLE	
	DECIMALS		T. KOONTZ				MECHANICAL LAYOUT	
	X.X	± 0.10	QA		2/3/2011		WELDMENT/ASSEMBLY	
	X.XX	± 0.06	B. MADDUX				LIQUID FUEL FORWARDING SKID - 7EA	
	X.XXX	± 0.03	REVIEWER				SIZE	
	HOLE DIA	± 0.03	PROJECT NO		ML:		DWG NO	
	ANGLES	± 0.50°	409-2956-1		D		REV	
	SURFACE	✓ HFS-SF	CUSTOMER		D		1	
		EDC - MARGARITA ISLAND		SCALE: 1/8"=1"		WEIGHT:		
SQUARENESS	± 0.06	JOB NO		SHEET 4				
DO NOT SCALE DRAWING								

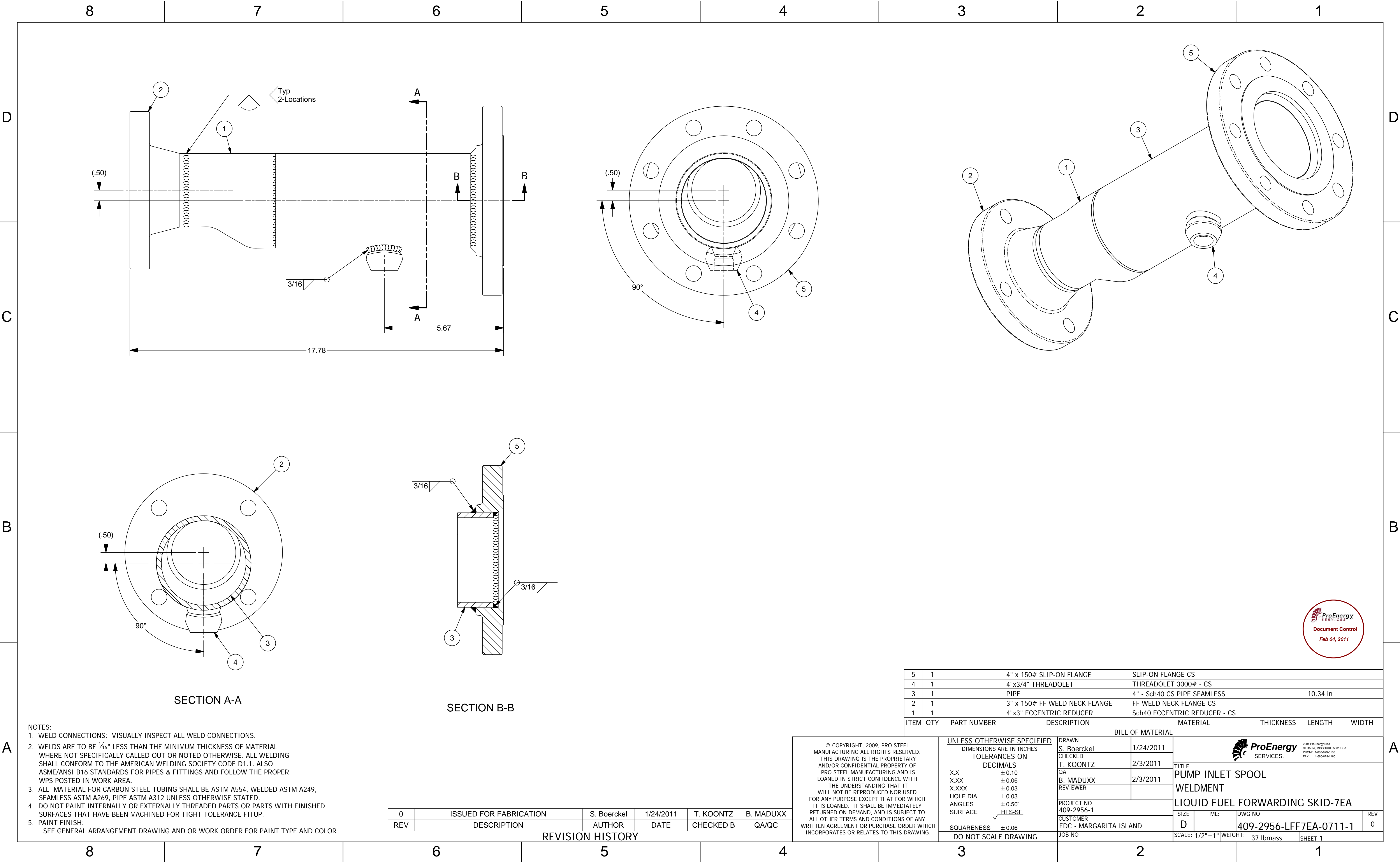
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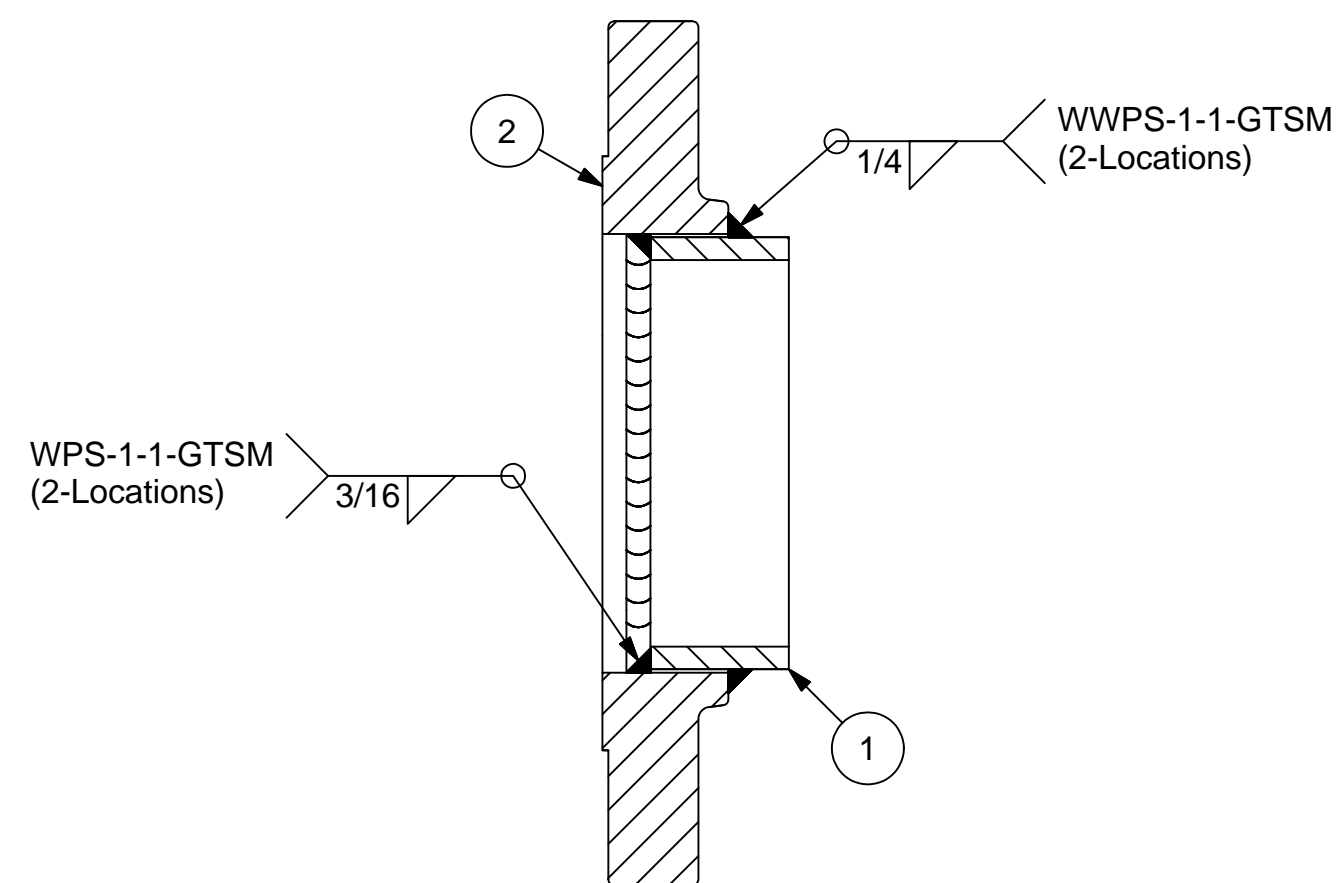
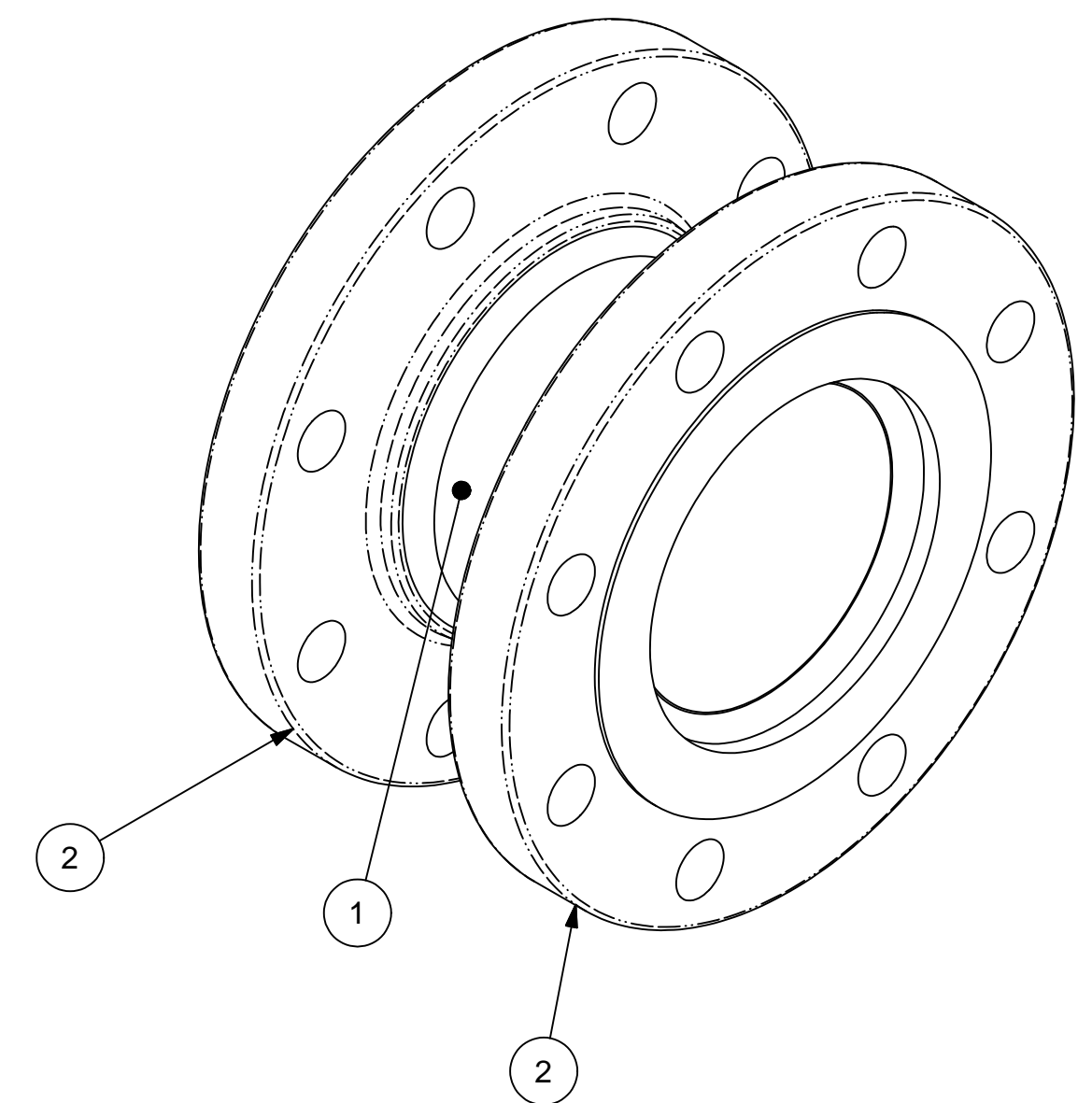
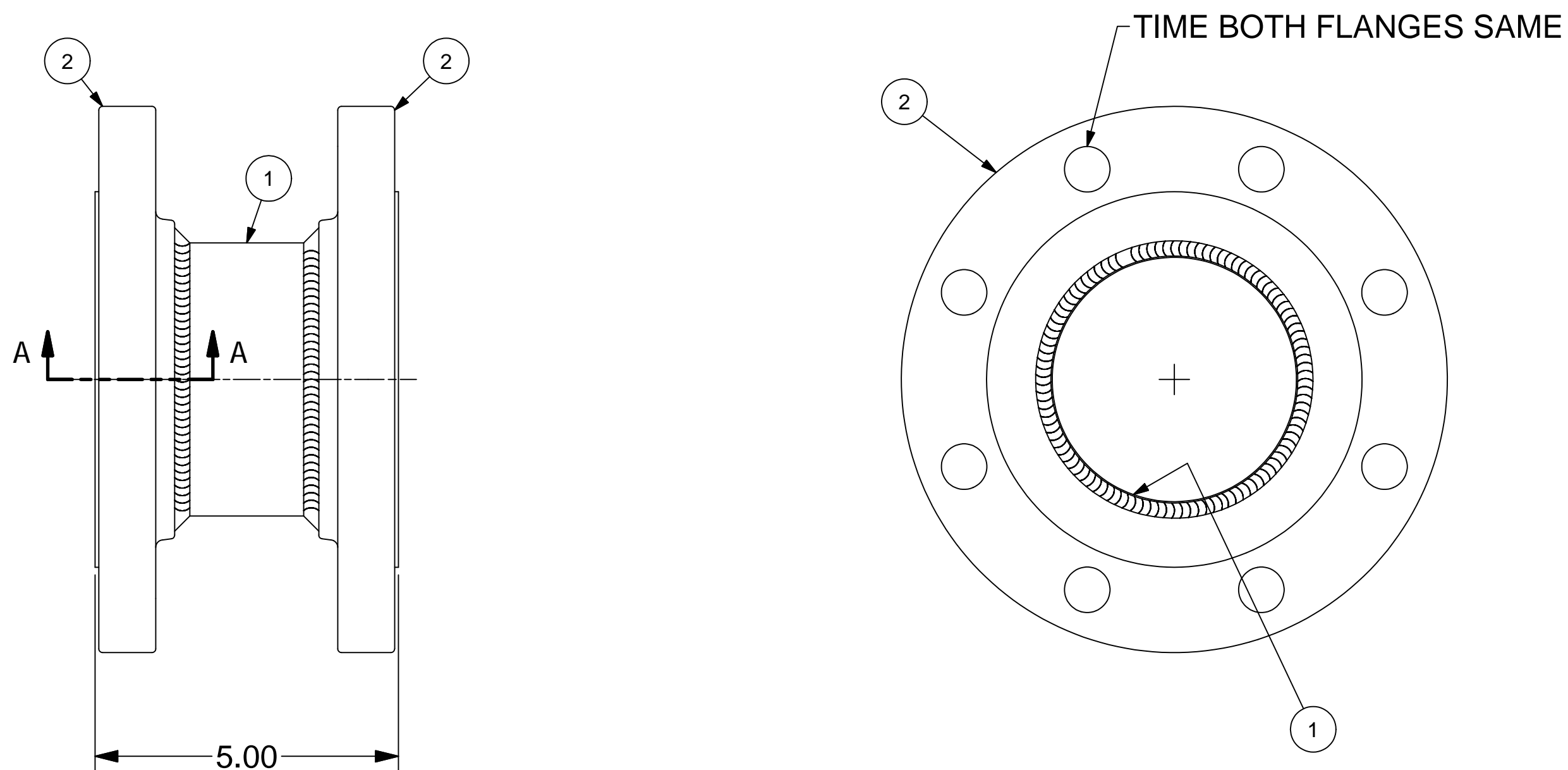
D

C

B

A





SECTION A-A


NOTES:

1. WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
2. WELDS ARE TO BE GREATER THAN OR EQUAL TO THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS AND FOLLOW THE PROPER WPS POSTED IN THE WORK AREA
3. ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 UNLESS OTHERWISE STATED. SHAPES SHALL CONFORM TO ASTM A276.
4. DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
5. PAINT FINISH:
SEE GENERAL ARRANGEMENT DRAWING AND OR WORK ORDER FOR PAINT TYPE AND COLOR

B	ADDED WPS	S. Boerckel	9/21/2010	J. BALLEW	B. MADDUX
A	RELEASED FOR FABRICATION	S. Boerckel	6/28/2010	J. BALLEW	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					



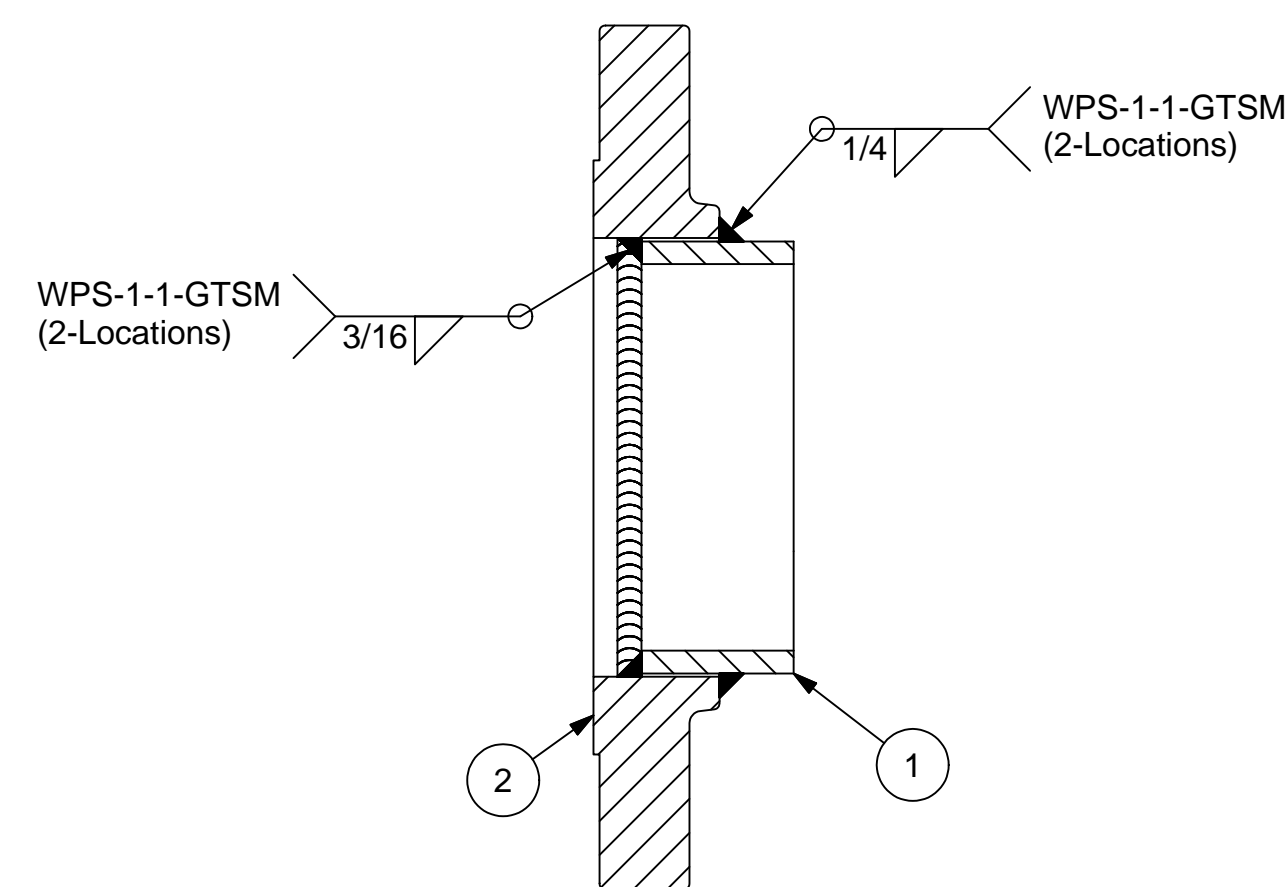
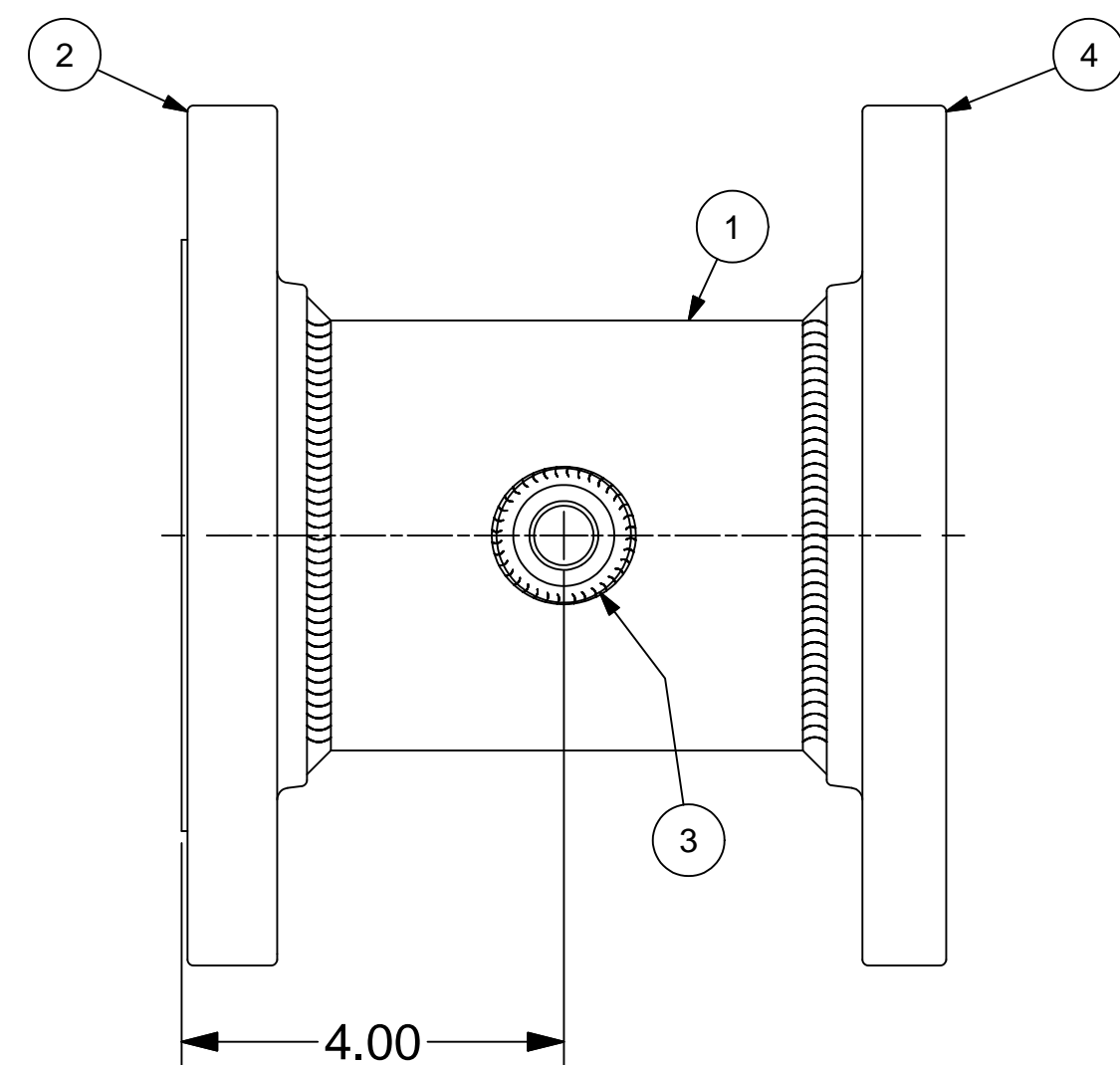
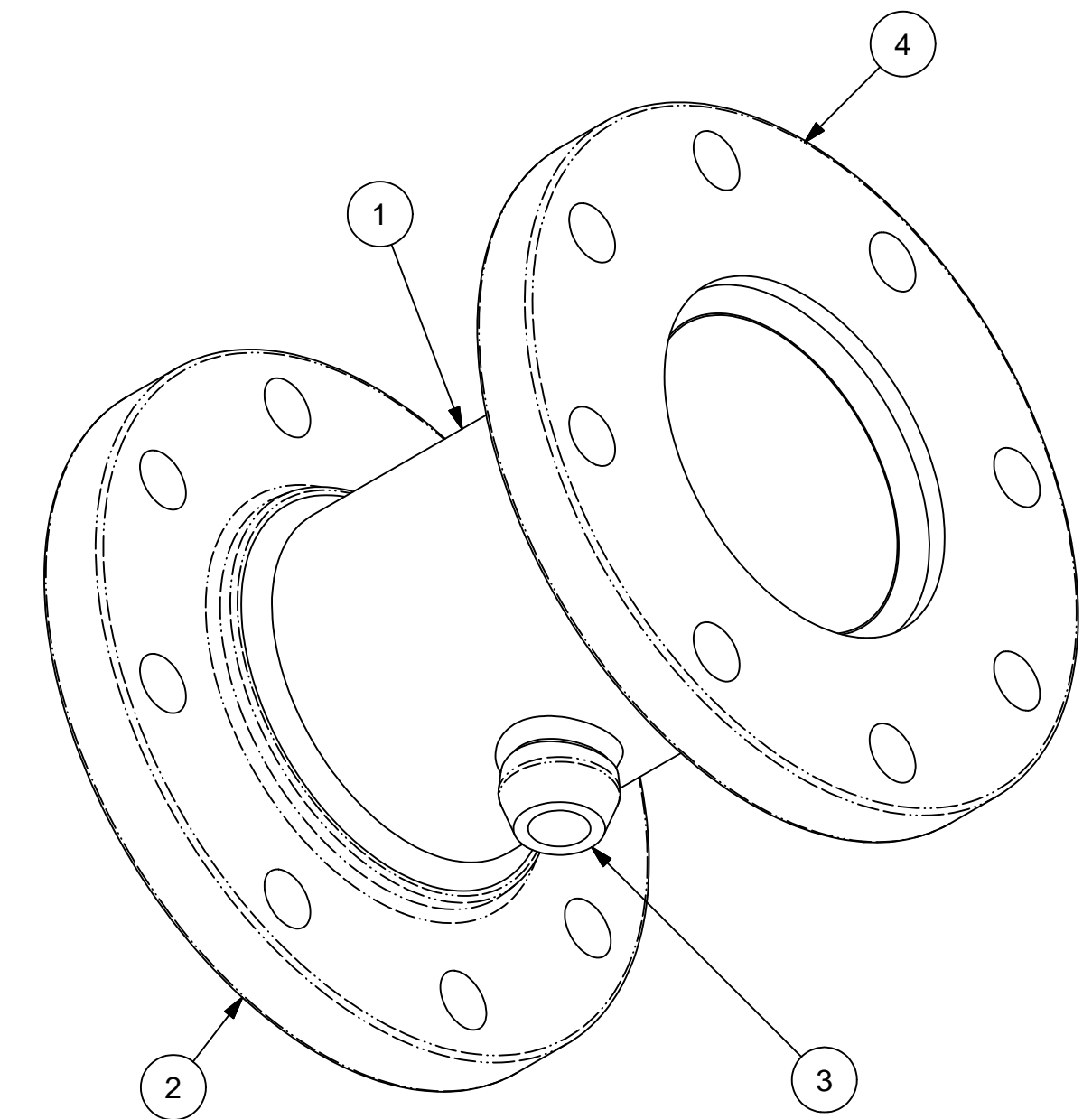
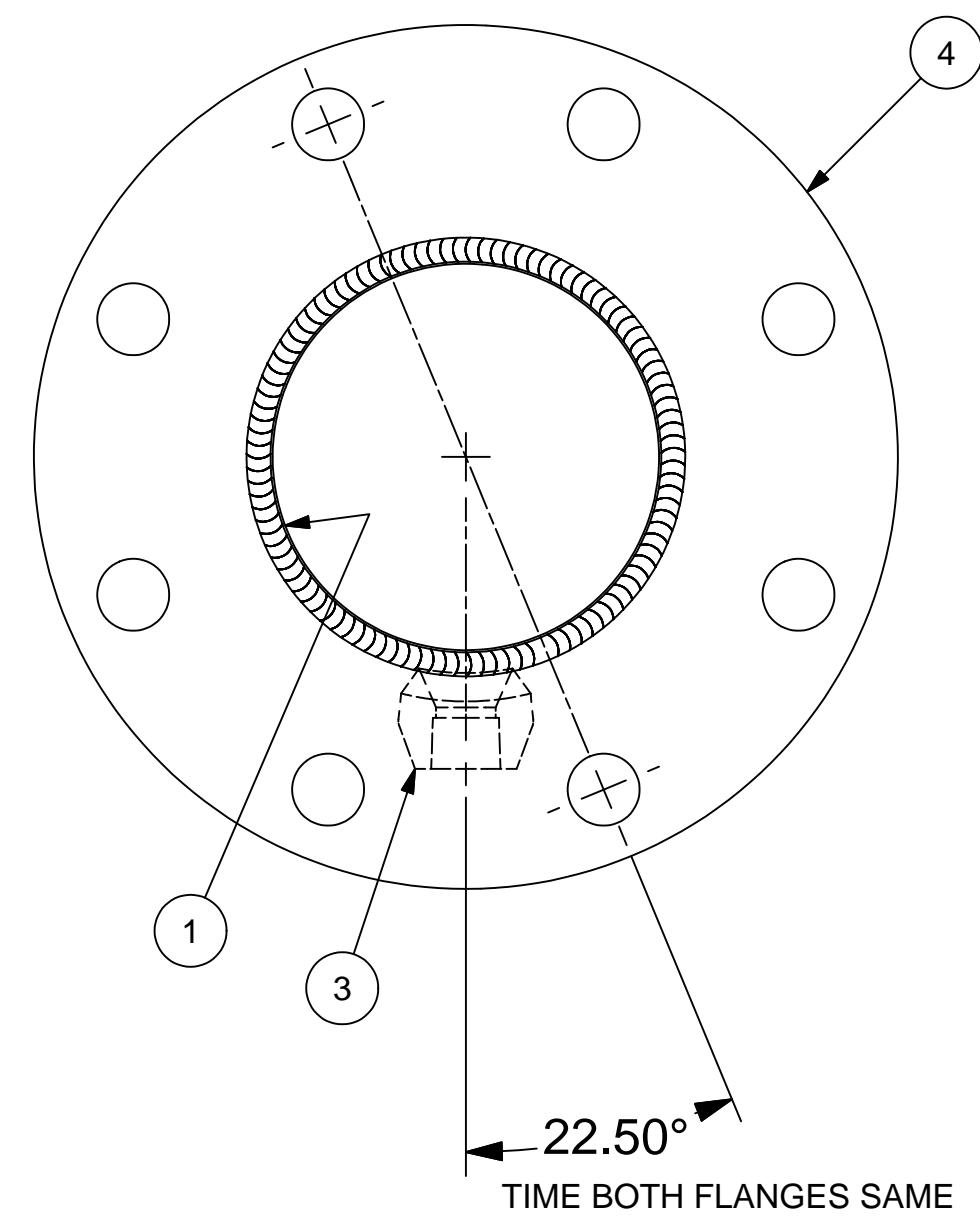
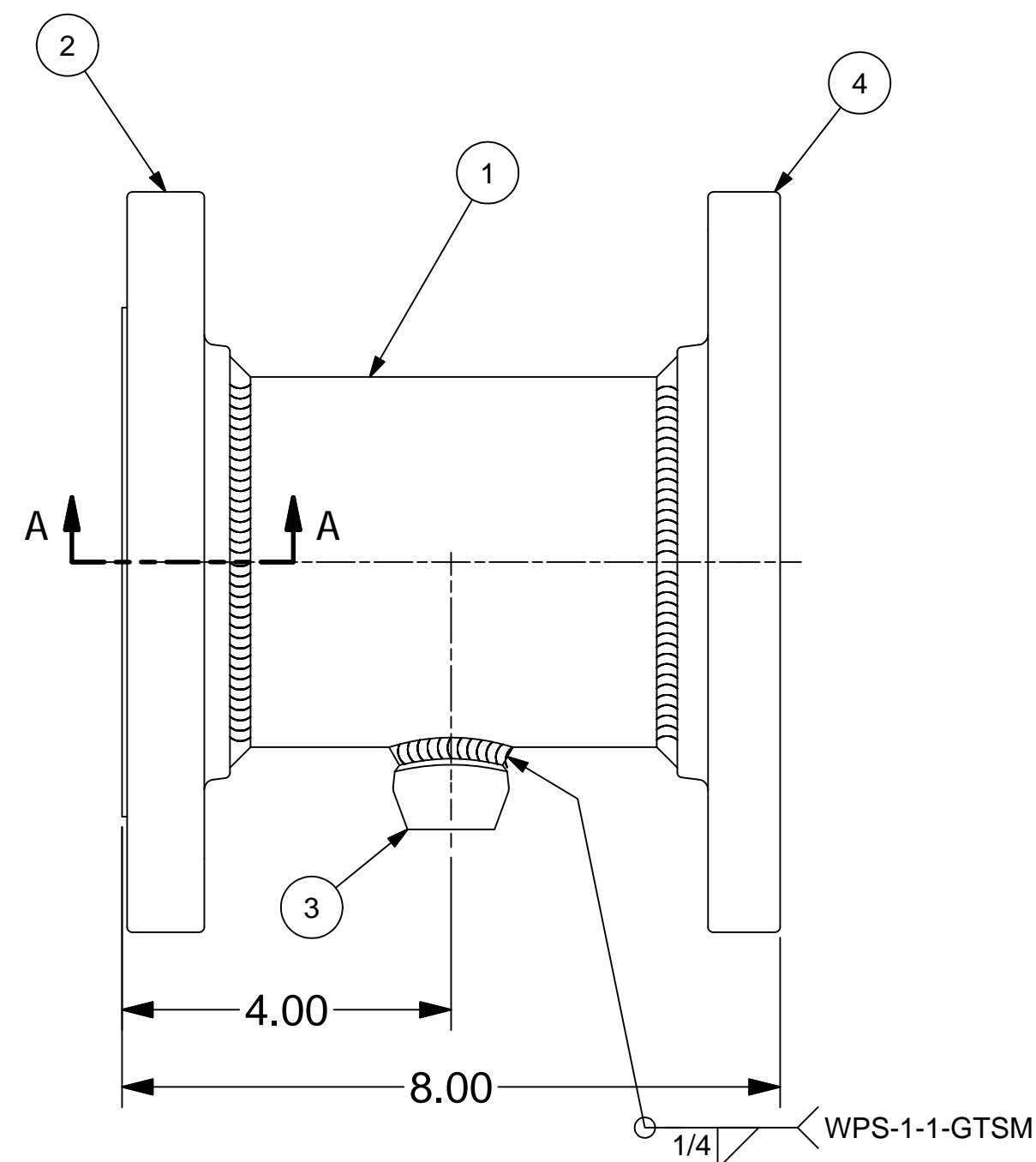
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2	2		4" x 150# SLIP-ON FLANGE	SLIP-ON FLANGE CS				
1	1	SLFFPD7EA-720-01	PIPE	4" - Sch40 CS PIPE SEAMLESS			4.000 in	
ITEM	QTY	PART NUMBER	DESCRIPTION	Material		THICKNESS	LENGTH	WIDTH
BILL OF MATERIAL								
TEE, RESERVED, DIETARY RTY OF AND IS CE WITH T IT OR USED OR WHICH EDIATELY UJECT TO NS OF ANY ORDER WHICH IS DRAWING.	UNLESS OTHERWISE SPECIFIED			DRAWN	6/28/2010	 <div>2201 ProEnergy Blvd SEDALIA, MISSOURI 65301 USA PHONE: 1-660-829-1100 FAX: 1-660-829-1160</div>		
	DIMENSIONS ARE IN INCHES			S. Boerckel				
	TOLERANCES ON			CHECKED	6/29/2010	TITLE STRAINER INLET SPOOL WELDMENT		
	DECIMALS			J. BALLEW				
	X.X ± 0.10			QA	9/21/2010	LIQUID FUEL FORWARDING PUMP SKID-7EA		
	X.XX ± 0.06			B. MADDUX				
	X.XXX ± 0.03			REVIEWER		SIZE D ML: DWG NO SLFFPD7EA-720 REV B		
	HOLE DIA ± 0.03			PROJECT NO				
	ANGLES ± 0.50'			CUSTOMER				
	SURFACE <u>HFS-SF</u>							
SQUARENESS ± 0.06								
DO NOT SCALE DRAWING			JOB NO	SCALE: 1/2"=1"		WEIGHT: 29 lbmass		SHEET 1 OF 1




TITLE
STRAINER INLET SPOOL
WELDMENT
LIQUID FUEL FORWARDING PUMP SKID-7EA

SIZE D	ML:	DWG NO SLFFPD7EA-720	REV B
SCALE: 1/2"=1"		WEIGHT: 29 lbmass	SHEET 1 OF 1



SECTION A-A

	4	1		4" x 150# FF SLIP-ON FLANGE	FLAT FACE SLIP-ON FLANGE - CS			
	3	1		4" x 1/2" THREADOLET	THREADOLET 3000# - CS			
	2	1		4" x 150# SLIP-ON FLANGE	SLIP-ON FLANGE CS			
	1	1	SLFFPD7EA-721-01	PIPE	4" - Sch40 CS PIPE SEAMLESS		7.000 in	
ITEM	QTY	PART NUMBER	DESCRIPTION	Material	THICKNESS	LENGTH	WIDTH	

BILL OF MATERIAL												
<div>UNLESS OTHERWISE SPECIFIED</div> <div>DIMENSIONS ARE IN INCHES</div> <div>TOLERANCES ON</div> <div>DECIMALS</div> <div>X.X ±0.10</div> <div>X.XX ±0.06</div> <div>X.XXX ±0.03</div> <div>HOLE DIA ±0.03</div> <div>ANGLES ±0.50°</div> <div>SURFACE <div>✓HFS-SF</div></div> <div>SQUARENESS ±0.06</div> <div>DO NOT SCALE DRAWING</div>			DRAWN		6/28/2010		<div></div> <div>2201 ProEnergy Blvd SEDALIA, MISSOURI 65301 USA PHONE: 1-800-829-1100 FAX: 1-800-829-1160</div>					
			CHECKED		6/29/2010						TITLE	
			J. BALLEW		6/29/2010		STRAINER INLET SPOOL		WELDMENT		LIQUID FUEL FORWARDING PUMP SKID-7EA	
			QA		9/21/2010							
			B. MADDUX									
REVIEWER												
PROJECT NO												
CUSTOMER												
				SIZE		ML:		DWG NO		REV		
				D				SLFFPD7EA-721		B		
				SCALE: 1/2"=1"		WEIGHT: 31 lbmass		SHEET 1 OF 1				

NOTES:

1. WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
2. WELDS ARE TO BE GREATER THAN OR EQUAL TO THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS AND FOLLOW THE PROPER WPS POSTED IN THE WORK AREA
3. ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 UNLESS OTHERWISE STATED. SHAPES SHALL CONFORM TO ASTM A276.
4. DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
5. PAINT FINISH:
SEE GENERAL ARRANGEMENT DRAWING AND OR WORK ORDER FOR PAINT TYPE AND COLOR


B	ADD WPS & ITEM-4	S. Boerckel	9/21/2010	J. BALLEW	B. MADDUX
A	RELEASED FOR FABRICATION	S. Boerckel	6/28/2010	J. BALLEW	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					



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WRITTEN AGREEMENT OR PURCHASE ORDER WHICH
INCORPORATES OR RELATES TO THIS DRAWING.

UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES	
TOLERANCES ON	
DECIMALS	
X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	√ <u>HFS-SF</u>
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

DRAWN	
S. Boerckel	6/28/2010
CHECKED	
J. BALLEW	6/29/2010
QA	
B. MADDUX	9/21/2010
REVIEWER	
PROJECT NO	
CUSTOMER	
JOB NO	

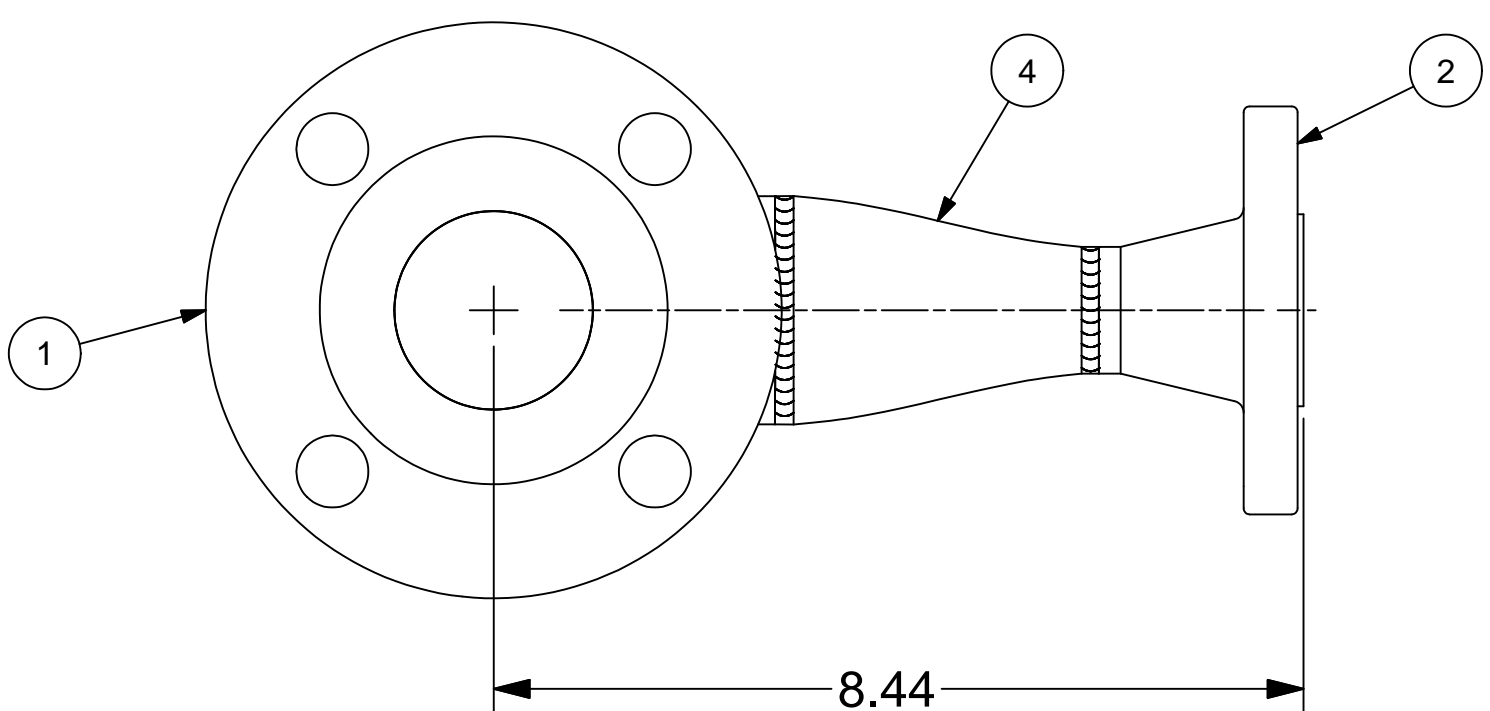
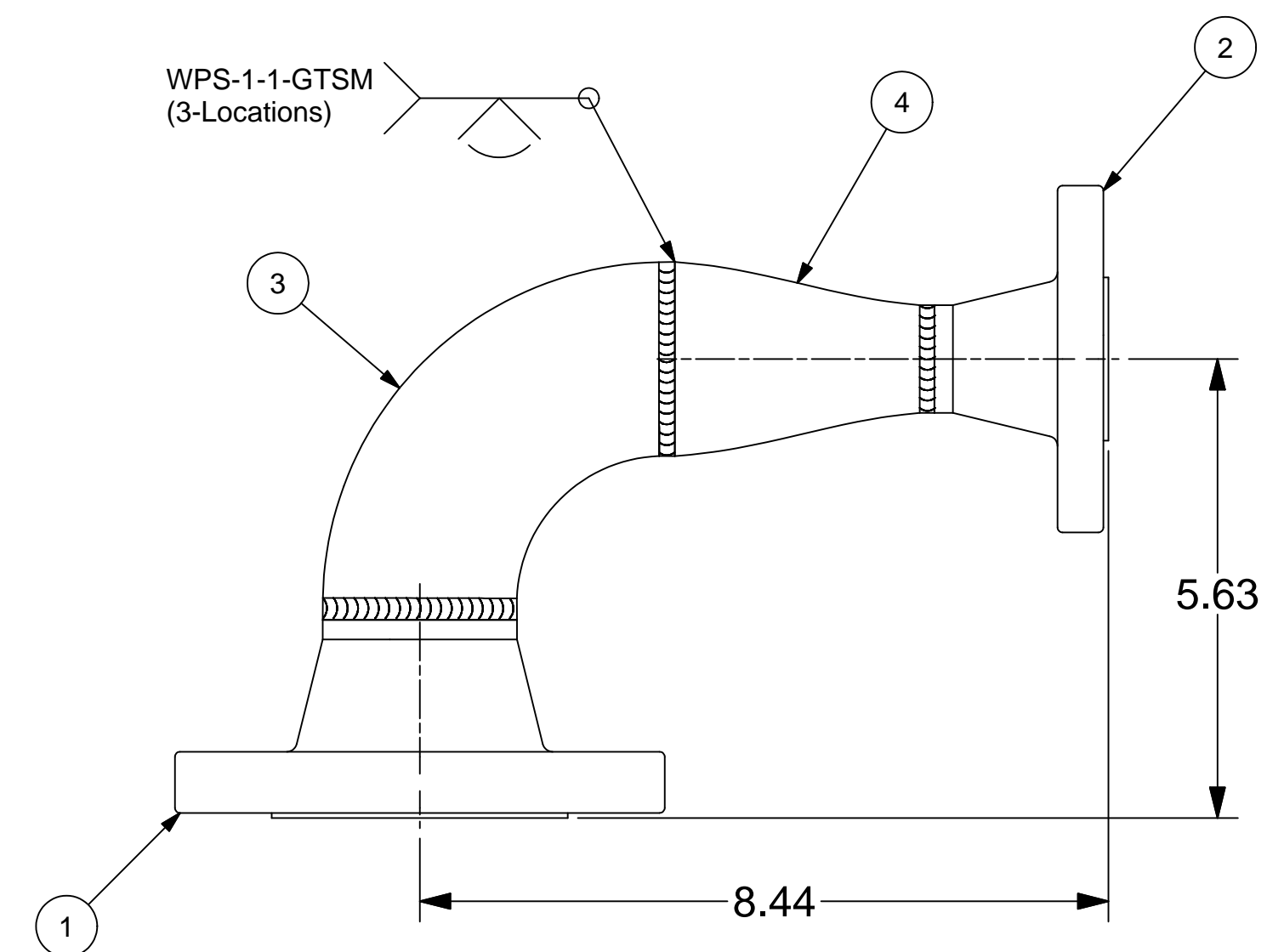
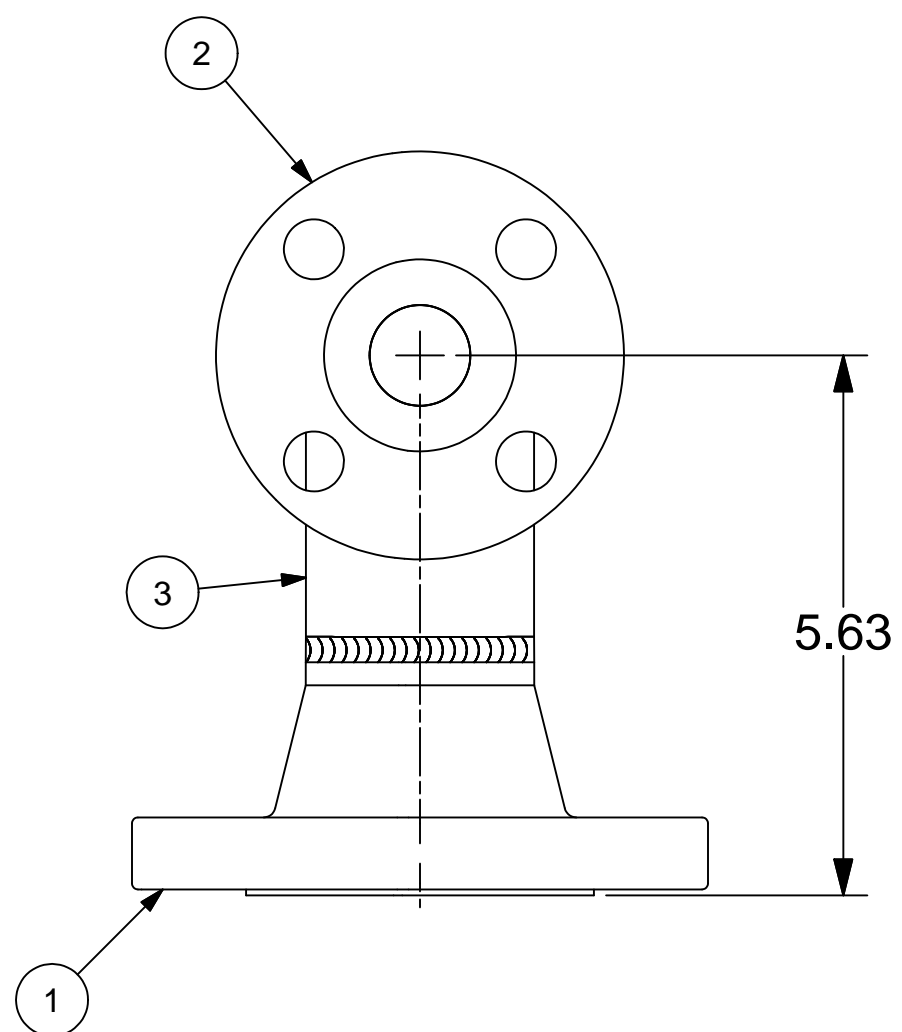
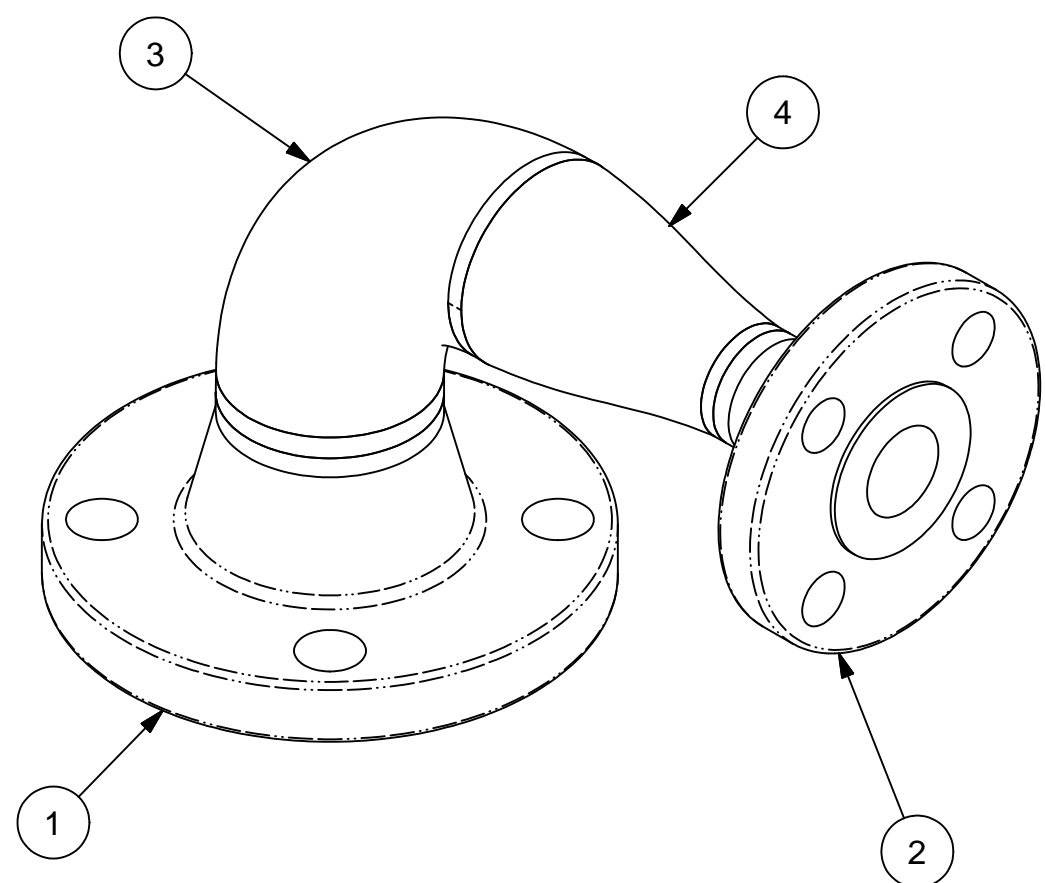
 ProEnergy SERVICES.		2001 ProEnergy Blvd SCARLA, MISSOURI 63071 USA PHONE: 1-800-829-5100 FAX: 1-800-829-1100	
TITLE STRAINER INLET SPOOL WELDMENT LIQUID FUEL FORWARDING PUMP SKID-7EA			
SIZE	ML:	DWG NO	REV
D		SLFFPD7EA-721	B
SCALE: 1/2"=1"	WEIGHT:	31 lbmass	SHEET 1 OF 1

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FAX: 1-800-829-1160

A

SCALE: 1/2"=1"	WEIGHT: 14 lbmass
----------------	-------------------



4	1		2" x 1" Sch40 Concentric Reducer	Sch40 CONCENTRIC BUTT WELD REDUCER CS			
3	1		2" x 90Deg LONG RADIUS ELBOW	Sch40 ELBOW CS			
2	1		1" x 150# WELD NECK FLANGE	WELD NECK FLANGE CS			
1	1		2" x 150# WELD NECK FLANGE	WELD NECK FLANGE CS			
ITEM	QTY	PART NUMBER	DESCRIPTION	Material	THICKNESS	LENGTH	WIDTH

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON DECIMALS X.X ±0.10 X.XX ±0.06 X.XXX ±0.03 HOLE DIA ±0.03 ANGLES ±0.50° SURFACE <u>HFS-SF</u> SQUARENESS ±0.06 DO NOT SCALE DRAWING	DRAWN S. Boerckel CHECKED J. BALLEW QA B. MADDUX REVIEWER		6/28/2010 6/29/2010 9/21/2010		 <div>S201 ProEnergy Skid SERIAL# 14600-001 (0001) USA PHONE 1-800-829-5100 FAX 1-800-829-1180</div>		
	PROJECT NO			TITLE ALTERNATE DISCHARGE SPOOL WELDMENT			
	CUSTOMER			LIQUID FUEL FORWARDING PUMP SKID-7EA			
	JOB NO			SIZE D	ML: SLFFPD7EA-741	DWG NO REV B	
	SCALE: 1/2"=1"			WEIGHT: 11 lbmass		SHEET 1 OF 1	

B	ADD WPS	S. Boerckel	9/21/2010	J. BALLEW	B. MADDUX
A	RELEASED FOR FABRICATION	S. Boerckel	6/28/2010	J. BALLEW	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC

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<u>UNLESS OTHERWISE SPECIFIED</u>	
DIMENSIONS ARE IN INCHES	
TOLERANCES ON	
DECIMALS	
X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	<u>HFS-SF</u>

SQUARENESS ± 0.06

DO NOT SCALE DRAWING

DRAWN S. Boerckel		6/28/2010
CHECKED J. BALLEW		6/29/2010
QA B. MADDUX		9/21/2010
REVIEWER		
PROJECT NO		
CUSTOMER		
JOB NO		

TITLE			
ALTERNATE DISCHARGE SPOOL			
WELDMENT			
LIQUID FUEL FORWARDING PUMP SKID-7EA			
SIZE	ML:	DWG NO	REV
D		SLFFPD7EA-741	B
SCALE: 1/2"=1"	WEIGHT: 11 lbmass	SHEET 1 OF 1	

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PHONE: 1-800-829-5100
FAX: 1-800-829-1160

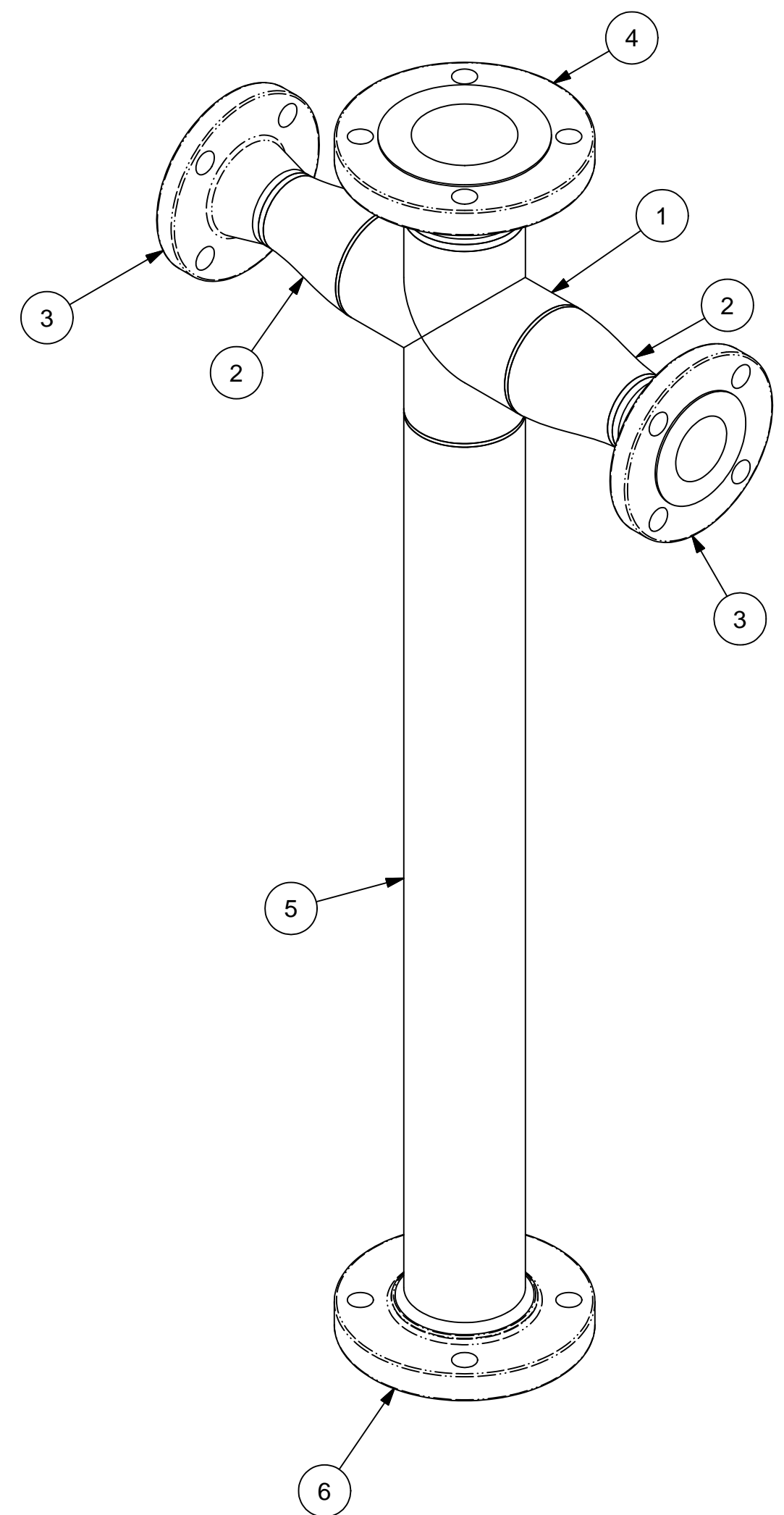
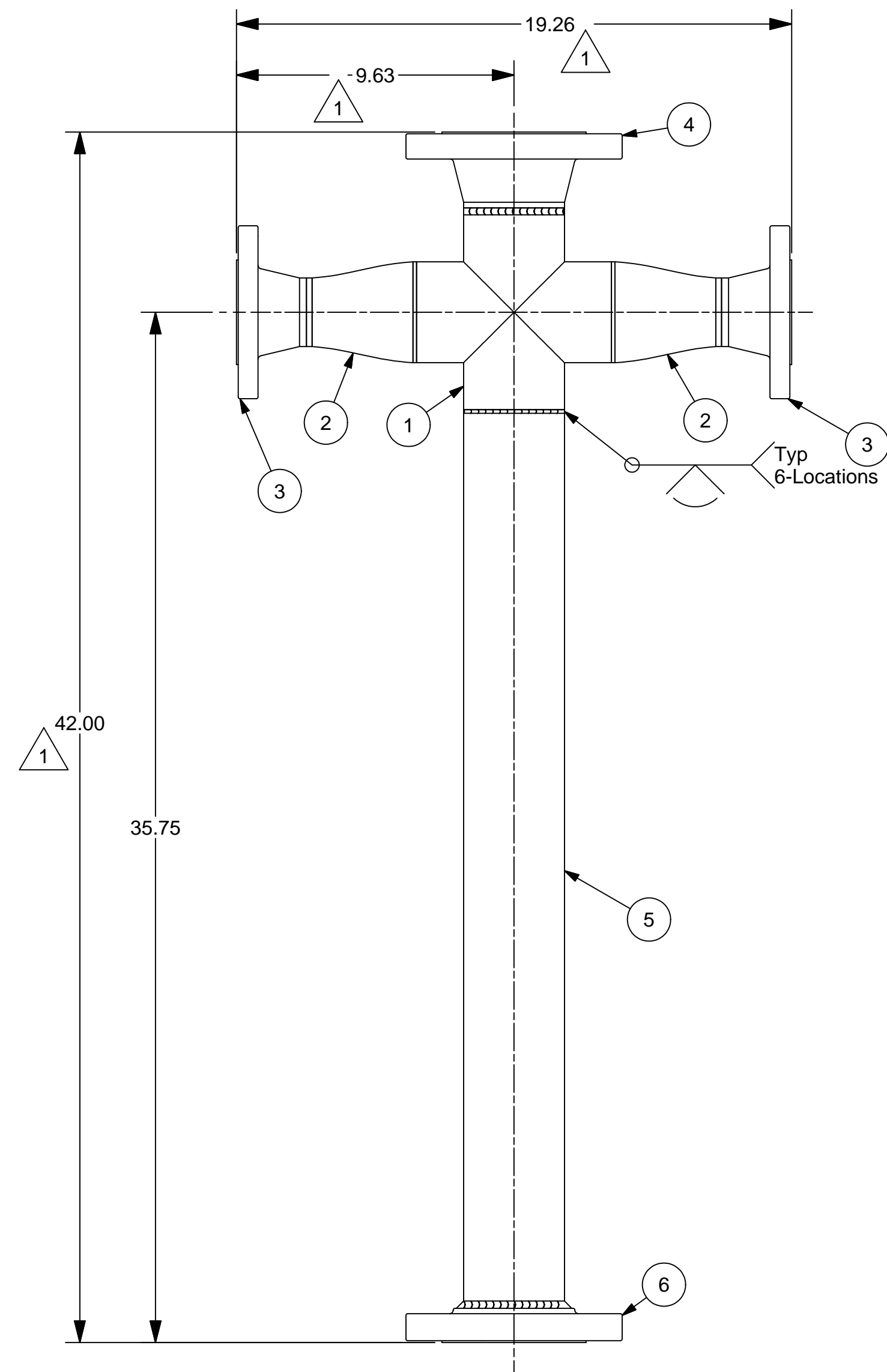
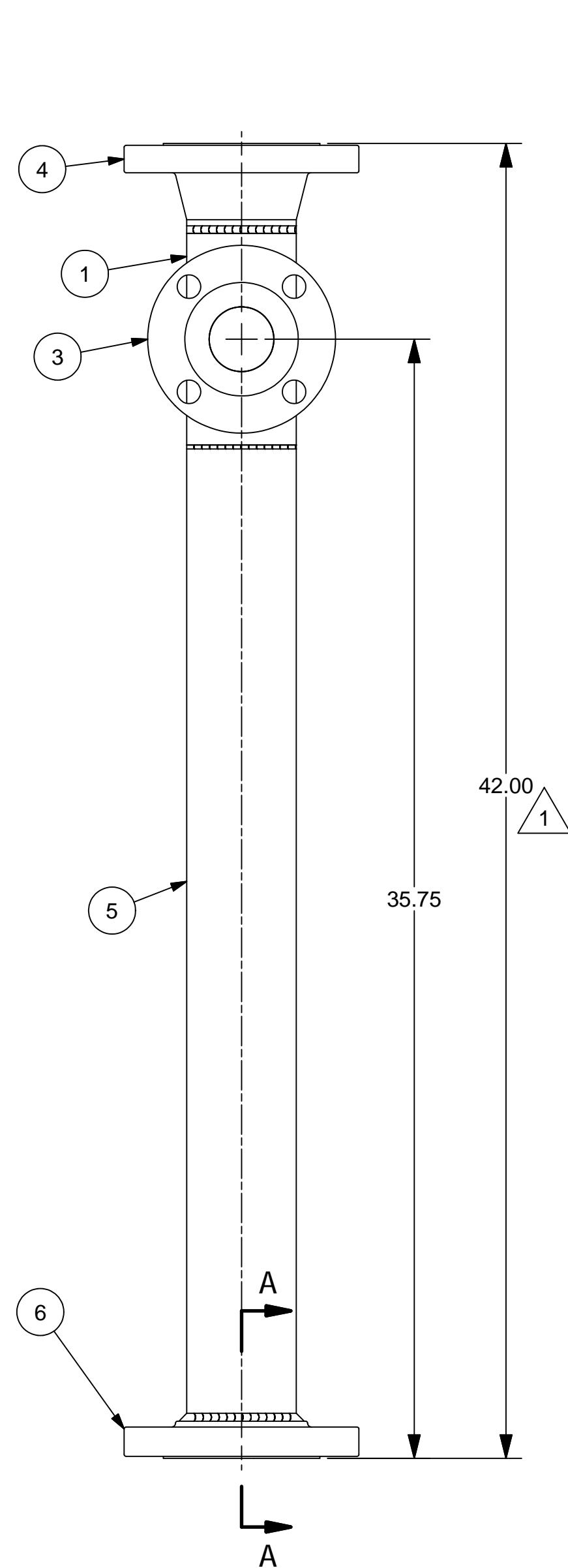
2201 ProEnergy Blvd
SEDALIA, MISSOURI 65301 USA
PHONE: 1-888-829-5100
FAX: 1-888-829-1150

NOTES:

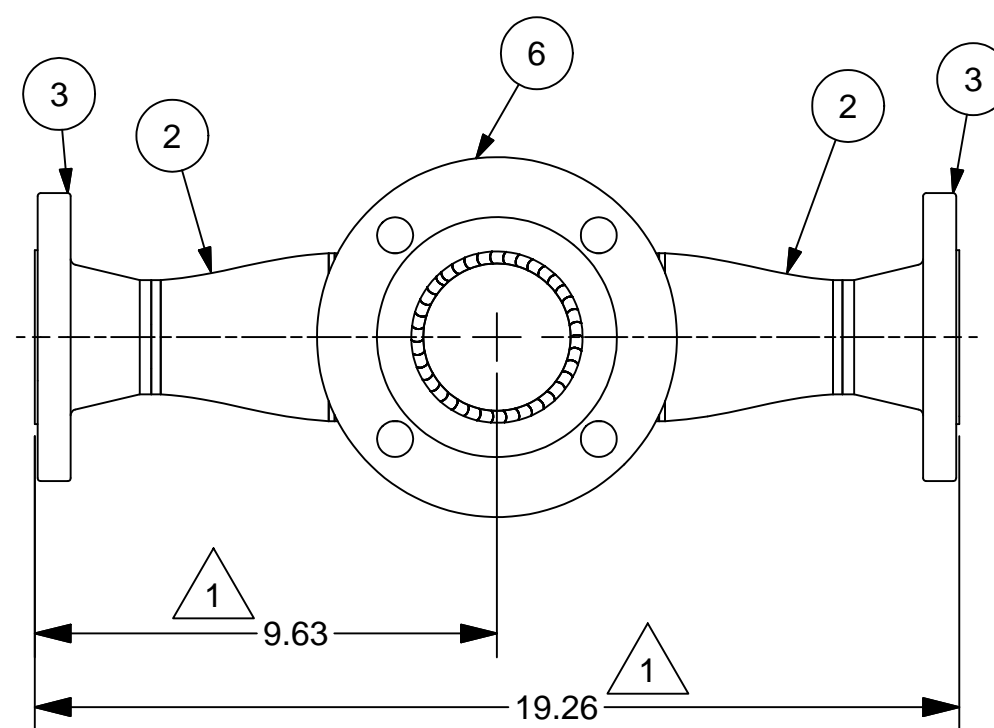
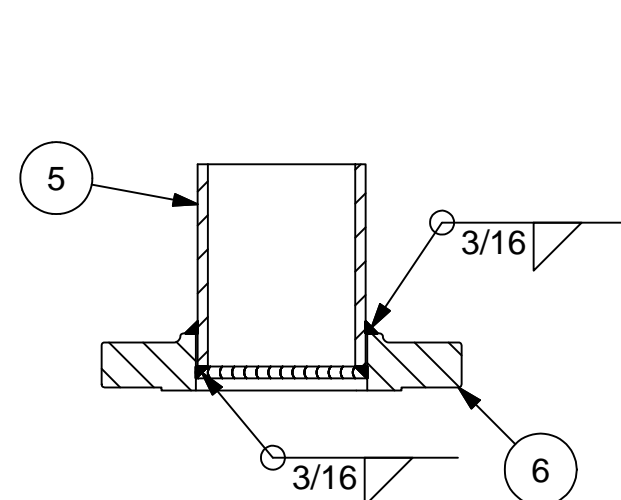
1. WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
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3. ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 UNLESS OTHERWISE STATED. SHAPES SHALL CONFORM TO ASTM A276.
4. DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
5. PAINT FINISH:
SEE GENERAL ARRANGEMENT DRAWING AND OR WORK ORDER FOR PAINT TYPE AND COLOR



Document Control
Sep 28, 2010



SECTION A-A




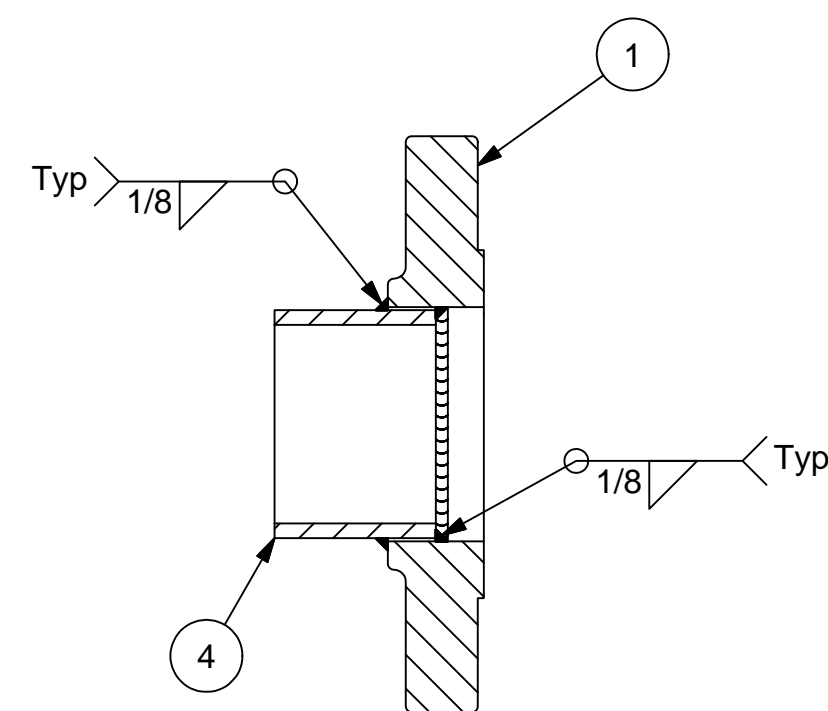
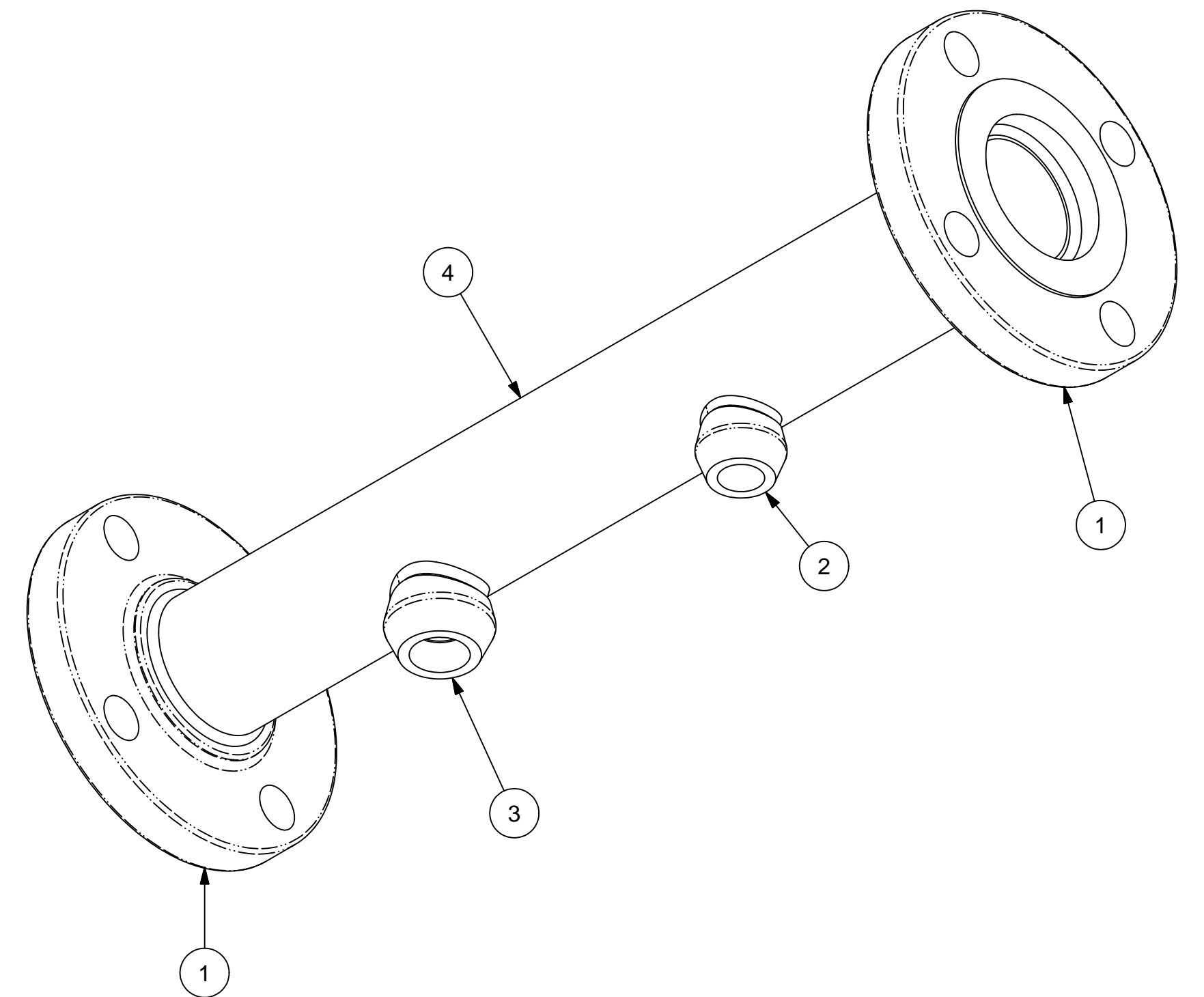
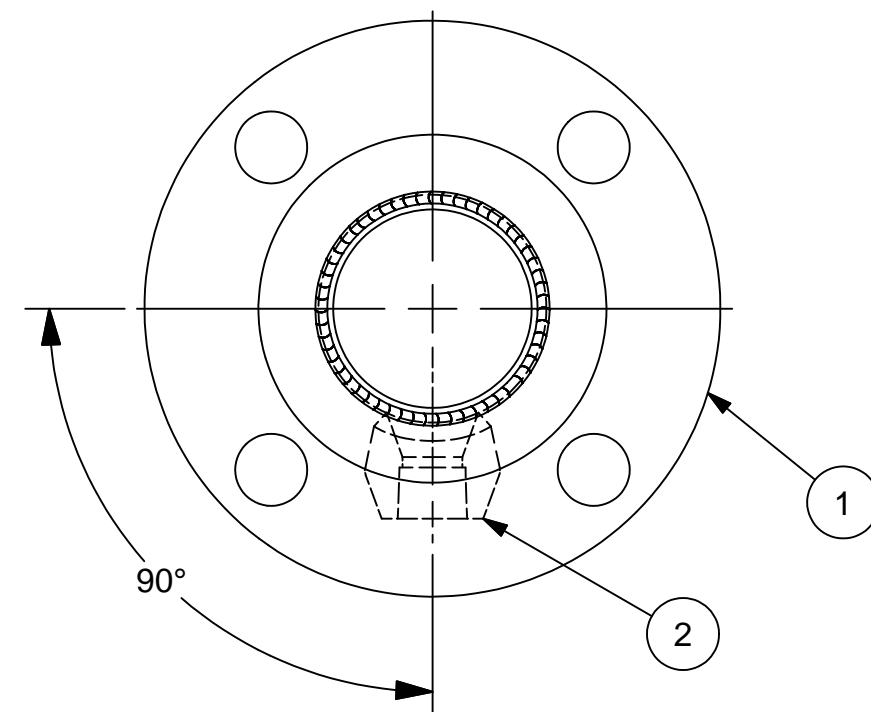
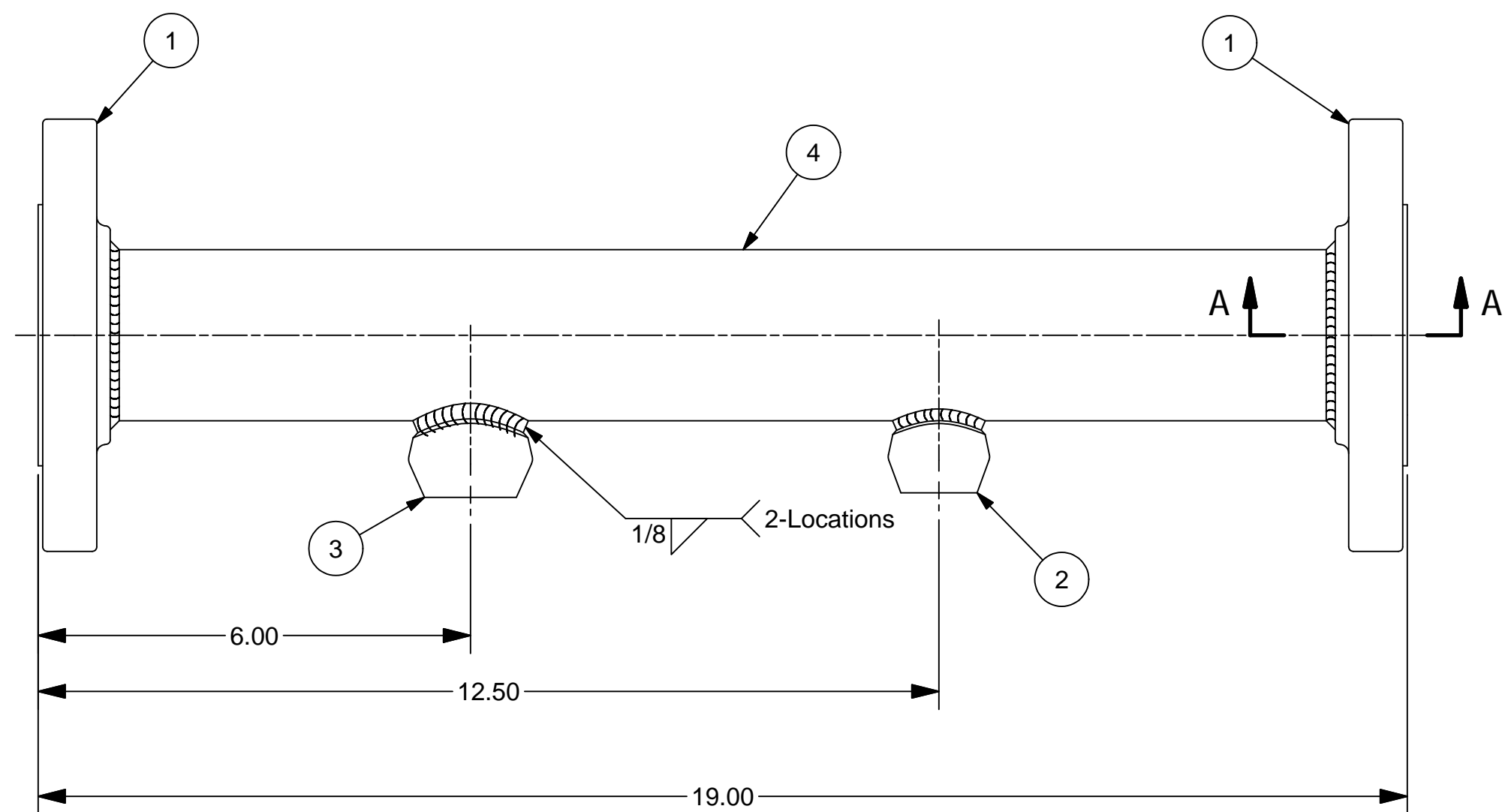
NOTES:

1. WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
2. WELDS ARE TO BE $\frac{1}{16}$ " LESS THAN THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE D1.1. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS AND FOLLOW THE PROPER WPS POSTED IN WORK AREA.
3. ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 UNLESS OTHERWISE STATED.
4. DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
5. PAINT FINISH:
SEE GENERAL ARRANGEMENT DRAWING AND OR WORK ORDER FOR PAINT TYPE AND COLOR

1	CHG DISC PIPE 4" TO 3"	S. Boerckel	2/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	1/25/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					

1	1	6	1		3" x 150# SLIP-ON FLANGE	SLIP-ON FLANGE CS			
		5	1		PIPE	3" - Sch40 CS PIPE SEAMLESS		31.74 in	
1	1	4	1		3" x 150# WELD NECK FLANGE	WELD NECK FLANGE CS			
		3	2		2" x 150# WELD NECK FLANGE	WELD NECK FLANGE CS			
1	1	2	2		3 x 2 CONCENTRIC REDUCER	Sch40 CONCENTRIC BUTT WELD REDUCER CS			
		1	1		3" Sch40 STRAIGHT CROSS	Sch40 STRAIGHT CROSS - CS			
		ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	THICKNESS	LENGTH	WIDTH
BILL OF MATERIAL									

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	X.X ± 0.10 X.XX ± 0.06 X.XXX ± 0.03 HOLE DIA ± 0.03 ANGLES ± 0.50° SURFACE HFS-SF		PROJECT NO 409-2956-1 CUSTOMER EDC - MARGARITA ISLAND				TITLE OUTLET DISTRIBUTION HEADER WEDLMNT		
	SQUARENESS ± 0.06						LIQUID FUEL FORWARDING SKID - 7EA		
	DO NOT SCALE DRAWING		JOB NO		SIZE SCALE: 1/4" = 1"		ML: DWG NO 409-2956-LFF7EA-0742-1		REV 1
							WEIGHT: 61 lbmass		SHEET 1



SECTION A-A



NOTES:

1. WELD CONNECTIONS: VISUALLY INSPECT ALL WELD CONNECTIONS.
2. WELDS ARE TO BE $\frac{1}{16}$ " LESS THAN THE MINIMUM THICKNESS OF MATERIAL WHERE NOT SPECIFICALLY CALLED OUT OR NOTED OTHERWISE. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE D1.1. ALSO ASME/ANSI B16 STANDARDS FOR PIPES & FITTINGS AND FOLLOW THE PROPER WPS POSTED IN WORK AREA.
3. ALL MATERIAL FOR CARBON STEEL TUBING SHALL BE ASTM A554, WELDED ASTM A249, SEAMLESS ASTM A269, PIPE ASTM A312 UNLESS OTHERWISE STATED.
4. DO NOT PAINT INTERNALLY OR EXTERNALLY THREADED PARTS OR PARTS WITH FINISHED SURFACES THAT HAVE BEEN MACHINED FOR TIGHT TOLERANCE FITUP.
5. PAINT FINISH:
SEE GENERAL ARRANGEMENT DRAWING AND OR WORK ORDER FOR PAINT TYPE AND COLOR

0	ISSUED FOR FABRICATION	S. Boerckel	1/25/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
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DECIMALS	
X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	✓ <u>HFS-SF</u>
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

DRAWN		DATE OF MATERIAL	
S. Boerckel		1/25/2011	
CHECKED			
T. KOONTZ		2/3/2011	
QA			
B. MADDUX		2/3/2011	
REVIEWER			
PROJECT NO			
409-2956-1			
CUSTOMER			
EDC - MARGARITA ISLAND			
JOB NO			

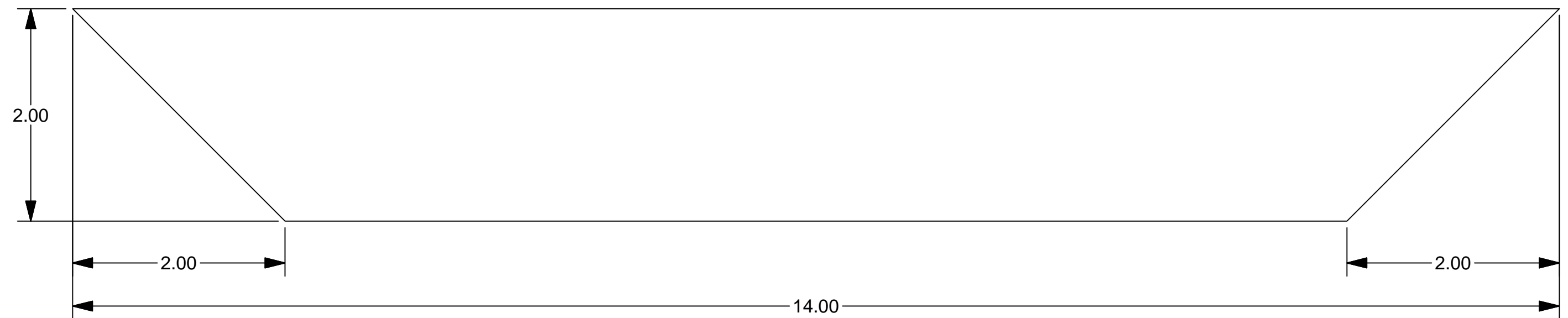


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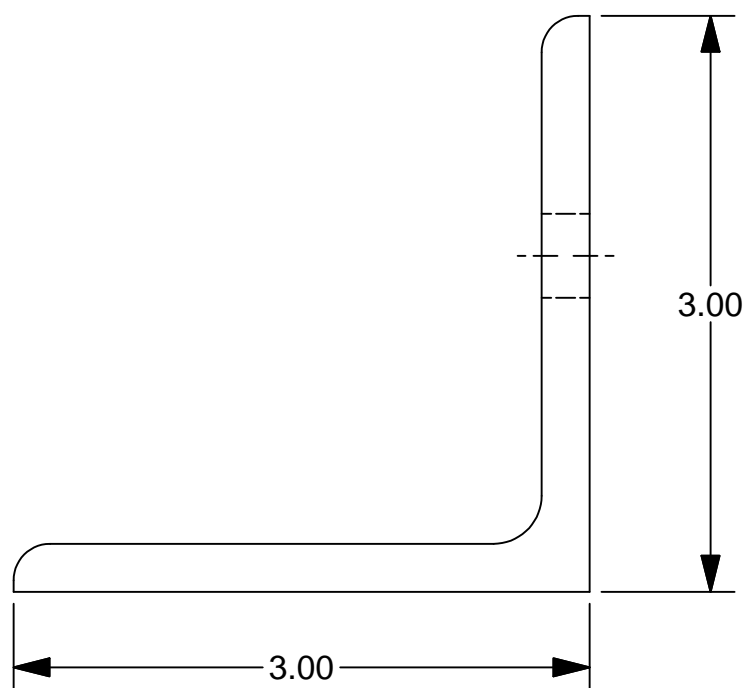
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PHONE: 1-888-829-5100
FAX: 1-888-829-1160

TITLE	RECIRCULATION SPOOL
WELDMENT	
LIQUID FUEL FORWARDING SKID - 7EA	

SIZE D	ML:	DWG NO 409-2956-LFF7EA-0750-1	REV 0
SCALE: 1/2" = 1"		WEIGHT: 16 lbmass	SHEET 1



ITEM	QTY	PART NUMBER	MATERIAL
22	1	409-2956-LFF7EA-794-02	1/4"Thk - A304 STAINLESS STEEL



22	1	409-2956-LFF7EA-794-02	2" PIPE ANGLE SUPPORT	1/4"Thk - A304 STAINLESS STEEL	.250 in	14.00 in	2.00 in	SHEAR
21	1	409-2956-LFF7EA-794-01	2" PIPE MOUNT ANGLE	3 x 3 x 1/4 ANGLE - STAINLESS STEEL, 304		13.50 in		SAW/PUNCH
17	6	409-2956-LFF7EA-790-03	WELD PLATE	1/2"Thk - A36 STEEL PLATE	.500 in	7.00 in	4.50 in	BURN/DRILL
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	THICKNESS	LENGTH	WIDTH	Process

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DECIMALS	
X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	√ <u>HFS-SF</u>
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

DRAWN S. Boerckel	1/27/2011
CHECKED T. KOONTZ	2/3/2011
QA B. MADDUX	2/3/2011
REVIEWER	
PROJECT NO 409-2956-1	
CUSTOMER EDC - MARGARITA ISLAND	
JOB NO	

PIPE SUPPORTS

LIQUID FUEL FORWARDING SKID - 7EA

SIZE D	ML:	DWG NO 409-2956-LFF7EA-0790 -1	REV 0
SCALE: 1" = 1"		WEIGHT: 4 lbmass	SHEET 1

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REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
REVISION HISTORY					



D

C

B

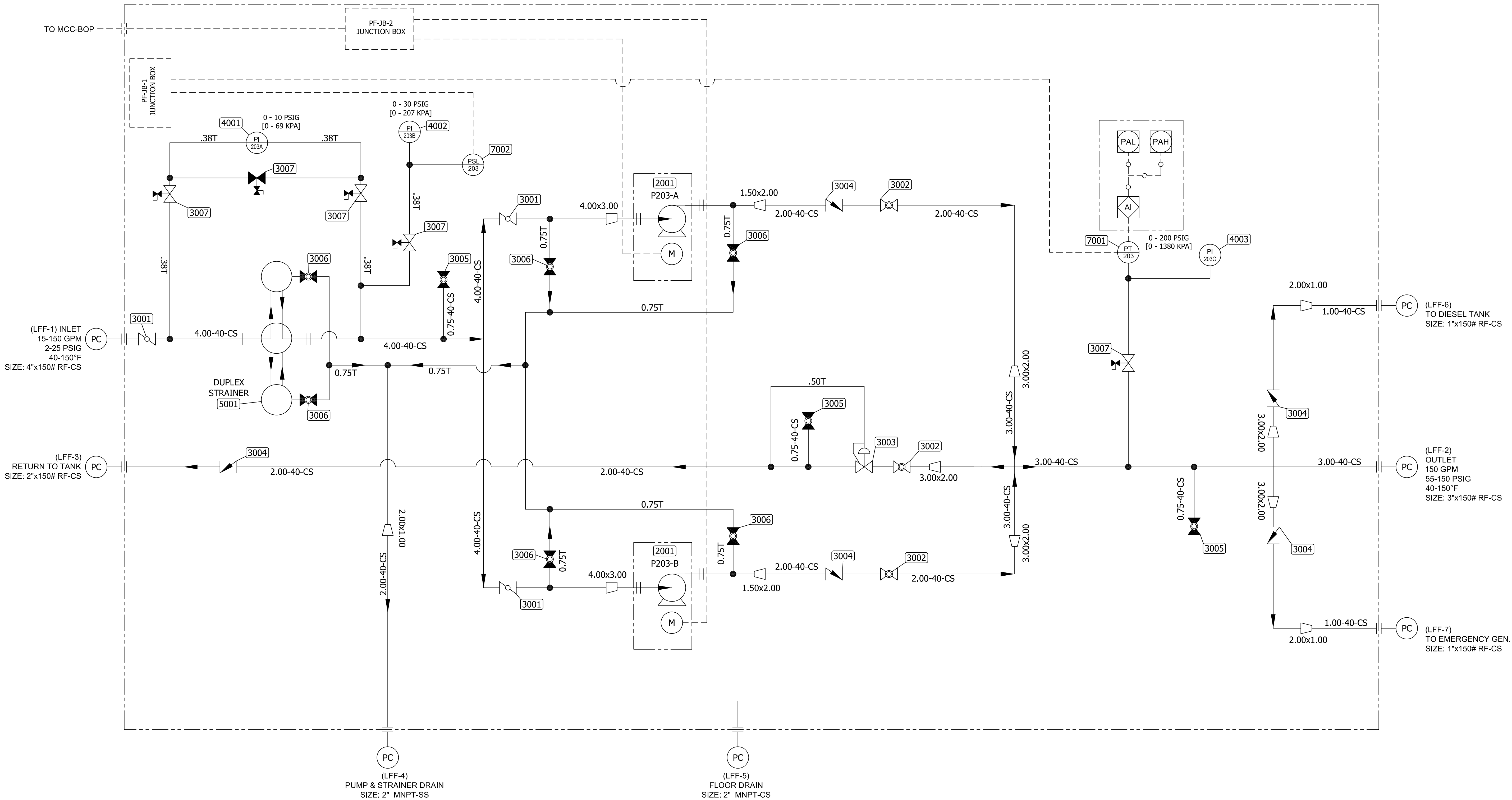
A

D

C

B

A




1	CHG DISC PIPE 4" TO 3"	S. Boerckel	02/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	01/27/2011	T. KOONTZ	B. MADDUX
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X.XXX ± 0.03
HOLE DIA ± 0.03
ANGLES ± 0.50°
SURFACE √ HFS-SF
SQUARENESS ± 0.06
DO NOT SCALE DRAWING

DRAWN	S. Boerckel	01/27/2011
CHECKED	T. KOONTZ	02/03/2011
QA	B. MADDUX	02/03/2011
REVIEWER		
PROJECT NO	409-2956-1	
CUSTOMER	EDC - MARGARITA ISLAND	
JOB NO		



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TITLE P & ID SCHEMATIC UNIT NUMBERS 298034 & 298035 LIQUID FUEL FORWARDING SKID - 7EA			
SIZE D	ML:	DWG NO 409-2956-LFF7EA-0910-1	REV 1
SCALE: N o n e		WEIGHT: SHEET 1	

PARTS LIST


PARTS LIST						
ITEM	TAG No	DEVICE	QTY	DESCRIPTION	CATALOG No	MANUFACTURER
2001	P1-A P1-B	PUMP MOTOR ASSEMBLY	2	MODEL 1K3X1.5-8RV DURCO MARK 3 PUMP (20HP) w/150# ANSI FF FLANGES (Type A BASE)	1K3x1.5-82RV M3 ST	FLOWSERVE
3001	LFFV-1A LFFV-1B LFFB-1C	BUTTERFLY VALVE - INLET BUTTERFLY VALVE - INLET (PUMP P203-A) BUTTERFLY VALVE - INLET (PUMP P203-B)	3	4" x 150# CS FS DYNACENTRIC HP BFV SERIES B5100, CLASS 150		COOPER CAMERON
3002	LFFV-2A LFFV-2B LFFV-2C	BALL VALVE - DISCHARGE (PUMP P203-A) BALL VALVE - DISCHARGE (PUMP P203-B) BALL VALVE - RETURN TO TANK	3	2" x 150# CS FS BALL VALVE - ANSI		
3003	LFFV-3	BACKP PRESSURE VALVE	1	2" x 150# CS FS BACKP PRESSURE VALVE - 63EG	2x63EG	FISHER
3004	LFFV-4A LFFV-4B LFFV-4C LFFV-4D LFFV-4E	CHECK VALVE - DISCHARGE (PUMP P203-A) CHECK VALVE - DISCHARGE (PUMP P203-B) CHECK VALVE - RETURN TO TANK CHECK VALVE - DISCHARGE (DEISEL TANK) CHECK VALVE - DISCHARGE (EMERGENCY GENERATOR)	5	2" DUO CHECK VALVE		
3005	LFFV-5A LFFV-5B LFFV-5C	BALL VALVE - VENT (INLET) BALL VALVE - VENT (DISCHARGE) BALL VALVE - VENT (RETURN TO TANK)	3	3/4" FNPT FS BALL VALVE	SS-A65TF12	SWAGELOK
3006	LFFV-6A LFFV-6B LFFV-6C LFFV-6D LFFV-6E LFFV-6F	BALL VALVE - INLET DRAIN (PUMP P203-A) BALL VALVE - INLET DRAIN (PUMP P203-B) BALL VALVE - DISCHARGE DRAIN (PUMP P203-A) BALL VALVE - DISCHARGE DRAIN (PUMP P203-B) BALL VALVE - DRAIN (STRAINER) BALL VALVE - DRAIN (STRAINER)	4	3/4" FS SS SWAGE BALL VALVE	SS-A65TS12	SWAGELOK
3007	LFFV-7A LFFV-7B LFFV-7C LFFV-7D LFFV-7E	GAGE VALVE - INLET PRESSURE GAGE VALVE - DISCHARGE PRESSURE GAGE VALVE - PRESSURE DIFFERENTIAL UP STREAM GAGE VALVE - PRESSURE DIFFERENTIAL DOWN STREAM GAGE VALVE - PRESSURE DIFFERENTIAL EQUALIZER	5	1/4" FNPT GAGE VALVE w/ STEM TEST		DRAGON
4001	PI-203A	DIFFERENTIAL PRESSURE GAGE	1	4.5" GAGE FLUSH MOUNT BACK CONN. 1/4" MNPT 0-10 PSIG		MID-WEST
4002	PI-203B	SUCTION PRESSURE GAGE	1	4.5" GAGE FLUSH MOUNT LOWER CONN. 1/4" MNPT 0-30 PSIG	7112-G030	DWYER
4003	PI-203C	DISCHARGE PRESSURE GAGE	1	4.5" GAGE FLUSH MOUNT LOWER CONN. 1/4" MNPT 0-200 PSIG	7112-G200	DWYER
5001	LFFF-1	DUPLEX STRAINER	1	DUPLEX STRAINER CAST IRON w/4" x 150# FLANGED CONN. (1/16" PERF. BASKETS)		
7001	PT-203	PRESSURE TRANSMITTER	1	ROSEMOUNT 3051 SERIES PT 0-200 PSIG	3051TG2A2A21AB4C6	ROSEMOUNT
7002	PSL-203	PRESSURE SWITCH LOW	1	PRESSURE & VACUUM SWITCH 40-0-40 IN WC	52NN-K117-M1-B2A-TT	SOR

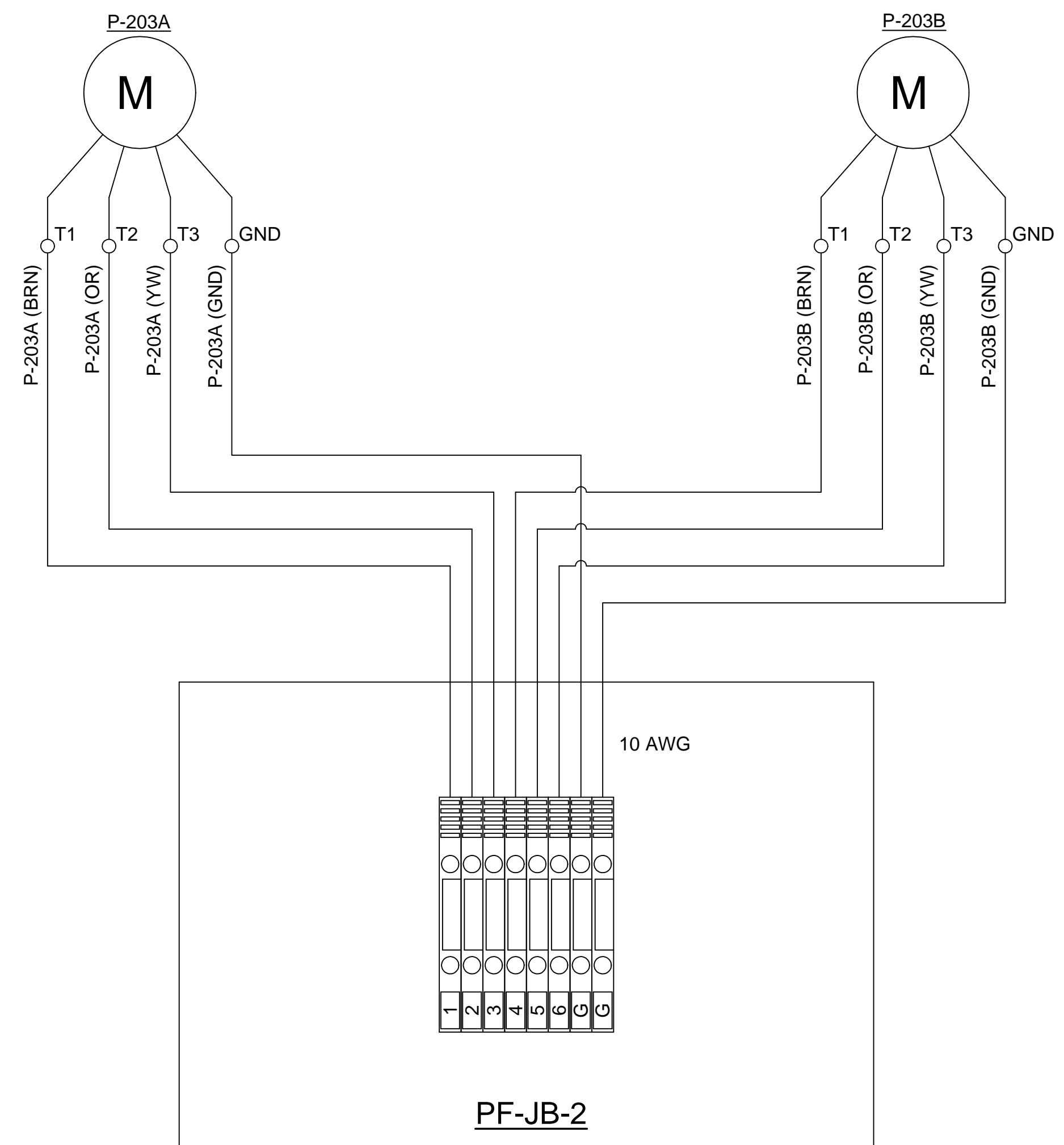
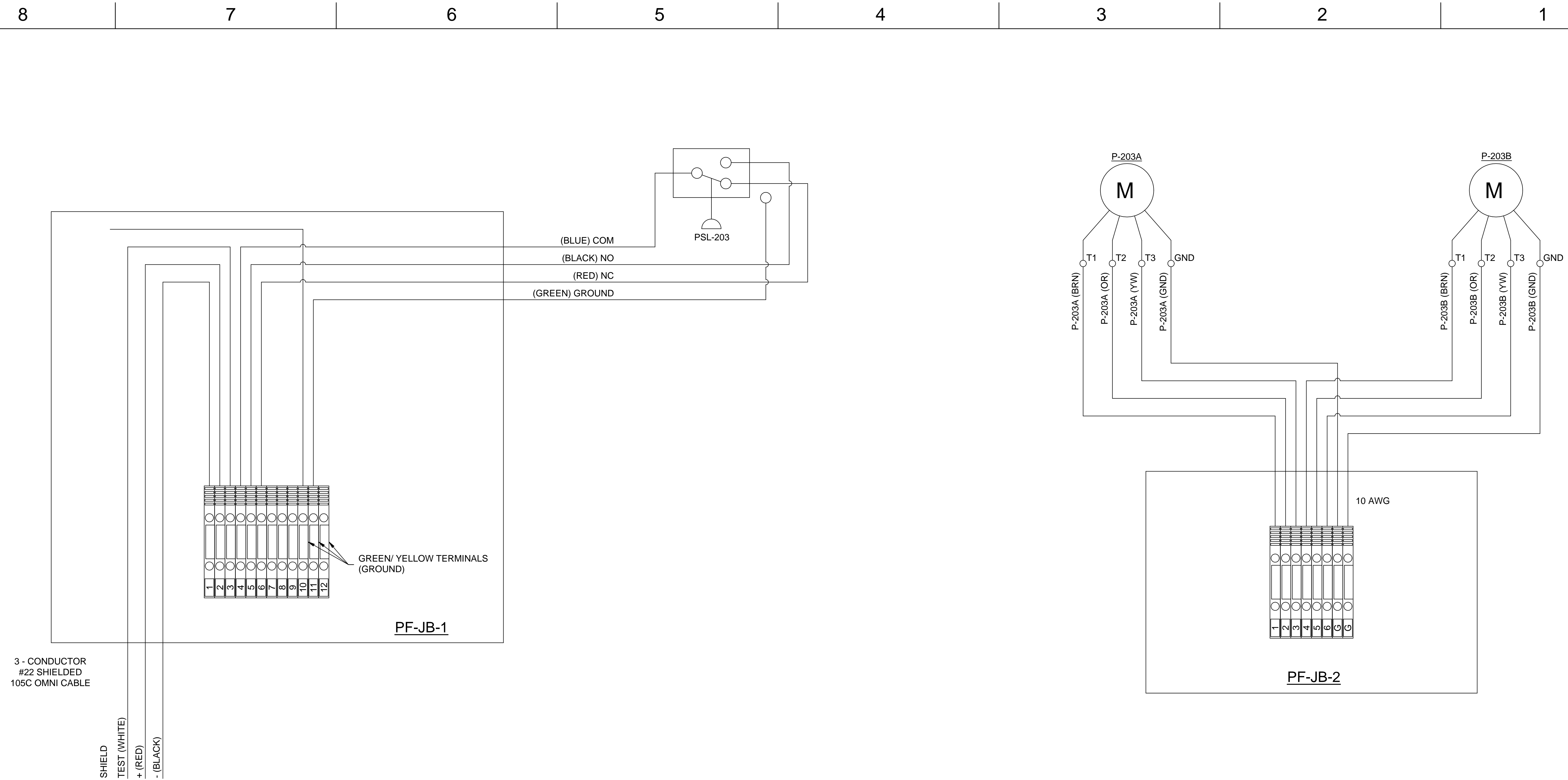
1	CHG DISC PIPE 4" TO 3"	S. Boerckel	02/15/2011	T. KOONTZ	B. MADDUX
0	ISSUED FOR FABRICATION	S. Boerckel	01/27/2011	T. KOONTZ	B. MADDUX
REV	DESCRIPTION	AUTHOR	DATE	CHECKED B	QA/QC
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X.X	± 0.10
X.XX	± 0.06
X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50'
SURFACE	± <u>HFS-SF</u>
✓	
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

DRAWN S. Boerckel	01/27/2011	 <div>2201 ProEnergy Blvd SECUNIA, MISSOURI 63081 USA PHONE: 1-800-928-4100 FAX: 1-800-928-1180</div>				
CHECKED T. KOONTZ	02/03/2011					
QA B. MADDUX	02/03/2011	TITLE P & ID SCHEMATIC UNIT NUMBERS 298034 & 298035 LIQUID FUEL FORWARDING SKID - 7EA				
REVIEWER						
PROJECT NO 409-2956-1		SIZE ML: DWG NO D 409-2956-LFF7EA-0910-2				REV 1
CUSTOMER EDC - MARGARITA ISLAND						
JOB NO		SCALE: N o n e		WEIGHT:		SHEET 2



0	ISSUED FOR FABRICATION	S. Boerckel	1/27/2011	T. KOONTZ	B. MADDUX
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X.XXX	± 0.03
HOLE DIA	± 0.03
ANGLES	± 0.50°
SURFACE	<u>HFS-SF</u>
SQUARENESS	± 0.06
DO NOT SCALE DRAWING	

DRAWN S. Boerckel	1/27/2011
CHECKED T. KOONTZ	2/3/2011
QA B. MADDUX	2/3/2011
REVIEWER	
PROJECT NO 409-2956-1	
CUSTOMER EDC - MARGARITA ISLAND	
JOB NO	

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TITLE	ELECTRICAL SCHEMATIC
	UNIT NUMBERS 298034 & 298035
	LIQUID FUEL FORWARDING SKID - 7EA

SIZE D	ML:	DWG NO 409-2956-LFF7EA-0920-1	REV 0
SCALE: NONE		WEIGHT:	SHEET 1