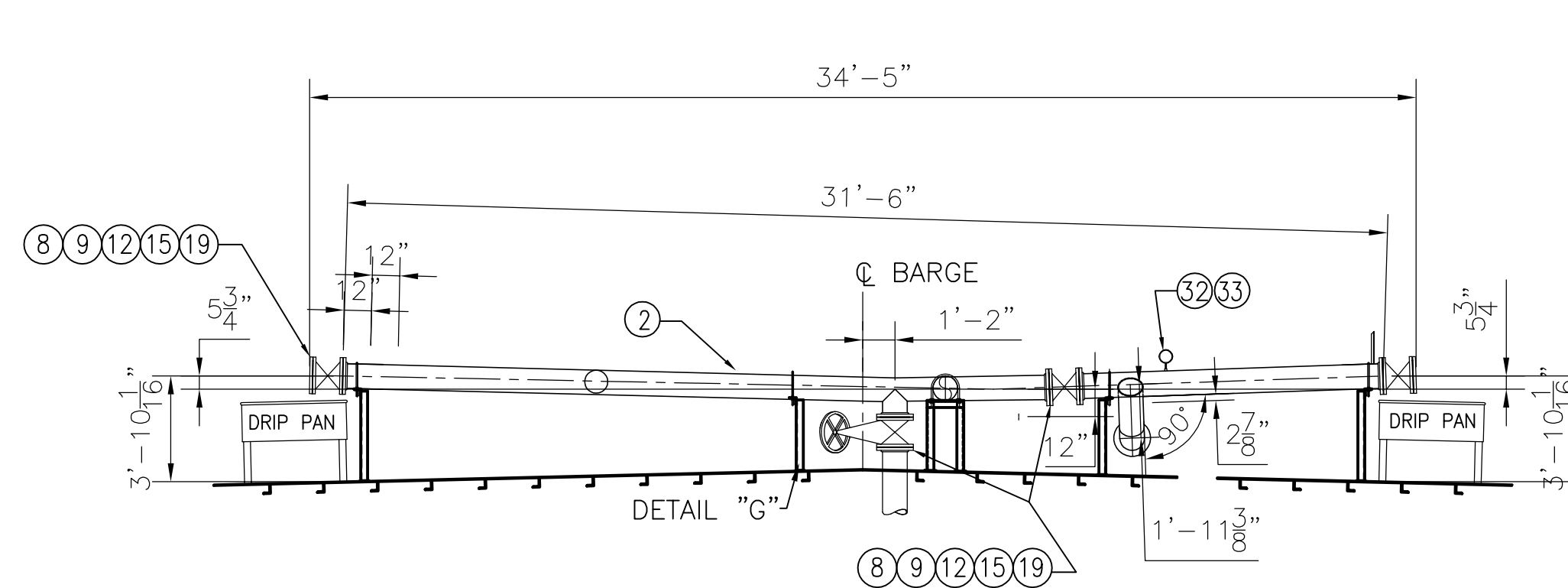
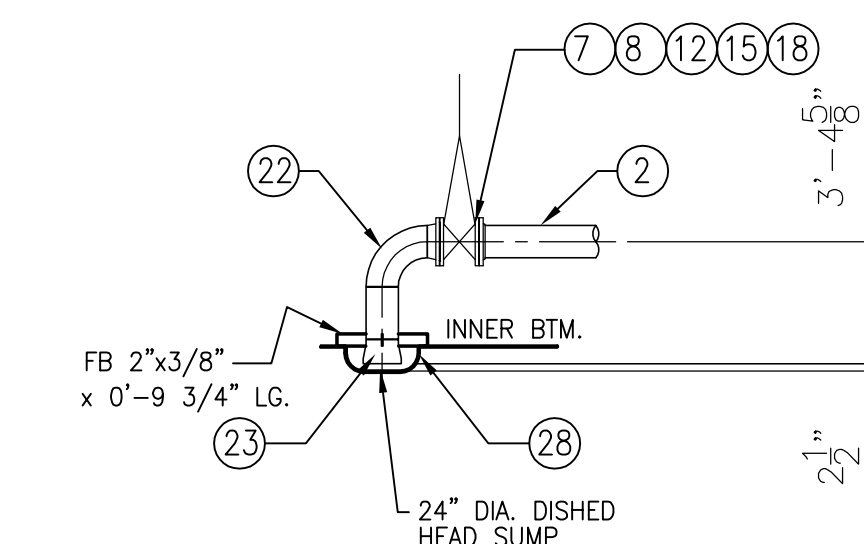


DECK PLAN



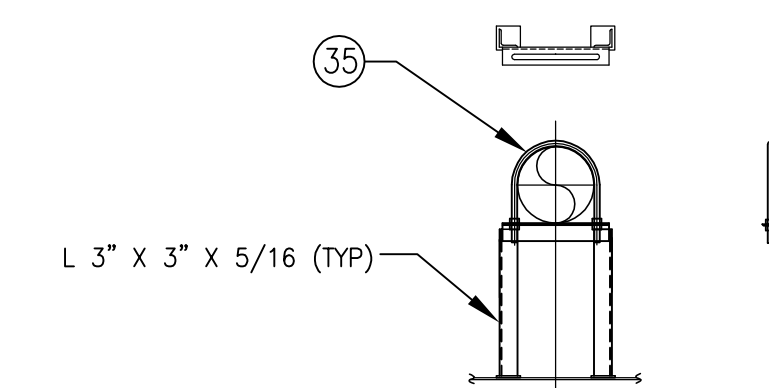
SECTION F-F
SCALE:-- N.T.S.



SECTION H-H
SCALE:-- 3/16"=1'-0"

GENERAL NOTES

- ALL PIPING TO MEET USCG II REGULATIONS.
- BACKING RINGS SHALL BE USED AT BUTT WELD JOINTS 2" AND LARGER
- PIPES PASSING THROUGH WATER/OIL TIGHT BOUNDARIES TO BE WELDED BOTH SIDES.
- CARGO SYSTEM:
PRESSURE, WORKING 100 PSI
DESIGN 150 PSI
TEST 225 PSI
RELIEF VALVE 125 PSI
- LABELS TO BE INSTALLED ON ALL VALVES WHERE REQUIRED TO IDENTIFY SERVICE.
- ALL STRUCTURAL STEEL IS ASTM A-36.



DETAIL "G"
SCALE:-- 3/8"=1'-0"

MARK	DESCRIPTION	ASTM NO.	ANSI NO.
24	DEEP WELL PUMP, 10" DISCH., BYRON JACKSON 12LS16GH		
23	CONC. REDUCER, 12" x 10", SCH 40, B.W.	A-234	B16.9
22	ELBOW, 90°, 10", SCH. 40, L.R., B.W.	A-234	B16.9
21	ELBOW, 90°, 12", SCH. 40, B.W.	A-234	B16.9
20	RELIEF VALVE, 4" x 6" SET @ 125 PSI, TELEDYNE #26PA10L-120 OR EQ	A-216	B16.5
19	GATE VALVE, 10", OS&Y, 150#, C.S. BODY/CR13 TRIM, SPACE#15011C	A-216	B16.5
18	GATE VALVE, 10", NON-RISING STEM, 125#, IBBM, SPACE #15021C	A-126 CLB	B16.10
17	GATE VALVE, 12", NON-RISING STEM, 125#, IBBM, SPACE #15021C	A-126 CLB	B16.10
16	BOLTS, 3/4"Ø X 3 1/4" LG. FOR 6" FLG.	A-307	B18.2.1
15	BOLTS, 7/8"Ø X 3 3/4" LG. FOR 10" FLG.	A-307	B18.2.1
14	BOLTS, 7/8"Ø X 4" LG. FOR 12" FLG.	A-307	B18.2.1
13	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 6" FLG., KLINGERSIL OR EQ.		
12	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 10" FLG., KLINGERSIL OR EQ.		
11	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 12" FLG., KLINGERSIL OR EQ.		
10	6" FLANGE, 150#, WELD NECK, R.F., F.S.	A-105	B16.5
9	10" BLIND FLANGE, 150#, R.F., F.S.	A-105	B16.5
8	10" FLANGE, 150#, S.O., R.F., F.S.	A-105	B16.5
7	10" FLANGE, 150#, WELD NECK, R.F., F.S.	A-105	B16.5
6	12" BLIND FLANGE, 150#, R.F., F.S.	A-105	B16.5
5	12" FLANGE, 150#, S.O., R.F., F.S.	A-105	B16.5
4	12" FLANGE, 150#, WELD NECK, R.F., F.S.	A-105	B16.5
3	6" PIPE, SCH. 40, SEAMLESS, BLK. STEEL	A-53	B36.10
2	10" PIPE, SCH. 40, SEAMLESS, BLK. STEEL	A-53	B36.10
1	12" PIPE, SCH. 40, SEAMLESS, BLK. STEEL	A-53	B36.10

45	12" X 10" REDUCING TEE, SCH. 40, BW	A-234	B16.9
44	12" TEE, SCH. 40, BW	A-234	B16.9
43	ECC. REDUCER, 12" X 10", SCH. 40, BW	A-234	B16.9
42	SWING CHECK VALVE, 1 1/4", 200#, SCR'D, 316 SS TRIM, SHARPE FIG. 20276	A-351	B16.10
41	1 1/4" FLANGE, 150#, S.O., R.F., F.S.	A-105	B16.5
40	1 1/4" PIPE, SCH. 40, SEAMLESS, BLK STEEL	A-106-B	B36.10
39	ELBOW, 90°, 1 1/4", 3000#, S.W.	A-105	B16.11
38	GATE VALVE, 1 1/4", 200#, SCR'D, NRS, 316 SS TRIM, SHARPE FIG. 30276	A-351	B16.10
37	GASKET, 1/8" THK., 30"Øx24"D, TEFLONE ENVELOPE W/TETRA BLUE FILLER		
36	24" PIPE, STD., ERW, BLK. STEEL	A-53	B36.10
35	U-BOLT FOR 12" PIPE	A-307	B18.2.1
34	U-BOLT FOR 10" PIPE	A-307	B18.2.1
33	HALF COUPLING, 1/2", 3000#, F.S., THREADED	A-105	B16.11
32	PRESSURE GAUGE, 0-200 PSI, 1/2" CONN. ASHCROFT OR EQ		
31	ELBOW, 90°, 6", SCH. 40, L.R., B.W.	A-234	B16.9
30	4" FLANGE, 150#, S.O., R.F., F.S.	A-105	B16.5
29	ELBOW, 45°, 10", SCH. 40, B.W.	A-234	B16.9
28	24" DIAMETER DISHED HEAD, A-36		
27	CHECK VALVE, WAFER, 10", 150#, C.S. BODY/316SS TRIM, KEYSTONE #810	A-216	B16.5
26	BOLTS, 5/8"Ø X 3" LG. FOR 4" FLG.	A-307	
25	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 4" FLG., KLINGERSIL OR EQ.		

MARK DESCRIPTION ASTM NO. ANSI NO. MARK DESCRIPTION ASTM NO. ANSI NO.

RAYMOND HULL 455 - REVISED TO AS-BUILT

3	REVISED CARGO TANKS; ADDED ADDITIONAL SUCTION/FILL	CB	11.16.11
2	REVISED ITEMS 17 THROUGH 19 AND 24; CORRECTED ABOVE DECK PIPING FROM CARGO PUMP ON PORT SIDE; ADDED REFERENCE DWG.	CB	7-6-11
1	REVISED CARGO SYSTEM	CB	6-28-11
NO.	REVISION	BY	DATE

THE SHEARER GROUP, INC.

NAVAL ARCHITECTS
3101 NASA ROAD ONE, SUITE 1
SEABROOK, TX. 77586

297'-6" x 54'-0" x 12'-0"
DOUBLE SKIN TANK BARGE

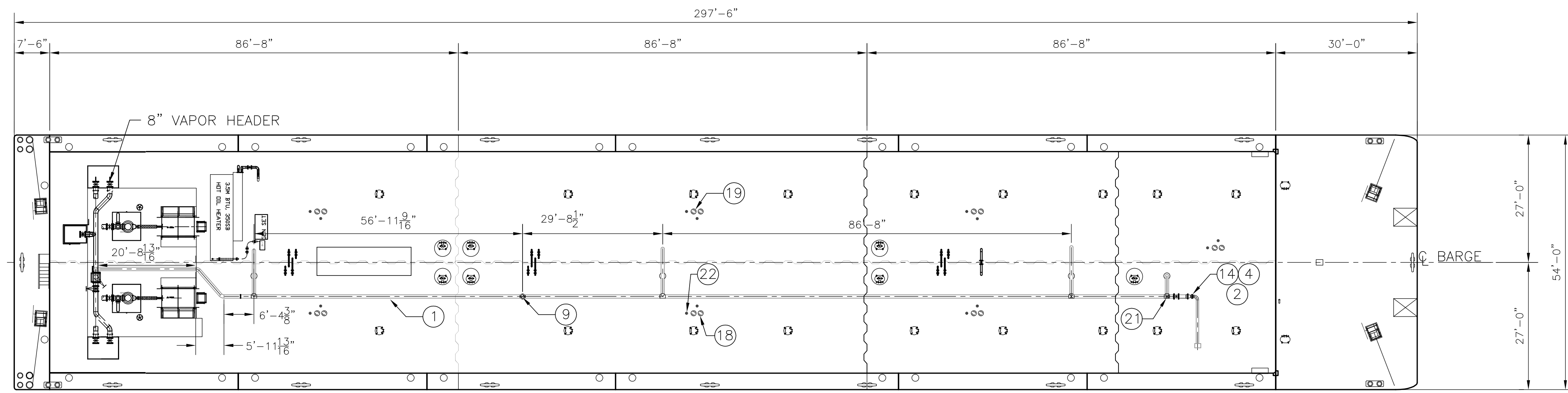
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DATE: 5/26/11		REV. No. 3

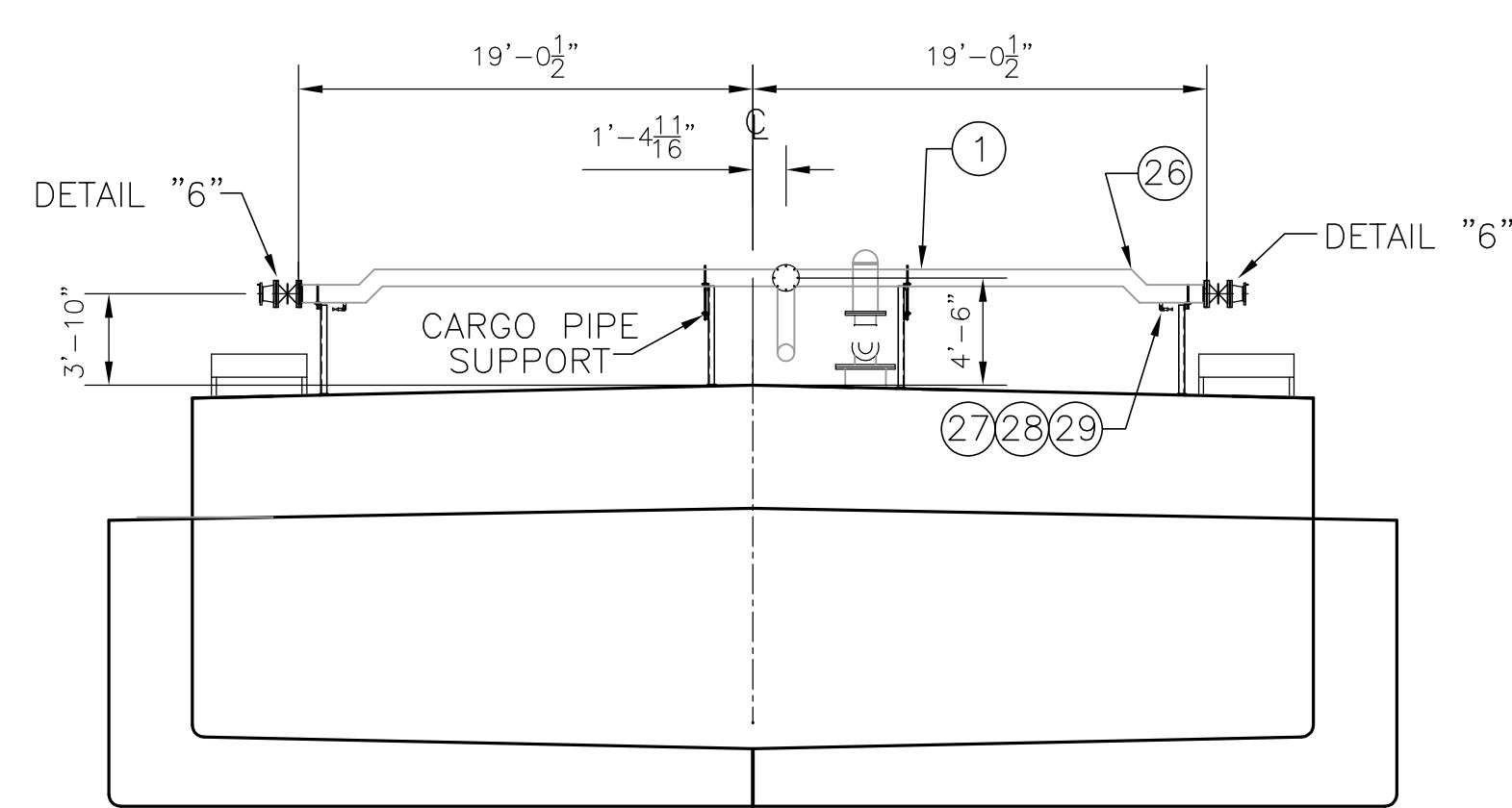
RAYMOND & ASSOCIATES, LLC

CARGO PIPING ARRANGEMENT

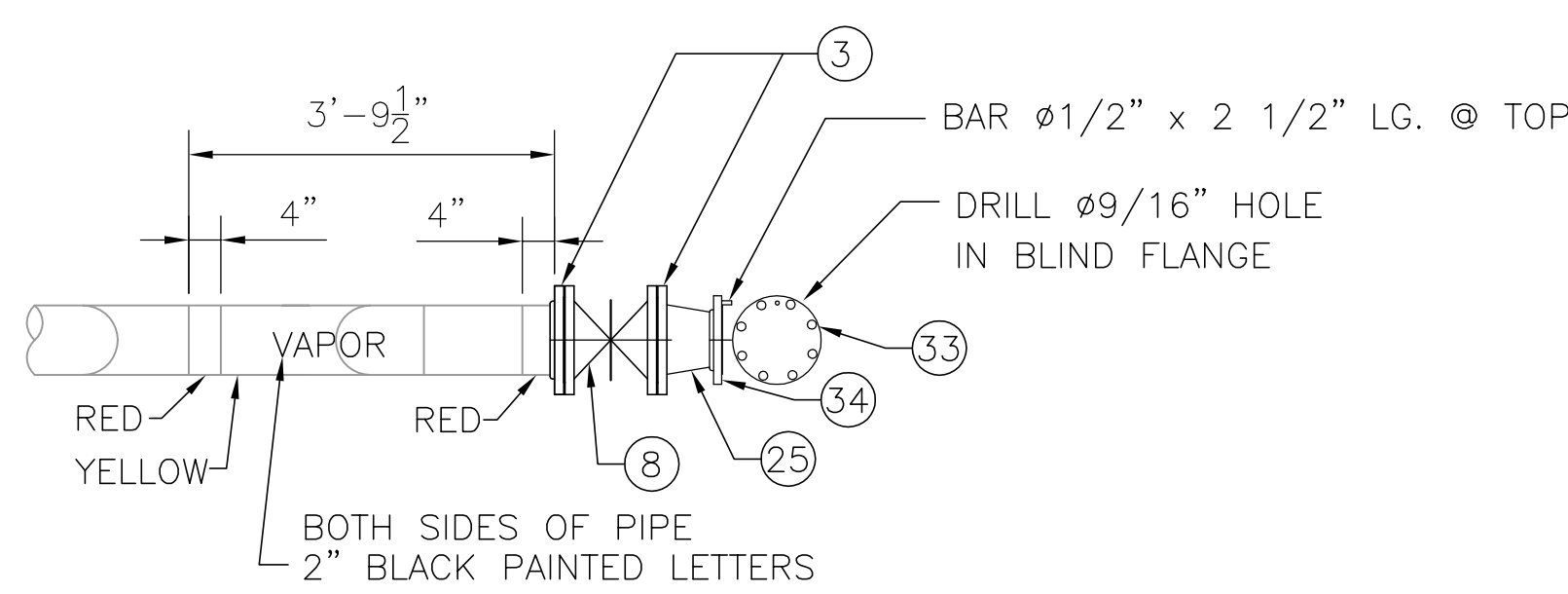
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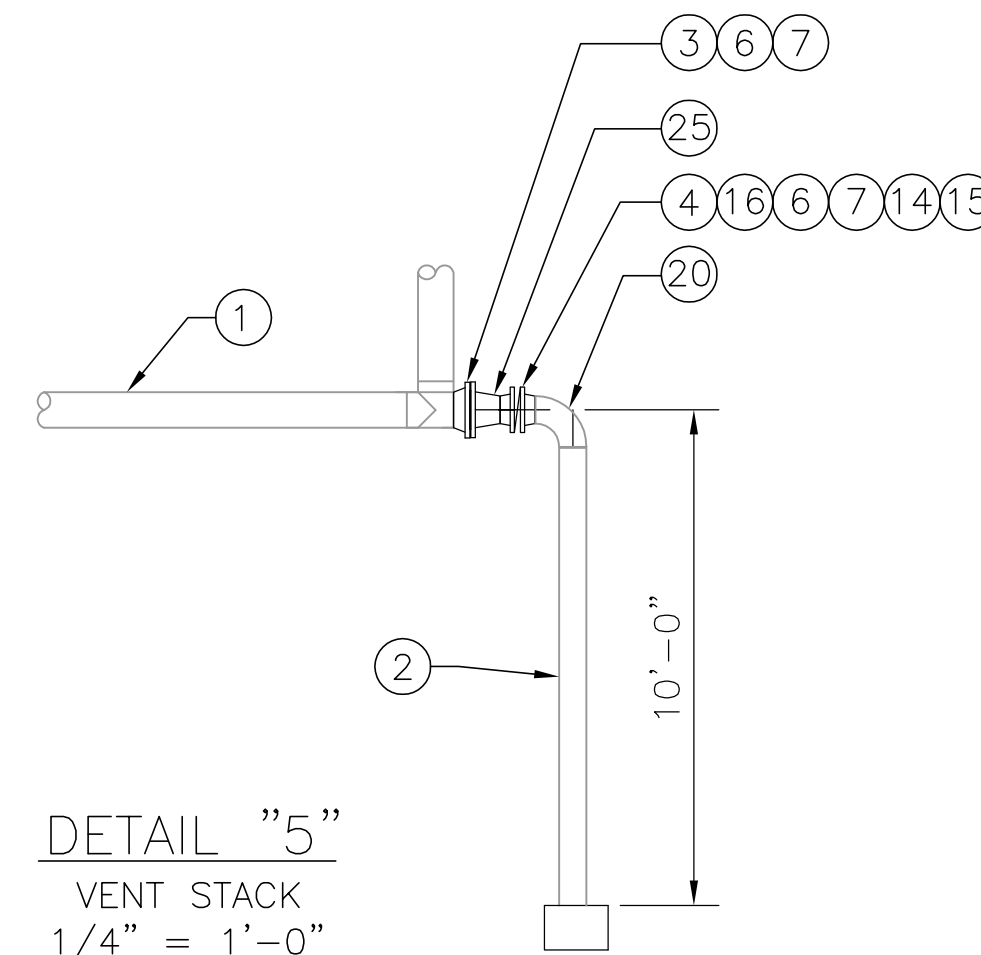
DECK PLAN



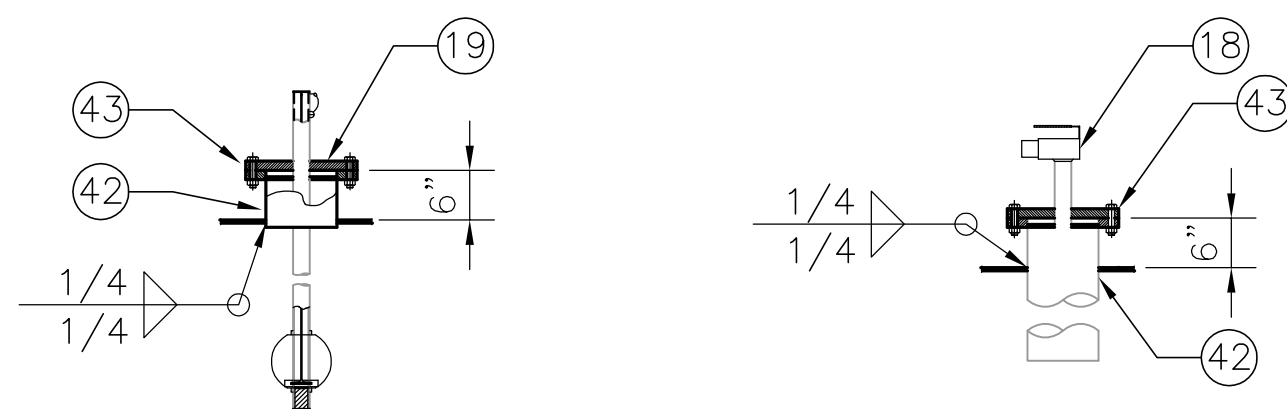
SECTION "A-A"
LOOKING FWD
1/8" = 1'-0"



DETAIL "6"
STANDARD VAPOR MARKING
1/2" = 1'-0"

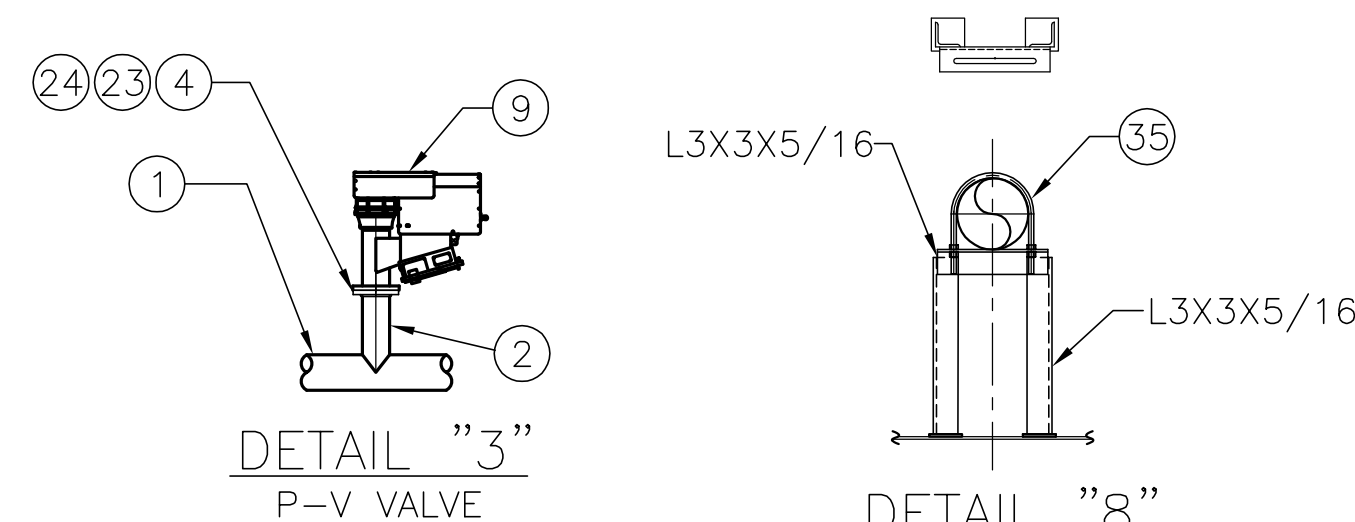


DETAIL "5"
VENT STACK
1/4" = 1'-0"



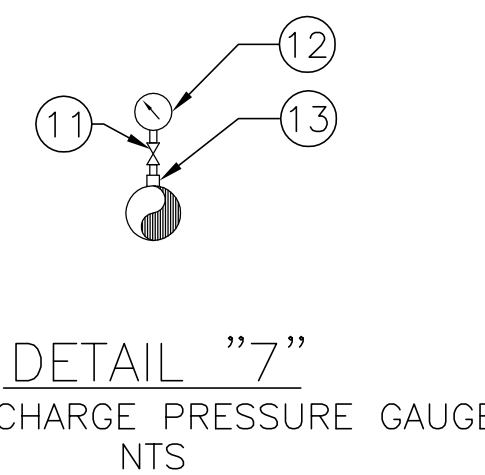
DETAIL "1"
HIGH LEVEL INDICATOR
1/2" = 1'-0"

DETAIL "2"
HIGH LEVEL/ALARM
SHUTDOWN
1/2" = 1'-0"

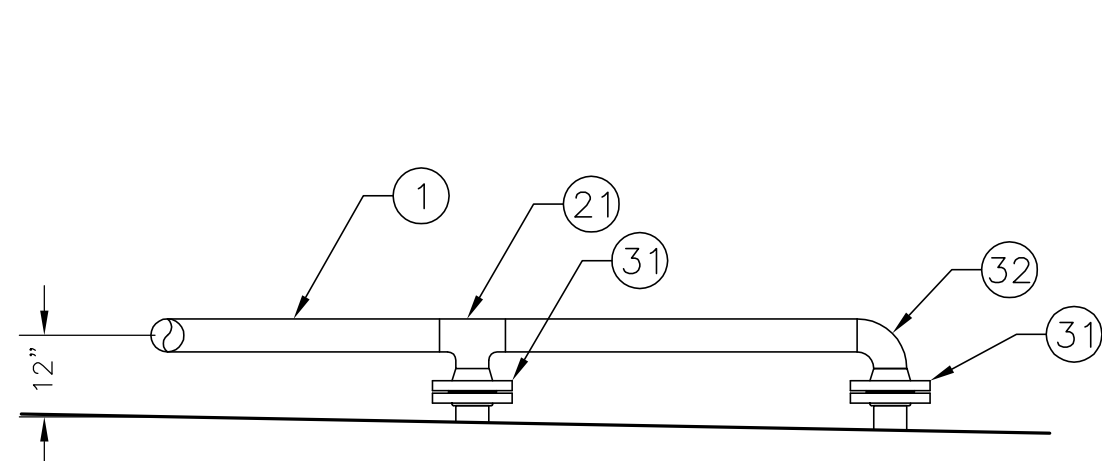


DETAIL "3"
P-V VALVE

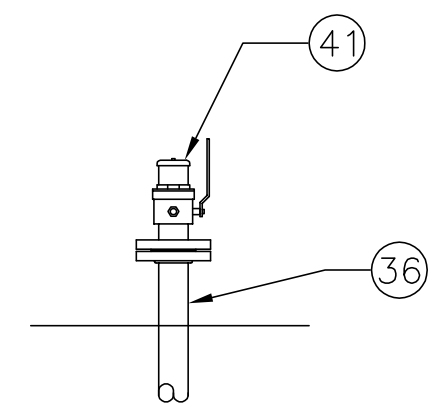
DETAIL "8"
8" PIPE SUPPORT



DETAIL "7"
PUMP DISCHARGE PRESSURE GAUGE
NTS



DETAIL "4"
VAPOR CONNECTION



DETAIL "9"
CLOSED GAUGING/SAMPLING DEVICE

GENERAL NOTES

- ALL PIPING TO MEET USCG II REGULATIONS.
- BACKING RINGS SHALL BE USED AT BUTT WELD JOINTS 2" AND LARGER
- PIPES PASSING THROUGH WATER/OIL TIGHT BOUNDARIES TO BE WELDED BOTH SIDES.
- VAPOR SYSTEM:
PRESSURE, WORKING 1.5 PSI
DESIGN 3.0 PSI
TEST 3.0 PSI
RELIEF VALVE 1.5 PSI
- LABELS TO BE INSTALLED ON ALL VALVES WHERE REQUIRED TO IDENTIFY SERVICE.
- ENDS OF VAPOR MANIFOLD SHOULD BE PAINTED AS SHOWN IN DETAIL "6" IN ACCORDANCE WITH CFR 46 PART 39.20-D-(d).
- THE VAPOR PIPING MUST BE ELECTRICALLY CONTINUOUS AND BONDED TO HULL.

MARK	DESCRIPTION	ASTM NO.	ANSI NO.
1	8" PIPE, SCH. 40, ERW, BLK. STEEL	A-53	B36.10
2	6" PIPE, SCH. 10, S.S., GR. 316L	A-312	B36.10
3	8" FLANGE, 150#, WELD NECK, R.F., FS	A-105	B16.5
4	6" FLANGE, 150#, WELD NECK, R.F., FS	A-105	B16.5
6	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 8" FLG., KLINGERSIL OR EQ.		
7	BOLTS, 3/4"Ø x 3 1/2" LG. FOR 8" FLG.	A-307	B18.2.1
8	GATE VALVE, 8", 150#, C.S. BODY/CR13 TRIM, SPACE#15011C OR EQ	A-216	B16.5
9	PV VALVE, 6", ERL SUPERAC, SET @ 1.50 PSI PRESS & 0.5 PSI VACUUM	A-216	B16.5
10	NOT USED	-	-
11	VALVE, GLOBE, 1/2", SCR'D., FORGED STEEL BODY/CR13 TRIM, VOGT TYPE 600 #10103	A-105	B16.11
12	PRESSURE VACCUM GAUGE, 4 PSI VAC. TO 4 PSI PRESS., ASHCROFT OR EQ		
13	COUPLING, 1/2", 3000#, SCR'D	A-105	B16.11
14	BUTTERFLY VALVE, 6", 150#, C.S. BODY/SS TRIM, KEYSTONE FIG 150 OR EQ	A-216	B16.5
15	6" FLANGE, LAP JOINT, 150#, TYPE A	A-105	B16.5
16	6" LAP JOINT STUB END, SCH 40, 8" LONG TYPE A, STEEL	A-53	B36.10
17	VISUAL TANK LEVEL INDICATOR, BERGAN MODEL DWSG-8		
18	HIGH LEVEL ALARM/SHUT DOWN SYSTEM, ERL MODEL DS-39-HT		
19	HIGH LEVEL INDICATING DEVICE, ERL LEVEL ALERT MODEL II		
20	ELBOW, 90°, 6", SCH. 40, L.R., B.W., S.S., GR. 316L	A403	B16.9
21	TEE, 8", SCH. 40, B.W.	A-234	B16.9
22	TEMP SENSOR, BAERGAN STS-100, 316SS		
23	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 6" FLG., KLINGERSIL OR EQ.		
24	BOLTS, 3/4"Ø x 3 1/4" LG. FOR 6" FLG.	A-307	B18.2.1
25	CONCENTRIC REDUCER, 8" X 6", SCH. 40, B.W.	A-234	B16.9
26	ELBOW, 45°, 8", SCH. 40, B.W.	A-234	B16.9
27	VALVE, GATE, 3/4", SCR'D., FORGED STEEL BODY/CR13 TRIM, FAIRBANK FIG#0418	A-105	B16.11
28	ELBOW, 90°, 3/4", 3000#, SCR'D, F.S.	A-105	B16.11
29	HALF COUPLING, 3/4", 3000#, SCR'D.	A-105	B16.11
30	8" PIPE, SCH. 40, ERW, BLK. STEEL	A-53	B36.10
31	8" FLANGE, 150#, SLIP ON, R.F., F.S.	A-105	B16.5
32	ELBOW, 90°, 8", SCH. 40, B.W.	A-234	B16.9
33	6" BLIND FLANGE, 150#, R.F., F.S.	A-105	B16.5
34	6" FLANGE, SLIP-ON, 150#, R.F., F.S.	A-105	B16.5
35	U-BOLT FOR 8" PIPE	A-307	B18.2.1
36	2" PIPE, SCH. 40, ERW, BLK. STL.	A-53	B36.10
37	2" FLANGE, SLIP-ON, 150#, R.F., F.S.	A-105	B16.5
38	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 2" FLG., KLINGERSIL OR EQ.		
39	BOLTS, 5/8"Ø x 2 3/4" LG. FOR 2" FLG.		
40	U-BOLT FOR 2" PIPE	A-307	B18.2.1
41	2" CLOSED SAMPLING/GAUGING DEVICE - HERMETIC		
42	8" PIPE, SCH. 10, S.S., GR. 316L	A-312	B36.10
43	8" FLANGE, 150#, WELD NECK, R.F., FS, GR. 316L	A182	B16.5

NO.	REVISION	BY	DATE
4	MOVED ISOLATION VALVE FROM #1 TANK TO #2 TANK VAPOR DROP	CO	4.08.15
3	REVISED VAPOR SYSTEM TO INCLUDE ADDITIONAL CARGO TANK	CB	11.16.11
2	REVISED MARKS 2, 9, 18, 19, 20, 41. ADDED MARKS 42, 43, 44. CORRECTED DETAIL 6 AND SECTION A-A	CB	7.06.11
1	REVISED CARGO SYSTEM	CB	6.28.11

THE SHEARER GROUP, INC.
 NAVAL ARCHITECTS
 3101 NASA ROAD ONE, SUITE I
 SEABROOK, TX. 77586
 297'-6" x 54'-0" x 12'-0"
 DOUBLE SKIN TANK BARGE

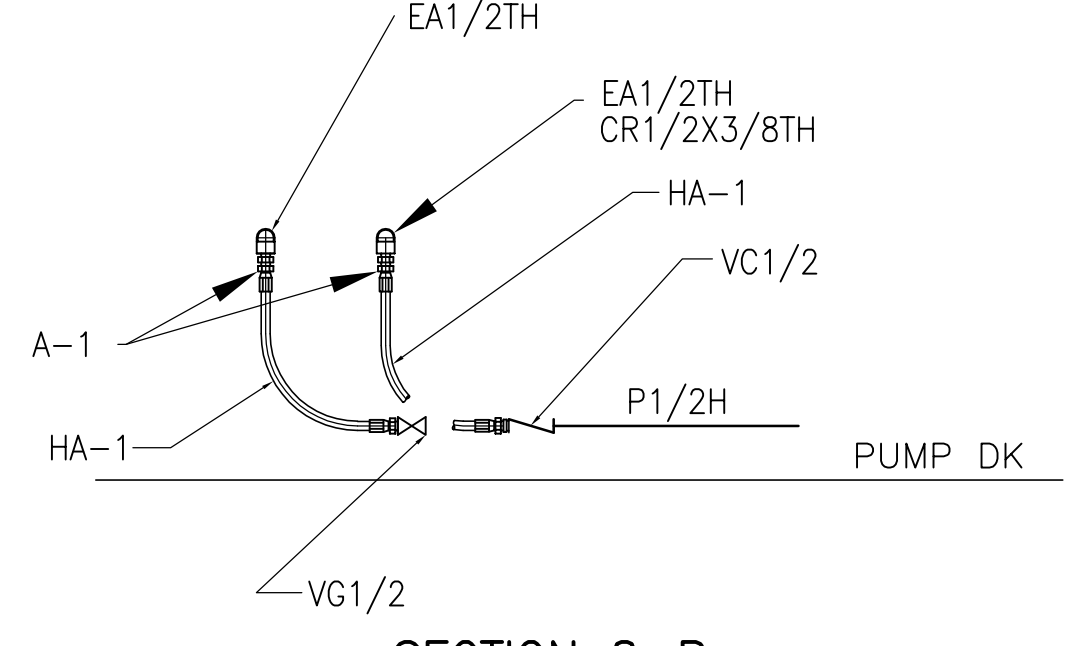
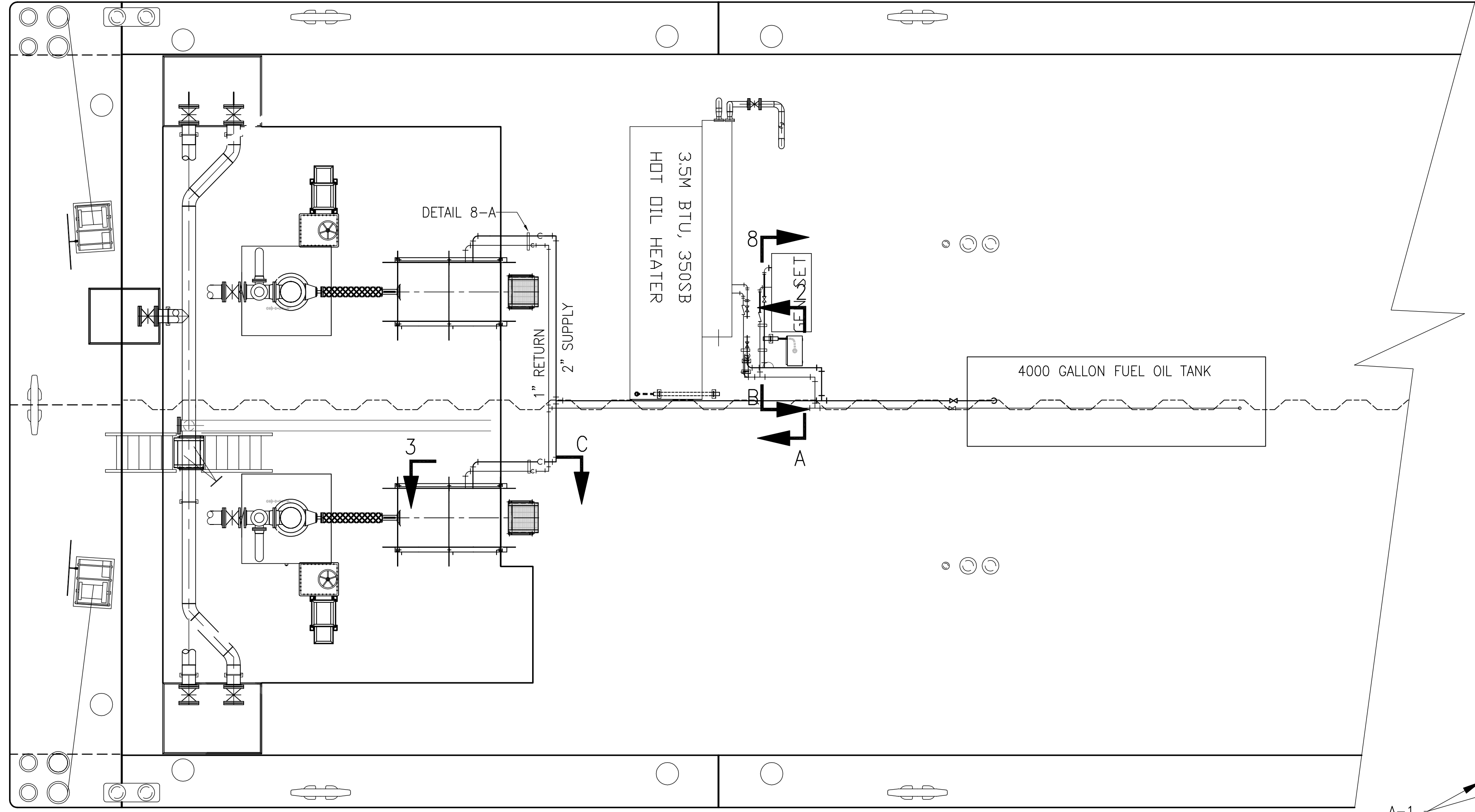
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RAYMOND & ASSOCIATES, LLC, HULL 455			DRAWING NUMBER 110501-4
VAPOR PIPING DETAILS			

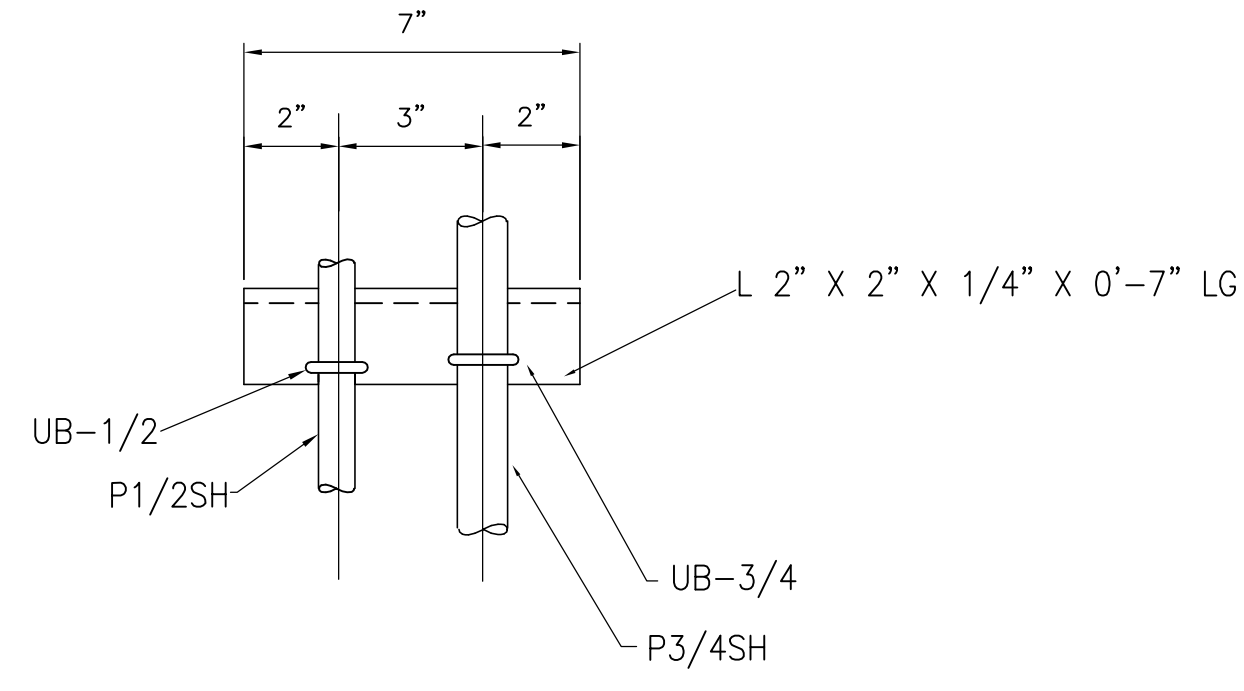
PARTS LIST

ITEM NO.	QTY	SIZE	DESCRIPTION	MATERIAL	SPEC NO.	REMARKS
P-2H	60'	2"	PIPE, SCH 40, SEAMLESS	304L SS	A-312	ANSI B36.10
P-1H	20'	1"	PIPE, SCH 40, SEAMLESS	304L SS	A-312	ANSI B36.10
P-1/2	30'	1/2"	PIPE, SCH 40, SEAMLESS	304L SS	A-312	ANSI B36.10
P-3/4	30'	3/4"	PIPE, SCH 40, SEAMLESS	304L SS	A-312	ANSI B36.10
EA-2	12	2"	ELBOW, 90°, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
EA-1SH	2	1"	ELBOW, 90°, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
EA-1/2TH	6	1/2"	ELBOW, 90°, 3000#, SCR'D.	304L SS	A-182-304	ANSI B16.11
EA-3/4SH	6	3/4"	ELBOW, 90°, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
EA-1/2SH	6	1/2"	ELBOW, 90°, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
VC-1/2	3	1/2"	CHECK VALVE, 150#, SCR'D	A351 CFBM		WARREN FIG# 3156 OR EQ
VG-1/2	3	1/2"	GATE VALVE, 150#, SCR'D.	A351 CFBM		WARREN FIG# 1156 OR EQ
HA-1	6	1/2"	HOSE ASSEMBLY, AEROQUIP HOSE# FC234-8 (18' LG, O.A.) W/JIC SWIVEL FITTING ONE END AEROQUIP#4-411-85 AND 1/2-14 MPT FITTING AT OTHER END #412-8-85			
CP-1/2TH	2	1/2"	FULL COUPLING, 3000#, SCR'D.	304 SS	A-182-304	ANSI B16.11
CR-1/2X3/8	3	1/2"x3/8"	REDUCING COUPLING, THRD, 3000#	304 SS	A-182-304	ANSI B16.11
NS2X1SH	1	2"x1"	REDUCING INSERT, 3000#, SW	304 SS	A-182-304	ANSI B16.11
NS3/4X1/2SH	2	3/4"x1/2"	REDUCING INSERT, 3000#, SW	304 SS	A-182-304	ANSI B16.11
NS1X3/4SH	2	1"x3/4"	REDUCING INSERT, 3000#, SW	304 SS	A-182-304	ANSI B16.11
NS1X1/2SH	2	1"x1/2"	REDUCING INSERT, 3000#, SW	304 SS	A-182-304	ANSI B16.11
NS3X3/4SH	1	3"x3/4"	REDUCING INSERT, 3000#, SW	304 SS	A-182-304	ANSI B16.11
NS2X1/2SH	2	2"x1/2"	REDUCING INSERT, 3000#, SW	304 SS	A-182-304	ANSI B16.11
A-1	6	1/2"	ADAPTER, 1/2-14 MPT X 3/4-16 MUC			AEROQUIP#259-2021-8-85
A-2	2	1/2"x7/8"	ADAPTER, 1/2-14 FPI X 7/8-14 SAE "O" RING, SWMEL			AEROQUIP#2066-8-10S
VG-2	2	2"	GATE VALVE, 150#, SCR'D., CF-BM BODY, 316SS TRM	A-351	B16.10	WILLIAM FIG. SN20T6316
UB-1/2	4		U-BOLT FOR 1/2" PIPE W/HEX NUTS	SS	BOLT:304, NUT:316	B18.2.1 & B18.2.2
UB-3/4	4		U-BOLT FOR 3/4" PIPE W/HEX NUTS	SS	BOLT:304, NUT:316	B18.2.1 & B18.2.2
UB-1	4		U-BOLT FOR 1" PIPE W/HEX NUTS	SS	BOLT:304, NUT:316	B18.2.1 & B18.2.2
UB-2	6		U-BOLT FOR 2" PIPE W/HEX NUTS	SS	BOLT:304, NUT:316	B18.2.1 & B18.2.2
T2SH	2	2"	TEE, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
T1SH	2	1"	TEE, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
F1	1		FUEL FILTER/WATER SEPARATOR (30 MICRON)			RACOR 1000MA-30
PN1/2E4	AR	1/2"	NIPPLE, SCH 40, T.O.E., 4" LG	304L SS	A-312	ANSI B36.10
PN1/2B4	AR	1/2"	NIPPLE, SCH 40, T.B.E., 4" LG	304L SS	A-312	ANSI B36.10
UN-1/2SH	2	1/2"	UNION, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
P-3H	60'	3"	PIPE, SCH 40, SEAMLESS	304L SS	A-312	ANSI B36.10
EA-3	6	3"	ELBOW, 90°, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11
NS3X1SH	1	3"x1"	REDUCING INSERT, 3000#, SW	304 SS	A-182-304	ANSI B16.11
UB-3	6		U-BOLT FOR 3" PIPE W/HEX NUTS		BOLT:304, NUT:316	B18.2.1 & B18.2.2
VG-3	2	3"	GATE VALVE, 150#, SCR'D., CF-BM BODY, 316SS TRM	A-351	B16.10	WILLIAM FIG. SN20T6316
T3SH	2	3"	TEE, 3000#, S.W.	304L SS	A-182-304	ANSI B16.11

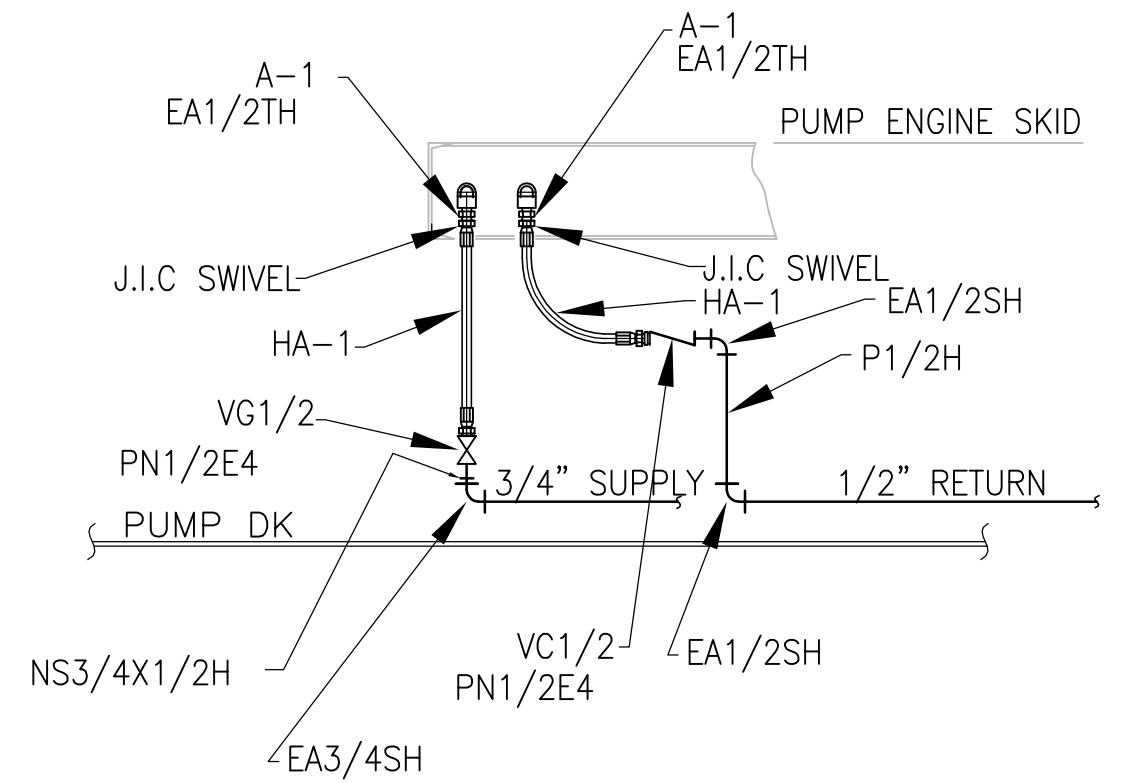
NOTE: QUANTITIES SHOWN ARE TO BE VERIFIED BY BUILDER.



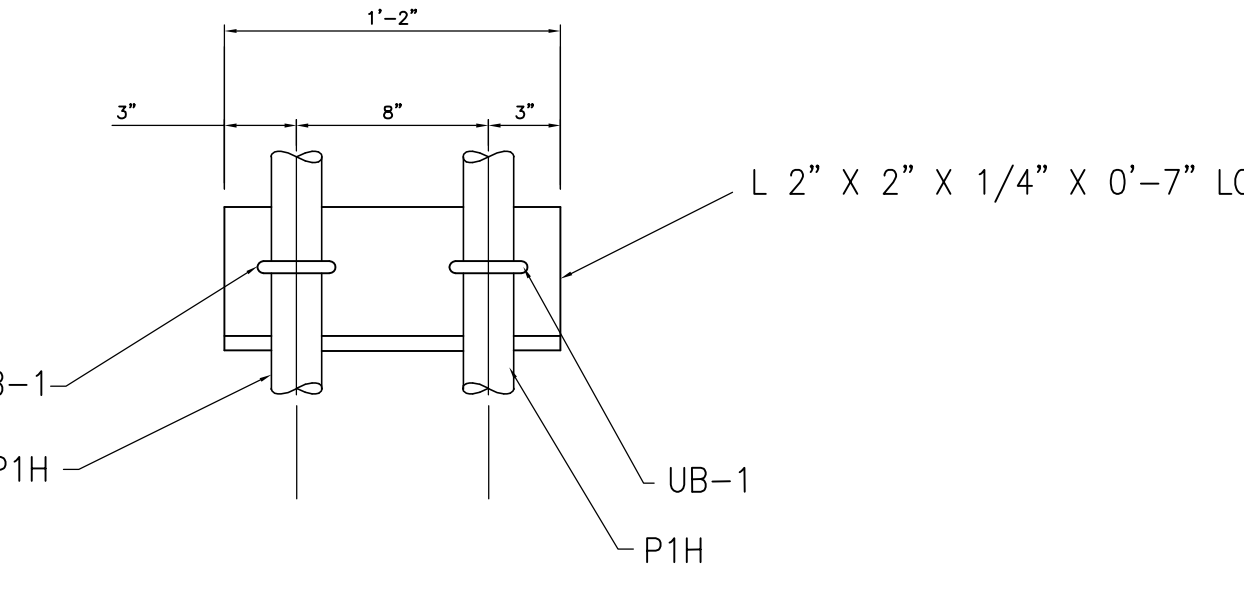
SECTION 8-B
3/4" = 1'-0"



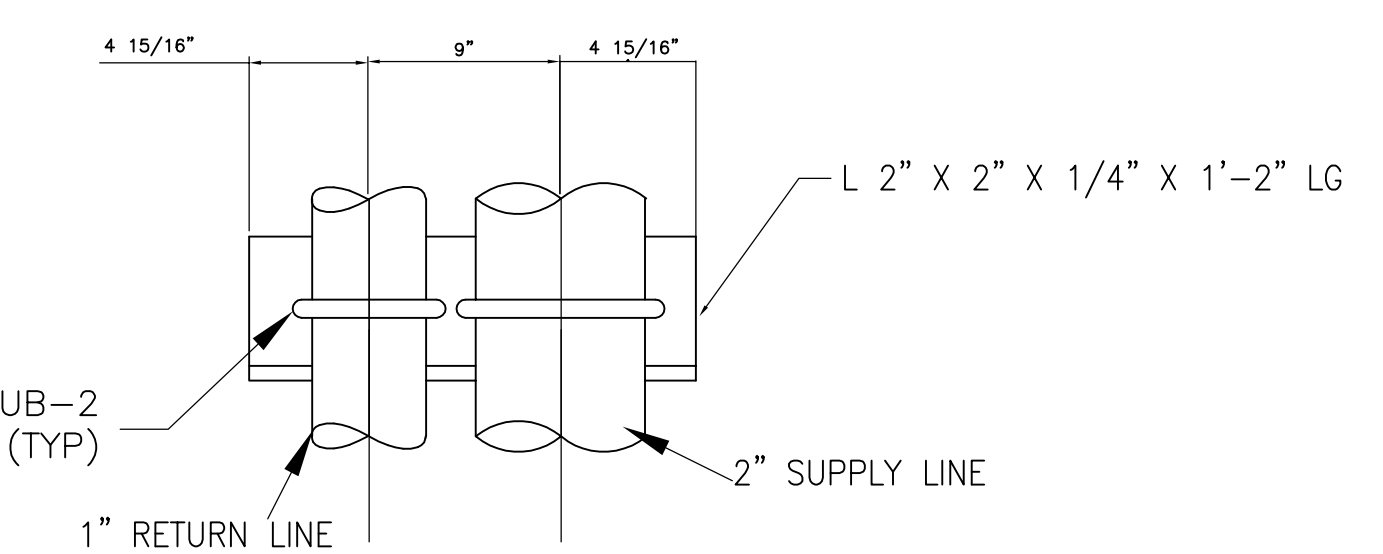
DETAIL 7-B
(4) REQ'D
3" = 1'-0"



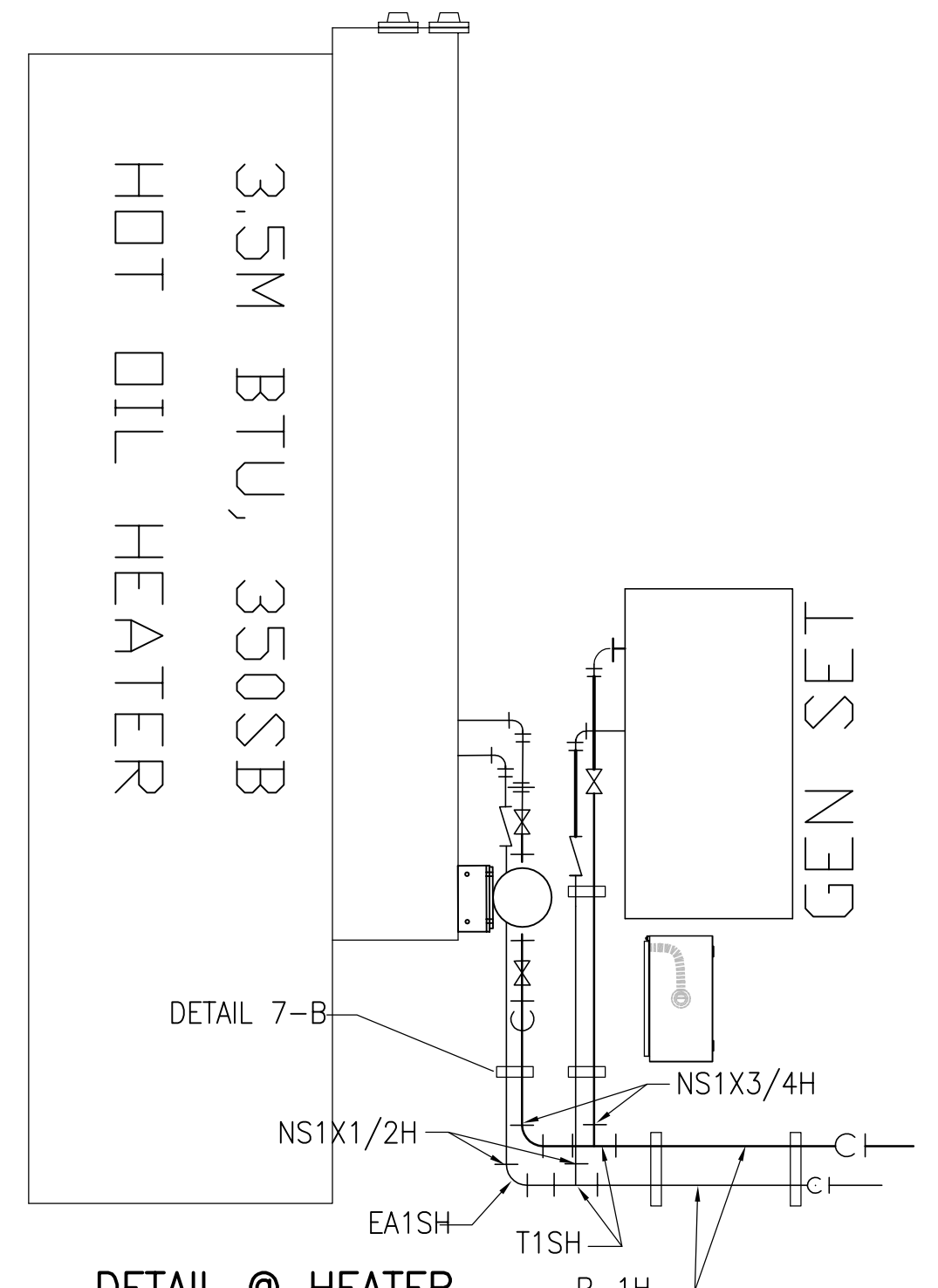
SECTION 3-C
3/4" = 1'-0"



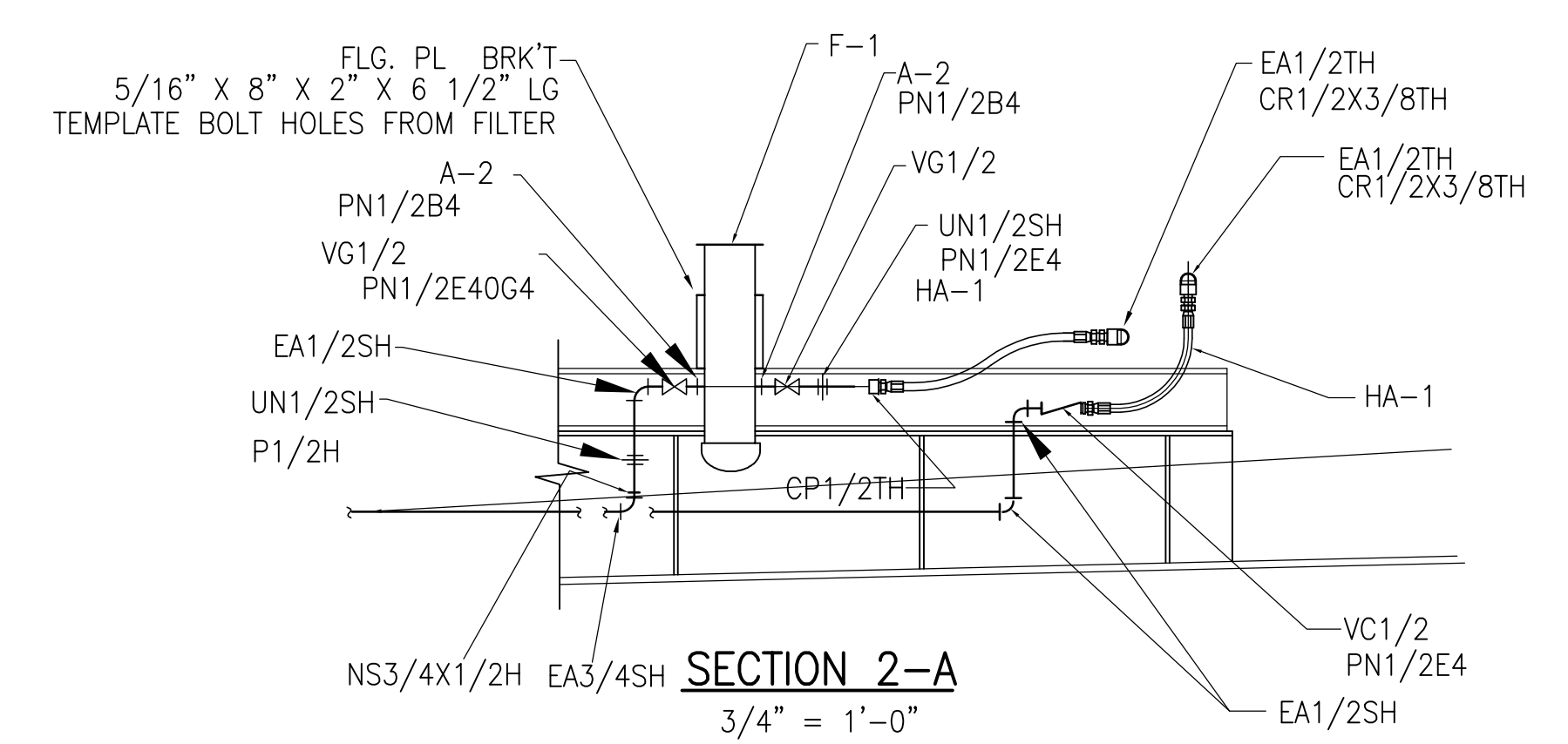
DETAIL 8-A
(2) REQ'D
3" = 1'-0"



DETAIL 6-A
3" = 1'-0"



DETAIL @ HEATER
3/8" = 1'-0"



SECTION 2-A
3/4" = 1'-0"

2	ADDED FUEL CONNECTION TO THE HOT OIL HEATER AND GENERATOR	CB	11.16.11
1	REVISED CARGO SYSTEM	CB	6-28-11
NO.	REVISION	BY	DATE

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 NAVAL ARCHITECTS
 3101 NASA ROAD ONE, SUITE I
 SEABROOK, TX. 77586

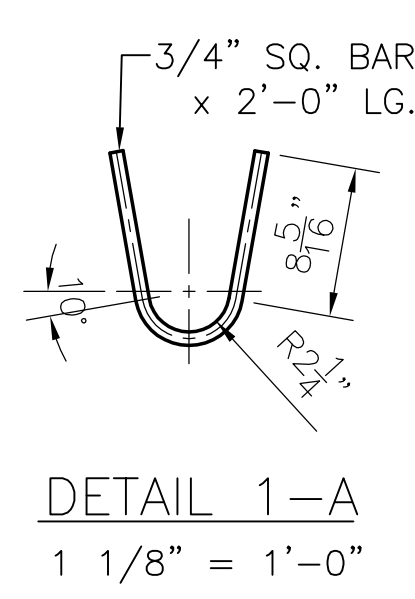
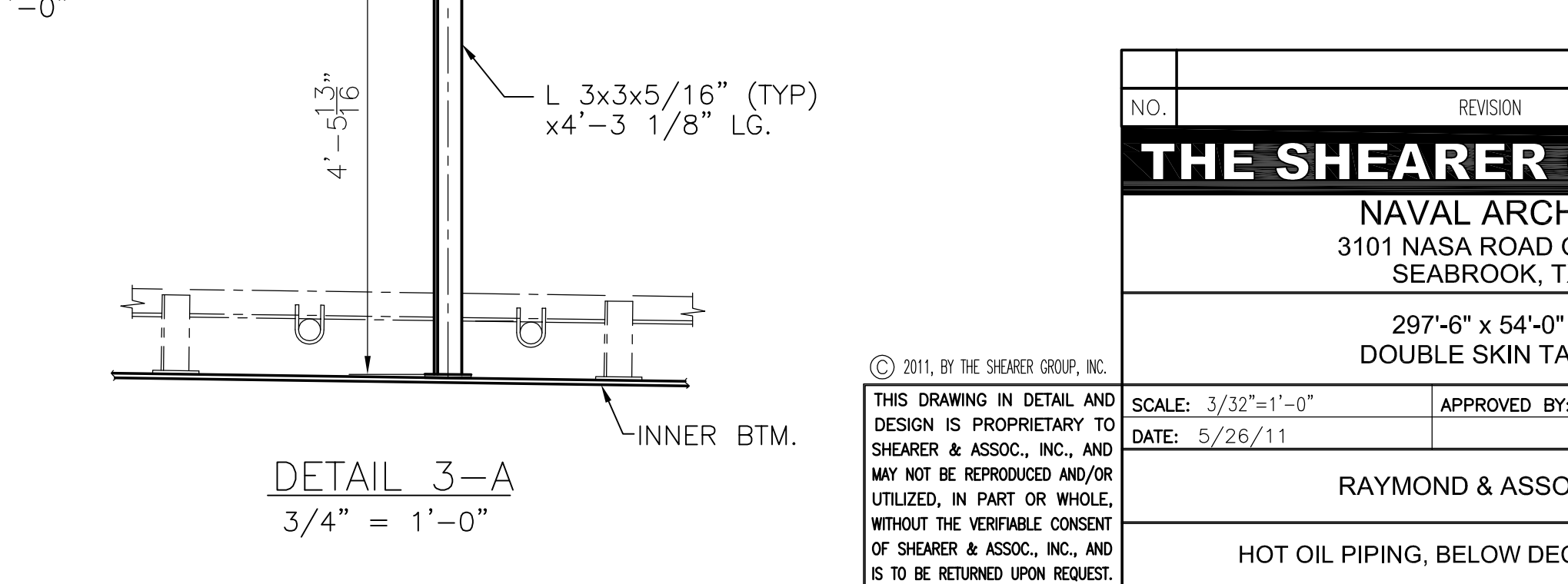
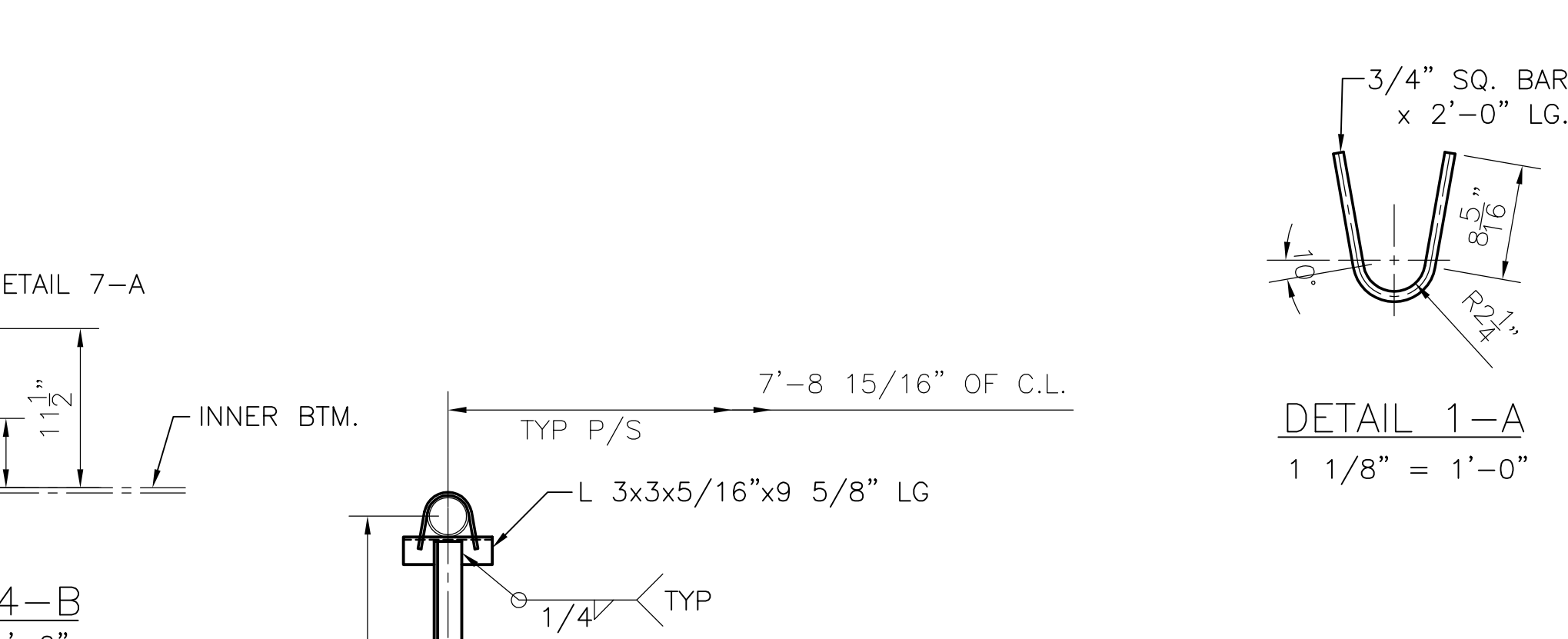
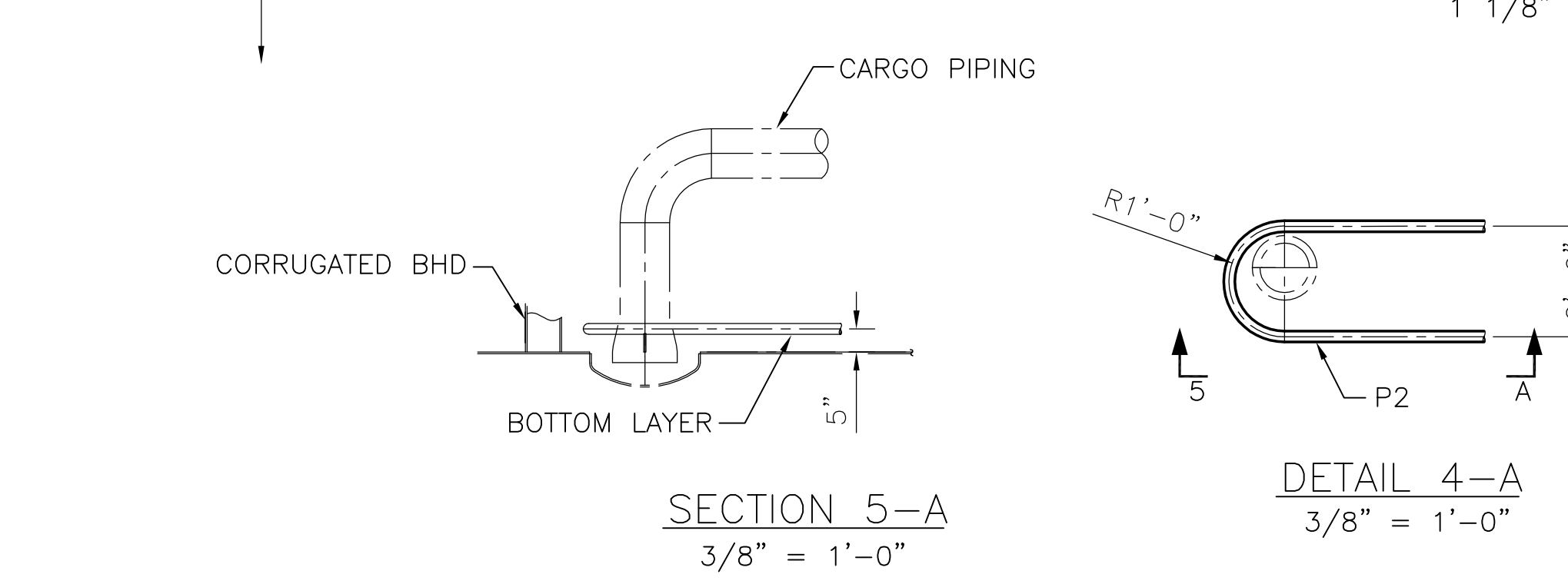
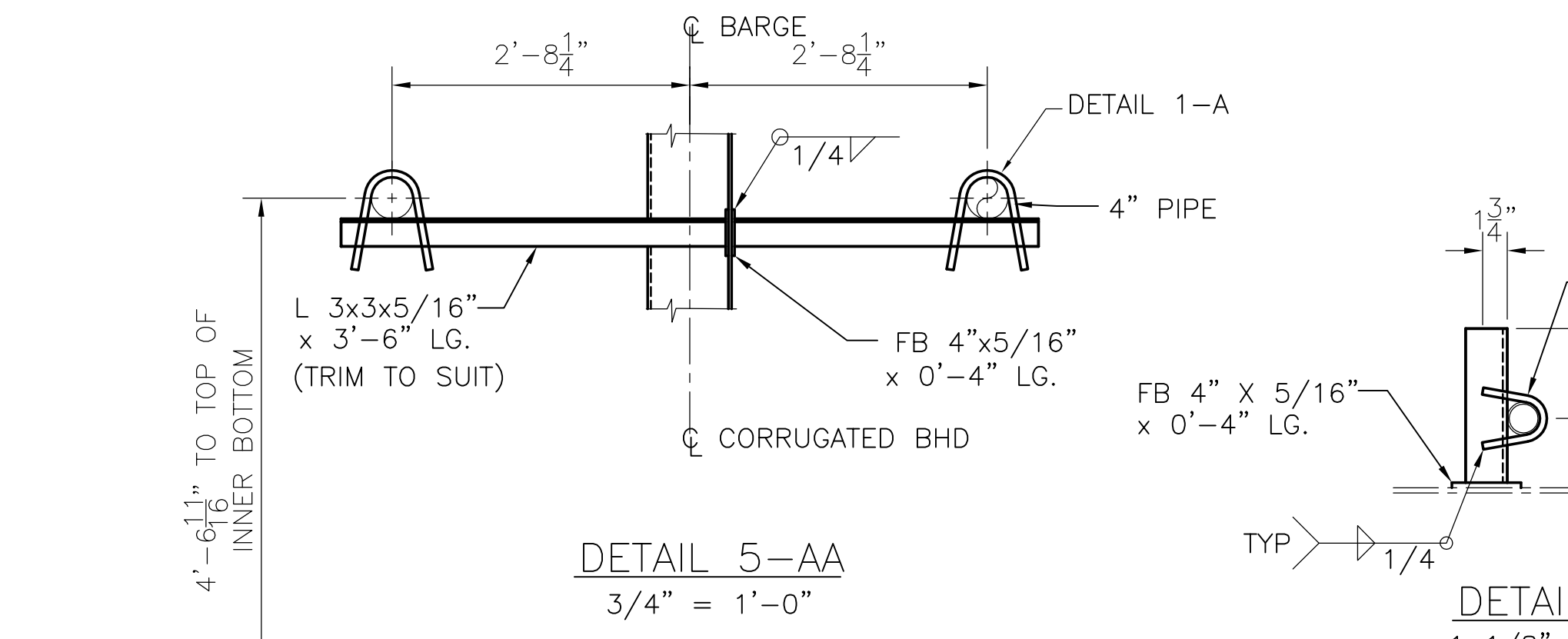
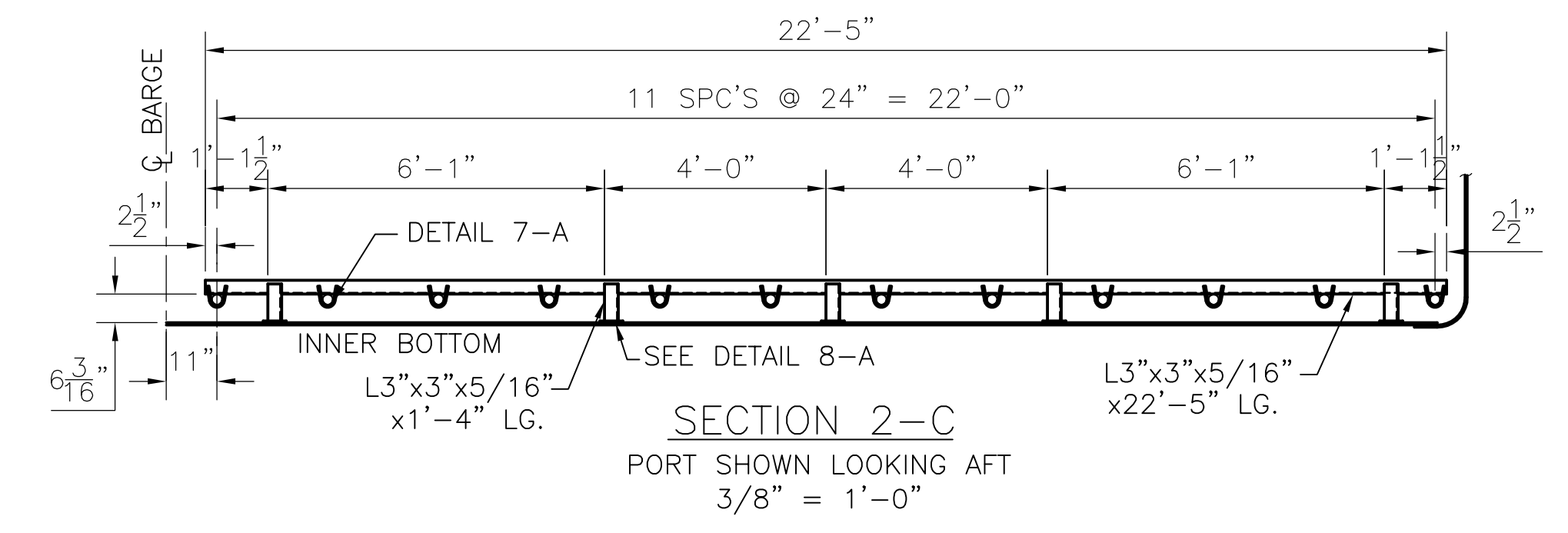
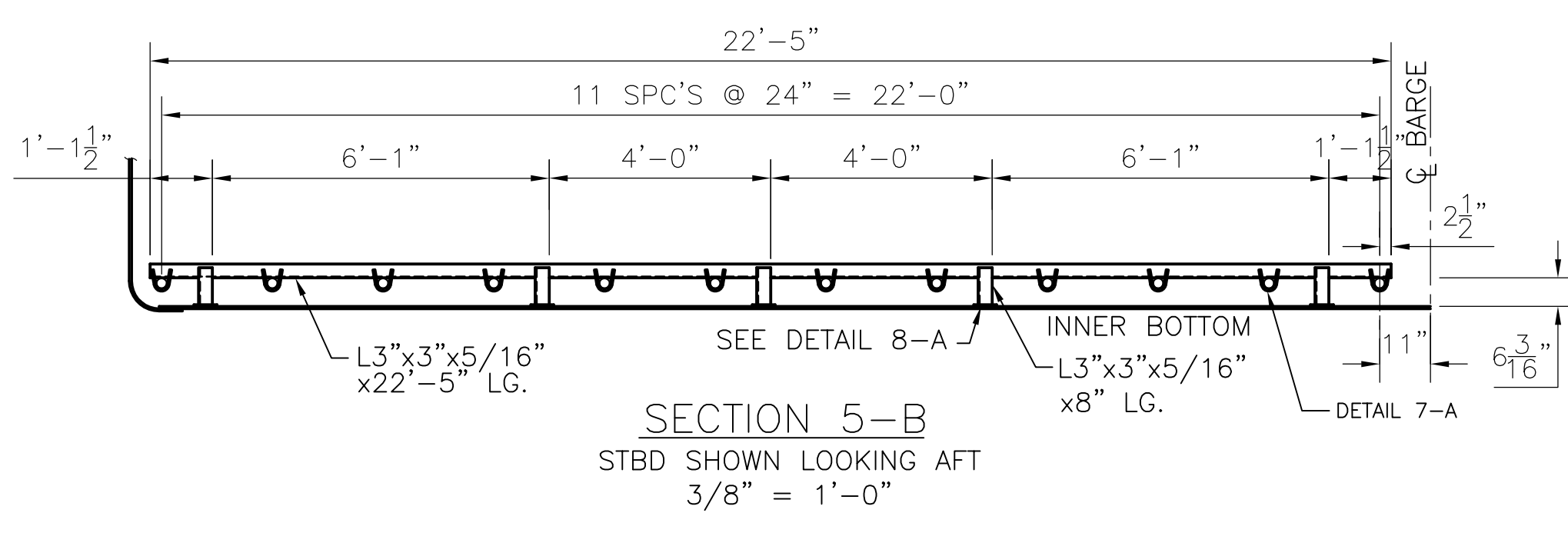
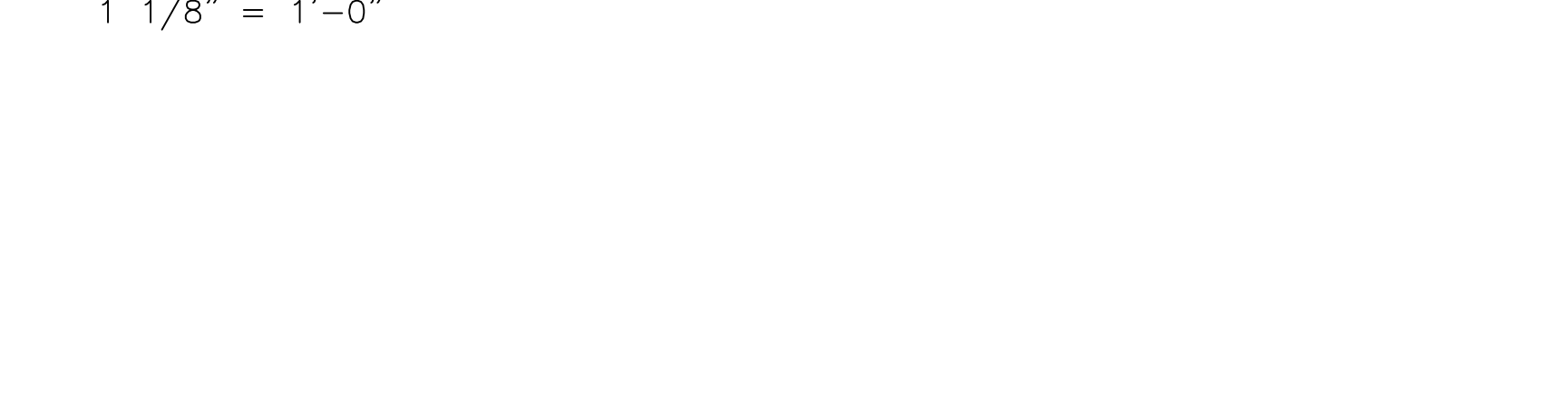
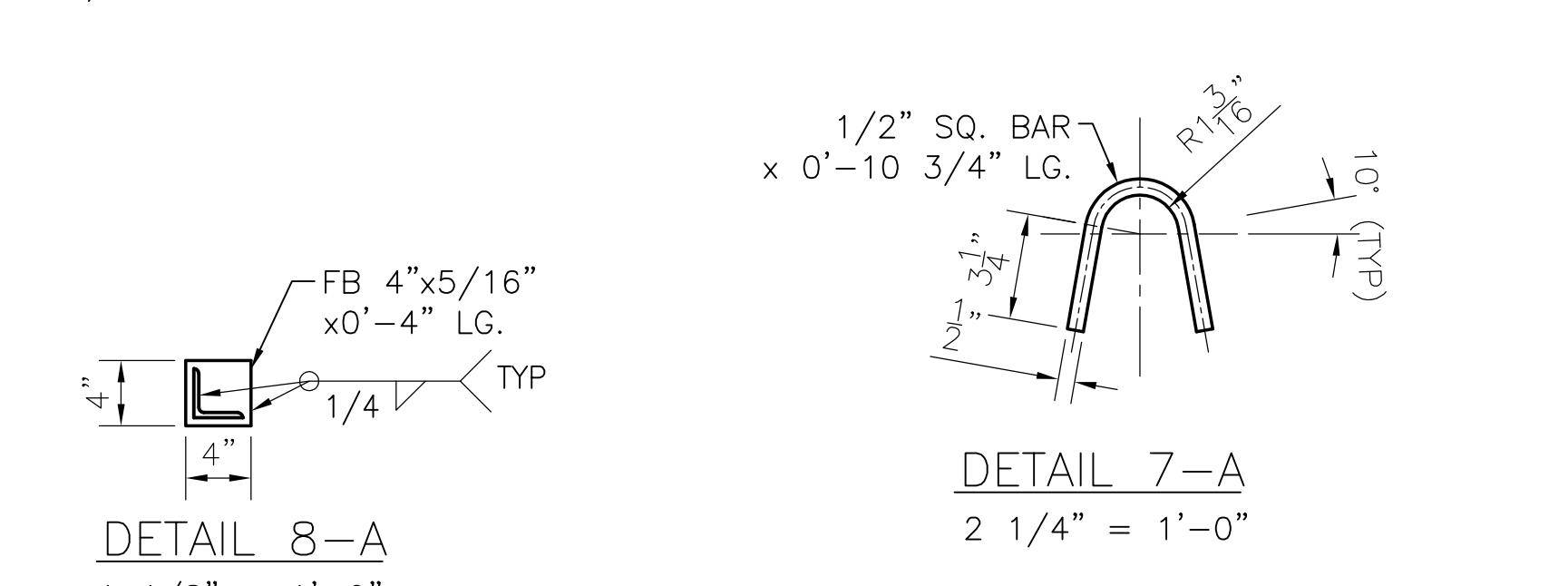
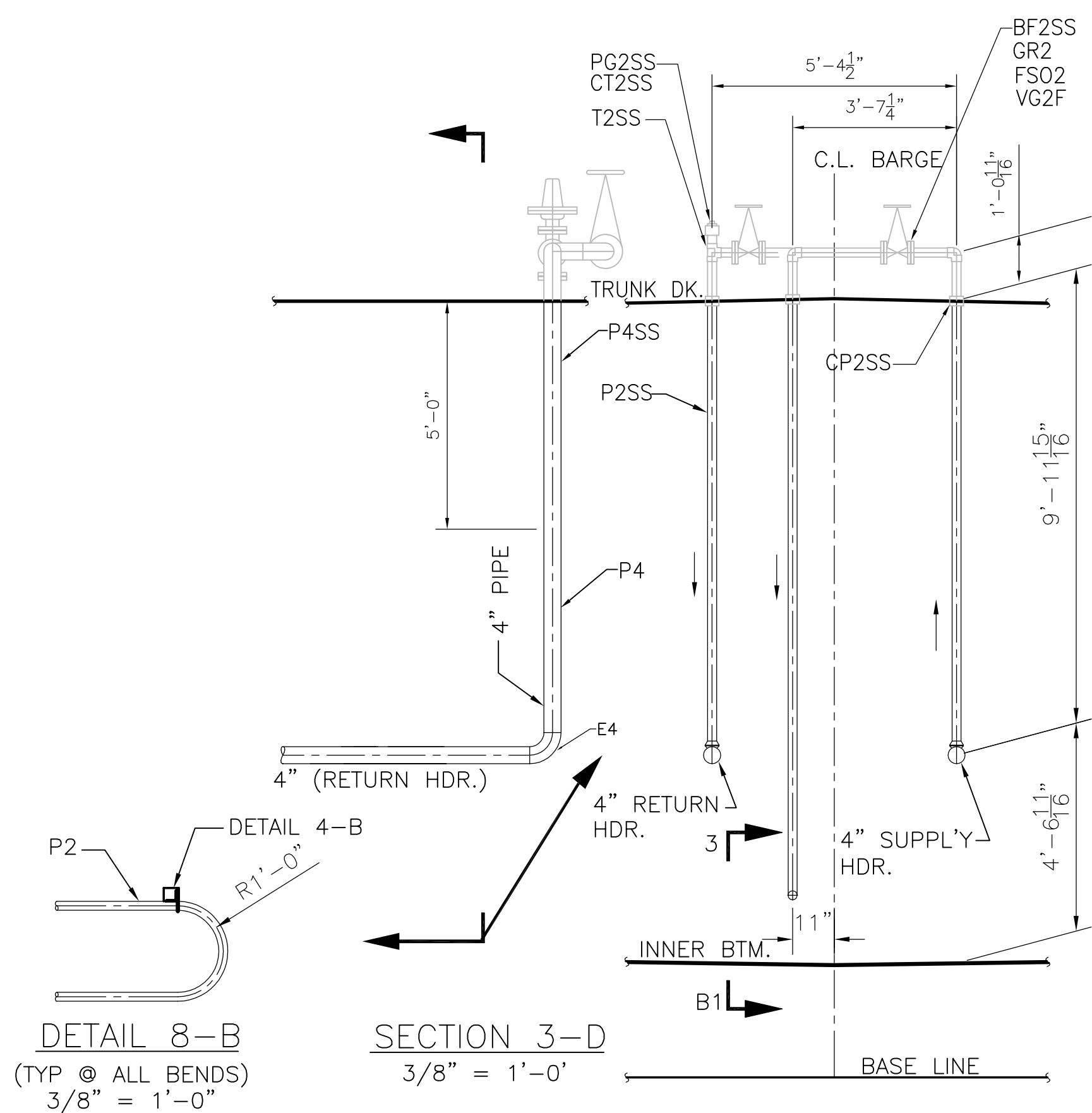
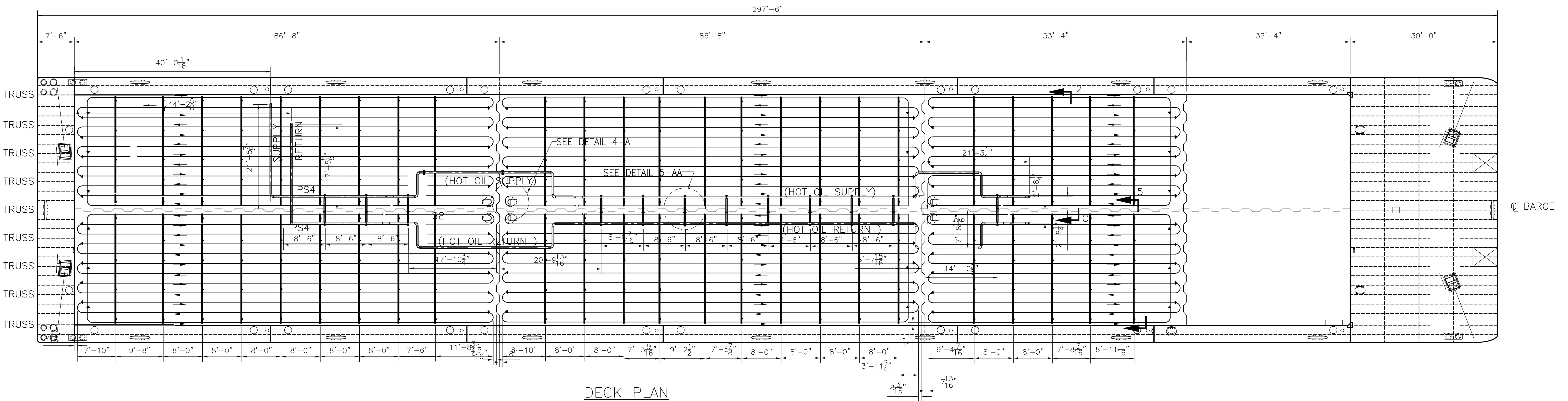
297'-6" x 54'-0" x 12'-0"
 DOUBLE SKIN TANK BARGE

SCALE: 3/16"=1'-0" APPROVED BY: DRAWN BY: CLB
 DATE: 5/26/11 REV. No. 2

RAYMOND & ASSOCIATES, LLC

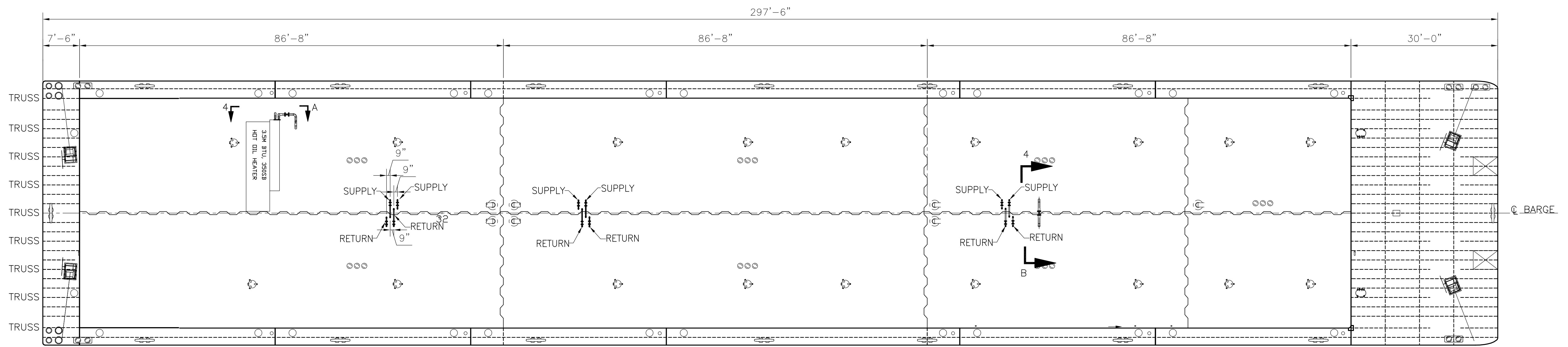
FUEL OIL PIPING ARRANGEMENT DRAWING NUMBER 110501-6

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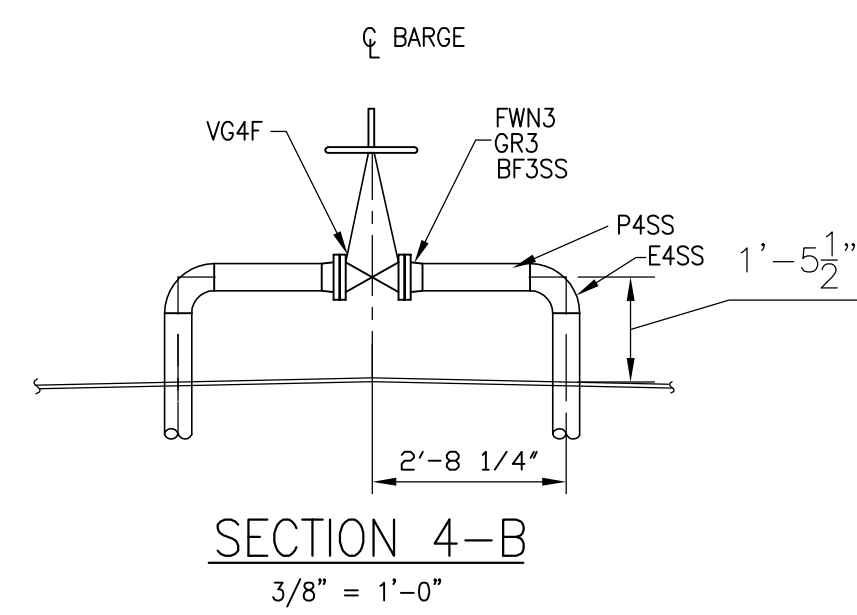


NO.	REVISION	BY	DATE
THE SHEARER GROUP, INC.			
NAVAL ARCHITECTS 3101 NASA ROAD ONE, SUITE 1 SEABROOK, TX. 77586			
297'-6" x 54'-0" x 12'-0" DOUBLE SKIN TANK BARGE			
SCALE: 3/32"=1'-0"		APPROVED BY:	DRAWN BY: CLB
DATE: 5/26/11			REV. No. 0
RAYMOND & ASSOCIATES, LLC			
HOT OIL PIPING, BELOW DECK			DRAWING NUMBER 110501-10

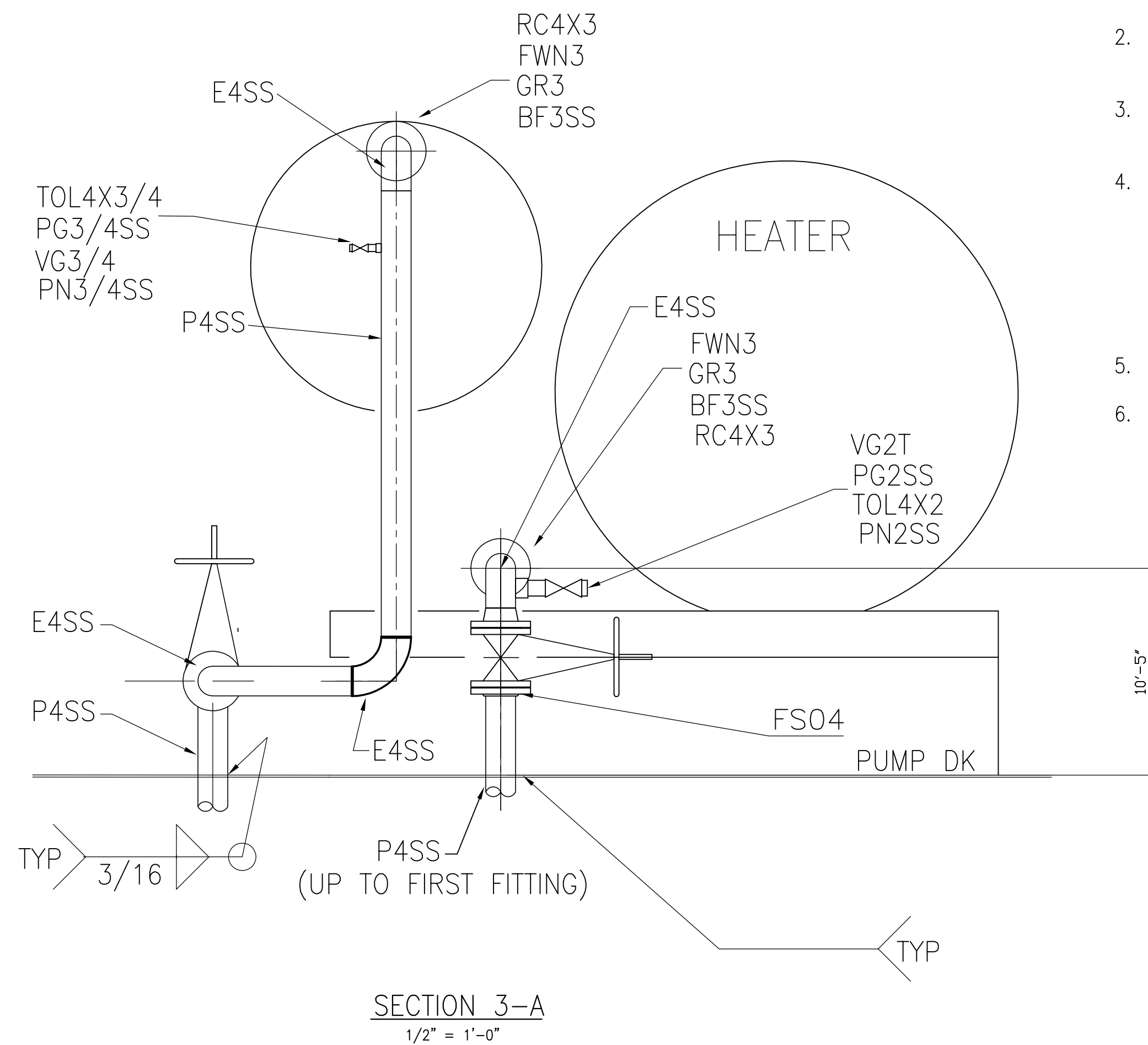
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DECK PLAN



(UP TO FIRST FITTING)



SECTION 3-A
1/2" = 1'-0"

GENERAL NOTES

1. ALL PIPING TO MEET USCG II REGULATIONS.
2. BACKING RINGS SHALL BE USED AT BUTT WELD JOINTS 2" AND LARGER
3. PIPES PASSING THROUGH WATER/OIL TIGHT BOUNDARIES TO BE WELDED BOTH SIDES.
4. HOT OIL SYSTEM:
 TEMPERATURE MAX 399 DEG. F
 PRESSURE, WORKING 40 PSI
 DESIGN 50 PSI
 TEST 75 PSI
 RELIEF VALVE 50 PSI
5. MATERIAL TO BE AS SPECIFIED OR EQUAL.
6. LABELS TO BE INSTALLED ON ALL VALVES WHERE REQUIRED TO IDENTIFY SERVICE.

PN2SS	2", NIPPLE, SCH. 40, 316SS	A-312	B36.10
TOL4X2	4 X 2, THREAOLET, 3000#, 316SS	A-182-316	B16.11
BCM	MALE CONNECTOR, 1/2" OD TUBE X 1/2" MPT, 316SS	A-479	
TS1/2	1/2", TUBING, 0.035" WALL, 316SS, COLD DRAWN	A-450	
RE4X3	4X3 ECCE. REDUCER, SCH 40, BW, 316SS	A-182-316	B16.9
VR3F	BACK PRESS. REGULATOR, 300#, FLG'D, TEM MAX. 400F, SET @ 40 PSI BACK PRESSURE, CAST IRON	A-126 CL B	B16.5
PG1/2	1/2" PLUG, 3000#, 316SS, SQ. HEAD, SCR'D.	A-182-316	B16.11
TOL4X1/2	4 X 1/2, THREAOLET, 3000#, 316SS	A-182-316	B16.11
BF4SS	BOLTS, 5/8"Ø X 3" LG. FOR 4" FLG.	BOLT: 304 NUT: 316	B18.2.1 B18.2.2
GR4	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 4" FLG., TEFLON OR EQ.		
FWN4	4", WELD NECK FLANGE, 150#, R.F., 316SS	A-182-316	B16.5
VG4F	4" GATE VALVE, 150#, CF-8M BODY/316SS TRIM	A-351	B16.10
PN3/4SS	3/4", NIPPLE, SCH. 40, 316SS		
VG3/4	3/4", GATE VALVE, 200#, SCR'D, R.S., SS	A-315	B16.11
PG3/4SS	3/4" PLUG, 3000#, 316SS, SCR'D	A-182-316	B16.11
TOL4X3/4	4 X 3/4, THREAOLET, 3000#, 316SS	A-182-316	B16.11
BF3SS	BOLTS, 5/8"Ø X 3" LG. FOR 3" FLG.	BOLT: 304 NUT: 316	B18.2.1 B18.2.2
GR3	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 3" FLG., TEFLON OR EQ.		
FWN3	3", WELD NECK FLANGE, 150#, R.F., 316SS	A-182-316	B16.5
RC4X3	4X3 CONC. REDUCER, SCH 40, BW, 316SS	A-182-316	B16.9
E4SS	4" ELBOW, 90°, BW, SCH 40, 316SS	A-182-316	B16.9
VG2T	2" GATE VALVE, 150#, CF-8M BODY/316 TRIM, SCR'D.	A-351	B16.10
E4	4" ELBOW, 90°, BW, SCH 40, STEEL	A-234	B16.9
BF2SS	BOLTS, 5/8"Ø X 2 3/4" LG. FOR 2" FLG.	BOLT: 304 NUT: 316	B18.2.1 B18.2.2
GR2	RING GASKET, 1/8" THK., NON-ASBESTOSS, 150# 2" FLG., TEFLON OR EQ.		
FSO2SS	2" SLIP ON FLANGE, 150#, RF, 316SS	A-182-316	B16.5
VG2F	2" GATE VALVE, 150#, CF-8M BODY/316 TRIM, FLANGED	A-351	B16.10
CT2SS	2" COUPLING, 3000#, SCR'D, 316SS	A-182-316	B16.11
PG2SS	2" PLUG, 3000#, SQ. HEAD, SCR'D, 316SS	A-182-316	B16.11
T2SS	2" TEE, 3000#, SW, 316SS	A-182-316	B16.11
SOL4X2	4 X 2 SOCKOLET, 3000#, 316SS	A-182-316	B16.11
CP2SS	2" FULL COUPLING, 3000#, SW, 316SS	A-182-316	B16.11
P2SS	2" PIPE, SCH. 40, SEAMLESS, 316SS	A-312	B36.10
P2	2" PIPE, SCH. 40, SEAMLESS, BLK. STEEL	A-53	B36.10
P4SS	4" PIPE, SCH. 40, SEAMLESS, 316SS	A-312	B36.10
P4	4" PIPE, SCH. 40, SEAMLESS, BLK. STEEL	A-53	B36.10
MARK	DESCRIPTION	ASTM NO.	ANSI NO.

BF3SSX	BOLTS, 5/8"Ø X 3" LG. FOR 3 1/4" FLG.	BOLT: 304 NUT: 316	B18.2.1 B18.2.2
GR3X	RING GASKET, 1/8" THK., NON-ASBESTOSS, 300# 3" FLG., TEFLON OR EQ.		
FWN3X	3", WELD NECK FLANGE, 300#, R.F., 316SS	A-182-316	B16.5
FB4	4", BLIND FLANGE, 150#, R.F., 316SS	A-182-316	B16.5

NO.	REVISION	BY	DATE
THE SHEARER GROUP, INC.			
NAVAL ARCHITECTS 3101 NASA ROAD ONE, SUITE 1 SEABROOK, TX. 77586			
297'-6" x 54'-0" x 12'-0" DOUBLE SKIN TANK BARGE			
SCALE: 3/32"=1'-0"		APPROVED BY:	DRAWN BY: CLB
DATE: 5/26/11			REV. No. 0
RAYMOND & ASSOCIATES, LLC.			
HOT OIL PIPING, ABOVE DECK			DRAWING NUMBER 110501-11

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REVISION HISTORY

REV	ZONE	DESCRIPTION	DATE	BY	CHECK
0	-	Initial Release	8-Nov-24	CLN	JSS

GENERAL NOTES

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THE SHEARER GROUP

3118 HARRISBURG BLVD, SUITE 100, HOUSTON TX 77003
 TEL: (281) 532-2080 ~ FAX (281) 326-1615
www.shearer-group.com

NO.	DRAWING	TITLE	REV
-	-	-	-

REFERENCES

TITLE:		Draft Tables	
FOR:		Canal Barge - CBC 343	
VESSEL:		Canal Barge	HULL NO: 980402
DATE:	8-Nov-24	SCALE:	N.T.S.
DWG. NO:	0014-058-005.1	REV:	0
DRAWN BY:	CLN	CHECK BY:	JSS

PROJECT:	0014-058-005.1 Canal Barge - CBC 343	Rev:	0	By:	CLN
CALC:	Draft Tables	Date:	8-Nov-24	Checked:	JSS

Barge loading conditions to achieve desired draft and trim were calculated using GHS.

Note: Barge trims aft at even loading of all tanks. Even trim was found at each draft by unloading a volume percentage of Tank 3 (P/S) and increasing load percentage equally in Tanks 1 & 2 (P/S).

Capacities - Short tons at various drafts				
Tank Number				
Draft (ft)	1 P/S (ST)	2 P/S (ST)	3 P/S (ST)	Total (ST)
1.95*	-	-	-	-
2.0**	23.12	-	-	23.12
2.5	62.94	194.60	-	257.54
3	187.10	187.08	119.06	493.24
3.5	269.70	269.70	190.50	729.90
4	351.10	351.10	265.34	967.54
4.5	435.44	435.44	335.08	1,205.96
5	518.50	518.50	408.22	1,445.22
5.5	602.80	602.80	479.66	1,685.26
6	687.50	687.50	551.10	1,926.10
6.5	773.44	773.44	620.82	2,167.70
7	860.64	860.64	688.86	2,410.14
7.5	949.12	949.12	755.20	2,653.44
8	1,037.12	1,037.12	823.24	2,897.48
8.5	1,125.52	1,125.52	891.28	3,142.32
9	1,214.30	1,214.30	959.30	3,387.90
9.5	1,305.18	1,305.18	1,023.94	3,634.30
10	1,396.46	1,396.46	1,088.58	3,881.50
10.5	1,488.14	1,488.14	1,153.20	4,129.48
11	1,580.20	1,580.20	1,217.84	4,378.24
11.5	1,673.32	1,673.32	1,280.78	4,627.42

* Lightship draft

** Even with Tanks 2 & 3 (P/S) unloaded, barge will trim aft 0.31ft at 2.0ft draft.

Tank volumes (in ft³) were calculated by modeling tanks in GHS and converted to GAL/BBL.

Tank Volumes - 100% Full			
Tank	Gal	BBL	ft ³
1P	201,869	4,806	26,986
1S	201,869	4,806	26,986
2P	201,867	4,806	26,986
2S	201,867	4,806	26,986
3P	201,869	4,806	26,986
3S	201,869	4,806	26,986
TOTAL	1,211,211	28,838	161,915
98% full		28,262	