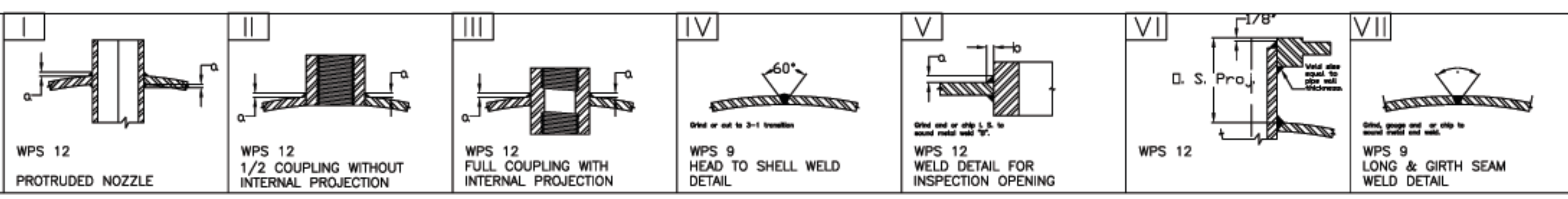


SHOP NOTES

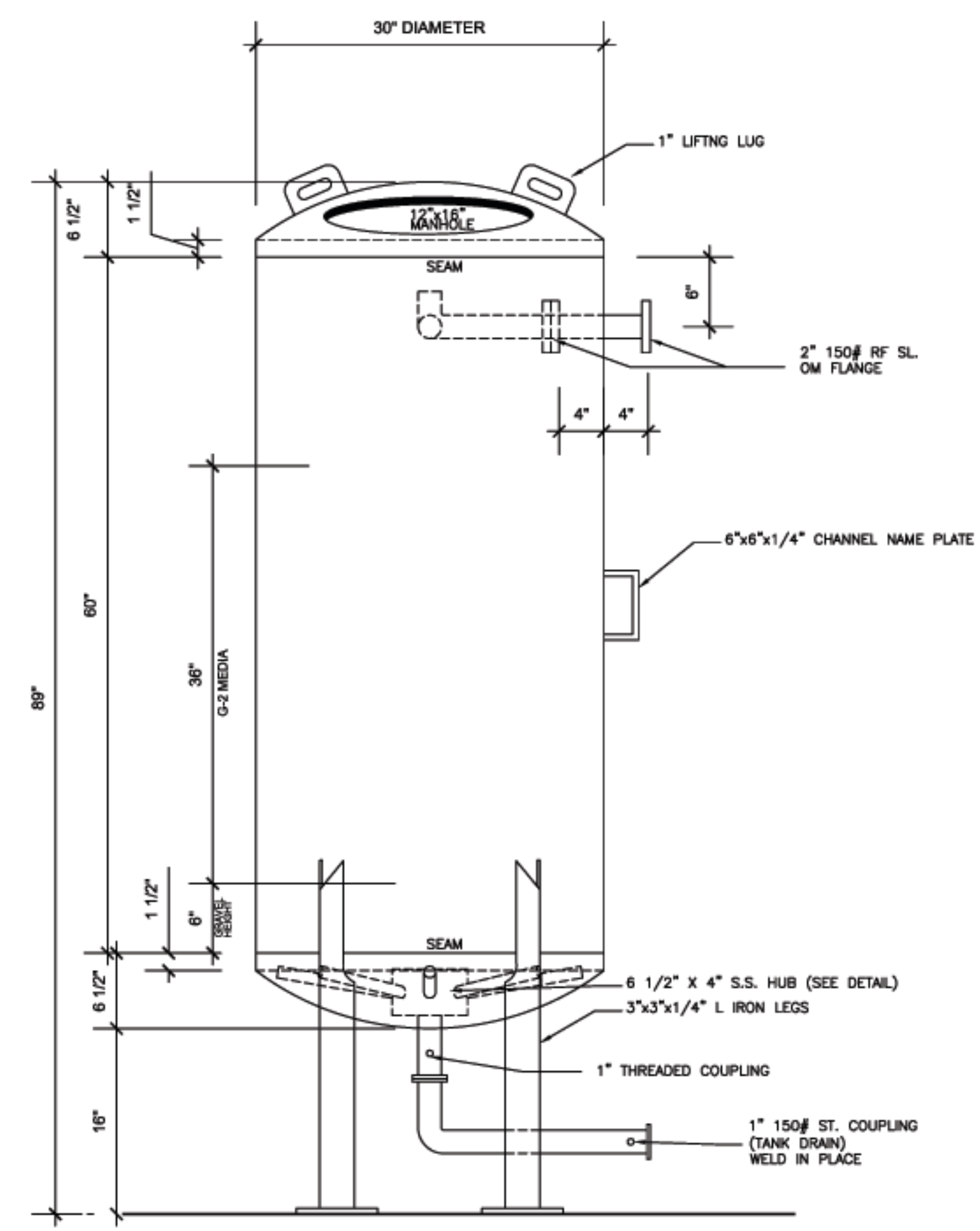
1. Drill and Tap 1/4" dia. Teltail hole in reinforcing pads.
2. Flange bolt holes to straddle principal centerlines of vessel.
3. Inside edges of Nozzle Necks shall be rounded.

The radius of roundness 1/8" min. or one half the wall thickness if the pipe is less than 1/4".

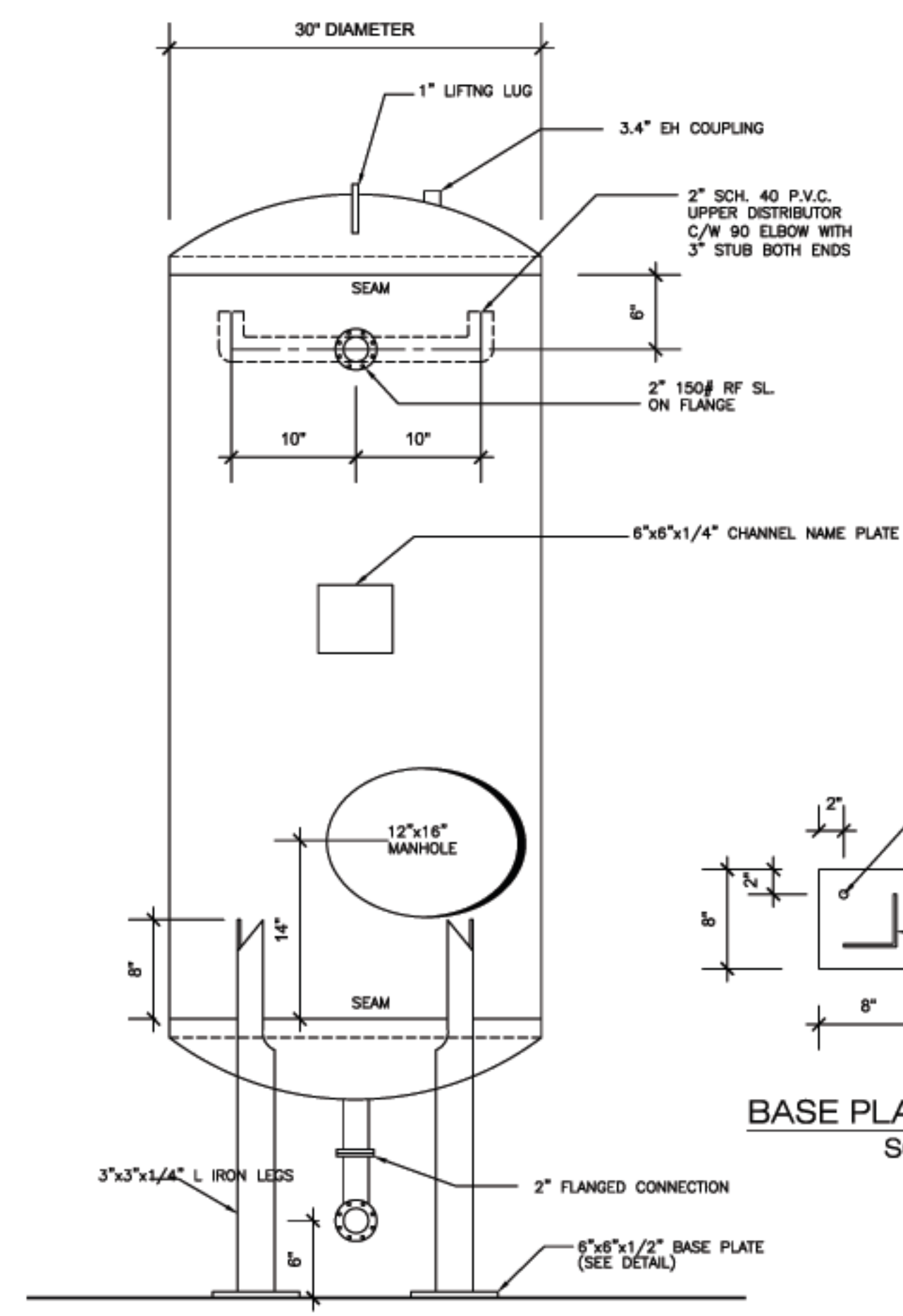


PRINTED RECORD			
ISSUED FOR	TO	DATE	REV

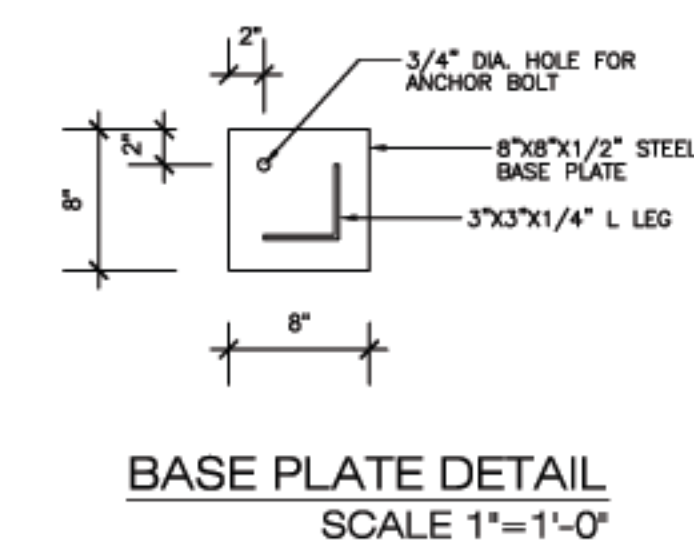
NOTES	
A: UNDERDRAIN	
S.S. WEDGEWIRE SCREEN-FELCO PROFILE #60	
8-1" RADIALS PER TANK - SLOT SIZE .010"	
AREA OF OPENING PER LATERAL 10.25"	
VELOCITY AT ORIFICE OPENINGS 0.3 FT/SEC @ 100 G.P.M.	
B: FLOW RATE @ 2.0 G.P.M./SQ.FT.=10 G PM	
C: B.W. FLOW RATE @ 4 G.P.M./SQ.FT.=20 GPM	
D: MEDIA G-2 (ADI) ARSENIC MEDIA	
E: SANDBLAST INTERIOR TO SSPC-SP10.	
APPLY 12 MILS DFT OF CARBOLINE # 891 EPOXY	
F: SURFACE AREA = 4.74 SQ. FT.	
G: EXTERIOR PAINT 2.5 MDT CARBOLINE #893	
SANDBLAST TO SSPC-SP6	
HUB	PVC <input type="checkbox"/> 316ss <input checked="" type="checkbox"/>
LATERALS	PVC <input type="checkbox"/> 316ss <input checked="" type="checkbox"/>
DIA	1" NOMINAL O. D.
QTY	8 PER TANK
SLOT	0.010"
SAMPLE PORTS	N.A.
SIZE	
SLOT	
MATERIAL	
MANHOLE	2 PER TANK
SIZE	12"x16" CLARK KENNEDY
LOCATION	TOP UPPER HEAD
	BOT ϕ 14" ABOVE BTM. SEAM
FREEBOARD DRAIN	N.A.
SIZE	
LOCATION	
ELEVATION	
GRAVEL SUPPORT	
QUARTZ SIZE	3/4"x1/2", 1/2"x1/4", 1/4"x1/8", 1/4"x1/8", 1/8"x1/16"
CU. FT. QTY.	10 CU. FT.
FILTER MEDIA	15 CU. FT.
	G-2 (ADI) ABSORBTIVE MEDIA



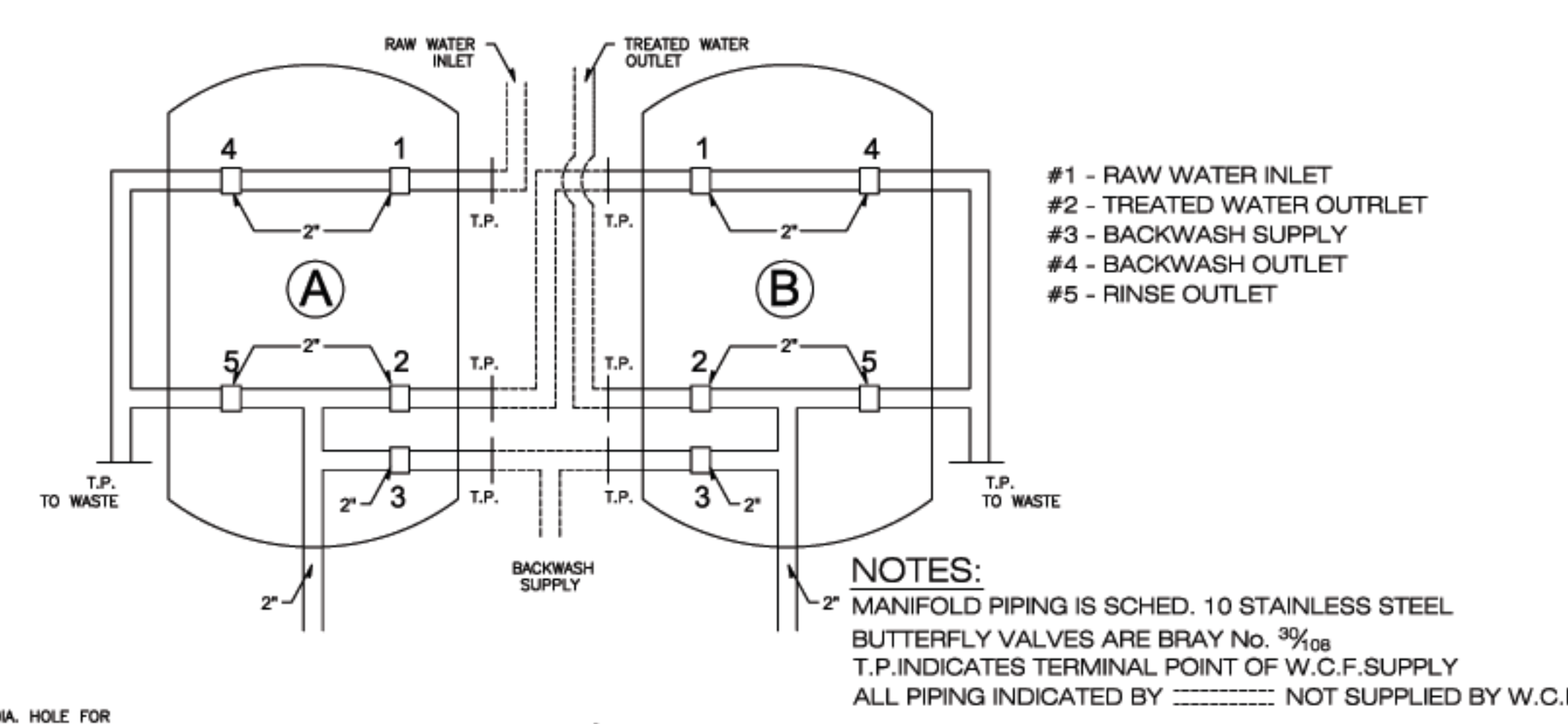
FILTER TANK - SIDE VIEW
SCALE 1"=1'-0"



FILTER TANK - FRONT VIEW
SCALE 1"=1'-0"

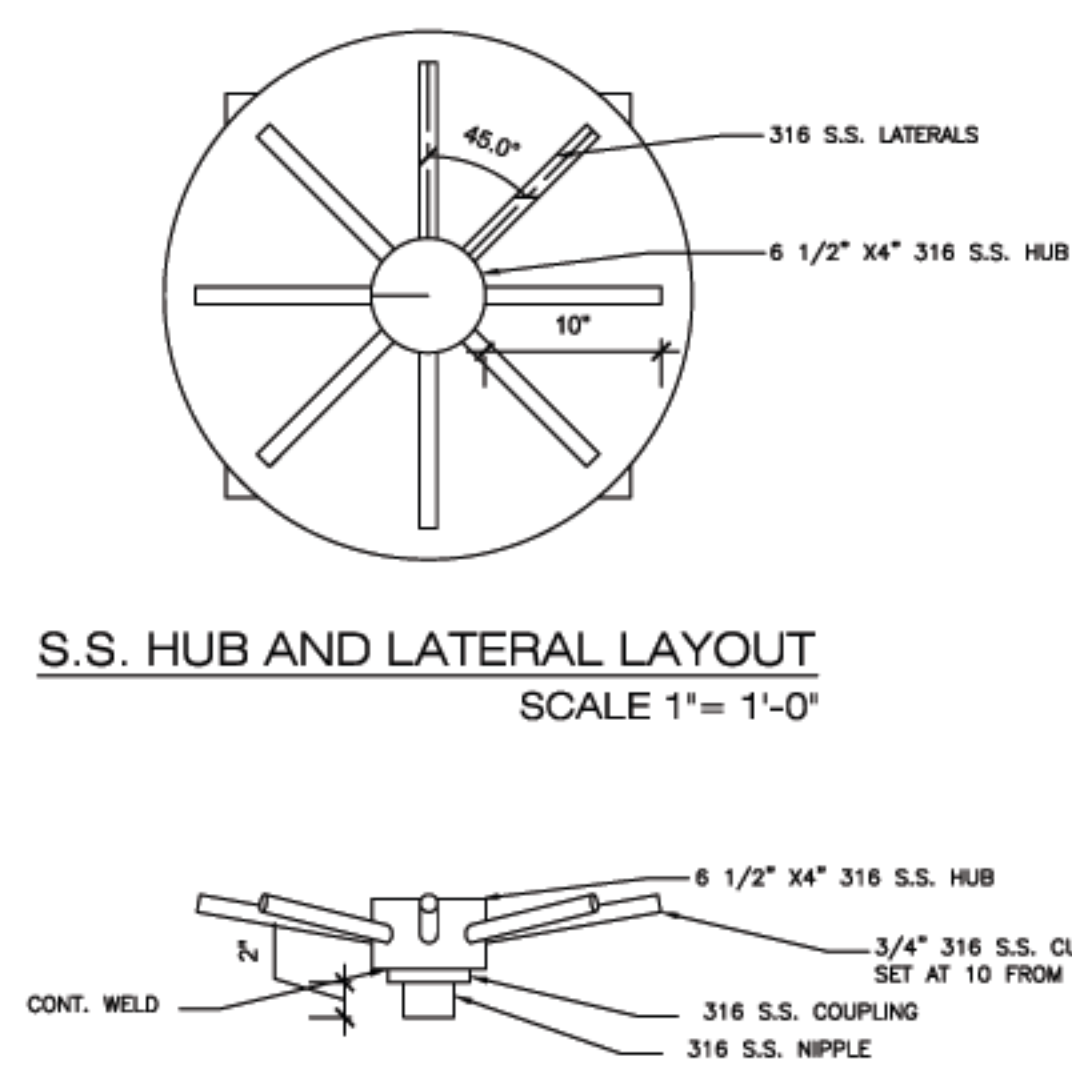


BASE PLATE DETAIL
SCALE 1"=1'-0"



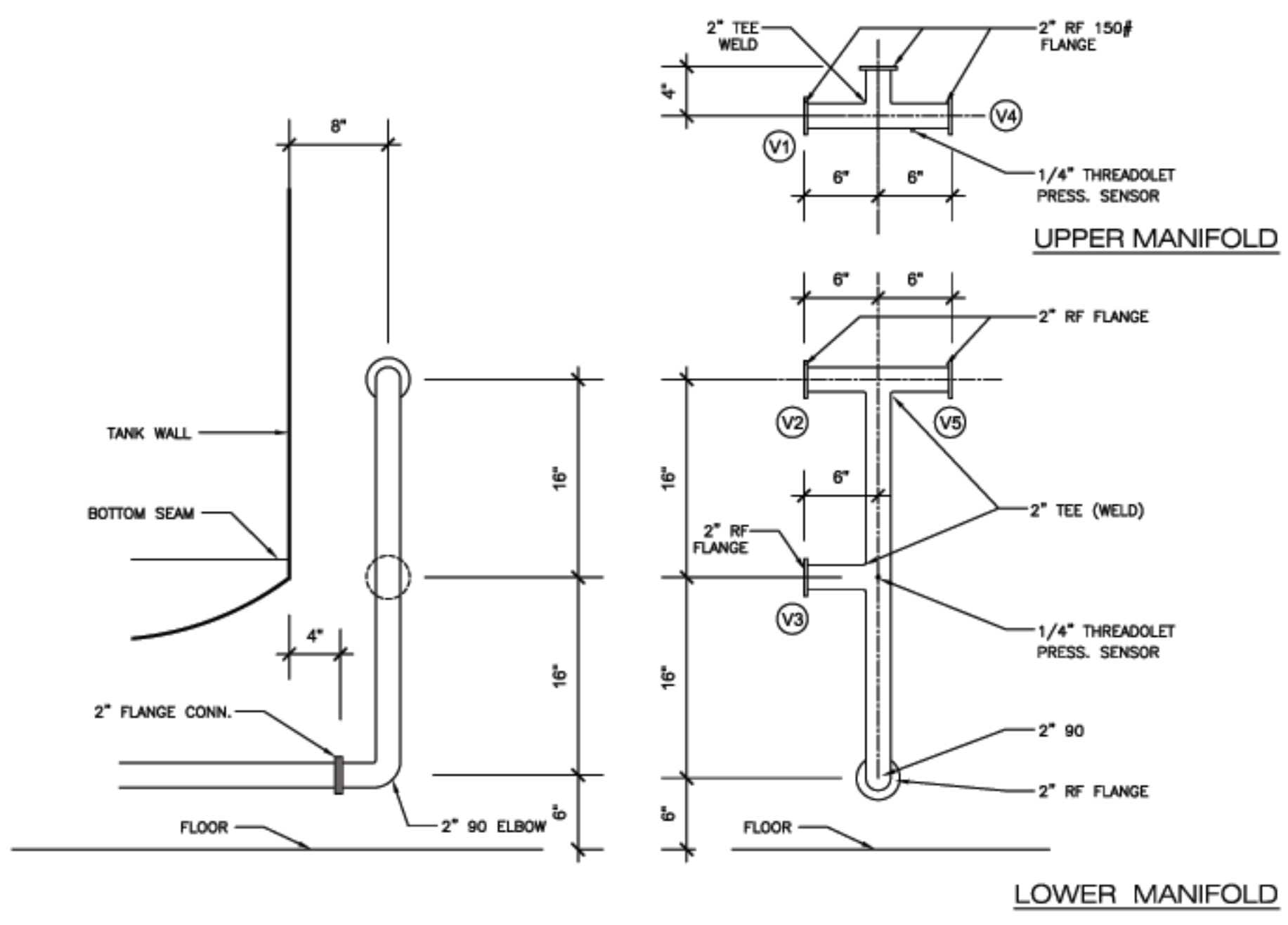
FILTER MANIFOLD DETAIL

NOTES:
MANIFOLD PIPING IS SCHED. 10 STAINLESS STEEL
BUTTERFLY VALVES ARE BRAY No. 39108
T.P. INDICATES TERMINAL POINT OF W.C.F. SUPPLY
ALL PIPING INDICATED BY NOT SUPPLIED BY W.C.F.



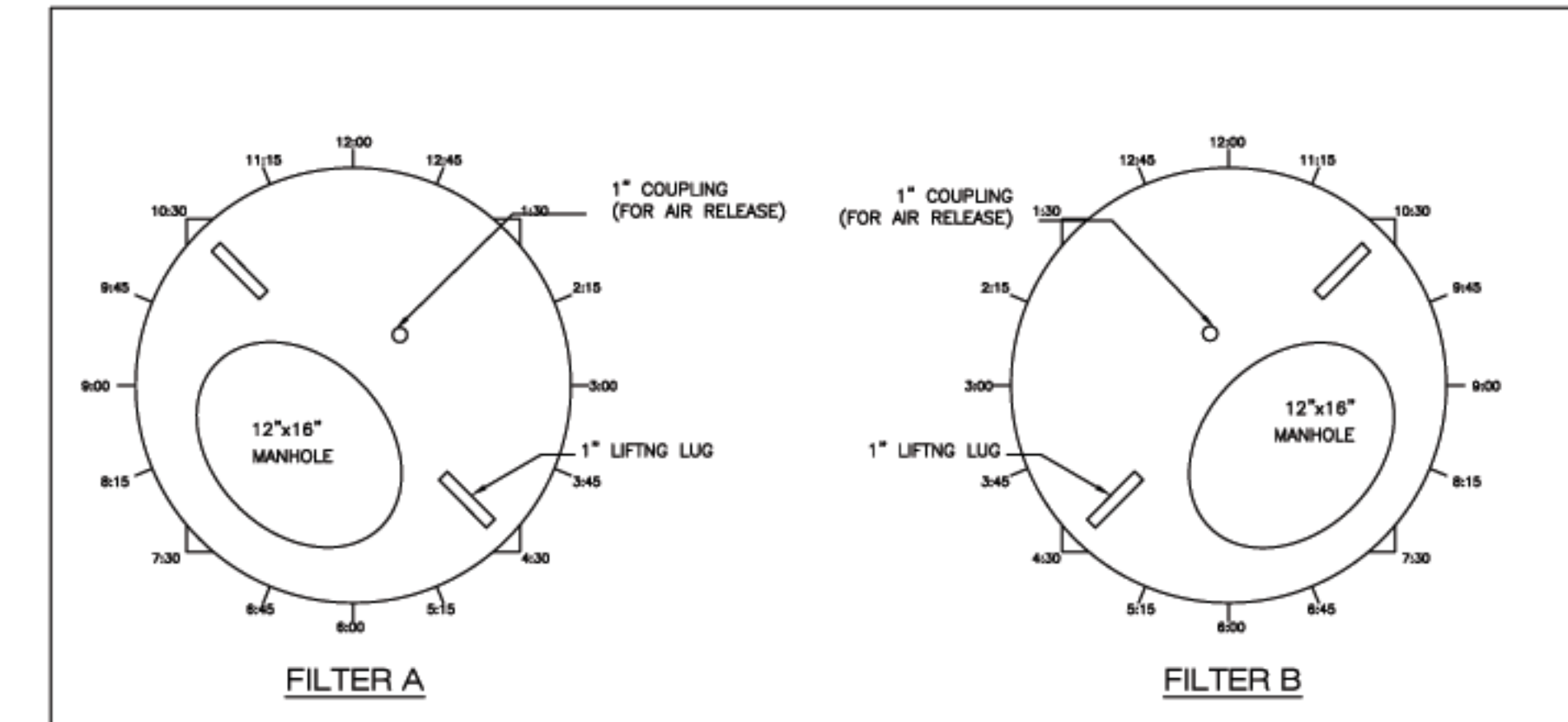
S.S. HUB AND LATERAL LAYOUT
SCALE 1"=1'-0"

HUB DETAIL
NOT TO SCALE



A-1 DETAILS

NOTE: ABOVE PIPING IS INDICATED FOR UNIT B. UNIT A IS MIRROR IMAGE EXCEPT THAT PIPING CONNECTION FOR V-3 IS TURNED 180 DEGREES.



TANK CONNECTIONS SCHEMATIC

OPENINGS	FILTER A	FILTER B
UPPERHEAD MANWAY	7:30	4:30
LOWER SIDESHELL MANWAY	7:30	4:30
INLET/OUTLET	6:00	6:00
AIRWASH CONNECTION	N.A.	N.A.
FREEBOARD DRAIN	N.A.	N.A.
TANK DRAINS	SEE DETAILS	SEE DETAILS
SAMPLE PORTS	N.A.	N.A.
LIFTING LUGS	10:30 & 4:30	1:30 & 7:30
AIR RELEASE PORT	12:00	12:00

GENERAL NOTES	
DESIGN CODE - ASME SECTION VIII DIVISION 1	2004 EDITION - 2005 ADDENDA
DESIGN OR M.A.W.P. (Hot and Corroded)	100 p.s.i. AT 300 °F
OPERATING PRESSURE	100 p.s.i. AT °F
M.A.W.P. (Hot and corroded) LIMITED BY	
RADIOGRAPHY	N/A JOINT EFFICIENCY N/A %
POST WELD HEAT TREATMENT	ADDITIONAL CODES
CORROSION ALLOWANCE	in.
HYDRO TEST (Based on M.A.W.P. New and Cold)	150 p.s.i.
INSULATION THICKNESS	in.
SERVICE COLD WATER CAPACITY	32.0 ft. ³
WEIGHTS: Dry	800 lbs., Operating lbs., Testing lbs.
OVERALL LENGTH	in., OVERALL HEIGHT 101 in.
SHELL	0.250 min. THICKNESS 0.250 in.
HEADS	0.250 TYPE FLANGED DISH
INLET HEAD MIN. THICKNESS AFTER FORMING NEW	0.250 in.
OUTLET HEAD MIN. THICKNESS AFTER FORMING NEW	0.250 in.
FLANGE	1 PIPE SCH. 40
WELD FITTING	150# ANSI TUBES
NON PRESSURE	COUPLING 300#
WELDOLET	THREADOLET 3000#
STUD BOLTS	NEXT NUTS
GASKETS	RED RUBBER PAINT EXT. CARBOLINE #893-2.0 MIL DFT INT. CARBOLINE #891-12MIL DFT
INSULATION	
REGISTERED IN THE PROVINCE/S	
W.P.S. EMPLOYED	
C.R.N. NUMBER	M.F.G. SERIAL NO. N.D.
REFERENCE C.R.N. NUMBER FOR REGISTERING	

OPENINGS	
A	INLET 2" 150# FLGD. ϕ ELEV 6" BELOW TOP SEAM
B	OUTLET SIDE SHELL BOTTOM SHELL 2" 150# FLGD.
C	VENT 3/4" 150# FNPT
D	DRAIN 1" 150# FNPT

CONSULTING ENGINEER MIKE TAURIANEN, P.ENG

DRAWING TITLE

KENAI PENINSULA BOROUGH ARSENIC REMOVAL UNITS (2) STERLING ELEM. SCHOOL, AK. 30" VESSEL CONSTRUCTION

West Coast Filters Inc.
British Columbia, Canada.

DRAWN	DESIGN	CHECKED
L.D.R.	R.D.	R.D.
SCALE	DATE	APPROVED
AS NOTED	MAY 08, 2008	R.D.

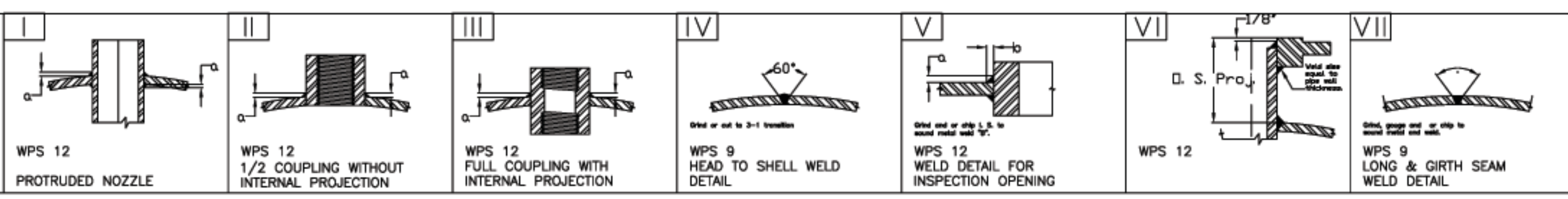
Toll Free North America 1-800-375-7744
www.westcoastfilters.com

CUSTOMER NO. TEC PRO DRAWING NO. 08-05-15 WCF 301 REV.

SHOP NOTES

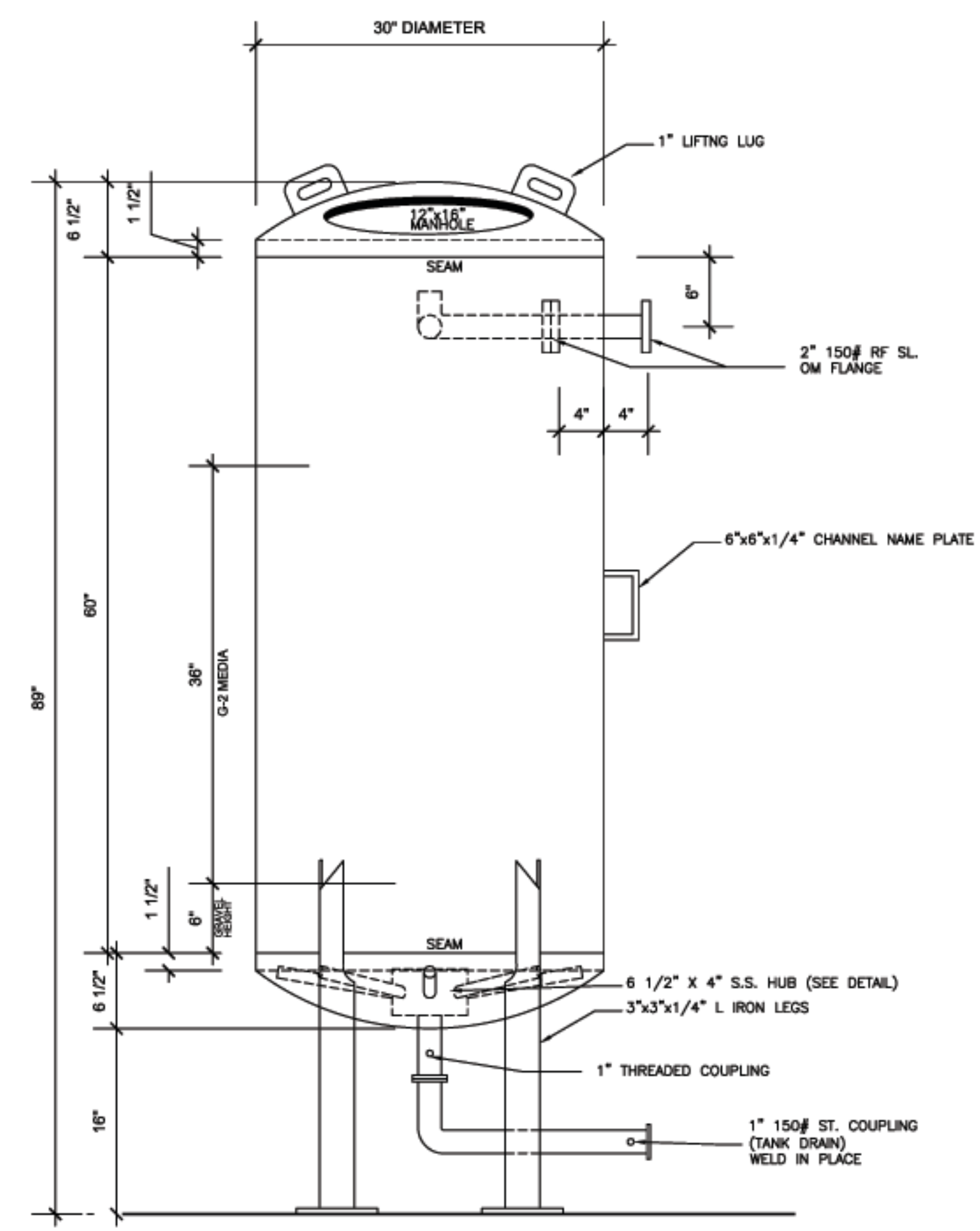
1. Drill and Tap 1/4" dia. Teltail hole in reinforcing pads.
2. Flange bolt holes to straddle principal centerlines of vessel.
3. Inside edges of Nozzle Necks shall be rounded.

The radius of roundness 1/8" min. or one half the wall thickness if the pipe is less than 1/4".

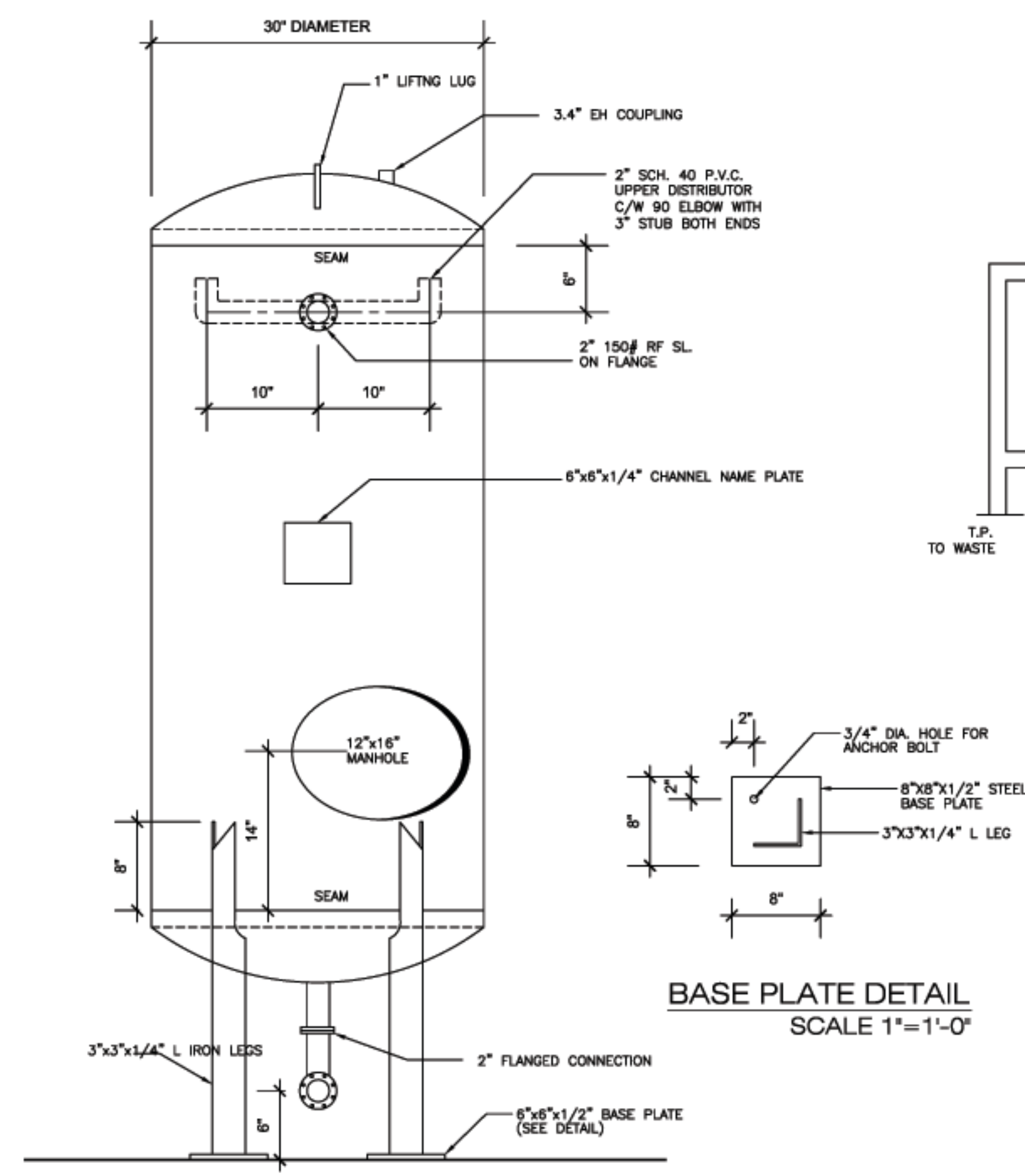


PRINTED RECORD			
ISSUED FOR	TO	DATE	REV

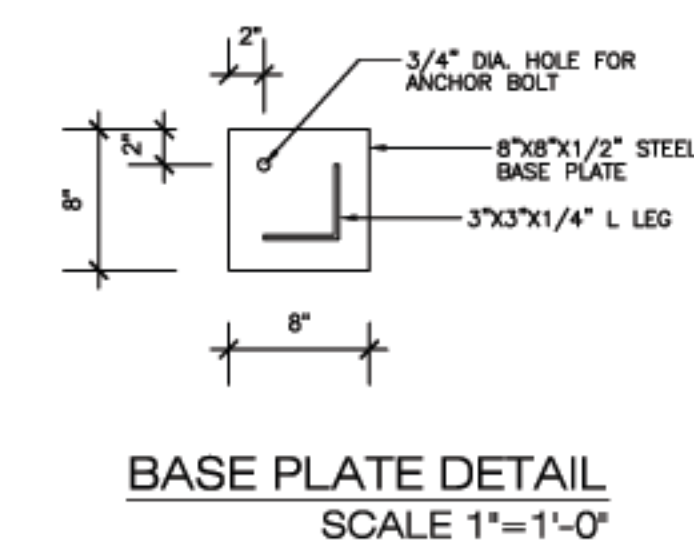
NOTES	
A: UNDERDRAIN	
S.S. WEDGEWIRE SCREEN-FELCO PROFILE #60	
8-1" RADIALS PER TANK - SLOT SIZE .010"	
AREA OF OPENING PER LATERAL 10.25"	
VELOCITY AT ORIFICE OPENINGS 0.3 FT/SEC @ 100 G.P.M.	
B: FLOW RATE @ 2.0 G.P.M./SQ.FT.=10 G PM	
C: B.W. FLOW RATE @ 4 G.P.M./SQ.FT.=20 GPM	
D: MEDIA G-2 (ADI) ARSENIC MEDIA	
E: SANDBLAST INTERIOR TO SSPC-SP10.	
APPLY 12 MILS DFT OF CARBOLINE # 891 EPOXY	
F: SURFACE AREA = 4.74 SQ. FT.	
G: EXTERIOR PAINT 2.5 MDT CARBOLINE #893	
SANDBLAST TO SSPC-SP6	
HUB	PVC <input type="checkbox"/> 316ss <input checked="" type="checkbox"/>
LATERALS	PVC <input type="checkbox"/> 316ss <input checked="" type="checkbox"/>
DIA	1" NOMINAL O. D.
QTY	8 PER TANK
SLOT	0.010"
SAMPLE PORTS	N.A.
SIZE	
SLOT	
MATERIAL	
MANHOLE	2 PER TANK
SIZE	12"x16" CLARK KENNEDY
LOCATION	TOP UPPER HEAD
	BOT ϕ 14" ABOVE BTM. SEAM
FREEBOARD DRAIN	N.A.
SIZE	
LOCATION	
ELEVATION	
GRAVEL SUPPORT	
QUARTZ SIZE	3/4"x1/2", 1/2"x1/4", 1/4"x1/8", 1/4"x1/8", 1/8"x1/16"
CU. FT. QTY.	10 CU. FT.
FILTER MEDIA	15 CU. FT.
	G-2 (ADI) ABSORBTIVE MEDIA



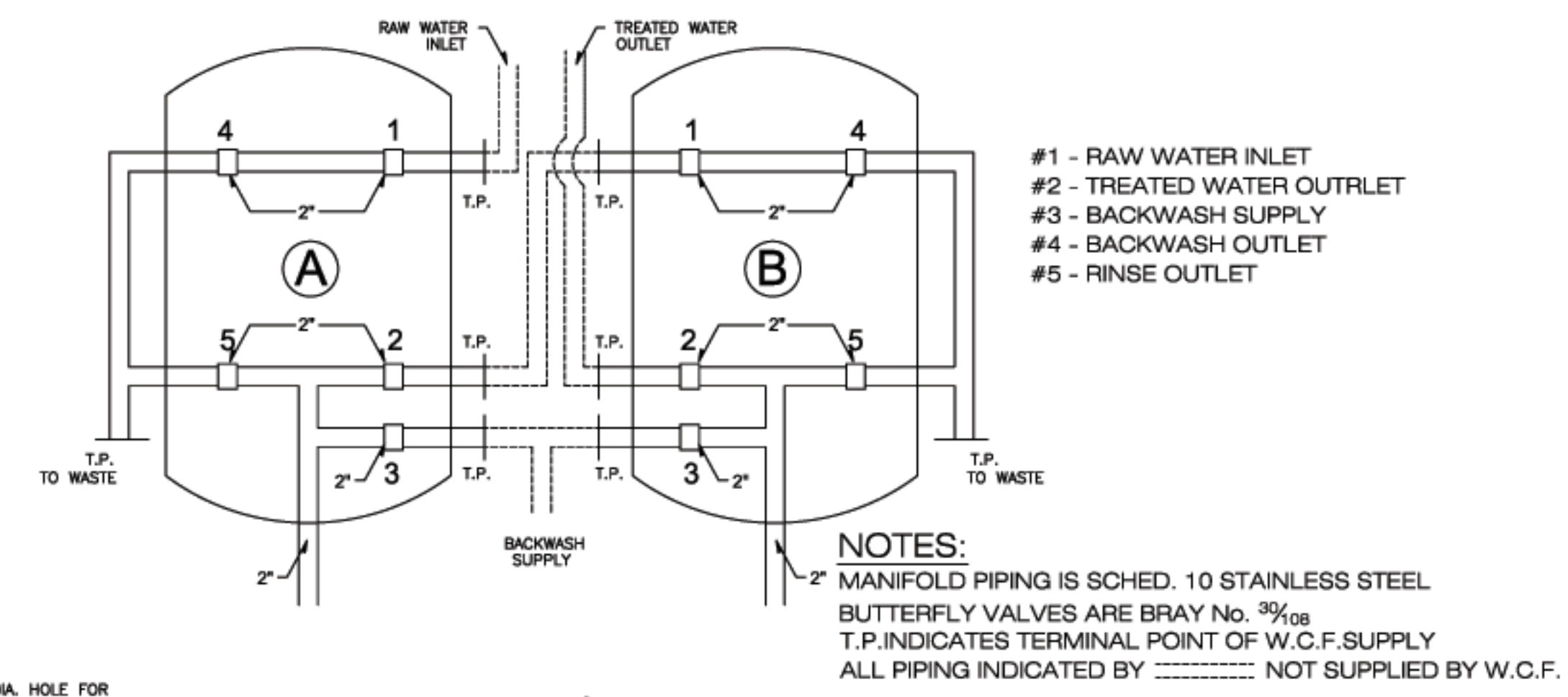
FILTER TANK - SIDE VIEW
SCALE 1"=1'-0"



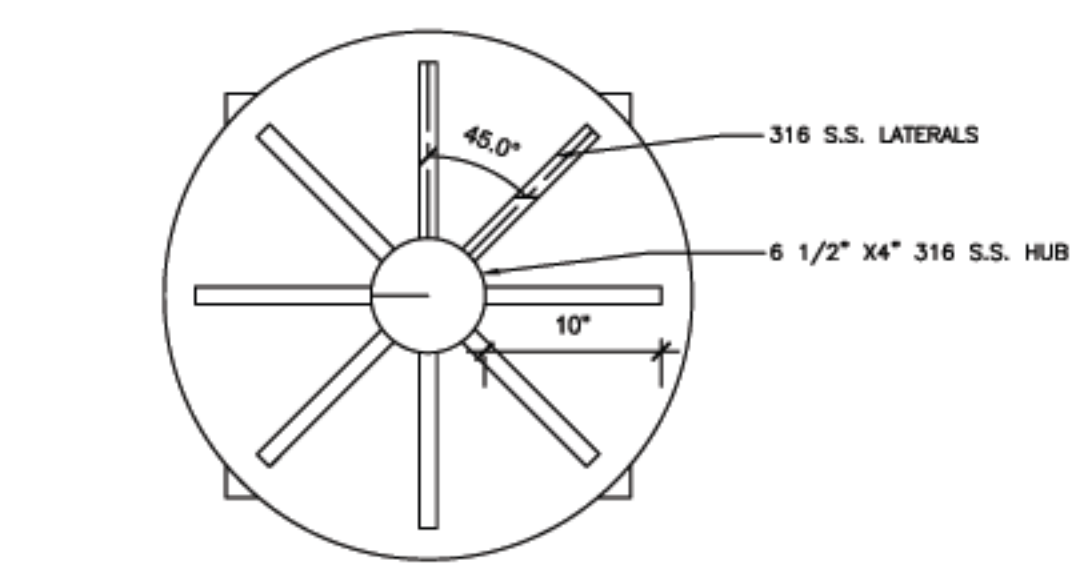
FILTER TANK - FRONT VIEW
SCALE 1"=1'-0"



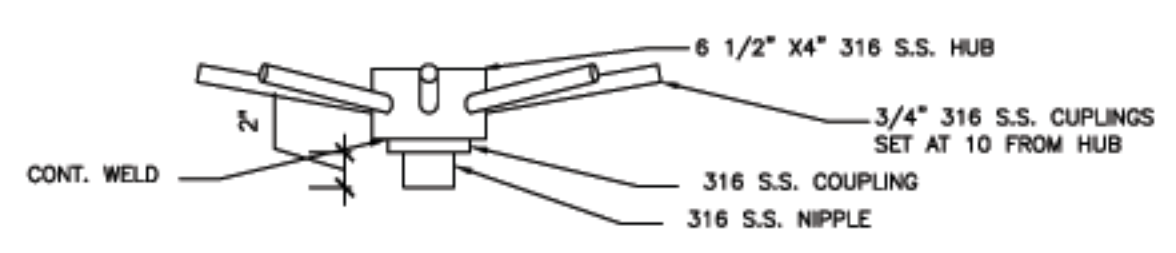
BASE PLATE DETAIL
SCALE 1"=1'-0"



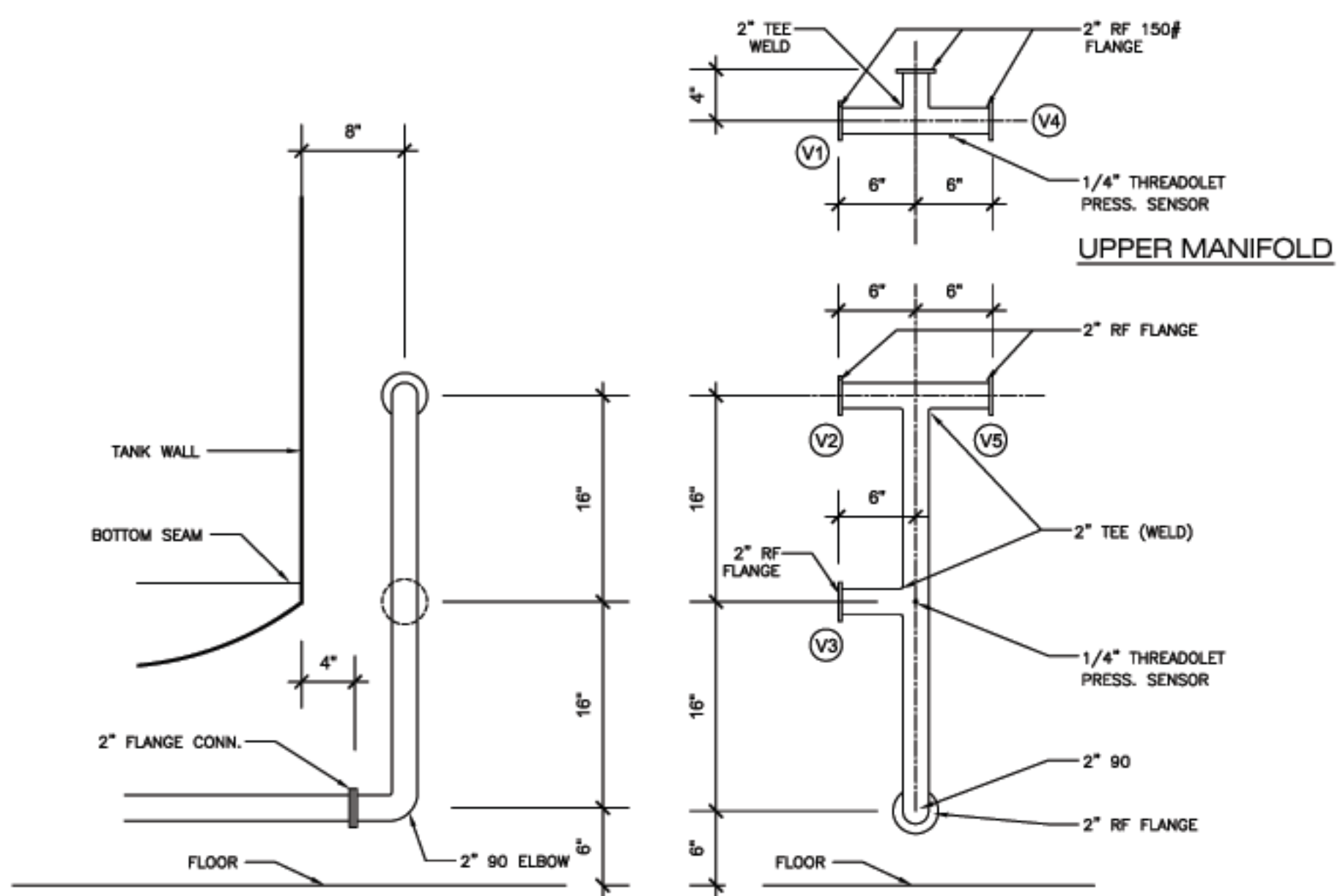
FILTER MANIFOLD DETAIL



S.S. HUB AND LATERAL LAYOUT
SCALE 1"=1'-0"

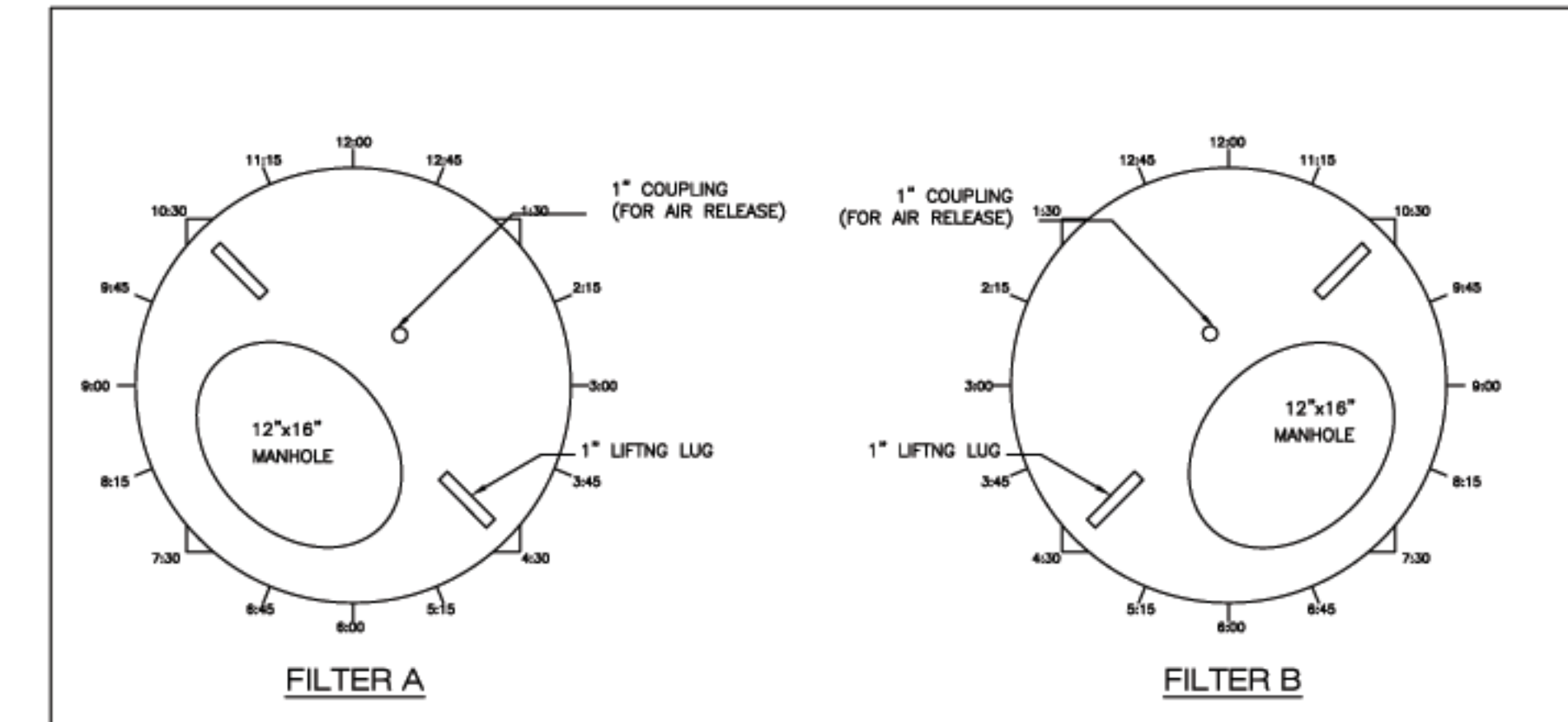


HUB DETAIL
NOT TO SCALE



A-1 DETAILS

NOTE: ABOVE PIPING IS INDICATED FOR UNIT B. UNIT A IS MIRROR IMAGE EXCEPT THAT PIPING CONNECTION FOR V-3 IS TURNED 180 DEGREES.



TANK CONNECTIONS SCHEMATIC

OPENINGS	FILTER A	FILTER B
UPPERHEAD MANWAY	7:30	4:30
LOWER SIDESHELL MANWAY	7:30	4:30
INLET/OUTLET	6:00	6:00
AIRWASH CONNECTION	N.A.	N.A.
FREEBOARD DRAIN	N.A.	N.A.
TANK DRAINS	SEE DETAILS	SEE DETAILS
SAMPLE PORTS	N.A.	N.A.
LIFTING LUGS	10:30 & 4:30	1:30 & 7:30
AIR RELEASE PORT	12:00	12:00

GENERAL NOTES	
DESIGN CODE	ASME SECTION VIII DIVISION 1 2004 EDITION - 2005 ADDENDA
DESIGN OR M.A.W.P. (Hot and Corroded)	100 p.s.i. AT 300 °F
OPERATING PRESSURE	100 p.s.i. AT °F
M.A.W.P. (Hot and corroded) LIMITED BY	
RADIOGRAPHY	N/A JOINT EFFICIENCY N/A %
POST WELD HEAT TREATMENT	ADDITIONAL CODES
CORROSION ALLOWANCE	in.
HYDRO TEST (Based on M.A.W.P. New and Cold)	150 p.s.i.
INSULATION THICKNESS	in.
SERVICE COLD WATER CAPACITY	32.0 ft. ³
WEIGHTS: Dry	800 lbs., Operating lbs., Testing lbs.
OVERALL LENGTH	in., OVERALL HEIGHT 101 in.
SHELL	0.250 min. THICKNESS 0.250 in.
HEADS	0.250 TYPE FLANGED DISH
INLET HEAD MIN. THICKNESS AFTER FORMING NEW	0.250 in.
OUTLET HEAD MIN. THICKNESS AFTER FORMING NEW	0.250 in.
FLANGE	1 PIPE SCH. 40
WELD FITTING	150# ANSI TUBES
NON PRESSURE	COUPLING 300#
WELDOLET	THREADOLET 3000#
STUD BOLTS	NEXT NUTS
GASKETS	RED RUBBER PAINT EXT. CARBOLINE #893-2.0 MIL DFT INT. CARBOLINE #891-12MIL DFT
INSULATION	
REGISTERED IN THE PROVINCE/S	
W.P.S. EMPLOYED	
C.R.N. NUMBER	M.F.G. SERIAL NO. N.D.
REFERENCE C.R.N. NUMBER FOR REGISTERING	

OPENINGS	
A	INLET 2" 150# FLGD. ϕ ELEV 6" BELOW TOP SEAM
B	OUTLET SIDE SHELL BOTTOM SHELL 2" 150# FLGD.
C	VENT 3/4" 150# FNPT
D	DRAIN 1" 150# FNPT

CONSULTING ENGINEER MIKE TAURIANEN, P.ENG

DRAWING TITLE

KENAI PENINSULA BOROUGH
ARSENIC REMOVAL UNITS (2)
TJSTEMENA ELEM. SCHOOL, AK.
30" VESSEL CONSTRUCTION

West Coast Filters Inc.
British Columbia, Canada.

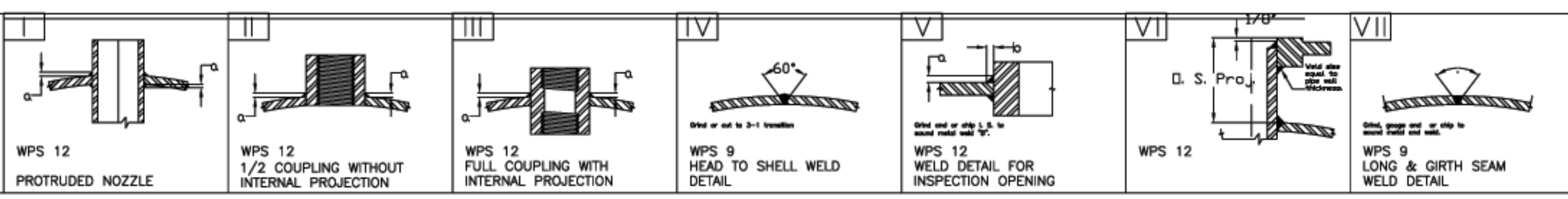
Toll Free North America
1-800-375-7744
www.westcoastfilters.com

DRAWN	DESIGN	CHECKED
I.D.R.	R.D.	R.D.
SCALE	DATE	APPROVED
AS NOTED	MAY 08, 2008	R.D.

CUSTOMER NO. TEC PRO DRAWING NO. 06-05-15 WCF 302 REV.

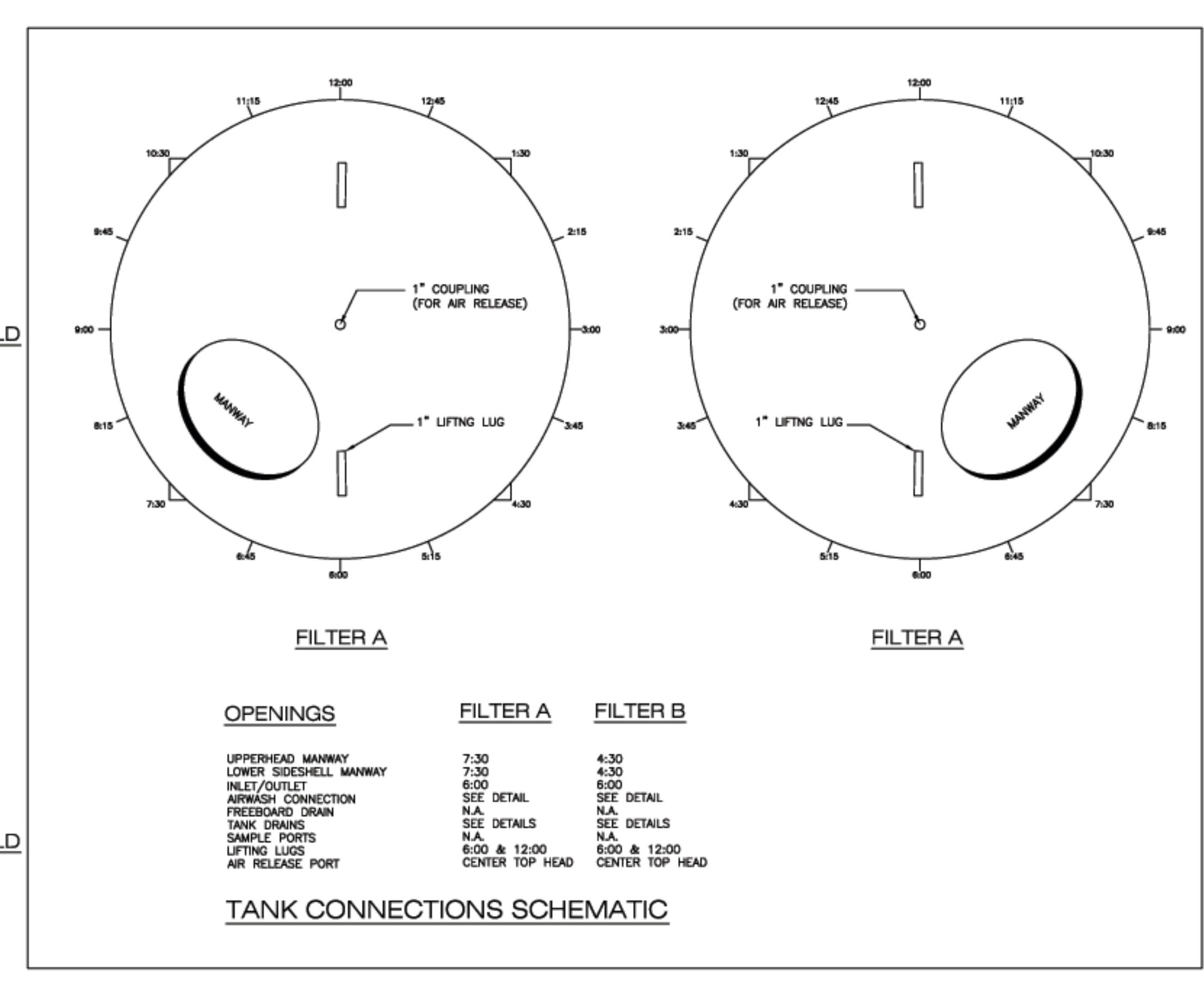
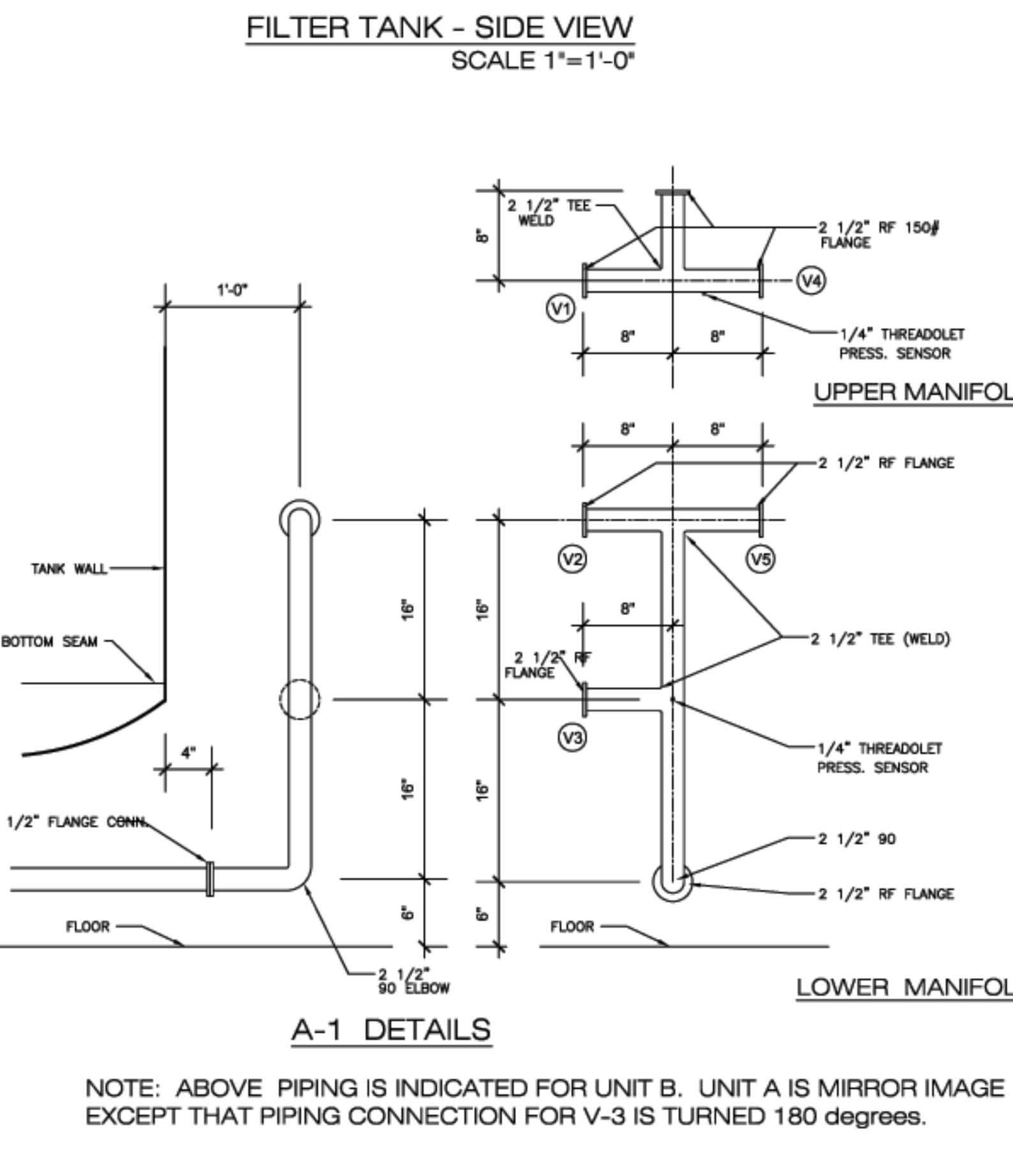
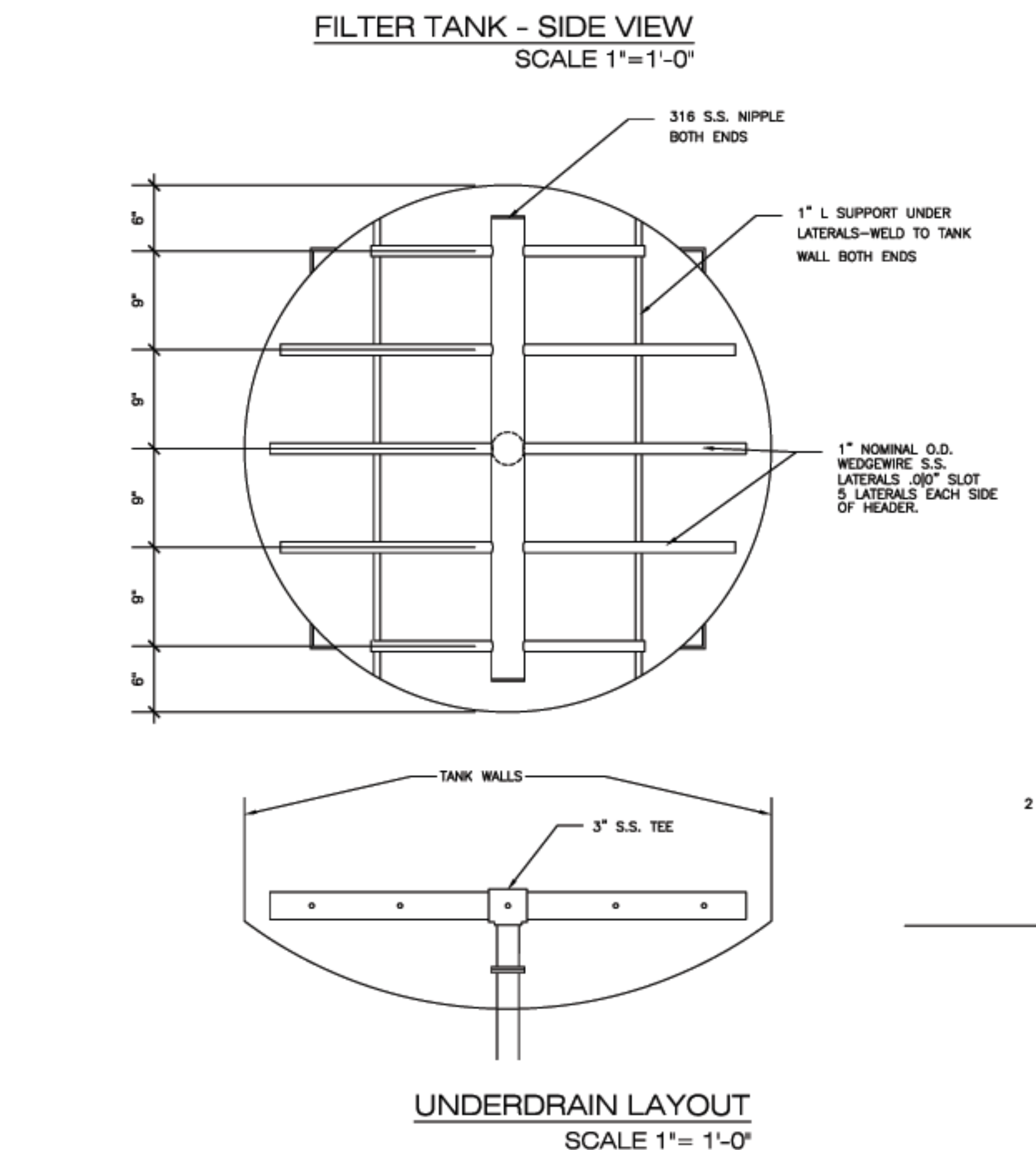
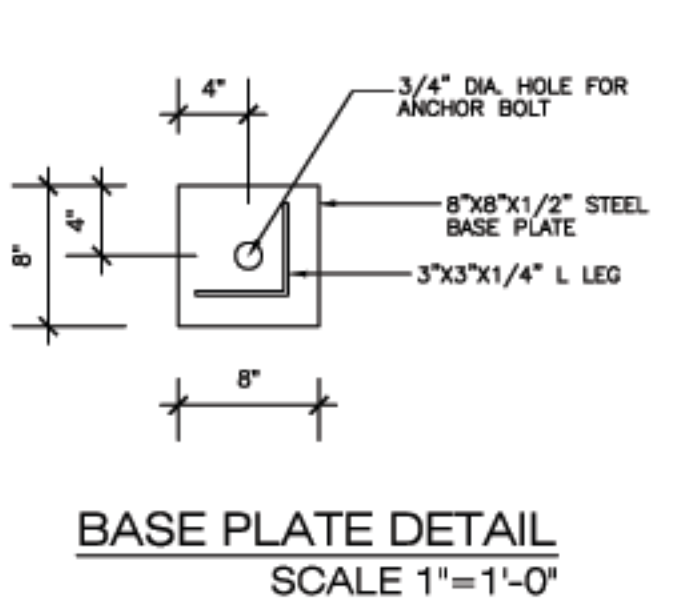
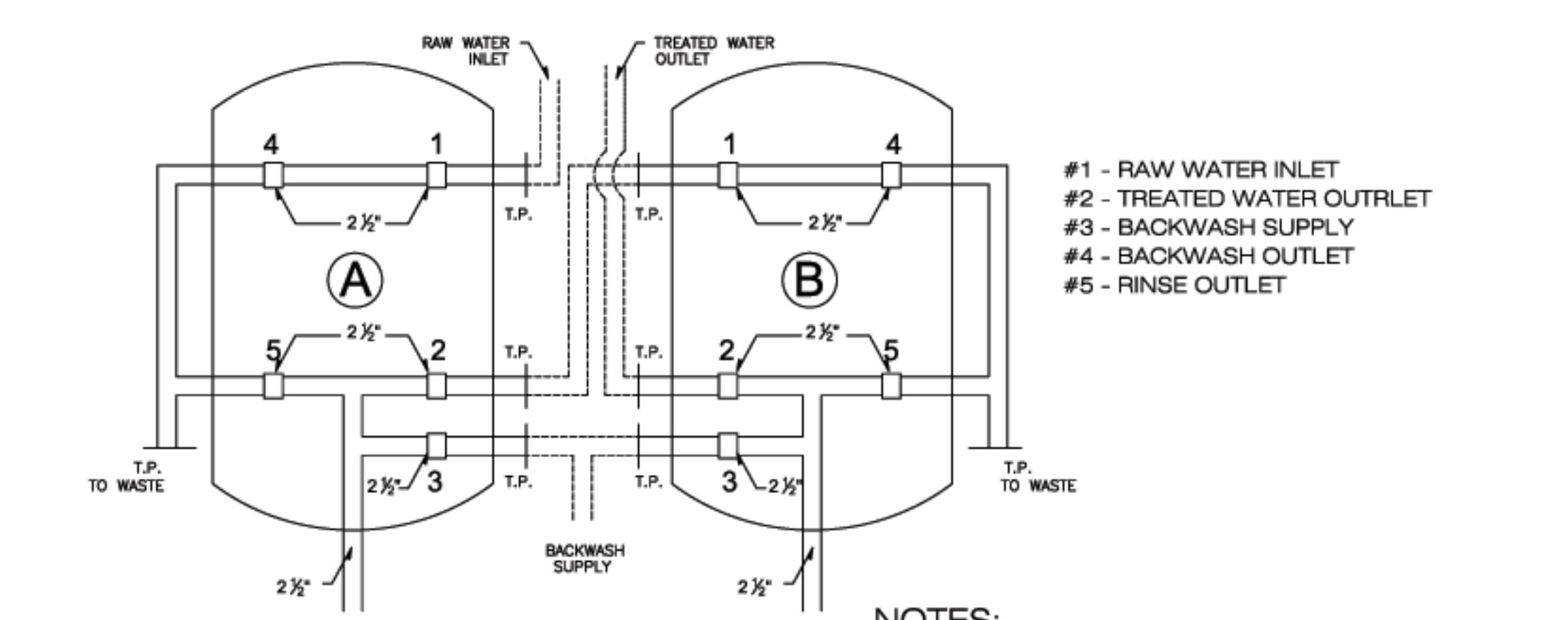
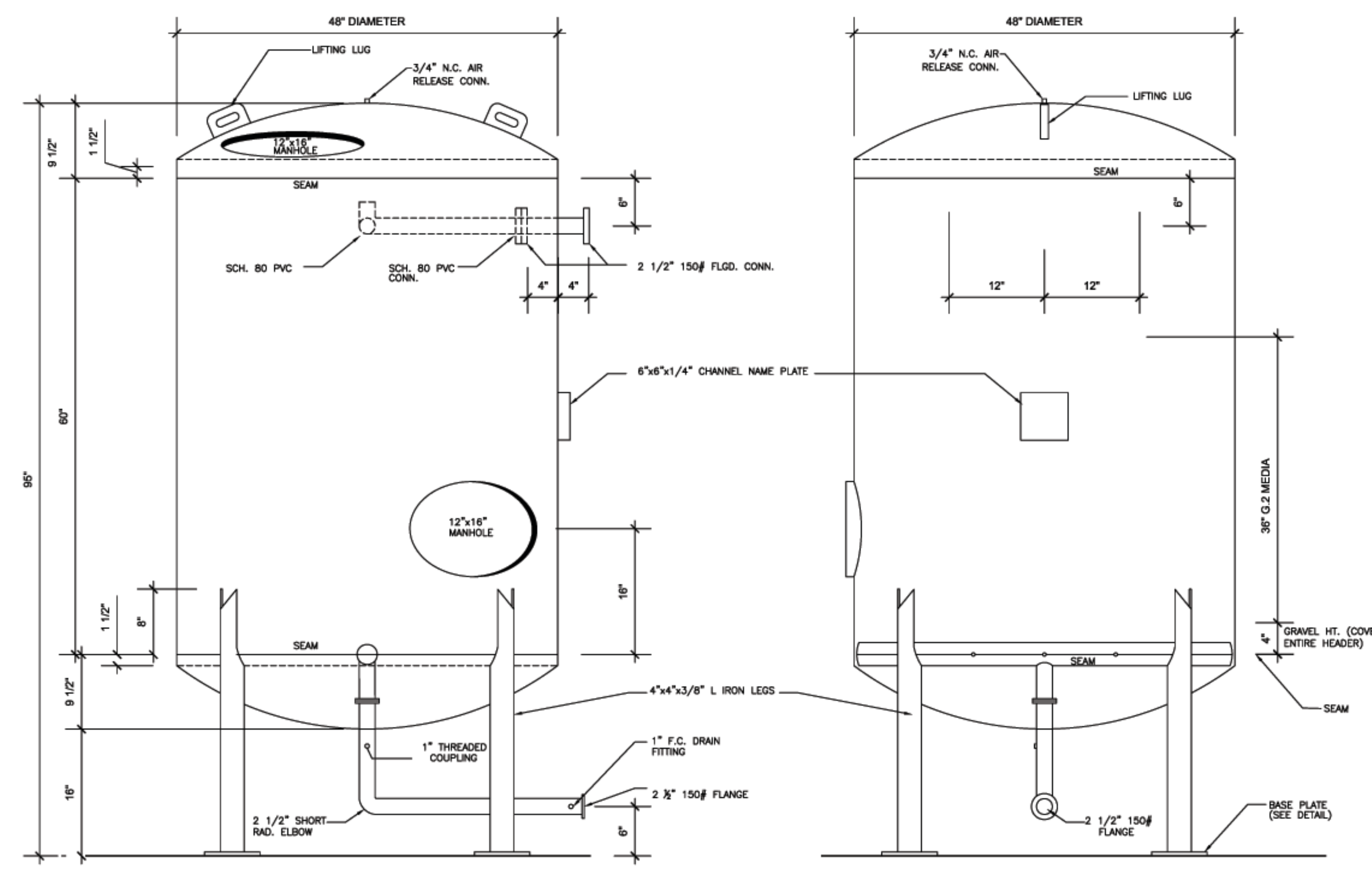
SHOP NOTES

1. Drill and Tap 1/4" dia. Teltail hole in reinforcing pads.
2. Flange bolt holes to straddle principal centerlines of vessel.
3. Inside edges of Nozzle Necks shall be rounded. The radius of roundness 1/8" min. or one half the wall thickness if the pipe is less than 1/4".



PRINTED RECORD			
ISSUED FOR	TO	DATE	REV

NOTES			
A: UNDERDRAIN			
S.S. WEDGEWIRE SCREEN-FELCO PROFILE #60			
8-1" RADIALS PER TANK - SLOT SIZE .010"			
AREA OF OPENING PER LATERAL 10.25"			
VELOCITY AT ORIFICE OPENINGS 0.3 FT/SEC @ 100 G.P.M.			
B: FLOW RATE @ 2.0 G.P.M./SQ.FT.=20 GPM			
C: B.W. FLOW RATE @ 4 G.P.M./SQ.FT.=50 GPM			
D: MEDIA G-2 (ADI) ARSENIC MEDIA			
E: SANDBLAST INTERIOR TO SSPC-SP10.			
APPLY 12 MILS DFT OF CARBOLINE # 891 EPOXY			
F: SURFACE AREA = 12.09 SQ. FT.			
G: EXTERIOR PAINT 2.5 MDT CARBOLINE #893			
SANDBLAST TO SSPC-SP6			
HUB	PVC	316ss	<input checked="" type="checkbox"/>
LATERALS	PVC	316ss	<input checked="" type="checkbox"/>
DIA	1" NOMINAL O. D.		
QTY	10 PER TANK		
SLOT	0.010"		
SAMPLE PORTS	N.A.		
SIZE			
SLOT			
MATERIAL			
MANHOLE	2 PER TANK		
SIZE	12"x16" CLARK KENNEDY		
LOCATION	TOP UPPER HEAD		
	BOT 14" ABOVE BTM. SEAM		
FREEBOARD DRAIN	N.A.		
SIZE			
LOCATION			
ELEVATION			
GRAVEL SUPPORT			
QUARTZ SIZE	3/4"x1/2", 1/2"x1/4", 1/4"x1/8", 1/4"x1/8", 1/8"x1/16"		
CU. FT. QTY.	10 CU. FT.		
FILTER MEDIA	36 CU. FT.		
	G-2 (ADI) ABSORBTIVE MEDIA		



GENERAL NOTES			
DESIGN	DESIGN CODE - ASME SECTION VIII DIVISION 1	2004 EDITION - 2005 ADDENDA	
	DESIGN OR M.A.W.P. (Hot and Corroded)	100 p.s.i.	AT 300 °F
	OPERATING PRESSURE	100 p.s.i.	AT °F
	M.A.W.P. (Hot and corroded) LIMITED BY		
	RADIOGRAPHY	N/A	JOINT EFFICIENCY N/A %
	POST WELD HEAT TREATMENT		ADDITIONAL CODES
	CORROSION ALLOWANCE	in.	
	HYDRO TEST (Based on M.A.W.P. New and Cold)	150 p.s.i.	
	INSULATION THICKNESS	in.	
	SERVICE COLD WATER CAPACITY	73.0 ft. ³	
WEIGHTS: Dry	1200 lbs.,	Operating lbs.,	Testing lbs.
OVERALL LENGTH	in.,	OVERALL HEIGHT	101 in.
SHELL	0.250 min. THICKNESS	0.250 in.	
HEADS	0.3125 TYPE FLANGED DISH		
	INLET HEAD MIN. THICKNESS AFTER FORMING NEW	0.250 in.	
	OUTLET HEAD MIN. THICKNESS AFTER FORMING NEW	0.250 in.	
FLANGE	1 PIPE	SCH. 40	
WELD FITTING	150# ANSI	TUBES	
NON PRESSURE	COUPLING	300#	
WELDOLET	THREDOLET	3000#	
STUD BOLTS	NEXT NUTS		
GASKETS	RED RUBBER	PAIN	EXT. CARBOLINE #893-2.5 MIL DFT
INSULATION			INT. CARBOLINE #891-12MIL DFT
REGISTERED IN THE PROVINCE/S			
W.P.S. EMPLOYED			
C.R.N. NUMBER	M.F.G. SERIAL NO.	N.D.	
			REFERENCE C.R.N. NUMBER FOR REGISTERING
OPENINGS			
A	INLET 2 1/2" 150# FLGD.	ELEV 6" BELOW TOP SEAM	
B	OUTLET		
	SIDE SHELL		
	BOTTOM SHELL 2 1/2" 150# FLGD.		
C	VENT 3/4" 150# FNPT		
D	DRAIN 1" 150# FNPT		
CONSULTING ENGINEER MIKE TAURIANEN, P.ENG			
DRAWING TITLE			
KENAI PENNINSULA BOROUGH			
ARSENIC REMOVAL UNITS (2)			
NIKISKI HIGH SCHOOL, AK.			
48" VESSEL CONSTRUCTION			
DRAWN			
DESIGN			
CHECKED			British Columbia, Canada.
I.D.R.			
DATE			Toll Free North America 1-800-375-7744 www.westcoastfilters.com
AS NOTED			
MAY 06, 2006			CUSTOMER NO.
R.D.			
TEC PRO			DRAWING NO. 06-06-15 WCF 303
APPROVED			REV.