

6914 W CR 38

ST

DT

Basal 90' x 10'

Property line

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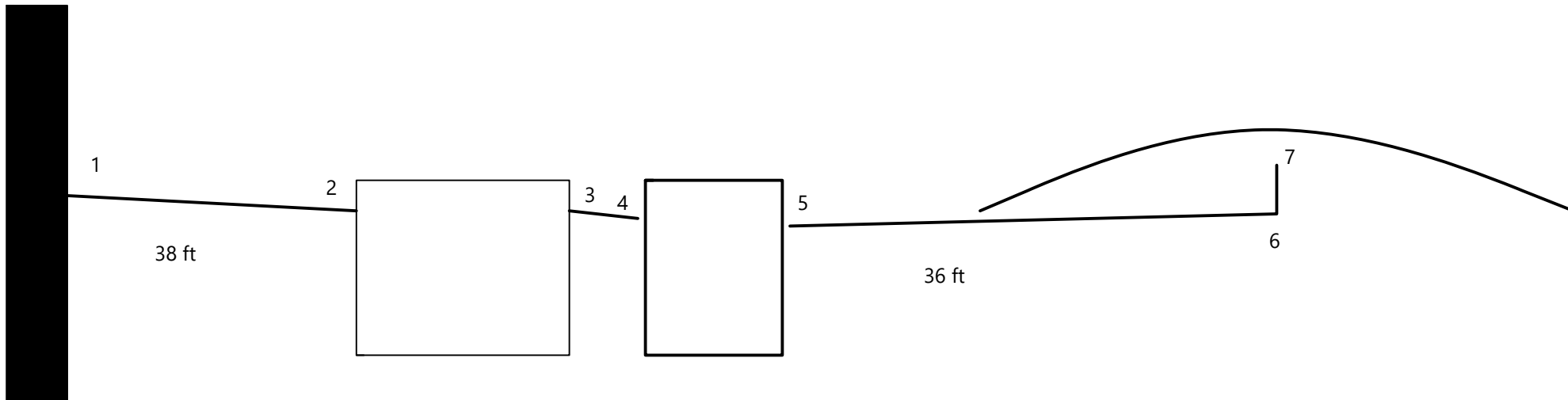
20 ft
10 m

OWNER NAME:	Depinet			
ADDRESS:	6914 W CR 38			
# BEDROOMS	3		1500 gal. SEPTIC TANK	
DAILY DESIGN FLOW	360		1000 GAL. DOSE TANK	
ADJUSTMENTS:				
SYSTEM TYPE	SAND MOUND			
SOILS				
LIMITING CONDITION	Bedrock			
DEPTH TO LIMITING CONDITION	24"			
INFILTRATION DEPTH	36"			
SAND DEPTH(min.)	12"			
SLOPE	0-1%			
SOIL INFILTRATION LOADING RATE	0.4	Ap	Soil Horizon	
HYRAULIC LINEAR LOADING RATE	2.7	Ap	Soil Horizon	
SYSTEM CALCULATIONS			ACTUAL DESIGN	
INFILTRATIVE SURFACE (ft2)	900	900	12"(west)-18"(east)	
BASAL LENGTH (FT)	133	90		
<u>SAND DEPTH</u>	12"	12"		
BASAL WIDTH (FT)	6.76	10		
MOUND WIDTH	12	14'-17'		
MOUND LENGTH	144	104		
	<u>Existing Grade shots</u>			
Benchmark(Door jam west garage door)	1.55			
Existing sewage flow line(house)	2.20			
Existing sewage flow line(garage)	3.00			
Septic tank	2.60			
Dose Tank	2.70			
Soil absorption grade (east)	3.40			
Soil absorption grade (west)	2.90			
Top of sand	1.90			
Lateral	1.60			
Top of mound	0.80			
CONSTRUCTION NOTES:				
3" stone embedded in sand and 1" stone covering lateral. Orifices in the down position with orifice shields STS-106.				
Place geotextile fabric over lateral distribution area.				
Connect garage restroom sewer line to side inlet of septic tank. Flowline could not be determined during site visit.				
MATERIALS(General)				
1- 1500 gal septic tank				
1- 1000 gal dose tank w/ CPES 5 champion pump, timed dosed panel and effluent filter				
40ft.- 4" sch. 40 with required fittings and 1- 4" 2 way cleanout				
Sand fill meeting ASTM C33				
#57 limestone for distribution area and curtain drain				
2- 4" observation ports located between laterals				
40 ft. 2" sch. 40 for main line with required fittings				
180ft 1.25" sch. 40 for laterals with required fittings				

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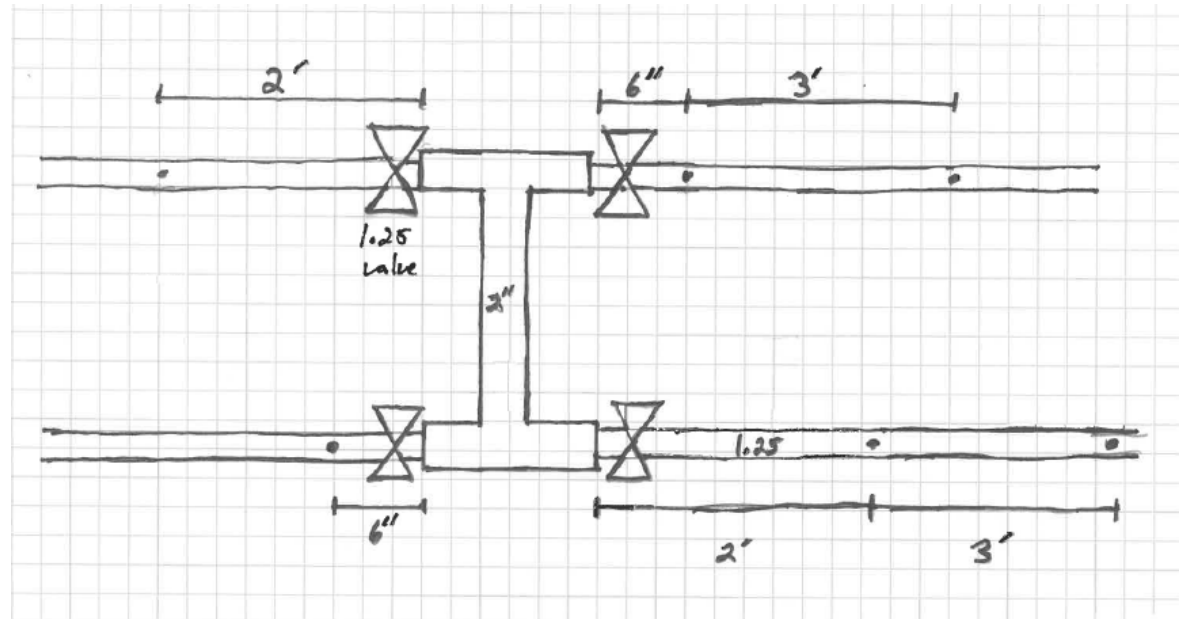
Household Info.	Bedrooms	Daily flow	Bedrock	Restrictive layer					
	3	360	24"						
Soils	Basal	0.4							
	LLR	2.7							
Distribution Area (TYLER)					Designed Basal				
	Area(ft2)	Length(ft.)	Width		Length(ft.)	Width(ft.)	Depth	Basal ft2	
	900	133	6.75		90	10	12"-18"	900	
					Distribution Area				
					90	4	3"		
Lateral Design									
	# Lat.	4	Lat. vol/ft	0.078			Orifice position down		
	Lat. Dia.	1.25	Lat. Vol.	3.51					
	Lat. Length	45	Tot. Lat. Vol./dose	14.04	5x Lateral Vol.	70.2			
	Lat. Spacing	2 ft							
	Orifice Dia.	0.188	Squirt Height(ft)	3	Basal ft2/Orifice	0			
	Orifice Spacing	3	Orifice Rate(gpm)	0.72	Flowrate(gpm)	43.2			
	Orifice Lat.	15	Orifice total	60					
Main/Manifold									
	Main Dia	2.0"	Manif. Dia	0	Dose tank	2.0"			
	Main length	36	Mainif. Length(ft.)	0	Main length	4			
	Main vol./ft	0.174	Mainif. Vol/ft	0	Main vol./ft	0.174			
	Main Vol.	6.264	Mainif. Vol.	0	Main Vol.	0.696			
TDH						TDH calc(Main and Manifold)			
	Static Head	6.5							
	Main/Manifold	7				Size	Fittings	QTY	Factor
	Zone Valve	0				3.0"	Pipe	0	1
	Network Loss	3.9	(Squirt height X 1.3)			3.0"	T	0	16
	TOTAL	17.4				3.0"	Cross	0	6.3
Pump Selection						3.0"	Check	0	26
	GPM	43.2				3.0"	90	0	8
	TDH	17.4				3.0"	45	0	4
Dose Design								TDH	0.00
	# Pump Cycles	8				2.0"	Pipe	40	1
	Lateral Vol.	14.0	A			2.0"	Coupler	1	2
	Manifold Vol.	0.0	B			2.0"	90	3	6
	Main Vol.	7.0	C			2.0"	Check	1	17
	Applied Dose	45.0				2.0"	45	1	2.5
	Drainback	7.0	B+C					TDH	2.43
	Total Dose	52.0	(Applied Vol. + Drainback)			1.0"	Pipe	1	1
						1.0"	90	2	2.25
	Timer setting(min)	1.20						TDH	4.56
						"K" constants			
						3.0"	803.9	1.0"	47.8
						2.0"	284.5		
						2.5"	454.1		
						1.5"	147.5		
						1.25"	98.3		

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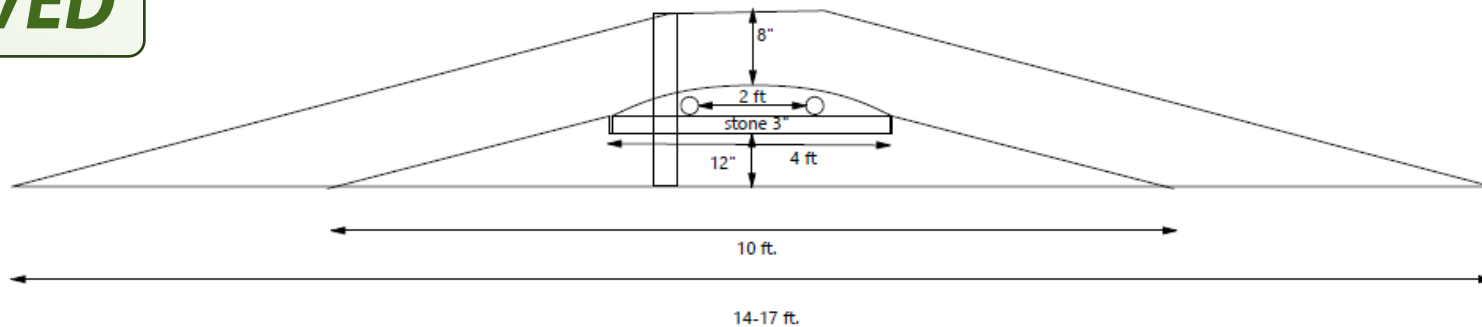


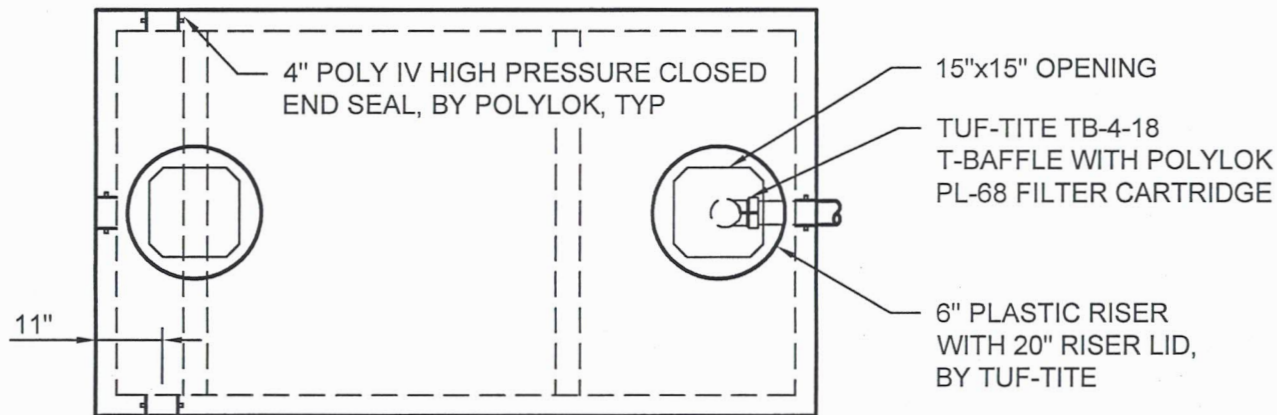
Flow line

Benchmark	1.55
1. Existing flow line(house)	2.20
1a. Garage(assumed)	3.00
2. Septic inlet	4.00
3. Septic outlet	4.20
4. Dose tank inlet	4.25
5. Dose tank outlet	4.25
6. Effluent main turnup	4.00
7. Laterals	1.60

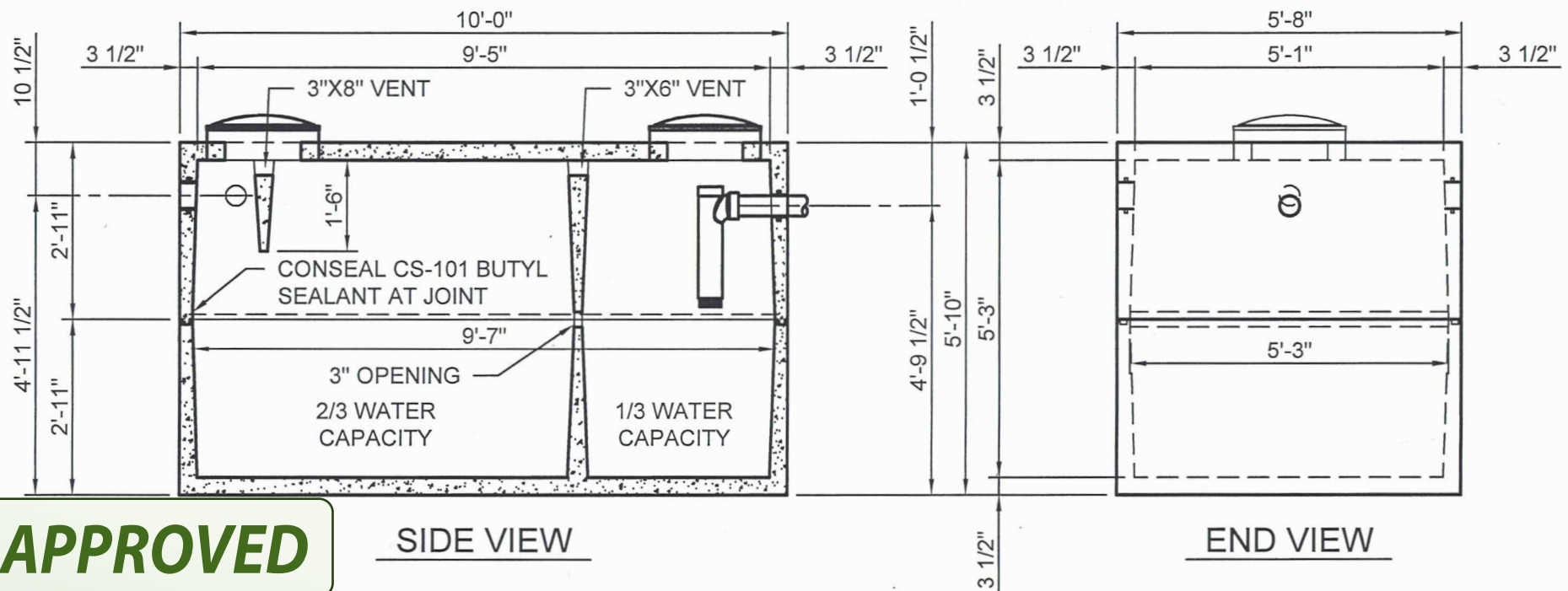


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PLAN VIEW



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Stiger
Precast, Inc.
17793 St Hwy. 231
Nevada, OH 44849
740-482-2313
800-426-2116

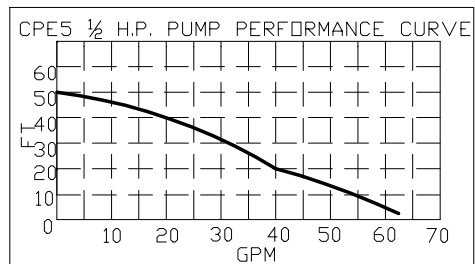
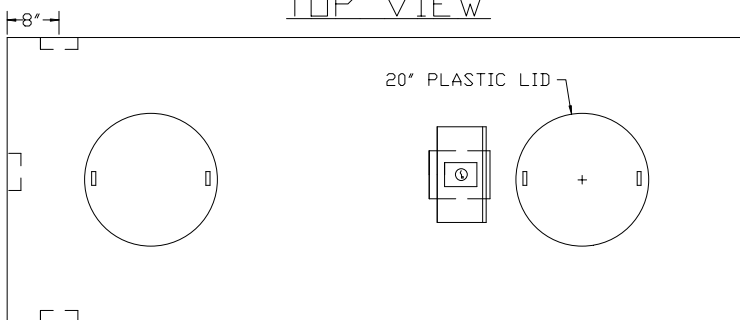
Scale: 1/2" = 1'-0"
Date: 12/22/2015

**1,500 GALLON
SEPTIC TANK**

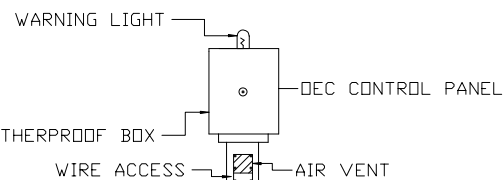
Dwg No.
**ST
1500**

1/2 H.P. 1000 GAL LIFT STATION # 1001

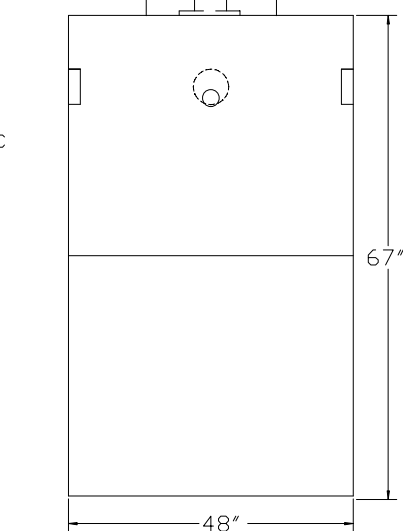
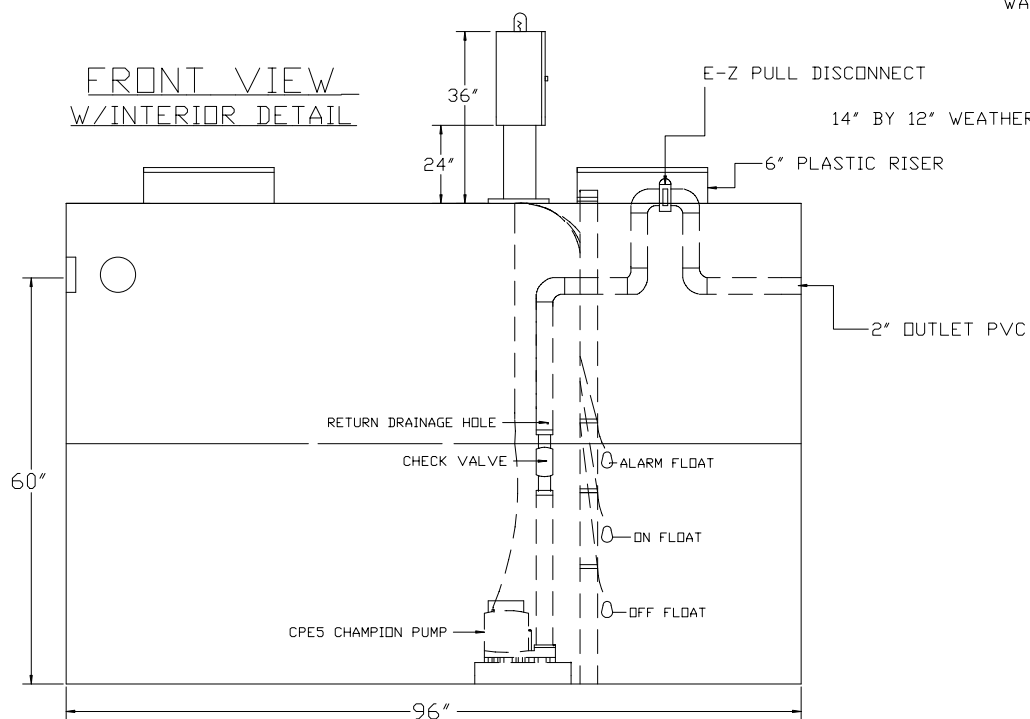
TOP VIEW



SIDE VIEW



FRONT VIEW
W/INTERIOR DETAIL



General Notes

48" WIDE
96" LONG
67" HIGH
60" FROM
CENTER OF
INLET TO
BOTTOM OF TANK
55" FROM
CENTER OF
OUTLET TO
BOTTOM OF TANK

OFF FLOAT @ 15"
ON FLOAT @ 21"
ALM. FLOAT @ 26"

*ALL MEASUREMENTS
FROM BOTTOM OF TANK*
*FOR EVERY INCH IT IS
10 GALLONS OF WATER*

HIDDEN LINES

TWO PIECE TANK

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No.	Revision/Issue	Date
1	ADDITIONS/TJM	1/07

File Name and Address
STIGER
PRECAST INC.
PHONE#
740-482-2313
800-426-2116

Project Name and Address
1000 GAL. LIFT
STATION #1001
1/2 H.P., TIME DOSE,
AND BACK UP PUMPS
AVAILABLE BY
REQUEST

Project 1000	Sheet L/S
Date 05-05-05	#1001
Code FULL	

TJM 2005

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Every pump tested in water to ensure pump meets performance curve.



FEATURES/BENEFITS

PERFORMANCE

- Heads up to 37' TDH
- Flows up to 72 GPM

MOTOR

- High efficient, 115v, oil filled, permanent split capacitor motor with upper and lower ball bearings and thermal overload protection
- Constant bearing lubrication
- Maximum motor cooling
- Runs cooler and lasts longer
- Internal overload protection
- Quiet operation
- Fasteners and shaft made from rugged, corrosion resistant stainless steel

SEAL DESIGN

- Mechanical with secondary dynamic lip seal
- Provides added leakage protection

IMPELLER DESIGN

- Non-clog style vortex impeller
- Designed to help reduce clogging by foreign material

POWER CORD

- Sealed entry quick disconnect power cords
- Prevents water from entering the motor housing through a cut cord
- Easy to replace in the field
- Available in lengths up to 100'

SWITCH

- Piggy-back switch design
- Defective switches can be diagnosed over the phone
- Pump can be operated manually or supplied with other piggy-back switches
- Switch can be replaced without having to replace the pump

APPLICATIONS

Basements, dewatering, septic systems, residential and commercial developments and elevator pits



Wide-Angle Float



Vertical Float

1/2 HP submersible pumps that handle up to 3/4" solids with 2" discharge with 1 1/2" adapter

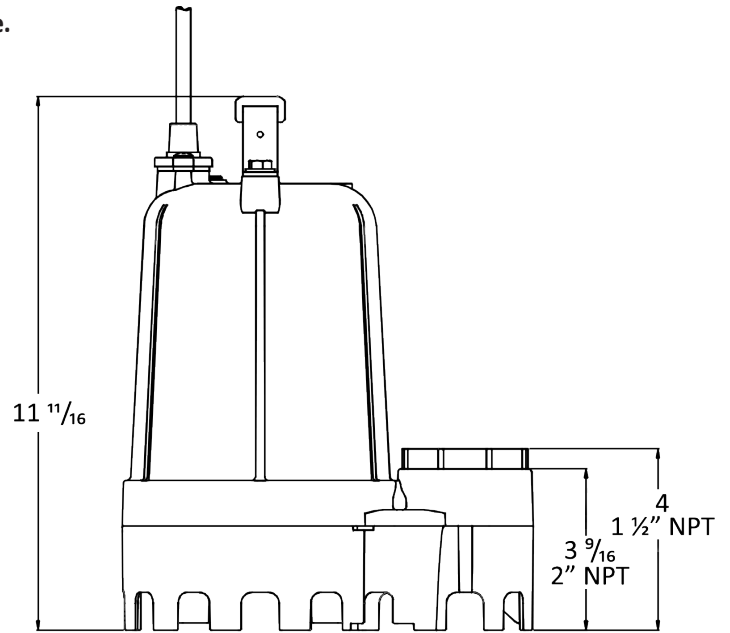
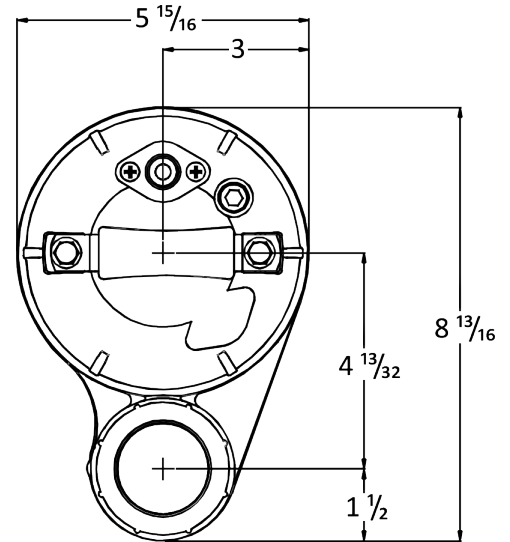
PERFORMANCE CURVE



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TECHNICAL DATA

DISCHARGE	2" NPT. with 1-1/2" adapter included
SOLIDS HANDLING	3/4"
LIQUID TEMPERATURE	140 Degrees F. (Intermittent)
MOTOR HOUSING	Cast Iron
VOLUTE	Engineered glass filled thermoplastic
SEAL PLATE	Cast Iron
IMPELLER	Engineered glass filled thermoplastic/ Vortex
SHAFT	Stainless Steel
SHAFT SEAL (SINGLE SEAL)	Mechanical with secondary dynamic lip seal, carbon rotating face, ceramic stationary face, Buna-N elastomer, 300 series stainless steel hardware
BEARINGS (UPPER & LOWER)	Single row, ball, oil lubricated
HARDWARE	300 Series stainless steel
O-RINGS	Buna-N
CORD	10' Length standard. Up to 100' available. (UL/CUL) Listed 16 AWG, Type SJTW
MOTOR (SINGLE PHASE)	1/2 HP 3450 RPM, 60 Hz, NEMA L Includes overload protection in the motor, oil filled, class B permanent split capacitor
WEIGHT	25 lbs. (Manual)



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MODEL(S) INFORMATION

MODEL	HP	VOLTS	PHASE	AMPS	CORD LENGTH	SWITCH
CPES5-11	1/2	115	1	8.9	10'	Manual
CPES5-12	1/2	115	1	8.9	20'	Manual
CPES5-13	1/2	115	1	8.9	30'	Manual
CPES5-15	1/2	115	1	8.9	50'	Manual
CPES5A-11	1/2	115	1	8.9	10'	Wide-Angle Float
CPES5A-12	1/2	115	1	8.9	20'	Wide-Angle Float
CPES5A-13	1/2	115	1	8.9	30'	Wide-Angle Float
CPES5V-11	1/2	115	1	8.9	10'	Vertical Float
CPES5V-12	1/2	115	1	8.9	20'	Vertical Float
CPES5V-13	1/2	115	1	8.9	30'	Vertical Float

STF-106 Series

Orifice Shields

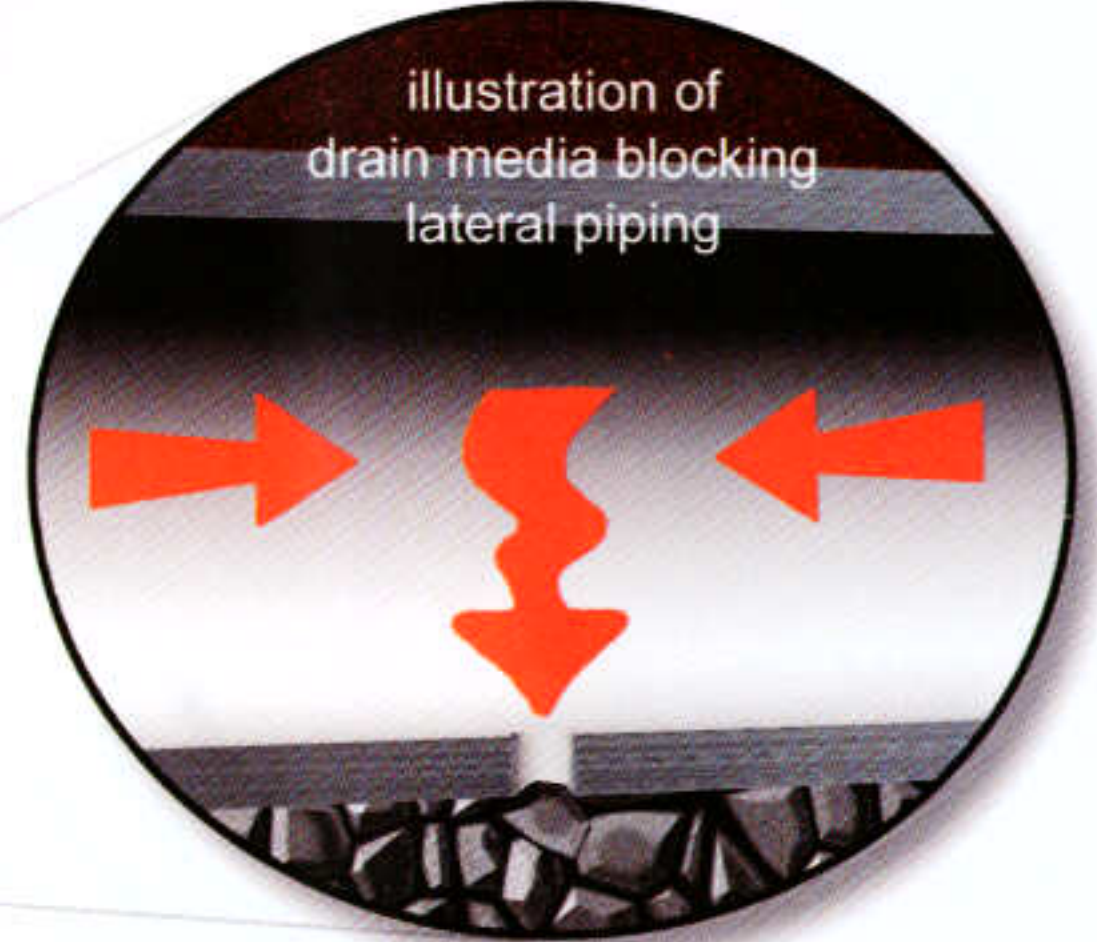
Orifice shields are an essential part of all low-pressure wastewater systems. SIM/TECH manufactures three different models that cover a wide variety of applications. Every model insures even distribution from all orifices in any system, by separating the discharge orifices from the drain media or insuring even distribution of spray.

If you design or install a culvert under a driveway, you wouldn't allow the installers to put a boulder in front of it to block drainage. So why design or install lateral piping in the field, then lower and backfill the laterals with the drain holes resting on drain media. Flow rates are calculated and designed assuming unrestricted drain holes or orifices. Keep them that way by using orifice shields.

All wastewater systems should be designed with the use of orifice shields on all discharge holes to insure even distribution and even system pressure after backfilling. Because of low pressure in these systems, typically 2-4 psi, it is vital that the drainage media does not interfere with the discharge orifices, these systems can not clear themselves once they become blocked or restricted.

Make your flow rates a reality, use orifice shields on your lateral piping.

All of our orifice shields easily snap into place on lateral piping and with over 9" of gripping surface stay securely in place, even after back-filling.



STF-106 Orifice Shield

Our most popular model - For use on mound systems and at grade pressure systems. This fully enclosed orifice shield snaps onto the distribution pipe with over 9" of gripping surface. Fits 1 1/4" and 1 1/2" pipe. STF-106 for 3/4" and 1" pipe is mainly for use on sand filters and small pipe pressure systems.



STF-106-D4 Diffuser Shield

Our D4 was designed for use in pressurized chambered or mound systems. The D4 will diffuse the spray of effluent without the use of splash plates or drain stone under the downward orifices. The D4 diffuses the concentrated streams of effluent through eight escape locations on the shield. Fits 1 1/4" and 1 1/2" pipe



STF-106-TDS Top Discharge Shield

The TDS is used in systems requiring the discharge holes on the field laterals to face up. As consistent in Sand Filter Systems the shield is installed over the top of the lateral pipe with no drain slots above the discharge holes. Fits 3/4" or 1" pipe

CUSTOM SIZING AVAILABLE FOR ALL STF-106 series Orifice Shields

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SIM/TECH
FILTER

06598 Horton Bay North Rd. - Boyne City, MI 49712

888-999-3290 - fax: 231-582-7324

simtech@freeway.net - www.gag-simtech.com

Protected by U.S. patent 6,167,914

Distributor inquiries welcome

Sim/Tech Filter
1455 Lexamar Drive
Boyne City, MI 49712
Office: 231-582-1020



Website: www.gag-simtech.com
Email: sales@gag-simtech.com
Fax: 231-582-7324
Toll Free: 888-999-3290

Sim/Tech Filter's Last Line of Defense

The 100 Series Pressure Filter



Vortex Action

The Sim/Tech pressure filter, with its unique design and mounting location, allows the filtering screen to be scrubbed during pump operation, providing maximum maintenance intervals with unmatched performance capabilities.

The filter screen is a type 316L stainless steel with .062" (1/16") diameter holes. Optional socks are available for finer filtration. The screen is 3 inches in diameter and 18 inches long, with 41% open area. This large open area (69.52 square inches) allows the filter to operate at up to 83.8 gallons per minute at 1 psi. With features like these even a 95% plugged screen will keep your pressurized system well protected and working properly.

This performance product assures quality effluent with lower TSS levels, keeping your pressurized systems functioning at 100% efficiency.

Engineers and designers can specify the Sim/Tech pressure filter to safeguard and assure systems will function as designed now and in the future.

The Sim/Tech pressure filter is perfect for both residential and commercial applications.

High flow-rate manifold.



Multiple filters can be assembled into a manifold to accommodate high flow-rate or high strength effluent systems.

At the max flow-rate of 83.8 gpm, headloss for a clean filter is .21 psi or 1/2 foot and headloss for a 95% plugged filter is .85 psi or 2 feet.

For more info and to see videos, visit www.simtechfilter.com



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