Commercial

Paid & Received
Division of Water
$ 460.00 11/02/2026

DELAWARE
DIVISION OF WATER RESOURCES

APPLICATION - PERMIT
ON-SITE WASTEWATER SYSTEM

Public Notice

Permit Number: 283914

(Please Type or Print Legibly)

OWNER'S NAME: Nistazos Holdings, LLC, C/O Andrew Warfield PHONE: _____

ADDRESS: 9919 Golf Course Road, Ocean City, MD 21842

PROJECT LOCATION: 30685 Sussex Highway, Laurel, DE 19956, southeast side of intersection of Sussex Highway and Shade Acres Lane

TAX/MAP #: 2-32-12.00-134.00

APPLICATION PREPARER: Sharon K. Cruz, PE, AICP

DNREC LICENSE #: 4328

PREPARER'S ADDRESS: 1 Park Avenue, Milford, DE 19963

PHONE: [redacted]

I hereby affirm that the information provided on this document is accurate and complete.

SHARON K. CRUZ REGISTERED No. 12576 PROFESSIONAL ENGINEER DELAWARE

Preparer's Signature: _____ Date: 10/30/2026

By signing this permit application, the preparer further certifies they were physically present at the site.

-SEPTIC DESIGN CRITERIA-

(Please check all boxes that apply)

System Type: (CF = Cap & Fill / FD = Full Depth)

- ☐ Gravity (FD)
- ☐ Gravity (CF)
- ☐ Pressure Dose (FD)
- ☐ Pressure Dose (CF)
- ☐ Low Pressure Pipe (FD)
- ☐ Low Pressure Pipe (CF)
- ☐ Temporary Holding Tank
- ☐ Permanent Holding Tank
- ☐ Elevated Sand Mound
- ☐ Wisconsin At-Grade
- ☐ Subsurface Micro Irrigation
- ☑ Peat Bio- Filter
- ☐ Other _____

Type of Construction:

- ☑ Replacement
- ☐ New Construction
- ☐ Component Replacement
  - Component: _____
- ☐ Repair to Existing System
  - Reason: _____
- ☐ Authorization to Use Existing System
  - Permit #: _____
  - Present Condition: _____
  - Structure to be connected: _____

☑ Bed or ☐ Trench

☐ Gravelless Chamber ☑ Stone/Gravel ☐ Tire Chips

Sand-lined ☑ Yes ☐ No

Existing System Malfunctioning ☑ Yes ☐ No ☐ N/A

Pre-Treatment Units

☑ Septic Tank

☐ Other _____

# of Bedrooms: *see below calculation

Avg. Percolation Rate: 60 MPI

Gallons Per Day Flow: 750 GPD

Minimum Sq. Ft. Rcq'd: 1,627 s.f.

Sq. Ft. Proposed: 1,680 s.f.

Central Water Available ☐ Yes ☑ No

(If yes, please state Utility Name: _____)

*16 seats @ 30 gpd/seat = 480 gpd
9 employees @ 20 gpd/employee = 180 gpd
90 gpd supplemental flow for food prep

Revised 09/02/09

COMMERCIAL REPLACEMENT
SITE EVALUATION *For* OWTDS
***By* ARM, INC.**
***APPROVAL PAGE* 1 OF 3**

Site Evaluation Number: 575147

Paid & Received
Division of Water
$ 250.00 07/28/2026

The **soils** on this site are approved when the following is completed in full and signed by the approving authority. The information contained in this site evaluation reflects Delaware Department of Natural Resources and Environmental Control (DNREC) policies and procedures at the time of the review. Exhibits and Regulations cited in this report refer to DNREC "Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems" (OWTDS). Isolation distance requirements, limited area of suitable soils, filling, removal, and/or **compaction** of the soil **may negate** construction permit approval or modify the type of system that can be permitted. All information should be verified by interested parties prior to design and installation of the septic system. This is not a construction permit. Approval of this site evaluation is limited to five years. Upon expiration, a new site evaluation will be required in compliance with regulations in effect at the time. There are no guarantees supplemental approvals will be for the same system type(s) prescribed herein.

Property Ownership: Nistazos Holdings, LLC **Tax Map #:** 2-32-12.00-134.00

Replacement System *Options*:** OWTDS *provided* **Exhibit C** isolation distances (*esp.* **watercourse**) are maintained/ mitigated:
- ***Sand-Lined** **Elevated Sand Mound** ***or*** *applicable* ***Sand-Lined** ***Innovative & Alternative*** (see **Drainfield Recommendations*).

Sand-Lining Requirements*:** For any OWTDS, **Proctored *Excavation** and **Sand-Lining to 24 inches** below present grade ***or 1 foot beneath the existing drainfield/ topsoil/ cuts/ fills/ disturbances, *whichever is deeper*. Sand-lining is required within the entirety of the basal area (drainfield and berm) to remove the organic rich topsoil, surficial disturbances (especially compaction, fills) from the previous land-use, and the existing system.

****Drainfield* (Pad/ Absorption Facility) *Recommendations*:** ***a)*** *Maximize* the **separation distance** to a *minimum* of **18 inches** due to the degree/ persistence of saturation and potential for mounding. ***b)*** Maximize the drainfield based on the available area to a ***minimum*** of **1,500 square feet *irrespective* of wastewater volume.** ***c)*** In the case of a Peat Fiber Biofilter with multiple modules, a ***minimum*** setback of **10 feet** is *recommended* between the modules *or to the extent practicable*. ***d)*** No portion of the absorption facility is to be installed below present grade (**6 inches *above* native** grade or higher to the bottom of the Drainfield/ Pad). ***e)*** Site Evaluator would support a **24 inch** separation distance with the use of an Elevated Sand Mound utilizing a PSN3 Advanced Treatment Unit. ***f)*** Professional Collaboration with Site Evaluator is welcome at all stages of design and installation. ARM, Inc. accepts no/ limited professional liability for an OWTDS sited that doesn't follow *or* exceed these *recommendations*.

****USER NOTES/ CAUTIONS:*** Please place pertinent notes ***PROMINENTLY*** on **the Permit *Construction Plan and Conditions Pages.*** There are ***ATYPICAL CONDITIONS*** on this site as a result of watercourse setbacks, a shallow limiting zone with persistent saturation, slowly permeable strata, and physical lot size with respect to the commercial land-use improvements. **This work scope is to site the fourth drainfield on this parcel.** A parking lot and traffic aisle (drive through) redesign is planned in the evaluated area per the ownership. Work on this property should be undertaken by experienced wastewater professionals, utilizing optimal quality drainfield materials, and working during optimal soil moisture conditions. It is recommended that this Site Evaluation be made an addendum to the Permit. **An OWTDS Permit is recommended prior to additional site planning.** ***1)*** There is a limited OWTDS area based on property size in light of location of ditches (watercourse, non-shellfish waters, 1 prong is an ephemeral watercourse – see *Plot Drawing*), property line locations, parcel size with respect to improvements, parking and traffic areas, and improvements associated with a commercial building and appurtenances. **MAXIMIZE THE REPLACEMENT DRAINFIELD IN THE AVAILABLE AREA.** The OWTDS design area is shown irrespective of setbacks to the watercourses. Former DNREC operational policy allowed for a replacement system in the area of the existing system provided setbacks were maximized to the extent practicable. If necessary for system replacement, piping of a segment of the ditch may mitigate watercourse setbacks; however, it appears that the centerline of the pertinent ditches are located off-site (shared with contiguous properties). Watercourse setbacks should be coordinated with all interested parties and DNREC (see Section 5.3.4.4). A 15 feet minimum setback to the top of bank is denoted by the Site Evaluator. ***2)*** The Site Evaluator would support a 24 inch separation distance for an Elevated Sand Mound drainfield with the use of a PSN3 Advanced Treatment Unit. **Advanced Treatment is recommended for Biofilter and Micro-Irrigation Drip technologies due to soil and site conditions.** ***3)*** Interested parties should be aware of a thick, loamy/ clayey substratum at depths of 28 inches and deeper. As a result of soil and site conditions, **proctoring** (Section 5.3.12.6.5) of the drainfield installation (soil moisture conditions, drainfield invert, drainfield-soil interface, site disturbance/ compaction verification, and materials quality) is ***required***. The installer should ***not*** excavate deeper than **24 inches** (and/ or immediately beneath the existing system) beneath original, native grade unless directed to do so by a Site Evaluator under the approval/ discretion of DNREC, due to the persistence of seasonal high and average water table conditions with respect to a clayey substratum and persistent water table (seasonal high and average conditions). However, the client and installer should be prepared for the expense of deeper sand-lining if warranted. **Contact a Site Evaluator (72 hours notice prior to construction, subject to additional costs) to verify the depth of *sand-lining – *Note* to be placed on**

- *Continued on Approval Page 2 of 3* -

07/27/2026
Date

Atlantic Resource Management, Inc. Job # 071-DS26 -CRE

Evaluator's Signature

Printable page

PARID: 232-12.00-134.00
NISTAZOS HOLDINGS LLC 30685 SUSSEX HWY

Property Information

Property Location:	30685 SUSSEX HWY
Unit:	
City:	LAUREL
State:	DE
Zip:	19956
Class:	C-Commercial
Use Code (LUC):	408-Fast Food
Town	00-None
Tax District:	232 – BROAD CREEK
School District:	2 - LAUREL
Fire District:	81-Laurel
Calc'd Acres:	.4959
Frontage:	400
Depth:	200.000
Irr Lot:	
Plot Book Page:	/PB
100% Land Value:	$297,100
100% Improvement Value	$226,000
100% Total Value	$523,100

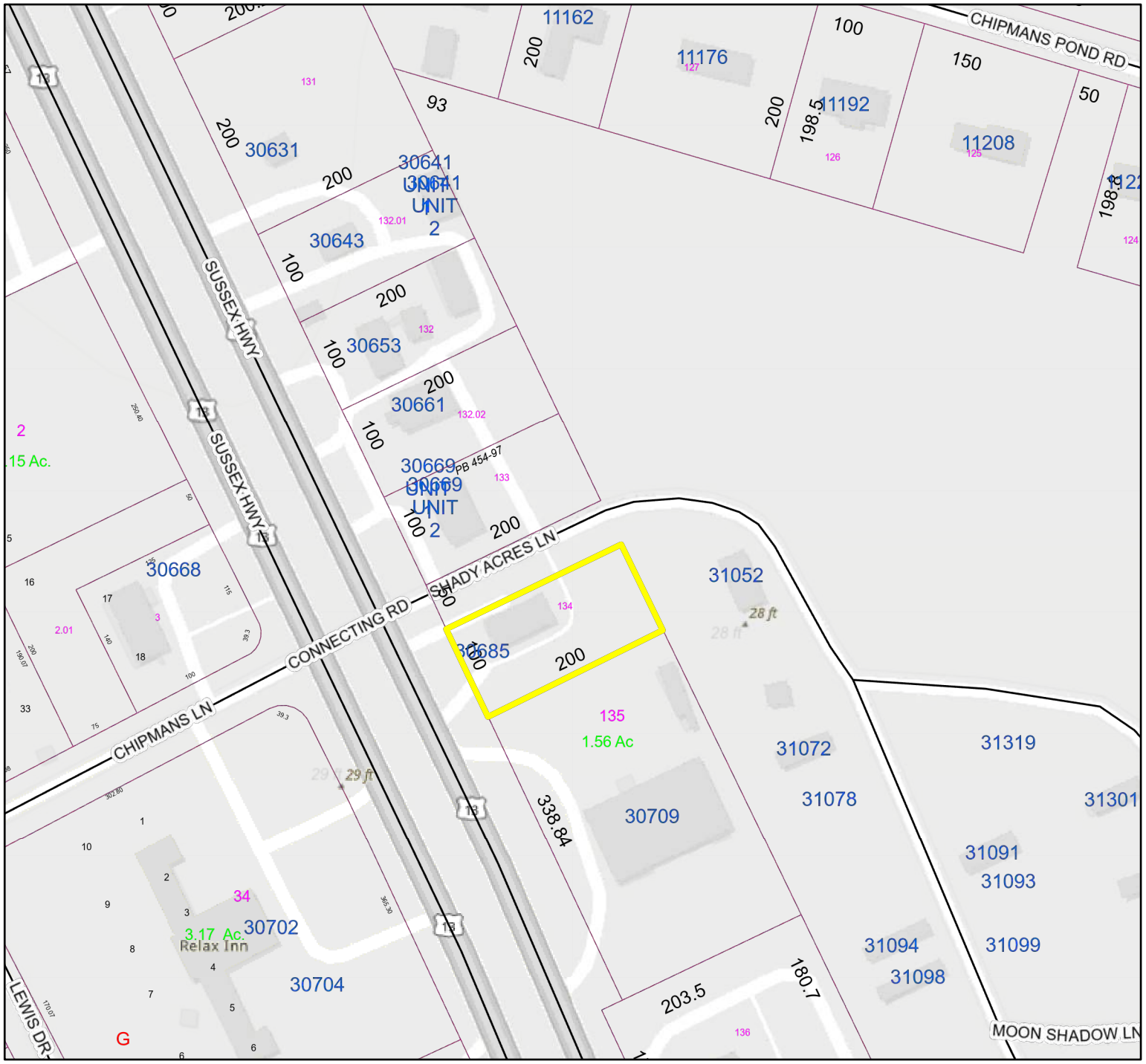
Legal

Legal Description	E/LAUREL-SEAFORD

Owners

Owner	Co-owner	Address	City	State	Zip
NISTAZOS HOLDINGS LLC		9919 GOLF COURSE RD	OCEAN CITY	MD	21842

/HWWHU /DQGVFDSH 3DUFHO 'HWDLOV



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OWNER'S/AUTHORIZED AGENT SIGNATURE_____DATE _____

SHARON K. CRUZ REGISTERED No. 12576 PROFESSIONAL ENGINEER DELAWARE

10-30-2026

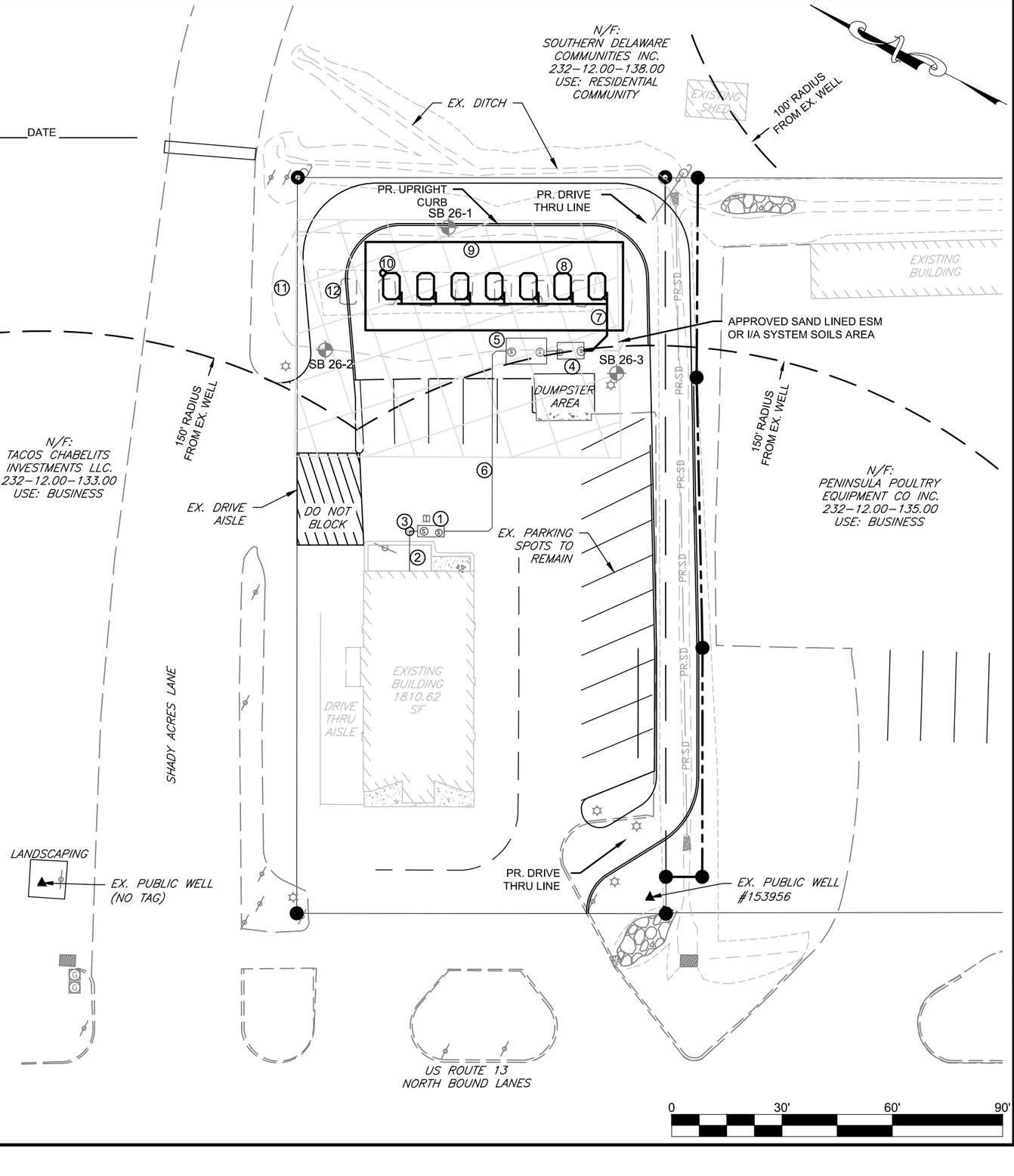
1. EX. 1000 GALLON GREASE TRAP TO REMAIN
2. EX. 4" BUILDING SEWER (13 FT. LONG)
3. EX. CLEANOUT
4. EX. 1000 GALLON DOSING CHAMBER
5. EX. 1500 GALLON SEPTIC TANK
6. EX. 4" SCH 40 PVC (65 FT. LONG)
7. 2" TRANSMISSION LINE (74 FT. LONG)
8. PURAFLOW PEAT BIOLFILTER
9. 24' X 70' DISPOSAL BED
10. SAMPLE CHAMBER
11. EX. DISPOSAL BED (TO BE REMOVED)
12. EX. BIOLFILTER MODULES (TO BE REMOVED)

OWTDS NOTES:

1. ALL TANKS SHALL HAVE WATERTIGHT RISERS AND SHALL EXTEND ABOVE GRADE.
2. EX. SEPTIC TANK SHALL HAVE A ZABEL A300 EFFLUENT FILTER OR APPROVED EQUAL.
3. SPARE TO BE SANDLINED UPGRADE IN INITIAL AREA.
4. TREES NEED TO BE REMOVED WITH EXTREME CARE PER DNREC GUIDELINES (COPY ATTACHED), INSTALLING A SUBSTANTIAL BARRIER AROUND THE ENTIRE PROPOSED DISPOSAL AREA WHILE LOT DEVELOPMENT IS TAKING PLACE MAY HELP TO AVOID ACCIDENTAL SOIL COMPACTION OR SYSTEM DISTURBANCE.
5. ALL SITE FEATURES ARE EXISTING UNLESS OTHERWISE NOTED.
6. ALL WELLS WITHIN 150' OF SUBJECT PROPERTY ARE SHOWN ON PLAN (UNLESS OTHERWISE NOTED.)
7. ALL TRANSMISSION PIPING INSTALLED IN AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE BURIED A MINIMUM OF 3-FEET, OR SLEEVED OR ENCASED IN CONCRETE. SLEEVE OR CONCRETE ENCASEMENT SHALL EXTEND MINIMUM 5-FEET BEYOND EDGE OF TRAFFIC AREA.
8. ANY 2" DIA. PVC SCH. 40 TRANSMISSION LINE NOT BURIED BELOW THE MINIMUM FROST LINE (24 INCHES) SHALL BE INSULATED TO PREVENT FREEZING.
9. ALL CONSTRUCTION AND MATERIALS SHALL BE IN CONFORMANCE WITH THE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL "REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND OPERATION OF ON-SITE WASTEWATER TREATMENT SYSTEMS".
10. SAND-LINING BENEATH THE DRAINFIELD AND BERM FOOTPRINT IS REQUIRED BY THE EVALUATOR. CONTACT A SITE EVALUATOR (72 HOURS NOTICE) TO PROCTOR THE INSTALLATION OF THE SAND-LINING (MOISTURE CONDITIONS AND MATERIALS QUALITY SHOULD BE DOCUMENTED).
11. CARE SHOULD BE TAKEN TO INSTALL THE SYSTEM AT A TIME WHEN MOISTURE CONDITIONS ARE FAVORABLE (GROUNDWATER & ZONES OF SATURATION GREATER THAN 4 FEET).
12. MATERIAL TICKETS TO BE PROVIDED TO INSPECTOR TO ENSURE APPROVED MATERIALS ARE UTILIZED.

LEGEND

- BOUNDARY LINE / RIGHT-OF-WAY LINE
- PROPOSED PROPERTY LINE
- PROPOSED BUILDING SETBACK LINE
- PE — PROPOSED EASEMENT LINE
- 20LB — PROPOSED LANDSCAPE BUFFER
- EDGE OF WOODS
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- EX-6W — EXISTING WATER
- 6W — PROPOSED WATER
- DITCH
- SEWER PIPE
- 2FM — FORCEMAIN
- SB 26-1 — 2026 SOIL BORING



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MILFORD, DE 302 424 1441
EASTON, MD 410 770 4744
CENTREVILLE, MD 443 262 9130

DUNKIN' LAUREL
SEPTIC RELOCATION
BROAD CREEK HUNDRED
SUSSEX COUNTY, DELAWARE

Date:	OCTOBER 2026
Scale:	1" = 30'
Dwn.By:	BJM
Proj.No.:	5232A002
	OVERALL SITE PLAN
Dwg.No.:	1

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OWNER'S/AUTHORIZED AGENT SIGNATURE _____ DATE 10/29/2026

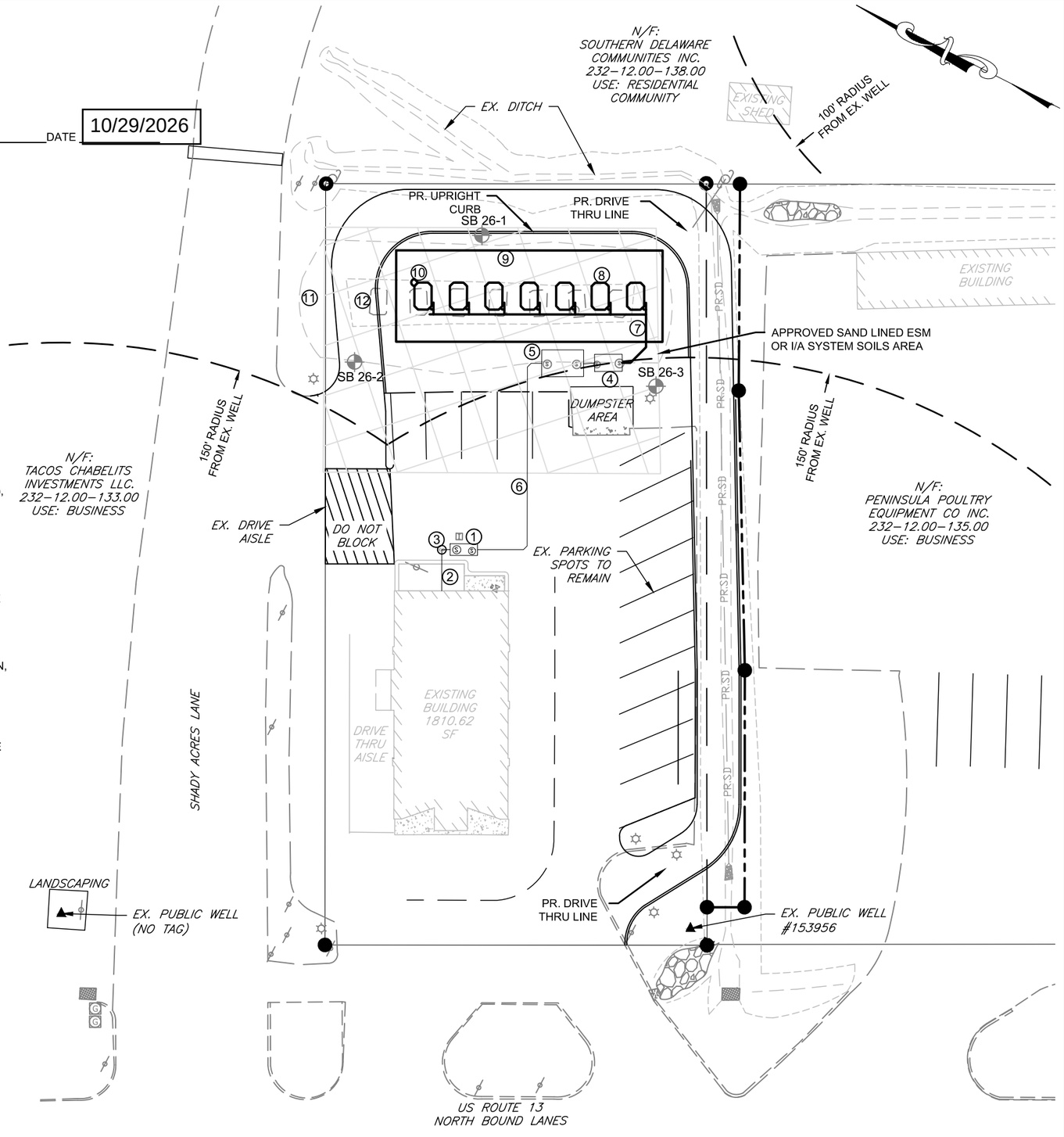
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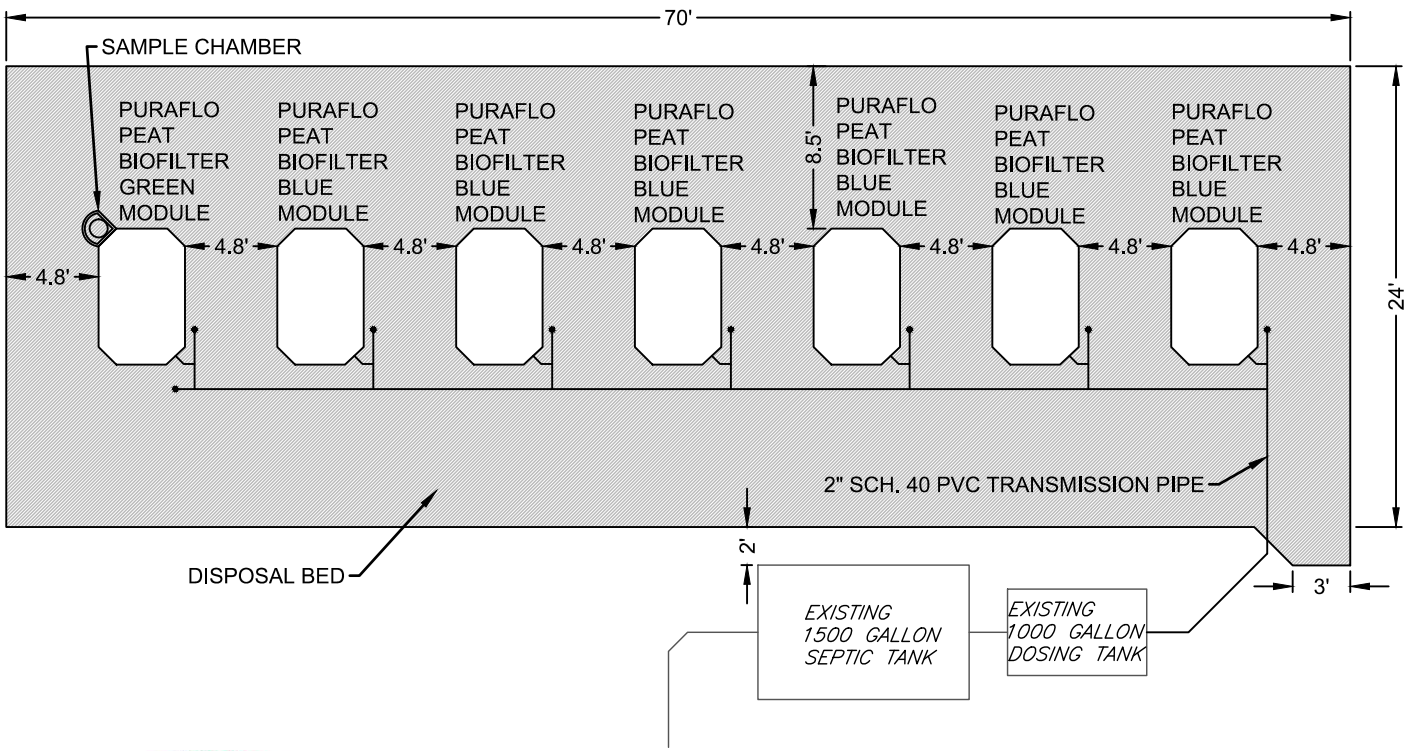


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DUNKIN' LAUREL
SEPTIC RELOCATION
BROAD CREEK HUNDRED
SUSSEX COUNTY, DELAWARE

Date:	OCTOBER 2026
Scale:	1" = 30'
Dwn.By:	BJM
Proj.No.:	5232A002
	OVERALL SITE PLAN
Dwg.No.:	1

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SHARON K. CRUZ
REGISTERED
No. 12576
DELAWARE
PROFESSIONAL ENGINEER

10-30-2026

DUNKIN' LAUREL
SEPTIC RELOCATION
BROAD CREEK HUNDRED
SUSSEX COUNTY, DELAWARE

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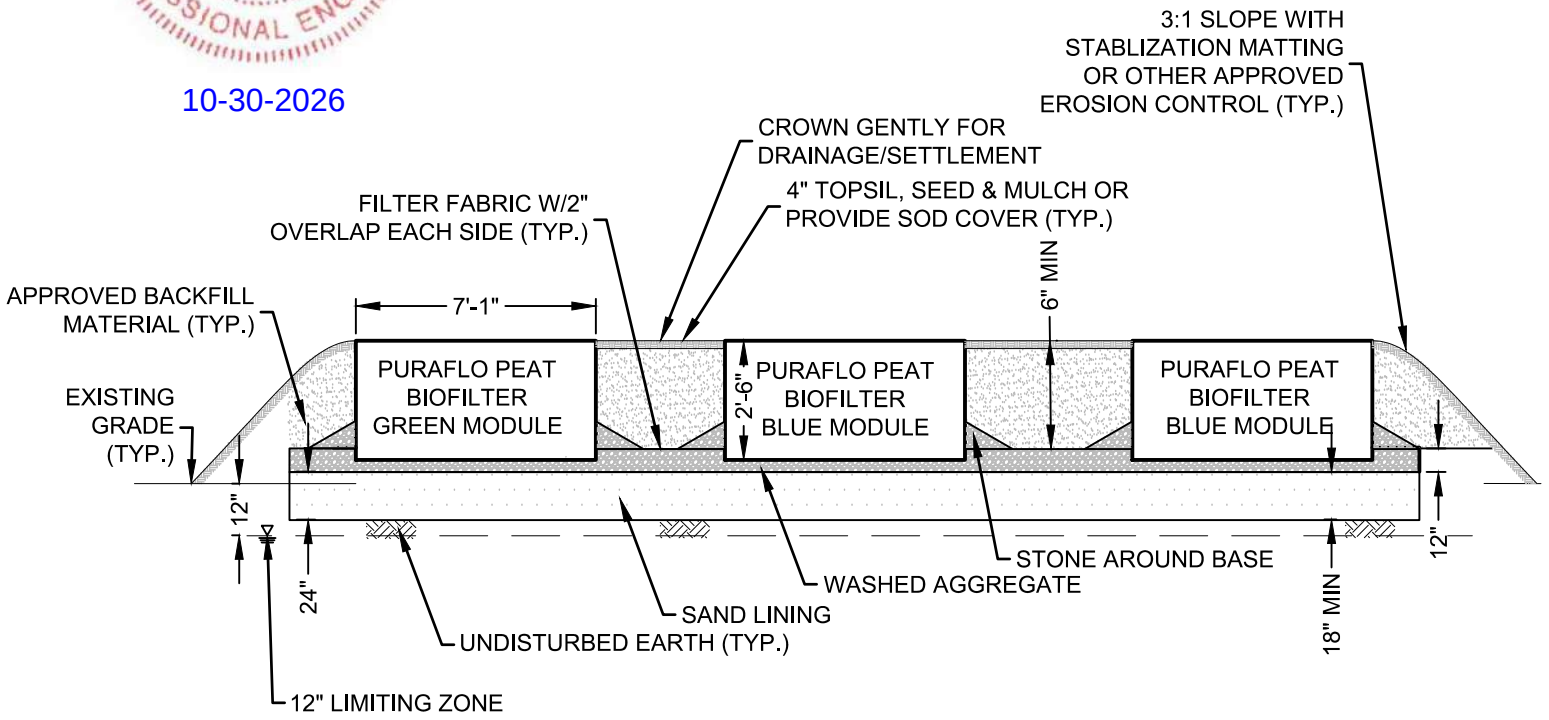
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Date:	OCTOBER 2026
Scale:	NOT TO SCALE
Dwn.By:	BJM
Proj.No.:	5232A002
	DISPOSAL BED PLAN
Dwg.No.:	2

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SHARON K. CRUZ
REGISTERED
No. 12576
DELAWARE
PROFESSIONAL ENGINEER

10-30-2026



NOTE:
SAND LINING SHALL EXTEND 24" BELOW EXISTING OWTDS AND SHALL BE NO LESS THAN THE PRESCRIBED SAND LINING DEPTH. A CLASS D SOIL SCIENTIST SHALL BE ON-SITE TO CONFIRM EXTENT OF SAND LINING.

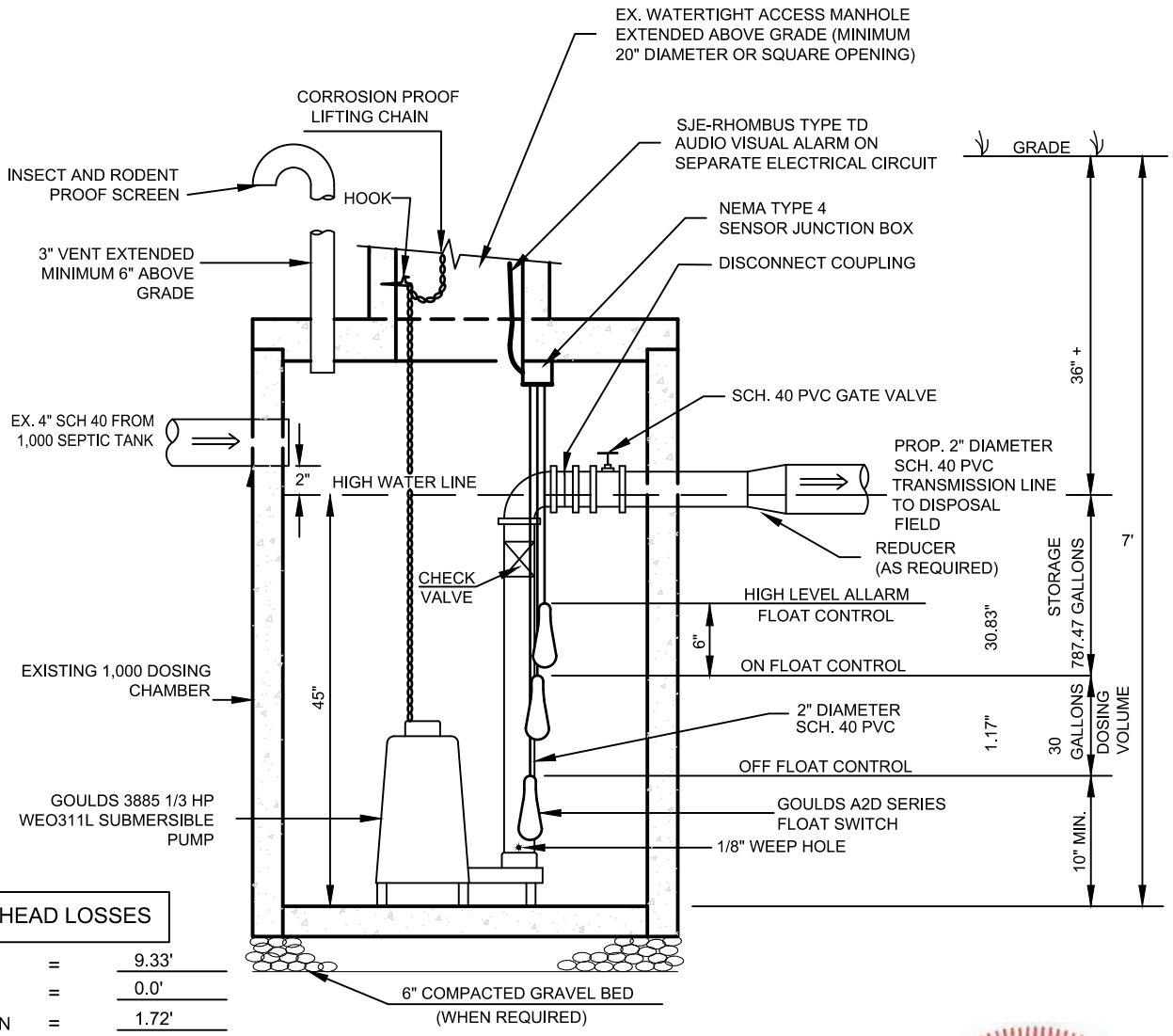
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SEPTIC RELOCATION
BROAD CREEK HUNDRED
SUSSEX COUNTY, DELAWARE

Date:	OCTOBER 2026
Scale:	NOT TO SCALE
Dwn.By:	BJM
Proj.No.:	5232A002
	CROSS SECTION
Dwg.No.:	3

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HEAD LOSSES		
STATIC	=	9.33'
ORIFICE	=	0.0'
FRICTION	=	1.72'
TOTAL HEAD LOSS	=	11.05' @ 30 GPM

NOTES:

- MAXIMUM DEPTH FROM GRADE TO INVERT OF DOSING CHAMBER TO BE 9'-0"
- EXCAVATION LIMITS SHALL EXTEND AT LEAST 2 FEET BEYOND TANK PERIMETER
- ALL PIPE TO BE PVC SCHEDULE 40 OR SDR 26
- CHAMBER TO BE SIZED ACCORDING TO REQUIREMENTS OF DOSING VOLUME AND STORAGE. SEE EXHIBIT
- ALL DOSING CHAMBER COMPONENTS SHALL BE FIELD TESTED TO INSURE ACCURACY, WATERTIGHTNESS AND PROPER OPERATION OF ALL PUMPS AND ALARM CONTROLS
- ALL ELECTRICAL CONNECTIONS SHALL BE WATERPROOF, CORROSION RESISTANT AND EXPLOSION PROOF



10-30-2026

Date:	OCTOBER 2026
Scale:	NOT TO SCALE
Dwn.By:	BJM
Proj.No.:	5232A002
	DOSING CHAMBER
Dwg.No.:	4

DUNKIN' LAUREL
SEPTIC RELOCATION
BROAD CREEK HUNDRED
SUSSEX COUNTY, DELAWARE

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ARCHITECTS ENGINEERS SURVEYORS

SEPTIC CALCULATIONS

Job #:	5232A002.A01
Calc'd by:	S. Cruz
Date:	10/29/26



10-30-2026

Design flow:	750	gpd
Perc. rate:	60	mpi
Required area:	1627	ft.^2
Septic width:	24	ft.
Septic length:	70	ft.

Proposed Area:	1680	ft.^2
Transmission Length	79	(INCLUDES 5-FEET IN TANK)

Type of System: PEAT BIOFILTER

Bed Size:	1680	ft.^2
Static Head:	9.33	ft.

Check Head:

Pump:	GOULDS WE0311L - 1/3HP	
Allowable TDH:	20	ft.
Flow of:	30	gpm
Allowable friction head:	10.67	ft.

Friction Head:

Trans. line diameter:	2	in.
Head loss/100 ft.:	1.81	ft./100 ft.
Length of trans. line:	79	ft.
Multiplier for fittings:	1.2	
Trans. line head loss:	1.72	ft.
Total friction head:	1.72	ft.
% of allow. frict. head:	16.1	

TDH: 11.05 ft.

Check dosing volume:

Min. dosing volume:	30	gal.	PER 5.3.9.6
Dosing vol. used:	30	gal.	PER 5.3.9.6
Doses per day:	25.00		PER 5.3.9.6
Size of dosing chamber:	1000 Gal		
Volume/in. of chamber:	25.5459075	gal/in.	
Set float at:	1.17	in.	

STORAGE VOLUME:

TANK SIZE:	1000 Gal	7.25 X 4.5	INSIDE DIMENSIONS
TANK VOLUME:	1072.93	42	INCHES
DEAD WATER VOLUME:	255.45908	10	INCHES
DOSE VOLUME:	30	1.17	INCHES
REMAINING VOLUME:	787.47	30.83	INCHES

xylem
Let's Solve Water

TECHNICAL BROCHURE
B3885 R3



WE Series
Model 3885

SUBMERSIBLE EFFLUENT PUMPS

BUILT IN THE USA
ENGINEERED, ASSEMBLED & TESTED

GOULDS WATER TECHNOLOGY
a xylem brand

FEATURES

Impeller: Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.

Mechanical Seal: Silicon Carbide vs. Silicon Carbide sealing faces. Stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum
- Discharge size: 2" NPT
- Capacities: up to 140 GPM
- Total heads: up to 128 feet TDH
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on ⅓ – 1½ HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

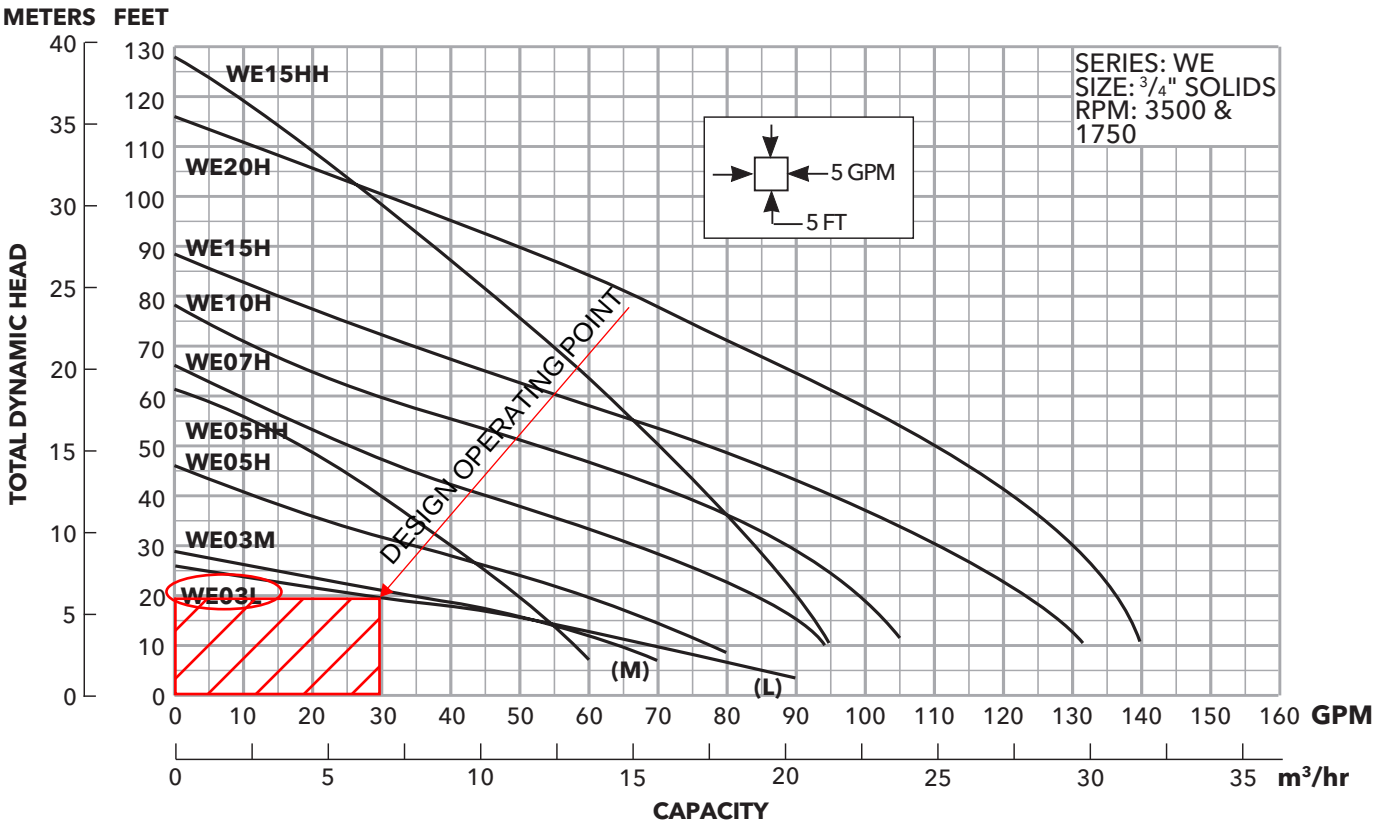
- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ – 1 HP models have NEMA three prong grounding plugs.
- 1½ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- Bearings: Upper and lower heavy duty ball bearing construction.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- O-ring: Assures positive sealing against contaminants and oil leakage.

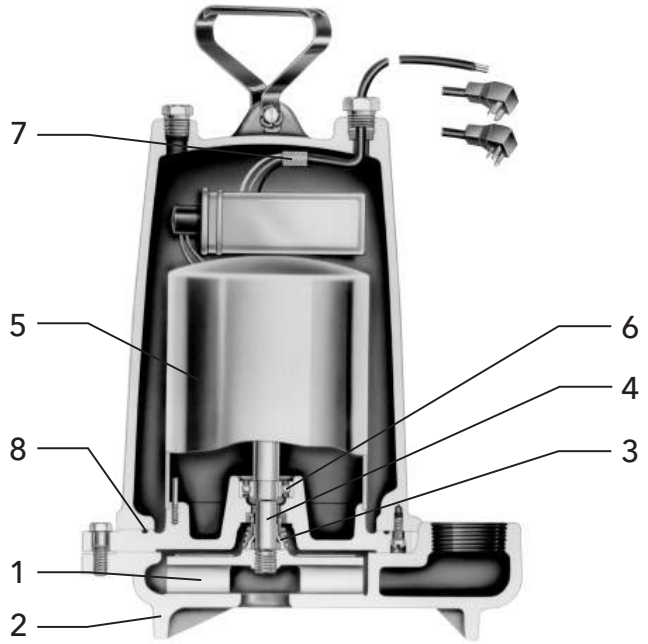
AGENCY LISTINGS

Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association File #LR38549



COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



MODELS

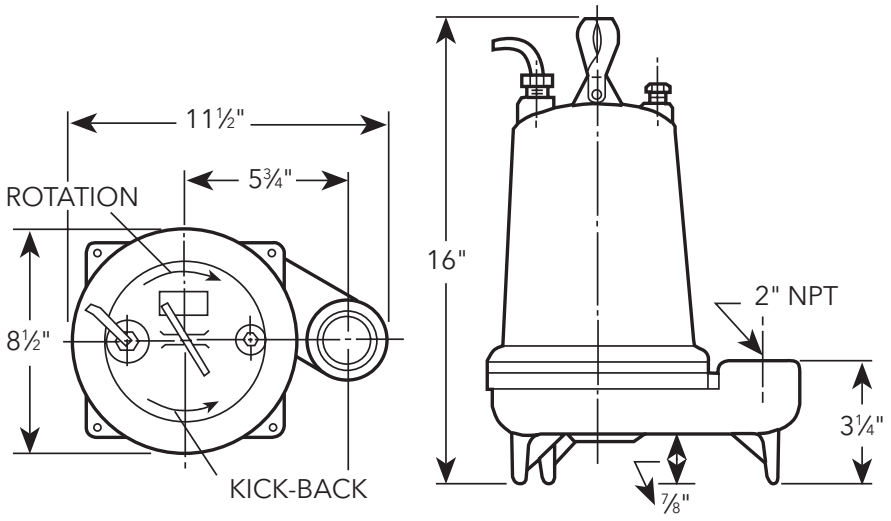
Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance		Power Cable Size	Weight (lbs.)
										Start	Line-Line		
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56
WE0318L			208			6.8	19.5	K	51	9.1	4.2		
WE0312L			230			4.9	14.1	L	53	14.5	8.0		
WE0311M			115			10.7	30.0	M	54	11.9	1.7		
WE0318M			208			6.8	19.5	K	51	9.1	4.2		
WE0312M			230			4.9	14.1	L	53	14.5	8.0		
WE0511H	0.5	1	115	3450	3.56	14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518H			208			8.1	31.0	K	68	9.7	2.4	16/3	
WE0512H			230			7.3	34.5	M	53	9.6	4.0		
WE0538H		3	200			4.9	22.6	R	68	NA	3.8	14/4	
WE0532H			230			3.3	18.8	R	70	NA	5.8		
WE0534H			460			1.7	9.4	R	70	NA	23.2		
WE0537H			575			1.4	7.5	R	62	NA	35.3		
WE0511HH		1	115		3.88	14.5	46.0	M	54	7.5	1.0	14/3	
WE0518HH			208			8.1	31.0	K	68	9.7	2.4	16/3	
WE0512HH			230			7.3	34.5	M	53	9.6	4.0		
WE0538HH		3	200			4.9	22.6	R	68	NA	3.8	14/4	
WE0532HH			230			3.6	18.8	R	70	NA	5.8		
WE0534HH			460			1.8	9.4	R	70	NA	23.2		
WE0537HH			575			1.5	7.5	R	62	NA	35.3		
WE0718H	0.75	1	208		4.06	11.0	31.0	K	68	9.7	2.4	14/3	70
WE0712H			230			10.0	27.5	J	65	12.2	2.7		
WE0738H		3	200			6.2	20.6	L	64	NA	5.7	14/4	
WE0732H			230			5.4	15.7	K	68	NA	8.6		
WE0734H			460			2.7	7.9	K	68	NA	34.2		
WE0737H			575			2.2	9.9	L	78	NA	26.5		
WE1018H	1	1	208		4.44	14.0	59.0	K	68	9.3	1.1	14/3	
WE1012H			230			12.5	36.2	J	69	10.3	2.1		
WE1038H		3	200			8.1	37.6	M	77	NA	2.7	14/4	
WE1032H			230			7.0	24.1	L	79	NA	4.1		
WE1034H			460			3.5	12.1	L	79	NA	16.2		
WE1037H			575			2.8	9.9	L	78	NA	26.5		
WE1518H	1.5	1	208		4.56	17.5	59.0	K	68	9.3	1.1	14/3	80
WE1512H			230			15.7	50.0	H	68	11.3	1.6		
WE1538H		3	200			10.6	40.6	K	79	NA	1.9	14/4	
WE1532H			230			9.2	31.7	K	78	NA	2.9		
WE1534H			460			4.6	15.9	K	78	NA	11.4		
WE1537H			575			3.7	13.1	K	75	NA	16.9		
WE1518HH		1	208		5.50	17.5	59.0	K	68	9.3	1.1	14/3	
WE1512HH			230			15.7	50.0	H	68	11.3	1.6		
WE1538HH		3	200			10.6	40.6	K	79	NA	1.9	14/4	
WE1532HH			230			9.2	31.7	K	78	NA	2.9		
WE1534HH			460			4.6	15.9	K	78	NA	11.4		
WE1537HH			575			3.7	13.1	K	75	NA	16.9		
WE2012H	2	1	230		5.38	18.0	49.6	F	78	3.2	1.2	14/3	83
WE2038H		3	200			12.0	42.4	K	78	NA	1.7	14/4	
WE2032H			230			11.6	42.4	K	78	NA	1.7		
WE2034H			460			5.8	21.2	K	78	NA	6.6		
WE2037H			575			4.7	16.3	L	78	NA	10.5		

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE-03L	WE-03M	WE-05H	WE-07H	WE-10H	WE-15H	WE05HH	WE15HH	WE-20H
Total Head Feet of Water	HP	⅓	⅓	½	¾	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
	5	86	–	–	–	–	–	–	–	–
	10	70	63	78	94	–	–	58	95	–
	15	52	52	70	90	103	128	53	93	138
	20	27	35	60	83	98	123	49	90	136
	25	5	15	48	76	94	117	45	87	133
	30	–	–	35	67	88	110	40	83	130
	35	–	–	22	57	82	103	35	80	126
	40	–	–	–	45	74	95	30	77	121
	45	–	–	–	35	64	86	25	74	116
	50	–	–	–	25	53	77	–	70	110
	55	–	–	–	–	40	67	–	66	103
	60	–	–	–	–	30	56	–	63	96
	65	–	–	–	–	20	45	–	58	89
	70	–	–	–	–	–	35	–	55	81
	75	–	–	–	–	–	25	–	51	74
	80	–	–	–	–	–	–	–	47	66
	90	–	–	–	–	–	–	–	37	49
	100	–	–	–	–	–	–	–	28	30

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



Timed Dosing Control

SJE-Rhombus® Type TD

Installation Instructions and Operation/Troubleshooting Manual

WARNING!

ELECTRICAL SHOCK HAZARD
Disconnect all power sources before servicing. Failure to do so could result in serious injury or death.

This control panel must be installed and serviced by a licensed electrician in accordance with the National Electric Code NFPA-70, state and local electrical codes.

All conduit running from the sump or tank to the control panel must be sealed with conduit sealant to prevent moisture or gases from entering the panel. **NEMA 4X enclosures are for indoor or outdoor use,** primarily to provide a degree of protection against corrosion, windblown dust and rain, splashing water and hose-directed water. **Cable connectors must be liquid-tight in NEMA 4X enclosures.**

Installation

Type TD control panels are designed to operate with two, three or four float systems. The two float system utilizes one float as the “low level cutout”, the second as “high level alarm”. A three float system adds either a “redundant off” float or a “timer override” float to the “low level cutout” and “high level alarm” functions. A four float system includes a “redundant off float”, a “low level cutout” float, a “timer override” float, and a “high level alarm” float.

NOTE: Options ordered may affect the number of floats and their functions. Please reference the schematic provided with the control panel.

Installation of Floats

CAUTION: If control switch cables are not wired and mounted in the correct order, the pump system will not function properly.

WARNING: Turn off all power before installing floats in pump chamber. Failure to do so could result in serious or fatal electrical shock.

1. Use float label kit to identify and label cables on both the float and stripped ends (low level cutout, alarm, etc.). See schematic for float options.
2. Determine your normal operating level and desired float configuration, as illustrated in **Figures 1-4**.
3. Mount float switches at appropriate levels as illustrated in **Figures 1-4**. Be sure that floats have free range of motion without touching each other or other equipment in the basin.
4. For mounting clamp installation: place the cord into the clamp as shown in **Figure 5**. Locate the clamp at the desired activation level and secure the clamp to the discharge pipe as shown in **Figure 5**.

   NOTE: Do not install cord under hose clamp.
5. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.

   NOTE: All hose clamp components are made of 18-8 stainless steel material. See your SJE-Rhombus® supplier for replacements.
6. If using an optional redundant off float, mount slightly below the low level cutout float, but above the pump as illustrated in **Figures 2 & 4**.
7. If using an optional timer override float, position it at a level in the basin as shown in **Figure 3 & 4**.

Warranty void if panel is modified.

Call factory with servicing questions:

1-800-RHOMBUS
(1-800-746-6287)

Manufactured by:

22650 County Highway 6 ■ P.O. Box 1708
Detroit Lakes, Minnesota 56502 USA
1-888-DIAL-SJE (1-888-342-5753)
Phone: 218-847-1317 ■ Fax: 218-847-4617
E-mail: customer.service@sjerhombus.com
Website: www.sjerhombus.com

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PN1010434E • Rev 11/14

Installation Instructions

Mounting the Control Panel

1. Determine mounting location for panel. If distance exceeds the length of either the float switch cables or the pump power cables, splicing will be required. For outdoor or wet installation, we recommend the use of an SJE-Rhombus® liquid-tight junction box with liquid-tight connectors to make required connections. **You must use conduit sealant to prevent moisture or gases from entering the panel.**

2. Mount control panel with mounting devices furnished.

3. Determine conduit entrance locations on control panel. Check local codes and schematic for the number of power circuits required.

NOTE: Be sure the proper power supply voltage, amperage, and phase meet the requirements of the pump motor being installed. If in doubt, see the pump identification plate for voltage/phase requirements.

4. Drill proper size holes for type of connectors being used.

NOTE: If using conduit, be sure that it is of adequate size to pull the pump and switch cables through.

5. Attach cable connectors and/or conduit connectors to control panel.

FOR INSTALLATION REQUIRING A SPLICE, FOLLOW STEPS 6-10; FOR INSTALLATION WITHOUT A SPLICE, GO TO STEP 11.

25 DOSES PER DAY =
1 DOSE EVERY 57 MINUTES

6. Determine location for mounting junction box according to local code requirements. **Do not** mount the junction box inside the sump or basin.

7. Mount junction box to proper support.

8. Run conduit to junction box. Drill proper size holes for the type of conduit used.

9. Identify and label each wire before pulling through conduit into control panel and junction box. Make wire splice connections at junction box.

10. Firmly tighten all fittings on junction box.

11. If a junction box is not required, pull cables through conduit into control panel.

12. Connect pump wires and float switch cables to the proper terminals as seen in **Figures 6 & 7**. If the redundant off float is not required, place a jumper wire across TB1-7 and TB1-8.

13. Connect pump/control and alarm incoming power conductors to proper position on terminals. See schematic and wiring diagram for terminal connections.

VERIFY CORRECT OPERATION OF CONTROL PANEL AFTER INSTALLATION IS COMPLETE.

*

RUN TIME TO BE SET AT
1 MIN. 00 SEC.
EACH; DOSE FOR 25
DOSES PER DAY

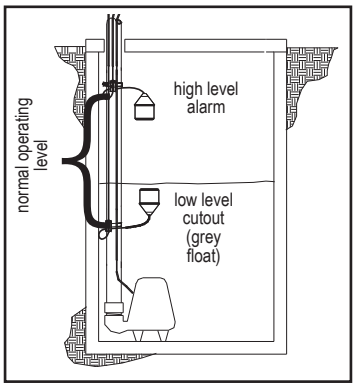


FIGURE 1 - Two float system

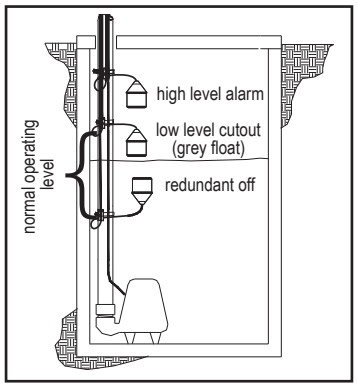


FIGURE 2 - Three float system with redundant off

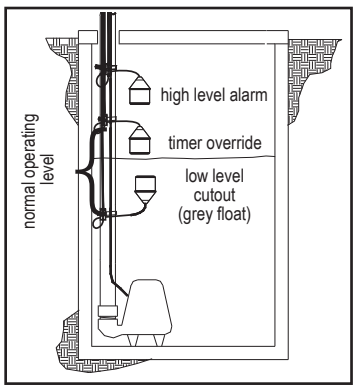


FIGURE 3 - Three float system with timer override

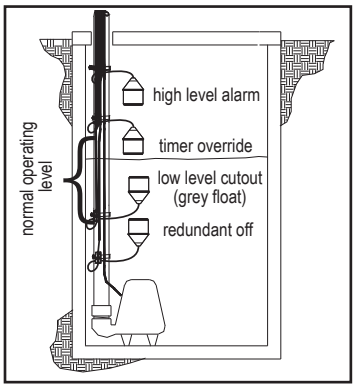


FIGURE 4 - Four float system

*THE CONTROL PANEL NEEDS TO HAVE AN ELAPSED TIME METER AND AN EVENT COUNTER

Installation Instructions

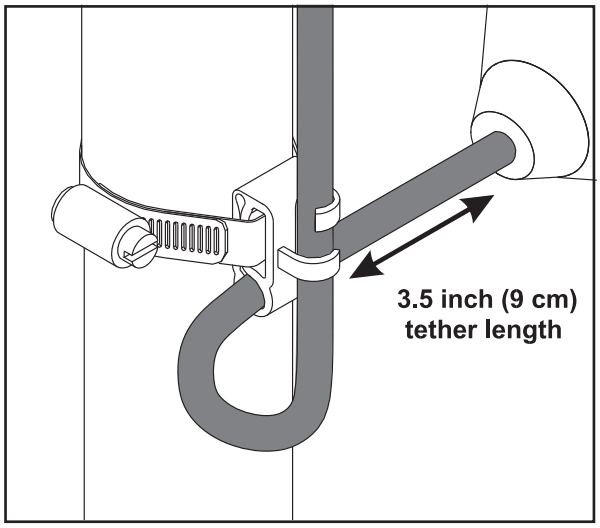


FIGURE 5 - Mounting clamp detail.

Option 4E
Redundant Off / Alarm Activation
Wiring Diagram

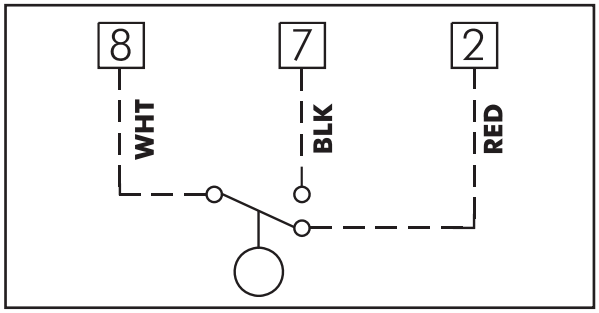


FIGURE 7 -
Redundant off pump
wiring diagram

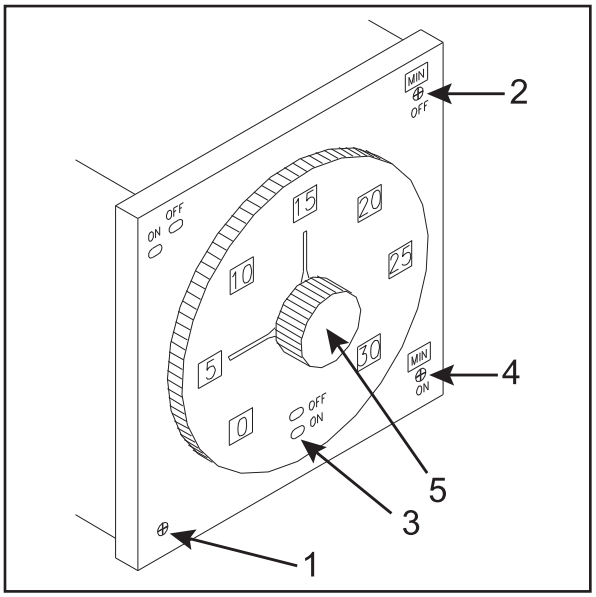


FIGURE 8 - Timer detail

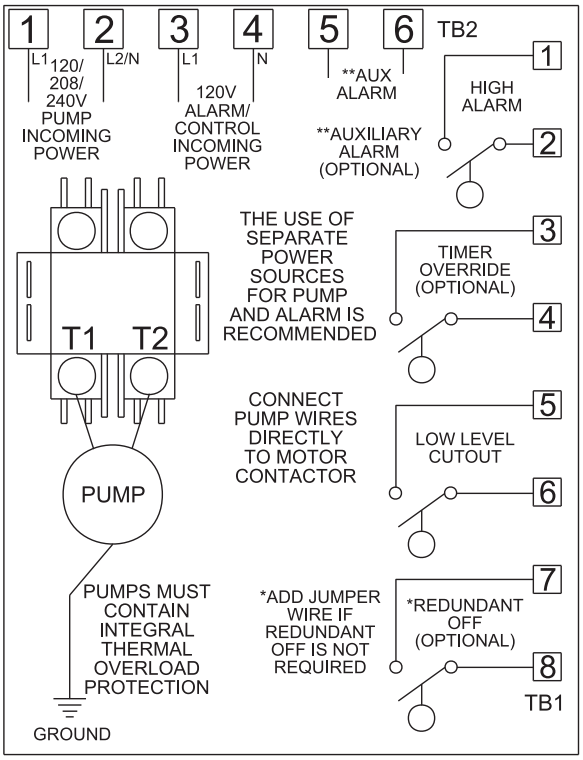


FIGURE 6 -
TD wiring diagram

Setting the timer

Remove the timer by clipping the tie strap and pulling it straight out of the socket.

1. Determine the pump “on & off” time and turn the adjustment screw **(1)** so that the most appropriate range of numbers (usable for both the on and off cycles) is visible in the windows on the dial face.

2. Adjust the off time range selector **(2)** to the appropriate period. (e.g.: minutes).

3. Adjust the outer dial **(3)** so the green pointer indicates the off time period required. (e.g.:15)

4. Adjust the on timer range selector **(4)** to the appropriate period (e.g.: minutes).

5. Adjust the inner dial **(5)** so the red pointer indicates the on time period required. (e.g.: 5)

6. When setting is complete, place the timer back in the socket.

7. In the example shown, the pump would be off for 15 minutes and then on for 5 minutes. This cycle would continue as long as there was enough liquid in the tank to float the low level cutoff switch.

NOTE: “OFF” time is cycled first.

Operations & Troubleshooting



TD series control panels are available for use with two, three or four float combinations. In a two float system, one float in the tank is the "low level cutout" float while the other is a "high level alarm" float. The normal operating level should be between the "low level cutout" position and the "high level alarm" position.
The TD panel can be installed with a choice of three float systems. One choice adds a "redundant off" float which is positioned slightly below the "low level cutout" grey float, but above the pump. The normal operating level shall be between the "low level cutout" position and the "high level alarm" position. The other choice adds a "timer override" float which is positioned between the "low level cutout" (grey float) and the "high level alarm" float. Normal operating level should be between the "low level cutout" float and the "timer override" float.
A four float system includes a "redundant off" float, a "low level cutout" float, a "timer override" float and a "high level alarm" float. The "timer override" float gives you the option of pumping from the basin while the timer is in the "off" cycle. It is only intended for times of abnormally high liquid level inrushes. The normal operating level should be between the "low level cutout" float and the "timer override" float.
The control panel begins timing the "off" sequence when the "low level cutout" float is activated. Once the timer completes the "off" sequence, the timer will start the pump and continue to run until the programmed "on" sequence is complete. At this point the "off" sequence begins timing again and the cycle repeats.

Float Controls

1. Check the floats during their entire range of operation. Clean, adjust, replace and repair damaged floats.

2. Measure the float resistance to determine if the float is operating properly.

To measure float resistance:

a. Isolate the float by disconnecting one or both of the float leads from the float terminals.

b. Place one ohmmeter lead on one of the float wires, and the other ohmmeter lead on the other float wire.

c. Set the ohmmeter dial to read ohms and place on the R X 1 scale. With the float in the "off" position, the scale should read infinity (high resistance), if not replace the float.

With the float in the "on" position, the scale should read close to zero, if not replace the float. **Readings may vary depending on the accuracy of the measuring device.**

Magnetic Contactor Coil

To measure the coil, disconnect one of the coil leads. Measure the coil resistance by setting the ohmmeter on the R X 1 scale. A defective coil will read zero indicating a short, or infinity (high resistance) indicating an opened coil. Replace defective contactor.

Fuses

To check the continuity of the fuse, pull the fuse out of the fuse holder. With the ohmmeter on the R X 1 scale, measure resistance. A reading of infinity (high resistance) indicates a blown fuse that must be replaced with a fuse of the same type, voltage, and amp rating.

Alarm Light

Activate the alarm float. The alarm light should turn on. If not, replace the light with that of the same type.

Alarm Horn

Activate the alarm float. The alarm horn should turn on. If not, replace the horn with that of the same type.

SJE-Rhombus® Five-Year Limited Warranty

SJE-RHOMBUS® warrants to the original consumer that this product shall be free of manufacturing defects for five years after the date of consumer purchase. During that time period and subject to the conditions set forth below, **SJE-RHOMBUS®** will repair or replace, for the original consumer, any component which proves to be defective due to defective materials or workmanship of **SJE-RHOMBUS®**.

ELECTRICAL WIRING AND SERVICING OF THIS PRODUCT MUST BE PERFORMED BY A LICENSED ELECTRICIAN.

THIS WARRANTY DOES NOT APPLY: (A) to damage due to lightning or conditions beyond the control of **SJE-RHOMBUS®**; **(B)** to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided; **(C)** to failures resulting from abuse, misuse, accident, or negligence; **(D)** to units which are not installed in accordance with applicable local codes, ordinances, or accepted trade practices, and **(E)** to units repaired and/or modified without prior authorization from **SJE-RHOMBUS®**.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

TO OBTAIN WARRANTY SERVICE: The consumer shall assume all responsibility and expense for removal, reinstallation, and freight. Any item to be repaired or replaced under this warranty must be returned to **SJE-RHOMBUS®**, or such place as designated by **SJE-RHOMBUS®**.

ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS ARE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. SJE-RHOMBUS® SHALL NOT, IN ANY MANNER, BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AS A RESULT OF A BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.

NOTICE!
Products returned must be cleaned, sanitized, or decontaminated as necessary prior to shipment to ensure that employees will not be exposed to health hazards in handling said material. All applicable laws and regulations shall apply.

A2D SERIES

SJE PumpMaster® Pump Switch



Features

- Mechanically activated, heavy duty contacts, wide angle operation.
- Passed NSF standard 61 protocol by an approved Water Quality Association laboratory.
- Controls pumps up to 1/2 HP at 120 VAC and 1 HP at 230 VAC.
- Non-corrosive PVC housing for use in liquids up to 140° F (60° C).
- Not sensitive to rotation or turbulence.
- Pumping range: 7" to 36".
- 16 AWG, SJOW cord is available with or without piggyback plug.
- Available as pump up, pump down and SPDT models, see Nomenclature Chart.
- For potable water, water or sewage applications.
- UL Recognized for use in water and sewage.
- CSA Certified.
- See chart for amperage range and other data.

A2E SERIES

SJE PumpMaster Plus® Pump Switch

Features

- Controls pumps up to ¾ HP at 120 VAC and 2 HP at 230 VAC.
- 14 AWG, SJOW cord is available with or without piggyback plug.
- ***All other features are the same as A2D PumpMaster Series above.***

A2HT SERIES

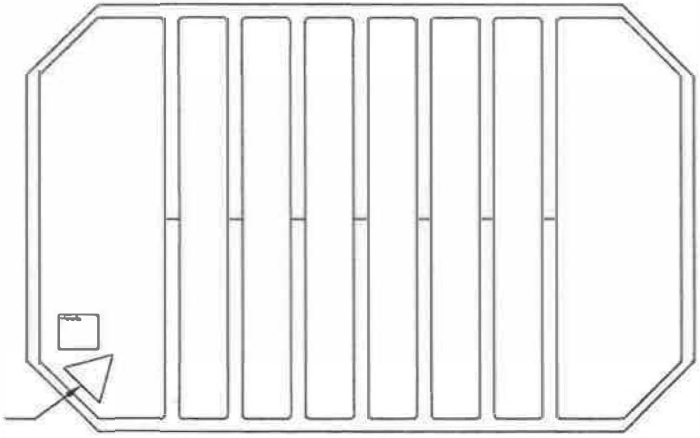
High Temperature Float Switch

Features

- Temperature Rating: 221° F (105° C)
- Wide Angle Switch: contacts open @ 45° below horizontal and close at 45° above horizontal
- Float Material: PC/ABS (Polycarbonate ABS)
- Cord Material: Teflon coating
- Ratings: 13 Maximum Amps, ½ HP, 115/230 V
- Float Dimensions: 4.63" Long x 2.63" Diameter
- Nomenclature: see page 9
- Available lengths: 20', 30' and 50' *

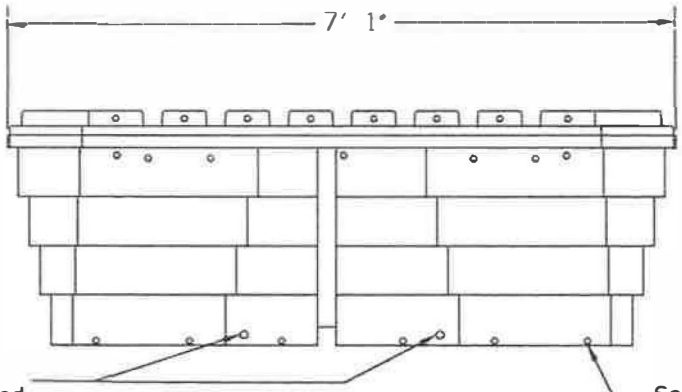
NOTE: A2HTL High Temperature Rating: 185° F

** No other lengths available in this Series.*



Triangle
(Blue, Green
or White)

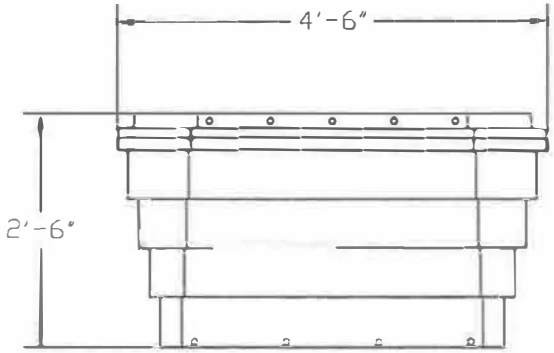
PLAN VIEW



4 - 1"
Threaded
Inserts

Sealed Modules
are without
Weep-holes

ELEVATION VIEW



END VIEW

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PURAFLO PEAT FIBER BIOFILTER

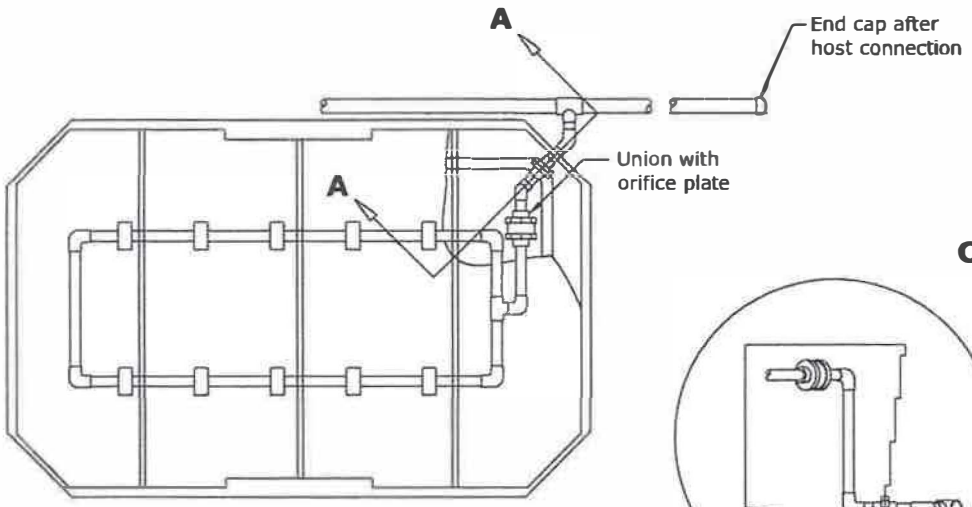
CLIENT

ASSEMBLED MODULE DETAIL

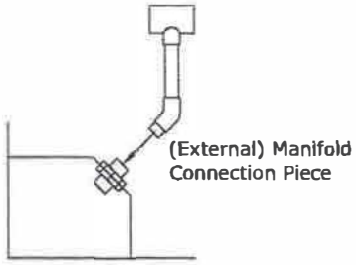
6/1/12	3/5	AJH	PJ	PJ

PLANNING ☑ FOR APPROVAL ☐ FOR CONSTRUCTION ☐ TENDER ☐

PURAFLO-01

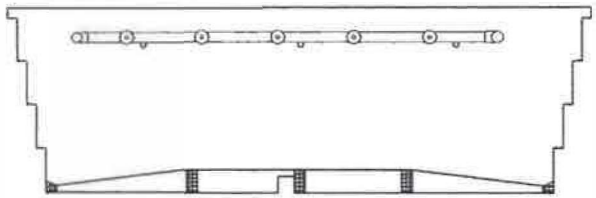


PLAN VIEW

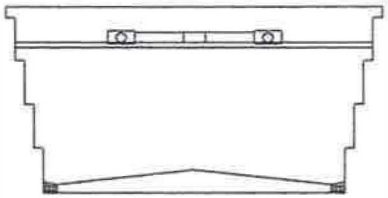


CONNECTION DETAIL

SECTION VIEW A



ELEVATION VIEW



END VIEW

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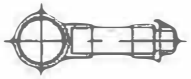
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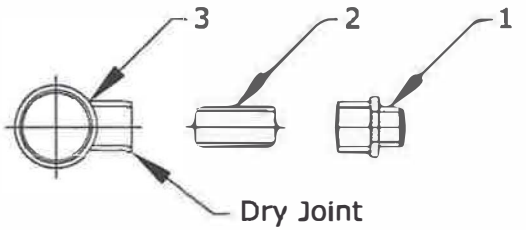
Drawing Title: MODULE GRID DETAIL

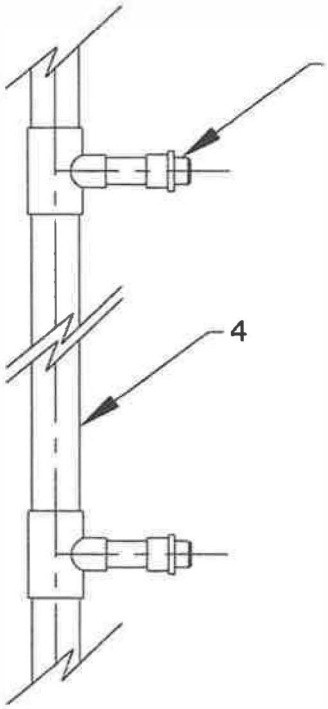
Date	Scale (A1)	Drawn by	Checked by	Approved by
6/1/12	N/S	AJW	PJ	PJ

Status: PLANNING ☒ TENDER ☐ FOR APPROVAL ☐ AS-BUILT ☐

Drg. No: PURAFLO-02







ITEM	DESCRIPTION
1	1" MPT x minimum 1.5" S Male Adapter
2	Minimum 1.5" Connection Piece
3	Minimum 3" x 3" x 1.5" SSS Tee
4	Minimum 3" Connection Piece

PARTIAL ASSEMBLY

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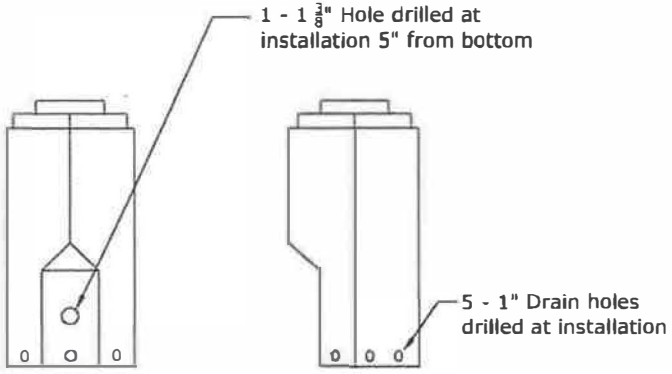
Client: CLIENT

Drawing Title: DRAIN PIPE DETAIL

Date	Drawn by	Checked by	Approved by
6/1/12	AJW	PJ	PJ

Status: FOR APPROVAL ☐ FOR CONSTRUCTION ☐ AS BUILT ☐

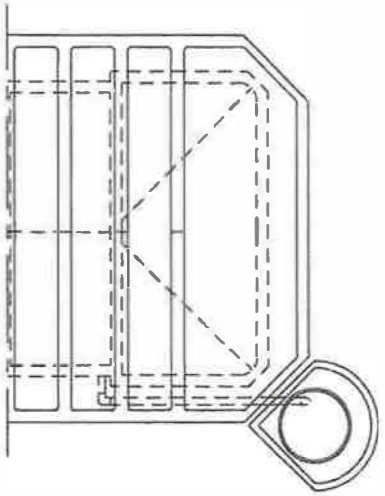
Drawing No: PURAFLO-03

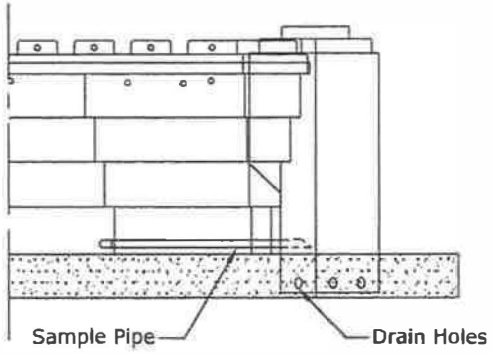


ELEVATION VIEW **END VIEW**



PLAN VIEW





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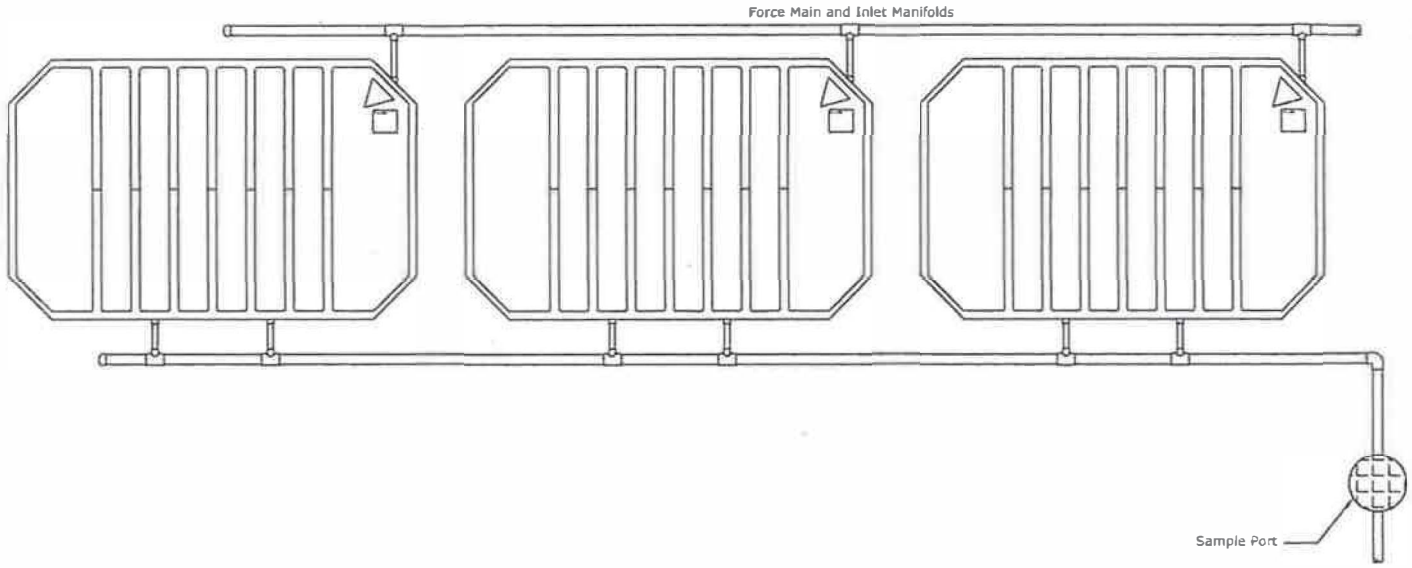
PURAFLO PEAT FIBER BIOFILTER

CLIENT

SAMPLE CHAMBER DETAIL

Date	Scale	Drawn by	Checked by	Approved by
6/1/12	NTS	AJW	PJ	PJ

PURAFLO-04



A	FIRST RELEASE	6/1/12

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Project: PURAFLO PEAT FIBER BIOFILTER

Client: CLIENT

Drawing Title: TYPE B - PIPED OUTLET INSTALLATION

Date	Drawn As	Approved By
6/1/12	ALAN	PJ

Status: PLANNING ☒ TENDER ☐ FOR APPROVAL ☐ FOR CONSTRUCTION ☐ AS BUILT ☐

Drawing No: PURAFLO-05B

GENERAL AND CONSTRUCTION
NOTES TO INSTALLER

- All required inspections (Initial Inspection and Cap Inspection) will be billed on a Time and Material basis to the Contractor. Any additional site visits required for designer approval will be billed as an extra to the contractor. Contact Duffield Associates for inspection pricing.
- The Contractor shall field verify all existing conditions and features prior to construction. All Piping and Fittings shall be Pressure Rated Schedule 40 PVC. No substitutes will be permitted unless noted on the approved plans or approved by the designer prior to construction.
- The Contractor shall field verify all isolation distances prior to initiating construction of system. If discrepancies are found in the field, the Contractor shall immediately contact the designer at 302-424-1441.
- Any changes in the specified/approved equipment, i.e. pumps, alarms, timers, etc., shall be approved by the designer prior to construction.
- No System shall be installed during inclement conditions, i.e. rain, snow, saturated conditions, frozen conditions, or any other condition that would create compaction, smearing or destruction of the soil structure in the disposal area.
- The designer is not responsible for the placement of the dwelling or the actual location of the property lines shown on the approved site plan as no perimeter survey was performed by the designer.
- All Low Pressure Pipe (LPP) disposal systems must be installed with a trencher. **NO SYSTEM WILL BE INSPECTED OR APPROVED BY THE DESIGNER IF INSTALLED WITH A BACKHOE.**
- Gravity disposal systems may require a DNREC approved lift station package to overcome elevation differences from the septic tank to the drainfield.
- All site features including slope direction, slope percentage, etc. shown on the approved plans are approximate. Contractor shall field verify existing conditions prior to construction.
- Any changes made to the location of the approved system must have a preconstruction as-built done and approved by DNREC. NO change shall be made unless approved by the designer and DNREC. Any change made to the approved permit without the prior approval of the designer or DNREC shall be the responsibility of the contractor.
- All systems requiring a pump shall be pressure tested by the designer and the contractor during the inspection. Any equipment necessary for providing this service, i.e. generator, hoses, water, pressure gauges shall be provided by the Contractor.
- The contractor or his/her representative shall be present during the inspection. The contractor shall notify the designer a minimum of 24 hours in advance to schedule the final inspection.
- The system shall be installed based on the approved permit and the regulations and memorandums set forth by the Department of Natural Resources and Environmental Control, Division of Water Resources.

NOTES TO PROPERTY OWNER

- Unless otherwise stated in the Department of Natural Resources and Environmental Control (DNREC), Division of Water Resources regulations, all septic tanks shall be pumped every two (2) to three (3) years. At the time of pumping, the tank shall be inspected for any deficiencies such as: concrete deterioration, cracks, holes, leaking, etc. The baffles should be inspected for cracks, concrete deterioration, etc.
- If a filtering device has been installed, at the time of cleanout and/or per the manufacturer's specifications, the device should be rinsed thoroughly into the septic tank with a garden hose and reinstalled. This should be done so that accumulated debris can be pumped out while the waste hauler is there.
- Maintain your septic tank in good operating condition.
- Keep automobiles and all heavy vehicles and equipment off the field and tanks.
- Do not allow water ponding to collect over the field.
- Do not allow downspouts to drain onto or into your drain field or tanks.
- Do not stockpile snow or soil on the drain field and tanks.
- Dense grass cover and other shallow rooted plants are beneficial over a drain field. Think ahead when planting trees and shrubs. Although they promote moisture removal from the drain field, their roots may clog the drain tiles.
- Check with DNREC for vegetation that will be helpful to your system.
- Mark the boundaries of your system as a reminder.
- Do not use chemicals to clean or sweeten your system except on the advice of DNREC.
- Do not use a kitchen garbage disposal.
- Do not place harmful materials in the tanks. Avoid fats, solvents, oils, disinfectants, paints, chemicals, poisons, coffee grounds, paper towels, disposable diapers, sanitary napkins, tampons and condoms.
- Inspect for scum and sludge depth once each year.
- Limit water entering your tanks.
- Use water-saving fixtures, i.e. faucets, showers, toilets, etc. as required by the local building code.
- Do not connect basement sump pump to the tanks.
- Always drain appliances one at a time.
- Spread clothes washing over the entire week and avoid half-loads.
- Always fix faucet and toilet float valve leaks promptly.

FAILURE TO FOLLOW THESE REQUIREMENTS AND THE REQUIREMENTS SET FORTH BY DNREC, DIVISION OF WATER RESOURCES, WILL RESULT IN A REDUCED LIFE SPAN OF THE SEPTIC SYSTEM, AND INCREASE THE LIKELIHOOD OF FAILURE.

1. All trees, shrubs and underbrush should be cut by chain saw, bush hog or mower and dragged away without allowing the heavy equipment to enter onto the proposed disposal area.
2. Stumps should be removed by excavator or backhoe from the perimeter of the proposed disposal area without treading onto the area[1]. Small stump grinders can enter the proposed disposal area and are acceptable to be used to remove stumps.
3. The stump holes should be backfilled with native soils and returned to original condition, as practical. Small tractors, bulldozers and skidsteer equipment are acceptable for this purpose.
4. If the system is not to be immediately installed then the proposed disposal area should be seeded to prevent erosion. The area should also be roped or barricaded to prevent any vehicular traffic from entering.
5. During wetter times of the year (December – May), on poorly drained soils and lower landscape positions discretion should be exercised to minimize the threat of compaction and smearing.

* The purpose of these guidelines is to minimize the threat of compaction & to avoid excessive disturbance to the soils within the proposed disposal area.

[1] Stump removal is not required as some systems may be installed with the stumps in place.