Paid & Received
Division of Water
$ 460.00 05/19/2026

Public Notice

DELAWARE
DIVISION OF WATER RESOURCES
Working for YOU to Provide "Clean Water for Today and Tomorrow"

APPLICATION - PERMIT
ON-SITE WASTEWATER SYSTEM

Permit Number: 282863

(Please Type or Print Legibly)
OWNER'S NAME: Jase, LLC C/O Edward Jaoude PHONE: 302-684-2020

ADDRESS: 31059 Sycamore Drive, Lewes, DE 19958

PROJECT LOCATION: 28705 Lewes Georgetown Highway, Milton, DE 19968

TAX/MAP #: 334-10.00-199.00

APPLICATION PREPARER: Carlton R. Savage Jr., PE DNREC LICENSE #: 5904

PREPARER'S ADDRESS: 20246 Coastal Highway, Rehoboth Beach, DE 19971

PHONE: 302-227-7808

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

CARLTON R. SAVAGE JR. LICENSED DELAWARE PROFESSIONAL ENGINEER No. 16457 05/19/26

Preparer's Signature: _____ Date: _____

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

# of staff/patients: 56

Pre-Treatment Units

- ☒ Septic Tank
- ☐ Other _____

Avg. Percolation Rate: 20 mpi
Gallons Per Day Flow: 900 gpd
Minimum Sq. Ft. Rcq'd: 1690 sf
Sq. Ft. Proposed: 1800 sf

Central Water Available ☐ Yes ☒ No
(If yes, please state Utility Name: N/A)

Commercial

Revised 09/02/09

PARID: 334-10.00-199.00

JASE LLC 28705 LEWES GEORGETOWN HWY

Property Information

Property Location:	28705 LEWES GEORGETOWN HWY
Unit:	
City:	MILTON
State:	DE
Zip:	19968
Class:	R-Residential
Use Code (LUC):	100-Residential - Vacant Land
Town	00-None
Tax District:	334 – LEWES REHOBOTH
School District:	6 - CAPE HENLOPEN
Fire District:	82-Lewes
Calc'd Acres:	1.2400
Frontage:	0
Depth:	.000
Irr Lot:	
Plot Book Page:	195 29/PB
100% Land Value:	$105,600
100% Improvement Value	$0
100% Total Value	$105,600

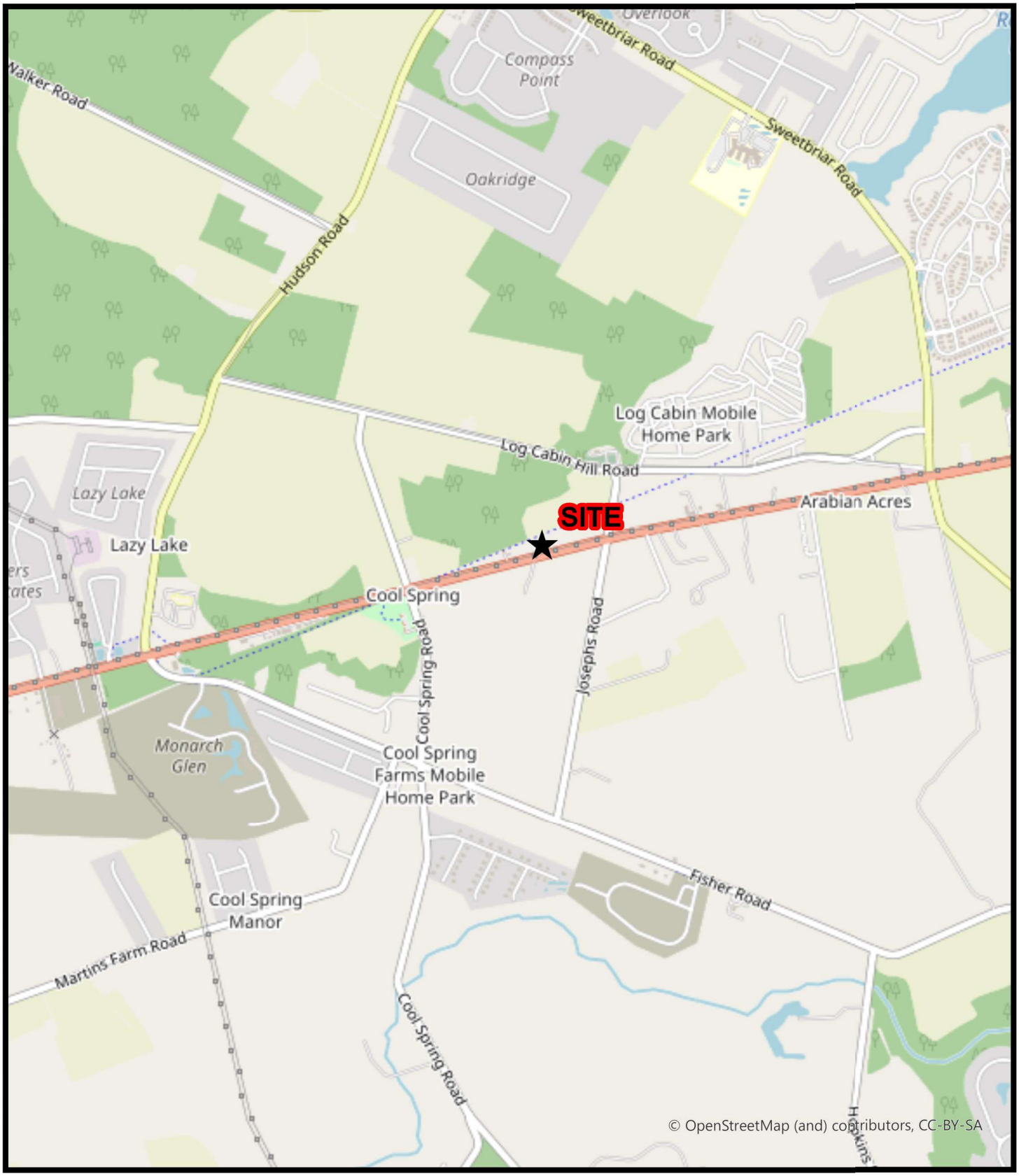
Legal

Legal Description	NW/RT 18

Owners

Owner	Co-owner	Address	City	State	Zip
JASE LLC		31059 SYCAMORE DR	LEWES	DE	19958

SITE LOCATION

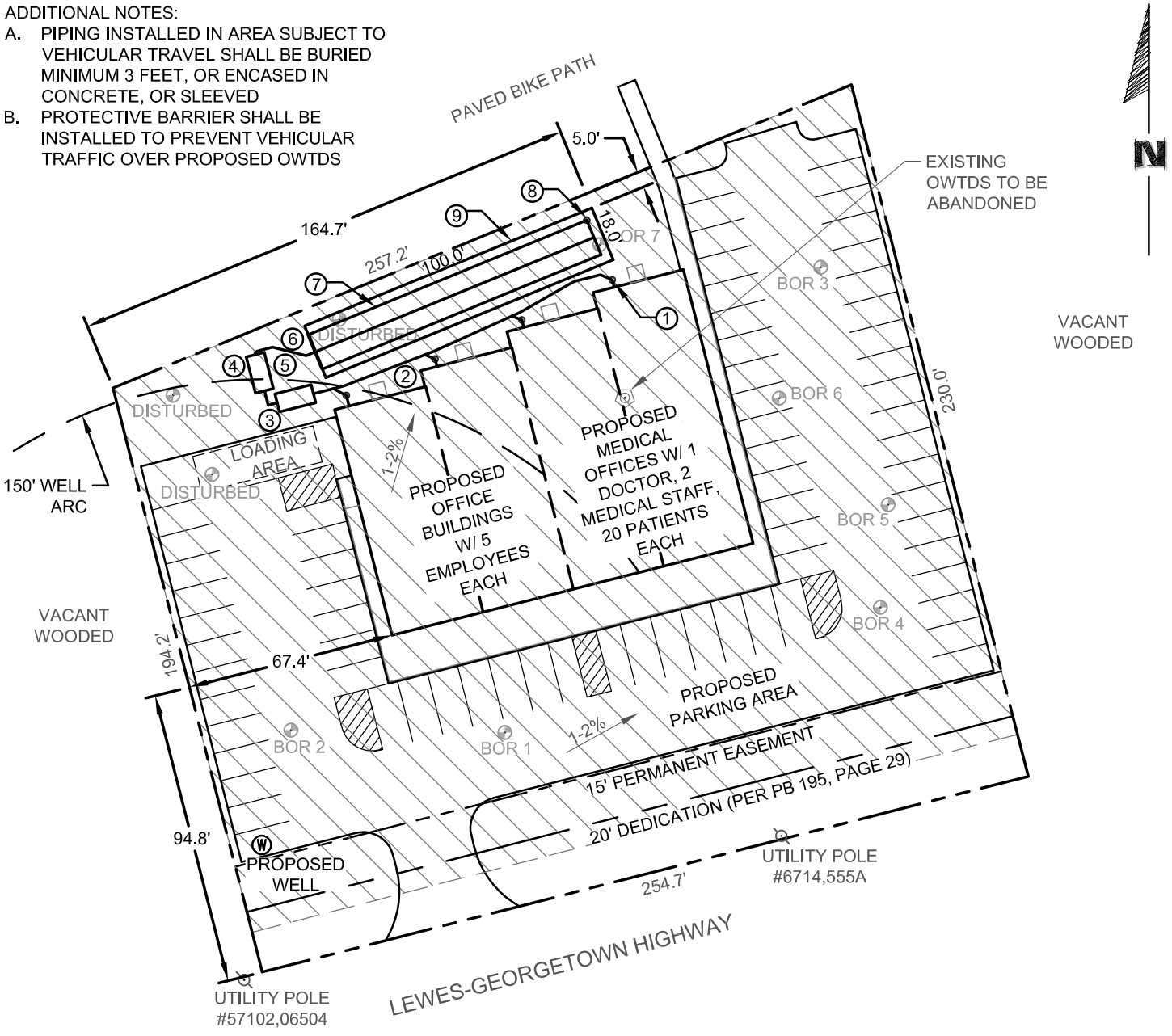


0 0.33 0.65 1.3 Miles

SCALED. ENGINEERING

ADDITIONAL NOTES:

A. PIPING INSTALLED IN AREA SUBJECT TO VEHICULAR TRAVEL SHALL BE BURIED MINIMUM 3 FEET, OR ENCASED IN CONCRETE, OR SLEEVED
B. PROTECTIVE BARRIER SHALL BE INSTALLED TO PREVENT VEHICULAR TRAFFIC OVER PROPOSED OWTDS



OWNER/AUTHORIZED AGENT SIGNATURE: Edward Jaoude

NOTES:

1. TYP. SANITARY CLEANOUT
2. 4" Ø SOLID SCH 40 PVC
3. 2200 GAL SEPTIC TANK
4. 2200 GAL DOSING CHAMBER W/ GOULDS WE0511H PUMP
5. 2" Ø SOLID SCH 40 PVC TRANSMISSION LINE (21 LF)
6. 2" Ø SOLID SCH 40 PVC MANIFOLD (12 LF)
7. 1" Ø SCH 40 PVC LATERAL (97 LF) (19 - 3/16" HOLES, SPACED 5' O.C.)
8. TYP CLEANOUT / TURN-UP (2.5' HEAD)
9. 18'x100' DISPOSAL BED
10. HATCHING INDICATES DNREC APPROVED OWTDS AREA
11. SPARE TO BE SAND-LINED UPGRADE IN INITIAL AREA
12. EXISTING OWTDS SHALL BE ABANDONED IN ACCORDANCE WITH DNREC REGULATIONS
13. **SEE GENERAL NOTES TO CONTRACTOR** (COPY ATTACHED)

CARLTON R. SAVAGE JR. LICENSED No. 16457 05/19/26 DELAWARE PROFESSIONAL ENGINEER

0' 25' 50'

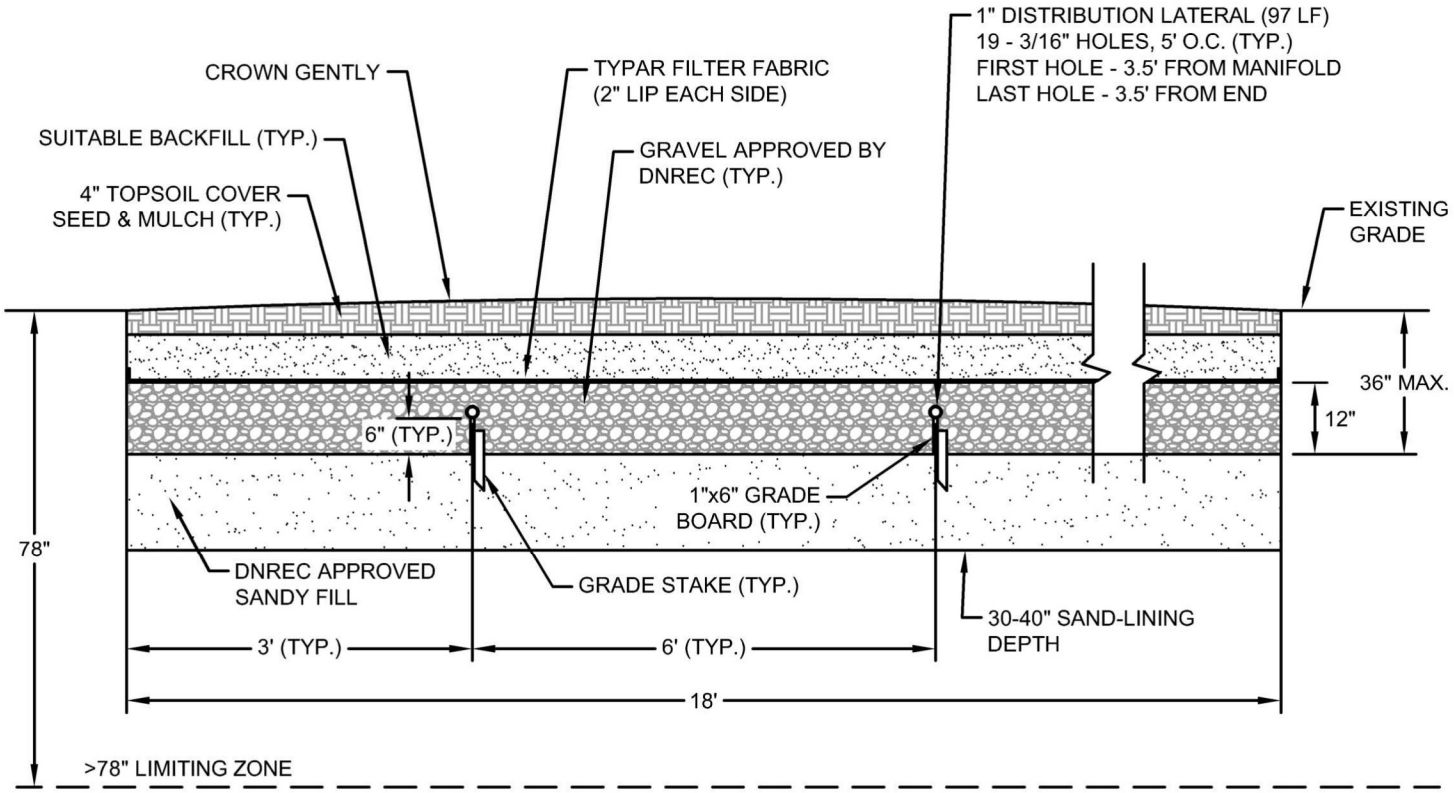
CONSTRUCTION PLAN

JASE, LLC
28705 LEWES GEORGETOWN HIGHWAY
MILTON, DE, 19968

TM: # 334-10.00-199.00

DATE: 05/12/2026
DRAWN: BMR
APPROVED: CRS
SCALE: 1" = 50'
PROJECT: JAUD001
SHEET: 1 OF 3

SCALED. ENGINEERING
Scaled Engineering Inc.
20246 Coastal Highway
Rehoboth Beach, DE 19971
Phone: (302) 227-7808



DISPOSAL BED CROSS SECTION

18'x100' BED

NOTES:

1. SAND-LINING SHALL EXTEND 30 TO 40 INCHES BELOW EXISTING GRADE, OR TO BENEATH MODERATE TO SLOWLY PERMEABLE SUBSOIL.
2. DEEPER SAND-LINING MAY BE REQUIRED TO 64 INCHES BELOW EXISTING GRADE, PER SITE EVALUATOR RECOMMENDATION.
3. CLASS D SOIL SCIENTIST SHALL BE ON-SITE TO CONFIRM EXTENT OF SAND-LINING.
4. IF THE EXISTING OWTDS IS ENCOUNTERED DURING REPLACEMENT OWTDS INSTALLATION, SAND-LINING SHALL EXTEND MINIMUM 12 INCHES BELOW THE EXISTING OWTDS COMPONENT, OR TO PRESCRIBED SAND-LINING DEPTH, WHICHEVER IS DEEPEST.
5. **SEE GENERAL NOTES TO CONTRACTOR** (COPY ATTACHED)

CARLTON R. SAVAGE JR.
LICENSED
No. 16457
05/19/26
DELAWARE
PROFESSIONAL ENGINEER

CROSS SECTION

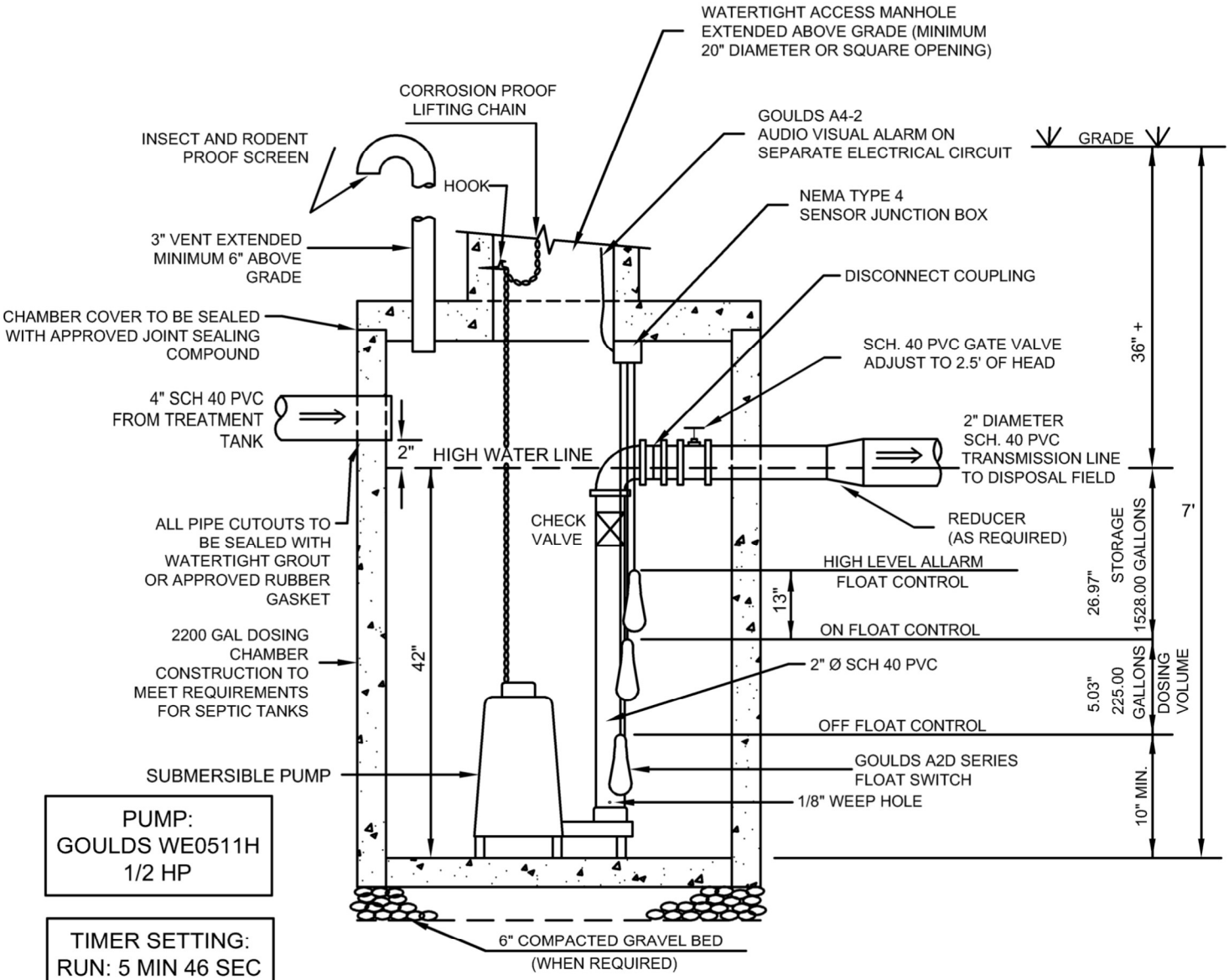
JASE, LLC
28705 LEWES GEORGETOWN HIGHWAY
MILTON, DE, 19968

TM: # 334-10.00-199.00

DATE: 05/12/2026
DRAWN: BMR
APPROVED: CRS

SCALE: N.T.S.
PROJECT: JAUD001
SHEET: 2 OF 3

SCALED. ENGINEERING
Scaled Engineering Inc.
20246 Coastal Highway
Rehoboth Beach, DE 19971
Phone: (302) 227-7808



PUMP:
GOULDS WE0511H
1/2 HP

TIMER SETTING:
RUN: 5 MIN 46 SEC
OFF: 6 HOURS

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

HEAD LOSSES		
STATIC	=	4.00'
ORIFICE	=	2.5'
FRICTION	=	14.08'
TOTAL HEAD LOSS	=	20.58' @39 GPM

CARLTON R. SAVAGE JR. LICENSED No. 16457 05/19/26 DELAWARE PROFESSIONAL ENGINEER

DOSING CHAMBER

JASE, LLC
28705 LEWES GEORGETOWN HIGHWAY
MILTON, DE, 19968

TM: # 334-10.00-199.00

DATE: 05/12/2026
DRAWN: BMR
APPROVED: CRS

SCALE: N.T.S.
PROJECT: JAUD001
SHEET: 3 OF 3

NOTES:
1. **SEE GENERAL NOTES TO CONTRACTOR** (COPY ATTACHED)

SCALED. ENGINEERING
Scaled Engineering Inc.
20246 Coastal Highway
Rehoboth Beach, DE 19971
Phone: (302) 227-7808

GENERAL NOTES TO CONTRACTOR:

1. Contractor shall field-verify existing conditions and all site features (isolation distances, slope direction/percentage, measurements, etc.) prior to installation. If discrepancies are found in the field, Contractor shall immediately contact the designer at 302-227-7808.
2. The system shall be installed per the approved Permit and all applicable regulations set forth by the Department of Natural Resources and Environmental Control (DNREC)
3. Any changes to the Permit shall be approved by the designer prior to installation. Any changes to the approved Permit without prior approval of the designer or DNREC shall be the responsibility of the contractor.
4. System installation shall occur during proper soil moisture conditions.
5. Final grading shall prevent surface water ponding over OWTDS drainfield area.
6. Contractor shall provide adequate drainage between OWTDS drainfield and existing/proposed structures.
7. All tanks shall have watertight risers and shall extend above grade per DNREC Regulations.
8. Septic tanks shall be equipped with a DNREC approved effluent filter (where applicable).
9. Contractor shall remove all trees within 10 feet of OWTDS drainfield per DNREC Guidelines.
10. No construction traffic is to occur within the proposed OWTDS area. Scaled Engineering Inc recommends installing a barrier around proposed disposal area prior to lot development.
11. No boundary or placement survey was performed nor provided. Scaled Engineering Inc is not responsible for dwelling placement or actual location of boundary lines.
12. Low Pressure Pipe disposal systems shall be installed with a trencher per DNREC Regulations.
13. Gravity disposal systems may require a DNREC approved lift station package to overcome elevation differences from the septic tank to the drainfield.
14. Distribution boxes associated with gravity disposal systems shall maintain minimum 5-foot separation from trench/bed drainfields.
15. All piping and fittings shall be pressure rated schedule 40 PVC.
16. Changes to the OWTDS location shall require a Pre-Construction As-Built approved by DNREC prior to installation. Pre-Construction As-Builts will be billed as an extra expense to the contractor or other responsible party.
17. All systems shall be inspected in accordance with DNREC Regulations. Equipment necessary for inspections (generator, hoses, water, pressure gauges, etc.) shall be provided by the contractor. Contractor or his/her representative shall be present during the inspection. Contractor shall notify designer minimum 72 hours in advance to schedule all inspections. Inspections requested less than 72 hours in advance may require additional fees, billed to the contractor. Additional fees shall be paid by the contractor prior to completion of the inspection report.
18. Any additional site visits required for designer approval will be billed as an extra to the contractor and shall be paid prior to completion of the inspection report.
19. Contractor shall review the DNREC approved Site Evaluation prior to installation.
20. Construction plans and details are for the purpose of septic design and permitting only. Actual construction methods including site safety, operations, and ensuring site suitability shall be the responsibility of the contractor. Specific designs may require additional effort to ensure safe practices and/or no damage occurs to property or structures.
21. Any proposed well shown in the septic design is for reference only, and does not confirm, nor imply conformance to the regulations regarding on-site well installation. A licensed well driller is responsible for verifying the well is installed in accordance with all applicable regulatory setbacks.

Project #: JAUD001

Calc'd by: BMR

Date: 04-24-2026

System Type: Full Depth Pressure Dosed Bed

No. Staff/Patients: 56

Percolation Rate (mpi): 20

CALCULATIONS

Design Flow:	900	gpd			
A = 0.42Q(t^0.5)	t =		20	Q=	900
Required Area:	1690	sf			
Drainfield Width:	18	ft			
Drainfield Length:	100	ft			
Lateral Spacing:	6	ft			
Proposed Area:	1800	sf			
Transmission Length	26	(Includes 5ft in Tank)			
Orifice Head:	2.5	ft			

Laterals:

No. of Laterals:	3	
Length of Laterals:	97	ft
Hole diameter:	0.19	in (3/16")
Length O.C./hole:	5	ft
No. of holes/lateral:	19.40	
No. holes/lat. used:	19	
Flow/hole:	0.67	gpm/hole
Lateral flow:	12.82	gpm/lateral
Total flow in field:	38.46	gpm
Total flow used:	39	gpm
Depth to Limiting Zone:	78	in
Lat. height above grnd:	-36	in
Static Head:	4.00	ft
Berm Width:	-3.00	ft

CARLTON R. SAVAGE JR.
LICENSED
No. 16457
05/19/26
DELAWARE
PROFESSIONAL ENGINEER

System Calculations

Pages 1 - 3

Check Head:

Pump:	Goulds 3885 1/2 HP-WE051H	
Allowable TDH:	29	ft
Total Flow Used:	39	gpm
Allowable friction head:	22.50	ft

Friction Head:

Lateral Diameter:	1	in
Lateral Flow:	12.82	gpm/lateral
Head loss/100 ft.:	11.24918173	ft/100 ft
Length of Lateral:	97	ft
Multiplier for fittings:	1.2	
Lateral head loss:	13.09	ft

Manifold Diameter:	2	in
Head loss/100 ft.:	0.826	ft/100 ft
Length of manifold:	6	ft
Multiplier for fittings:	1.2	
Manifold head loss:	0.06	ft

Trans. line diameter:	2	in
Head loss/100 ft.:	2.972	ft/100 ft
Length of trans. line:	26	ft
Multiplier for fittings:	1.2	
Trans. line head loss:	0.93	ft

Total friction head:	14.08	ft
% allow. frict. head:	62.58	

TDH: 20.58 ft

Check Dosing Volume:

Lateral diameter:	1	in
Volume/ft. of lateral:	0.041	gal/ft
Multiplier for fittings:	1.1	
Linear feet of lateral:	303	ft
Total Linear Feet	333	
Lateral volume:	13.665	gal

Manifold diameter:	2	in
Volume/ft. of lateral:	0.162	gal/ft
Multiplier for fittings:	1.1	
Linear feet of manifold:	6	ft
Total Linear Feet	6.6	
Manifold volume:	1.0692	gal

Trans. line diameter:	2	in
Volume/ft. of trans. line:	0.162	gal/ft
Multiplier for fittings:	1.1	
Linear feet of trans. line:	26	ft
Total Linear Feet	29	
Trans. line volume:	4.63	gal

Min. dosing volume:	68	gal
Doses per day:	4	
Dosing Volume:	225	gal
Size of dosing chamber:	2200	gal
Volume/in. of chamber:	44.7	gal/in
Set float at:	5.03	in

Storage Volume:

Tank Size:	2200	gal	3.5'x6'	Inside Dim.
Tank Volume:	2200.00	gal	42	in
Dead Water Volume:	447	gal	10	in
Dosing Volume:	225	gal	5.03	in
Remaining Volume:	1528.00	gal	26.97	in

B3885

ITT

Wastewater

Goulds Pumps

WE Series Model 3885

Submersible Effluent Pump

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

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.

GOULDS PUMPS

Goulds Pumps is a brand of ITT Corporation.

www.goulds.com

Engineered for life

ITT

GOULDS PUMPS
Wastewater

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.

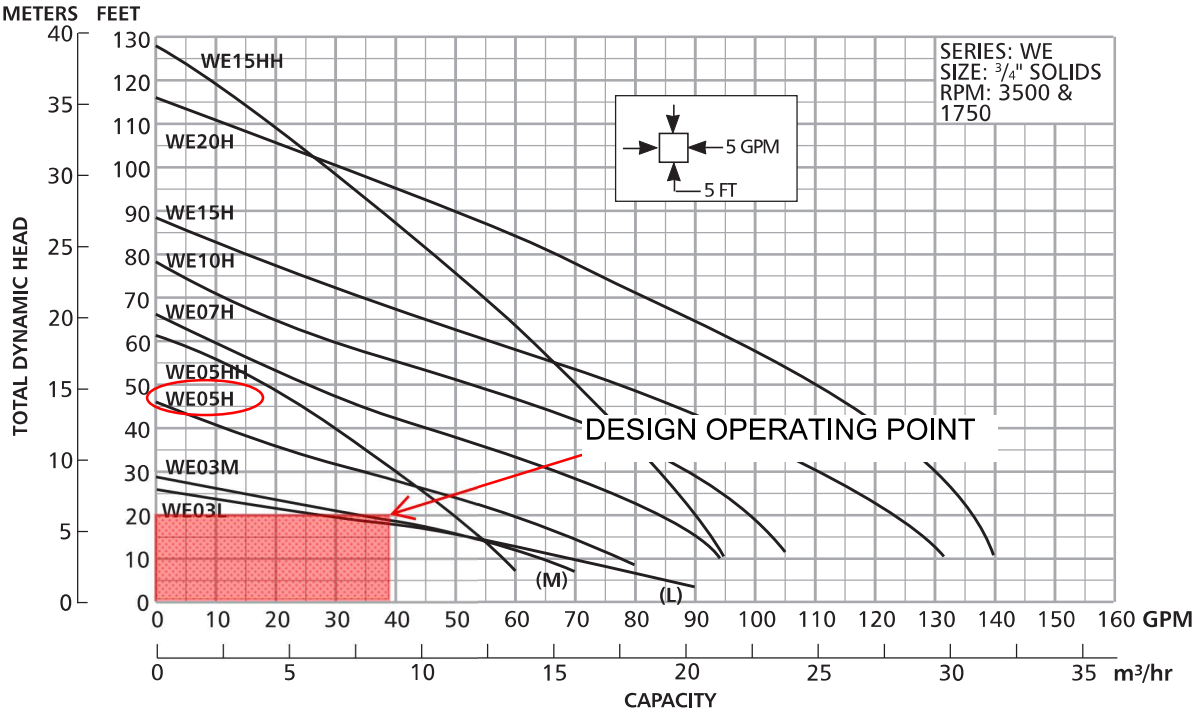
Three phase (60 Hz):

- 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
Goulds Pumps is ISO 9001 Registered.



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	60
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	60
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	60
WE0518HH			208			8.1	31.0	K	68	9.7	2.4	16/3	60
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	60
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	70
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	70
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	70
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	80
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	80
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	80
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	83
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		

ITT

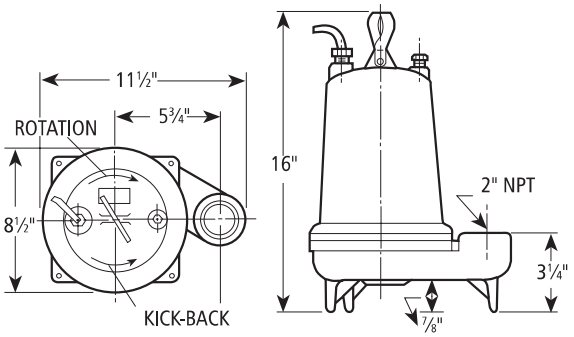
Wastewater

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
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

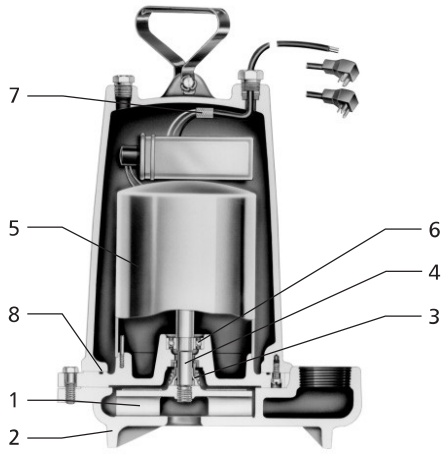
DIMENSIONS

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



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



GOULDS PUMPS

B3885 June, 2009

Engineered for life

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.*

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

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.

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.

4 DOSES PER DAY = 1 DOSE EVERY 6 HOURS

RUN TIME TO BE SET AT

5 MIN. 46 SEC.

EACH DOSE FOR 4 DOSES PER DAY

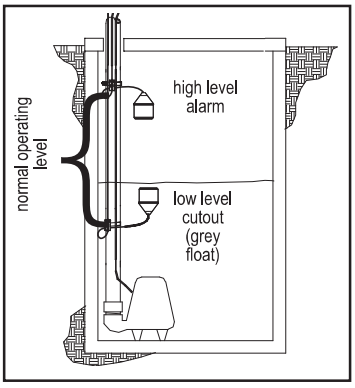


FIGURE 1 - Two float system

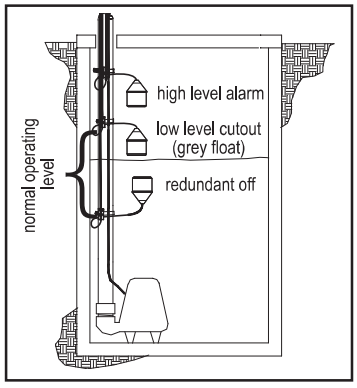


FIGURE 2 - Three float system with redundant off

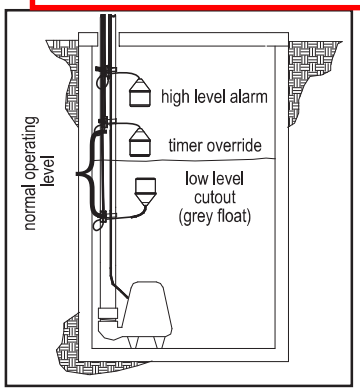


FIGURE 3 - Three float system with timer override

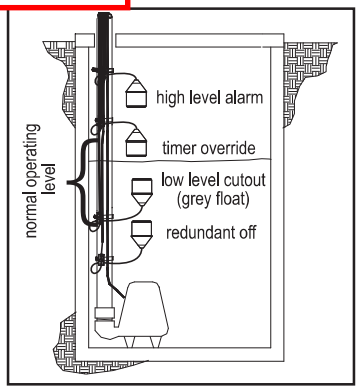


FIGURE 4 - Four float system

Installation Instructions

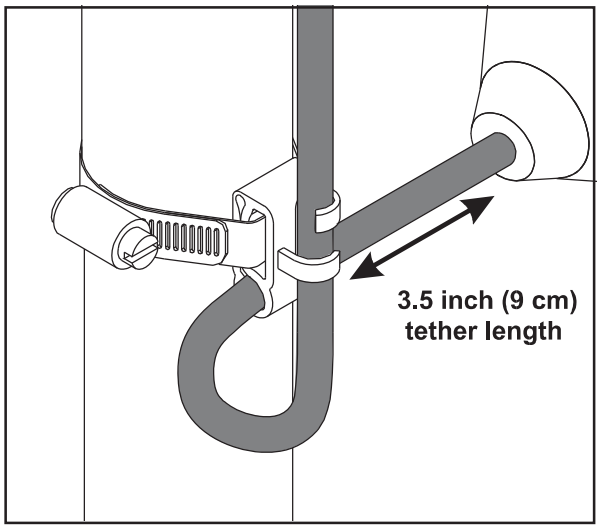


FIGURE 5 - Mounting clamp detail.

Option 4E
Redundant Off / Alarm Activation
Wiring Diagram

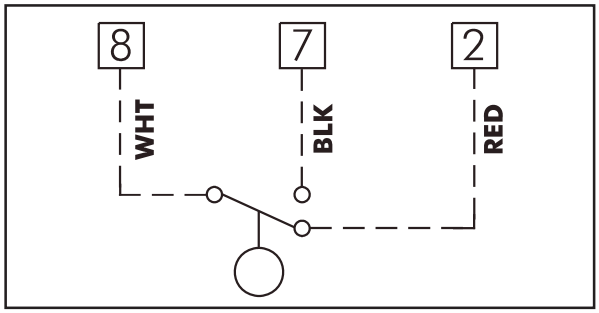


FIGURE 7 -
Redundant off pump
wiring diagram

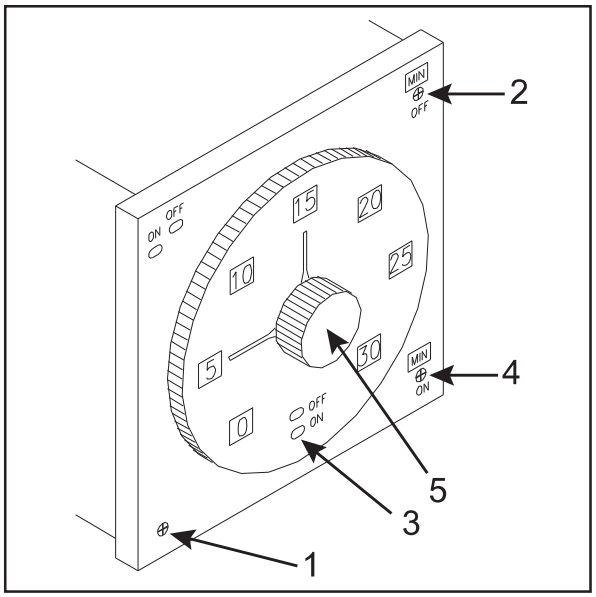


FIGURE 8 - Timer detail

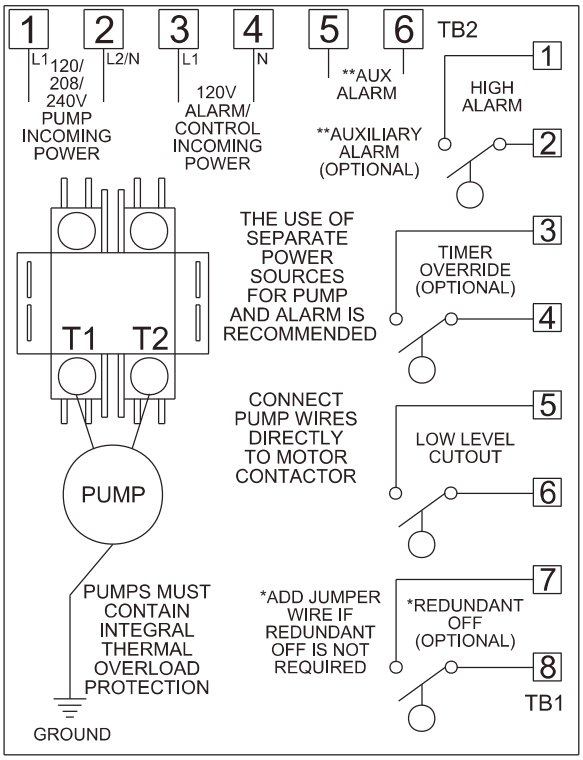


FIGURE 6 -
TD wiring diagram

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.