PERMIT

For

INSTALLATION OF SEWAGE DISPOSAL SYSTEM

Pursuant to Application for Sewage Disposal System Number: Z144367
a permit is hereby issued to:

Scott Nyman	610-350-8954	
Name of Applicant	Telephone Number	
2094 Strasburg RD, Coatesville, PA 19320	4	800 gpd
Address of Applicant	# of Bedrooms	Sewage Flow
415 LAUREL RD, NEWLIN, PA 19320	Newlin Township	49-1-12
Site Address	Municipality	Tax Parcel ID #

This permit issued under the provision of the "Pennsylvania Sewage Facilities Act", the Act of January 24, 1966 (P.L. 1535), as amended, is subject to the following conditions:

1. Except as otherwise provided by the Act or Regulations of the Pennsylvania Department of Environmental Protection no part of the installation shall be covered until inspected by the approving body and approval to use is granted in writing below as per Section 7(b) (3) of the Act.
2. This Permit may be revoked for the reasons set forth in Section 7 (b)(6) of the Act.
3. This Permit expires on 06/16/2028 unless construction of the building and system has commenced.
4. This Permit does not remove the necessity for obtaining Municipal building and/or zoning Permits. THIS PERMIT NOT TRANSFERABLE UNLESS APPROVED BY CHESTER COUNTY HEALTH DEPARTMENT.
5. Notify this Department at (610) 344-6526 or (610) 344-6688 upon starting construction of house and sewage system.
6. Obtain prior approval from this Department for any changes, revisions, deviations, etc.

Additional Conditions:

A. As a condition of the Permit a timely private laboratory analysis of a representative sample of sandy fill material proposed to be used in the sewage system must be submitted. The analysis report must give the name of the proposed supplier and must indicate that the sandy fill material complies with Section 73.55(c), Chapter 73, Title 25 of the Pennsylvania Code.

B. Restriction on sand placement due to improper soil conditions: 1) Sand shall not be placed on ground that has a high moisture content due to seasonal weather conditions; 2) Sand shall not be placed on ground that is partially or completely frozen.

C. Restriction on drip tubing or At-Grade gravel placement due to improper soil conditions: 1) shall not be placed on ground that has a high moisture content due to seasonal weather conditions; 2) shall not be placed on ground that is partially or completely frozen.

Approval to Use SEE ADDENDUM **Date of Issuance of Permit** 06/16/2025

MAINTAIN ALL MINIMUM ISOLATION DISTANCES

Signature of Enforcement Officer — CHESTER COUNTY HEALTH DEPARTMENT, Approving Body

Date — Signature of SEO: Abernethy, Austin

The basis for the issuance of this Permit is the information supplied in the Application for the Sewage Disposal System Permit. The Permit only indicates that the issuing authority is satisfied that the design and installation of the Sewage Disposal System is in accordance with the Rules, Regulations, and Standards of the Pennsylvania Sewage Facilities Act, the Act of January 24, 1966 (P.L. 1535), as amended. The issuance of a Permit shall not preclude the enforcement of other health laws, ordinances or regulations in the case of malfunctioning of the system.

SEE PERMIT CONDITIONS 1 – 6

TO BE POSTED AT THE BUILDING SITE

INSTALL SYSTEM FOLLOWING NATURAL GROUND CONTOUR

Chester County Health Department

Inspection Addendum

Date: 06/16/2025

Applicant's Name: Scott Nyman **Application #:** Z144367

Municipality: Newlin Township

SEO Name: Austin Abernethy **SEO Phone Number** (484)746-9490

If item is checked, inspection is required — Date Inspected

- [x] Prior to start of any construction, the primary and replacement absorption areas must be roped off to protect from vehicles and construction equipment
- [x] Trenches/beds staked out and inspected prior to any excavation
- [x] Soil moisture check before any scarification
- [x] Scarification
- [ ] Excavation of system (bottom of bed or each trench)
- [ ] Sand specifications and weight slips
- [ ] Sand placement
- [x] Construction of berm
- [x] Placement of: Stone + Pipe
- [x] Placement of treatment tank(s)
- [x] Installation of pump tank
- [ ] _____ installation
- [ ] Installation of D-box
- [ ] Designer inspection/report required (slopes 15-25%)
- [x] Pressure test/alarm test/electrical connections
- [x] Finished grade and seeding
- [x] As-Built (2 signed and dated copies on 8.5" x 11" paper)
- [ ] Other: _____

Inspections will only be conducted at the time of the scheduled appointment. Appointments must be confirmed with the Department. No part of a system may be covered until final inspection is completed and written approval given.

The Department has 72 hours from the reported completion time to inspect each installation phase.

Failure to comply with the above inspections may result in delay or revocation of your sewage permit

3850-FM-BCW0290 Rev. 9/2022
Application

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

2 144367

*Application #: _____

APPLICATION FOR AN ON-LOT SEWAGE SYSTEM PERMIT

(Please PRINT using ALL CAPS, if completing a paper copy.)

PART I. APPLICANT AND SITE INFORMATION

UPI-49-1-12

1. Applicant:

Name: Scott Nyman

Address: 117 Stable Dr.

Aiken (City) SC (State) 29801 (Zip)

Telephone # Preferred ☐ Home/Work ( ) _____
Preferred ☐ Cell (610) 350-8954

Email Address (610)324-8560

2. Site:

Address: ~~2094 Strasburg Road~~ 415 Laurel Rd
Street or Route #

Coatesville (City) Pa (State) 19320 (Zip)

Isaiah Jordan (Subdivision Name) A (Lot #)

Newlin (Municipality) Chester (County)

49-1-9.1 (Tax Parcel #)

3. Direction to the Site: From Coatesville, south on Rt. 82 to Strasburg Road. Turn east and procede to the site.

4. Lot Size: 0.32 acres

5. Type of Facility to be Served by the System:

☐ Single-family Residential ☒ Multi-family Residential
☐ Commercial/Non-residential

# of Bedrooms 4

Design Flow 800 gal/day

6. Type of Permit:

☐ New Construction ☒ System or Component Repair
☐ System or Component Modification ☐ BTG (use only with repair)

7. Facility Water Supply: ☐ Public Authority ☒ Well ☐ Spring ☐ Cistern ☐ Surface

8. Distance to the Nearest Water Supply (existing or proposed as listed in # 7, on or off the property): 450+ ft. ☐ **Well Isolation Distance Exemption**

9. Chapter 102 Requirements: Permit or coverage under Chapter 102 Erosion and Sedimentation Control: ☐ Required ☐ Obtained

PART II. LOCAL AGENCY USE ONLY

10. Sewage Planning

☐ Approved Planning Module
DEP Code # _____
Date ___/___/___

☐ No Planning Required
(lot created before May 15, 1972)

☑ Area Not Planned
(lot created between May 15, 1972 and June 10, 1989)

☐ Limitations in Effect _____

11. Fees Paid

Application	$ _____
Testing	$ _____
Inspection(s)	$ _____
Other	$ _____
Total	$ 2000.00

12. Site Suitability

NRCS Soil Series: Co, GgC

Slope (steepest within the absorption area or spray field): 8-13 %

Type of Limiting Zone: Rock

Depth to Limiting Zone: 28 inches

Land Use (for IRSIS only) (see 25 Pa. Code § 73.163): _____

Percolation Rate 28-49 min/in.
☐ Percolation Testing Not Conducted
☐ Soil Morphological Evaluation
☐ Additional Hydrologic Testing
☐ Groundwater Mounding Study
☐ Hydraulic Conductivity Test
☐ Other: List _____

Site is:
☐ Suitable for the following system types:

☐ Unsuitable for an on-lot sewage system. Reason:

13. Application Actions and Dates

☑ Application Received 10/4/24
☑ Complete Application 10/10/25
☑ Permit Issued 10/10/25
☐ Permit Denied ___/___/___
☐ Interim Inspection ___/___/___
☐ Interim Inspection ___/___/___

Final Inspection: ☐ Approved ☐ Disapproved
___/___/___

☐ Revoked Permit ___/___/___
Reason for Revocation:

PART III. SYSTEM DESIGN

14. System or Component Classification

☐ Conventional ☐ Experimental ☒ Alternate

Classification #A 2014 - 0019 - 0003

Classification #A 2017 - 0029 - 0001

Classification #A _____ - _____ - _____

15. Treatment/Tankage 1700 gal req.

☒ Septic Tank 2000 gal. ☐ Aerobic Tank _____ gal.

☐ Holding Tank _____ gal. ☐ Equalization Tank _____ gal.

☐ Privy Vault _____ gal.

☐ Nitrogen Reduction _____ gal.

☐ Other _____ (list) _____ gal.

16. Type of Filter

☐ Buried Sand (IRSIS only)

☐ Free Access (IRSIS only)

☐ Other Media _____

☐ Effluent

17. Type of Disinfection

Does the system use disinfection?

☒ No

☐ Yes Type _____

18. Effluent Distribution

☒ Pressure

☒ Pump (Electric)

☐ Pump (Pneumatic)

☐ Siphon

☐ Gravity

19. Absorption Area 1200 req. Reduction table

Absorption Area Size: 1@ 812 & 1 @ 384 sq. ft.

☐ Elevated Sand Mound Beds

☐ Elevated Sand Mound Trenches

☐ Standard Trench ☐ Seepage Bed

☐ IRSIS ☐ Drip Dispersal

☒ At-Grade ☒ Other on grade

20. Other Toilets

☐ Chemical Toilet

☐ Incinerating Toilet

☐ Composting Toilet

☐ Recycling Toilet

21. Attach the Following Documentation

Soil Tests - Copies of all 3850-FM-BCW0290A forms (and B, or morphological evaluation report when required; See Part II).

Design Plan - A detailed sewage system design (including cross sections, plan reviews and comments) and plot plan. See instructions for required details.

On-lot Sewage System Design Report – A report containing a detailed description of the selected system design. See instructions for contents.

Other - Copies of any other documentation that is required when the conditions identified in any of the above sections are met, such as but not limited to: well isolation distance waiver; proof of authorized agent; reason for revocation; comments on special conditions not specifically covered.

Pages - Indicate the total # of pages attached to this form 97.

PART IV. SIGNATURES

12. Owner's Authorization (to be completed when applying for permit)

I am the owner of record (or the authorized agent of the owner) of the lot described in Part I of this application. I intend to install an on-lot sewage system on this property. The information provided as part of this application is true and correct to the best of my knowledge. I understand that providing false information on this application is subject to the penalties of 18 PA C.S.A. § 4904, relating to unsworn falsification to authorities. Submission of this form grants authorized representatives from the local agency and DEP access to the lot to inspect and conduct tests of 1) the site; 2) the system and structures under construction; 3) the completed sewage system; and, 4) the operational status of the system.

Property Owner's Signature X Justin Wyman Date 5/19/2025

13. SEO's Review (to be completed when the form is initially reviewed for the issuance of a permit)

I am currently a Local Agency SEO for the jurisdiction encompassing the lot identified in this permit application and my SEO certification is current. The information in this application is true and correct to the best of my knowledge.

SEO's Signature _____ Date 6-16-25 Certification No. 3965

14. SEO's Final Inspection (to be completed after final site inspection)

I certify that I have inspected the final installation of the system proposed and permitted in this form. Based on my inspection, the system comports with the proposed and permitted system as reflected in this document and complies with the relevant portions of Pennsylvania's Sewage Facilities Act, and its implementing regulations.

SEO's Signature _____ Date _____ Certification No. _____

*See the instructions for completion of this form and to get direction on how to generate the application number.

12/26/2024

Chester County Health Department
Water and Sewage Division
601 Westtown Rd, Suite 288
West Chester, PA 19380

RE: Address: *415 Laurel Rd. Coatesville, PA 19320*
Tax Parcel: *49-1-12*

Dear sir or madam,

As the property owner(s) of _____, I indemnify and hold harmless the new sewage enforcement officer, municipality, and local agency for the actions of the new sewage enforcement officer in verifying the prior testing data and information obtained by a previous sewage enforcement officer. Pursuant to 25 Pa. Code § 72.26(b), this notarized indemnification and hold harmless statement is required to accept prior testing data and information obtained by a previous sewage enforcement officer.

Sincerely,

Karin Farrow 12.28.24

Karin Farrow Executor Estate of Scott R Nyman

Commonwealth of Massachusetts

County of Worcester

On this, the 28 day of December 2024, before me, the undersigned officer, personally appeared KARIN FARROW, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument and acknowledged that he or she executed the same for the purpose herein contained.

IN WITNESS WHEROF, I hereunto set my hand and official seal

Bkhan

Notary Public

BISMATH KHAN
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
MY COMMISSION EXPIRES
FEBRUARY 1, 2030

STATE OF SOUTH CAROLINA)
)
COUNTY OF: AIKEN)
)
IN THE MATTER OF:)
SCOTT R NYMAN)
(Decedent))

IN THE PROBATE COURT

FIDUCIARY LETTERS

CASE NUMBER: 2024-ES02-1341

☒ PERSONAL REPRESENTATIVE
☐ SUCCESSOR PERSONAL REPRESENTATIVE
☐ SPECIAL ADMINISTRATOR

On the 13th day of November, 2024, **KARIN SUSAN RUTH FARROW** was/were appointed and qualified as Fiduciary(ies) of the above matter by this Court, with all the authority granted to a fiduciary by law.

NOW, THEREFORE, LETTERS are issued as evidence of such appointment, qualification, and authority of the above fiduciary(ies) to do and to perform all acts which may be authorized by law.

RESTRICTIONS:
NONE.

Executed this 13th day of November, 2024.

Tonya L. Marchant

Tonya L. Marchant, Probate Court Judge

STATE OF SOUTH CAROLINA
COUNTY OF AIKEN

THIS IS TO CERTIFY: THAT THE FOREGOING IS A TRUE AND CORRECT COPY OF THE ORIGINAL ON FILE IN THIS COURT AND THAT THE SAME IS STILL IN FULL FORCE AND EFFECT WITNESS MY HAND AND SEAL OF THE COURT THIS THE 2nd DAY OF December A.D. 20 24

Tonya L. Marchant
JUDGE OF PROBATE FOR AIKEN COUNTY, S.C.

BY V. Boyd
CLERK

FORM #140ES (1/2014)
62-3-103

Basis of Design

DESIGN REPORT
SCOTT NYMAN
TAX PARCEL 49-1-9.1

BACKGROUND

The structure to be served is a duplex located on tax parcel 49-1-9 which is owned b Scott Nyman. According to Chester County tax records, the parcel contains 0.32 acre. The owner contracted to have percolation tests conducted on ta parcel 49-1-12 also owned by Scott Nyman. Two locations were tested on tax parcel 49-1-12 with those tests being witnessed by the Chester County Health Department. The current duplex has a single building sewer servicing the structure.

DESIGN FLOWS

The owner reports that each of the two units contain two bedrooms. The regulations found at 25 Pa Code Ch. 73 §73.17 require that on lot disposal systems be sized for a minimum of three bedrooms or 400 gallons per day (gpd). The total design flow is therefore 800 gpd.

TREATMENT COMPONENTS

Since the duplex is serve by a single building sewer, the treatment system will consist of the following:

Septic Tank. There will be two 1,000-gallon septic tanks connected in series. The minimum septic tank capacity required by 25 Pa Code Ch. 73 §73.31 is given by:

Design flow (gallons per day)	*Tank capacity (gallons)*
0—500	(3.5 x flow exceeding 400 gpd) + (900)
500—5,000	(1.50 x flow exceeding 500 gpd) + (1,250)
5,000—7,500	(1.45 x flow exceeding 5,000 gpd) + (8,000)
7,500—10,000	(1.35 x flow exceeding 7,500 gpd) + (11,625)
over 10,000	(1.50 x the daily flow)

For 800 gpd, the minimum septic tank capacity is therefore:

(800-500) * 1.5 + 1250 = 1,700 gallons

Transfer Tank

Following the septic tanks, there will be a 1,000-gallon transfer pump tank. This tank will house two Goulds 3885 WE03L pumps. Each pump will discharge to one of the two Ecoflo coco filters described below via a 1.5" diameter PVC Schedule 40 pipe. The pumps will be controlled by an Aquaworx duplex pump controller. The Aquaworx pump controller will be programmed to time dose the Ecoflo

coco filters with each dose not to exceed 15 gallons. The transfer pumps will be throttled by way of a gate valve to reduce the discharge rate to no more than 10 gpm with total dose time per event being 1.5 minutes and 27 doses per day. There will be approximately 51.5 minutes between individual doses per coco filter.

Ecoflo Coco Filters.

In order to enhance performance of the proposed disposal system, the system will be provided with Premier Tech Ecoflo coco filters. There will be two EC7 500 P C filters. Due to the somewhat poorly drained soil present at the sites of the coco filters, concrete tanks are proposed for this installation. Each coco filter will be equipped with a Champion pump designed to pressure dose the proposed drain fields.

At Grade On Grade Beds.

There will be two at grade on grade beds each designed to service one of the two units that make up the duplex. Each at grade on grade bed was designed based on the soil tests results that were that were preformed by others and provided to Evans Mill by the property owner.

Time Dosing Calculations

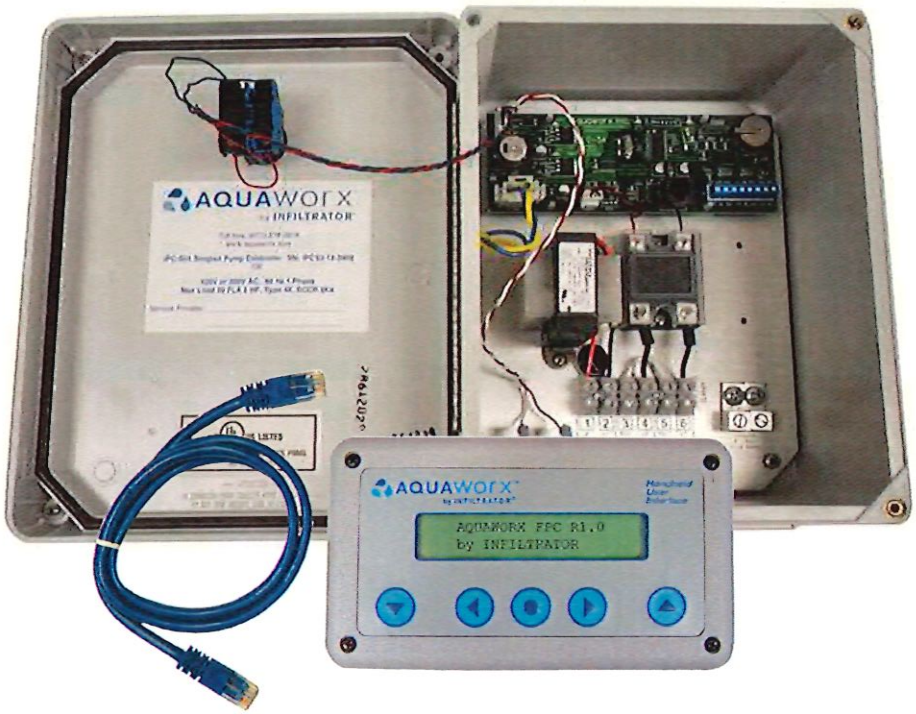
Time Dosing Worksheet

minimum dose volume	15	gal/dose
Average pumping rate	10	gpm
Peak (design) flow	400	gpd
average daily flow (Peak/2)	200	gpd
Pump run time per dose	1.5	min
number of doses peak day	27	doses
number of doses averge day	13.33333	doses
rest between doses peak day	51.83333	min
rest between doses average day	103.6667	

Aquaworx

AQUAWORX by INFILTRATOR

IPC™ Panels Installation Manual



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AQUAWORX IPC PANEL INSTALLATION INSTRUCTIONS

The Aquaworx IPC (Intelligent Pump Control) Panel provides an innovative approach to pump control. Designed specifically for the onsite industry, the IPC Panel leverages simple pressure transducer technology for the enhancement of pump system performance, and ease of installation. Relying on an embedded microprocessor in the pump controller and a floatless pressure transducer in the pump chamber, the IPC Panel monitors liquid levels, controls pumping time intervals, and logs events in real time. Using the Mountable and Removable Controller (MARC) as the user interface, the IPC Panel offers a cost-effective solution with expanded capability.

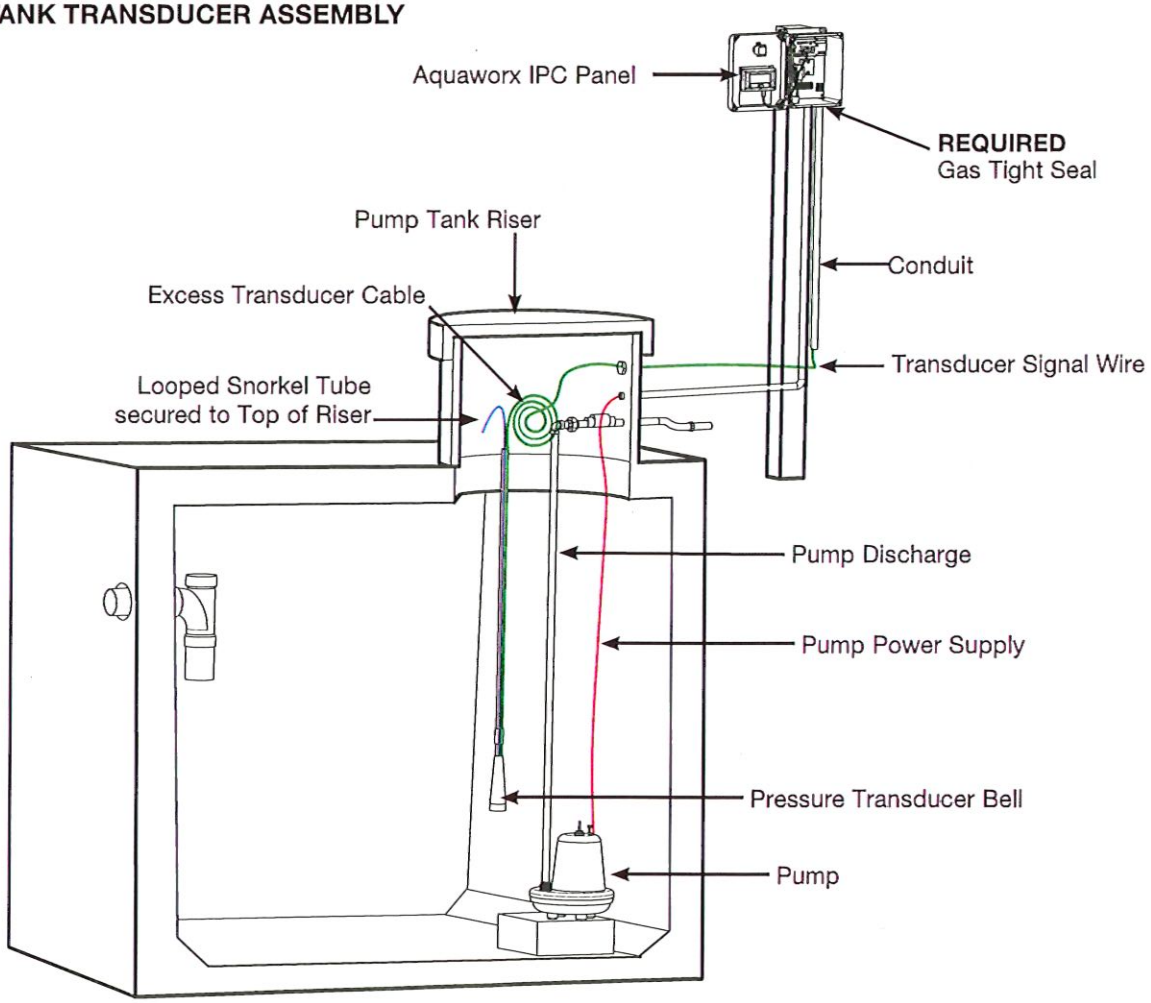
Aquaworx offers three models of the IPC Panel; Simplex, Duplex and Sand Filter, to meet a variety of system design requirements. The Simplex Panel has the ability to time control a single pump, while the Duplex Panel can control two pumps in an alternating design with independent timing. The Sand Filter Panel has the ability to time control two individual pumps having independent level sensors, allowing for a design which can time-dose a treatment system and drainfield.

I. General

Unpack the Aquaworx IPC Panel and check for any visible damage both external and internal. Also verify that there are no cracks or damage to the pressure transducer bell. Note: You will need to identify the number on the pressure transducer bell as it is needed during the MARC setup. Notify Aquaworx immediately at 1-877-278-2979 if any damage has occurred.

ALL INSTALLATIONS MUST BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODE.

FIGURE 1: PUMP TANK TRANSDUCER ASSEMBLY



AQUAWORX IPC PANEL INSTALLATION INSTRUCTIONS

II. Installing the IPC Panel

NOTE: A qualified electrician must perform all wiring.
Complete wiring diagram available at www.aquaworx.com

The following components and tools may be required for installation:

- Screwdriver (sm and med size flat head)
- Pipe cutter and tape measure
- Fish tape
- Wire strippers/cutters
- Electrical tester
- Drill
- 3⁄4" to 1" screws
- 1" PVC coupler
- Step bit
- Hole saw
- Electrical conduit
- Electrical tape
- Splice box for pump connection
- Waterproof wire connectors
- 1" PVC (for transducer handle, amount determined by tank depth (6' length typical)

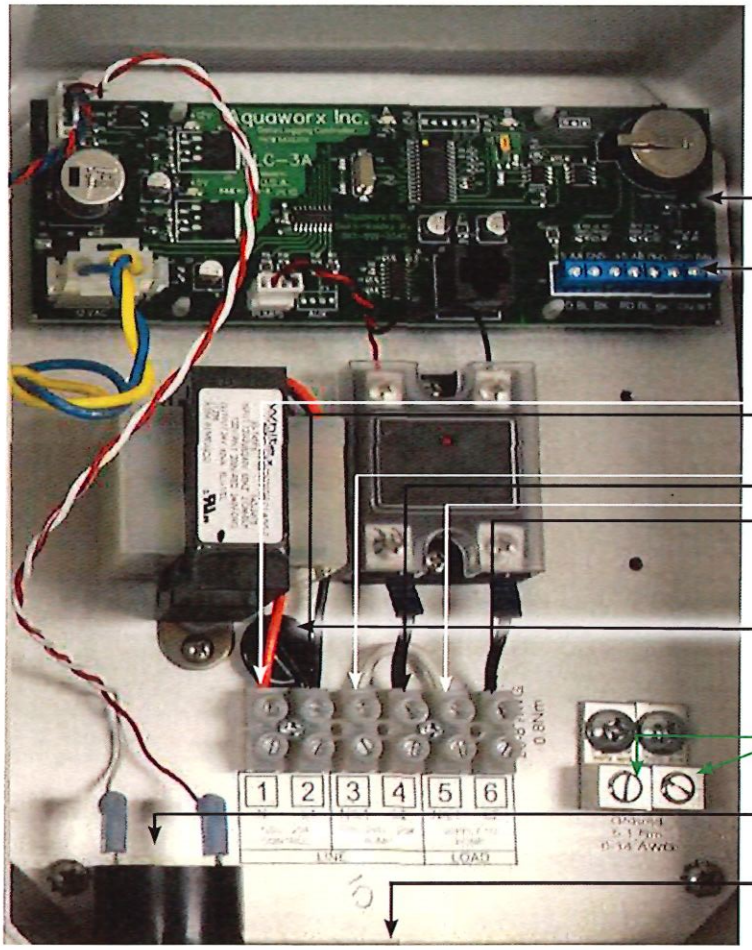


FIGURE 2: IPC PANEL WIRING SETUP AND TRANSDUCER 3-WIRE CONNECTION

1. Mount the IPC Panel to the wall or post. Position the IPC Panel so that the power supply enters the IPC Panel through the bottom approximately 1" to the right of the audible alarm unit.

2. On Simplex Panels drill two holes (3 holes for duplex) in the bottom of the enclosure spaced approximately 2" apart and in line with the audible alarm unit. When facing the panel, the order of conduit connections from left to right is shown below, as well as illustrated in Figure 2:

Power in: 2 dedicated 20 amp circuits from house to power the panel, 120V (1) and pump, 120V or 220V(2)

Power out: Power supply from panel to pump

Transducer signal wire: Signal transmission from panel to pump

NEMA 4X fittings must be installed in each field-drilled hole to retain the integrity of the enclosure's 4X rating.

3. Power to pumps: run the panel (s) power wires from the IPC Panel to the septic tank riser. Connect the wiring in the splice box using water-tight connectors. Connect pump wires to the IPC Panel by carefully following the wiring diagram enclosed with the panel. A gas-tight seal (see Figure 1) is required to prevent corrosive septic gases from migrating into the IPC Panel.

4. Power to controller: wire the supply circuit to the panel. Aquaworx recommends that the panel be wired to two designated circuits. An external disconnect should be incorporated into the supply circuit and mounted within easy reach of the IPC Panel. Note: Site specific codes have final authority on external wiring requirements.

III. Installing the Pressure Transducer and Bell Assembly

The pressure transducer bell assembly replaces the traditional float tree assembly. The 1" PVC stand pipe may be mounted by applying the same methods used to install a float tree assembly.

1. Determine the position of the pressure transducer bell assembly. The pressure transducer bell assembly must be mounted so that it allows the liquid level to pump below the bottom of the pressure transducer bell. This allows the pressure transducer bell to get a fresh air bubble.

2. Feed the transducer signal wire and snorkel tube through the 1" PVC stand pipe and glue to the pressure transducer bell using a 1" tee. The length of the stand pipe when secured should position the bottom of the pressure transducer bell above the top of the pump.

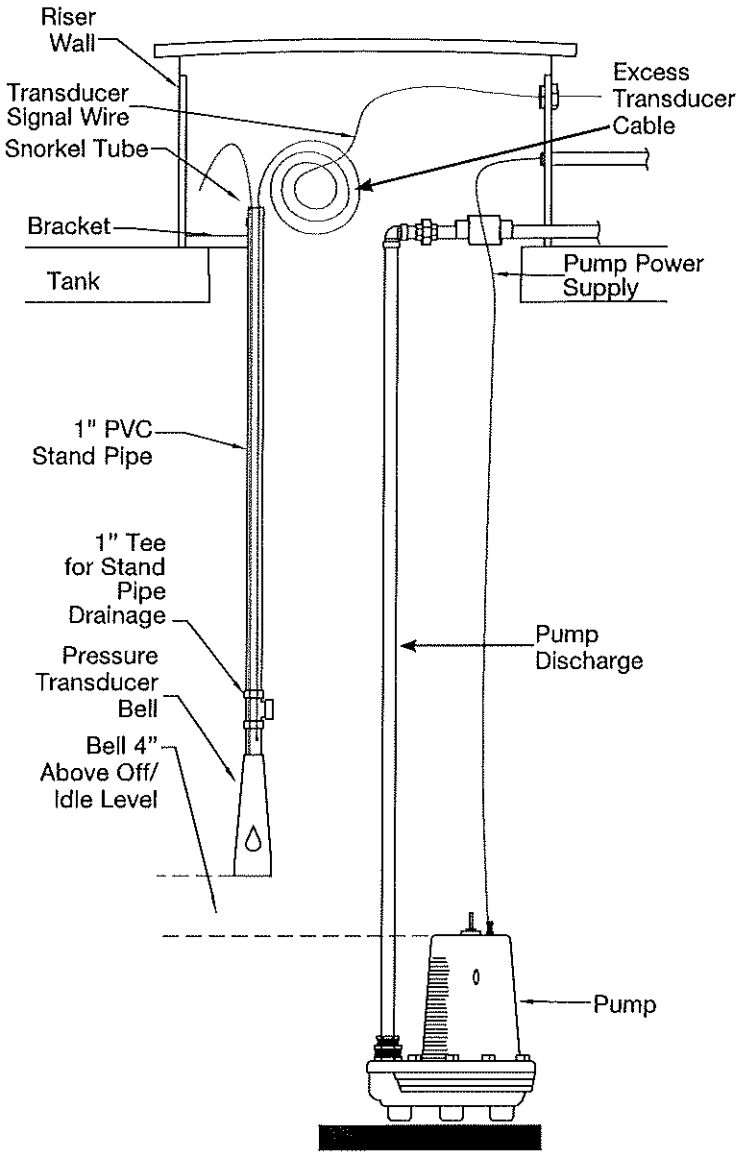
3. Cut off the snorkel tube approximately 9" lower than the top of the stand pipe and secure it to the transducer signal wire. The snorkel tube should be positioned in the form of an upside-down U as high as possible in the riser. This allows the snorkel tube to create an air lock in the event of a flooded tank.

4) NOTE: The Z-bias value labeled on the side of the pressure transducer bell. Later in the set-up, you will be instructed to program the Z-bias into the IPC Panel.

5. Run the transducer signal wire back to the IPC Panel and connect to the transducer signal wire terminal strip. Connect Red to RD, blue to BL and black to BK (first three positions). Make sure to leave enough cable in the riser to allow for removal of the pressure transducer bell assembly during maintenance. The transducer signal wire is rated for direct burial. However, it can be run in a conduit. Site specific codes have final authority on installation requirements.

NOTE: Do not attach the pressure transducer bell assembly to the pump discharge pipe. Do not pinch or crimp the snorkel tube tubing.

FIGURE 3: TRANSDUCER



IV. Panel Alarm Codes

A) Visual Status Indicator

The indicator light on the front of the panel displays current system status by flashing in unique 8 second patterns. If the light does not flash for 8 seconds there is a problem with the pump controller.

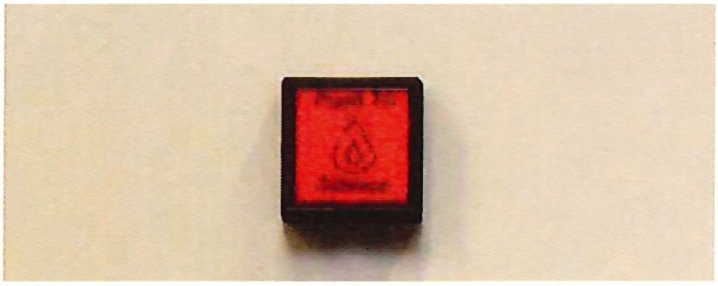
Patterns:	
On solid	The system is experiencing a high-level alarm condition
1 short flash	The system is idle
1 long flash	The system is pumping
2 short flashes	The system is waiting for the off time to expire

B) Audible Status Indicator

The sounds convey event conditions that require attention. To silence the panel press the push to silence button on the front of the IPC Panel. The following Morse Code characters communicate specific system conditions:

Morse Code P ._ _.	Controller was just powered up
On Continuous	The water level is above the high-level set point
Morse Code "S" . . .	The level sensor is not communicating with the controller

FIGURE 4: IPC PANEL WITH VISUAL ALARM



NOTE: SCB02 Panel uses a toggle switch on the side for the same function.

C) Manual Pump/HOA Feature

Push to silence button may be used to manually operate the pump in case a MARC is not available.

Steps:

1) Hold the alarm button down (continuously)
2) Turn off the power to the panel by throwing the breaker or disconnecting the wires from the transformer (Blue and Yellow).
3) Turn the power back on and release the alarm button. The alarm should now only have a single flash.
4) The pump will power on by holding the alarm button down, and will turn off when released.
5) To return to automatic operation, the panel should go through another power cycle without holding down the alarm button.

AQUAWORX MARC OPERATING INSTRUCTIONS

I. General

The MARC is a handheld device that is specifically designed to program the Aquaworx IPC Panel product line. The MARC has the ability to mount inside the IPC Panel making it readily available for that individual panel. Alternatively, it can be removed for use with multiple panels. Removing the MARC has an additional benefit of minimizing the ability of unauthorized persons to inadvertently adjust the system settings. The MARC connects to and communicates with the panel using a standard RJ45 cable (included). The MARC includes a SD memory card slot, allowing the user to capture and download system events and settings onto a removable card. This provides the operator with a history of system function, which is critical to troubleshooting and maintaining a pump-driven system.

II. MARC Plug-in and Start-up

1. Plug RJ45 cable into bottom of MARC unit.
2. Plug other end of RJ45 cable into panel connector.
3. LCD screen will display.

NOTE: The MARC receives its power from the IPC Panel and does not have a power source of its own.

FIGURE 5: THE MARC

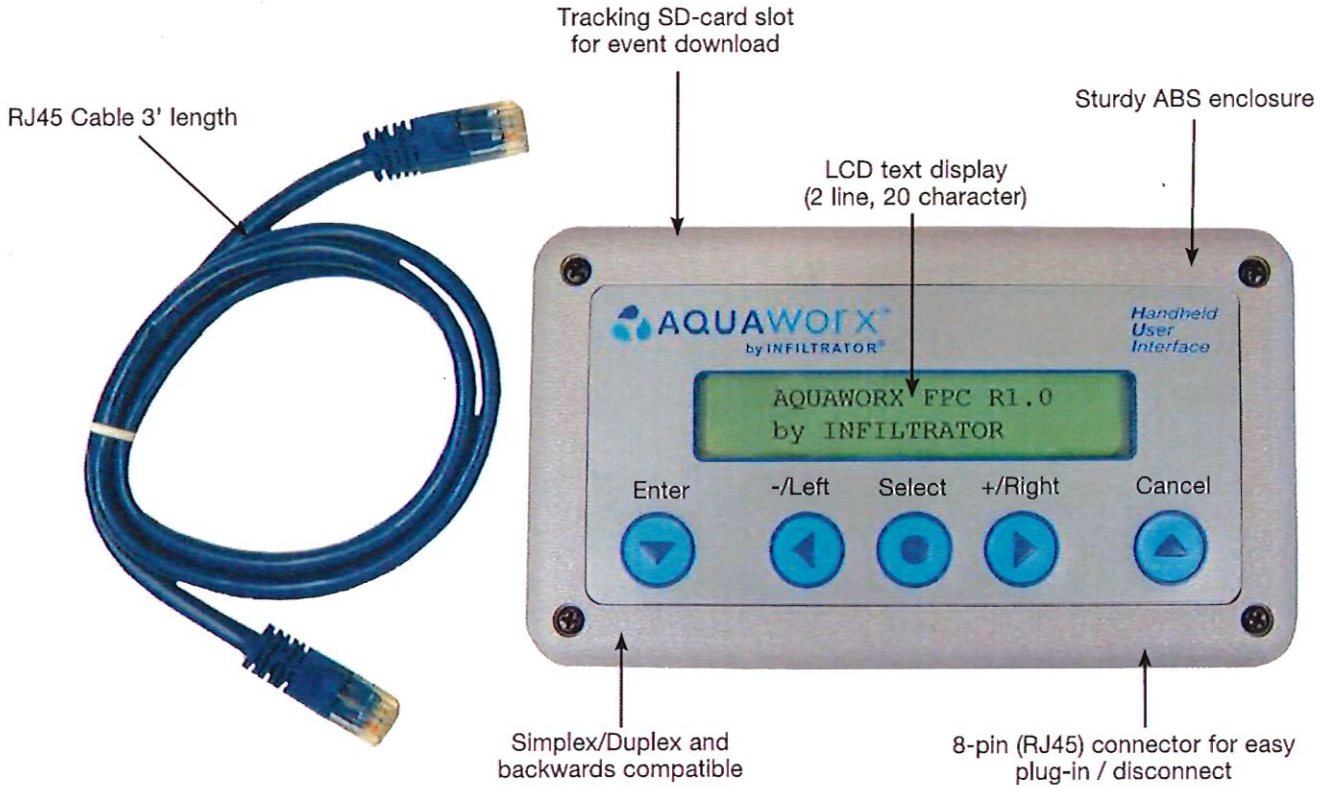
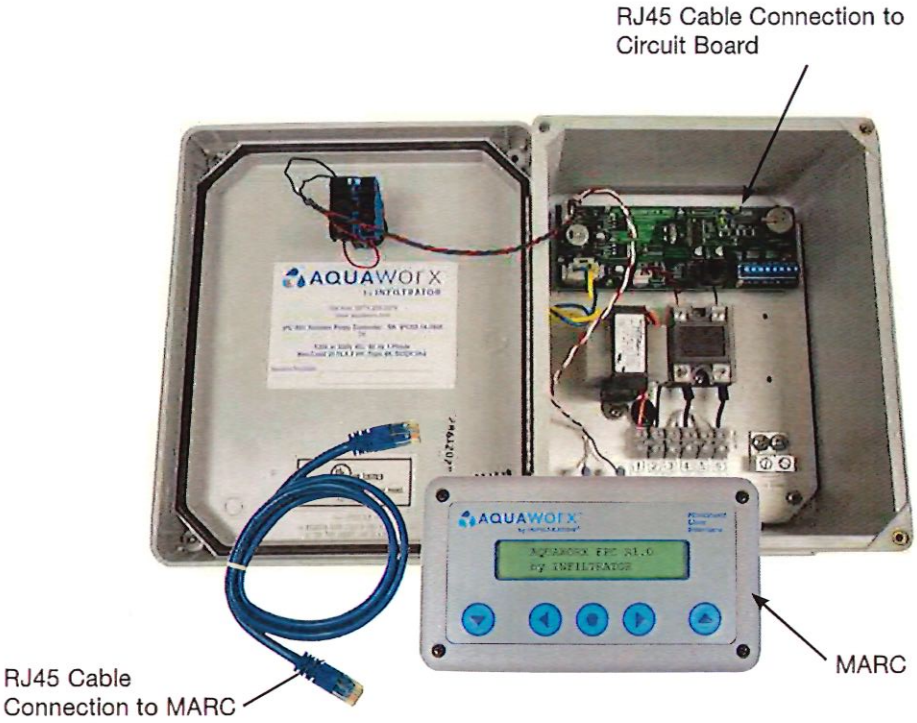


FIGURE 6: IPC PANEL WITH THE MARC



IV. Controller Menu Functions

Below is a list of menu functions available to the user. See Figure 7 for complete MARC menu mapping.

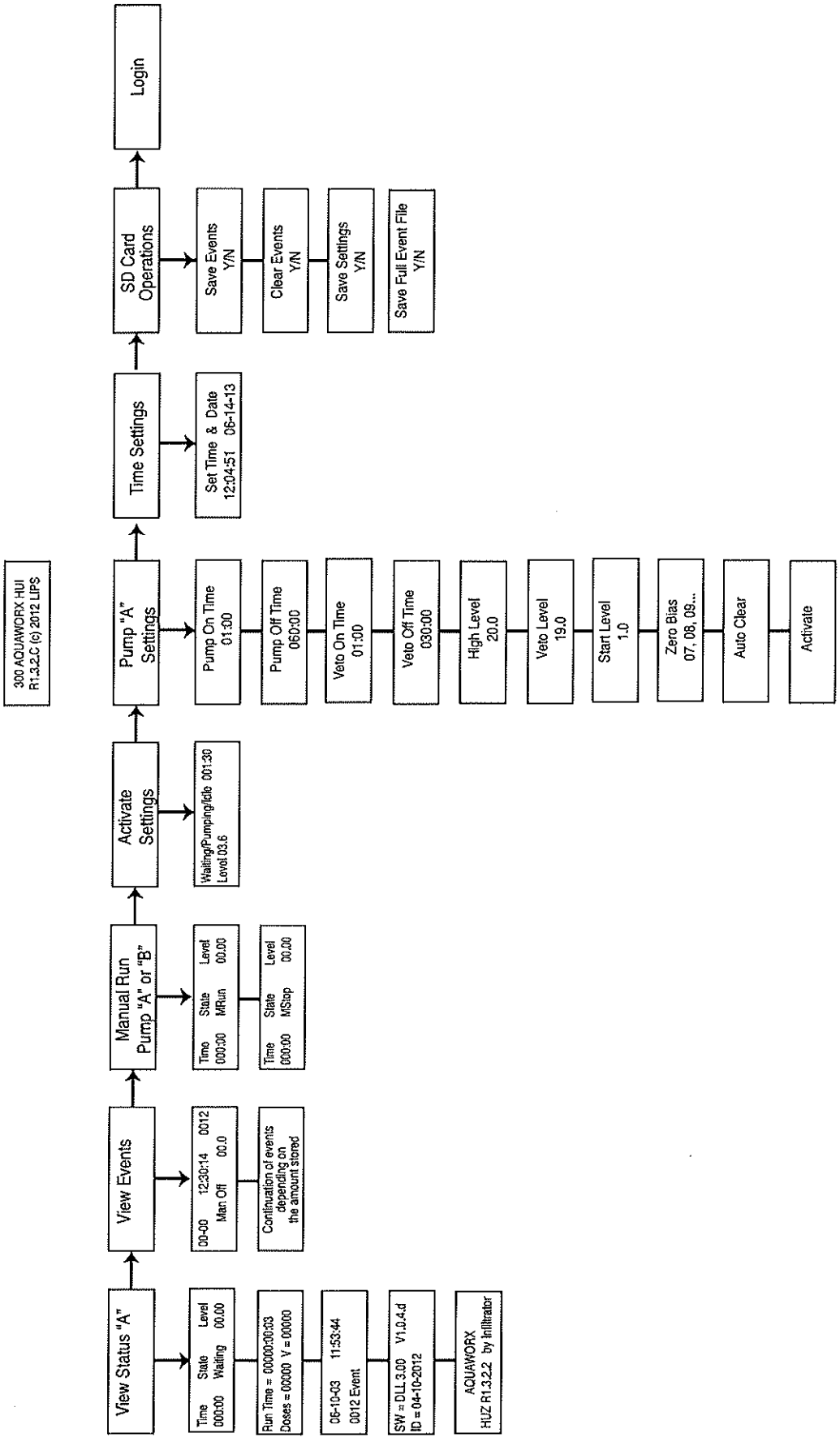
SIMPLEX = The "SIMPLEX" panel user may access the above menus in addition to the following menus:

A) VIEW STATUS "A"
B) VIEW EVENTS
C) MANUAL RUN "A" OR "B"
D) ACTIVATE SETTINGS
E) PUMP "A" SETTINGS
F) TIME SETTINGS
G) SD CARD SETTINGS
H) LOGIN

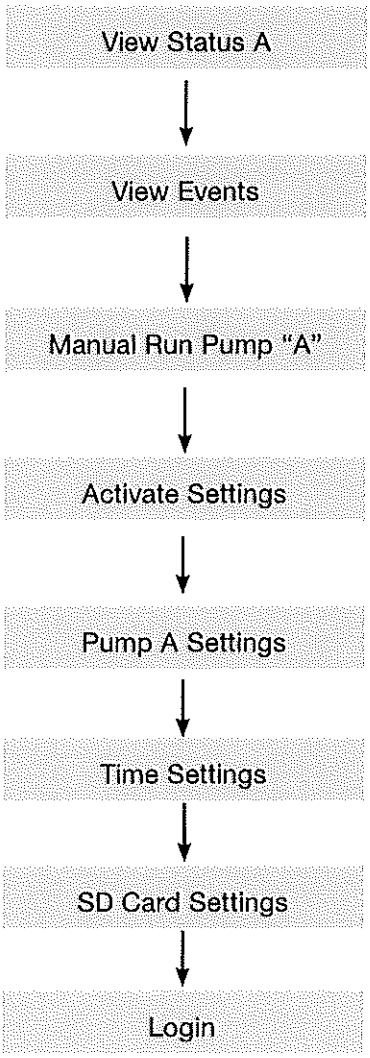
DUPLEX = The "DUPLEX" panel user may access the above menus in addition to the following menus:

- STATUS "B"
- MANUAL "B"
- PUMP "B" SETTINGS

FIGURE 7:
MARC SIMPLEX
MENU OPTIONS MAPPING



V. Controller Menu Options



Displays panel Status "A" settings
(See Section A)

Displays real time event tracking log of system
(See Section B)

Manual pumping and stopping - HOA (Hands Off Auto) switch
(See Section C)

Sets IPC Panel into auto mode after settings have been modified
(See Section D)

Setup functions for Pump "A"
(See Section E)

IPC Panel setup for establishing local time and date
(See Section F)

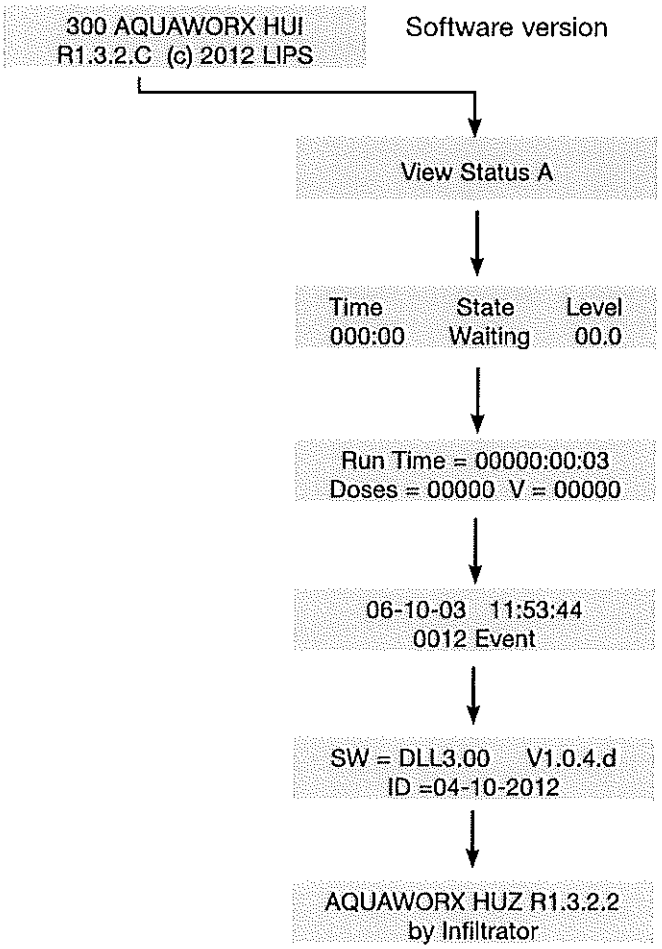
Set of sub-menus designed to perform events and settings retrieval, and to clear events when desired.
(See Section G)

Allows user to access administrative settings to update advanced settings.
(See Section H)

Section A.

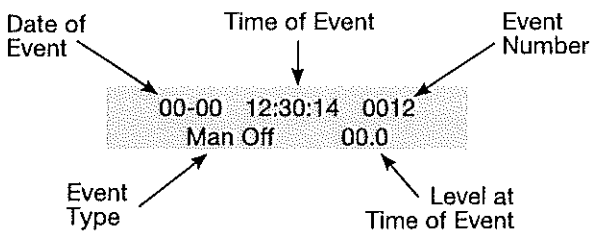
STATUS: This is a read-only set of sub-menus that allow the user to view the IPC Panel status in real-time and program functions as it runs through the programmed parameters. The IPC Panel identification number and software version can be found in this menu.

NOTE: Status "B" is an available menu option on Duplex panels.



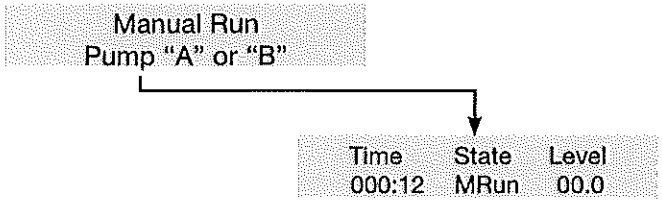
Section B.

EVENTS: A read-only set of sub-menus that allows the user to view the events logged into the system (up to 4,000 events). The LCD screen details the date, time, liquid level, event code and event count number.



Section C.

MANUAL RUN PUMP "A": Allows the user to manually operate the pump. The LCD screen details how long the pump runs and the real-time liquid level in the tank. User may toggle between pumping and stopped by pressing the Enter button.

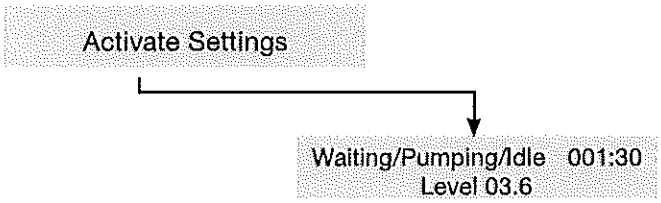


Time - Counter in that event (state)
State - MRun or MStop

MANUAL RUN PUMP "B" (Duplex only): Allows the user to manually operate a second pump. For duplex, the pumping function will alternate between Pump A and Pump B with each cycle of the Enter button. The screen display for Manual "A" and Manual "B" are similar, as follows:

Section D.

ACTIVATE SETTINGS: Allows the user to actuate or upload the controller settings to the IPC Panel.



Activates setting and starts cycle

Goes to view status screen

NOTE: Once panel is set to Activate mode, formally named Auto, it will return to the Status menu.

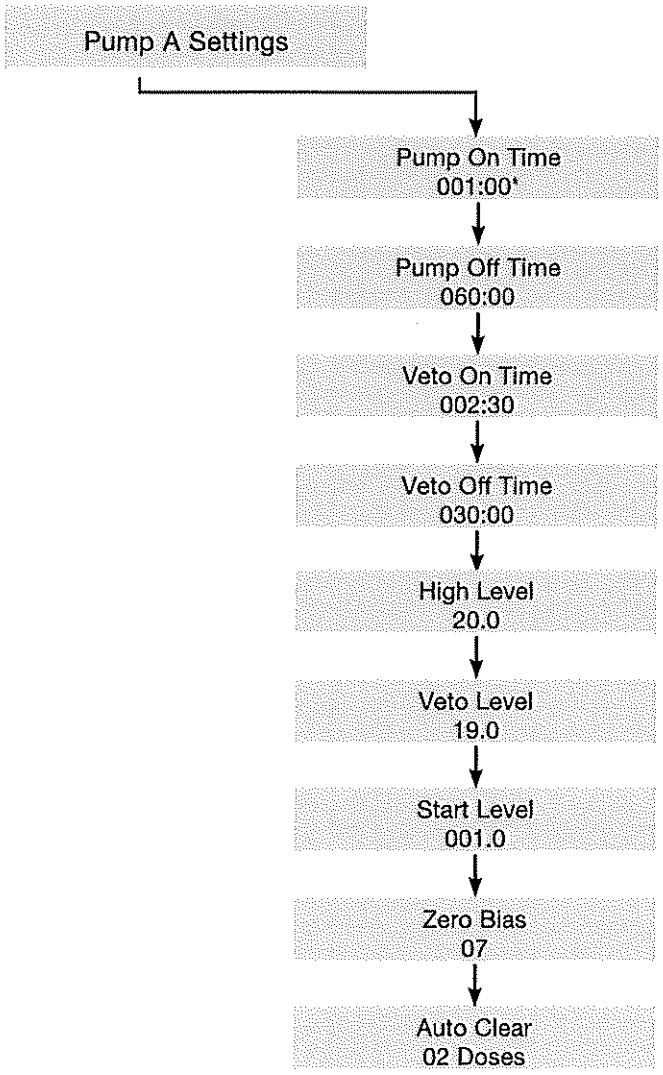
IMPORTANT:

ACTIVATE must be selected after all SETTINGS changes for the new settings to be saved to the processor.

Section E.

PUMP "A" SETTINGS: Allows the user to set all pump run parameters. Note: Pump "B" settings allow the user to set parameters for a second pump (only for use on a Duplex panel or sand filter).

* All values shown are the factory setting.



Standard dose pump on time
Pump On Time (minutes, seconds)

Standard dose pump off time
Pump Off Time (minutes, seconds)

High level veto dose on time (see below)
Dose On Time (minutes, seconds)

High level veto dose off time
Dose Off Time (minutes, seconds)

High level alarm setting (inches)

Veto level setting (inches)

Standard dose level setting (inches)

Calibration of transducer to IPC Panel. The Z-Bias number is located on the pressure transducer bell and should be recorded during transducer installation

Additional doses or time required to clear the bottom of the bell if the liquid level is below the start level

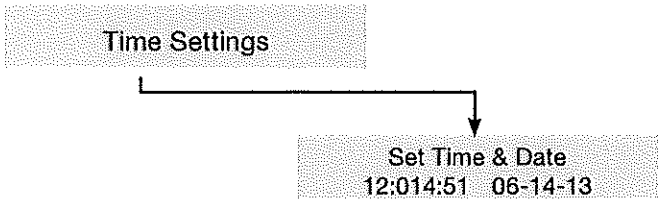
Veto Dose: The Veto function is simply a separate level that instructs the pump to run a different timing sequence and is intended to prevent pump tank overflows. The veto level is typically set above the high level alarm. When liquid reaches the veto level, the veto pump cycle times are initiated. The veto pump cycle times will remain in effect until the liquid level falls below the veto level. It the veto level is set above the alarm level, the alarm remains on. The alarm will not de-activate until it is manually silenced or the liquid level drops below the alarm level.

NOTE: If local regulation will not permit the use of an override function, then set the veto level to the same level as the high level alarm, and set the veto on and off times times to establish the veto doses as a counter of the number of doses completed above the alarm level.

Section F.

TIME SETTINGS:

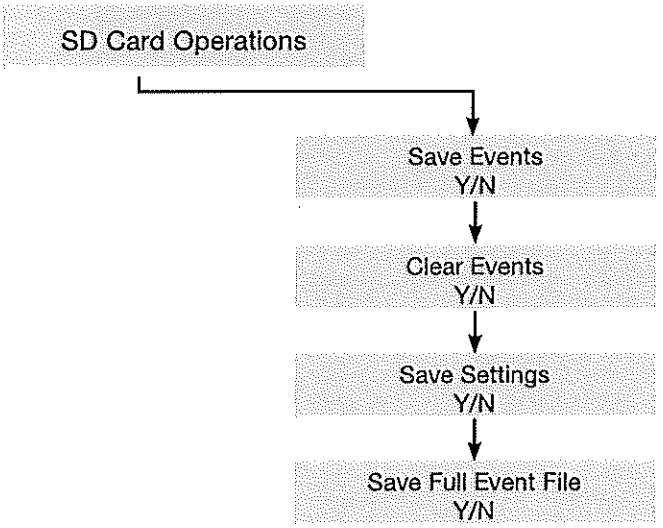
A set of sub-menus to program local date and time for logged date and time-stamped events.



Current time / current date

Section G.

SD CARD OPERATIONS: A set of sub-menus designed to perform events and settings retrieval, and to clear events when desired.



Saves events to SD card
(write events = Y, don't write events = N)

Clears currents events from control board
(clear events = Y, don't clear events = N)

Saves settings to SD card
(write settings = Y, don't write settings = No)

Save all 4000 previous events to SD card.
May contain non-events if the panel never got to 4000 events.
(write settings = Y, don't write settings = No)

VI. Using the SD Card

NOTE: It is recommended that a SD card with SD card adapter be used with the the MARC 2. The SD card must not exceed 1 GB of storage in order to operate properly.

1. Insert the SD card into the designated slot on the MARC.

2. Scroll through the MARC menus to the SD Card Settings menu, until the screen says "Write Events."

3. ENTER = "Y" to capture events to SD card, ENTER = "N" to skip.

NOTE: The MARC will show the events being transferred to the SD card.

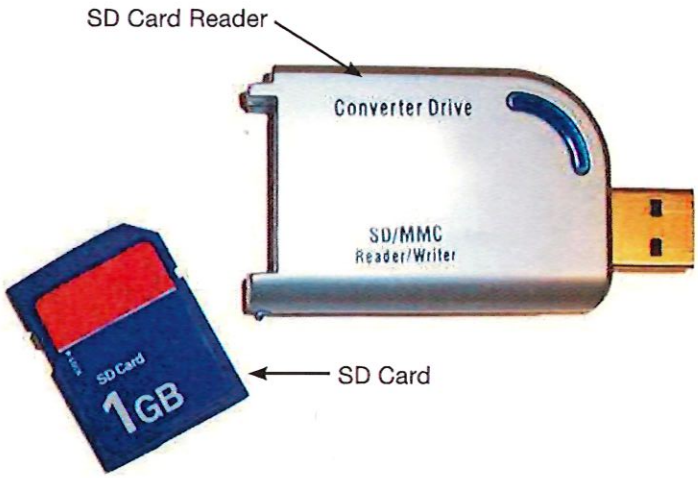
4. Once the data transfer is complete, the SD card can be removed and placed in a card reader connected to a PC.

5. On the user's PC, locate the designated drive for the card reader.

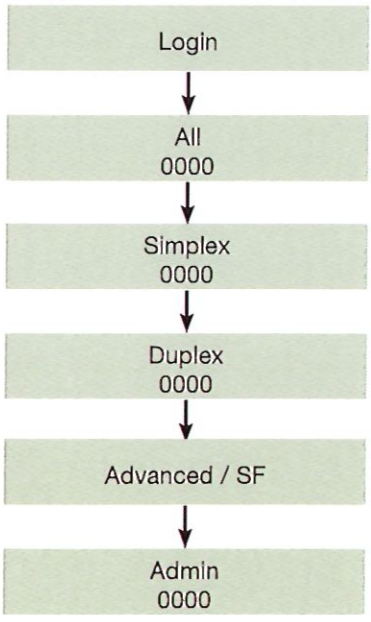
6. Click on the file to identify the SD card events file (.evt) and settings file (.set).

7. The file can be opened using a spreadsheet or text editing program.

NOTE: Each event and settings file is saved by IPC Panel serial number, allowing the user to save the data from multiple IPC Panels on a single SD card.



Section H. Login Menu



NOTE: It is no longer necessary to login to access the operating menus on the MARC.

The login menus are not necessary for normal set-up or operation conditions.

When changing the set-up on a panel to operate more advanced settings, it may be necessary to login under the Admin Menu.

Contact Infiltrator Systems at 1-800-221-4436 for more information.

SAND FILTER PANEL SET-UP

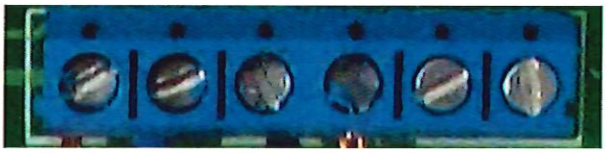
The IPC-DSF is designed for two pumps, two chambers and two transducer systems such as Sand Filters or Advanced Treatment Units. We named our system Sand Filter; however, it may be used with other advanced systems that require two pumps in different pump chambers with separate liquid levels.

In a traditional Sand Filter design, Pump A operates the pump in the Surge Tank that discharges to the sand filter, and Pump B operates the Pump Basin that discharges to the drainfield. Pump A is slaved to Pump B, so that if Pump B has an alarm, then Pump A will not run. This is important in order to protect the filter from an overload condition.

The Control Panel & Transducer set-up will follow the instructions for the Duplex panel found in Sections II & III of this manual and the Wiring Diagram found in the panel box. In addition, the IPC-DSF will require an additional step to properly connect the low voltage Pressure Transducer wires from both tanks.

See Figure 5. The small 6-pin wire terminal strip may be wired using the following instructions (numbered 1-6, from left to right).

Figure 5. Terminal Strip



Terminal #: 1 2 3 4 5 6

1. Combine both (Sensor A & B) Red wires with a wire nut, and run a single wire to terminal #1.

2. Connect the Blue wire from Sensor A to terminal #2.

3. Combine both (Sensor A & B) Black wires with a wire nut, and run a single wire to terminal #3.

4. Connect the Blue wire from Sensor B to terminal #4.

Terminals 5 & 6 remain open.

The Sand Filter features may be accessed and set-up using the MARC interface and by using the following steps:

1. Plug-in the MARC using the RJ45 (Cat5e) cord. Screen should indicate Aquaworx, with version #.

2. Scroll to LOGIN and press ENTER, then scroll to the ADMIN screen and press ENTER. SELECT login code –4000, then press ENTER. The screen should read "Admin logged in".

3. To enable the Sand Filter feature, Scroll to MODE SETTINGS and press ENTER. Scroll to CONTROLLER MODE and press ENTER. Scroll through the Controller Mode options until you find SAND FILTER. Press ENTER. Press CANCEL to return to pump control options.

4. To save this setting to the processor, Scroll to ACTIVATE SETTINGS, then press ENTER. Screen should default to Status screen and your system should be in Sand Filter Mode.

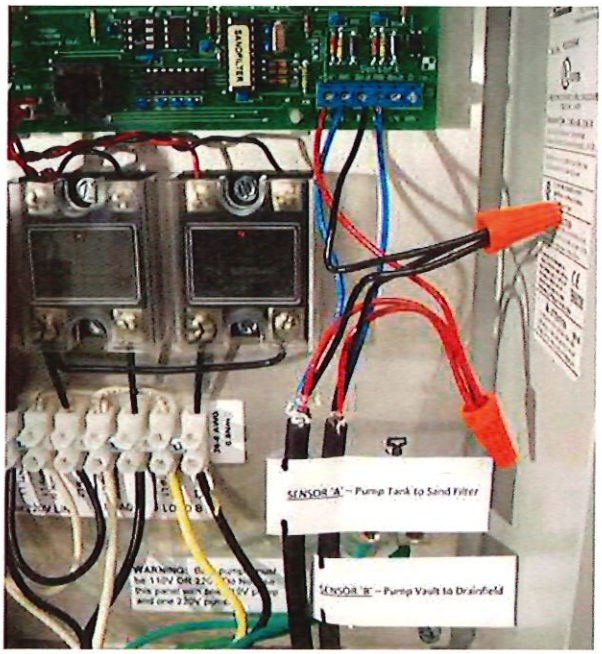
5. Scroll to PUMP A SETTINGS and press ENTER. Enter the appropriate pump settings from designer by following Section V of the manual. Important Note: remember to calibrate both Pressure Transducers under the ZERO BIAS setting. The zero bias may be found on both the label, and bell of the transducer (Example ZB-07).

6. Complete the same step for PUMP B SETTINGS.

7. To save your new settings to the processor, Scroll to ACTIVATE SETTINGS, then press ENTER. Screen should default to Status screen.

Your IPC-DSF panel will now be ready for operation.

Figure 8: Sand Filter Panel



TIMED DOSING SETUP FORMULATION

IPC Panel Setup using the following Aquaworx IPC Panels: IPC-S01, IPC-SM, IPC-D01, IPC-DM, IPC-DSF and IPC-GD

SEVEN STEPS REQUIRED FOR THE IPC PANEL SETUP

1. Determine volume per inch in the pump tank = (A) gal/in
2. Verify pump's gal per minute volume (gpm) = (B) gal per minute
3. Dose "ON" time or Pump "ON" time = (C) minutes : seconds
4. Required dose volume (gpd) = (D) gal per dose
5. Number of doses per day or 24 hours (dpd) = (E) does per day
6. Calculation for Pump "OFF" Time = (F) minutes : seconds
7. Establish Daily Flow Rate = gal per day (set by designer)

TIMED DOSING SETUP FORMULATION

"A" Calculate the Volume per inch for the Pump Tank (gal/in)

Square tank:

((L" x W")/144) x 7.48 (gal/cu ft)/12 = gal/in

Example #1:

Assuming the tank is 96" long x 48" wide x 1000/gals

= ((96" x 48") x 7.48) /12

= (4608/144) x 7.48/12

= 32 x 7.48/12

= 239.36/12

= 19.9 gal/in (rounded up to 20 gal/in)

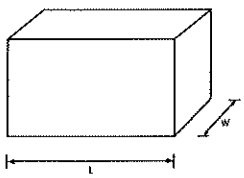


Table 1: Rectangular / Square Tanks

Width Feet (inches)	Length Feet (inches)	Gallons of liquid per inch
3' 4" (40 in)	6' 8" (80 in)	13.9
4' (48 in)	4' (48 in)	10.0
4' (48 in)	8' (96 in)	19.9
4' 5" (53 in)	8' 6" (102 in)	23.4
4' 10" (58 in)	8' 6" (102 in)	25.6
5' 2" (62 in)	8' (96 in)	25.8
5' (60 in)	9' (108 in)	28.1
5' (60 in)	10' (120 in)	31.2
5' 8" (68 in)	10' 8" (128 in)	37.7
4' (48 in)	11' (132 in)	41.1
6' 6" (78 in)	12' (144 in)	48.6

Cylindrical tank:

((3.14 x (R2) tank radius is half tank diameter) x 7.48)/12 =gal/in

Example #2:

Assuming the tank is 2' radius, 4' inside diameter (ID)

= ((3.14 x 22 ft) x 7.48)/12

= (12.57 ft3 x 7.48 gal/ft3)/12 in/ft

= 93.996/12 in/ft

= 7.8 gal/in (rounded up to 8 gal/in)

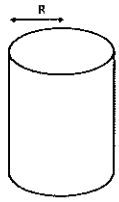


Table 2: Cylindrical Tanks

Tank Diameter Feet (inches)	Gallons of liquid per inch
2' (24 in)	2.0
2' 6" (30 in)	3.1
3' (36 in)	4.4
3' 6" (42 in)	6.0
4' (48 in)	7.8
5' (60 in)	12.2
6' (72 in)	17.6
7' (84 in)	24.0
8' (96 in)	31.3

"B" Calculate the System Pump Volume in Gallons per Minute

This is required to calculate Dose Volume

Gallons per minute (gpm) = (Draw Down x (gal/in))

1. Measure the pump discharge based on a 1 minute draw down of the tank.
2. Using the MARC, on MANUAL settings (Hands Off Auto) write down or record the liquid level.
3. Manually pump the tank for one minute. (Time will be recorded on the MARC as you manually pump down.)
4. Write down or record the difference in liquid level between the start and stop.
5. This will measure the liquid level draw down in inches for a one minute manual (HOA) pumping.

Example:

Draw Down = 2" (per the one minute draw down procedure listed above)

Gallons per minute (gpm) = (Draw Down x (gal/in))

Gallons per minute (gpm) = (2" x 20 gal/in)

(gpm) = 40

"C" Minimum Dose Size Equation: Dose "ON" Time or PUMP "ON Time (D)

This is required to calculate Dose Volume (C)

Dose "ON" Time (D) = (A + 3B)

A = Time the pump is turned on until first squirt @ the first orifice (this will compensate for time when no water is being discharge to the system).

B = The time from when the first squirt shows @ the first orifice until the laterals are equally pressurized.

By multiplying by 3, we are ensuring that 67% of the water is being equally distributed.

Example:

Pump is turned on and the first squirt shows in 5 seconds

A = 5 (seconds)

The time from the first squirt until the system is pressurized is 10 seconds

B = 10 (seconds)

Dose "ON" Time (D) = (A + 3B)

Dose "ON" Time (D) = 5 + (3 x 10)

Dose "ON" Time (D) = 5 + 30

Dose "ON" Time (D) = 35 seconds

"D" Calculation for Dose Volume

Gallons per dose (gpd) =
(Dose "ON" Time/60 x gallons per minute (gpm))

Example:

Gallons per dose (gpd) =
(Dose "ON" Time x gallons per minute (gpm))

Gallons per dose (gpd) =
(35 (seconds)/60(seconds/minute)) x 40 (gpm)

(gpd) = (.58 x 40)

(gpd) = 23.3 gallons

"E" Calculation for Number of Doses per Day

Number of doses per day =
gallons per day (estimated daily flow rate)/
gallons per dose

Example:

Assume 360 gallons per day system
(Typically set by designer)

Doses per day (dpd) =
360 gallons per day / 23.3 gallons per dose

Doses per day (dpd) = 360/23.3

(dpd) = 15.4 doses per day

(dpd) = 15 doses per day

"F" Calculation for Pump "OFF" Time

Take the number of hours in a day =
24 hours and divide this by the
number of doses per day

Example:

Pump "OFF" Time = 24 (hrs.)/15 (dpd)

Pimp "OFF" Time - 1.6 hrs or 1 hour/36

TIMED DOSING SETUP FORMULATION

REVIEW SIX STEPS REQUIRED FOR THE IPC PANEL SETUP

7. Determine volume per inch in the pump tank = **20** gal/in

8. Verify pump's gal per minute volume (gpm) = **40** gal per minute

9. Required dose volume (gpd) = **23.3** gal per dose

10. Number of doses per day or 24 hr's (dpd) = **15** does per day

11. Calculation for Pump "OFF" Time = **1 hr/36 min** Off time

12. Establish Daily Flow Rate = **360** gal per day (set by designer)

FREQUENTLY ASKED QUESTIONS

What does Z-BIAS mean?
Each transducer manufactured has a slightly different resistance called zero bias. Every transducer is calibrated at the factory prior to shipment. The calibration rating is labeled on the bell, and recorded on the outside of the transducer package. The Z-BIAS value needs to be programmed into the panel at start up.

What is Auto-clear?
Timed System: The air trapped in the transducer bell needs to be replaced on occasion. During periods of low or no flow the level will start to drop in the tank. Once the level drops down to the start level the computer tracks the next dose or doses as auto-clear doses. Since the start level is typically set to one dose volume, the auto clear is typically set to one. (Example: A 40 gallon dose would translate to a 2" dose in most 1, 000 gallon tanks) During one of the doses the level will drop below the start level. The next 2" dose will then end below the bottom of the bell and the system will be idle until the liquid level rises above the start level again. In the case of small doses multiple auto-clear doses may be needed. (Example: If the dose volume is 10 gallons, then 1/2" enough doses are required to draw the level to one inch below the bell, so in this case an auto clear of 4 would be used).

Demand System: In a demand dose system the start level becomes the pump ON and the bottom of the bell becomes the OFF level. The auto clear is set in seconds - typically 10 seconds. (Example: Pump will turn on at the start level, pump down to the bottom of the bell then wait through the OFF time then run the additional time to clear the bell).

Can I cut or splice the transducer signal wire?
It is OK to cut the transducer wire to length from the tank to the panel. However, the cable should NOT be spliced. The high potential of corrosion when splicing the signal wire will affect the signal and could reduce the accuracy of the unit. The transducers come in 4 lengths eliminating the need for field splicing. The lengths are 40', 80', 120', and 240'.

What does VETO mean?
The VETO feature is a second timer setting (also known as an override in some markets). If the flow increases above the Veto level, the VETO timing replaces the normal time settings. If the level in the tank is at or above the VETO level, the panel will operate in the VETO schedule in addition to its normal time settings.

I have input the new settings but it still runs the default program.
If the timer schedule and/or the level functions are changed, the AUTO feature MUST be selected. This will upload the new changes to the board and is found on the MARC unit between Manual A and Pump A settings.

How should I supply power to the panel?
The control power must be 120V. The pump circuit for the panel can be wired either 120 volts or 240 volts depending on the pump requirements. It is important to provide two designated circuits to the panel, one circuit to the pump and one to the controls. The

primary load draw is the pump and the most likely component to trip the supply circuit breaker. With two circuits, if the pump circuit tripped, power would be available to the controls and will notify the homeowner of the problem.

Why does my control panel read the EVENTs once a minute?
If the Log Status in the panel is set to Y (yes), then it will record every event once per minute. This will cause the 4000 event to fill-up quickly in the panel. The Log Status may be set to N (no). To change this using the MARC, go to Mode settings and press enter. In the first screen named Log Status, if you press enter the Log Status can be changed to N (no).

Why does my Transducer always read a 00.0" level?
In some cases the Transducer or circuit board may need to be replaced. Check all connections. Test any component before installing it. Checking a transducer with a bucket of water is an easy way to see if the new transducer solved the problem.

Why does the Transducer read a constant level, (ex: 1.5- 6.5") even though the pump is running?
The Transducer wiring to the circuit board is not in the proper sequence. Make sure the input wires are RED (RD), BLUE (BL), and BLACK (BK) from left to right on the wire terminal strip attached to the circuit board.

How do you setup for a Redundant off Float?
The best way to use a redundant off is to wire a load rated float switch in line with the power in the pump vault. Secondly, many pump companies supply a "piggy back float" option.

How do I wire a panel for 230/240 Volt installations?
The control side of the panel must only be wired for 120 volt installation. For the pump(s) power supply (Line side), using 3-wire, connect the Red wire to the Neutral or Pump L1 terminal block and the Black wire to the Pump L2 terminal block. The White neutral wire can be cut back.

What should I use to plug the conduit to prevent sewer gases from entering the enclosure?
There is a variety of conduit sealing compounds available, but we recommend, Chico SpeedSeal Compound, as it will quickly harden to a dense, strong mass and is UL Listed and cUL Listed.

Can you run the same Transducer wire in the conduit for the pump supply?
The Transducer wire can be run thru the same conduit as the pump power supply without interference. However, the Transducer is a low voltage wire and in some jurisdictions it is not allowed to run both High/Low voltages in the same conduit. Check with both regional and State Regulations first.

Can I setup the IPC panel with a Remote Alarm?
Yes, a remote alarm can be purchased as an option with all Aquaworx IPC panels. The remote alarm will provide the same alarm sequence as the alarms on the main enclosure. The remote alarm can be located up to 2000' away from the main control box. Contact customer service to purchase.

What is the difference between DOSE, ADOSE & BDOSE in the Event log?
Dose = A recorded standard Dose from pump A.
ADose = A recorded Autoclear Dose.
BDose = A recorded Dose from pump B.

Can the panel be setup using two transducers?
Yes, using a IPC Sand filter panel specifically for installations that require two separate pump systems each needing a separate transducer for each pump. (Product ID number: IPC-DSF)

When I set the panel up to run both pumps what will happen?
This setting is designed to run both pump A and pump B during a Veto level. This setting is used in conjunction with a Duplex panel to pump the tank down faster. This should only be used if the pumps are small and both pumps can run on one circuit or if it is a specialty panel setup for individual circuits for each pump.

Can I put a heater unit inside the control panel?
Yes, Aquaworx offers a heater unit that can be easily setup in an existing or new IPC panel. Contact customer service for more information.

What is the battery on the circuit board, and/or will I lose my events if the power goes out?
Its purpose is to keep the clock running, which will allow the data logging to record when the power goes out and for how long the power was off. The battery can last up to five years without a replacement but, it is recommend that it be change every year. If the battery is lost and the power goes out all data and all settings are retained and will function once power is restored, however, the date and time will re-set to 00.

What is a Varistor?
A varistor is a variable resistor used to protect excessive current in a circuit. Our varistor is connected between the incoming line and neutral. This 130V varistor serves as over voltage/surge protection for the controller.

How do I setup the panel to handle a Sand filter application?
Using the MARC controller, under the Mode settings, the Run Both / SFI (Sand Filter Interface) menu will need to be set to Y (yes). This will not allow Pump A to initiate if pump B has a high level alarm.

The MARC unit is not recording events from my SD card?
If the MARC screen is going blank during the download, then it is probably receiving too much current from the SD card. This may be caused by too much data on the card, or too much memory on the card. We recommend a 1 Gigabit maximum SD card with dedicated use for the MARC.

How do I wire a Transducer to the panel for a Sand filter application?
Follow the instructions provided with the panel. If the instructions are lost we can email you, or download from our website, www.aquaworx.com

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www.infiltratorwater.com

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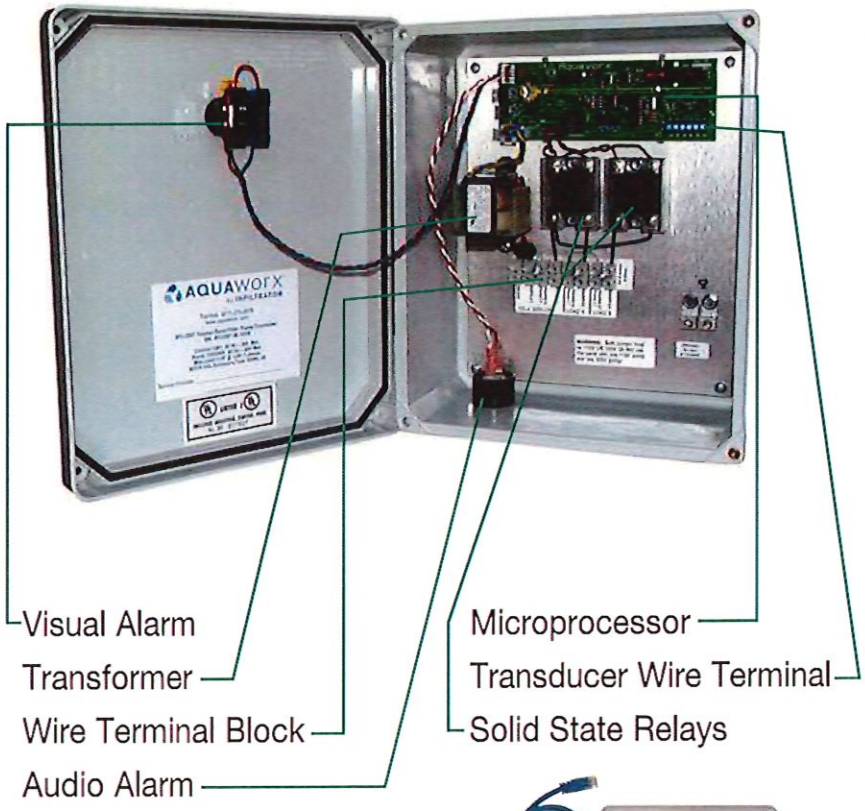
Contact Infiltrator Systems' Technical Services Department for assistance at 1-800-221-4436

AQUAworx by INFILTRATOR

IPC-D Duplex Control Panel
Technical Data Sheet

The Aquaworx Intelligent Pump Controller (IPC) Panel provides an innovative approach to time controlled pumping. Designed specifically for the onsite industry, the IPC Panel uses floatless pressure transducer technology. The IPC Panel monitors liquid levels, controls pumping time intervals, and logs events using the MARC (Mountable and Removable Controller) as the user interface. The data logging capabilities of the IPC Panel enables monitoring of multiple types of system events, which enhances operational assessment troubleshooting, and maintenance of the onsite system. The IPC-D Panel operates two alternating pumps, a single pressure transducer located in a single pump tank.



MARC Controller

STANDARD SPECIFICATIONS

- Enclosure dimensions: 13.3"H x 11.3"W x 5.8"D
- Weight: 8.5 lbs
- 115 VAC, 20 FLA, 1-HP Max, single phase, 60Hz
  220 VAC, 20 FLA, 2-HP Max, single phase, 60Hz
- NEMA 4X rated – constructed of UV-resistant fiberglass with stainless steel hinge
- Manual / Off / Auto Operation
- Audio / Visual Alarm – 95 decibel, with push to silence
- UL/cUL listed
- Built-in dose counter and pump run timer
- Solid-state relay
- Pressure transducer, liquid level sensing with no floats
- Transducer wire: 14-gauge, 3-wire connection (red, blue, black), rated for direct burial

FEATURES & BENEFITS

Floatless Transducer
Sensor mounted in pump chamber
- Simple 3-wire connection
- Reduces water tight connections in junction box
- Eliminates sewer gases in panel and crimped tubing

Data Logging
Date and time stamp for 4,000+ events
- Allows for system troubleshooting and timely diagnostics
- Allows design versus actual flow comparisons
- Identify water usage patterns

Veto Level Function
- Allows a programmable override

Easy Installation
- Only basic tools required: Screwdriver, pipe cutter, wirestripper, drill, step bit, tape measure

INFILTRATOR® systems inc.

4 Business Park Road | P.O. Box 768 | Old Saybrook, CT 06475 | 860-577-7000 | Fax 860-577-7001
1-800-221-4436 | www.infiltratorsystems.com

R32 0613ISI

Contact Infiltrator Systems' Technical Services Department for assistance at 1-800-221-4436

Transfer Pump
East System

CHESTER COUNTY HEALTH DEPARTMENT

Bureau of Environmental Health Protection

Division of Water & Sewage

LIFT PUMP DATA SHEET

NAME: Scott Nyman APPLICATION #: Z 144367

MUNICIPALITY: Newlin DATE: 28 September 2024

DATA

1.) **Lift Pump:** Manufacturer Goulds Model # 3885WE03L

2.) **Sewage Flow, Peak Rate:** (min. 5 GPM) 5.00 GPM

3.) **Pump Discharge Rate:** (Design) 10.00 GPM

4.) **Critical Elevations:** (From Topographical Plan)

a.) Grade at Pump Station:	250.40 ft	e.) Pump On:	245.40 ft
b.) Tank Floor:	243.40 ft	f.) Pump Off:	244.40 ft
c.) Intake Invert:	243.90 ft	g.) Alarm On:	245.65 ft
d. D box manifold	248.03 ft		

5.) **Pump Tank:** **Capacity:** 1,000 Gal.

Rectangular: 92" L BY 62" W **Round:** _____ **Dia.** OR EQUA **Depth:** 47" 24.69 GPI

	Quantity	Delivery Line Equiv. Length (ft)	Total (feet)
90° Elbow	5	4.73	23.65
45° Elbow		2.01	0.00
Std. Tee		8.62	0.00
Couplings	6	1.05	6.30
Quick Disc	1	1.05	1.05
Check Valve	1	12.00	12.00
CROSS		2.70	0.00
Force Line	1	220.00	220.00
			263.00 feet

Total Delivery Line Equivalent Length = **263.00 feet** **@ 1.5" inches in diameter**

Type of Piping: PVC Sch 40 ***(All pipe MUST be schedule 40 or equivalent)***

CALCULATIONS

7a.) **Friction Head:**	1.84	feet (F.H.)
7 b.) Pressure Head:	0.00	feet (F.H.)
8.) **Static Head:**	3.63	feet (#4.(d.)-#4.(f.) = S.H.)
9.) **Total Head:**	5.47	feet (F.H. + S.H. = T.H.)
10.) **Pump Discharge Rate**:	10.00	GPM (Attached Mfr. Curve)
11.) **Discharge Volume:**	49.4	Gallons

12.) **HYDRAULIC PROFILE -** Illustrate the following below:

a) Submit a profile drawing showing all elevation changes & fittings from pump tank to distributi box or header pipe. This drawing may be on 8½" x 11" paper (or folded to this size).

b) Elevations must be from a topographic plan.

Notes:

A high level alarm must be provided & connected to an electrical circuit which is separate from the pump.

All electrical controls must be moisture resistant and be located outside of the wet well of the tank.

The pump tank access must be to grade and be secured by bolts, a locking mechanism, or have sufficient weight to prevent access by children.

It is recommended that a maximum 1½" vent be installed on the pump tank. Venting should be screened to prevent access by insects and vectors.

PREPARED BY: EVANS MILL ENVIRONMENTAL, LLC **APPROVED BY:** _____

ALL CHANGES MADE TO THESE SPECIFICATIONS REQUIRE PRIOR APPROVAL BY THIS DEPARTMENT.

Four (4) copies of this form must be submitted

West Unit Transfer Pump

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):

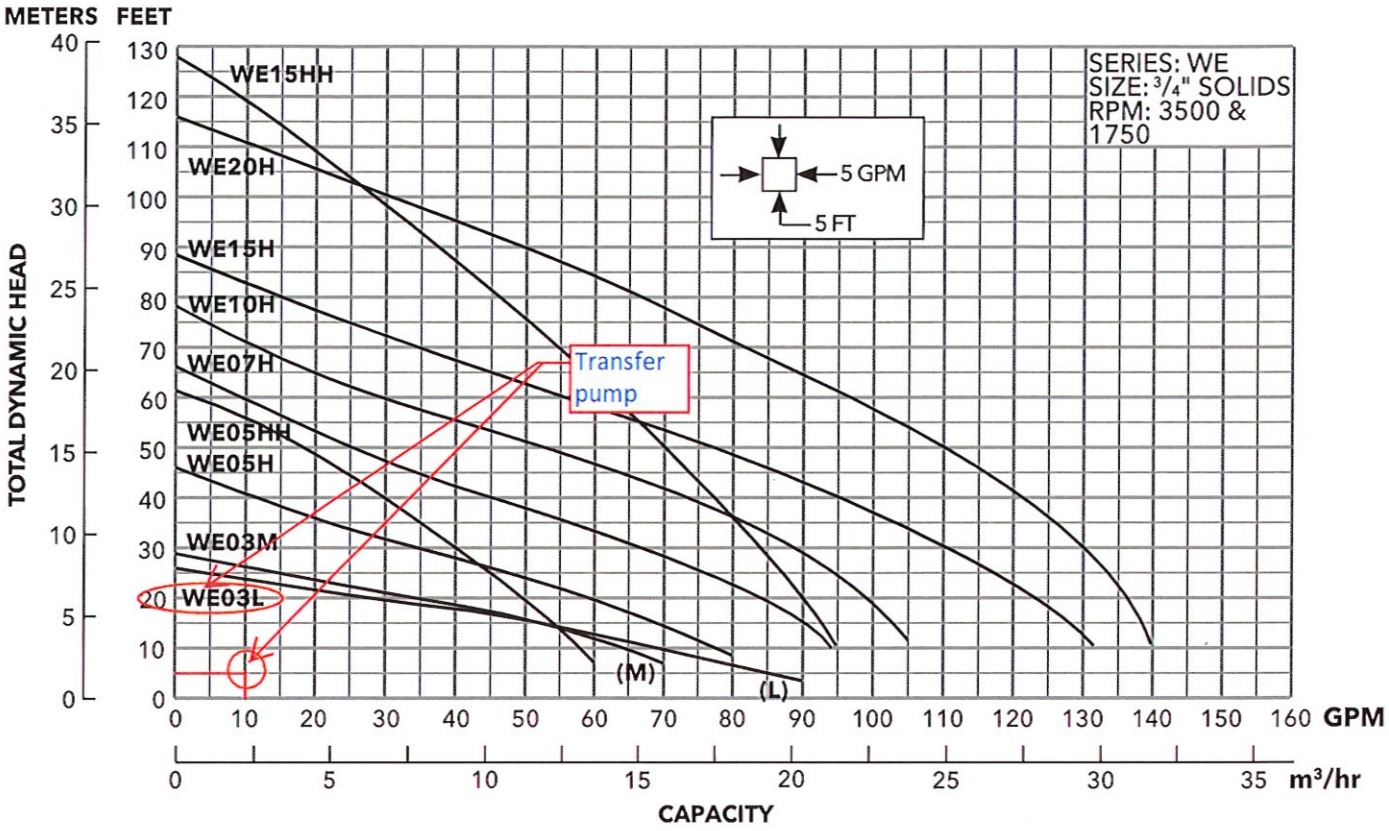
- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ - 1 HP models have NEMA three prong grounding plugs.
- 1½ HP and larger units have bare lead cord ends.

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.

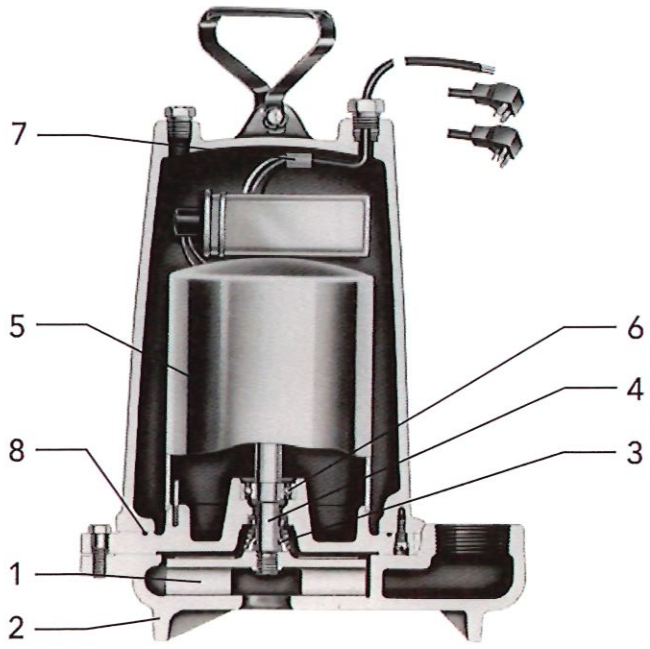
AGENCY LISTINGS

C SP US 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

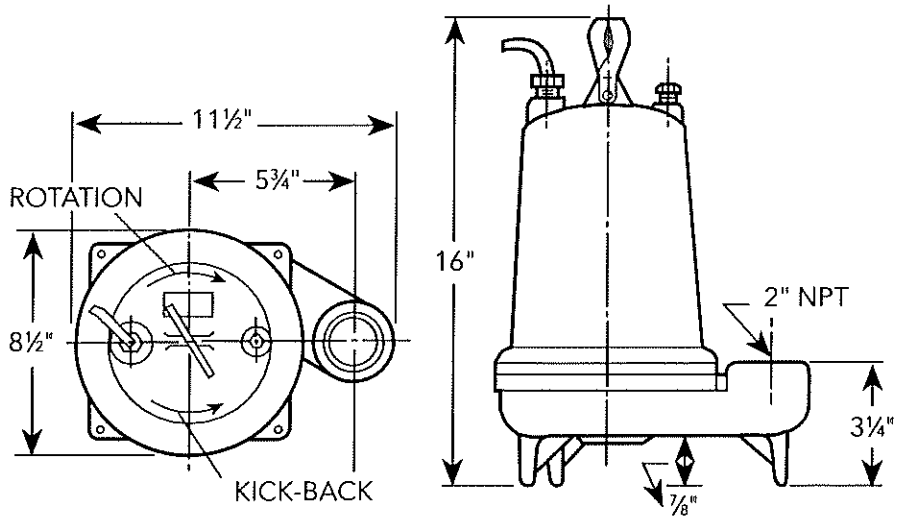
Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance		Power Cable Size	Weight (lbs.)
										Start	Line-Line		
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56
WE0318L			208			6.8	19.5	K	51	9.1	4.2		
WE0312L			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.)



STANDARD PANEL OPTIONS

Pump Order Number	K Series		Boulay Series	
	Simplex	Duplex	Simplex	Duplex
WE0311L	KS19020WF	KD19020WF	S10020	D10020
WE0318L	KS19020WF	KD19020WF	S10020	D10020
WE0312L	KS19020WF	KD19020WF	S10020	D10020
WE0311M	KS19020WF	KD19020WF	S10020	D10020
WE0318M	KS19020WF	KD19020WF	S10020	D10020
WE0312M	KS19020WF	KD19020WF	S10020	D10020
WE0511H	KS19020WF	KD19020WF	S10020	D10020
WE0518H	KS19020WF	KD19020WF	S10020	D10020
WE0512H	KS19020WF	KD19020WF	S10020	D10020
WE0538H	KS31255WF	KD31255WF	S34063	D34063
WE0532H	KS31255WF	KD31255WF	S32540	D32540
WE0534H	KS31255WF	KD31255WF	S31625	D31625
WE0537H	N/A	N/A	S31625	D31625
WE0511HH	KS19020WF	KD19020WF	S10020	D10020
WE0518HH	KS19020WF	KD19020WF	S10020	D10020
WE0512HH	KS19020WF	KD19020WF	S10020	D10020
WE0538HH	KS31255WF	KD31255WF	S34063	D34063
WE0532HH	KS31255WF	KD31255WF	S32540	D32540
WE0534HH	KS31255WF	KD31255WF	S31625	D31625
WE0537HH	N/A	N/A	S31625	D31625
WE0718H	KS19020WF	KD19020WF	S10020	D10020
WE0712H	KS19020WF	KD19020WF	S10020	D10020
WE0738H	KS34518WF	KD34518WF	S36310	D36310
WE0732H	KS34518WF	KD34518WF	S34063	D34063
WE0734H	KS31255WF	KD31255WF	S32540	D32540
WE0737H	N/A	N/A	S31625	D31625
WE1018H	KS19020WF	KD19020WF	S10020	D10020
WE1012H	KS19020WF	KD19020WF	S10020	D10020
WE1038H	KS34518WF	KD34518WF	S36310	D36310
WE1032H	KS34518WF	KD34518WF	S36310	D36310
WE1034H	KS34518WF	KD34518WF	S32540	D32540
WE1037H	N/A	N/A	S32540	D32540
WE1518H	KS19020WF	KD19020WF	S10020	D10020
WE1512H	KS19020WF	KD19020WF	S10020	D10020
WE1538H	KS34518WF	KD34518WF	S31016	D31016
WE1532H	KS34518WF	KD34518WF	S36310	D36310
WE1534H	KS34518WF	KD34518WF	S34063	D34063
WE1537H	N/A	N/A	S32540	D32540
WE1518HH	KS19020WF	KD19020WF	S10020	D10020
WE1512HH	KS19020WF	KD19020WF	S10020	D10020
WE1538HH	KS34518WF	KD34518WF	S31016	D31016
WE1532HH	KS34518WF	KD34518WF	S36310	D36310
WE1534HH	KS34518WF	KD34518WF	S34063	D34063
WE1537HH	N/A	N/A	S32540	D32540
WE2012H	KS19020WF	KD19020WF	S10020	D10020
WE2038H	KS34518WF	KD34518WF	S31016	D31016
WE2032H	KS34518WF	KD34518WF	S31016	D31016
WE2034H	KS34518WF	KD34518WF	S34063	D34063
WE2037H	N/A	N/A	S34063	D34063

Note: Boulay Series part numbers have additional available features, see page 7 for more information.

Note: K Series panel part numbers include floats, to order without float switches, remove the 'WF' suffix. Boulay Series panels do not include float switches.

K-SERIES

- NEMA 4X dead front outdoor rated enclosure
- Red LED alarm beacon
- HOA selector switch
- Field wiring terminal block
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230 and 460V service
- Requires separate control/alarm power feed
- See brochure "BCPKSDPANELS" for additional information

BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xyleminc.com

xylem
Let's Solve Water

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Seneca Falls, NY 13148
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Fax: (888) 322-5877
www.xylem.com/goulds

East System

3800-FM-WSFR0290A 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

SITE INVESTIGATION AND PERCOLATION TEST REPORT FOR ONLOT DISPOSAL OF SEWAGE

INSTRUCTIONS FOR COMPLETION OF THIS FORM ARE LOCATED ON THE REVERSE SIDE

Application No. Z144367 Municipality Newlin County Chester

Site Location 415 Laurel Road Subdivision Name

☒ SUITABLE Soil Type ____ Slope 8% Depth to Limiting Zone 40 Ave. Perc. Rate 28.43

☐ UNSUITABLE ☒ Mottling ☐ Seeps or Ponded Water ☐ Bedrock ☐ Fractures ☐ Coarse Fragments

☐ Perc. Rate ☐ Slope ☐ Unstabilized Fill ☐ Floodplain ☐ Other

SOILS DESCRIPTION:

Soils Description Completed by: Chester County Health Dept TP 8-17-C Date: August 17, 2020

Inches			Description of Horizon
0	TO	13	Dark Brown, SiL, 1 SBK, friable, abrupt with roots
13	TO	28	brown, SiCL, 2 SBK,friable, abrupt w/roots 15-35% cf
28	TO	39	RB, SiCL, 2 SBK, friable, abrupt, 15-35 cf
	TO		mottles at 40"
	TO		
	TO		

PERCOLATION TEST:

Percolation Test Completed by: PR Environmental Date: August 18, 2020

Weather Conditions: ☐ Below 40°F ☒ 40°F or above ☒ Dry ☐ Rain, Sleet, Snow (last 24 hours)

Soil Conditions: ☐ Wet ☒ Dry ☐ Frozen

Hole No.	*** Yes	*** No	Reading Interval	Reading No. 1: Inches of drop	Reading No. 2: Inches of drop	Reading No. 3: Inches of drop	Reading No. 4: Inches of drop	Reading No. 5: Inches of drop	Reading No. 6: Inches of drop	Reading No. 7 Inches of drop	Reading No. 8: Inches of drop
1	x		10 / 30	3	3 1/4	2 7/8	3 1/4	3	3 1/8	3 1/8	
2	x		10 / 30	1 3/4	1 3/4	1 1/2	1 5/8				
3	x		10 / 30	7/8	3/4	3/4	7/8				
4	x		10 / 30	1 1/8	1 1/8	7/8	1 1/8				
5	x		10 / 30	1/4	1/2	1/2	1/2				
6	x		10 / 30	1 1/2	1 3/8	1 1/4	1 5/8	1 3/8	1 3/8	1 3/8	

***Water remaining in the hole at the end of the final 30-minute presoak? Yes, use 30-minute interval; No, use 10-minute interval.

Calculation of Average Percolation Rate:

Hole No.	Drop during final period		Perc. Rate as Minutes/Inch		Depth of Hole	
1	3 1/8	"	9.6		20	"
2	1 5/8	"	18.5		20	"
3	7/8	"	34.3		20	"
4	1 1/8	"	26.7		20	"
5	1/2	"	60		20	"
6	1 3/8	"	21.8		20	" Min / Inch
TOTAL OF MIN / IN →			170.9	=	28.43	
TOTAL NO. OF HOLES→			6			

The information provided is the true and correct result of tests conducted by me, performed under my personal supervision, or verified in a manner approved by DEP.

(S) _____
Sewage Enforcement Officer

☐ White - Local Agency ☐ Yellow - Applicant ☐ Pink - Local DEP Office

3800-FM-WSFR0290A 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

SITE INVESTIGATION AND PERCOLATION TEST REPORT FOR ONLOT DISPOSAL OF SEWAGE

INSTRUCTIONS FOR COMPLETION OF THIS FORM ARE LOCATED ON THE REVERSE SIDE

Application No. Z144367 Municipality Newlin County Chester

Site Location 415 Laurel Road Subdivision Name _____

☒ SUITABLE Soil Type _____ Slope 8% Depth to Limiting Zone 40 Ave. Perc. Rate _____

☐ UNSUITABLE ☒ Mottling ☐ Seeps or Ponded Water ☐ Bedrock ☐ Fractures ☐ Coarse Fragments

☐ Perc. Rate ☐ Slope ☐ Unstabilized Fill ☐ Floodplain ☐ Other _____

SOILS DESCRIPTION:

Soils Description Completed by: Chester County Health Dept TP 8-17-D Date: August 17, 2020

Inches			Description of Horizon
0	TO	6	Dark Brown, SiL, 1 SBK, friable, abrupt with roots
6	TO	28	red brown, CL, 3 SBK,friable, 35-60% cf
	TO		mottles @ 29"
	TO		
	TO		
	TO		

PERCOLATION TEST:

Percolation Test Completed by: _____ Date: _____

Weather Conditions: ☐ Below 40°F ☐ 40°F or above ☐ Dry ☐ Rain, Sleet, Snow (last 24 hours)

Soil Conditions: ☐ Wet ☐ Dry ☐ Frozen

Hole No.	*** Yes	*** No	Reading Interval	Reading No. 1: Inches of drop	Reading No. 2: Inches of drop	Reading No. 3: Inches of drop	Reading No. 4: Inches of drop	Reading No. 5: Inches of drop	Reading No. 6: Inches of drop	Reading No. 7 Inches of drop	Reading No. 8: Inches of drop
			10 / 30								
			10 / 30								
			10 / 30								
			10 / 30								
			10 / 30								
			10 / 30								

***Water remaining in the hole at the end of the final 30-minute presoak? Yes, use 30-minute interval; No, use 10-minute interval.

Calculation of Average Percolation Rate:

Hole No.	Drop during final period		Perc. Rate as Minutes/Inch		Depth of Hole	
		"				"
		"				"
		"				"
		"				"
		"				"
		"				" Min / Inch
TOTAL OF MIN / IN →				=		
TOTAL NO. OF HOLES→						

The information provided is the true and correct result of tests conducted by me, performed under my personal supervision, or verified in a manner approved by DEP.

(S) _____
Sewage Enforcement Officer

☐ White - Local Agency ☐ Yellow - Applicant ☐ Pink - Local DEP Office

3800-FM-WSFR0290A 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

SITE INVESTIGATION AND PERCOLATION TEST REPORT FOR ONLOT DISPOSAL OF SEWAGE

INSTRUCTIONS FOR COMPLETION OF THIS FORM ARE LOCATED ON THE REVERSE SIDE

Application No. Z144367 Municipality Newlin County Chester

Site Location 415 Laurel Road Subdivision Name _____

☒ SUITABLE Soil Type _____ Slope 8% Depth to Limiting Zone 40 Ave. Perc. Rate _____

☐ UNSUITABLE ☒ Mottling ☐ Seeps or Ponded Water ☐ Bedrock ☐ Fractures ☐ Coarse Fragments

☐ Perc. Rate ☐ Slope ☐ Unstabilized Fill ☐ Floodplain ☐ Other _____

SOILS DESCRIPTION:

Soils Description Completed by: Chester County Health Dept TP 8-17-E Date: August 17, 2020

Inches			Description of Horizon
0	TO	8	Dark Brown, SiL, 1 SBK, friable, abrupt with roots
8	TO	28	red brown, SiL, 1 SBK,friable, 35-60% cf
28	TO	84	red brown, SL, 0 massive, very friable 60-90% cf
	TO		
	TO		
	TO		

PERCOLATION TEST:

Percolation Test Completed by: _____ Date: _____

Weather Conditions: ☐ Below 40°F ☐ 40°F or above ☐ Dry ☐ Rain, Sleet, Snow (last 24 hours)

Soil Conditions: ☐ Wet ☐ Dry ☐ Frozen

Hole No.	*** Yes	*** No	Reading Interval	Reading No. 1: Inches of drop	Reading No. 2: Inches of drop	Reading No. 3: Inches of drop	Reading No. 4: Inches of drop	Reading No. 5: Inches of drop	Reading No. 6: Inches of drop	Reading No. 7 Inches of drop	Reading No. 8: Inches of drop
			10 / 30								
			10 / 30								
			10 / 30								
			10 / 30								
			10 / 30								
			10 / 30								

***Water remaining in the hole at the end of the final 30-minute presoak? Yes, use 30-minute interval; No, use 10-minute interval.

Calculation of Average Percolation Rate:

Hole No.	Drop during final period		Perc. Rate as Minutes/Inch		Depth of Hole	
		"				"
		"				"
		"				"
		"				"
		"				"
		"				"

Min / Inch

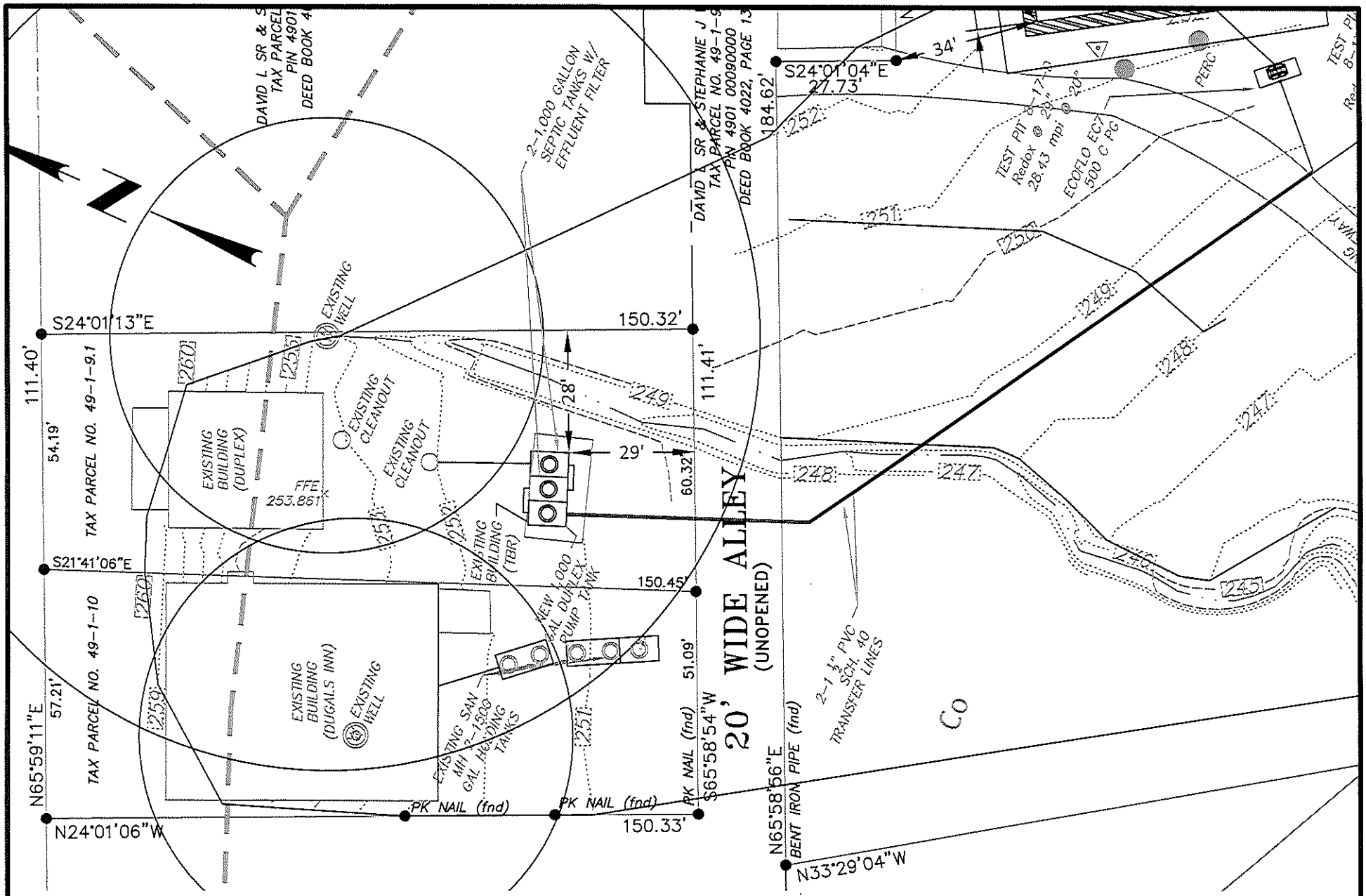
TOTAL OF MIN / IN → _____ = _____

TOTAL NO. OF HOLES→ _____

The information provided is the true and correct result of tests conducted by me, performed under my personal supervision, or verified in a manner approved by DEP.

(S) _____
Sewage Enforcement Officer

☐ White - Local Agency ☐ Yellow - Applicant ☐ Pink - Local DEP Office

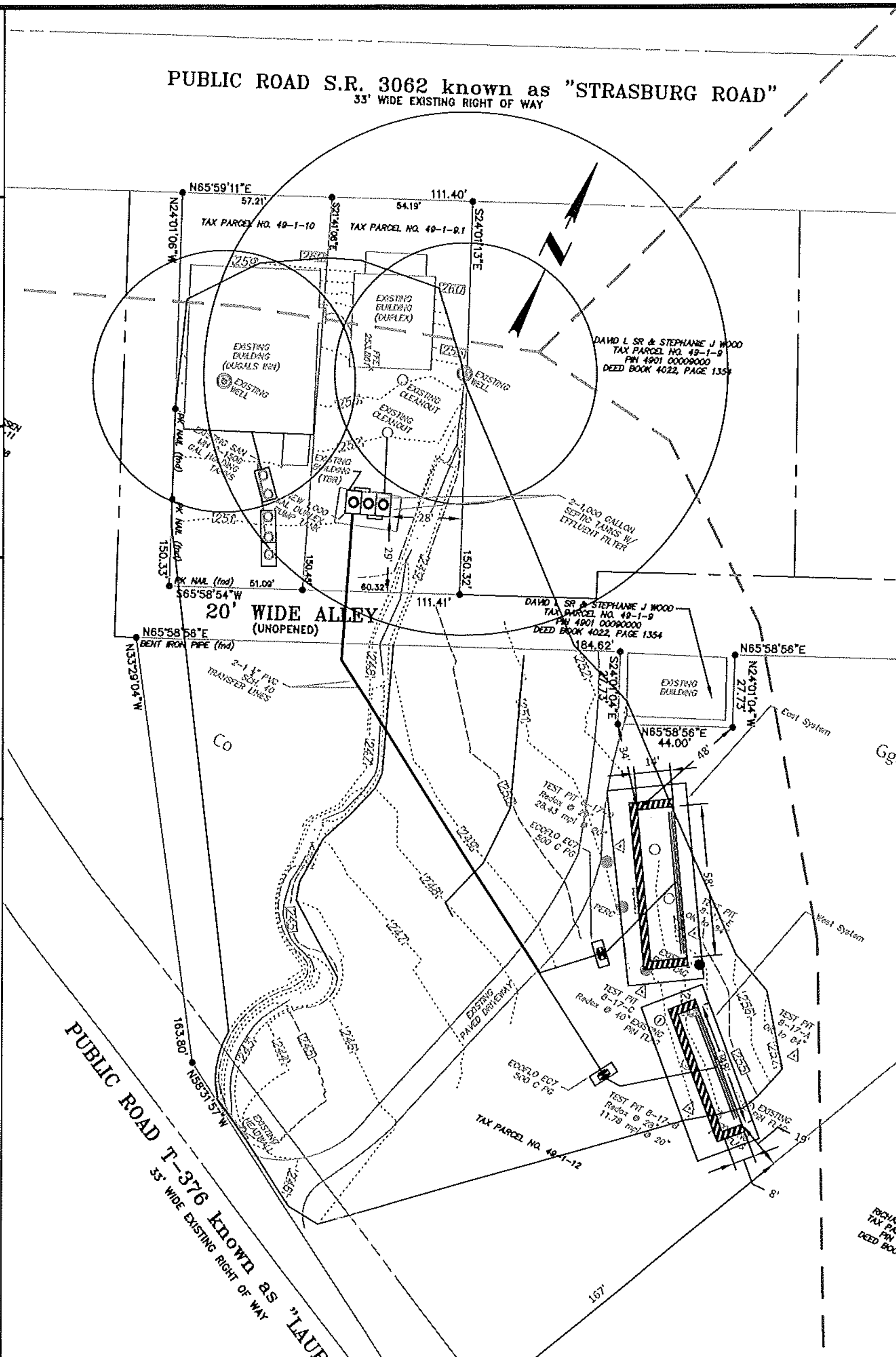


PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	1' = 30'
DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 2 of 8

EVANS MILL ENVIRONMENTAL, LLC
ENVIRONMENTAL ENGINEERS AND CONSULTANTS
101 FELLOWSHIP ROAD, UWCHLAND, PA 19480
TEL (610)458-8300 · FAX (610)458-7168
evansmil@emc-llc.com

SCOTT NYMAN
EAST UNIT OF DUPLEX
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION



PROJECT NO.: 3441-00

APPLICATION NO.: Z 144367

SCALE: 1" = 50'

DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 1 of 8

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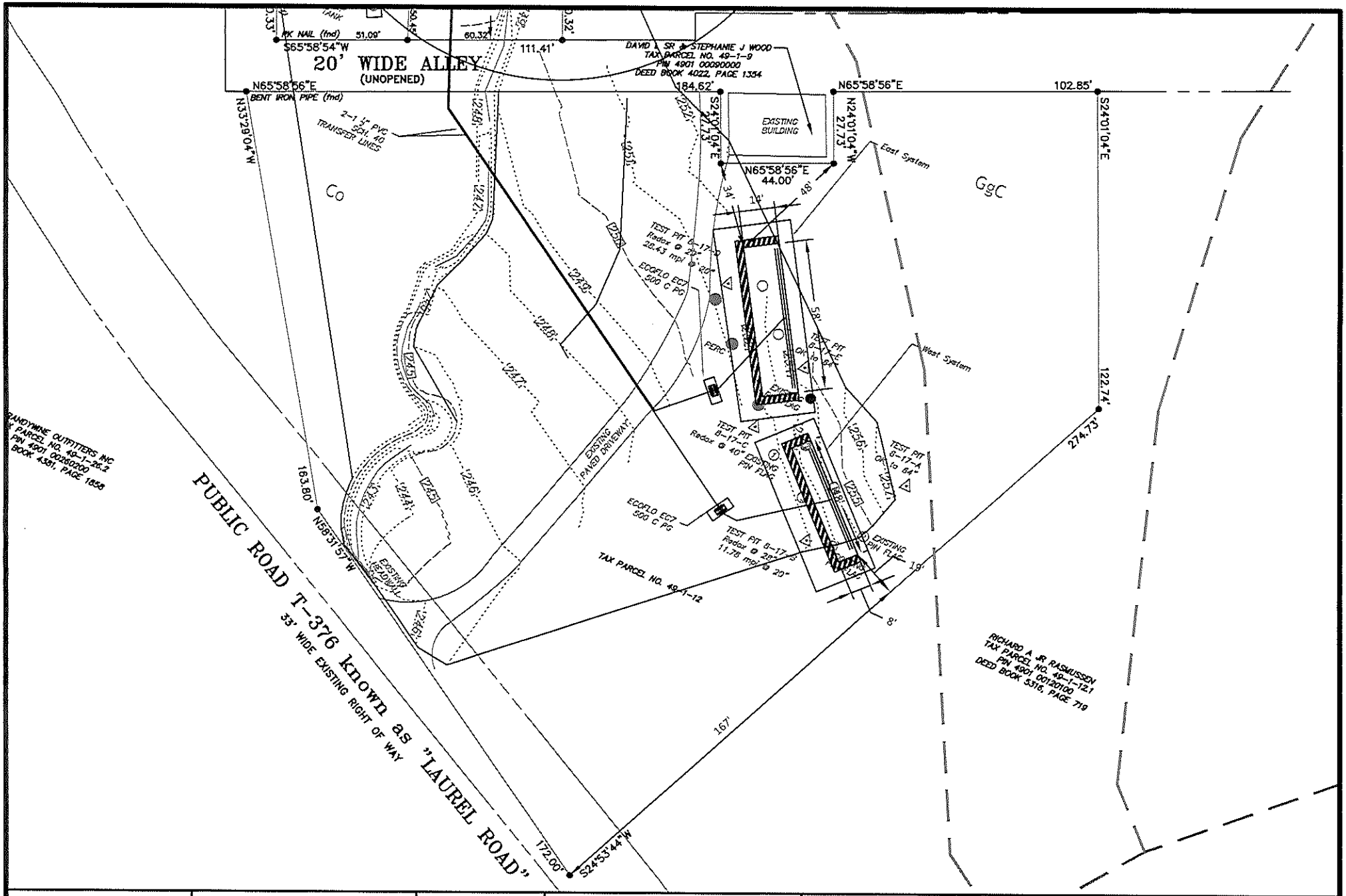
evansmill@eme-llc.com

SCOTT NYMAN
WEST UNIT OF DUPLEXTPp# 49-1-9.1
415 LAUREL ROAD
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION



PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	1" = 50
DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 3 of 8

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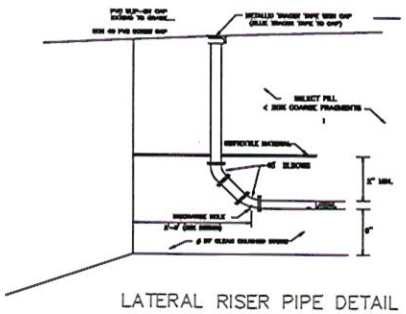
SCOTT NYMAN
EAST UNIT OF DUPLEX
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION

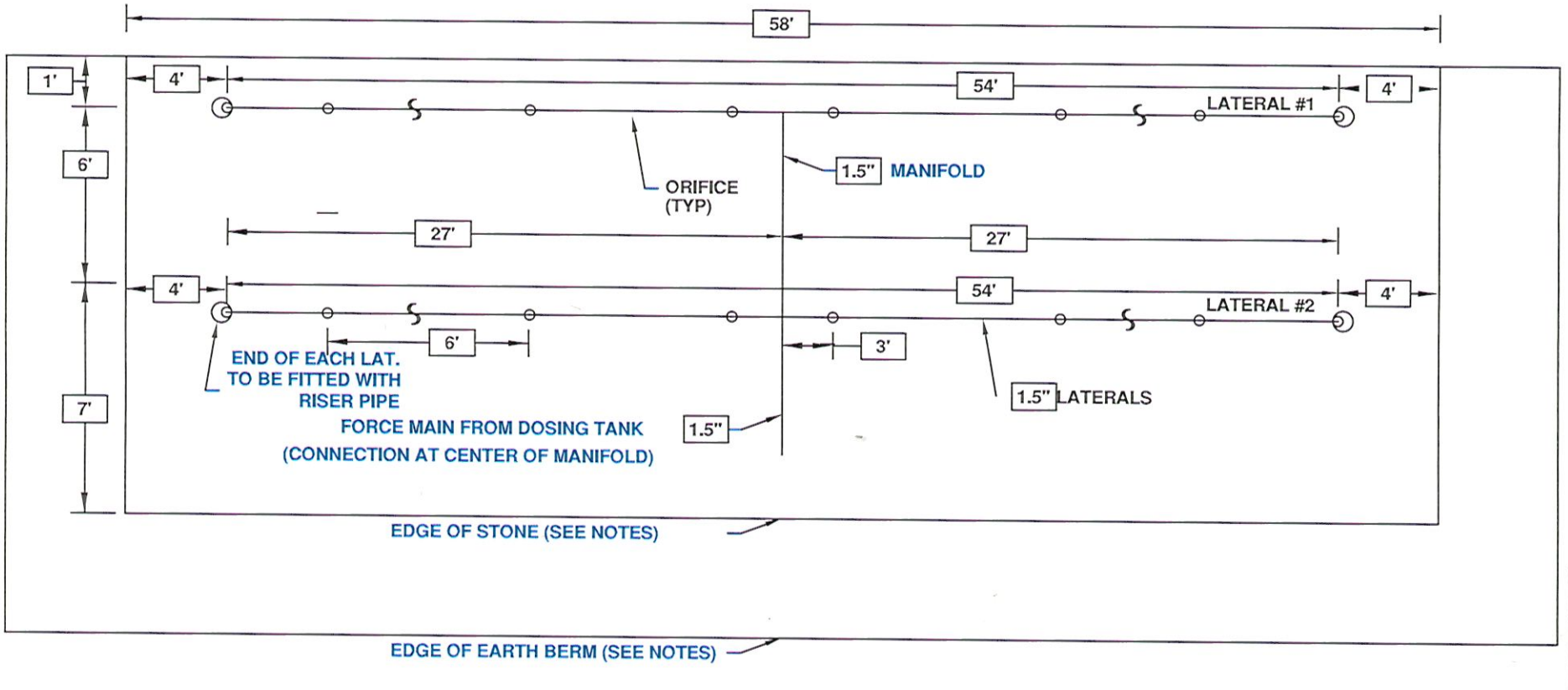
PLAN VIEW BED

7+6+1 = 14 ft ✓

LATERAL NUMBER	HOLES PER LATERAL PR.	HOLE DIAMETER
1	18	1/4"
2	18	1/4"



LATERAL RISER PIPE DETAIL



PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	NTS
DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 4 of 8

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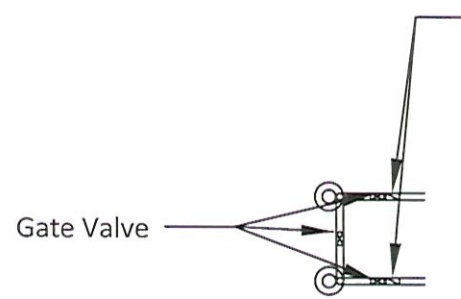
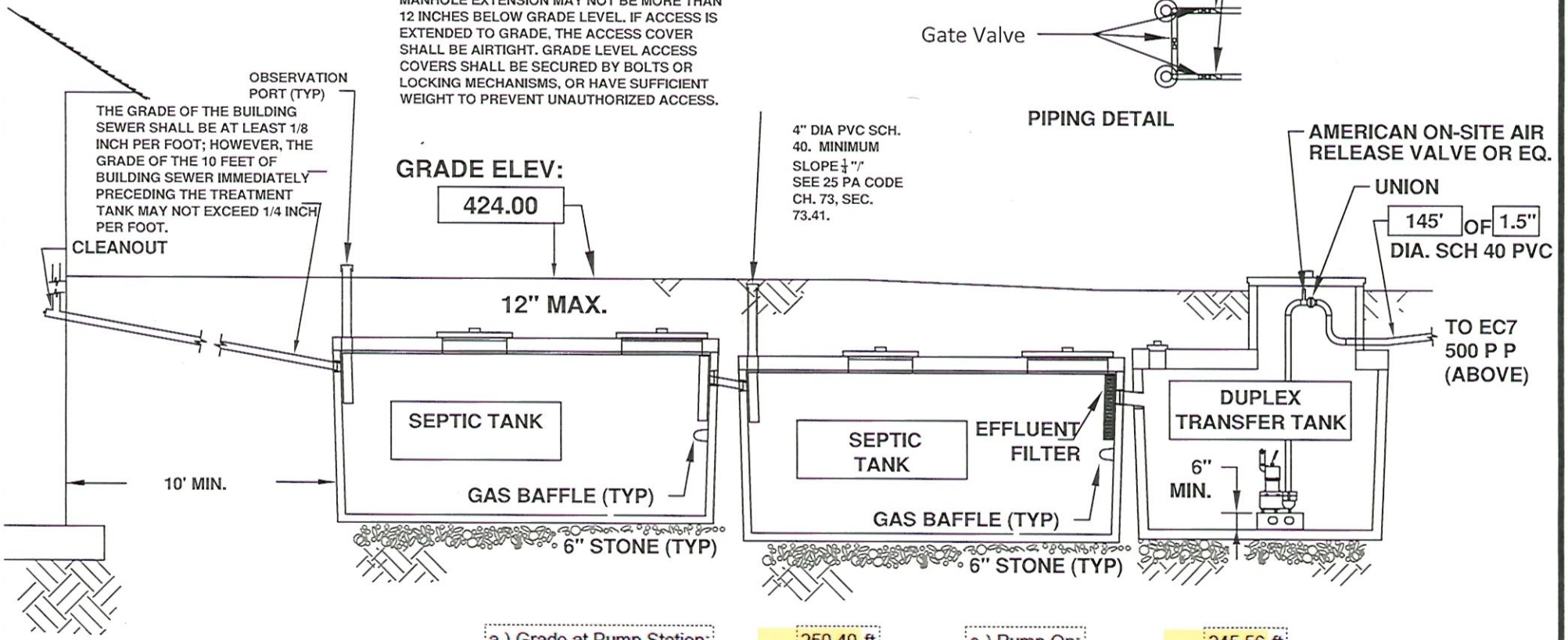
SCOTT NYMAN
EAST UNIT OF DUPLEX
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION

ACCESS TO EACH TANK OR COMPARTMENT OF THE TANK SHALL BE PROVIDED BY A MANHOLE WITH AN INSIDE DIMENSION OF AT LEAST 20 INCHES SQUARE (20 X 20) OR IN DIAMETER, WITH A REMOVABLE COVER. THE TOP OF THE TANK CONTAINING THE MANHOLE OR THE TOP OF A MANHOLE EXTENSION MAY NOT BE MORE THAN 12 INCHES BELOW GRADE LEVEL. IF ACCESS IS EXTENDED TO GRADE, THE ACCESS COVER SHALL BE AIRTIGHT. GRADE LEVEL ACCESS COVERS SHALL BE SECURED BY BOLTS OR LOCKING MECHANISMS, OR HAVE SUFFICIENT WEIGHT TO PREVENT UNAUTHORIZED ACCESS.



PIPING DETAIL



a.) Grade at Pump Station:	250.40 ft	e.) Pump On:	245.56 ft
b.) Tank Floor:	243.40 ft	f.) Pump Off:	244.40 ft
c.) Intake Invert:	243.90 ft	g.) Alarm On:	245.65 ft
d. D box manifold	248.03 ft		

PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	NTS
DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024
		SHEET: 5 of 8

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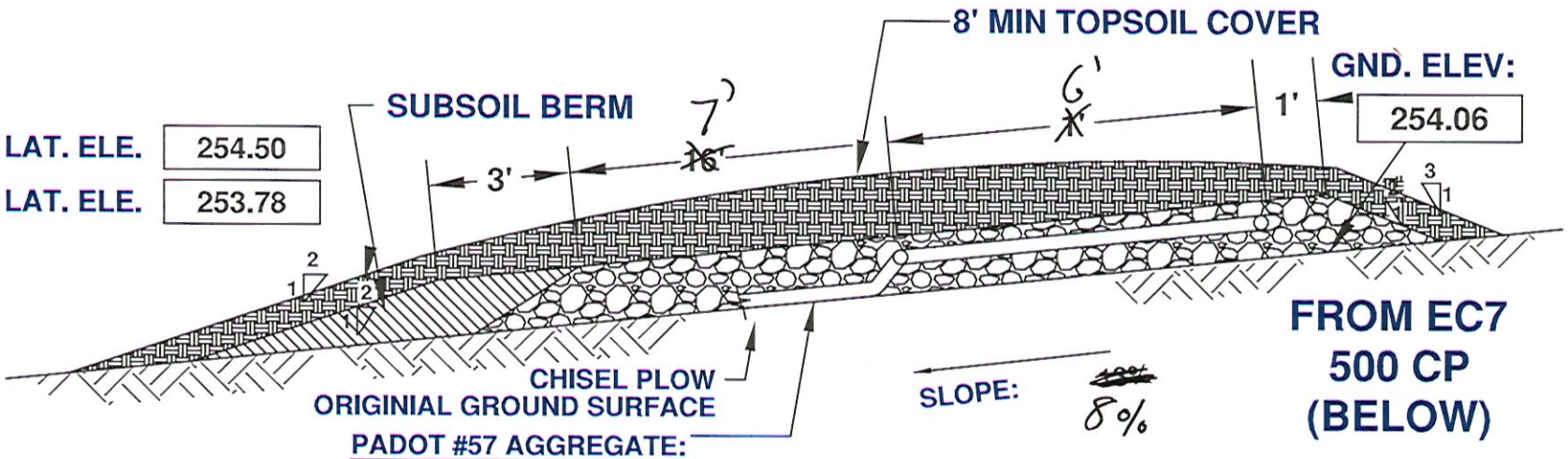
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION



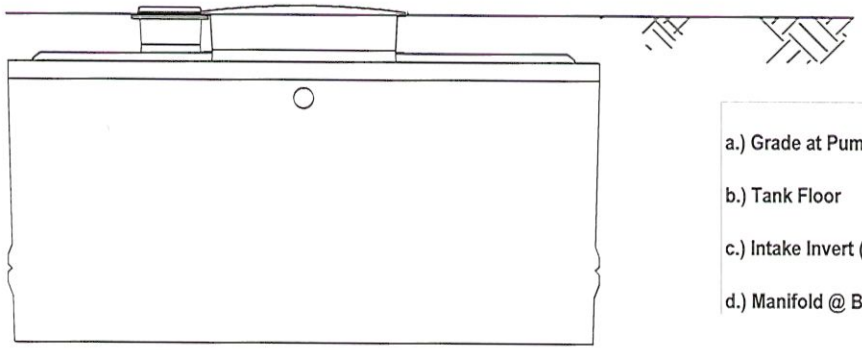
THE GRADE OF THE BUILDING SEWER SHALL BE AT LEAST 1/8 INCH PER FOOT; HOWEVER, THE GRADE OF THE 10 FEET OF BUILDING SEWER IMMEDIATELY PRECEDING THE TREATMENT TANK MAY NOT EXCEED 1/4 INCH PER FOOT.

6+1+7=14ft

4:1.

30' OF 1.5"
DIA. SCH 40 PVC
TO AT GRADE
BED (ABOVE)

A WATERTIGHT MANHOLE, AT LEAST 20 INCHES SQUARE OR 24 INCHES IN DIAMETER, EXTENDED TO GRADE, SHALL BE PROVIDED FOR ACCESS TO THE DOSING TANK. MANHOLE COVERS SHALL THE ACCESS COVER SHALL BE AIRTIGHT. GRADE LEVEL ACCESS COVERS SHALL BE SECURED BY BOLTS OR LOCKING MECHANISMS, OR HAVE SUFFICIENT WEIGHT TO PREVENT UNAUTHORIZED ACCESS.



ECOFLO EC 7- C - 1200

a.) Grade at Pump Station	250.48 Ft.	e.) Pump On:	244.63 Ft.
b.) Tank Floor	243.98 Ft.	f.) Pump Off:	244.06 Ft.
c.) Intake Invert (pump)	244.15 Ft.	g.) Alarm On:	244.98 Ft.
d.) Manifold @ Bottom lat.	253.78 Ft.		

PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	NTS
DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024
SHEET: 6 of 8		

y:\3400\3441-00 rBk septic,nyman\180 on lot design\3441-00 design drawing.dwg

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SCOTT NYMAN
EAST UNIT OF DUPLEX
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION

ABSORPTION AREA

PRESSURE DOSED AT GRADE ON GRADE BED

14' WIDE BY 58' LONG BY 0" SAND

812 S.F. PROVIDED 1,200 S.F. REQUIRED 33% REDUCTION TAKEN

GENERAL NOTES

THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL SYSTEM COMPONENTS PRIOR TO INSTALLATION.

THE ABSORPTION AREA SHALL BE INSTALLED PARALLEL WITH EXISTING CONTOURS.

AS OF THE DATE OF THE DESIGN THERE ARE NO WELLS LOCATED WITHIN 100' OF THE PROPOSED ABSORPTION AREA ON OR OFF THE PROPERTY.

THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CHAPTER 73- PA STANDARDS FOR SEWAGE DISPOSAL, AND THE POLICIES AND PROCEDURES OF THE LOCAL AGENCY. MAINTAIN 12" SOIL COVER OVER STONE.

ALL GRAVITY PIPES ARE 4" DIAMETER PVC SCHEDULE 40, ALL PRESSURE PIPES ARE 1.AS NOTED PVC SCHEDULE 40. ALL PIPES CONNECTIONS ARE SOLVENT WELD. ALL GRAVITY PIPES TO HAVE A MINIMUM SLOPE OF $\frac{1}{8}$"/FT EXCEPT FOR THE 10 FT. OF THE BUILDING SEWER PRIOR TO THE SEPTIC TANK WHICH WILL HAVE A MAXIMUM SLOPE OF $\frac{1}{4}$"/FT. ALL TANK CONNECTIONS TO BE MADE WITH WATER TIGHT JOINTS. PORTLAND CEMENT IS PROHIBITED AS A JOINT COMPOUND. CLEANOUTS TO BE PROVIDED AT THE INTERSECTION OF THE BUILDING DRAIN AND BUILDING SEWER, AT EVERY CHANGE OF DIRECTION OF THE BUILDING SEWER AND EVERY 100' O-C IN THE BUILDING SEWER AND AT THE END OF EACH LATERAL AS SHOWN.

NO GRADING WILL BE DONE IN THE PRIMARY SEWAGE ABSORPTION AREAS OR GRADING RESULTING IN SLOPES GREATER THAN 25% CLOSER THAN TEN FEET TO EITHER AREA. NO HEAVY EQUIPMENT (>5 PSI GROUND PRESSURE) TO BE USED TO CONSTRUCT OR OPERATED DOWNHILL OF DRAIN FIELD. DUE TO SUPPLY CHAIR ISSUES THE APPLICANT CAN COOHSE OT INSTALL A EC7 500 PP PACK OR A 1250 GALLON SEPTIC TANK AND EITHER A POLY EC7 500 PP OR CONCRETE EC7 500C PP. AN EFFLUENT FILTER IS REQUIED ON SEPTIC OUTLETS WHERE PACK UNITS ARE NOT INSTALLED.

ALL ELECTRICAL COMPONENTS TO BE INSTALLED IN COMPLIANCE WITH THE PA-UCC ELECTRICAL CODE. ALL ELECTRICAL CONNECTIONS TO BE MADE WITH WATER RESISTANT CONNECTIONS. ALL BOXES TO BE NEMA 4 APPROVED BOXES.

ALL COARSE AGGREGATE SHALL MEET THE FOLLOWING SPECIFICATIONS (REFERENCE: SECTION 73.51(A) OR PENNSYLVANIA DEPARTMENT OF TRANSPORTATION, PUBLICATION 408, SECTION 703.2(A) AND (B)): A) THE COARSE AGGREGATE SHALL NOT CONTAIN MORE THAN 15% BY WEIGHT TOTAL DELETERIOUS MATERIAL. DELETERIOUS MATERIAL IS ANY MATERIAL THAT WILL ADVERSELY AFFECT THE STRUCTURAL SOUNDNESS OR STORAGE CAPACITY OF THE COARSE AGGREGATE INCLUDING MATERIAL FINER THAN NO. 200 SIEVE, CLAY LUMPS, AND FRIABLE PARTICLES. B) THE COARSE AGGREGATE SHALL NOT CONTAIN MORE THAN 5% BY WEIGHT CLAY LUMPS AND FRIABLE PARTICLES. TESTING SHALL BE PERFORMED USING THE MOST RECENT REVISION OF ASTM C142. C) THE COARSE AGGREGATE SHALL NOT CONTAIN MORE THAN 5% BY WEIGHT MATERIAL FINER THAN NO. 200 SIEVE. TESTING SHALL BE PERFORMED USING THE MOST RECENT REVISION OF ASTM C117 OR PTM NO. 100. D) ALL COARSE AGGREGATE TESTING SHALL BE CONDUCTED WITHIN 1 YEAR PRIOR TO THE DELIVERY DATE. E) A MINIMUM OF A TOTAL OF 10 INCHES OF COARSE AGGREGATE MEETING THE REQUIREMENTS OF EITHER SECTION 73.51(A) OR THE COARSE AGGREGATES MEETING AASHTO NO 3, 467, 5, OR 57 DESCRIBED IN THE ALTERNATE AGGREGATE LISTING MUST BE USED. SAND SUPPLIERS SHALL PROVIDE CERTIFICATION IN WRITING TO THE SEWAGE ENFORCEMENT OFFICER AND PERMITTEE, WITH THE FIRST DELIVERY TO THE JOB SITE. FROM EVERY SOURCE. THE SIEVE ANALYSIS SHALL BE CONDUCTED IN ACCORDANCE WITH PTM #616 AND #100.

THIS PLAN IS FOR SEWAGE PERMIT DESIGN USE ONLY! BASE PLAN PROVIDED FROM THE RECORDED SUBDIVISON PLAN AND PASDA . SOIL TESTING CONDUCTED BY AND THE SEO EME IS NOT RESPONSIBLE FOR THE ACCURACY THOSE DATA NOT CONDUCTED BY EME.

CARE AND USE:

THE SEWAGE SYSTEM SHOULD BE FINAL GRADED AND SEEDED AS SOON AS POSSIBLE AFTER INSTALLATION.

NO HARSH CHEMICAL, GREASE, OR OTHER NON-BIODEGRADABLE MATERIALS SHOULD BE INTRODUCED INTO THE SYSTEM.

SEPTIC TANKS SHOULD BE CLEANED OUT (FROM MANHOLE COVER, NOT 4" INSPECTION PORT) NO LESS FREQUENTLY THAN EVERY THREE YEARS.

NO HEAVY EQUIPMENT SHOULD BE RUN OVER ANY COMPONENT OF THE DISPOSAL SYSTEM.

ALL SURFACE WATER SHALL BE DIVERTED AWAY FROM THE SEWAGE DISPOSAL SYSTEM.

PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	NTS
DRW BY: wjm / CHK BY: wjm	DATE: 8/14/2024	SHEET: 7 of 8

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EVANS MILL ENVIRONMENTAL, LLC
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SCOTT NYMAN
EAST UNIT OF DUPLEX
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT WELL PERMIT APPLICATION

§73.13: MINIMUM HORIZONTAL ISOLATION DISTANCES

(a) MINIMUM HORIZONTAL ISOLATION DISTANCES SHOWN IN SUBSECTIONS (b)-(e) SHALL BE MAINTAINED BETWEEN THE SEWAGE DISPOSAL SYSTEM AND THE FEATURES ITEMIZED EXCEPT AS PROVIDED BY §72.33 (RELATING TO WELL ISOLATION DISTANCE EXEMPTION).

IF CONDITIONS WARRANT, GREATER ISOLATION DISTANCES MAY BE REQUIRED.

(b) THE MINIMUM HORIZONTAL ISOLATION DISTANCES BETWEEN THE FEATURES NAMED AND TREATMENT TANKS, DOSING TANKS, LIFT PUMP TANKS, FILTER TANKS, AND CHLORINE CONTACT / STORAGE TANKS SHALL COMPLY WITH THE FOLLOWING

(1) PROPERTY LINE, EASEMENT, OR RIGHT-OF-WAY: 10 FEET.

(2) OCCUPIED BLDG, SWIMMING POOL, OR DRIVEWAY: 10 FEET.

(3) INDIV. WATER SUPPLY OR SYSTEM SUCTION LINE: 50 FEET.

(4) WATER SUPPLY LINE UNDER PRESSURE: 10 FEET.

(5) STREAM, LAKE, OR OTHER SURFACE WATER: 25 FEET.

(6) CISTERN USED AS WATER SUPPLY: 25 FEET.

(c) THE FOLLOWING MINIMUM HORIZONTAL ISOLATION DISTANCES SHALL BE MAINTAINED BETWEEN THE FEATURES NAMED AND THE PERIMETER OF THE AGGREGATE IN THE ABSORPTION AREA:

(1) PROPERTY LINE, EASEMENT, OR RIGHT-OF-WAY: 10 FEET.

(2) OCCUPIED BUILDING, SWIMMING POOL, OR DRIVEWAY: 10 FEET.

(3) INDIV. WATER SUPPLY OR SYSTEM SUCTION LINE: 100 FEET.

(4) WATER SUPPLY LINE UNDER PRESSURE: 10 FEET.

(5) STREAM, WATER COURSE, LAKE, POND, OR OTHER SURFACE WATER: 50 FEET (FOR THE PURPOSES OF THIS CHAPTER, WETLANDS ARE NOT SURFACE WATERS).

(6) OTHER ACTIVE ON-LOT SYSTEMS: 5 FEET.

(7) SURFACE DRAINAGEWAYS: 10 FEET.

(8) MINE SUBSIDENCE AREAS, MINE BORE HOLES, OR SINK HOLES: 100 FEET.

(9) ROCK OUTCROP OR IDENTIFIED SHALLOW PINNACLE: 10 FEET.

(10) NATURAL OR MANMADE SLOPE GREATER THAN 25%: 10 FEET.

(11) CISTERN USED AS WATER SUPPLY: 25 FEET.

(12) DETENTION BASIN, RETENTION BASIN, OR STORMWATER SEEPAGE BED: 10 FEET.

PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	1" = 20'
DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 8 of 8

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SCOTT NYMAN
EAST UNIT OF DUPLEX
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT WELL PERMIT APPLICATION

Name	Scott Nyman	Application #	Z 144367
Municipality	Newlin	Date	9/28/2024

Address	2094 Strasburg Road
Post Office	Coatesville Pa. 19320
Subdivision	Isaiah Jordan
Lot Number	A
Limiting Zone	Redox @ 29"
Perc Rate	28.43
System Type	At Grade On Grade
No. Bedrooms	East unit of duplex
UPI	49-1-9 & 46-1-12
Bed length	58
Bed Width	14
L:W Ratio	4.142857
Slope	12.00%

Scott Nyman
2094 Strasburg Road
Newlin Township

8%

	SLOPE	~~12.00~~%	Grade @ PS		250.48
Lateral #1 right	254.50	ELEVATION HEAD	9.72	Low Water Elevation at Pump	244.06
Manifold Length	6.00	Manifold Dia.	1.50		
Bed Length	58.00	Bed Width	14	L:W ratio	4.14 :1

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
1 1/2	1.61	2.04	0.002	6.00	0.000	6.00
		4.09	0.008	6.00	0.000	6.00
		6.13	0.017	6.00	0.001	6.00
C=150		8.17	0.028	6.00	0.002	6.00
Hole Size(in)	0.266"	10.21	0.022	3.00	0.001	6.00
Flow this side	10.21					
Head at Manifold	6.00					
Residual Head	6.00					
				27.00	0.002	

Lateral #1 left 254.50

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
1 1/2	1.61	2.04	0.002	6.00	0.000	6.00
		4.09	0.008	6.00	0.000	6.00
		6.13	0.017	6.00	0.001	6.00
C=150		8.17	0.028	6.00	0.002	6.00
Hole Size (in)	0.266"	10.21	0.022	3.00	0.001	6.00
Flow this side	10.21					
Head at Manifold	6.00					
Residual Head	6.00					
				27.00	0.002	

Total lat flow	20.43	GPM
Head at node 1	6.00	
Manifold Length	6.00	
Fitings eq ln.	8.62	
FRICTON LOSS	0.534	
Elevation head change	-0.720	
Head at node 2	7.26	

	MANIFOLD FITTINGS		
90° Elbow	0	4.73	0
45° Elbow	0	2.01	0
Std. Tee	1	8.62	8.62
Couplings	0	1.05	0
Quick Disc	0	1.05	0

Scott Nyman
2094 Strasburg Road
Newlin Township

Lateral #2 right 253.78

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
		1.99	0.002	6.00	0.000	7.26
		3.98	0.008	6.00	0.000	7.26
1 1/2	1.61	5.97	0.016	6.00	0.001	7.26
C=150		7.96	0.027	6.00	0.002	7.26
Hole Size (in)	0.250"	9.95	0.021	3.00	0.001	7.26
	1/4"					
Head at Manifold	7.26					
Lat Terminal Head	7.26					
Total Lat Flow R	9.95	GPM		27.00	0.004	

Lateral #2 left 253.78

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
		1.99	0.002	6.00	0.000	7.26
		3.98	0.008	6.00	0.000	7.26
1 1/2	1.61	5.97	0.016	6.00	0.001	7.26
C=150		7.96	0.027	6.00	0.002	7.26
Hole Size (in)	0.250"	9.95	0.021	3.00	0.001	7.26
	1/4"					
Head at Manifold	7.26					
Head @ LAT END	7.26					
Total Lat Flow L	9.95	GPM		27.00	0.004	
Total Lat Flow Lower	19.90	GPM				
Head at Manifold	7.26	FT				
Total system flow	40.33					

Calcualtions based upon Hazen-Williams equation: f=

$0.002083\,(100/c)^{1.852} q^{1.582} / d_h^{4.8655}$

System Balance
2.65%

Scott Nyman
2094 Strasburg Road
Newlin Township

PIPE DIAMETER =		@ 1.5"	
FITTING	Quantity	Delivery Line Equivalent Length (ft)	Total (feet)
90° Elbow	0	4.73	
45° Elbow	2	2.01	4.02
Std. Tee	0	8.62	
Couplings	1	1.05	1.05
Quick Disc	1	1.05	1.05
Check Valve	0	12.00	
Cross	1	2.7	2.70
Force Line	1	30.00	30.00
Total Delivery Line Equivalent Length =			**39 feet**

PIPE DIAMETER =		@ 2.0"	
FITTING	Quantity	Delivery Line Equivalent Length (ft)	Total (feet)
90° Elbow	0	5.55	
45° Elbow	2	2.58	5.16
Std. Tee	0	11.10	
Couplings	1	1.35	1.35
Quick Disc	1	1.35	1.35
Check Valve	0	15.40	
Cross	1	3.5	3.50
Force Line	1	30	30.00
Total Delivery Line Equivalent Length =			**42 feet**

		Flow (gpm)	Friction Loss per 100 LF	Delivery Ft of Pipe	FL for Pipe Length	Total Head
Pipe Size	1.5"	10	0.690	39	0.27	17.24
		20	2.490	39	0.97	17.94
Inside Dia.	1.61"	30	5.276	39	2.06	19.03
C	150	40.33	9.125	39	3.56	20.53
Static Head	9.72	50	13.588	39	5.30	22.27
Residual Head	7.26	60	19.046	39	7.43	24.40

		Flow (gpm)	Friction Loss per 100 LF	Delivery Ft of Pipe	FL for Pipe Length	Total Head
Pipe Size	2"	10	0.204	42	0.09	17.06
		20	0.738	42	0.31	17.28
Inside Dia.	2.067"	30	1.564	42	0.66	17.63
C	150	40.33	2.706	42	1.14	18.11
Static Head	9.72	50	4.029	42	1.69	18.67
Residual Head	7.26	60	5.647	42	2.37	19.34

Calcualtions based upon Hazen-Williams equation: $f = 0.2083\,(100/c)^{1.852}\,q^{1.582}/d_h^{4.8655}$

PIPE SIZE SELECTED FOR DESIGN: 1.5"

Scott Nyman
2094 Strasburg Road
Newlin T ownship

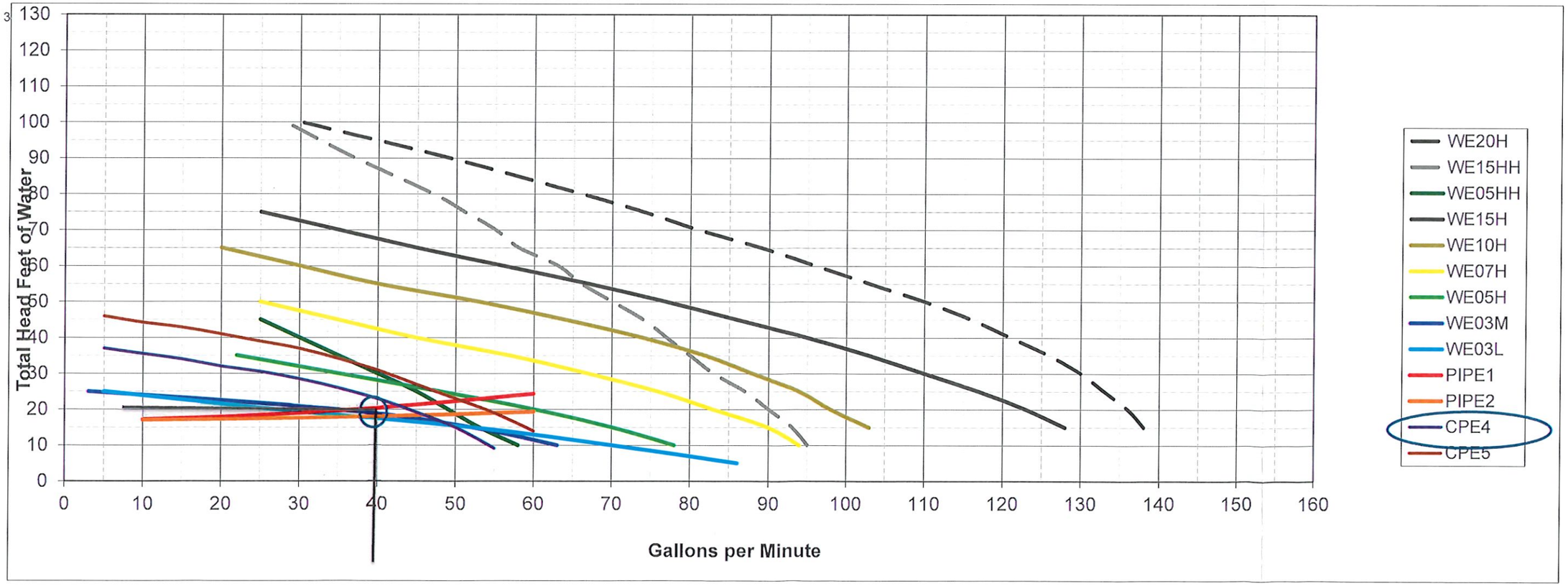
674.5	WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H	CPE4	CPE5
6	1/3	1/3	1/2	3/4	1	1 1/2	1/2	1 1/2	2	2/5	1/2
RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500	3450	3450
	Gallons per Minute										
Total Head Feet of Water 5	86									37	46
10	70	63	78	94			58	95		35.5	44.2
15	52	52	70	90	103	128	53	93	138	34	42.9
20	27	35	60	83	98	123	49	90	136	32	41
25	5	3	48	76	94	117	45	87	133	30.5	39
30			35	67	88	110	40	83	130	28.5	37
35			22	57	82	103	35	80	126	26	34.2
40				45	74	95	30	77	121	23	31
45				35	64	86	25	74	116	19.2	27
50				25	53	77		70	110	15	23
55					40	67		66	103	9.1	19
60					30	56		63	96		14
65					20	45		58	89		
70						35		55	81		
75						25		51	74		
80								47	66		
90								37	49		
100								28	30		

PIPE 1 1.5"

HEAD	GPM
17.24	10
17.94	20
19.03	30
20.53	40.32843
22.27	50
24.40	60

PIPE 2 2.0"

HEAD	GPM
17.06	10
17.28	20
17.63	30
18.11	40.32843
18.67	50
19.34	60



Scott Nyman
2094 Strasburg Road
Newlin Township

	Data Input Box

Delivery Line

Pipe Diameter	Gallons Per LF	LF of Pipe	Total Gallons
1.5	0.09	30.00	2.7
2	0.16	0	0
3	0.37		0
4	0.66		0
		Total Gallons	2.7

Laterals and Manifold

Pipe Diameter	Gallons Per LF	LF of Pipe	Total Gallons
1.5	0.09	114	10.26
2	0.16	0	0
3	0.37		0
4	0.66		0
		Total Gallons	10.26

Minimum Dose Volume (gallon	64.8
(5x capacity of system piping or min. 100)	

Design Dose Volume (gallons)	220

Dose volume plus runback

Actual Dose Volume (gallons)	217.3
(dose volume minus delivery line drainback)	

Dosing Calculations	
Daily Flow (gallons per day)	800
Actual Dose Volume (gallons)	217.3
Doses Per Day	3.7

Chester County Health Department
Bureau of Environmental Protection
Division of Water & Sewage

Specifications for Proposed On-Lot Sewage Disposal System

Name Scott Nyman Application # Z 144367

Municipality Newlin Date 28 September 2024

1) Building Sewer: (Section 73.2.1) Type Sch. 40 PVC Diameter 4.00 in.

2) Primary Treatment: (Section 73.31 & 73.32)

Number of Septic Tanks	~~1~~ x2	
No. of Compartments per Tank	1	
Capacity of 1st Tank or Comp.	1000	gal
Capacity of 2nd Tank or Comp.	1000	gal.

WITH EFFLUENT FILTER

Number of Aerobic Tanks ____ Manufacturer ECOFLO
Model EC7 1200 C P P

Number of Holding Tanks ____
(Requires Holding Tank Design Sheets)

Total Tank Capacity ~~1000~~ gal 2000 gal

3) Distribution:

Gravity		
Lift Pump	X	(Requires Lift Pump Data Sheets)
Dosing Pump	X	(Requires Dosing Pump Data Sheets)

4) Secondary Treatment:

Standard	Bed		Trench	
Subsurface Sand Filter	Trench		Trench	
Elevated Sand Mound	Bed*		Trench	
Subsurface Sand Filter	Trench*			
At Grade	Level		On Grade	X
	Other			

*Requires Pressure Dosing (73.16 - Table A)

5) Slope (Note Exact): ~~12.00~~ 8

0 – 8%
8.1 – 14.9%
15.0 – 25.0% – Attach detailed design, Designer inspection required (73.52(a))

6) Absorption Area: Stone Aggregate Systems

Trenches: Number _____ Length _____ ft. Width _____ ft.

(73.52) Distribution Box (Y/N) _____ Space Between Trenches _____ ft.

Beds: Number 1 Length 58.00 ft. Width 14.00 ft.

(73.53) Space Between Beds _____ ft.

Length of Header Pipe _____ ft. Dia. _____ in.

Length of Manifold 6.00 ft. Dia. 1.50 in.

7) All Absorption Areas:

Depth of Absorption Area: surface inches upslope surface inches downslope

Number of Laterals 2 Distance between laterals 6.00 ft.

Length of Laterals 54.00 ft./pr. Pipe Type PVC Diameter 1.50 in.

Distance between laterals and sidewalls 1' u 7' d ft.

Distance between header pipes/lateral ends and endwalls 2.00 ft.

Lateral slope: Level

Type of Aggregate: AASHTO # 57 Depth under lateral 6.00 in.

Depth over lateral 2.00 in.

Aggregate covered by: Hay/Straw _____ Paper _____

Geotextile X Other (specify) _____

8) Sand Systems: Depth of Sand 0.00 in. Supplied by: PA DEP Approved Source (73.55 (c))

9) The absorption area(s) and treatment tank(s) must meet the isolation distance requirements of Section 73.13 (a through e). If not, the proper release agreement must be recorded and attached. (applies only to repairs)

Any changes in the location, size or design aspects of this system require prior approval by this department.

Note: *Four (4) Coipes of this form and all other design forms must be submitted

*Upon notification of completion, this Department has 72 hours from the reported completion time to make an inspection. To facilitate inspections, the contractor should call this Department 24 hours in advance of completion.

All References are to Title 25, Chapter 73: Standards for Sewage Facilities.

Prepared by: Evans Mill Environmental, LLC
Designer

Arppoved by: _____
CCHD

Designer's Phone Number (610) 458-8300

CHESTER COUNTY HEALTH DEPARTMENT

Bureau of Environmental Health Protection

Division of Water & Sewage

DOSING PUMP DATA SHEET

NAME Scott Nyman **APPLICATION #** Z 144367

MUNICIPATY: Newlin **DATE:** 9/28/2024

DATA

1.) Dose Pump: Manufacture Chqmpion MODEL # CPE4

2.) Sewage Flow, peak rate (min. 5 GPM) GPM 5

3.) Pump Discharge Rate (Design) GPM 40.33

4.) Critical Elevations: (From Topographical Plan)

a.) Grade at Pump Station	250.48 Ft.	e.) Pump On:	244.63 Ft.
b.) Tank Floor	243.98 Ft.	f.) Pump Off:	244.06 Ft.
c.) Intake Invert (pump)	244.15 Ft.	g.) Alarm On:	244.98 Ft.
d.) Manifold @ Bottom lat.	253.78 Ft.		

5.) Pump Tank: Capacity 160 Gal. Pump chanber in EC 7 500 PP

Rectangular: 141.5" L BY 72" W Round: _____" Diameter _____" Depth 55.5" tank 12" chamber

(USE INTERNAL TANK DIMENSIONS)

6.) Fittings : Calculate total equivalent lengths *(All pipe MUST be schedule 40 or equivalent)*

	Quantity	Delivery Line Equiv. Length (ft)	Total (feet)
90° Elbow	0	4.73	0
45° Elbow	2	2.01	4.02
Std. Tee	0	8.62	0
Couplings	1	1.05	1.05
Quick Disc	1	1.05	1.05
Check Valve	0	12	0
Cross	1	2.7	2.7
Other (specify)			
Force Line		30	30
			39.00 Feet

Total Delivery Line Equivalent Length= 39 feet @ 1.5 inches in Diameter

Type: PVC SCH 40

	Quantity	Manifold Equiv. Length (ft)	Total (feet)
90° Elbow	0	4.73	0
45° Elbow	0	2.01	0
Std. Tee	1	8.62	8.62
Couplings	0	1.05	0
Quick Disc	0	1.05	0
Manifolld	1	6.00	6
		14.62	Ft. (M)

Total Manifold Equivalent
Flow through manifold segment is 1/2 of the total flow

Length = 14.62 feet

@ 1.5 inches in Diameter

Type: PVC SCH 40

7.) **Total Delivery Line, Manifold & Fittings:** 39 (F) ft. + 14.62 (M) ft = 53.62

8.) **Sewage Flow (Design):** 40.33 Gal.

9.) **Friction Head:** 3.56 Feet — force main only

10.) **Static Head:** 9.72 feet (# 4.(d.) - # 4.(f.) = S.H.) — to lower lateral

11.) **Residual Head:** 6.00 feet (Head to be maintained at terminal end of Laterals = R.H.)

12.) **Total Head:** 20.53 feet (F.H. + S.H. + R.H. = T.H.)

13.) **Dose Volume** 220 Gal. (Reference Ch. 73, 73.45(2))

1.5" pvc = 0.09 gal/ft
2.0" pvc = 0.16 gal/ft

14.) **HYDRAULIC PROFILE – Illustrate below the following:**

a. Submit a profile drawing showing all elevation changes and fittings from the pump tank to the manifold.
b. A typical view of the absorption area showing the lateral elevation in beds or individual trenches.

15.) **LATERALS: Submit the following drawings:**

a. Submit a drawing of a typical lateral for beds or individual laterals for trench systems. The detail should begin at the manifold showing the length of the lateral, number of orifices, orifice diameter and orifice spacing.

Prepared by: _____ Approved by: _____

ALL CHANGES MADE TO THESE SPECIFICATIONS REQUIRE PRIOR APPROVAL BY THIS DEPARTMENT.
Four (4) copies of this form must be submitted.

Champion Pump

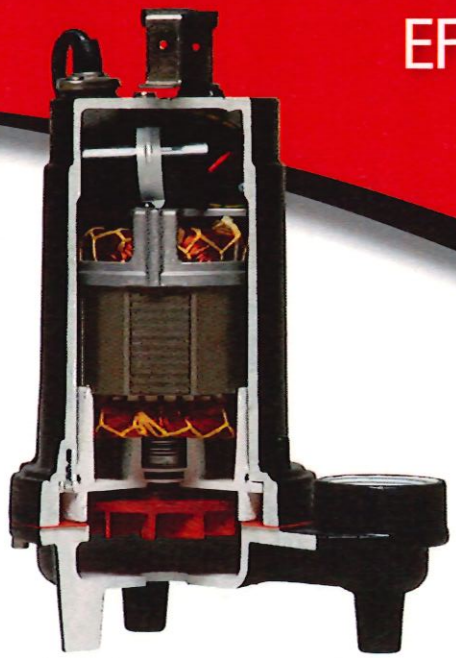
CPE 4/10HP & 1/2HP EFFLUENT

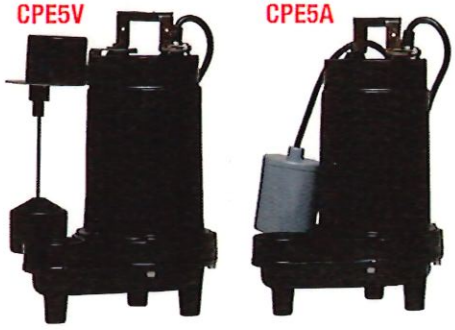
FEATURES/BENEFITS

- High Efficient Motor With Upper & Lower Ball Bearings/ Runs Cooler & Last Longer
- Vortex Impeller/ Helps Prevent Clogging
- Inboard Seal-Rotating Components Of Seal Are In The Motor Housing, Lubricated By The Motor Oil/ Seal Will Last Longer If Pump Runs Dry, Hair And Debris Cannot Wrap Around Seal Components
- Secondary Exclusion Seal/ Keeps Debris From Entering Seal Cavity
- Sealed Entry-Replaceable Power Cord/ Easy To Replace In The Field, Prevents Water From Entering The Motor Housing Through A Cut Power Cord (Up to 50' Available)
- Piggy-Back Switch Design/Defective Switches Can Be Diagnosed By Phone; Pump Can Be Operated Manually by Overriding The Switch
- Every Pump Is Tested In Water/Ensures That The Pump Meets Head & Flow Requirements

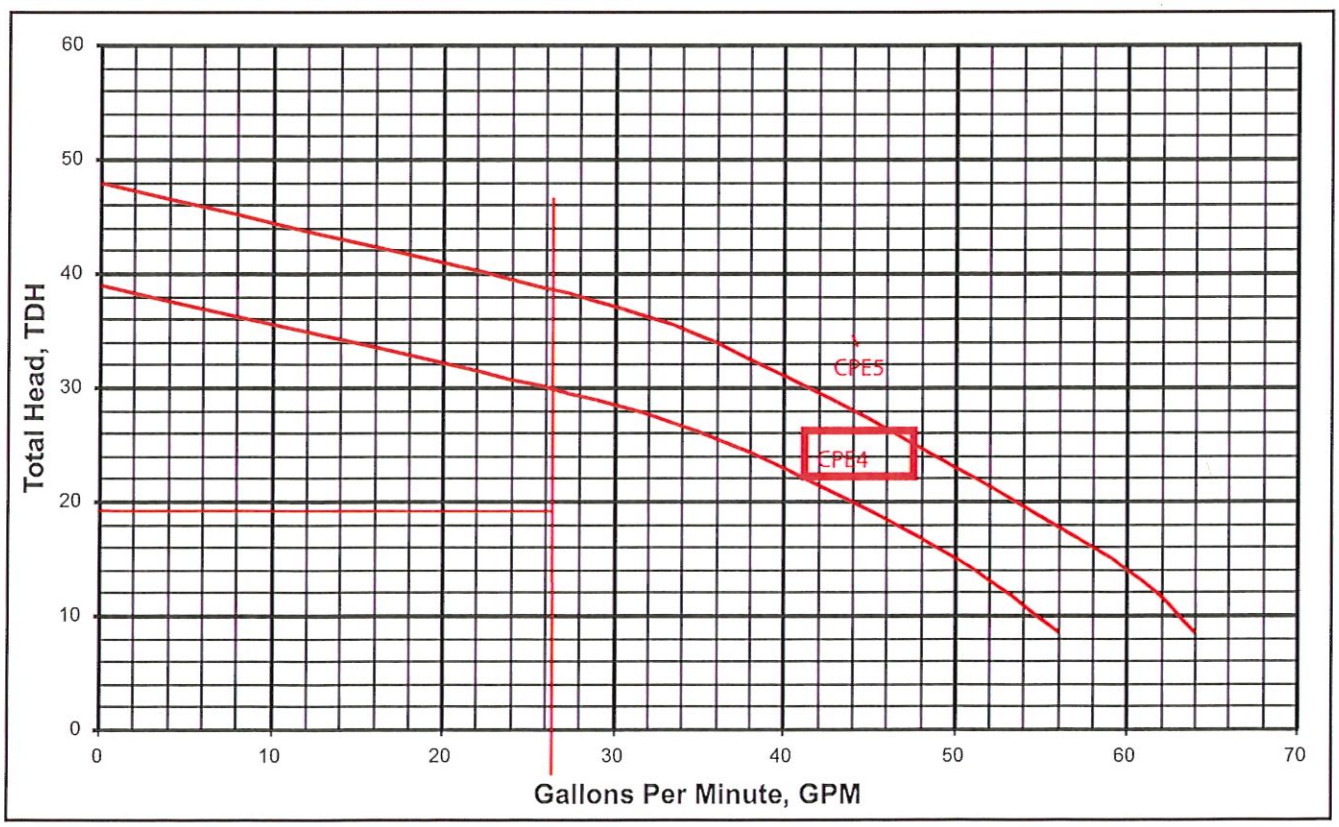
APPLICATIONS

- Dewatering, Elevator Pits, Septic Systems, Residential & Commercial Developments, STEP Systems





CHAMPION PUMP - PUMP PERFORMANCE CURVE



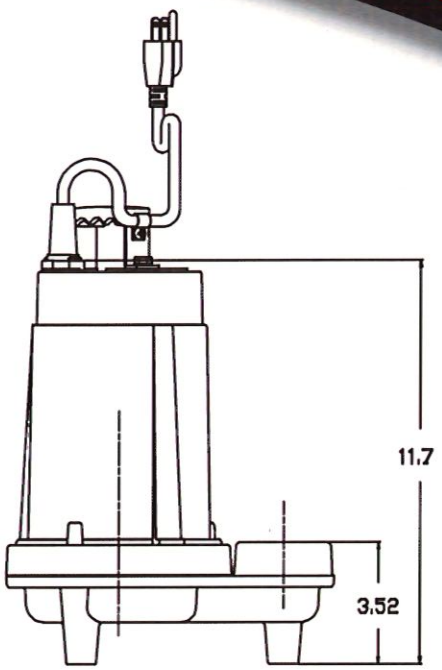
Champion Pump Company, Inc • P.O. Box 528 • Ashland, OH 44805
Phone 419-281-4500 • Toll Free 800-659-4491 • Fax 419-616-1100

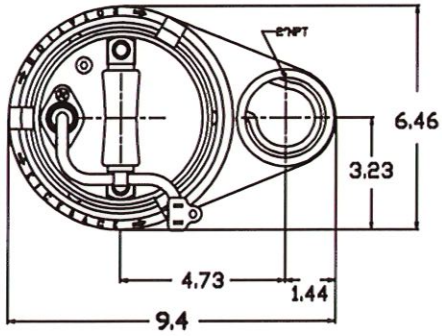
Champion Pump

CPE 4/10HP & 1/2HP

EFFLUENT

Discharge	2" NPT. Vertical
Solids Handling	3/4"
Liquid Temperature	140 Degrees F. (Intermittent)
Motor Housing	Cast Iron
Volute	Cast Iron
Seal Plate	Cast Iron
Impeller	Cast Iron/Vortex
Shaft	Stainless Steel
Shaft Seal	Inboard Mechanical With Secondary Exclusion Seal
	Carbon- Rotating Face
	Ceramic- Stationary Face
	Buna-N-Elastomer
	300 Series Stainless Steel-Hardware
Bearing (Upper & Lower)	Single Row, Ball, Oil Lubricated
Hardware	300 Series Stainless Steel
Square Rings	Buna-N
Cord	(UL/CUL) Listed 16 AWG, Type SJTW
	20' Length Standards. Other Lengths up to 50' Available
Cord Entry	Compression Grommet- Outer Jacket Seal, Quick Disconnect Pin Terminals
Motor (Single Phase)	4/10 & 1/2 HP, 3450 RPM, 60Hz
	NEMA L Includes Overload Protection In The Motor.
	Oil Filled, Class B
	Permanent Split Capacitor
Weight	35lbs (Manual)





Model	HP	Volts	Phase	Amps	Cord Length	Switch
CPE4-12 CPE5-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Manual
CPE4-22 CPE5-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Manual
CPE4-13 CPE5-13	4/10 • 1/2	115	1	6.6 • 8.5	30	Manual
CPE4-15 CPE5-15	4/10 • 1/2	115	1	6.6 • 8.5	50	Manual
CPE4A-12 CPE5A-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Float
CPE4A-22 CPE5A-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Float
CPE4A-13 CPE5A-13	4/10 • 1/2	115	1	6.6 • 8.5	30	Float
CPE4V-12 CPE5V-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Vertical Float
CPE4V-22 CPE5V-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Vertical Float

Champion Pump Company, Inc • P.O. Box 528 • Ashland, OH 44805
Phone 419-281-4500 • Toll Free 800-659-4491 • Fax 419-616-1100

Transfer Pump
West System

CHESTER COUNTY HEALTH DEPARTMENT

Bureau of Environmental Health Protection

Division of Water & Sewage

LIFT PUMP DATA SHEET

NAME: Scott Nyman APPLICATION #: Z144367

MUNICIPALITY: Newlin DATE: 28 September 2024

DATA

1.) **Lift Pump:** Manufacturer Goulds Model # 3885WE0

2.) **Sewage Flow, Peak Rate:** (min. 5 GPM) 5.00 GPM

3.) **Pump Discharge Rate:** (Design) 10.00 GPM

4.) **Critical Elevations:** (From Topographical Plan)

a.) Grade at Pump Station: 251.23 ft

b.) Tank Floor: 244.23 ft

c.) Intake Invert: 244.73 ft

d. D box manifold 248.86 ft

e.) Pump On: 246.23 ft

f.) Pump Off: 245.23 ft

g.) Alarm On: 246.48 ft

5.) **Pump Tank:** **Capacity:** 1,000 Gal.

Rectangular: 92" L BY 62" W **Round:** _____ **Dia.** OR EQUAI **Depth:** 47" 24.69 GPI

	Quantity	Delivery Line Equiv. Length (ft)	Total (feet)
90° Elbow	5	4.73	23.65
45° Elbow		2.01	0.00
Std. Tee		8.62	0.00
Couplings	6	1.05	6.30
Quick Disc	1	1.05	1.05
Check Valve		12.00	0.00
CROSS		2.70	0.00
Force Line	1	225.00	225.00
			256.00 feet

Total Delivery Line Equivalent Length = **256.00 feet** @ 1.5" **inches in diameter**

Type of Piping: PVC Sch 40 ***(All pipe MUST be schedule 40 or equivalent)***

CALCULATIONS

7a.) **Friction Head:**	1.79	feet (F.H.)
7 b.) Pressure Head:	0.00	feet (F.H.)
8.) **Static Head:**	3.63	feet (#4.(d.)-#4.(f.) = S.H.)
9.) **Total Head:**	5.42	feet (F.H. + S.H. = T.H.)
10.) **Pump Discharge Rate**:	10.00	GPM (Attached Mfr. Curve)
11.) **Discharge Volume:**	296.3	Gallons

12.) **HYDRAULIC PROFILE -** Illustrate the following below:

a) Submit a profile drawing showing all elevation changes & fittings from pump tank to distributic box or header pipe. This drawing may be on 8½" x 11" paper (or folded to this size).

b) Elevations must be from a topographic plan.

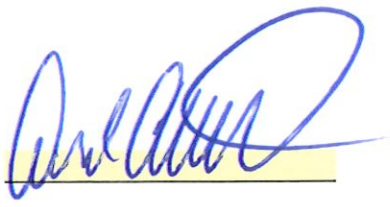
Notes:

A high level alarm must be provided & connected to an electrical circuit which is separate from the pump.

All electrical controls must be moisture resistant and be located outside of the wet well of the tank.

The pump tank access must be to grade and be secured by bolts, a locking mechanism, or have sufficient weight to prevent access by children.

It is recommended that a maximum 1½" vent be installed on the pump tank. Venting should be screened to prevent access by insects and vectors.

PREPARED BY: EVANS MILL ENVIRONMENTAL, LLC **APPROVED BY:** 

ALL CHANGES MADE TO THESE SPECIFICATIONS REQUIRE PRIOR APPROVAL BY THIS DEPARTMENT.

Four (4) copies of this form must be submitted

West Unit Transfer Pump

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.

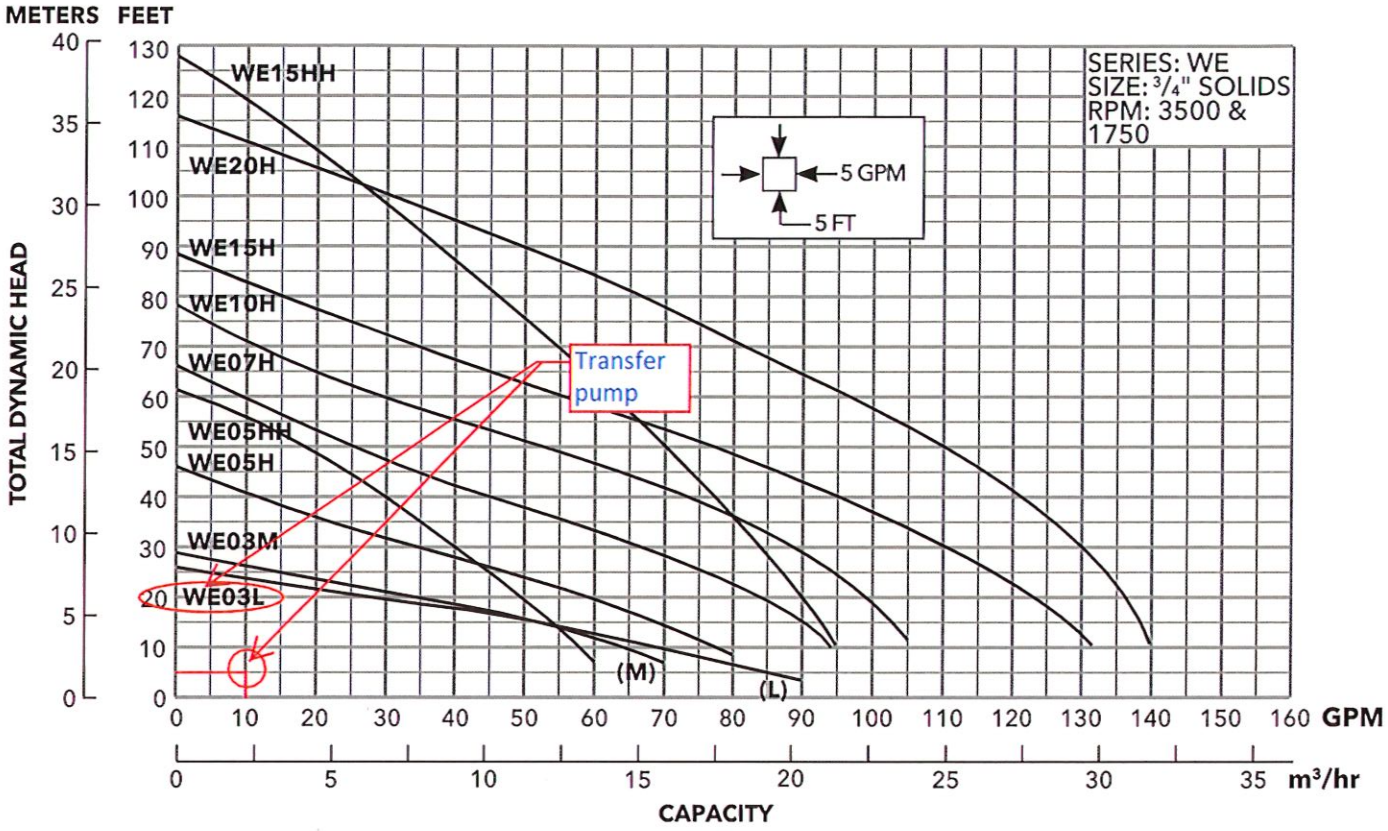
Three phase (60 Hz):

- 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

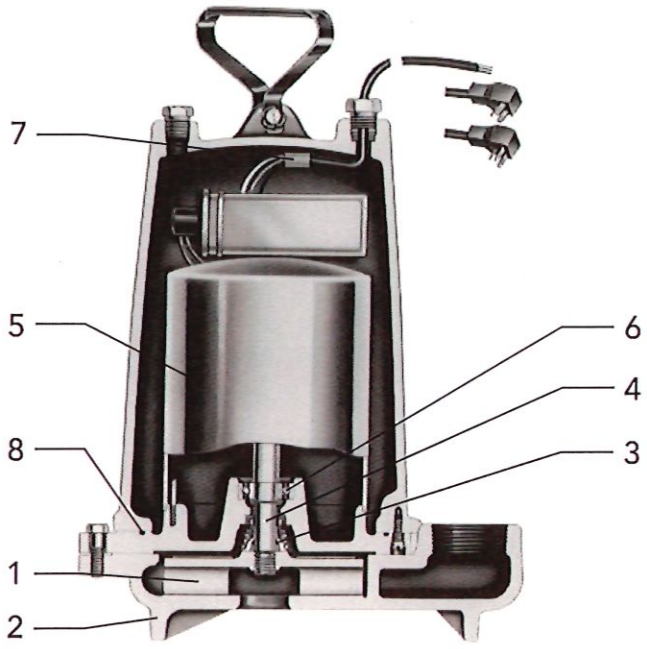
C SP US

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

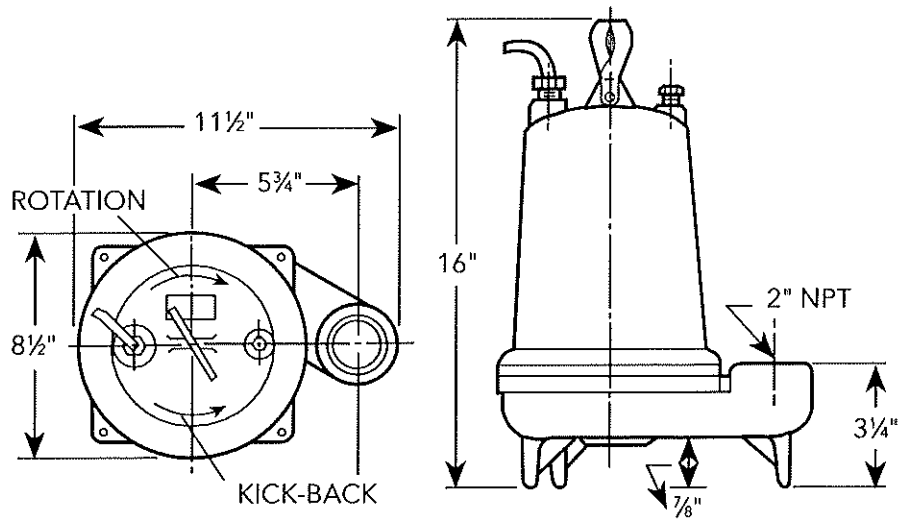
Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance		Power Cable Size	Weight (lbs.)
										Start	Line-Line		
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56
WE0318L			208			6.8	19.5	K	51	9.1	4.2		
WE0312L			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.)



STANDARD PANEL OPTIONS

Pump Order Number	K Series		Boulay Series	
	Simplex	Duplex	Simplex	Duplex
WE0311L	KS19020WF	KD19020WF	S10020	D10020
WE0318L	KS19020WF	KD19020WF	S10020	D10020
WE0312L	KS19020WF	KD19020WF	S10020	D10020
WE0311M	KS19020WF	KD19020WF	S10020	D10020
WE0318M	KS19020WF	KD19020WF	S10020	D10020
WE0312M	KS19020WF	KD19020WF	S10020	D10020
WE0511H	KS19020WF	KD19020WF	S10020	D10020
WE0518H	KS19020WF	KD19020WF	S10020	D10020
WE0512H	KS19020WF	KD19020WF	S10020	D10020
WE0538H	KS31255WF	KD31255WF	S34063	D34063
WE0532H	KS31255WF	KD31255WF	S32540	D32540
WE0534H	KS31255WF	KD31255WF	S31625	D31625
WE0537H	N/A	N/A	S31625	D31625
WE0511HH	KS19020WF	KD19020WF	S10020	D10020
WE0518HH	KS19020WF	KD19020WF	S10020	D10020
WE0512HH	KS19020WF	KD19020WF	S10020	D10020
WE0538HH	KS31255WF	KD31255WF	S34063	D34063
WE0532HH	KS31255WF	KD31255WF	S32540	D32540
WE0534HH	KS31255WF	KD31255WF	S31625	D31625
WE0537HH	N/A	N/A	S31625	D31625
WE0718H	KS19020WF	KD19020WF	S10020	D10020
WE0712H	KS19020WF	KD19020WF	S10020	D10020
WE0738H	KS34518WF	KD34518WF	S36310	D36310
WE0732H	KS34518WF	KD34518WF	S34063	D34063
WE0734H	KS31255WF	KD31255WF	S32540	D32540
WE0737H	N/A	N/A	S31625	D31625
WE1018H	KS19020WF	KD19020WF	S10020	D10020
WE1012H	KS19020WF	KD19020WF	S10020	D10020
WE1038H	KS34518WF	KD34518WF	S36310	D36310
WE1032H	KS34518WF	KD34518WF	S36310	D36310
WE1034H	KS34518WF	KD34518WF	S32540	D32540
WE1037H	N/A	N/A	S32540	D32540
WE1518H	KS19020WF	KD19020WF	S10020	D10020
WE1512H	KS19020WF	KD19020WF	S10020	D10020
WE1538H	KS34518WF	KD34518WF	S31016	D31016
WE1532H	KS34518WF	KD34518WF	S36310	D36310
WE1534H	KS34518WF	KD34518WF	S34063	D34063
WE1537H	N/A	N/A	S32540	D32540
WE1518HH	KS19020WF	KD19020WF	S10020	D10020
WE1512HH	KS19020WF	KD19020WF	S10020	D10020
WE1538HH	KS34518WF	KD34518WF	S31016	D31016
WE1532HH	KS34518WF	KD34518WF	S36310	D36310
WE1534HH	KS34518WF	KD34518WF	S34063	D34063
WE1537HH	N/A	N/A	S32540	D32540
WE2012H	KS19020WF	KD19020WF	S10020	D10020
WE2038H	KS34518WF	KD34518WF	S31016	D31016
WE2032H	KS34518WF	KD34518WF	S31016	D31016
WE2034H	KS34518WF	KD34518WF	S34063	D34063
WE2037H	N/A	N/A	S34063	D34063

Note: Boulay Series part numbers have additional available features, see page 7 for more information.

Note: K Series panel part numbers include floats, to order without float switches, remove the 'WF' suffix. Boulay Series panels do not include float switches.

K-SERIES

- NEMA 4X dead front outdoor rated enclosure
- Red LED alarm beacon
- HOA selector switch
- Field wiring terminal block
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230 and 460V service
- Requires separate control/alarm power feed
- See brochure "BCPKSDPANELS" for additional information

BOULAY SERIES

- NEMA 4X outdoor rated enclosure
- Red alarm beacon
- HOA selector switch
- Through door pump run light(s)
- Through door alarm test and horn silence button
- Single phase models handle 120, 208 and 230V service
- Three phase models handle 200, 230, 460 and 575V service
- Accepts single or dual power feed
- See brochure "BCP3 R11" for additional information on simplex models
- See brochure "BCP4 R14" for additional information on duplex models

Xylem |'zīləm|

1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xyleminc.com

xylem
Let's Solve Water

Xylem Inc.
2881 East Bayard Street Ext., Suite A
Seneca Falls, NY 13148
Phone: (866) 325-4210
Fax: (888) 322-5877
www.xylem.com/goulds

West System

3800-FM-WSFR0290A 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

SITE INVESTIGATION AND PERCOLATION TEST REPORT FOR ONLOT DISPOSAL OF SEWAGE

INSTRUCTIONS FOR COMPLETION OF THIS FORM ARE LOCATED ON THE REVERSE SIDE

Application No. Z144367 Municipality Newlin County Chester

Site Location 415 Laurel Road Subdivision Name _____

☒ SUITABLE Soil Type _____ Slope 13 % Depth to Limiting Zone 84" Ave. Perc. Rate _____

☐ UNSUITABLE ☐ Mottling ☐ Seeps or Ponded Water ☐ Bedrock ☐ Fractures ☐ Coarse Fragments

☐ Perc. Rate ☐ Slope ☐ Unstabilized Fill ☐ Floodplain ☐ Other _____

SOILS DESCRIPTION:

Soils Description Completed by: Chester County Health Dept TP 8-18-A Date: August 17, 2020

Inches			Description of Horizon
0	TO	11	Dark Brown, clay, 1 SBK, friable, clear with roots
11	TO	43	brown, clay, 2 SBK, friable, abrupt with roots 15-35% cf
43	TO	84	yellow brown, SiCL, 1 SBK, friable, 35-60 cf
	TO		
	TO		
	TO		

PERCOLATION TEST:

Percolation Test Completed by: _____ Date: _____

Weather Conditions: ☐ Below 40°F ☐ 40°F or above ☐ Dry ☐ Rain, Sleet, Snow (last 24 hours)

Soil Conditions: ☐ Wet ☐ Dry ☐ Frozen

Hole No.	*** Yes	*** No	Reading Interval	Reading No. 1: Inches of drop	Reading No. 2: Inches of drop	Reading No. 3: Inches of drop	Reading No. 4: Inches of drop	Reading No. 5: Inches of drop	Reading No. 6: Inches of drop	Reading No. 7 Inches of drop	Reading No. 8: Inches of drop
1			10 / 30								
2			10 / 30								
3			10 / 30								
4			10 / 30								
5			10 / 30								
6			10 / 30								

***Water remaining in the hole at the end of the final 30-minute presoak? Yes, use 30-minute interval; No, use 10-minute interval.

Calculation of Average Percolation Rate:

Hole No.	Drop during final period	Perc. Rate as Minutes/Inch	Depth of Hole
1	"		"
2	"		"
3	"		"
4	"		"
5	"		"
6	"		" Min / Inch
TOTAL OF MIN / IN →		=	
TOTAL NO. OF HOLES →			

The information provided is the true and correct result of tests conducted by me, performed under my personal supervision, or verified in a manner approved by DEP.

(S) _____
Sewage Enforcement Officer

☐ White - Local Agency ☐ Yellow - Applicant ☐ Pink - Local DEP Office

3800-FM-WSFR0290A 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

SITE INVESTIGATION AND PERCOLATION TEST REPORT FOR ONLOT DISPOSAL OF SEWAGE

INSTRUCTIONS FOR COMPLETION OF THIS FORM ARE LOCATED ON THE REVERSE SIDE

Application No. Z144367 Municipality Newlin County Chester

Site Location 415 Laurel Road Subdivision Name

☒ SUITABLE Soil Type ____ Slope 13 % Depth to Limiting Zone 28 Ave. Perc. Rate 11.78

☐ UNSUITABLE ☒ Mottling ☐ Seeps or Ponded Water ☐ Bedrock ☐ Fractures ☐ Coarse Fragments

☐ Perc. Rate ☐ Slope ☐ Unstabilized Fill ☐ Floodplain ☐ Other

SOILS DESCRIPTION:

Soils Description Completed by: Chester County Health Dept TP 8-17-B Date: August 17, 2020

Inches			Description of Horizon
0	TO	10	Dark Brown, SiCL, 1 SBK, friable, abrupt with roots
10	TO	27	yellow brown, Cl, 3 SBK,friable w/roots 15-35% cf
	TO		
	TO		
	TO		
	TO		

PERCOLATION TEST:

Percolation Test Completed by: PR Environmental Date: August 18, 2020

Weather Conditions: ☐ Below 40°F ☒ 40°F or above ☒ Dry ☐ Rain, Sleet, Snow (last 24 hours)

Soil Conditions: ☐ Wet ☒ Dry ☐ Frozen

Hole No.	*** Yes	*** No	Reading Interval	Reading No. 1: Inches of drop	Reading No. 2: Inches of drop	Reading No. 3: Inches of drop	Reading No. 4: Inches of drop	Reading No. 5: Inches of drop	Reading No. 6: Inches of drop	Reading No. 7 Inches of drop	Reading No. 8: Inches of drop
1	x		10 / 30	1 7/8	2	1	1 1/2	1 1/4	1	1	1
2	x		10 / 30	5	5 7/8	4 1/8	4 1/8	4	4		
3	x		10 / 30	3 3/4	3 3/4	3 1/2	3 1/2				
4		x	10 / 30	3 1/4	3 1/4	3 1/8	3				
5	x		10 / 30	4 3/4	4 3/4	4 1/2	4 3/4				
6	x		10 / 30	2 1/8	2 1/4	2	2				

***Water remaining in the hole at the end of the final 30-minute presoak? Yes, use 30-minute interval; No, use 10-minute interval.

Calculation of Average Percolation Rate:

Hole No.	Drop during final period	Perc. Rate as Minutes/Inch	Depth of Hole	
1	1 "	30	20	"
2	4 "	7.5	20	"
3	3 1/2 "	8.6	20	"
4	3 "	3.3	20	"
5	4 3/4 "	6.3	20	"
6	2 "	15	20	" Min / Inch
TOTAL OF MIN / IN →		70.7	= 11.78	
TOTAL NO. OF HOLES→		6		

The information provided is the true and correct result of tests conducted by me, performed under my personal supervision, or verified in a manner approved by DEP.

(S) _____
Sewage Enforcement Officer

☐ White - Local Agency ☐ Yellow - Applicant ☐ Pink - Local DEP Office

3800-FM-WSFR0290A 9/2005

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

SITE INVESTIGATION AND PERCOLATION TEST REPORT FOR ONLOT DISPOSAL OF SEWAGE

INSTRUCTIONS FOR COMPLETION OF THIS FORM ARE LOCATED ON THE REVERSE SIDE

Application No. Z144367 Municipality Newlin County Chester

Site Location 415 Laurel Road Subdivision Name

☒ SUITABLE Soil Type ____ Slope 13 ~~8~~% Depth to Limiting Zone 40 Ave. Perc. Rate 28.43

☐ UNSUITABLE ☒ Mottling ☐ Seeps or Ponded Water ☐ Bedrock ☐ Fractures ☐ Coarse Fragments

☐ Perc. Rate ☐ Slope ☐ Unstabilized Fill ☐ Floodplain ☐ Other

SOILS DESCRIPTION:

Soils Description Completed by: Chester County Health Dept TP 8-17-C Date: August 17, 2020

Inches			Description of Horizon
0	TO	13	Dark Brown, SiL, 1 SBK, friable, abrupt with roots
13	TO	28	brown, SiCL, 2 SBK, friable, abrupt w/roots 15-35% cf
28	TO	39	RB, SiCL, 2 SBK, friable, abrupt, 15-35 cf
	TO		mottles at 40"
	TO		
	TO		

PERCOLATION TEST:

Percolation Test Completed by: PR Environmental Date: August 18, 2020

Weather Conditions: ☐ Below 40°F ☒ 40°F or above ☒ Dry ☐ Rain, Sleet, Snow (last 24 hours)

Soil Conditions: ☐ Wet ☒ Dry ☐ Frozen

Hole No.	*** Yes	*** No	Reading Interval	Reading No. 1: Inches of drop	Reading No. 2: Inches of drop	Reading No. 3: Inches of drop	Reading No. 4: Inches of drop	Reading No. 5: Inches of drop	Reading No. 6: Inches of drop	Reading No. 7 Inches of drop	Reading No. 8: Inches of drop
1	x		10 / 30	3	3 1/4	2 7/8	3 1/4	3	3 1/8	3 1/8	
2	x		10 / 30	1 3/4	1 3/4	1 1/2	1 5/8				
3	x		10 / 30	7/8	3/4	3/4	7/8				
4	x		10 / 30	1 1/8	1 1/8	7/8	1 1/8				
5	x		10 / 30	1/4	1/2	1/2	1/2				
6	x		10 / 30	1 1/2	1 3/8	1 1/4	1 5/8	1 3/8	1 3/8	1 3/8	

***Water remaining in the hole at the end of the final 30-minute presoak? Yes, use 30-minute interval; No, use 10-minute interval.

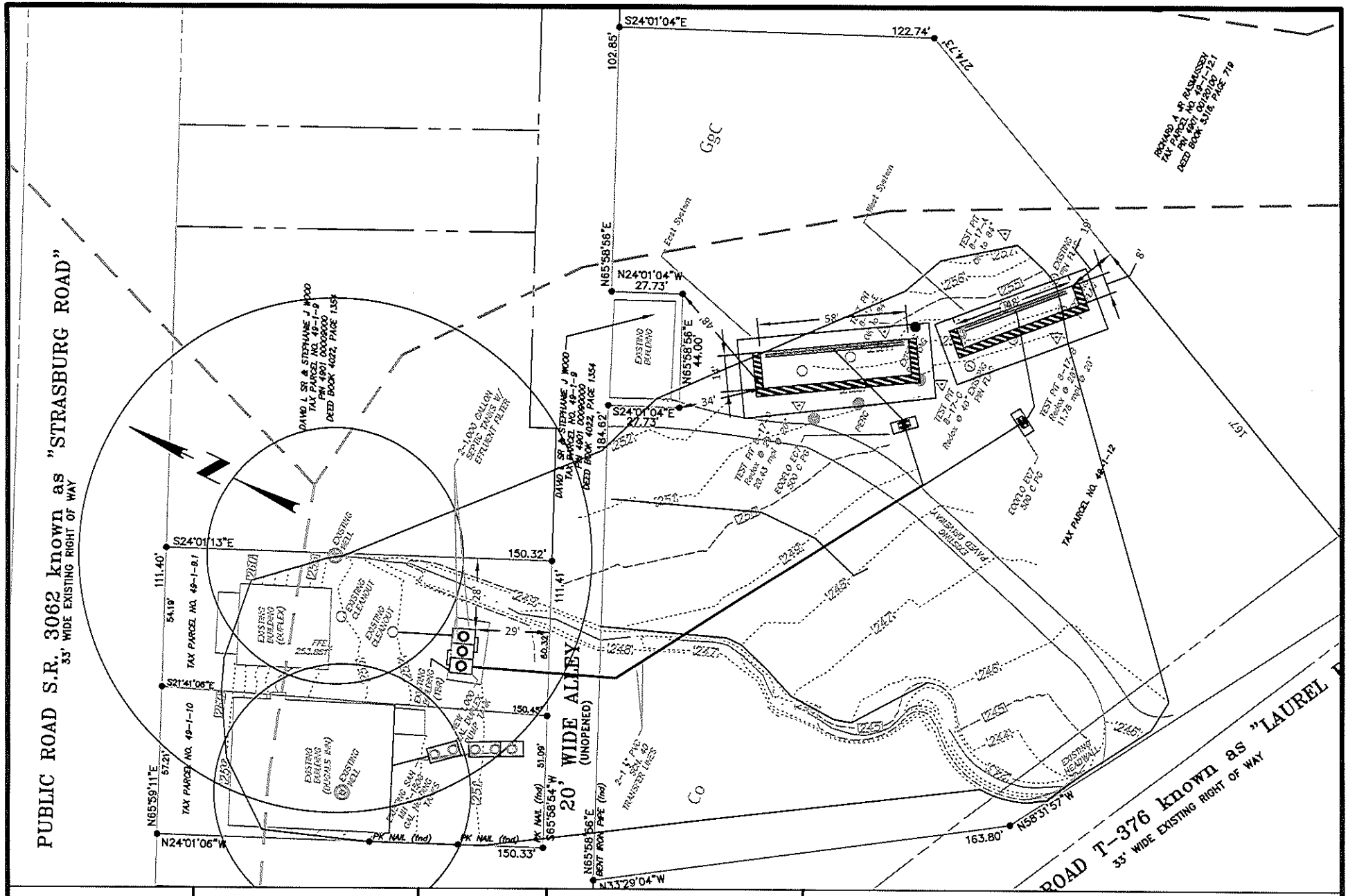
Calculation of Average Percolation Rate:

Hole No.	Drop during final period	Perc. Rate as Minutes/Inch	Depth of Hole
1	3 1/8 "	9.6	20 "
2	1 5/8 "	18.5	20 "
3	7/8 "	34.3	20 "
4	1 1/8 "	26.7	20 "
5	1/2 "	60	20 "
6	1 3/8 "	21.8	20 " Min / Inch
TOTAL OF MIN / IN →		170.9	= 28.43
TOTAL NO. OF HOLES→		6	

The information provided is the true and correct result of tests conducted by me, performed under my personal supervision, or verified in a manner approved by DEP.

(S) _____
Sewage Enforcement Officer

☐ White - Local Agency ☐ Yellow - Applicant ☐ Pink - Local DEP Office



PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	1" = 50''

DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 1 of 8

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EVANS MILL ENVIRONMENTAL, LLC
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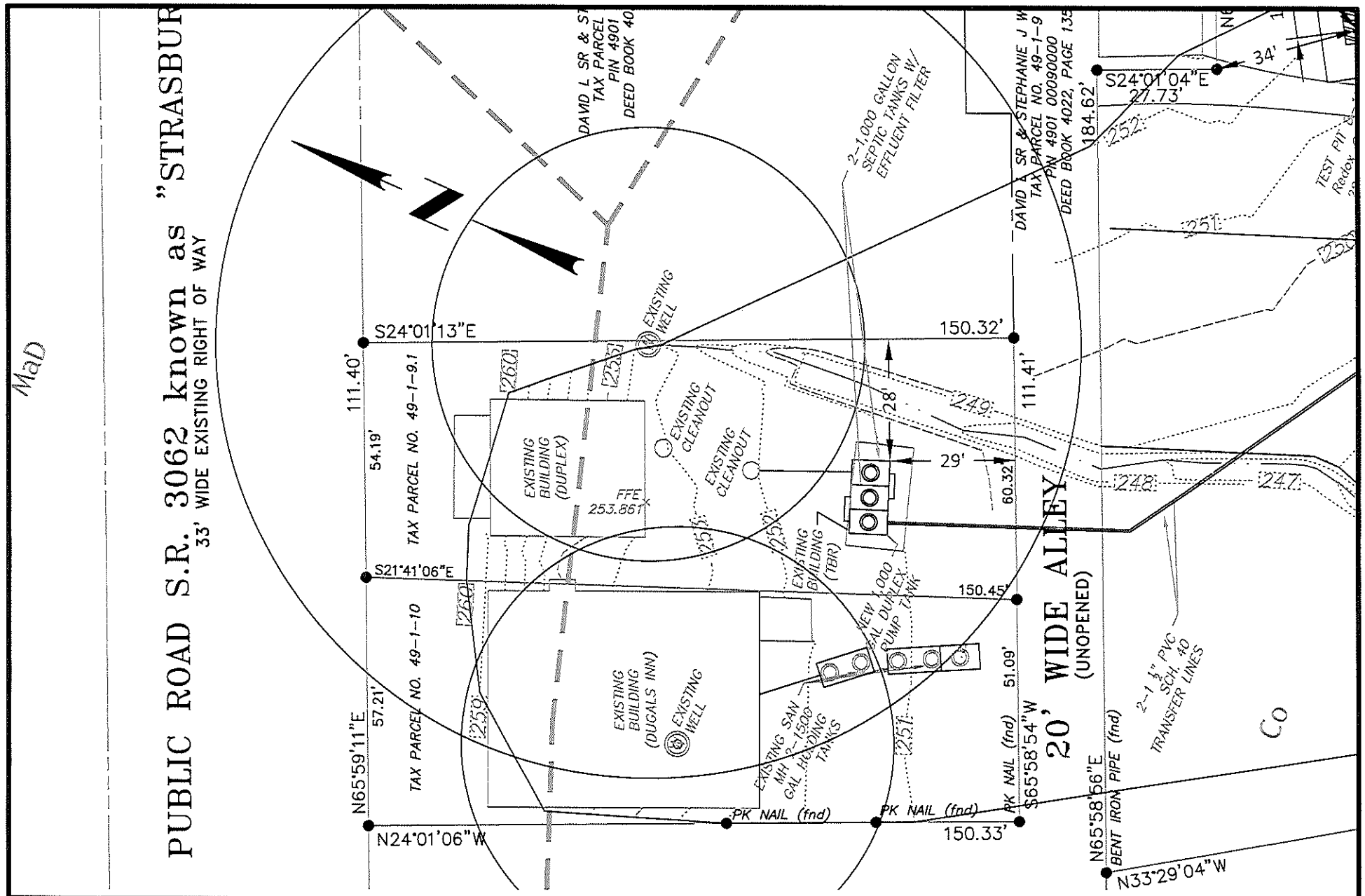
101 FELLOWSHIP ROAD, UWCHLAND, PA 19480
TEL (610)458-8300 - FAX (610)458-7168
evansmll@emc-llc.com

SCOTT NYMAN
EAST UNIT OF DUPLEX
415 LAUREL ROAD TP# 49-1-9.1 & 49-1-12
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION



PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	1' = 30'

DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 2 of 8

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EVANS MILL ENVIRONMENTAL, LLC
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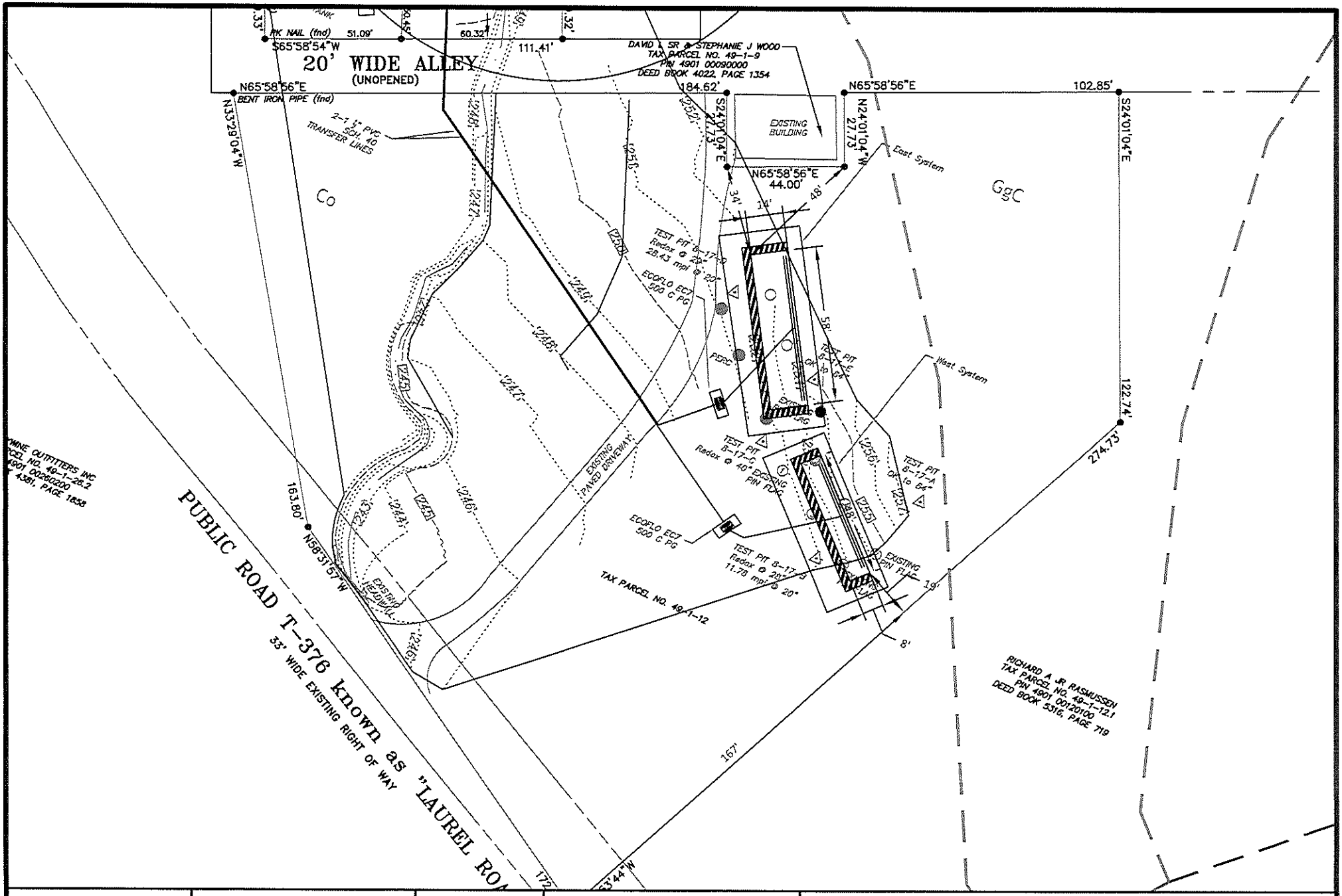
SCOTT NYMAN
WEST UNIT OF DUPLEXTPp# 49-1-9.1
415 LAUREL ROAD
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION



PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	1" = 20

DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 3 of 8

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EVANS MILL ENVIRONMENTAL, LLC
ENVIRONMENTAL ENGINEERS AND CONSULTANTS
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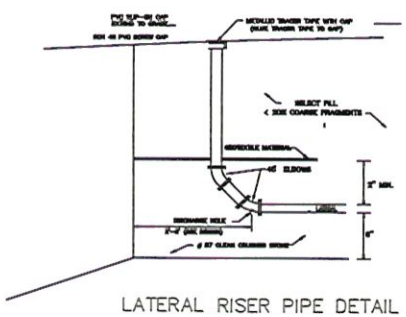
TEL (610)458-8300 · FAX (610)458-7168
evansmill@eme-llc.com

SCOTT NYMAN
WEST UNIT OF DUPLEXTPp# 49-1-9.1
415 LAUREL ROAD
NEWLIN TOWNSHIP CHESTER COUNTY, PA

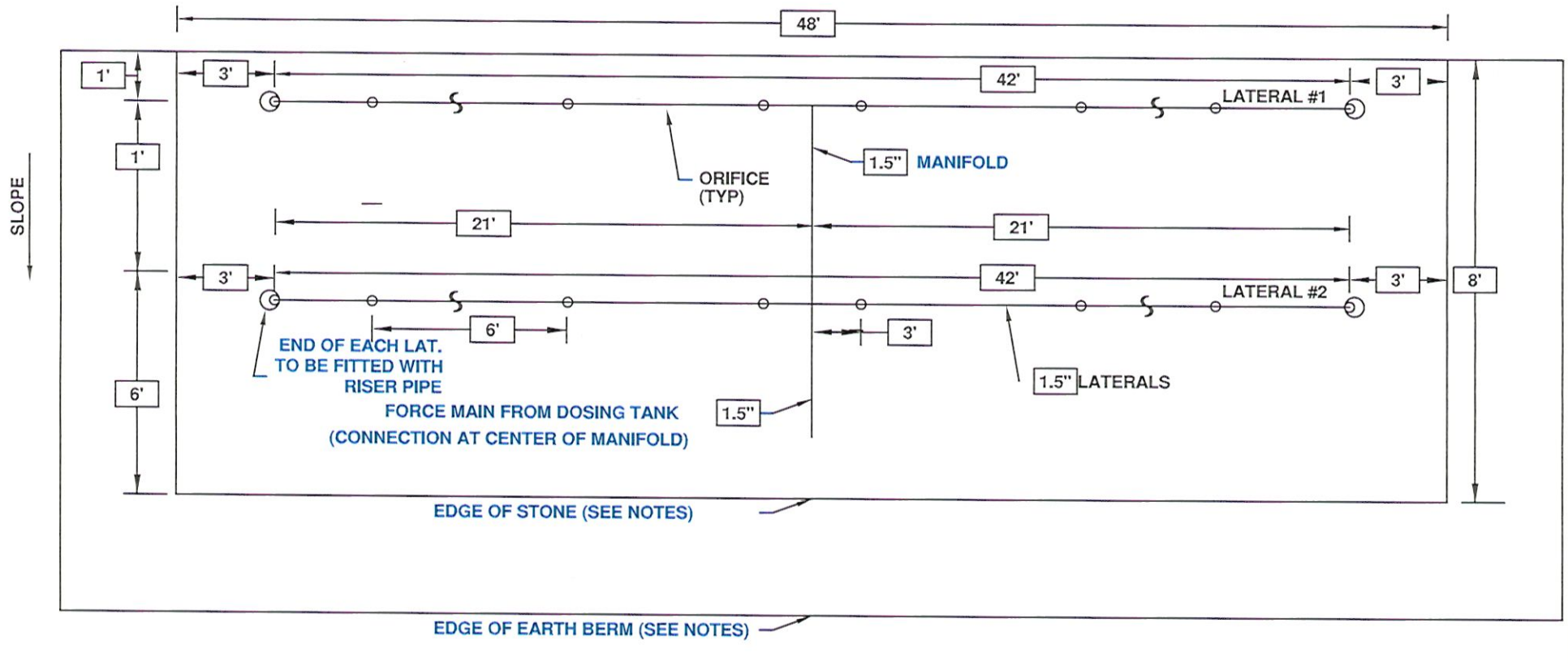
ON LOT SEWAGE SYSTEM PERMIT APPLICATION

PLAN VIEW BED

LATERAL NUMBER	HOLES PER LATERAL PR.	HOLE DIAMETER
1	8	1/4"
2	8	1/4"



LATERAL RISER PIPE DETAIL



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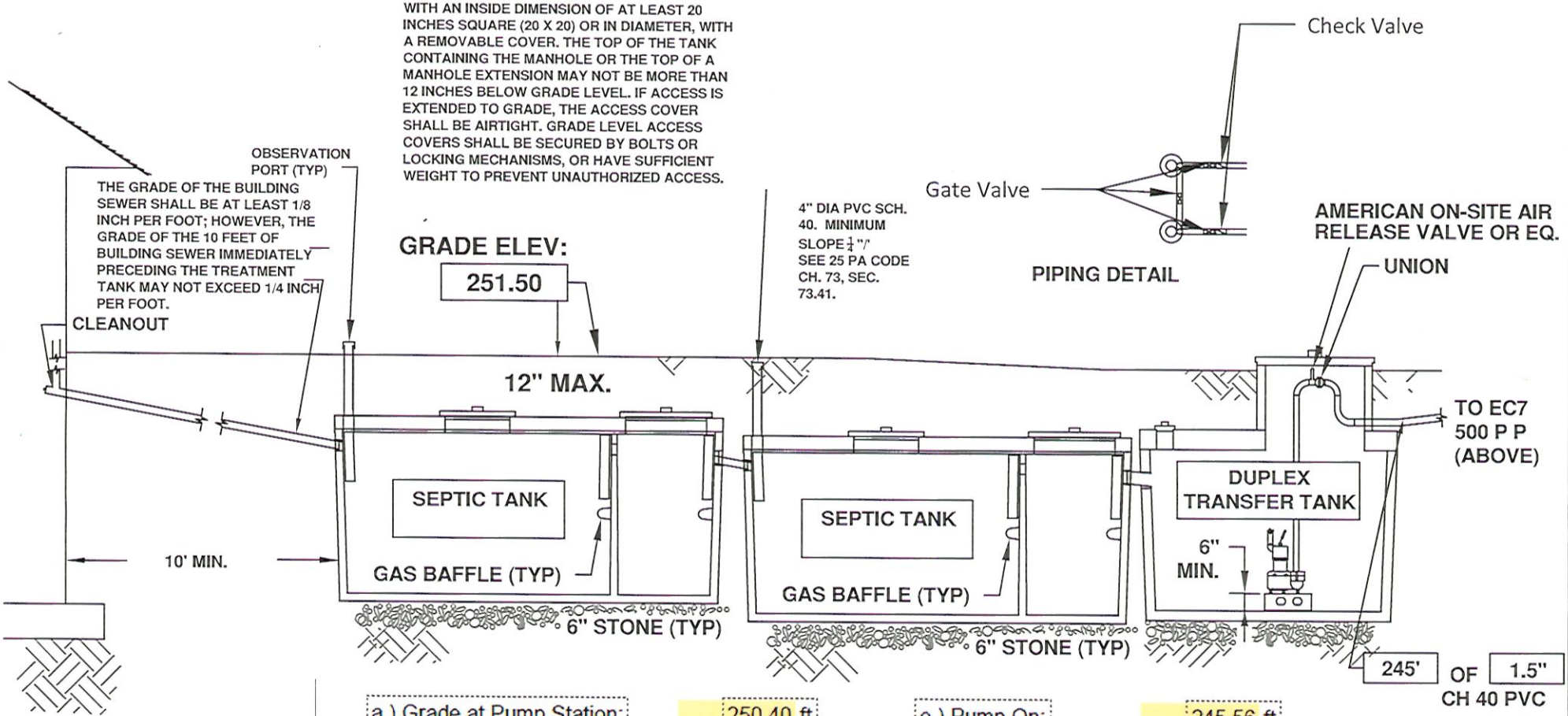
ON LOT SEWAGE SYSTEM PERMIT APPLICATION

ACCESS TO EACH TANK OR COMPARTMENT OF THE TANK SHALL BE PROVIDED BY A MANHOLE WITH AN INSIDE DIMENSION OF AT LEAST 20 INCHES SQUARE (20 X 20) OR IN DIAMETER, WITH A REMOVABLE COVER. THE TOP OF THE TANK CONTAINING THE MANHOLE OR THE TOP OF A MANHOLE EXTENSION MAY NOT BE MORE THAN 12 INCHES BELOW GRADE LEVEL. IF ACCESS IS EXTENDED TO GRADE, THE ACCESS COVER SHALL BE AIRTIGHT. GRADE LEVEL ACCESS COVERS SHALL BE SECURED BY BOLTS OR LOCKING MECHANISMS, OR HAVE SUFFICIENT WEIGHT TO PREVENT UNAUTHORIZED ACCESS.



a.) Grade at Pump Station:	250.40 ft	e.) Pump On:	245.56 ft
b.) Tank Floor:	243.40 ft	f.) Pump Off:	244.40 ft
c.) Intake Invert:	243.90 ft	g.) Alarm On:	245.65 ft
d. D box manifold	248.03 ft		

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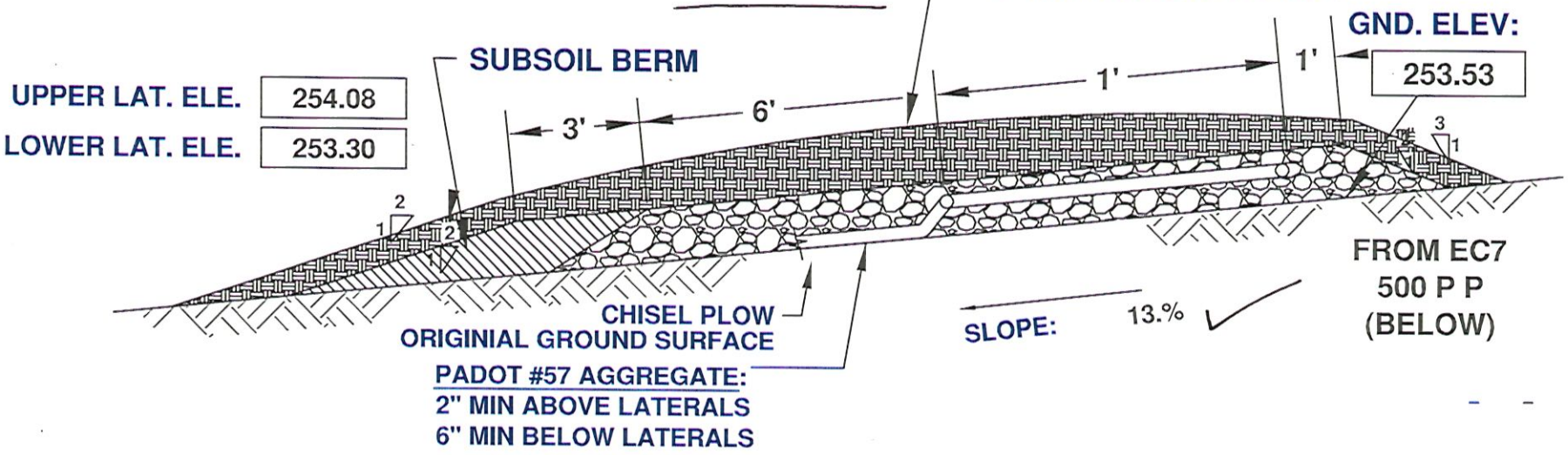
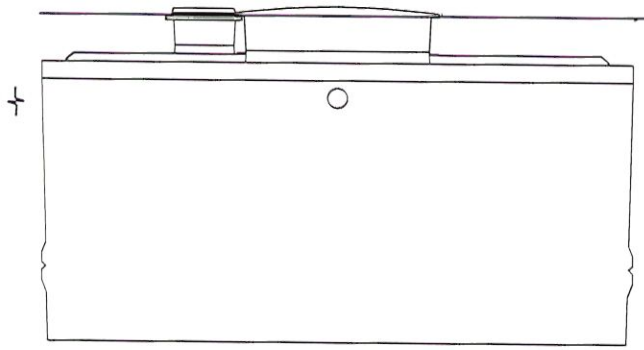
ON LOT SEWAGE SYSTEM PERMIT APPLICATION

6+1+1= 8ft

6:1





ECOFLO EC 7- C - 1200

60' OF 1.5" DIA. SCH 40 PVC TO DOSING TANK(ABOVE)

A WATERTIGHT MANHOLE, AT LEAST 20 INCHES SQUARE OR 24 INCHES IN DIAMETER, EXTENDED TO GRADE, SHALL BE PROVIDED FOR ACCESS TO THE DOSING TANK. MANHOLE COVERS SHALL THE ACCESS COVER SHALL BE AIRTIGHT. GRADE LEVEL ACCESS COVERS SHALL BE SECURED BY BOLTS OR LOCKING MECHANISMS, OR HAVE SUFFICIENT WEIGHT TO PREVENT UNAUTHORIZED ACCESS.

a.) Grade at Pump Station	250.14 Ft.	e.) Pump On:	244.27 Ft.
b.) Tank Floor	243.62 Ft.	f.) Pump Off:	243.70 Ft.
c.) Intake Invert (pump)	243.79 Ft.	g.) Alarm On:	244.62 Ft.
d.) Manifold @ Bottom lat.	253.30 Ft.		

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415 LAUREL ROAD
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT SEWAGE SYSTEM PERMIT APPLICATION

ABSORPTION AREA

PRESSURE DOSED AT GRADE ON GRADE BED

8' WIDE BY 48' LONG BY 0" SAND

384 S.F. PROVIDED 600 S.F. REQUIRED 36% REDUCTION TAKEN

GENERAL NOTES

THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL SYSTEM COMPONENTS PRIOR TO INSTALLATION.

THE ABSORPTION AREA SHALL BE INSTALLED PARALLEL WITH EXISTING CONTOURS.

AS OF THE DATE OF THE DESIGN THERE ARE NO WELLS LOCATED WITHIN 100' OF THE PROPOSED ABSORPTION AREA ON OR OFF THE PROPERTY.

THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CHAPTER 73- PA STANDARDS FOR SEWAGE DISPOSAL, AND THE POLICIES AND PROCEDURES OF THE LOCAL AGENCY. MAINTAIN 12" SOIL COVER OVER STONE.

ALL GRAVITY PIPES ARE 4" DIAMETER PVC SCHEDULE 40, ALL PRESSURE PIPES ARE 1.AS NOTED PVC SCHEDULE 40. ALL PIPES CONNECTIONS ARE SOLVENT WELD. ALL GRAVITY PIPES TO HAVE A MINIMUM SLOPE OF $\frac{1}{8}$"/FT EXCEPT FOR THE 10 FT. OF THE BUILDING SEWER PRIOR TO THE SEPTIC TANK WHICH WILL HAVE A MAXIMUM SLOPE OF $\frac{1}{4}$"/FT. ALL TANK CONNECTIONS TO BE MADE WITH WATER TIGHT JOINTS. PORTLAND CEMENT IS PROHIBITED AS A JOINT COMPOUND. CLEANOUTS TO BE PROVIDED AT THE INTERSECTION OF THE BUILDING DRAIN AND BUILDING SEWER, AT EVERY CHANGE OF DIRECTION OF THE BUILDING SEWER AND EVERY 100' O-C IN THE BUILDING SEWER AND AT THE END OF EACH LATERAL AS SHOWN.

NO GRADING WILL BE DONE IN THE PRIMARY SEWAGE ABSORPTION AREAS OR GRADING RESULTING IN SLOPES GREATER THAN 25% CLOSER THAN TEN FEET TO EITHER AREA. NO HEAVY EQUIPMENT (>5 PSI GROUND PRESSURE) TO BE USED TO CONSTRUCT OR OPERATED DOWNHILL OF DRAIN FIELD. DUE TO SUPPLY CHAIR ISSUES THE APPLICANT CAN COOHSE OT INSTALL A EC7 500 PP PACK OR A 1250 GALLON SEPTIC TANK AND EITHER A POLY EC7 500 PP OR CONCRETE EC7 500C PP. AN EFFLUENT FILTER IS REQUIED ON SEPTIC OUTLETS WHERE PACK UNITS ARE NOT INSTALLED.

ALL ELECTRICAL COMPONENTS TO BE INSTALLED IN COMPLIANCE WITH THE PA-UCC ELECTRICAL CODE. ALL ELECTRICAL CONNECTIONS TO BE MADE WITH WATER RESISTANT CONNECTIONS. ALL BOXES TO BE NEMA 4 APPROVED BOXES.

ALL COARSE AGGREGATE SHALL MEET THE FOLLOWING SPECIFICATIONS (REFERENCE: SECTION 73.51(A) OR PENNSYLVANIA DEPARTMENT OF TRANSPORTATION, PUBLICATION 408, SECTION 703.2(A) AND (B)): A) THE COARSE AGGREGATE SHALL NOT CONTAIN MORE THAN 15% BY WEIGHT TOTAL DELETERIOUS MATERIAL. DELETERIOUS MATERIAL IS ANY MATERIAL THAT WILL ADVERSELY AFFECT THE STRUCTURAL SOUNDNESS OR STORAGE CAPACITY OF THE COARSE AGGREGATE INCLUDING MATERIAL FINER THAN NO. 200 SIEVE, CLAY LUMPS, AND FRIABLE PARTICLES. B) THE COARSE AGGREGATE SHALL NOT CONTAIN MORE THAN 5% BY WEIGHT CLAY LUMPS AND FRIABLE PARTICLES. TESTING SHALL BE PERFORMED USING THE MOST RECENT REVISION OF ASTM C142. C) THE COARSE AGGREGATE SHALL NOT CONTAIN MORE THAN 5% BY WEIGHT MATERIAL FINER THAN NO. 200 SIEVE. TESTING SHALL BE PERFORMED USING THE MOST RECENT REVISION OF ASTM C117 OR PTM NO. 100. D) ALL COARSE AGGREGATE TESTING SHALL BE CONDUCTED WITHIN 1 YEAR PRIOR TO THE DELIVERY DATE. E) A MINIMUM OF A TOTAL OF 10 INCHES OF COARSE AGGREGATE MEETING THE REQUIREMENTS OF EITHER SECTION 73.51(A) OR THE COARSE AGGREGATES MEETING AASHTO NO 3, 467, 5, OR 57 DESCRIBED IN THE ALTERNATE AGGREGATE LISTING MUST BE USED. SAND SUPPLIERS SHALL PROVIDE CERTIFICATION IN WRITING TO THE SEWAGE ENFORCEMENT OFFICER AND PERMITTEE, WITH THE FIRST DELIVERY TO THE JOB SITE. FROM EVERY SOURCE. THE SIEVE ANALYSIS SHALL BE CONDUCTED IN ACCORDANCE WITH PTM #616 AND #100.

THIS PLAN IS FOR SEWAGE PERMIT DESIGN USE ONLY! BASE PLAN PROVIDED FROM THE RECORDED SUBDIVISON PLAN AND PASDA . SOIL TESTING CONDUCTED BY AND THE SEO EME IS NOT RESPONSIBLE FOR THE ACCURACY THOSE DATA NOT CONDUCTED BY EME.

CARE AND USE:

THE SEWAGE SYSTEM SHOULD BE FINAL GRADED AND SEEDED AS SOON AS POSSIBLE AFTER INSTALLATION.

NO HARSH CHEMICAL, GREASE, OR OTHER NON-BIODEGRADABLE MATERIALS SHOULD BE INTRODUCED INTO THE SYSTEM.

SEPTIC TANKS SHOULD BE CLEANED OUT (FROM MANHOLE COVER, NOT 4" INSPECTION PORT) NO LESS FREQUENTLY THAN EVERY THREE YEARS.

NO HEAVY EQUIPMENT SHOULD BE RUN OVER ANY COMPONENT OF THE DISPOSAL SYSTEM.

ALL SURFACE WATER SHALL BE DIVERTED AWAY FROM THE SEWAGE DISPOSAL SYSTEM.

PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	NTS

DRW BY: wjm	CHK BY: wjm	DATE: 8/14/2024	SHEET: 7 of 8

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SCOTT NYMAN
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415 LAUREL ROAD
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT WELL PERMIT APPLICATION

§73.13: MINIMUM HORIZONTAL ISOLATION DISTANCES

(a) MINIMUM HORIZONTAL ISOLATION DISTANCES SHOWN IN SUBSECTIONS (b)-(e) SHALL BE MAINTAINED BETWEEN THE SEWAGE DISPOSAL SYSTEM AND THE FEATURES ITEMIZED EXCEPT AS PROVIDED BY §72.33 (RELATING TO WELL ISOLATION DISTANCE EXEMPTION).

IF CONDITIONS WARRANT, GREATER ISOLATION DISTANCES MAY BE REQUIRED.

(b) THE MINIMUM HORIZONTAL ISOLATION DISTANCES BETWEEN THE FEATURES NAMED AND TREATMENT TANKS, DOSING TANKS, LIFT PUMP TANKS, FILTER TANKS, AND CHLORINE CONTACT / STORAGE TANKS SHALL COMPLY WITH THE FOLLOWING

(1) PROPERTY LINE, EASEMENT, OR RIGHT-OF-WAY: 10 FEET.

(2) OCCUPIED BLDG, SWIMMING POOL, OR DRIVEWAY: 10 FEET.

(3) INDIV. WATER SUPPLY OR SYSTEM SUCTION LINE: 50 FEET.

(4) WATER SUPPLY LINE UNDER PRESSURE: 10 FEET.

(5) STREAM, LAKE, OR OTHER SURFACE WATER: 25 FEET.

(6) CISTERN USED AS WATER SUPPLY: 25 FEET.

(c) THE FOLLOWING MINIMUM HORIZONTAL ISOLATION DISTANCES SHALL BE MAINTAINED BETWEEN THE FEATURES NAMED AND THE PERIMETER OF THE AGGREGATE IN THE ABSORPTION AREA:

(1) PROPERTY LINE, EASEMENT, OR RIGHT-OF-WAY: 10 FEET.

(2) OCCUPIED BUILDING, SWIMMING POOL, OR DRIVEWAY: 10 FEET.

(3) INDIV. WATER SUPPLY OR SYSTEM SUCTION LINE: 100 FEET.

(4) WATER SUPPLY LINE UNDER PRESSURE: 10 FEET.

(5) STREAM, WATER COURSE, LAKE, POND, OR OTHER SURFACE WATER: 50 FEET (FOR THE PURPOSES OF THIS CHAPTER, WETLANDS ARE NOT SURFACE WATERS).

(6) OTHER ACTIVE ON-LOT SYSTEMS: 5 FEET.

(7) SURFACE DRAINAGEWAYS: 10 FEET.

(8) MINE SUBSIDENCE AREAS, MINE BORE HOLES, OR SINK HOLES: 100 FEET.

(9) ROCK OUTCROP OR IDENTIFIED SHALLOW PINNACLE: 10 FEET.

(10) NATURAL OR MANMADE SLOPE GREATER THAN 25%: 10 FEET.

(11) CISTERN USED AS WATER SUPPLY: 25 FEET.

(12) DETENTION BASIN, RETENTION BASIN, OR STORMWATER SEEPAGE BED: 10 FEET.

PROJECT NO.:	APPLICATION NO.:	SCALE:
3441-00	Z 144367	1" = 20'

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SCOTT NYMAN
WEST UNIT OF DUPLEXTPp# 49-1-9.1
415 LAUREL ROAD
NEWLIN TOWNSHIP CHESTER COUNTY, PA

ON LOT WELL PERMIT APPLICATION

Name	Scott Nyman	Application #	Z144367
Municipality	Newlin	Date	9/28/2024

Address	2094 Strasburg Road
Post Office	Coatesville Pa. 19320
Subdivision	
Lot Number	
Limiting Zone	Redox @ 28"
Perc Rate	28.43
System Type	At Grade On Grade
No. Bedrooms	3
UPI	4901 00100000
Bed length	48
Bed Width	8
L:W Ratio	6
Slope	13.00%

Scott Nyman
2094 Strasburg Road
Newlin Township

		SLOPE	13.00%	Grade @ PS		250.14
Lateral #1 right	254.08	ELEVATION HEAD	9.60	**Low Water Elevation at Pump**		243.70
Manifold Length	6.00	Maniforld Dia.	1.50			
Bed Length	48.00	Bed Width	**8**	L:W ratio	6.00	:1

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
1 1/2	1.61	1.67	0.002	6.00	0.00	4.00
		3.34	0.005	6.00	0.00	4.00
		5.00	0.011	6.00	0.00	4.00
C=150		6.67	0.010	3.00	0.00	4.00
Hole Size(in)	0.266"					
Flow this side	6.67					
Head at Manifold	4.00					
Residual Head	4.00					
				21.00	0.00	

Lateral #1 left 254.08

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
		1.67	0.002	6.00	0.00	4.00
		3.34	0.005	6.00	0.00	4.00
1 1/2	1.61	5.00	0.011	6.00	0.00	4.00
C=150		6.67	0.010	3.00	0.00	4.00
Hole Size (in)	0.266"					
Flow this side	6.67					
Head at Manifold	4.00					
Residual Head	4.00					
				21.00	0.00	

Total lat flow	13.34	GPM
Head at node 1	4.00	
Manifold Length	6.00	
Fitings eq ln.	8.62	
FRICTON LOSS	0.243	
Elevation head change	-0.780	
Head at node 2	5.02	

	MANIFOLD FITTINGS		
90° Elbow	0	4.73	0
45° Elbow	0	2.01	0
Std. Tee	1	8.62	8.62
Couplings	0	1.05	0
Quick Disc	0	1.05	0

Scott Nyman
2094 Strasburg Road
Newlin Township

Lateral #2 right 253.30

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
		1.67	0.001	6.00	0.00	5.09
		3.33	0.005	6.00	0.00	5.09
1 1/2	1.61	5.00	0.011	6.00	0.00	5.09
C=150		6.67	0.010	3.00	0.00	5.09
Hole Size (in)	0.250"					
	1/4"					
Head at Manifold	5.02					
Lat Terminal Head	5.09					
Total Lat Flow R	6.67	GPM		21.00	0.00	

Lateral #2 left 253.30

Pipe Size (inches)	Inside Diameter (inches)	Flow(gpm)	Friction Loss/100 FL	LF of Pipe	FL for Pipe Length	Total Head
		1.67	0.001	6.00	0.00	5.09
		3.33	0.005	6.00	0.00	5.09
1 1/2	1.61	5.00	0.011	6.00	0.00	5.09
C=150		6.67	0.010	3.00	0.00	5.09
Hole Size (in)	0.250"					
	1/4"					
Head at Manifold	5.02					
Head @ LAT END	5.09					
Total Lat Flow L	6.67	GPM		21.00		
Total Lat Flow Lower	13.33	GPM				
Head at Manifold	5.02	FT				
Total system flow	26.68					

Calcualtions based upon Hazen-Williams equation: f=

$0.002083\,(100/c)^{1.852} q^{1.582} / d_h^{4.8655}$

System Balance
0.08%

Scott Nyman
2094 Strasburg Road
Newlin Township

PIPE DIAMETER =		@ 1.5"	
FITTING	Quantity	Delivery Line Equivalent Length (ft)	Total (feet)
90° Elbow	0	4.73	
45° Elbow	2	2.01	4.02
Std. Tee	0	8.62	
Couplings	2	1.05	2.10
Quick Disc	1	1.05	1.05
Check Valve	0	12.00	
Cross	1	2.7	2.70
Force Line	1	50.00	50.00
Total Delivery Line Equivalent Length =			**60 feet**

PIPE DIAMETER =		@ 2.0"	
FITTING	Quantity	Delivery Line Equivalent Length (ft)	Total (feet)
90° Elbow	0	5.55	
45° Elbow	2	2.58	5.16
Std. Tee	0	11.10	
Couplings	2	1.35	2.70
Quick Disc	1	1.35	1.35
Check Valve	0	15.40	
Cross	1	3.5	3.50
Force Line	1	50	50.00
Total Delivery Line Equivalent Length =			**63 feet**

		Flow (gpm)	Friction Loss per 100 LF	Delivery Ft of Pipe	FL for Pipe Length	Total Head
Pipe Size	1.5"	10	0.690	60	0.41	15.04
		20	2.490	60	1.49	16.12
Inside Dia.	1.61"	30	5.276	60	3.17	17.79
C	150	26.68	4.245	60	2.55	17.17
Static Head	9.60	50	13.588	60	8.15	22.77
Residual Head	5.02	60	19.046	60	11.43	26.05

		Flow (gpm)	Friction Loss per 100 LF	Delivery Ft of Pipe	FL for Pipe Length	Total Head
Pipe Size	2"	10	0.204	63	0.13	14.75
		20	0.738	63	0.47	15.09
Inside Dia.	2.067"	30	1.564	63	0.99	15.61
C	150	26.68	1.259	63	0.79	15.41
Static Head	9.60	50	4.029	63	2.54	17.16
Residual Head	5.02	60	5.647	63	3.56	18.18

Calcualtions based upon Hazen-Williams equation: $f = 0.2083\ (100/c)^{1.852}\ q^{1.582}/d_h^{4.8655}$

PIPE SIZE SELECTED FOR DESIGN: 1.5"

Louis and Cathrine Brasten
Lot 8 Spring Knoll Subdivison
19 Raleigh Dr
West Brandywine Township
Chester County, PA
Z 224717

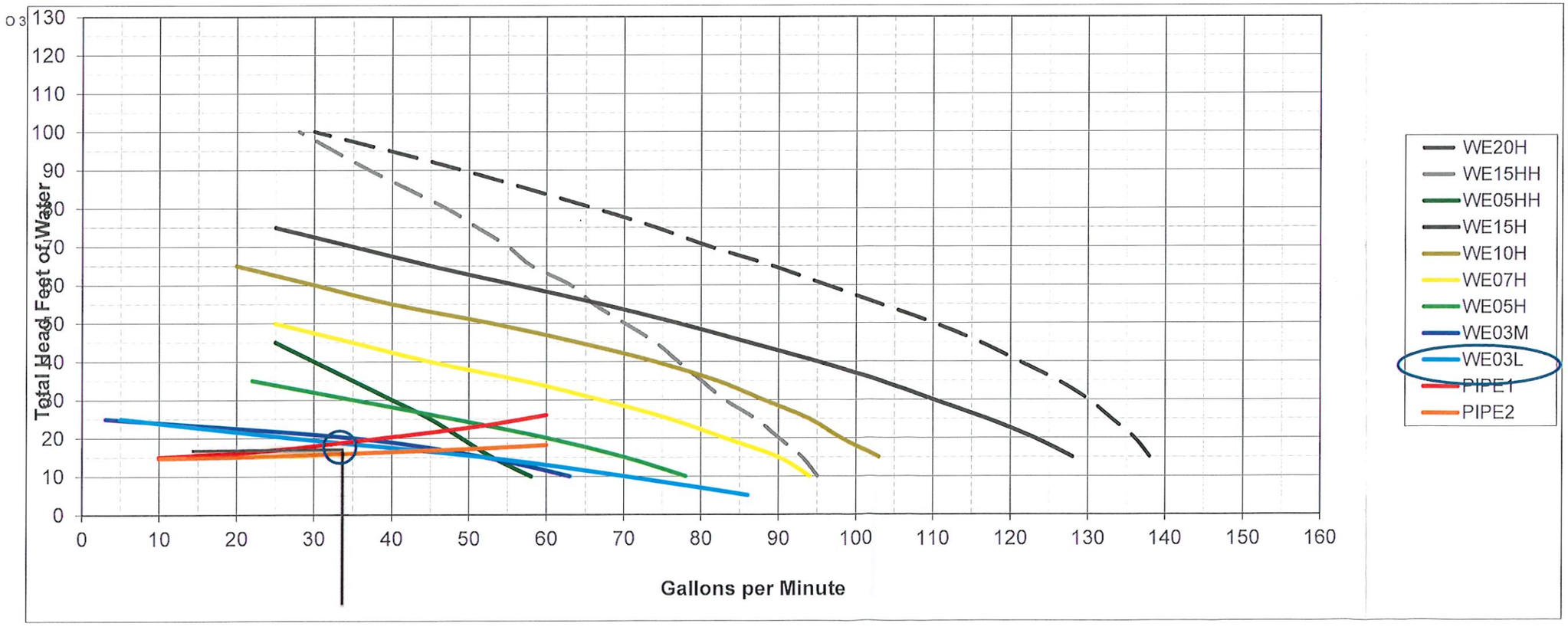
674.5		WE03L	WE03M	WE05H	WE07H	WE10H	WE15H	WE05HH	WE15HH	WE20H
6		1/3	1/3	1/2	3/4	1	1 1/2	1/2	1 1/2	2
RPM		1750	1750	3500	3500	3500	3500	3500	3500	3500
		Gallons per Minute								
Total Head Feet of Water	5	86								
	10	70	63	78	94			58	95	
	15	52	52	70	90	103	128	53	93	138
	20	27	35	60	83	98	123	49	90	136
	25	5	3	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

PIPE 1 1.5"

HEAD	GPM
15.04	10
16.12	20
17.79	30
17.17	26.67724
22.77	50
26.05	60

PIPE 2 2.0"

HEAD	GPM
14.75	10
15.09	20
15.61	30
15.41	26.67724
17.16	50
18.18	60



Louis and Cathrine Brasten
Lot 8 Spring Knoll Subdivison
19 Raleigh Dr
West Brandywine Township
Chester County, PA
Z 224717

	Data Input Box

Delivery Line

Pipe Diameter	Gallons Per LF	LF of Pipe	Total Gallons
1.5	0.09	50.00	4.5
2	0.16	0	0
3	0.37		0
4	0.66		0
		Total Gallons	4.5

Laterals and Manifold

Pipe Diameter	Gallons Per LF	LF of Pipe	Total Gallons
1.5	0.09	114	10.26
2	0.16	0	0
3	0.37		0
4	0.66		0
		Total Gallons	10.26

Minimum Dose Volume (gallon	73.8
(5x capacity of system piping or min. 100)	

Design Dose Volume (gallons)	220

Dose volume plus runback

Actual Dose Volume (gallons)	215.5
(dose volume minus delivery line drainback)	

Dosing Calculations	
Daily Flow (gallons per day)	800
Actual Dose Volume (gallons)	215.5
Doses Per Day	3.7

Chester County Health Department
Bureau of Environmental Protection
Division of Water & Sewage

Specifications for Proposed On-Lot Sewage Disposal System

Name Scott Nyman Application # Z144367

Municipality Newlin Date 28 September 2024

1) Building Sewer: (Section 73.2.1) Type Sch. 40 PVC Diameter 4.00 in.

2) Primary Treatment: (Section 73.31 & 73.32)

Number of Septic Tanks	1 → 2	
No. of Compartments per Tank	1	
Capacity of 1st Tank or Comp.	1000	gal
Capacity of 2nd Tank or Comp.	1000	gal.

WITH EFFLUENT FILTER

Number of Aerobic Tanks ____ Manufacturer ECOFLO

Model EC7 1200 C P P

Number of Holding Tanks ____
(Requires Holding Tank Design Sheets)

Total Tank Capacity ~~1000~~ 2000 gal

3) Distribution:

Gravity		
Lift Pump	X	(Requires Lift Pump Data Sheets)
Dosing Pump	X	(Requires Dosing Pump Data Sheets)

4) Secondary Treatment:

Standard	Bed		Trench	
Subsurface Sand Filter	Trench		Trench	
Elevated Sand Mound	Bed*		Trench	
Subsurface Sand Filter	Trench*			
At Grade	Level		On Grade	X
	Other			

*Requires Pressure Dosing (73.16 - Table A)

5) Slope (Note Exact): 12.00

0 – 8%
8.1 – 14.9%
15.0 – 25.0% – Attach detailed design, Designer inspection required (73.52(a))

✓

6) Absorption Area: Stone Aggregate Systems

Trenches: Number _____ Length _____ ft. Width _____ ft.

(73.52) Distribution Box (Y/N) _____ Space Between Trenches _____ ft.

Beds: Number 1 Length 48.00 ft. Width 8.00 ft.

(73.53) Space Between Beds _____ ft.

Length of Header Pipe _____ ft. Dia. _____ in.

Length of Manifold 6.00 ft. Dia. 1.50 in.

7) All Absorption Areas:

Depth of Absorption Area: surface inches upslope surface inches downslope

Number of Laterals 2 Distance between laterals ~~6.00~~ 1 ft.

Length of Laterals 42.00 ft./pr. Pipe Type PVC Diameter 1.50 in.

Distance between laterals and sidewalls 1' u 6 d ft.

Distance between header pipes/lateral ends and endwalls 2.00 ft.

Lateral slope: Level

Type of Aggregate: AASHTO # 57 Depth under lateral 6.00 in.

Depth over lateral 2.00 in.

Aggregate covered by: Hay/Straw _____ Paper _____

Geotextile X Other (specify) _____

8) Sand Systems: Depth of Sand 0.00 in. Supplied by: PA DEP Approved Source (73.55 (c))

9) The absorption area(s) and treatment tank(s) must meet the isolation distance requirements of Section 73.13 (a through e). If not, the proper release agreement must be recorded and attached. (applies only to repairs)

Any changes in the location, size or design aspects of this system require prior approval by this department.

Note: *Four (4) Coipes of this form and all other design forms must be submitted

*Upon notification of completion, this Department has 72 hours from the reported completion time to make an inspection. To facilitate inspections, the contractor should call this Department 24 hours in advance of completion.

All References are to Title 25, Chapter 73: Standards for Sewage Facilities.

Prepared by: Evans Mill Environmental, LLC
Designer

Arppoved by: _____
CCHD

Designer's Phone Number (610) 458-8300

CHESTER COUNTY HEALTH DEPARTMENT

Bureau of Environmental Health Protection

Division of Water & Sewage

DOSING PUMP DATA SHEET

NAME Scott Nyman **APPLICATION #** Z144367

MUNICIPATY: Newlin **DATE:** 9/28/2024

DATA

1.) Dose Pump: Manufacture: Goulds MODEL #: 3885 WE03L

2.) Sewage Flow, peak rate (min. 5 GPM) GPM: 5

3.) Pump Discharge Rate (Design) GPM: 26.68

4.) Critical Elevations: (From Topographical Plan)

a.) Grade at Pump Station	250.14 Ft.	e.) Pump On:	244.27 Ft.
b.) Tank Floor	243.62 Ft.	f.) Pump Off:	243.70 Ft.
c.) Intake Invert (pump)	243.79 Ft.	g.) Alarm On:	244.62 Ft.
d.) Manifold @ Bottom lat.	253.30 Ft.		

5.) Pump Tank: Capacity 160 Gal. Pump chanber in EC 7 500 PP

Rectangular: 141.5" L BY 72" W Round: _____" Diameter _____" Depth 55.5" tank 12" chamber

(USE INTERNAL TANK DIMENSIONS)

6.) Fittings : Calculate total equivalent lengths *(All pipe MUST be schedule 40 or equivalent)*

	Quantity	Delivery Line Equiv. Length (ft)	Total (feet)
90° Elbow	0	4.73	0
45° Elbow	2	2.01	4.02
Std. Tee	0	8.62	0
Couplings	2	1.05	2.1
Quick Disc	1	1.05	1.05
Check Valve	0	12	0
Cross	1	2.7	2.7
Other (specify)			
Force Line		50	50
			60.00

Feet

Total Delivery Line Equivalent Length= 60 feet @ 1.5 inches in Diameter

Type: PVC SCH 40

	Quantity	Manifold Equiv. Length (ft)	Total (feet)
90° Elbow	0	4.73	0
45° Elbow	0	2.01	0
Std. Tee	1	8.62	8.62
Couplings	0	1.05	0
Quick Disc	0	1.05	0
Manifolld	1	6.00	6
			14.62

Total Manifold Equivalent
Flow through manifold segment is 1/2 of the total flow

Length = 14.62 feet

@ 1.5 inches in Diameter

Type: PVC SCH 40

Ft. (M)

7.) **Total Delivery Line, Manifold & Fittings:** 60 (F) ft. + 14.62 (M) ft = 74.62

8.) **Sewage Flow (Design):** 26.68 Gal.

9.) **Friction Head:** 2.55 Feet force main only

10.) **Static Head:** 9.60 feet (# 4.(d.) - # 4.(f.) = S.H.) to lower lateral

11.) **Residual Head:** 4.00 feet (Head to be maintained at terminal end of Laterals = R.H.)

12.) **Total Head:** 17.17 feet (F.H. + S.H. + R.H. = T.H.)

1.5" pvc = 0.09 gal/ft
2.0" pvc = 0.16 gal/ft

13.) **Dose Volume** 220 Gal. (Reference Ch. 73, 73.45(2))

14.) **HYDRAULIC PROFILE – Illustrate below the following:**

a. Submit a profile drawing showing all elevation changes and fittings from the pump tank to the manifold.
b. A typical view of the absorption area showing the lateral elevation in beds or individual trenches.

15.) **LATERALS: Submit the following drawings:**

a. Submit a drawing of a typical lateral for beds or individual laterals for trench systems. The detail should begin at the manifold showing the length of the lateral, number of orifices, orifice diameter and orifice spacing.

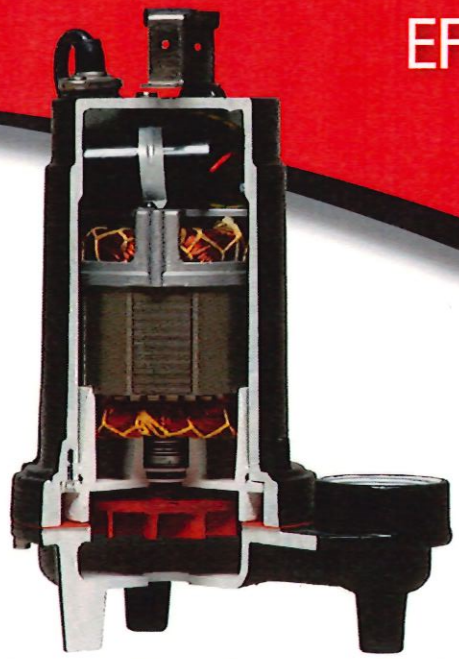
Prepared by: _____ Approved by: _____

ALL CHANGES MADE TO THESE SPECIFICATIONS REQUIRE PRIOR APPROVAL BY THIS DEPARTMENT.

Four (4) copies of this form must be submitted. S:/healthenv/admin/forms/dosing pump 10-06-TG

Champion Pump

CPE 4/10HP & 1/2HP
EFFLUENT

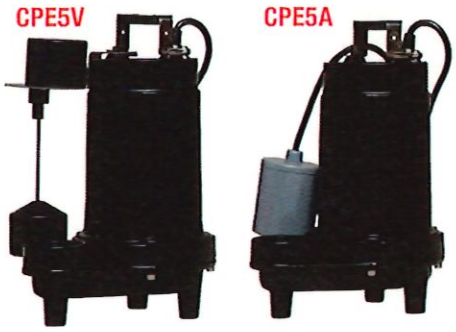


FEATURES/BENEFITS

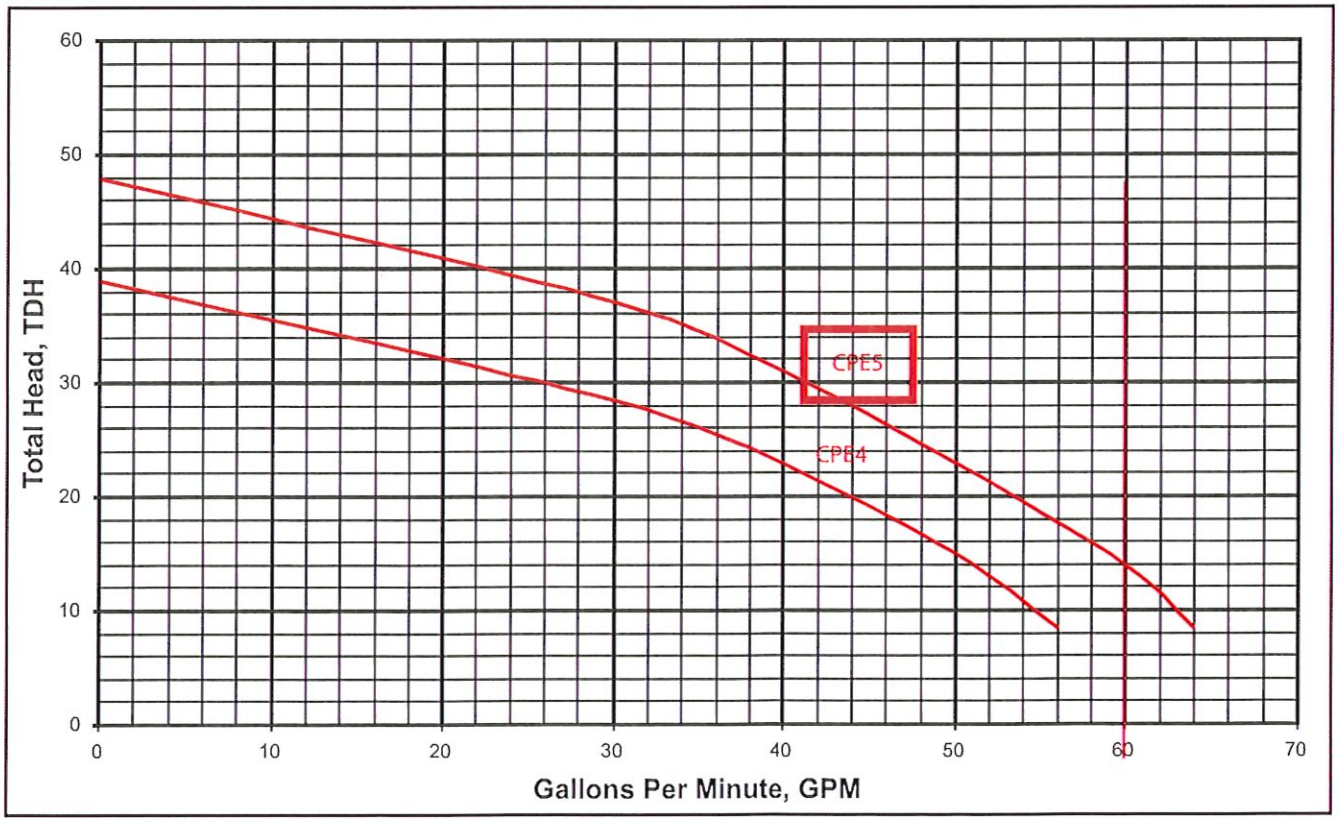
- High Efficient Motor With Upper & Lower Ball Bearings/ Runs Cooler & Last Longer
- Vortex Impeller/ Helps Prevent Clogging
- Inboard Seal-Rotating Components Of Seal Are In The Motor Housing, Lubricated By The Motor Oil/ Seal Will Last Longer If Pump Runs Dry, Hair And Debris Cannot Wrap Around Seal Components
- Secondary Exclusion Seal/ Keeps Debris From Entering Seal Cavity
- Sealed Entry-Replaceable Power Cord/ Easy To Replace In The Field, Prevents Water From Entering The Motor Housing Through A Cut Power Cord (Up to 50' Available)
- Piggy-Back Switch Design/Defective Switches Can Be Diagnosed By Phone; Pump Can Be Operated Manually by Overriding The Switch
- Every Pump Is Tested In Water/Ensures That The Pump Meets Head & Flow Requirements

APPLICATIONS

- Dewatering, Elevator Pits, Septic Systems, Residential & Commercial Developments, STEP Systems



CHAMPION PUMP - PUMP PERFORMANCE CURVE



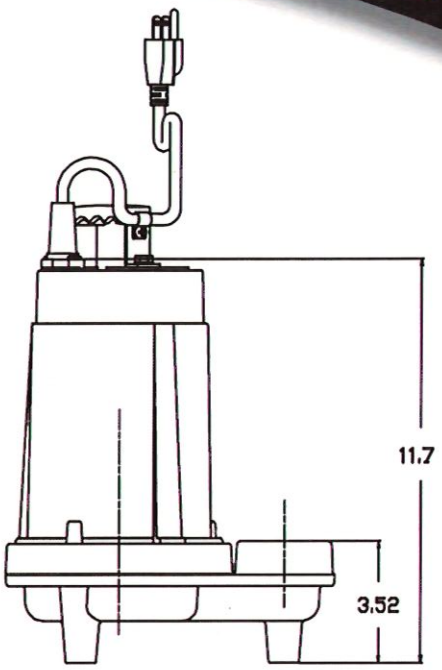
Champion Pump Company, Inc • P.O. Box 528 • Ashland, OH 44805
Phone 419-281-4500 • Toll Free 800-659-4491 • Fax 419-616-1100

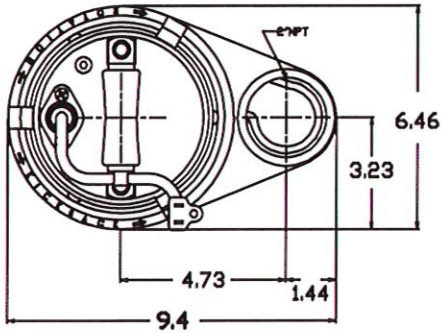
Champion Pump

CPE 4/10HP & 1/2HP

EFFLUENT

Discharge	2" NPT. Vertical
Solids Handling	3/4"
Liquid Temperature	140 Degrees F. (Intermittent)
Motor Housing	Cast Iron
Volute	Cast Iron
Seal Plate	Cast Iron
Impeller	Cast Iron/Vortex
Shaft	Stainless Steel
Shaft Seal	Inboard Mechanical With Secondary Exclusion Seal
	Carbon- Rotating Face
	Ceramic- Stationary Face
	Buna-N-Elastomer
	300 Series Stainless Steel-Hardware
Bearing (Upper & Lower)	Single Row, Ball, Oil Lubricated
Hardware	300 Series Stainless Steel
Square Rings	Buna-N
Cord	(UL/CUL) Listed 16 AWG, Type SJTW
	20' Length Standards. Other Lengths up to 50' Available
Cord Entry	Compression Grommet- Outer Jacket Seal, Quick Disconnect Pin Terminals
Motor (Single Phase)	4/10 & 1/2 HP, 3450 RPM, 60Hz
	NEMA L Includes Overload Protection In The Motor.
	Oil Filled, Class B
	Permanent Split Capacitor
Weight	35lbs (Manual)





Model	HP	Volts	Phase	Amps	Cord Length	Switch
CPE4-12 CPE5-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Manual
CPE4-22 CPE5-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Manual
CPE4-13 CPE5-13	4/10 • 1/2	115	1	6.6 • 8.5	30	Manual
CPE4-15 CPE5-15	4/10 • 1/2	115	1	6.6 • 8.5	50	Manual
CPE4A-12 CPE5A-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Float
CPE4A-22 CPE5A-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Float
CPE4A-13 CPE5A-13	4/10 • 1/2	115	1	6.6 • 8.5	30	Float
CPE4V-12 CPE5V-12	4/10 • 1/2	115	1	6.6 • 8.5	20	Vertical Float
CPE4V-22 CPE5V-22	4/10 • 1/2	230	1	3.3 • 4.3	20	Vertical Float

Champion Pump Company, Inc • P.O. Box 528 • Ashland, OH 44805
Phone 419-281-4500 • Toll Free 800-659-4491 • Fax 419-616-1100

Easement Documents

12072596 B: 11391 P: 1786 ESA
06/05/2025 01:01:29 PM Page 1 of 14
Rec Fees: $120.75 State: $0.00
Diane O'Dwyer Recorder of Deeds, Chester County, PA

Prepared by and Return to:
William J. Burke, III, Esq.
Unruh, Turner, Burke & Frees
17 West Gay Street
P.O. Box 515
West Chester, PA 19381-0515

U.P.I. Nos. p/o 49-1-9.1 & p/o 49-1-12

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PERMANENT SANITARY SEWER EASEMENT AGREEMENT

THIS PERMANENT SANITARY SEWER EASEMENT AGREEMENT is made this 31ST day of May, 2025 by Karin Farrow, Executrix of the Estate of Scott R. Nyman, deceased (hereinafter referred to as "GRANTOR") and Karin Farrow, Executrix of the Estate of Scott R. Nyman, deceased (hereinafter referred to as "GRANTEE").

BACKGROUND

GRANTOR is the fee owner of Tax Parcel #49-1-12 situate in Newlin Township, Chester County, Pennsylvania more fully described on **Exhibit "A"** attached hereto. A sewage drain field is to be constructed on a part of Tax Parcel #49-1-12 which will be used to serve an existing structure which is located on Tax Parcel #49-1-9.1 owned by GRANTEE. GRANTOR wishes to grant and establish a Permanent Sanitary Sewer Easement within a part of Tax Parcel #49-1-12, hereinafter defined as the Easement Area, for the benefit of GRANTEE and Tax Parcel 49-1-9.1 for such purposes.

Accordingly, with the foregoing background in mind and in consideration of one dollar ($1.00) and other consideration, receipt of which is acknowledged, GRANTOR, intending to be legally bound hereby, agrees as follows:

TERMS OF SANITARY SEWER EASEMENT

1. GRANTOR hereby establishes a permanent sewage drain field easement on Tax Parcel #49-1-12 to serve a sanitary sewer system to be constructed on and for the benefit of Tax Parcel #49-1-9.1 within those portions of Tax Parcel #49-1-12 as shown on the plans attached to and made a part of the Application for Sewage Permit No. Z144367 ("Permit") and attached as Exhibit "B" (the "Easement Area"), for the construction and installation and maintenance of sewer drain field and associated pipes and other improvements to be located within the Easement

Area on Tax Parcel #49-1-12 pursuant to the Permit and leading to the adjacent boundary of Tax parcel # 49-1-9.1.

2. The GRANTEE, owner of Tax parcel # 49-1-9.1 shall have the right to enter upon Tax Parcel #49-1-12 for the purpose of installing, maintaining, cleansing and repairing piping to be placed within the Easement Area as well as to construct and maintain and repair the sewage drain field itself. The right to construct and install such drain field and associated improvements shall apply to the design and location of such system as approved by Sewage Permit No. Z144367 issued or to be issued by the Chester County Health Department unless otherwise approved by Grantor, and no expansion or material alteration of the placement thereof shall be permitted without the prior written consent of Grantor.

3. The GRANTOR, owner of Tax Parcel #49-1-12 shall not be obligated to ensure or guarantee the continued flow of sewage from Tax Parcel #49-1-9.1 to, nor shall Grantor be required to participate in maintaining or repairing, the sewer drain field or any piping within the Easement Area.

4. The GRANTEE, owner of Tax Parcel #49-1-9.1, agrees to indemnify and hold the GRANTOR, owner of Tax Parcel #49-1-12, harmless from any damages that may be incurred in the installation, maintenance and/or repair of the sewer drain field as well as the piping within the Easement Area, and shall indemnify and hold harmless Grantor from all claims for liens and other liability associated with the construction, maintenance, repair, or replacement of such drain field, piping or other facilities.

5. Installation, maintenance, and repair of the sewage disposal systems shall be conducted in full conformance with the Pennsylvania Sewage Facilities Act, Act 537; Pennsylvania Code Title 25, Chapters 71-73: and Chester County Health Department's Chapter 500 & 502 and Chapter 500 & 503.The provisions adopted by Chester County Health Department are in accordance with the duties imposed upon the Department under the Pennsylvania Sewage Facilities Act, 35 P.S. Section 750.1 et seq., the Local Health Administration Law, 16 P.S. Section 12001 et. seq.

6. The rights and obligations set forth herein shall be binding upon the GRANTOR and GRANTEE, as well as their heirs and assigns, and this easement shall run with the land. Any reference herein to Grantor shall mean and include the owner at the relevant time of Parcel #49-1-12 and any reference herein to the Grantee shall mean and include the owner at the relevant time of Parcel #49-1-9.1.

[SIGNATURES ON FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed the date and year first above written.

GRANTOR
ESTATE OF SCOTT R. NYMAN

By: Karin Farrow
Name: Karin Farrow
Title: Executrix

GRANTEE
ESTATE OF SCOTT R. NYMAN

By: Karin Farrow
Name: Karin Farrow
Title: Executrix

COMMONWEALTH OF MASSACHUSETTS :

COUNTY OF WORCESTER :

On the 31st day of MAY, 2025, before me the undersigned, a notary public for the Commonwealth of Massachusetts, personally appeared Karin Farrow, who acknowledged himself/herself to be the Executrix of the ESTATE OF SCOTT R. NYMAN, and that he/she being the sole Executrix, and being authorized to do so, executed the foregoing instrument as both GRANTOR AND GRANTEE for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Bichan.
Notary Public

BISMATH KHAN
NOTARY PUBLIC
COMMONWEALTH OF MASSACHUSETTS
MY COMMISSION EXPIRES
FEBRUARY 1, 2030

EXHIBIT "A"
LEGAL DESCRIPTION OF TAX PARCEL/UPI# 49-1-12

ALL THAT CERTAIN parcel of land **SITUATE** in Newlin Township, Chester County, Pennsylvania, being shown as Lot 1 on Subdivision & Land Development Plan prepared for Richard Rasmussen and Scott and Lynda Nyman dated February 19, 1996 and last revised January 21, 1997 by Regester Associates, Inc., Kennett Square, Pennsylvania, and being more fully described as follows:

BEGINNING at the southwesterly corner in common of Lot 1 and Lot 2 on the title line in Laurel Road – T-373; thence from the point of beginning, along said title line, North 53 degrees 45 minutes 53 seconds West 172.00 feet to a corner of lands now or late of Richard A. Rasmussen Jr.; thence leaving said title line, along said lands of Rasmussen, North 28 degrees 43 minutes 00 seconds West 163.80 feet to a point on the south line of a 20 feet wide unopened alley; thence along the same, North 70 degrees 45 minutes 00 seconds East 184.62 feet to a corner of lands now or late of the Estate of Isaiah T. Jordan; thence along said lands of the Estate of Isaiah T. Jordan, the following three (3) courses and distances: (1) leaving the south line of said alley, South 19 degrees 15 minutes 00 seconds East 27.73 feet; (2) North 70 degrees 45 minutes 00 seconds East 44.00 feet; (3) North 19 degrees 15 minutes 00 seconds West 27.73 feet to a point on the south line of the aforesaid 20 feet wide unopened alley; thence along the same, North 70 degrees 45 minutes 00 seconds East 102.85 feet to an iron pin (set), a corner of Lot 2; thence along Lot 2, the following two (2) courses and distances: (1) South 19 degrees 15 minutes 00 seconds East 122.74 feet to an iron pin (set); (2) passing over an iron pin (set) 26.85 feet from the southwesterly terminus of this course, South 29 degrees 39 minutes 48 seconds West 274.73 feet to the point of beginning; and **CONTAINING** 1.5546 acres of

land, be the same, more or less; and **BEING** Uniform Parcel Identifier no. 49-1-12.

EXHIBIT "B"

SEWAGE PERMIT PLANS

[SEE ATTACHED]