HOWARD COUNTY HEALTH DEPARTMENT

69612

DATE 7/9/21

Received From Clifton Bennett PHONE # 240 361-0312

For Septic Permit 1451 Mac Gintock Ct

☐ CASH
☐ CHECK
NO. CC

Three hundred seventy five Dollars

$ 375.00

Received By J King

Howard County Health Department
Maura J. Rossman, M.D., Health Officer

Bureau of Environmental Health
8930 Stanford Boulevard, Columbia, MD 21045
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth

RECEIPT DATE: 07/19/2021 **ONSITE SEWAGE DISPOSAL SYSTEM** P 569612

APPROVAL DATE: _____ **PERMIT: CONSTRUCTION** A _____

PROPERTY ADDRESS: 14511 MacClintok Court, Glenwood, MD 21738

SUBDIVISION: WARFIELD ESTATES, S-4, BL-A LOT: 21 TAX ID: 04-323254

CONTRACTOR: Cliff Bennett- Bennett Excavation EMAIL: Bennettexcavation2004@gmail.com

CONTRACTOR ADDRESS: _____ PHONE: (240) 367-0312

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: ☒ MDE ☒ MANUFACTURER: NORWECO

PROPERTY OWNER: Patrick & Brooke Curley EMAIL: Curley.patrick26@gmail.com

210 Market Street, Brookeville, MD 20833 PHONE: (410) 913-9787

BAT UNIT MODEL: ~~Hoot H-1000~~ NORWECO TNTLP600 PUMP SIZE: 1/3 PUMP TANK CAPACITY: 1000

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 03/02/2021 DATE RECORDED: 08/29/2021

DISTRIBUTION SYSTEM: ☒ GRAVITY ☐ PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 0.6

TRENCHES:	LINEAR FEET REQUIRED: 184	INLET DEPTH: 4
	TRENCH WIDTH: 3	MAXIMUM BOTTOM DEPTH: 8
	MINIMUM SPACE BETWEEN TRENCHES: 10	EFFECTIVE AREA BEGINNING DEPTH: 5.5
LOCATION:	**PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**	
NOTES:	IF OFF CONTOUR LATERALS MAY SHIFT BUT MUST STAY AT SAME ELEVATION NORWECO INSTEAD OF PROPOSED Hoot	

ISSUED BY: **Robert Freemon** ISSUE DATE: 07/19/2021 EXPIRATION DATE: 07/19/2022

NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION

NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING

NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.

NOTE: WATERTIGHT SEPTIC TANKS REQUIRED

NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT FROM ANY WATER WELL

NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM

☑ *ELECTRICAL PERMIT ISSUED* E 21004104

NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.

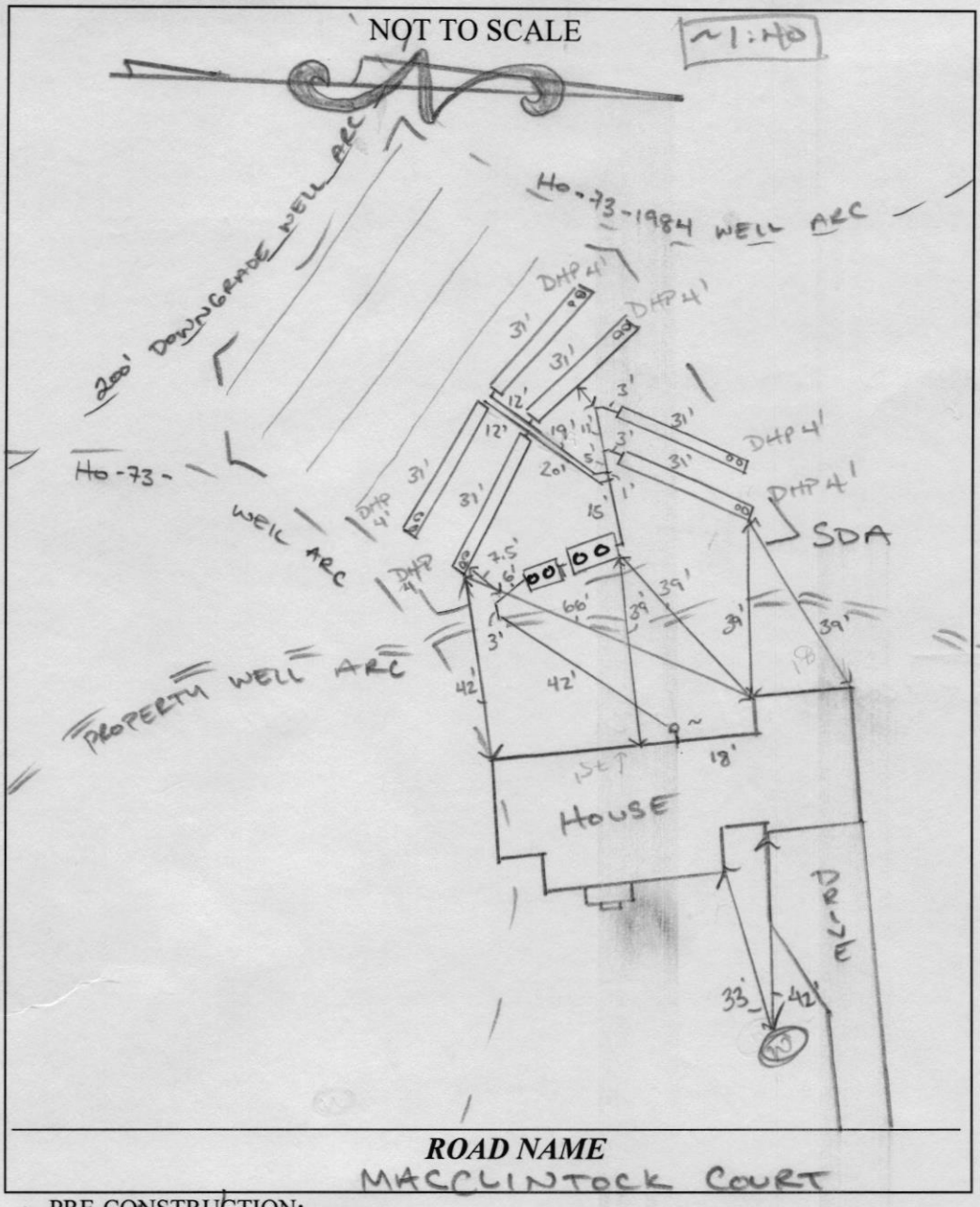
NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

NOT TO SCALE ~1:40



ROAD NAME
MACCLINTOCK COURT

TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	4	8

NUMBER OF TRENCHES 6
TOTAL LENGTH 186 F
ABSORPTION AREA 558 SF + 2.5 SIDE WALL
DISTRIBUTION BOX LEVEL LPD
DISTRIBUTION BOX BAFFLE MANIFOLD
DISTRIBUTION BOX PORT —

SEPTIC TANK DATA

SEPTIC TANK 1 LEVEL YES
MANUFACTURER BACKHOE
CAPACITY ~~HOT # 600~~ GAL TNTLP 600
SEAM LOC TOP
TANK LID DEPTH 1-2'
BAFFLES BAT
BAFFLE FILTER BAT
MANHOLE LOC
6" PORT LOC —
WATERTIGHT TEST —
SLOTTED BAT
DATE ON LID 05/12/2021

NORWECO

PUMP/SEPTIC TANK LEVEL YES
MANUFACTURER BACKHOE
CAPACITY 1500 GAL
SEAM LOC TOP
TANK LID DEPTH 1-2'
BAFFLES —
BAFFLE FILTER —
MANHOLE LOC FRONT/BACK
6" PORT LOC —
WATERTIGHT TEST —
SLOTTED —
DATE ON LID 07/08/2021

PRE-CONSTRUCTION:
08/16/2021 *REMOVE WOOD CHIPS AND REINSPECT CONTOUR FOR LPD TRENCH INSTALL. USE LAZER LEVEL FROM MANIFOLD REGION TO LEVEL 8' TRENCH BOTTOM. OK TO SET TANKS. CONFIRMED LATERAL SPECS. Ⓟ

INSTALLATION: 08/27/2021 SL, SHC ~~TANK~~ D Box Set. TRENCHES INSTALLED. PUMP/ALARM DHP = 4' ALARM WORKS. *NEED TO INSTALL DISTAL TRENCH OBS PORT. Ⓟ 09/21/2021 INSTALLED c/o @ ENDS OF TRENCHES Ⓟ

FINAL INSPECTOR [signature] DATE OF APPROVAL 09/21/2021

BACK RIVER PRE-CAST, LLC
PO BOX 329
GLYNDON, MD 21071
PH# 410-833-3394

NORWECO CERTIFICATION

PROPERTY OWNER: PATRICK CURLEY	INSTALLATION COMPANY: BENNETT EXACAVATING
ADDRESS: 14511 MAC CLINTOCK CT.	CERTIFIED INSTALLER: CLIFTON BENNETT
CITY, ZIPCODE & COUNTY: GLENWOOD, 21738, HOWARD	PERMIT#
SIZE OF SYSTEM INSTALLED:	DATE INSTALLED: 08-23-21
600 GPD CONCRETE	START-UP DATE: 08-28-21
NUMBER OF BEDROOMS:	DATE OF FINAL INSPECTION:
TYPE OF INSTALLATION: NEW	DATE OF ELECTRICAL INSPECTION:
ELECTRICAL WIRING PER ELECTRICAL INSTRUCTIONS: YES	TANK LEVEL: YES
HT. OF CONTROL PANEL ABOVE FINAL GRADE: 30"	BURIAL DEPTH OF TANK: 24"
SYSTEM WIRED ON A 15-AMP DEDICATED CIRCUIT WITH STD. BREAKER: YES	RISERS 4" - 6" ABOVE GRADE: YES
LENGTH(S) OF UF WIRE PAST LAST AERATION RISER(S): 30"	VENTED LID(S) ON AERATION CHAMBER(S): YES
FEMALE PLUG(S) WIRED TO UF WIRE: YES	ANY GROUND SETTLING AROUND TANK:
CONDUIT(S) ENTERING AERATION RISER MADE WITH A WATERTIGHT CONNECTION: YES	NO
ISTHE INSIDE OF THE CONDUIT ENTERING THE CONTROL PANEL(S) AND AERATION RISER(S) SEALED WITH DUCT SEAL: YES	

ON 2ND PAGE MAKE A ROUGH SKETCH OF THE HOUSE ,WHERE THE SYSTEM IS LOCATED, WHERE THE CONTROL PANEL IS LOCATED , WHERE THE FRONT OF THE IS AND DIRECTIONS TO THE PROPERTY.

DIRECTIONS CAN START A FEW STREETS AWAY

EXAMPLE: RT. X LEFT ONTO XX STREET RIGHT ONTO PRIVATE DRIVEWAY 5TH HOUSE OF THE LEFT.

I certify that the Norweco Singulair TNT Wastewater Treatment System was installed according to the manufacture's specifications.

Matthew Geckle — Aug 28, 2021

Signature of BRP Representative — Vice-President — Date

BOOK: 20671 PAGE: 222

HOWARD COUNTY HEALTH DEPARTMENT

Bureau of Environmental Health
8930 Stanford Blvd | Columbia, MD 21045
410.313.2640 - Voice/Relay
410.313.2648 - Fax
1.866.313.6300 - Toll Free

Maura J. Rossman, M.D., Health Officer

OPERATION AND MAINTENANCE AGREEMENT FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM HAVING AN ADVANCED PRE-TREATMENT SYSTEM

THIS AGREEMENT is made this 3RD day of ~~February~~ MARCH, among Patrick Curley and Brooke Curley, hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 14511 MacClintock Court, in the 4TH Election District of Howard County, Maryland, and the deed and subdivision plat of the property is recorded among the Land Records of Howard County, Maryland, Tax Map # 21, Block # _____, Parcel # 129, Deed Reference # L19953 F189 and Tax Account # 04323254 ("the Property").

WHEREAS, The Property is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective November 24, 2016. The pre-treatment device being installed is NORWECO SINGULAIR BIOKINETIC WASTEWATER TREATMENT SYSTEM, MODEL TNT.

NOW, THEREFORE, the parties hereto agree as follows:

A. Owner hereby grants to the County the right to enter upon the Property at any reasonable time with prior notice for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County.

B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.

C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.

D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.

E. This agreement shall run with the land and upon Owner's taking title to the Property shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as long as

LR - Agreement 20.00
Recording Fee
Name: curley
Ref: 236
LR - Agreement 40.00
SurCharge 60.00
SubTotal: 60.00
Total: 60.00
5/29/2020 10:41 CC13 - CE
#5134635 CC03 -
Howard Co
Columbia/Ellicott 03.04
Register

236

the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Property that the system shall require maintenance or other attention. Upon taking title to the Property, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed this agreement on the date indicated above.

Brad Nelson 3/2/2021
Howard County Health Department

Patrick Curley 2/23/2021
Owner #1 Signature Date

Brooke Curley 2/23/2021
Owner#2 Signature Date

Patrick Curley
Owner #1 Print Name

Brooke Curley
Owner #2 Print Name

Buyer #1 Signature Date

Buyer #2 Signature Date

Buyer #1 Print Name

Buyer #2 Print Name

JAW 4/23/18

BACK RIVER PRE-CAST, LLC
PO BOX 329
GLYNDON, MD 21071
PH# 410-833-3394

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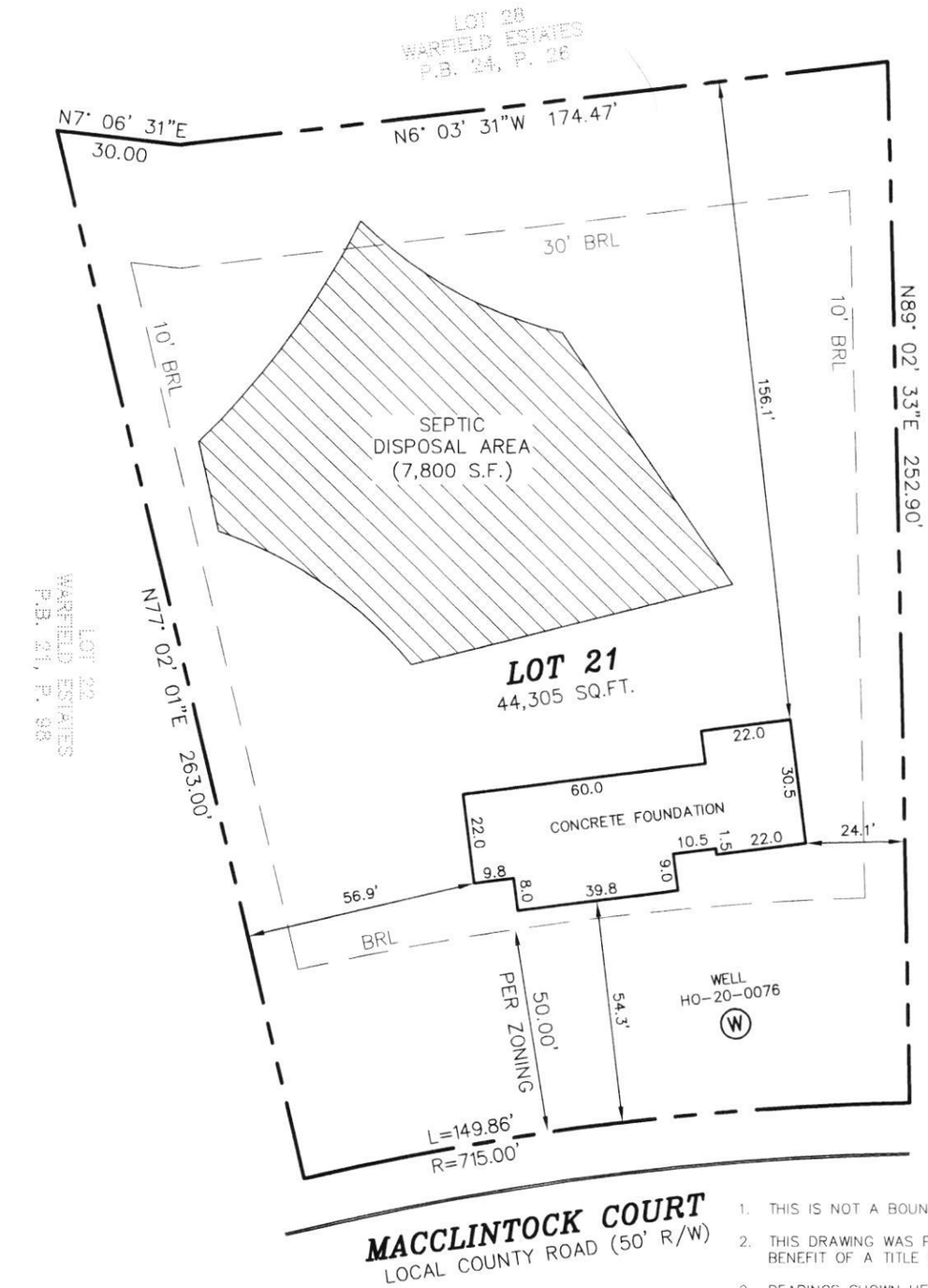
Matthew Geckle — Aug 28, 2021

Signature of BRP Representative — Vice-President — Date



1. THIS IS NOT A BOUNDARY SURVEY.
2. THIS DRAWING WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT
2. BEARINGS SHOWN HEREON ARE BASED ON NAD83 DATUM.
3. DIMENSION SHOWN FROM THE BUILDINGS TO THE PROPERTY LINE ARE AT AN ACCURACY OF 1.0' (PLUS OR MINUS)
4. THE INFORMATION SHOWN HAS BEEN ESTABLISHED BY CURRENT ACCEPTABLE SURVEY PROCEDURES AND FROM AVAILABLE RECORD INFORMATION. THIS DRAWING IS TO BE USED FOR TITLE TRANSFER FINANCING, OR REFINANCING ONLY AND IS NOT TO BE USED FOR THE ESTABLISHMENT OF PROPERTY LINES, LOCATION OF FENCES, GARAGES, BUILDINGS, OR OTHER EXISTING OR FUTURE IMPROVEMENTS.
5. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 574, EXPIRATION DATE: 03/21/23.

LOT 21

WARFIELD ESTATES

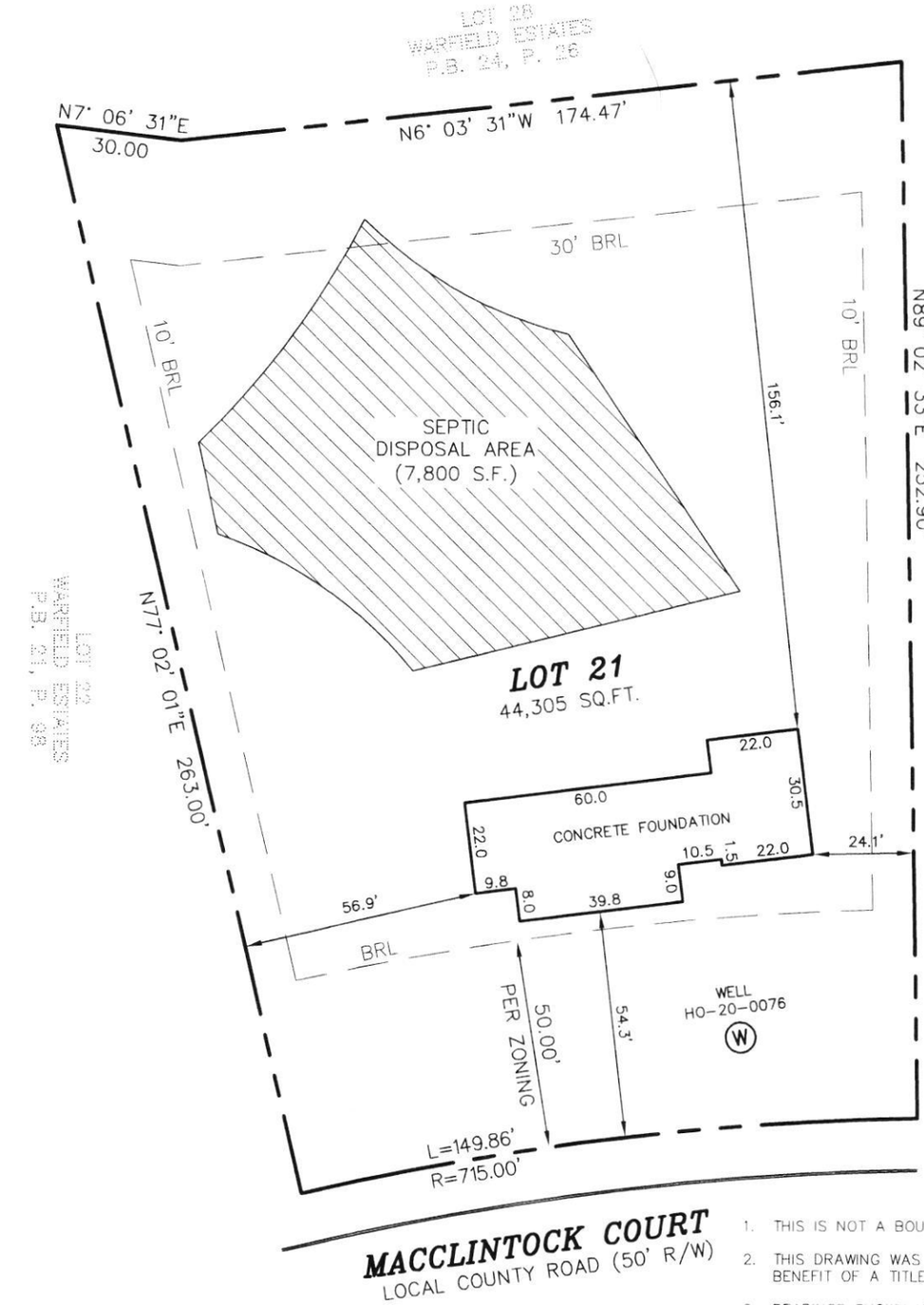
SECTION FOUR
PLAT BOOK 21 PAGE 98
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ADDRESS: 14511 MACCLINTOCK COURT
DEED REF.: 19953 / 189
TOP OF WALL ELEV. = 589.3 ±
FIRST FLOOR ELEV. = N/A

MILDENBERG BOENDER, & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, MD 21044 (410) 997-0296 TEL. (410) 997-0298 FAX.

FOUNDATION	DATE: 06/25/21	FINAL LOCATION	DATE: N/A
DRAWN BY: MES	CHECKED BY: GEL	SCALE: 1" = 40'	
PROJECT NO.: 20-022	LOCATION DRAWING		

STATE OF MARYLAND
GARY E. LANE
No. 574
PROP. LINE SURVEYOR
GARY E. LANE
PROP. LINE SURVEYOR
MARYLAND No .574



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PLAT BOOK 21 PAGE 98
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Wall Check
Okay - H.O.

MILDENBERG BOENDER, & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, MD 21044 (410) 997-0296 TEL. (410) 997-0298 FAX.

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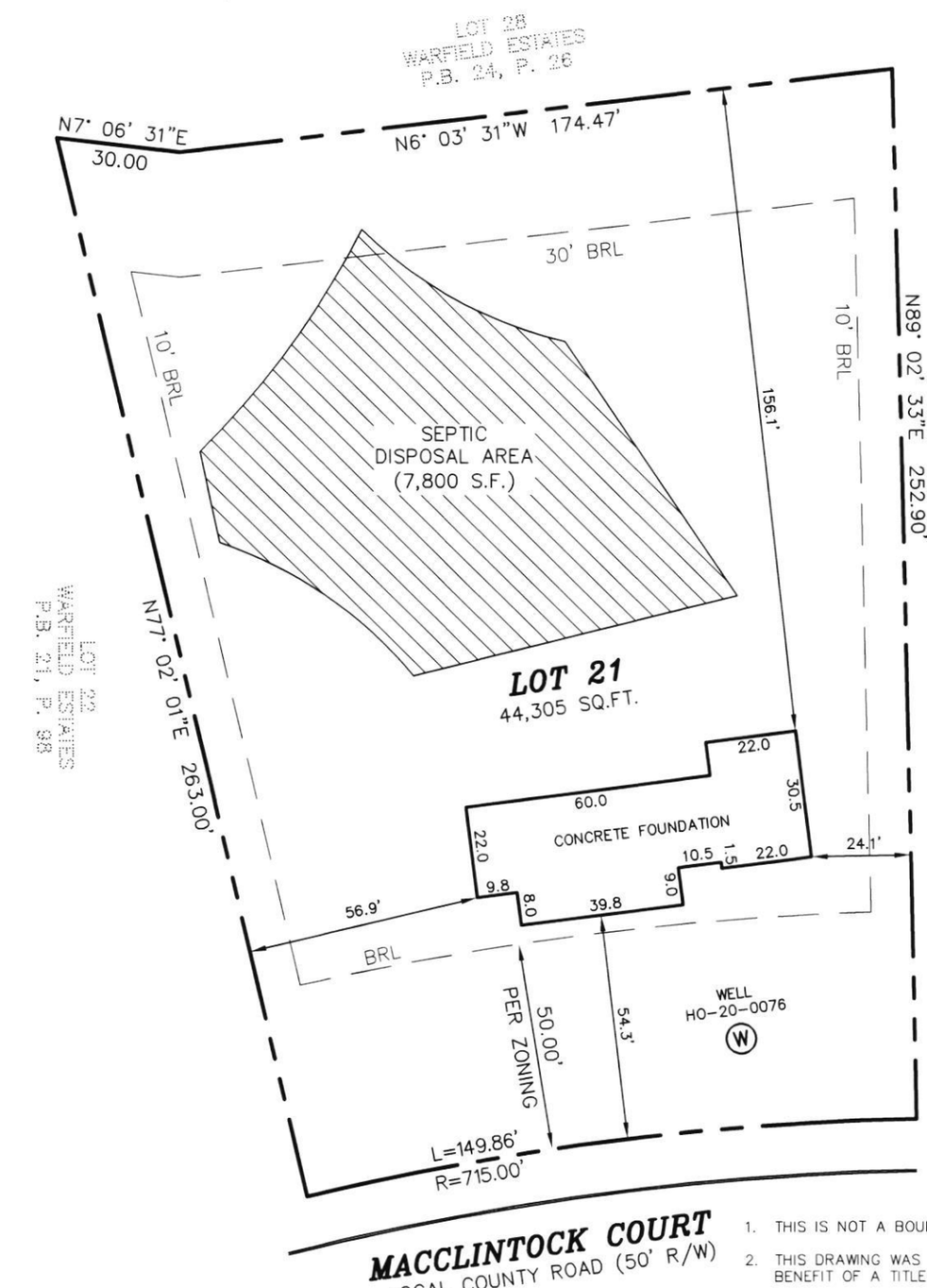

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LOT 21

WARFIELD ESTATES

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PLAT BOOK 21 PAGE 98
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DRAWN BY: MES	CHECKED BY: GEL	SCALE: 1" = 40'	
PROJECT NO.: 20-022	LOCATION DRAWING		

GARY E. LANE
PROP. LINE SURVEYOR
MARYLAND No .574

Williams, Jeffrey

From: Williams, Jeffrey
Sent: Wednesday, April 7, 2021 9:52 AM
To: 'Michael Kretsch'; Freemon, Robert
Cc: 'samer alomer'; 'Maya Mildenberg'; '20-022 Mac Clintock'
Subject: RE: Re: 14512 MacCkintock

Sorry, I forgot to add a few things:

1. The system flow rate is a function of the total head and the pump. The flow rate will be the same throughout the system once fully pressurized. Therefore, the friction loss for each fitting and pipe will use the same flow rate.
2. I forgot to state an added benefit to keeping laterals at the same elevation on systems that flow downhill is that you won't be loading up the lower laterals with extra liquid once the pump turns off and the liquid drains out of the pipes.

From: Williams, Jeffrey
Sent: Wednesday, April 7, 2021 9:35 AM
To: 'Michael Kretsch' <mKretsch@mba-eng.com>; Freemon, Robert <rfreemon@howardcountymd.gov>
Cc: samer alomer <salomer@mba-eng.com>; Maya Mildenberg <maya@mba-eng.com>; 20-022 Mac Clintock <20-022MacClintock@mba-eng.com>
Subject: RE: Re: 14512 MacCkintock

Hello all. Spencer left the OSDS plan for my review and I have the following comments:

1. The upper system trenches are not on contour, especially the top one. You might be able to move the three trenches down to be right above the second system and they can stay mostly straight while being on contour. This has the added benefit of being more away from upgrade of the neighboring well HO-73-1984
2. The design shows the 3 trenches being at slightly different invert elevations, but the calculations show the same distal head and orifice flow rate. The upper trench will have whatever design distal head is chosen (should be 2' as you chose) and each lower trench should have that plus whatever elevation change from the upper trench. The orifice flow rate for each lateral should be calculated at that distal head. *HOWEVER*, it is much easier and certainly possible in this case to just make the invert elevations the same when the ground elevations are not changing that much. Especially if you move the upper trenches down a bit, you have plenty of fall to put them all at the same elevation and still be within the minimum and maximum allowed earth cover. This will let you keep the same distal head and the same hole spacing throughout if you just make the trenches all the same length (which you have room to do here).
3. If you were to have laterals at different lengths, which you shouldn't need to in this case as shown above, you need to add a column to the design chart for flow per linear foot and make sure that is within 10% across all laterals to ensure equal distribution. In the current design, the flow per lateral foot is off by 25% between the upper trench and lower (although that is based on the incorrect orifice flow rate).
4. Provide 24 hours of emergency storage in the BAT unit above the high water alarm and show the calculations.
5. Add a quick disconnect fitting in the tank after the pump and provide friction loss for it.
6. You are specifying a valve, show the location and specify the type of valve and account for it in the friction loss
7. Add a weep hole or other vacuum break in the discharge line inside the tank at the high point of the system
8. Show the location of the electrical panel, blower motor, and alarm on the plan.
9. Add a note stating that the alarm float must be on a separate dedicated circuit.

Let me know if there are any questions. Thanks

Jeff

From: Michael Kretsch <mKretsch@mba-eng.com>
Sent: Friday, March 19, 2021 11:36 AM
To: Freemon, Robert <rfreemon@howardcountymd.gov>; Williams, Jeffrey <jewilliams@howardcountymd.gov>
Cc: samer alomer <salomer@mba-eng.com>; Maya Mildenberg <maya@mba-eng.com>; 20-022 Mac Clintock <20-022MacClintock@mba-eng.com>
Subject: RE: Re: 14512 MacCkintock

Robert,
Hope you're having a great day this beautiful Friday (Weekend's Eve)

Here is a point by point response to your comments, and I have included your comments in italics for easy reference. If you have questions about what portion of the flow goes where, there is a schematic on the previously submitted plan detailing this. Updated plans are attached.

Point by Point Response:

- *The calculations under "Total Head" are incorrect. Table 4.4 uses the diameter of the pipe/s and the gpm chosen for the pumping rate. In this case you would find the friction loss per 2" and 3" pipes using 58.68 gpm.*

  Only the 3" force main (FM) sees 58.68 gpm. This is because the flow divides at the manifold. The greatest flow in the manifold is 35.9 gpm feeding trenches 2 and 3. The flow to trench 3 is 16.3 gpm.

- *So on a 3" pipe at 58.68gpm the fiction loss equivalent will be closer to 0.81' per 100'.*

  Incorrect. The loss is interpolated. Specifically, for a 3" pipe at 58.68 gpm, the loss is ((0.81-0.58) x 0.868) + 0.58 = 0.78 ' per 100 '. FM is 17.5 ft, loss = 0.14'

- *For a 2" pipe at 58.68gpm the fiction loss equivalent will be closer to 3.98' per 100'. In this case however we would suggest lowering the rate seeing that the dose is only about 100 gals.*

  As mentioned previously the manifold does not see 58.68 gpm. Losses interpolated from table 4.4 as done previously. Note, there was a typo. The manifold loss is 0.24' not 0.4',

- *It is my understanding pump manufacturers have an ideal run time between 2-5 mins.*

  Thanks. However, 1.7-minute run time is satisfactory.

- *The friction loss from the fittings should only be added up and not divided by anything. So the force main friction loss should total about 35'. The manifold friction loss should be closer to 32'. The pumping rate is not involved in the fittings friction loss calculations.*

This is completely incorrect. Losses for fittings are given in EQUIVALENT LENGTH OF PIPE, and therefore the flow is used to determine the loss PER 100 ft of Pipe using table 4.4 again. The losses shown are correct*.

- *The static head indicates 2.69' when the pump off and invert out of tank elevations show around a 4' difference.*

  Thanks. Corrected. The Total dynamic head is 9.23, which works well with our pump.

- *Show and label "Geotextile Spun Fabric" in the Trench Detail covering the top of the stone.*

  Detail modified to show "Geotextile Spun Fabric" in the trench detail.

*The example of calculating friction losses in fittings shown on page 47 of the manual (Design and Construction Manual for Sand Mount Systems) may be helpful in understanding how to use Table 4.3

Have an awesome weekend.

Mike Kretsch, P.E.
Senior Engineer
Mildenberg, Boender & Assoc., Inc.
7350B Grace Drive, Columbia, MD 21044
410-997-0296

MILDENBERG, BOENDER & ASSOC., INC.

From: Maya Mildenberg <maya@mba-eng.com>
Sent: Wednesday, March 17, 2021 11:40 AM
To: Michael Kretsch <mKretsch@mba-eng.com>
Subject: FW: Re: 14512 MacCkintock

☺

From: Todd Hill <tHill@mba-eng.com>
Sent: Tuesday, March 16, 2021 1:21 PM
To: Freemon, Robert <rfreemon@howardcountymd.gov>
Cc: Maya Mildenberg <maya@mba-eng.com>; 20-022 Mac Clintock <20-022MacClintock@mba-eng.com>
Subject: RE: Re: 14512 MacCkintock

As always Robert, thank you for your help with these plans

From: Freemon, Robert <rfreemon@howardcountymd.gov>
Sent: Tuesday, March 16, 2021 12:45 PM
To: Todd Hill <tHill@mba-eng.com>
Cc: Maya Mildenberg <maya@mba-eng.com>; 20-022 Mac Clintock <20-022MacClintock@mba-eng.com>
Subject: Re: Re: 14512 MacCkintock

Hi Todd,

- The calculations under "Total Head" are incorrect. Table 4.4 uses the diameter of the pipe/s and the gpm chosen for the pumping rate. In this case you would find the friction loss per 2" and 3" pipes using 58.68 gpm. So on a 3" pipe at 58.68gpm the fiction loss equivalent will be closer to 0.81' per 100'. For a 2" pipe at 58.68gpm the fiction loss equivalent will be closer to 3.98' per 100'. In this case however we would suggest lowering the rate seeing that the dose is only about 100 gals. It is my understanding pump manufacturers have an ideal run time between 2-5 mins.
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- The static head indicates 2.69' when the pump off and invert out of tank elevations show around a 4' difference.
- Show and label "Geotextile Spun Fabric" in the Trench Detail covering the top of the stone.

If you have any questions let me know.

Howard County Health Department

8930 Stanford Blvd. Columbia, MD 21045

Bureau of Environmental Health

Robert "Spencer" Freemon

Well and Septic Program

Phone: 410-313-6357

Email: rfreemon@howardcountymd.gov

Website: https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic

From: Todd Hill <tHill@mba-eng.com>
Sent: Monday, March 15, 2021 11:11 AM
To: Freemon, Robert <rfreemon@howardcountymd.gov>
Cc: Maya Mildenberg <maya@mba-eng.com>; 20-022 Mac Clintock <20-022MacClintock@mba-eng.com>
Subject: FW: Re: 14512 MacCkintock

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

Good Morning Robert;

I was hoping to get the status of the OSDS Plan, thank you for any help.

Todd

From: Maya Mildenberg <maya@mba-eng.com>
Sent: Friday, February 26, 2021 2:34 PM
To: rfreemon@howardcountymd.gov
Cc: samer alomer <salomer@mba-eng.com>; Todd Hill <tHill@mba-eng.com>; curley.patrick26@gmail.com
Subject: Re: 14512 MacCkintock

Good afternoon Spencer.

Attached is a revised OSDS plan for the above referenced project.

Please note that the low pressure system has been revised, changed to "center feed" system with three (3), 61 feet long trenches.

Your comments are addressed as follow:

1. The Dynamic head has been recalculated based on the new design.
2. All fittings have been shown and labeled.
3. Missing 200' well arches have been shown on the plan.
4. All required elevations (pump on included) have been shown in Pump Chamber detail and BAT System Chart.
5. The correct number of trenched have been indicated in all charts, calculations and details.
6. The system has been design in accordance with the MDE Design and Construction Manual which includes Center Feed layout, length of the laterals and all spacing.

Three (3) copies of the revised plan will be delivered to your office Monday morning.

If you have any questions please do not hesitate to contact me.

Thanks.

Maya M Mildenberg
Vice President
Mildenberg, Boender & Assoc., Inc.
7350B Grace Drive, Columbia, MD 20144
410-997-0296
MILDENBERG, BOENDER AND ASSOC., INC.

samer alomer

From: Michael Kretsch
Sent: Friday, March 19, 2021 11:36 AM
To: Freemon, Robert; Williams, Jeffrey
Cc: samer alomer; Maya Mildenberg; 20-022 Mac Clintock
Subject: RE: Re: 14512 MacCkintock
Attachments: 20-022 SECP-50BRLcenter feed-SEPTIC-03192021.pdf

Robert,
Hope you're having a great day this beautiful Friday (Weekend's Eve)

Here is a point by point response to your comments, and I have included your comments in italics for easy reference. If you have questions about what portion of the flow goes where, there is a schematic on the previously submitted plan detailing this. Updated plans are attached.

Point by Point Response:

- *The calculations under "Total Head" are incorrect. Table 4.4 uses the diameter of the pipe/s and the gpm chosen for the pumping rate. In this case you would find the friction loss per 2" and 3" pipes using 58.68 gpm.*

  Only the 3" force main (FM) sees 58.68 gpm. This is because the flow divides at the manifold. The greatest flow in the manifold is 35.9 gpm feeding trenches 2 and 3. The flow to trench 3 is 16.3 gpm.

- *So on a 3" pipe at 58.68gpm the fiction loss equivalent will be closer to 0.81' per 100'.*

  Incorrect. The loss is interpolated. Specifically, for a 3" pipe at 58.68 gpm, the loss is ((0.81-0.58) x 0.868) + 0.58 = 0.78 ' per 100 '. FM is 17.5 ft, loss = 0.14'

- *For a 2" pipe at 58.68gpm the fiction loss equivalent will be closer to 3.98' per 100'. In this case however we would suggest lowering the rate seeing that the dose is only about 100 gals.*

  As mentioned previously the manifold does not see 58.68 gpm. Losses interpolated from table 4.4 as done previously. Note, there was a typo. The manifold loss is 0.24' not 0.4',

- *It is my understanding pump manufacturers have an ideal run time between 2-5 mins.*

  Thanks. However, 1.7-minute run time is satisfactory.

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- *The static head indicates 2.69' when the pump off and invert out of tank elevations show around a 4' difference.*

  Thanks. Corrected. The Total dynamic head is 9.23, which works well with our pump.

- *Show and label "Geotextile Spun Fabric" in the Trench Detail covering the top of the stone.*

  Detail modified to show "Geotextile Spun Fabric" in the trench detail.

*The example of calculating friction losses in fittings shown on page 47 of the manual (Design and Construction Manual for Sand Mount Systems) may be helpful in understanding how to use Table 4.3

Have an awesome weekend.

Mike Kretsch, P.E.
Senior Engineer
Mildenberg, Boender & Assoc., Inc.
7350B Grace Drive, Columbia, MD 21044
410-997-0296

MILDENBERG, BOENDER & ASSOC., INC.

From: Maya Mildenberg <maya@mba-eng.com>
Sent: Wednesday, March 17, 2021 11:40 AM
To: Michael Kretsch <mKretsch@mba-eng.com>
Subject: FW: Re: 14512 MacCkintock

😊

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8930 Stanford Blvd. Columbia, MD 21045

Bureau of Environmental Health

Robert "Spencer" Freemon

Well and Septic Program

Phone: 410-313-6357

Email: rfreemon@howardcountymd.gov

Website: https://www.howardcountymd.gov/Departments/Health/Environmental-Health/Well-and-Septic

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Maya M Mildenberg
Vice President
Mildenberg, Boender & Assoc., Inc.
7350B Grace Drive, Columbia, MD 20144
410-997-0296
MILDENBERG, BOENDER AND ASSOC., INC.

MILDENBERG, BOENDER & ASSOC., INC. *Engineers Planners Surveyors*

7350-B Grace Drive, Columbia, Maryland 21044 (410) 997-0296 (410) 997-0298 Fax

April 16, 2021

Jeff Williams
Well & Septic Program
Bureau of Environmental Health
Howard County Health Dept.
8930 Stanford Blvd.
Columbia, MD 21045

RE: Warfield Estates, Lot 21
14511 MacClintock Court
Revised On-site Sewage Disposal System

Dear Mr. Williams:

On behalf of our client, we are submitting ~~three (3)~~ one (1) copies of the revised On-site Sewage Disposal System Design Plan for your review and approval.

Please note that the low-pressure system has been revised, per your comments

Your comments dated 4/7/21 are addressed as follow:

1. *The system flow rate is a function of the total head and the pump. The flow rate will be the same throughout the system once fully pressurized. Therefore, the friction loss for each fitting and pipe will use the same flow rate.*

   Same flow rate used for all pipes and fittings in this revision.

2. *I forgot to state an added benefit to keeping laterals at the same elevation on systems that flow downhill is that you won't be loading up the lower laterals with extra liquid once the pump turns off and the liquid drains out of the pipes.*

   Noted.

and

1. *The upper system trenches are not on contour, especially the top one. You might be able to move the three trenches down to be right above the second system and they can stay mostly straight while being on contour. This has the added benefit of being more away from upgrade of the neighboring well HO-73-1984*

   Trench locations revised to be on contour.

2. *The design shows the 3 trenches being at slightly different invert elevations, but the calculations show the same distal head and orifice flow rate. The upper trench will have whatever design distal head is chosen (should be 2' as you chose) and each lower trench should have that plus whatever elevation change from the upper trench. The orifice flow rate for each lateral should be calculated at that distal head. HOWEVER, it is much easier and certainly possible in this case to just make the invert elevations the same when the*

ground elevations are not changing that much. Especially if you move the upper trenches down a bit, you have plenty of fall to put them all at the same elevation and still be within the minimum and maximum allowed earth cover. This will let you keep the same distal head and the same hole spacing throughout if you just make the trenches all the same length (which you have room to do here).

6 trenches all at the same elevation, same length in this revision

3. *If you were to have laterals at different lengths, which you shouldn't need to in this case as shown above, you need to add a column to the design chart for flow per linear foot and make sure that is within 10% across all laterals to ensure equal distribution. In the current design, the flow per lateral foot is off by 25% between the upper trench and lower (although that is based on the incorrect orifice flow rate).*

All trenches are the same length, with same number of orifices, same flow rate.

4. *Provide 24 hours of emergency storage in the BAT unit above the high-water alarm and show the calculations.*

24-hour storage (600 gallons) shown, Calculations shown

5. *Add a quick disconnect fitting in the tank after the pump and provide friction loss for it.*

Added Quick Connect.

6. *You are specifying a valve, show the location and specify the type of valve and account for it in the friction loss.*

Valve added, spec'd and accounted for.

7. *Add a weep hole or other vacuum break in the discharge line inside the tank at the high point of the system.*

¼ in NON-Potable Vacuum Break added

8. *Show the location of the electrical panel, blower motor, and alarm on the plan.*

Location Shown and Noted

9. *Add a note stating that the alarm float must be on a separate dedicated circuit.*

Note Added (see Note 10)

If you have any questions, please do not hesitate to contact me.

Thank you for your consideration of this submittal. If you have any questions or require any additional information, please do not hesitate to contact me.

Sincerely,

4/16/2021

Mike Kretsch P.E.
Senior Engineer
MILDENBERG, BOENDER & ASSOC., INC.

5/6 - Sent O+M reminder. Must recieve before Septic permit release. Soren has 2nd File w/ Variance PC + Perc notes.
- MBA might have O+M

MILDENBERG, BOENDER & ASSOC., INC. *Engineers Planners Surveyors*

7350-B Grace Drive, Columbia, Maryland 21044 *(410) 997-0296* *(410) 997-0298 Fax*

August 13, 2021

Jeff Williams
Well and Septic Program
Bureau of Environmental Health
Howard County Health Dept.
8930 Stanford Blvd.
Columbia, MD 21045

Warfield Estates, Lot 21, 14511 MacClintock Court, Glenwood, MD 51738

On behalf of our client, we are submitting three (3) copies of the revised On-site Sewage Disposal System. The revision consists of replacing the HOOT 1000 BNR with the Hoot 600 BNR, while retaining the 1500-gallon pump chamber. No pump chamber elevations were changed.

Thank you for your consideration of this submittal. If you have any questions or require any additional information, please do not hesitate to contact me.

Sincerely,

8/13/2021

Mike Kretsch PE.
Senior Engineer

STATE OF MARYLAND · MICHAEL G. KRETSCH · NO. 34027 · REGISTERED PROFESSIONAL ENGINEER

Cc: Client

MILDENBERG, BOENDER & ASSOC., INC.

7350 B Grace Drive
Columbia, MD 21044
Phone No. (410-997-0296)
contact@mba-eng.com

Project No.: 20-022

Date:	7/19/21
To:	Hank Oswald
Department:	Health
County File No:	Warfield Est Lot 21 McClintock

Attachments:

3	Foundation Dwgs - to scale!

Notes:

Submitted by: