County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

HD Number: 200830246 Date of Issue: 01/27/2022

Alternative Onsite Sewage System Operation Permit

OWNER
John & Sheri Rhodes
PROPERTY
222 Donmore Drive
Great Falls, Virginia 22066
Map Reference # 0022 020044A

The above owner and/or subsequent owner is hereby granted permission for the operation of an Alternative Onsite Sewage System at the above referenced property, having a 750 gallons/day daily flow for a 5 - bedroom dwelling.

The continued validity of this permit is contingent upon compliance with the operation and maintenance requirements contained in Part 3 of the Regulations for Alternative Onsite Sewage Systems of the Virginia Department of Health (12VAC5-613-120 et seq.). Owners are advised to be aware of the operation and maintenance requirements for their system, including the requirement to have the system maintained and operated by a licensed Alternative Onsite Sewage System Operator.

This Alternative Onsite Sewage System is required to be inspected and sampled by a qualified operator within 180 days from the date of this Operation Permit. Thereafter, the system must be inspected annually and sampled once every five years. Reports must be submitted in accordance with Section 12VAC5-613-190 of the *Regulations* and are due on the 15th of the month following the inspection.

Failure to submit the required inspection and sample results shall be deemed a violation of the *Regulations*.

The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair, or replace any sewage disposal system that ceases to operate in accordance with the regulations.

Environmental Health Specialist	Environmental Health Supervisor	Gloria Addo Ayensu, M.D., MPH Health Director

Fairfax County Health Department
Division of Environmental Health
Onsite Sewage and Water Section
10777 Main Street, Suite 102, Fairfax, VA 22030
Phone: 703-246-2201 TTY: 711 Fax: 703-278-8157
www.fairfaxcounty.gov/hd

BK 27527 1342

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods, and diverse communities of Fairfax County

February 8, 2021

John Rhodes TR
74 S Player Crest Circle
Spring, TX 77382

RE: Sewage Disposal System Construction Permit
Constructed on/at: 222 Donmore Drive, Great Falls VA 22066
TM# 0022 02 0044A

Health Department ID Number: 200830246
System Capacity: 5 Bedrooms/750 gallons per day

Dear John Rhodes TR:

This letter and the attached drawings, specifications, calculations, and the attached documentation dated March 25, 2020 constitute your permit to install a sewage disposal system on the property referenced above.

The Fairfax County Health Department (FCHD) hereby recognizes that the design submitted by Brian H. Phillips, AOSE, has been certified by the designer to comply with the requirements of the Code of Virginia and grants permission to install the system as designed in the area shown on the attached plans and specifications.

The sewage disposal system design is approved based on a 1.25 gal/ft^2/day loading rate at an install depth of 20". Chapter 68.1 of the Fairfax County Code requires a minimum gravel depth of eight inches under the installed percolation piping and two inches over the piping. A minimum of 12 inches and a maximum of 20 inches of clean backfill shall be placed over the gravel. Untreated building paper or other suitable material shall be placed at the interface of the gravel and soil. All trench widths are required to be 2 feet and be installed 6 feet center to center.

If modifications or revisions are necessary between now and when the system is constructed, please contact the OSE who designed the system upon which this permit is based. Should revisions be necessary during construction, your contractor should consult with the OSE. The OSE is authorized to make minor adjustments in the location or design of the system provided that adequate documentation is provided to FCHD.

The OSE that submitted the design for this permit is required by §32.1-164.1 of the Code of Virginia to inspect the system at the time of the installation and provide an inspection report and completion statement to FCHD. Chapter 68.1 of the Fairfax County Code requires that no part of the system shall be covered with earth or used until inspected, corrections made if necessary, and approved by the FCHD. The sewage system may not be placed into operation until you have obtained an Operation Permit from FCHD.

Fairfax County Health Department
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www.fairfaxcounty.gov/hd

BK 27527 1343

John Rhodes TR
Health Department ID Number: 200830246
February 8, 2021

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and § 12VAC5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The continued validity of this permit is contingent upon compliance with the operation and maintenance requirements contained in Part 3 of the Regulations for Alternative Onsite Sewage Systems of the Virginia Department of Health (12VAC5-613-120 et seq.). Owners are advised to be aware of the operation and maintenance instructions for their permitted alternative onsite sewage system and to follow them. Copies of the operation and maintenance instructions can be found by contacting the local health department for the locality where the onsite sewage disposal system is located.

This Construction Permit is null and void if site and soil conditions are changed from those shown on your application or if conditions are changed from those shown on the attached plans and specifications. FCHD may revoke or modify any permit if, at a later date, it finds that the system would threaten public health or the environment.

This authorization to construct a sewage disposal system expires August 8, 2022. This permit is not transferable to another location.

Sincerely,

Crystal M. Crampton
Environmental Health Specialist

Kevin R. Wastler
Environmental Health Supervisor

JANICE JOSHI
NOTARY PUBLIC
COMMONWEALTH OF VIRGINIA
ID #7857868

County of Fairfax, Commonwealth of Virginia.

The foregoing instrument was acknowledged before me this 9th day of February, 2021, by Crystal M. Crampton and Kevin R. Wastler
(Name of person seeking acknowledgement)

Janice Joshi
Notary Public

My Commission Expires: December 31st, 2023.

A COPY TESTE:
JOHN T. FREY, CLERK
BY: _____
Deputy Clerk

01/21/2022
RECORDED FAIRFAX CO VA
TESTE: J. Frey
CLERK

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods, and diverse communities of Fairfax County

February 8, 2021

John Rhodes TR
74 S Player Crest Circle
Spring, TX 77382

RE: Sewage Disposal System Construction Permit
Constructed on/at: 222 Donmore Drive, Great Falls VA 22066
TM# 0022 02 0044A

Health Department ID Number: 200830246
System Capacity: 5 Bedrooms/750 gallons per day

Dear John Rhodes TR:

This letter and the attached drawings, specifications, calculations, and the attached documentation dated March 25, 2020 constitute your permit to install a sewage disposal system on the property referenced above.

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The sewage disposal system design is approved based on a 1.25 gal/ft^2/day loading rate at an install depth of 20". Chapter 68.1 of the Fairfax County Code requires a minimum gravel depth of eight inches under the installed percolation piping and two inches over the piping. A minimum of 12 inches and a maximum of 20 inches of clean backfill shall be placed over the gravel. Untreated building paper or other suitable material shall be placed at the interface of the gravel and soil. All trench widths are required to be 2 feet and be installed 6 feet center to center.

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The OSE that submitted the design for this permit is required by §32.1-164.1 of the Code of Virginia to inspect the system at the time of the installation and provide an inspection report and completion statement to FCHD. Chapter 68.1 of the Fairfax County Code requires that no part of the system shall be covered with earth or used until inspected, corrections made if necessary, and approved by the FCHD. The sewage system may not be placed into operation until you have obtained an Operation Permit from FCHD.

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Onsite Sewage and Water Section
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www.fairfaxcounty.gov/hd

John Rhodes TR
Health Department ID Number: 200830246
February 8, 2021

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and § 12VAC5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The continued validity of this permit is contingent upon compliance with the operation and maintenance requirements contained in Part 3 of the Regulations for Alternative Onsite Sewage Systems of the Virginia Department of Health (12VAC5-613-120 et seq.). Owners are advised to be aware of the operation and maintenance instructions for their permitted alternative onsite sewage system and to follow them. Copies of the operation and maintenance instructions can be found by contacting the local health department for the locality where the onsite sewage disposal system is located.

This Construction Permit is null and void if site and soil conditions are changed from those shown on your application or if conditions are changed from those shown on the attached plans and specifications. FCHD may revoke or modify any permit if, at a later date, it finds that the system would threaten public health or the environment.

This authorization to construct a sewage disposal system expires August 8, 2022. This permit is not transferable to another location.

Sincerely,

Crystal M. Crampton
Environmental Health Specialist

Kevin R. Wastler
Environmental Health Supervisor

JANICE JOSHI
COMMONWEALTH
ID #7857868
OF VIRGINIA
NOTARY PUBLIC

County of Fairfax, Commonwealth of Virginia.

The foregoing instrument was acknowledged before me this 9th day of February, 2021, by Crystal M. Crampton and Kevin R. Wastler
(Name of person seeking acknowledgement)

Janice Joshi
Notary Public

My Commission Expires: December 31st, 2023

Record of Inspection - Private Water Supply System

Commonwealth of Virginia
Department of Health

Health Department
I.D. Number 200860270

F.H.A. or V.A. Case Number
If Applicable

Date 7-23-2020 Local Health Department Fairfax County

Owner John Rhodes Address 74 S Player Crest Circle Spring, TX 77382 Phone 703-341-9489

Exact Location of Premises 222 Dunmore Drive Great Falls VA 22066

Subdivision Seneca Farms Section/Block 3 Lot 44A

Class of nonpublic drinking water well. 1) Class III A ___ 2) Class III B X 3) Class III C ___ 4) Other ___

Date of installation 7-9-2020

Northern Virginia Drilling

CONSTRUCTION INFORMATION

If information in any item below is secured from other sources (i.e. well log, etc.), so note.

1. Water well completion report filed as required by Sec. 2.18 Yes ☑ No ☐
2. Well Location: Distances from sources of pollution (See Table 3.1, Minimum Separation Distances) and Section 3.4 of the Private Well Regulations.
   Building Sewer 50'+ Pretreatment Unit 50'+
   Conveyance System 50'+ Subsurface Soil Absorption System 100'+
   (nearest point). Property Line 50'+ Other ___
   Site graded where necessary to divert water away from well? Yes ☑ No ☐ N/A ☐
3. Construction, General: (see Section 3.6 and 3.7 Private Well Regulations).
   Total depth of well 560 feet. Type of casing Steel
   Depth of casing 82 feet. Diameter of casing 6 inches.
   Casing extends 12" inches above ground. Exterior space sealed with neat cement grout to a depth of 55 feet. Screens constructed of n/a
   free of rough edges and irregularities, with positive watertight seal between screen and casing?
   Yes ☐ No ☐ N/A ☒ Well head and opening to the interior protected? Yes ☒ No ☐
   Type of well seal watertight Pitless adapter used? Yes ☒ No ☐ N/A ☐
   Properly installed? Yes ☒ No ☐ N/A ☐ Proper venting? Yes ☒ No ☐ N/A ☐
4. Quantity: Yield and drawdown determined by continuous pumping of 1 hours. Drawdown ___ feet. Yield 20 GPM. Type of storage CONSTANT PRESSURE.
5. Quality: Sample tap provided at entry into system? Yes ☑ No ☐ Samples(s) collected? Yes ☑ No ☐ Results of samples. Satisfactory ☑ Unsatisfactory ☐ (attach copy of results of this form)

Based on the inspection of this water supply system and the information contained on the water well completion report attached, this water supply meets ☑ does not meet ☐ the requirements of the Private Well Regulations.

Remarks: 0-28': overburden; 28-35': sandstone, 35-73' grey granite; 73-78': void; 78-420': grey granite; 420'-495': blue granite; 495-560': grey granite

Date 1/26/22 Signed [signature] Sanitarian

Date 1/27/22 Signed [signature] Supervisory Sanitarian

Date ___ Signed ___ Regional Sanitarian (If V.A. or F.H.A.)

C.H.S. 204 Revised 9/90

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

June 24, 2020

John Rhodes
74 S Player Crest Circle
Spring, TX 77382

RE: Private Well Construction Permit
Constructed on/at: 222 Donmore Dr
Great Falls, Virginia 22066
Tax map #: 0022 02 0044A

Health Department ID Number: 200860270

John Rhodes,

This letter and the attached site plan, dated June 17, 2020 from the *Certified Master Water Well System Provider*, constitute your permit to install a "Private Well" on the property referenced above. Your application for a permit was submitted pursuant to § 32.1-176.5:2 of the Code of Virginia, which requires the Virginia Department of Health (VDH) to accept designs for "Private Wells" from individuals licensed as *Certified Master Water Well System Provider*.

The Fairfax County Health Department (FCHD) hereby recognizes that the design submitted by Scott W. Miller, *Certified Master Water Well System Provider*, complies with the requirements of the Code of Virginia and grants permission to install the "Private Well" as designed in the area shown on the attached plans and specifications. This permit is not transferable to another location. Valid construction permits for "Private Wells" are transferable to new property owners.

If modifications or revisions are necessary between now and when the system is constructed, please contact the *Certified Master Water Well System Provider* who designed the system upon which this permit is based. Should revisions be necessary during construction, your contractor should consult with the *Certified Master Water Well System Provider*. The *Certified Master Water Well System Provider* is authorized to make minor adjustments in the location or design of the well if adequate documentation is provided to FCHD. In all cases, it shall be the landowner's responsibility to ensure that the water well is properly located on the landowner's property.

Fairfax County Health Department
Division of Environmental Health
Onsite Sewage and Water Section
10777 Main Street, Suite 102, Fairfax, VA 22030
Phone: 703-246-2201 TTY: 711 Fax: 703-278-8157
www.fairfaxcounty.gov/hd

June 24, 2020
John Rhodes
Health Department ID Number: 200860270

Pursuant to § 32.1-176.6 code of Virginia, FCHD shall have the authority to conduct such inspections as it may find reasonably necessary to ensure that the construction work conforms to applicable construction standards. The following items are required to be inspected or completed by FCHD:

- Inspection of the well prior to the grout pour and during the grout pour.
- Inspection of the "pitless" adapter.
- Bacteriological water sample analysis.
- Inspection of the final grading around the well.

Chapter 70.1 of the Fairfax County Code requires that no person shall place a private well in operation, or cause or allow a private well to be placed in operation, without obtaining a written inspection statement pursuant to 12VAC 5-630-310 and 12VAC 5-630-330. Prior to inspection statement being issued by FCHD, a copy of a Uniform Water Well Completion Report shall be provided to FCHD within 30 days of the completion of the well or completion of alterations thereto. The *Certified Master Water Well System Provider* shall perform a final inspection for the "Private Well" and provide inspection completion report to the FCHD.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and § 12VAC 5-630-230 of the Private Well Regulations of the Virginia Department of Health. This well construction permit is null and void when (i) conditions such as house location, sewage system location, sewerage system location, topography, drainage ways, or other site conditions are changed from those shown on the application, (ii) conditions are changed from those shown on the construction permit, or (iii) more than 54 months elapse from the date the permit was issued. Reapplication for the purposes of having an expired permit reissued shall be the responsibility of the owner, and such reapplication shall be handled as an initial application and comply fully with 12VAC5-630-230.

The commissioner may revoke a construction permit or inspection statement for any of the following reasons:

- Failure to comply with the conditions of the permit;
- Violation of any part of this chapter for which no variance has been issued;
- Facts become known which reveal that a potential health hazard would be created or that the ground water resources may be adversely affected by allowing the proposed well to be installed or completed. (12VAC5-630-290)

This authorization to construct a "Private Well" expires 54 months from the issue date.

Sincerely,

James LaRosa
Environmental Health Specialist

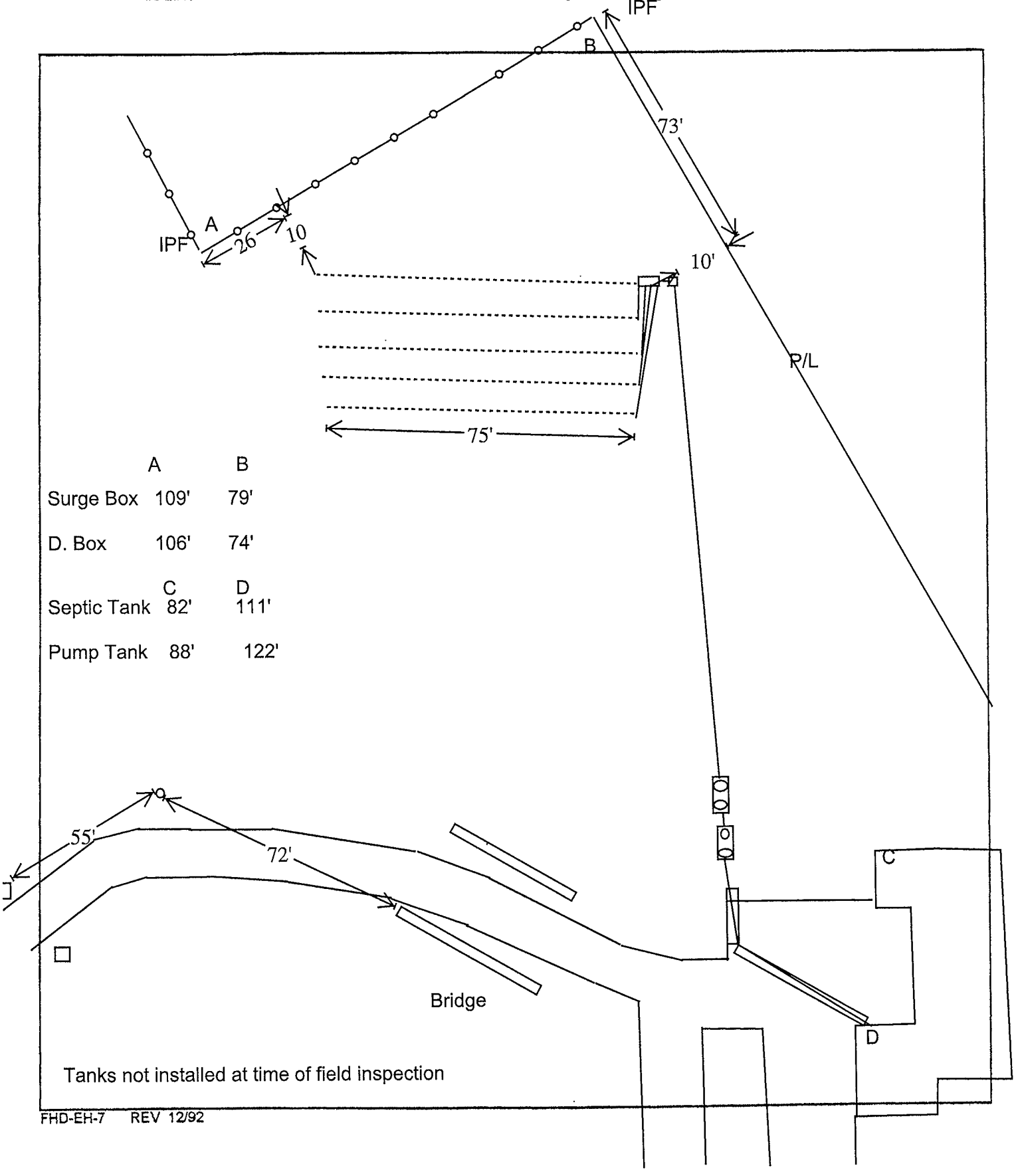
FAIRFAX COUNTY HEALTH DEPARTMENT
SEWAGE DISPOSAL SYSTEM/WELL WATER SUPPLY AS-BUILT

Tax Map ID: 022 02 0044a

Street Address: 222 Donmore Drive

Subdivision: Seneca Farms Sec. 3 Lot 44A

City, State, Zip: Great Falls, Virginia 22066



	A	B
Surge Box	109'	79'
D. Box	106'	74'

	C	D
Septic Tank	82'	111'
Pump Tank	88'	122'

Tanks not installed at time of field inspection

Completion Statement

JAN 19 REC'D

22 - 2 - 44A

Commonwealth of Virginia
State Department of Health

Health Department Identification Number: _____

Fairfax County Health Department

Name of Company/Corporation/Individual: Settle Excavating & Plumbing, LLC

Address: 332 W. Lee Hwy PMB 250 Warrenton, VA 20186 Telephone: 703-772-4040

Owner's Name: _____

Owner's Address: 222 Donmore Drive, Great Falls VA 22066

Location of Installation: Lot: 44A Block: _____

Section: 3 Subdivision: Seneca Farms

Other: _____

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (Date) 3/25/2020 and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

18 Jan 2022
Date

James R. Settle
Signature and Title
Onsite Sewage System Installer License
Master Alt. # 1944001662

C.H.S. 203 Rev. 4/83

AOSE/PE Inspection Report and Completion Statement

Commonwealth of Virginia
State Department of Health **Fairfax** County Health Department

Health Department ID #: **200830246** Tax Map ID: **2-2-02-044A**

Name of AOSE/PE: **Brian H. Phillips** License # **1940001374**

Contactors Name: **Settle Excavating and Plumbing** License # **27010032072**

Owner's Name: **John and Sheri Rhodes**

Owner's Address: **74 South Player Crest Circle** **The Woodlands, TX 77382**

Location of Installation: **222 Donmore Drive, Great Falls, VA 22066**

Subdivision: **Seneca Farms** Block: Section: Lot: **44A**

Inspection Results		
Component	Comments, Materials, Etc. Deficiencies Observed, Date Deficiencies Observed, Corrective Actions Required	Date Approved
Water Supply Location and Construction	Class IIIB well, measurements pulled. Well permit # 200860270 & 210420206. By others. See note below.	*
Building Sewer	4" SCH40 PVC; >1 1/4" fall per 10'	3/26/2021
Septic Tank	1500 Gallon Hanover TJ Tank w/ATU	3/26/2021
Inlet-Outlet Structure	Sealed Unit	3/26/2021
Pump and Pump Station	2000 gallon Hanover TS Tank w/ Zoeller N98 pump. 450gal ADF, 112.5 gal/dose, 4 doses/day. 42 GPM; Run =2:39m, Rest=6h. P1: Ct=6, ETM=0:00h. P2: Ct=16, ETM=00:02h. Peak Ct=7, Alarm Ct=5.	1/6/2022
Conveyance Method	2" SCH40 PVC force main.	3/26/2021
Distribution Box or Pressure Manifold	6 port concrete surge box suppling 10 port concrete d-box with plastic levelers , both on concrete pads.	3/26/2021
Header, Conveyance, Drip, Chambers, Etc.	4" SCH40 PVC	3/26/2021
Absorption Trenches and Dispersal Field	5 trench laterals, each 75' long, 2' wide, and 6' on center. 4" black plastic perforated, corrugated drain pipe.	3/26/2021
(Other Components: Treatment Unit, etc.)	MicroFAST 0.75 ATU	1/6/2022
Note	Well location was changed by driller and builder. Soils, Inc. was not notified of the change and had no input as to the new location and was permitted by others.	*

RECEIVED
JAN 26 2022
By

Attach observed deficiencies and corrective actions taken on a separate completion statement as necessary.

AOSE/PE Completion Statement: As-Built Drawing

Commonwealth of Virginia
State Department of Health

Health Department ID Number: **200830246** Tax Map # **2-2-02-044A**

Triangulate critical system components to fixed reference points.

See attached as-built

COMMONWEALTH OF VIRGINIA
BRIAN H. PHILLIPS
Lic. No. 1940001374
1/25/2022
ALTERNATIVE ONSITE SOIL EVALUATOR

☑ Check here if the as built is on a separate page attached to this form.
(Attachment must display Health Department ID number, tax map number, and must be signed & dated by the AOSE/PE)

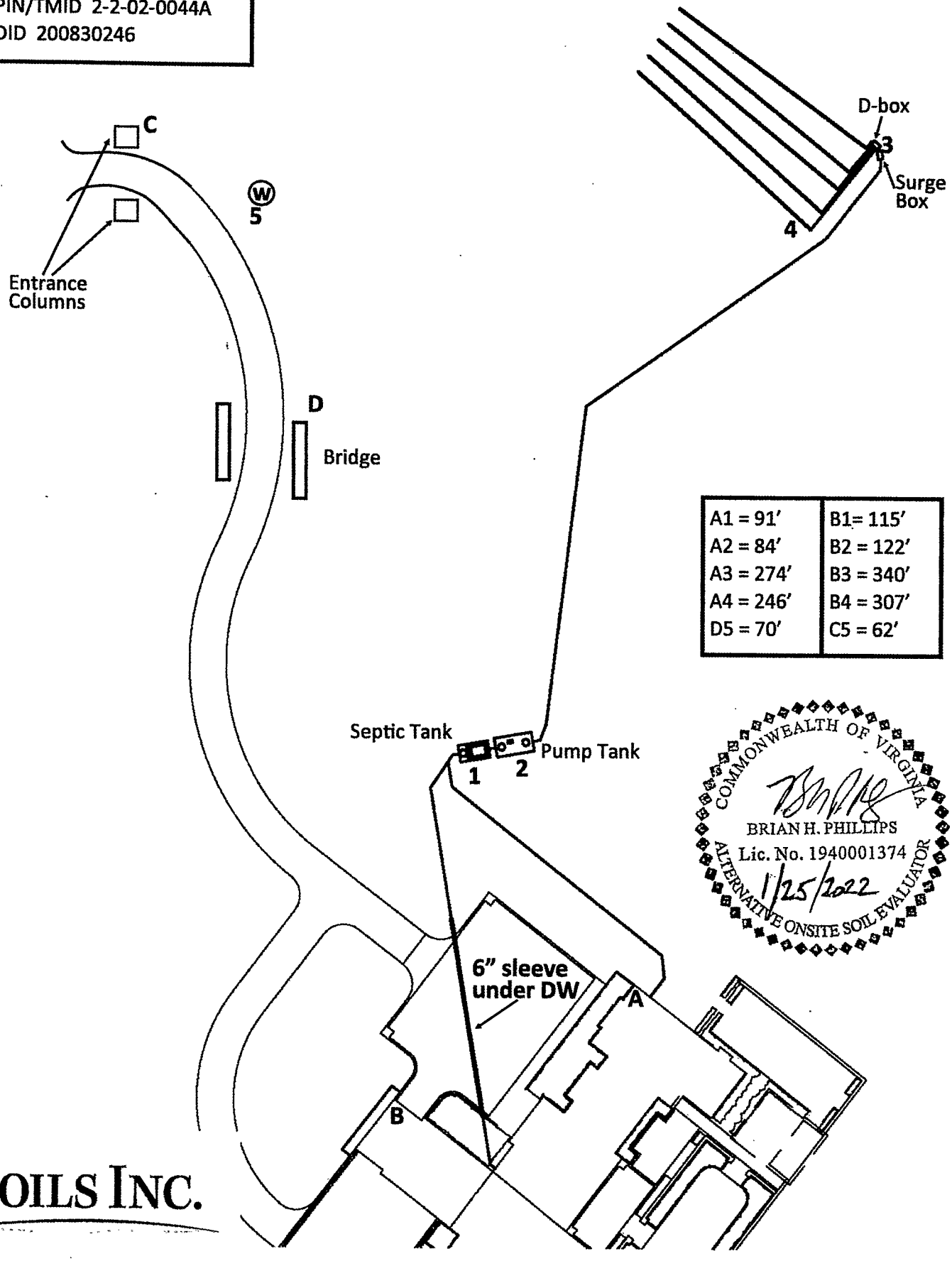
I hereby certify that on **1/6/2022** I, or an employee under my direct supervision, inspected this sewage system's construction. The onsite system has been installed and completed in accordance with the contruction. The onsite sewage system has been installed and completed in accrodznce with the construction permit issued **2/9/2021** and is in compliance with the *Sewage Handling & Disposal Regulations (12VAC5-610 et seq)*, the *Alternative Onsite Sewage Regulations (12VAC5-613*, and the *Private Well Regulations (12VAC5-630 et seq),* when applicable, and the plans and specifications for this project.

AOSE/PE Signature: _____ Date: **1/25/2022**

Print Name: **Brian H. Phillips**

12/10/20212 T1812

222 Donmore Drive
Great Falls, VA 22066
GPIN/TMID 2-2-02-0044A
HDID 200830246

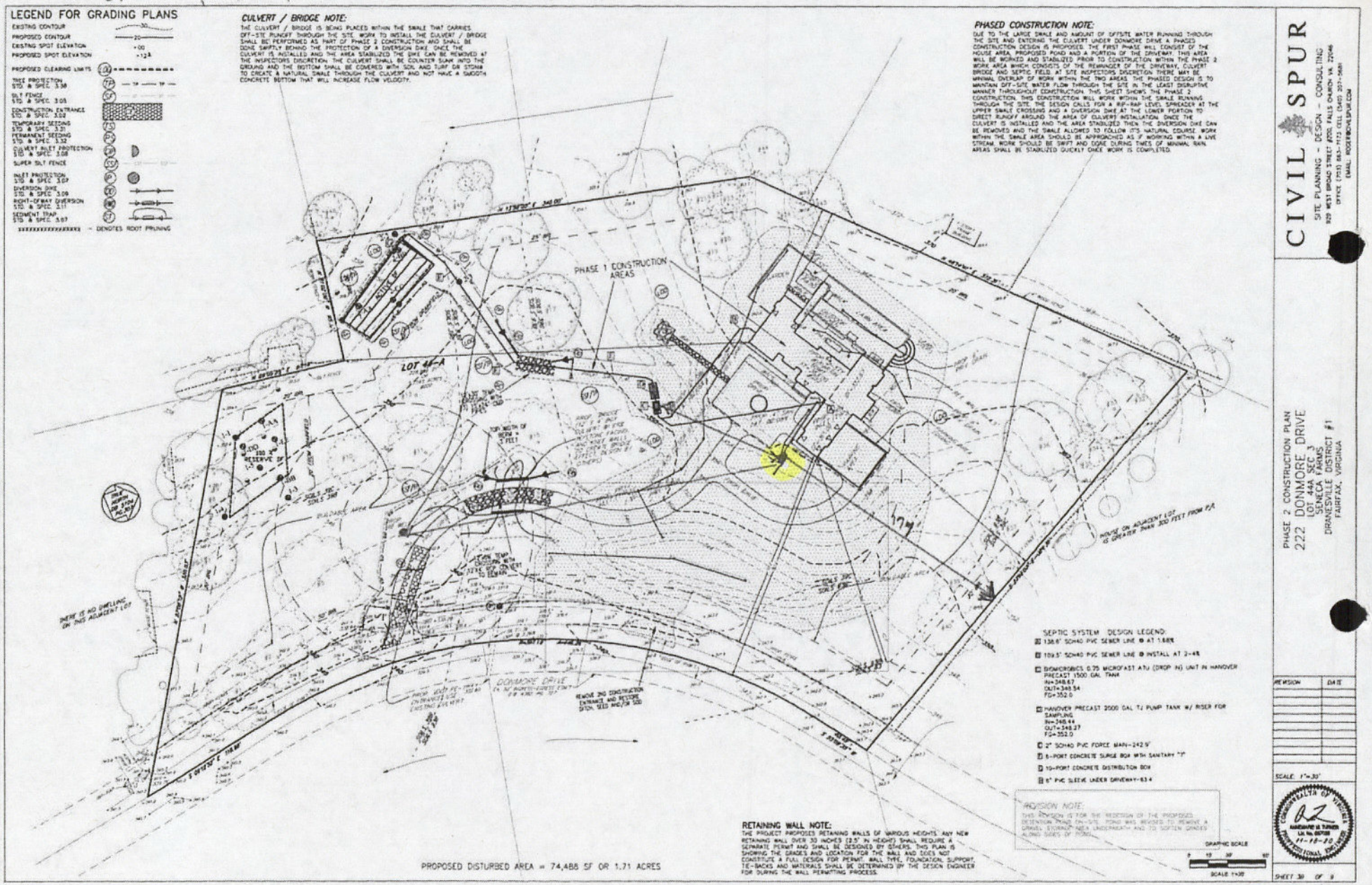


A1 = 91'	B1= 115'
A2 = 84'	B2 = 122'
A3 = 274'	B3 = 340'
A4 = 246'	B4 = 307'
D5 = 70'	C5 = 62'

COMMONWEALTH OF VIRGINIA
BRIAN H. PHILLIPS
Lic. No. 1940001374
1/25/2022
ALTERNATIVE ONSITE SOIL EVALUATOR

SOILS INC.

- Well Tank to well ~ 291'
- Septic Tank & Grinder Pum Tank to Septic 119'
- Tank to closest property line 177'



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods, and diverse communities of Fairfax County

February 25, 2021

APPROVED
FAIRFAX COUNTY HEALTH DEPARTMENT
04/29/21 James Cokos
Date Health Official

John Rhodes TR
74 S Player Crest Circle
Spring, TX 77382

RE: Private Well Construction Permit
Constructed on/at: 222 Donmore Drive
Great Falls, VA 22066
Tax map #: 0022 02 0044A

Health Department ID Number: 210420206

Dear John Rhodes TR,

This letter and the attached site plan, dated February 10, 2021 from the *Certified Master Water Well System Provider*, constitute your permit to install a "Private Well" on the property referenced above. Your application for a permit was submitted pursuant to § 32.1-176.5:2 of the Code of Virginia, which requires the Virginia Department of Health (VDH) to accept designs for "Private Wells" from individuals licensed as *Certified Master Water Well System Provider.*

The Fairfax County Health Department (FCHD) hereby recognizes that the design submitted by Scott W. Miller, *Certified Master Water Well System Provider,* complies with the requirements of the Code of Virginia and grants permission to install the "Private Well" as designed in the area shown on the attached plans and specifications. This permit is not transferable to another location. Valid construction permits for "Private Wells" are transferable to new property owners.

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www.fairfaxcounty.gov/hd

February 25, 2021
John Rhodes TR
Health Department ID Number: 210420206

Pursuant to § 32.1-176.6 code of Virginia, FCHD shall have the authority to conduct such inspections as it may find reasonably necessary to ensure that the construction work conforms to applicable construction standards. The following items are required to be inspected or completed by FCHD:

- Inspection of the well prior to the grout pour and during the grout pour.

Chapter 70.1 of the Fairfax County Code requires that no person shall place a private well in operation, or cause or allow a private well to be placed in operation, without obtaining a written inspection statement pursuant to 12VAC 5-630-310 and 12VAC 5-630-330. Prior to inspection statement being issued by FCHD, a copy of a Uniform Water Well Completion Report shall be provided to FCHD within 30 days of the completion of the well or completion of alterations thereto. The *Certified Master Water Well System Provider* shall perform a final inspection for the "Private Well" and provide an inspection completion report to the FCHD.

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and § 12VAC 5-630-230 of the Private Well Regulations of the Virginia Department of Health. This well construction permit is null and void when (i) conditions such as house location, sewage system location, sewerage system location, topography, drainage ways, or other site conditions are changed from those shown on the application, (ii) conditions are changed from those shown on the construction permit, or (iii) more than 54 months elapse from the date the permit was issued. Reapplication for the purposes of having an expired permit reissued shall be the responsibility of the owner, and such reapplication shall be handled as an initial application and comply fully with 12VAC5-630-230.

The commissioner may revoke a construction permit or inspection statement for any of the following reasons:

- Failure to comply with the conditions of the permit;
- Violation of any part of this chapter for which no variance has been issued;
- Facts become known which reveal that a potential health hazard would be created or that the ground water resources may be adversely affected by allowing the proposed well to be installed or completed. (12VAC5-630-290)

This authorization to construct a "Geothermal Well System" expires 54 months from the issue date.

Sincerely,

Crystal Crampton

Crystal Crampton
Environmental Health Specialist II

Record of Inspection - Private Water Supply System

Commonwealth of Virginia
Department of Health

Health Department I.D. Number 21042020 6

F.H.A. or V.A. Case Number If Applicable

Date 02/25/2021 Local Health Department FAIRFAX

Owner John Rhodes Address 745 PLAYER CREST CR. SPRING, TX 77382 Phone

Exact Location of Premises 227 DON MOORE DR, GREAT FALLS, VA. 22066

Subdivision SENECA FARMS Section/Block 3 Lot 44A

Class of nonpublic drinking water well. 1) Class III A ___ 2) Class III B ___ 3) Class III C ___ 4) Other ✓ Geothermal X4

Date of installation 06/2/21

CONSTRUCTION INFORMATION

If information in any item below is secured from other sources (i.e. well log, etc.), so note.

1. Water well completion report filed as required by Sec. 2.18 Yes ☑ No ☐
2. Well Location: Distances from sources of pollution (See Table 3.1, Minimum Separation Distances) and Section 3.4 of the Private Well Regulations.
   Building Sewer N/A Pretreatment Unit N/A
   Conveyance System N/A Subsurface Soil Absorption System N/A
   (nearest point). Property Line N/A Other
   Site graded where necessary to divert water away from well? Yes ☐ No ☐ N/A ☑
3. Construction, General: (see Section 3.6 and 3.7 Private Well Regulations).
   Total depth of well 400 feet. Type of casing N/A
   Depth of casing N/A feet. Diameter of casing N/A inches.
   Casing extends inches above ground N/A. Exterior space sealed with neat cement grout to a depth of 400 feet. Screens constructed of N/A
   free of rough edges and irregularities, with positive watertight seal between screen and casing? Yes ☐ No ☐ N/A ☑ Well head and opening to the interior protected? Yes ☐ No ☐ N/A
   Type of well seal N/A Pitless adapter used? Yes ☐ No ☐ N/A ☐
   Properly installed? Yes ☐ No ☐ N/A ☑ Proper venting? Yes ☐ No ☐ N/A ☑
4. Quantity: Yield and drawdown determined by continuous pumping of N/A hours. Drawdown N/A feet. Yield N/A GPM. Type of storage N/A.
5. Quality: Sample tap provided at entry into system? Yes ☐ No ☑ Samples(s) collected? Yes ☐ No ☑ Results of samples. Satisfactory ☐ Unsatisfactory ☐ (attach copy of results of this form) N/A

Based on the inspection of this water supply system and the information contained on the water well completion report attached, this water supply meets ☑ does not meet ☐ the requirements of the Private Well Regulations.

Remarks:

Date 06/29/21 Signed James DeRosa Sanitarian

Date 6/30/21 Signed Greg Burke Supervisory Sanitarian

Date Signed Regional Sanitarian (If V.A. or F.H.A.)

C.H.S. 204 Revised 9/90

Form GW-2
Revised 8/19/2016
Page 1 of 4

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # 210420206
VDH PWSID # _____
Geothermal

*Indicates required field or section
**Indicates required field or section, if applicable

1. Contact Information*

Contact:	Name	Address	Phone
Owner	JOHN RHODES TR	745 PLAYER CREST CIR SPRING TX	703-220-6269
Driller	NO. VA. DRILLING INC.	11356 INDUSTRIAL RD. MANASSAS VA	703-361-6859
System Provider	2719000310	11356 INDUSTRIAL RD. MANASSAS VA	703-361-6859

2. Well Location*

Physical Address: 222 DOWNOAK DR. GREAT FALLS VA.		**County/City:** FAIRFAX CO.	
Subdivision Name: SENECA FARMS	**Section:** 3	**Block:**	**Lot:** 44A
Tax Map/GPIN #: 22-02-0044A			
Latitude: N		**Longitude:** W	
Datum Source	**Horizontal:** ☐ WGS84 ☐ NAD83 ☐ NAD27		
Lat/Long Source (Check One): ☐ Map ☐ GPS ☐ PPDGPS ☐ Survey ☐ Imagery ☐ WAAS			
Location Information Collected By: 2719000310			
Physical Location Description: FRONT OF HOUSE NEAR FRONT STOOP			

3. Facility & Use*

Type of Facility (Check One):	Type of Use (Check All That Apply):		
☑ Private	☐ Drinking/Domestic Use	☐ Agricultural	☐ Food Processing
☐ Waterworks	☐ Manufacturing	☐ Irrigation	☐ Injection
☐ Observation/Monitoring Well	☑ Geothermal (Cooling/Heating) ☐ Closed ☐ Open: ☐ Returned to Surface ☐ Returned to Aquifer	☐ Fire Safety	

4. Well Construction*

Well designation, Name or Number 210420206		
Date Started: 6-2-21	**Date Completed:** 6-14-21	**Type Rig:** AIR ROTARY
Class Well (Check One): ☐ I ☐ IIA ☐ IIB ☐ IIIA ☐ IIIB ☐ IIIC ☐ IIID ☐ IIIE ☑ IV		
Construction Type (Check One): ☑ New ☐ Existing-Modified: ☐ Well ☐ Pump: Date_____		
Well Depth: 400 ft.	**Total Hole (borehole) Depth:** 400 ft.	**Depth to Bedrock:** 96 ft.
Hole Size (Include reamed zones): 6 inches from 0 to 400 ft.		Inches from to ft.
Height of Casing above Land Surface: ft. inches		

Casing Size (I.D.) and Materials: (below)	**Total Depth of Casing:** ft.	
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
Screen Size & Mesh:		
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
Water Zones: from to ft.	from to ft.	from to ft.
Gravel Pack:		

Size: Type:	from to ft.	Size: Type:	from to ft.
Grout Type: ☐ Bentonite Slurry ☐ Neat Cement ☐ Bentonite pellets/chips ☐ Concrete ☐ Neat Cement (6% bentonite)	from to ft. / from to ft.	**Grouting Method:** ☐ Poured from surface ☐ Poured through tremmie pipe ☐ Pumped from bottom upward	**Type of Seal:** ☐ pitless adapter ☐ sanitary seal
Camera Survey: ☐ Yes ☐ No		**Date Conducted:**	
Additional Well Construction Form Information Attached: ☐ Yes ☐ No			

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # 21042026
VDH PWSID # _____

Well designation, Name or Number: _____

5. Disinfection

Well Disinfected: ☐ Yes ☐ No	**Date:**

6. Abandonment (*When abandoning the well, Sections 1 thru 4 must be completed and/or attach original GW-2)

Date Started:	**Date Completed:**
Static Water Level (unpumped level measured):	ft.
Casing Size (I.D.) and Materials:	**Casing Pulled:** ☐ Yes ☐ No ☐ Uncased Well
Depth of Fill:	**Type and Source of Fill:**
Grout: From 400' **to** 0 **Type:** Retonite Slurry	**From** **to** **Type:**
Method of permanently marking location:	

7. Pump Test**

Static Water Level (unpumped level measured): ft.	
Date:	**Method (Check One):** ☐ Water Tape ☐ Airline ☐ Transducer ☐ Other
Stabilized measured pumping water level: ft.	
Date:	**Method (Check One):** ☐ Top of Well ☐ Top of Casing ☐ Surface Level
Test Pump Intake Depth: ft	**Stabilized Yield:** gpm after hours
Natural Flow: ☐ Yes ☐ No	Flow Rate gpm
Estimated Well Yield: gpm	

8. Pump Data**

Type: ☐ submersible ☐ Turbine ☐ Shallow Jet ☐ Deep Jet ☐ Other: _____	**Motor HP:**
Production Pump Intake Depth: ft	**Rated Capacity:** gpm at ft TDH

9. Geologic Information

Type Logs:	**Aquifer Test Performed:**
Water Quality Results Attached: Yes No	

Comments: 4 - 400FT. CLASS IV GEO-THERMAL WELLS GROUTED FROM 400FT. TO GROUND SURFACE

Formation _____ Lithology _____ Province _____ Geologic Map Used _____

Elevation _____

For Office Use

Form GW-2
Revised 8/19/2016

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # ________
USGS Local # ________
VDH HDIN # 2104200206
VDH PWSID # ________

*Indicates required field or section
**Indicates required field or section, if applicable

10. Driller's Log (Use additional sheets if necessary)*

Well designation, Name or Number:

Depth (feet)		Type of Rock or Soil	Remarks	Drilling Time (Min.)	Diagram of Well Construction (with dimensions)
From	To	(Color, material, fossils, hardness, etc.)	(Water, caving, cavities, etc.)		
0'	96'	OVERBURDEN			0 TO 400 FT. 1 1/4" HDPE GEO-THERMAL LOOP 6" Hole 0 TO 400 FT.
96'	400'	GREY GRANITE			

11. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Signature*: [signature] Date: 6-14-21

License Number: 2719000310

Form GW-2
Revised 8/19/2016

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # ________
USGS Local # ________
VDH HDIN # 21042026
VDH PWSID # ________

*Indicates required field or section
**Indicates required field or section, if applicable

Additional Well Construction Data

(Use and submit only if additional space is needed)

12. Additional Well Construction Data

Well designation, Name or Number:			
Physical Location:		**Date Started:**	**Date Completed:**

Hole Size (Include reamed zones):

inches from to ft.	inches from to ft.	inches from to ft.
inches from to ft.	inches from to ft.	inches from to ft.
inches from to ft.	inches from to ft.	inches from to ft.

Casing Size (I.D.) and Materials:

inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.

Screen Size & Mesh:

inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type

Water Zones:

From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.

Gravel Pack:

Size: Type:	From to ft.	Size: Type:	From to ft.
Size Type:	From to ft.	Size: Type:	From to ft.
Size: Type:	From to ft.	Size: Type:	From to ft.

Grout Type:	from to ft.	**Grouting Method:**
☐ Bentonite Slurry ☐ Neat Cement	from to ft.	☐ Poured from surface
☐ Bentonite pellets/chips ☐ Concrete	from to ft.	☐ Poured through tremmie pipe
☐ Neat Cement (6% bentonite)		☐ Pumped from bottom upward

ONSITE SEWAGE DISPOSAL SYSTEM AND/OR WELL CONSTRUCTION PERMIT APPLICATION

Commonwealth of Virginia
Scott W. Miller
2719000339
Onsite Sewage System Professional

Property Address: 222 Donmore Drive

Property City and Zip Code: Great Falls V A 22066

Tax Map Number: 0022 02 0044A | **Residential** ☑ **Commercial** ☐

Is this a private sector OSE/PE submission? Yes ☐ No ☑ If yes, is the OSE/PE package with cover sheet attached? Yes ☐ No ☐

Is this application submitted under 163.6? Yes ☐ No ☐

Does this property serve as your (owner) principal place of residence? Yes ☐ No ☑ Multiple sites? ☐ Yes ☑ No

PERMIT OR SERVICE REQUESTED

☐ Individual Drinking Water Supply	☐ Certification Letter	☐ Pump and Haul
☐ Irrigation Well	☐ Construction Permit	☐ Voluntary Upgrade
☐ Well Abandonment	☐ Repair of Existing System	☐ Minor Modification
☑ Geothermal Well	☐ Subdivision	☐ Courtesy Inspection
☐ Well Repair	☐ Convert Existing Well	

Number of Bedrooms:

Basement Plumbing Fixtures? Yes ☑ No ☐

Is this a Replacement Well? Yes ☐ No ☑

Foundation Chemically Treated? Yes ☑ No ☐

WATER SUPPLY
Is the water supply: Public ☐ Private ☑

SEWAGE DISPOSAL
Is the sewage disposal: Public ☑ Private ☐

APPLICANT

Name: Northern Virginia Drilling Inc

Phone: Office 703-361-6859 Cell 703-203-4607

Email: neil.self@nvdinc.com

Mailing Address: 11356 Industrial Road
Manassas VA 20109

PROPERTY OWNER

Name: John Rhodes

Phone: 703-341-9489

Email: johnrrhodes10@gmail.com

Mailing Address: 74 S Player Crest Circle
Spring TX 77382

IF COMMERCIAL PROPERTY | Estimated Daily Water Usage (GPD): | GPD calculations submitted: Yes ☐ No ☐

SUMMARY OF PROPOSED WORK Drill 5 Geothermal well 400 ft each Close loop Groute from bottom to Top

I give permission to Fairfax County Health Department to enter onto the property during normal business hours for the purpose of processing this application and to perform quality assurance checks of evaluations and designs until an operation permit is approved.

Signature _____ **Print Name** Scott Miller

Date 02/09/2021 **Property Owner** ☐ **Agent** ☑

For Department Use Only

Approved by EH Remarks Approved Approval Date 2-12-21

Certification Approval Date _____ HSEPTIC _____ HWELL 2104202206 Project # _____

Date Lot Approved _____ Type System _____ # of Bedrooms _____ GPD _____

Perc Rate _____ Depth _____ Septic Tank Gallons _____ Active Lin.Ft. _____ Reserve Lin.Ft. _____

Building Permit Number _____ Fee Amount _____ Receipt Number _____

PAID FEB 11 2021
$ 506
931683 DM

REQUIRED DOCUMENTATION

The required documentation for each application type is listed below. Please provide all documentation and fees at the time the application is submitted. Please initial that pertinent documentation has been provided. Thank you.

Certification Letter

Applicant Initials

1. Site and Soil Evaluation Report — SM
2. Surveyed property plat (3 copies) - to include:
   a. Metes and Bounds of property
   b. Soil profile hole locations, perc or K-Sat hole locations
   c. Proposed well location and well specifications (when a private well is proposed)
   d. Within 200 feet of the absorption area the following must be shown: existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings
   e. Information on proposed treatment level, proposed trench bottom area and proposed sewage volume and flow
   f. Proposed perimeter of soil absorption area, including reserve area if required
   g. All recorded easements
3. Perc or K-Sat results or Perc Waiver Request
4. If permeability limiting feature is less than 18" from ground surface, the following must be provided:
   a. Verification that the site is not flooded during the wet season — SM
   b. Demonstration that there is sufficient hydraulic gradient to move the applied effluent off the site
   c. Water mounding calculations
5. Fee provided
   a. Sewage Disposal System with flow of 1000 GPD or less
      $310.00 VDH cert letter fee
      $10.00 VDH indemnification fee
      $200.00 County SDS application fee
      Total $520.00 per site**
   b. Sewage Disposal System with flow greater than 1000 GPD
      $1390.00 VDH cert letter fee
      $10.00 VDH indemnification fee
      $200.00 County SDS application fee
      Total $1600.00 per site**

Repair of Existing System

Applicant Initials

1. Completed Malfunction Assessment Form — ☒ Check box if **not** applicable
2. Site and Soil Evaluation Report — ☒ Check box if **not** applicable
3. Surveyed Property Plat (3 copies) - to include: — ☐ Check box if **not** applicable — SM
   a. Metes and Bounds of property
   b. Soil profile hole locations, perc or K-Sat hole locations — ☒ Check box if **not** applicable
   c. Well location when a private well exists
   d. Complete construction drawing/design of proposed sewage system (including all elevations)
   e. Within 200 feet of the absorption zone or treatment unit the following must be shown: existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings
4. Perc or K-Sat results or Perc Waiver Request — ☒ Check box if **not** applicable
5. Alternative system design/hydraulic plans — ☒ Check box if **not** applicable
6. Water mounding calculations if distance to restriction is less than 18"
7. Pump plans (3 sets) — ☒ Check box if **not** applicable

REQUIRED DOCUMENTATION

Construction Permit

Applicant Initials

Is this a revised design package? Yes ☐ No ☒ If yes, only provide complete documentation of all changes. SM

1. Site and Soil Evaluation Report

2. If Site Grading Plan is required, provide 1 approved or proposed copy. If submitting with a proposed copy of the Site Grading Plan, the submission will be held for up to 15 days pending approval of the Site Grading Plan. SM

3. If Site Grading Plan is **not** required, 3 copies of a surveyed property plat must be provided, all to include: SM

   a. Metes and Bounds of property

   b. Soil profile hole locations, perc or K-Sat hole locations ☑ Check box if **not** applicable

   c. Proposed well location and well specifications (when a private well is proposed)

   d. Complete construction drawing/design of proposed sewage system (including all elevations)

4. Within 200 feet of the absorption zone or treatment unit the following must be shown:

   existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings

5. Perc or K-Sat results or Perc Waiver Request

6. Alternative system design/hydraulic plans ☒ Check box if **not** applicable

7. If permeability limiting feature is less than 18" from ground surface, the following must be provided:

   a. Verification that the site is not flooded during the wet season

   b. Demonstration that there is sufficient hydraulic gradient to move the applied effluent off the site

   c. Water mounding calculations

8. Pump plans (3 sets) if applicable

9. Is the proposed sewage disposal system an alternative design? Yes ☐ No ☐

10. Fee provided

    a. **If application is within 18 months of receiving a certification letter, no fee is required.**

    b. If applying under 9a., provide certification letter.

    c. Sewage Disposal System with flow of 1000 GPD or less
    $215.00 VDH Construction Permit fee
    $10.00 VDH indemnification fee
    $200.00 County SDS application fee **Total** $425.00**

    If #8 is "yes"
    $200.00 County alternative SDS review fee
    Total $625.00 per site**

    d. Sewage Disposal System with flow greater than 1000 GPD
    $1390.00 VDH Construction Permit fee
    $10.00 VDH indemnification fee
    $200.00 County SDS application fee **Total** $1600.00**

    If #8 is "yes"
    $200.00 County alternative SDS review fee
    Total $1800.00 per site**

Minor Modification

A minor modification may include, but is not limited to, relocation of sewer line, force main, conveyance line, etc. to meet set back to proposed construction such as an addition or pool; tie in new sewer line for proposed addition (e.g. pool house) to be connected to existing sewer line; relocation of septic tank and/or pump chamber. The following must be provided when a minor modification will be made:

1. Surveyed Property Plat (3 copies) - to include:
   i. Metes and Bounds of property
   ii. Well location when a private well exists
2. Architectural Plans, if applicable
3. Pump Plans (3 sets if applicable)
4. Fairfax County Building Permit Application
5. Fee provided
   a. VDH minor modification fee **$100.00**
   b. If associated with a building permit review - add **$85.00**

REQUIRED DOCUMENTATION

Individual Drinking Water Well		Geothermal Well	✓	Irrigation Well		Convert Existing Well	

Applicant Initials

1. Surveyed property plat (3 copies) to include: _____
   a. Metes and Bounds of property
   b. Proposed well location and well specifications
   c. Sanitary survey showing any obvious source of toxic or dangerous substances within 200ft of the proposed private well
   d. All recorded easements
2. Fee provided - **$500.00** If this is a **replacement well at the applicant's primary residence**, no fee is required _____

Well Abandonment

Applicant Initials

1. Completed 1st page of this application _____
2. **IF NOT** primary residence, add **$500.00** fee _____

Well Repair

Applicant Initials

Completed 1st page of this application with detailed summary of proposed work _____

Pump and Haul

Applicant Initials

1. Copy of contract with a licensed Sewage Handling Contractor _____
2. Copy of Pump and Haul application _____
3. Detailed construction schedule for completion of permanent disposal site _____
4. Proof of Bonding _____
5. Completed Malfunction Assessment Form (if application is due to malfunctioning system) _____
6. Plans, specifications, fees and other data as required by the Health Department _____

Voluntary Upgrade

Applicant Initials

1. Completed 1st page of this application _____
2. **Call 703-246-2201 to schedule a consultation**

Courtesy Inspection

Applicant Initials

1. Site and Soil Evaluation Report _____
2. Describe the site or soil feature you have identified as marginal or questionable: _____
3. What is the question to be discussed? _____

CERTIFICATION STATEMENT

I hereby certify that the evaluations and/or designs contained herein were conducted in accordance with the *applicable provisions of* the Fairfax Code, Chapter 68.1: the Individual Sewage Disposal Facilities Code, Fairfax Code, Chapter 70.1: Private Well Water Ordinance, the Sewage Handling and Disposal Regulations (12 VAC54-610), the Private Well Regulations (12 VAC5-630), the Regulations for Alternative Onsite Sewage Systems (12 VAC5-613) and all other applicable laws, regulations and policies implemented by the Virginia Department of Health. I further certify that I currently possess any professinoal license required by the laws and regulations of the Commonwealth that have been duly issued by the applicable agency charged with licensure to perform the work contained herein.

☑ The work attached to this cover page has been conducted under an exemption to the practice of engineering, specifically the exemption in Code of Virginia Section 54.1-402.A.11

WWSP/OSE/PE Signature _____ License# 2719000339 Date 02/09/2021

Print name Scott Miller

GEOTHERMAL

Form GW-2
Revised 8/19/2016
Page 1 of 4

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

RECEIVED
JAN 11 2022
By JEB

DEQ Well # _____
USGS Local # _____
VDH HDN # 210420206
VDH PWSID # _____

*Indicates required field or section
**Indicates required field or section, if applicable

1. Contact Information*

Contact:	Name	Address	Phone
Owner	JOHN RHODES TR	745 PLAYER CREST CIR SPRING TX	703-220-6269
Driller	NO. VA. DRILLING INC.	11356 INDUSTRIAL RD. MANASSAS VA	703-361-6859
System Provider	2719000310	11356 INDUSTRIAL RD. MANASSAS VA	703-361-6859

2. Well Location*

Physical Address: 222 DONMORE DR GREAT FALLS V.A.		**County/City:** FAIRFAX CO.	
Subdivision Name: SENECA FARMS	**Section:** 3	**Block:**	**Lot:** 44A
Tax Map/GPIN #: 22-02-0044A			
Latitude: N		**Longitude:** W	
Datum Source	**Horizontal:** ☐ WGS84 ☐ NAD83 ☐ NAD27		
Lat/Long Source (Check One): ☐ Map ☐ GPS ☐ PPDGPS ☐ Survey ☐ Imagery ☐ WAAS			
Location Information Collected By: 2719000310			
Physical Location Description: FRONT OF HOUSE NEAR FRONT STOOP			

3. Facility & Use*

Type of Facility (Check One):	Type of Use (Check All That Apply):		
☑ Private	☐ Drinking/Domestic Use	☐ Agricultural	☐ Food Processing
☐ Waterworks	☐ Manufacturing	☐ Irrigation	☐ Injection
☐ Observation/Monitoring Well	☑ Geothermal (Cooling/Heating)	☐ Fire Safety	
	☐ Closed		
	☐ Open: ☐ Returned to Surface		
	☐ Returned to Aquifer		

4. Well Construction*

Well designation, Name or Number 210420206					
Date Started: 6-2-21	**Date Completed:** 6-14-21	**Type Rig:** AIR ROTARY			
Class Well (Check One): ☐ I ☐ IIA ☐ IIB ☐ IIIA ☐ IIIB ☐ IIIC ☐ IIID ☐ IIIE ☑ IV					
Construction Type (Check One): ☑ New ☐ Existing-Modified: ☐ Well ☐ Pump: Date					
Well Depth: 400 ft.	**Total Hole (borehole) Depth:** 400 ft.		**Depth to Bedrock:** 96 ft.		
Hole Size (Include reamed zones): 6 inches from 0 to 400 ft.			Inches from to ft.		
Height of Casing above Land Surface: ft. inches					
Casing Size (I.D.) and Materials: (below)		**Total Depth of Casing:** ft.			
inches from to ft. ☐ infilled		Material	Weight per ft.	or wall thickness	in.
inches from to ft. ☐ infilled		Material	Weight per ft.	or wall thickness	in.
inches from to ft. ☐ infilled		Material	Weight per ft.	or wall thickness	in.
Screen Size & Mesh:					
inches from to ft. ☐ infilled		Mesh Size	Type		
inches from to ft. ☐ infilled		Mesh Size	Type		
inches from to ft. ☐ infilled		Mesh Size	Type		
Water Zones: from to ft.		from to ft.	from to ft.		
Gravel Pack:					
Size: Type:	from to ft.		Size: Type:	from to ft.	
Grout Type: ☐ Bentonite Slurry ☐ Neat Cement ☐ Bentonite pellets/chips ☐ Concrete ☐ Neat Cement (6% bentonite)	from to ft.	**Grouting Method:** ☐ Poured from surface ☐ Poured through tremmie pipe ☐ Pumped from bottom upward	**Type of Seal:** ☐ pitless adapter ☐ sanitary seal		
	from to ft.				
Camera Survey: ☐ Yes ☐ No			**Date Conducted:**		
Additional Well Construction Form Information Attached: ☐ Yes ☐ No					

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # 210420206
VDH PWSID # _____

Well designation, Name or Number: _____

5. Disinfection

Well Disinfected: ☐ Yes ☐ No	**Date:**

6. Abandonment (*When abandoning the well, Sections 1 thru 4 must be completed and/or attach original GW-2)

Date Started:	**Date Completed:**
Static Water Level (unpumped level measured): ft.	
Casing Size (I.D.) and Materials:	**Casing Pulled:** ☐ Yes ☐ No ☐ Uncased Well
Depth of Fill:	**Type and Source of Fill:**
Grout: From 400' **to** 0 **Type:** Bentonite Slurry **From** **to** **Type:**	
Method of permanently marking location:	

7. Pump Test**

Static Water Level (unpumped level measured): ft.				
Date:	**Method (Check One):** ☐ Water Tape	☐ Airline	☐ Transducer	☐ Other
Stabilized measured pumping water level: ft.				
Date:	**Method (Check One):** ☐ Top of Well	☐ Top of Casing	☐ Surface Level	
Test Pump Intake Depth: ft	**Stabilized Yield:** gpm after hours			
Natural Flow: ☐ Yes ☐ No	Flow Rate gpm			
Estimated Well Yield: gpm				

8. Pump Data**

Type: ☐ submersible ☐ Turbine ☐ Shallow Jet ☐ Deep Jet ☐ Other: _____	**Motor HP:**
Production Pump Intake Depth: ft	**Rated Capacity:** gpm at ft TDH

9. Geologic Information

Type Logs:	**Aquifer Test Performed:**
Water Quality Results Attached: Yes No	

Comments: 4-400FT CLASS IV GEO-THERMAL WELLS GROUTED FROM 400FT. TO GROUND SURFACE

Formation _____ Lithology _____ Province _____ Geologic Map Used _____

Elevation _____

For Office Use

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Revised 8/19/2016
Page 3 of 4

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # 21042026
VDH PWSID # _____

*Indicates required field or section
**Indicates required field or section, if applicable

10. Driller's Log (Use additional sheets if necessary)*

Well designation, Name or Number:					
Depth (feet)		Type of Rock or Soil	Remarks	Drilling Time (Min.)	Diagram of Well Construction (with dimensions)
From	To	(Color, material, fossils, hardness, etc.)	(Water, caving, cavities, etc.)		
0	96'	OVERBURDEN			6" Hole 0 TO 400 FT. 1 1/4" HDPE GEO-THERMAL LOOP 0 TO 400 FT.
96'	400'	GREY GRANITE			

11. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Signature*: _____ Date: 6-14-21

License Number: 2719000310

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # ________
USGS Local # ________
VDH HDIN # 2104202026
VDH PWSID # ________

*Indicates required field or section
**Indicates required field or section, if applicable

Additional Well Construction Data

(Use and submit only if additional space is needed)

12. Additional Well Construction Data

Well designation, Name or Number:

Physical Location: **Date Started:** **Date Completed:**

Hole Size (Include reamed zones):

inches from to ft.	inches from to ft.	inches from to ft.
inches from to ft.	inches from to ft.	inches from to ft.
inches from to ft.	inches from to ft.	inches from to ft.

Casing Size (I.D.) and Materials:

inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.

Screen Size & Mesh:

inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type

Water Zones:

From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.

Gravel Pack:

Size: Type:	From to ft.	Size: Type:	From to ft.
Size Type:	From to ft.	Size: Type:	From to ft.
Size: Type:	From to ft.	Size: Type:	From to ft.

Grout Type: ☐ Bentonite Slurry ☐ Neat Cement ☐ Bentonite pellets/chips ☐ Concrete ☐ Neat Cement (6% bentonite)	from to ft. from to ft. from to ft.	**Grouting Method:** ☐ Poured from surface ☐ Poured through tremmie pipe ☐ Pumped from bottom upward

DECEIVED
JAN 1 0 2022
By [signature]

Form GW-2
Revised 8/19/2016
Page 1 of 4

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # ______
~~USGS Local #~~
VDH HDIN # 200860270
VDH PWSID # ______

*Indicates required field or section
**Indicates required field or section, if applicable

1. Contact Information*

Contact:	Name	Address	Phone
Owner	John Rhodes	745 Player Crest Cir Spring TX	540-222-0581
Driller	No. VA. Drilling Inc.	11356 Industrial Rd. Manassas VA.	703-361-6859
System Provider	2719000310	11356 Industrial Rd. Manassas VA.	703-361-6859

2. Well Location*

Physical Address: 222 Dunmore Dr. Great Falls VA.		**County/City:** Fairfax Co.	
Subdivision Name:	**Section:**	**Block:**	**Lot:**
Tax Map/GPIN #: 22 02 0044 A			
Latitude: N		**Longitude:** W	
Datum Source	**Horizontal:** ☐ WGS84 ☐ NAD83 ☐ NAD27		
Lat/Long Source (Check One): ☐ Map ☐ GPS ☐ PPDGPS ☐ Survey ☐ Imagery ☐ WAAS			
Location Information Collected By: 2719000310			
Physical Location Description: Front of Prop Centre Grade			

3. Facility & Use*

Type of Facility (Check One):	Type of Use (Check All That Apply):		
☑ Private	☑ Drinking/Domestic Use	☐ Agricultural	☐ Food Processing
☐ Waterworks	☐ Manufacturing	☐ Irrigation	☐ Injection
☐ Observation/Monitoring Well	☐ Geothermal (Cooling/Heating) ☐ Closed ☐ Open: ☐ Returned to Surface ☐ Returned to Aquifer	☐ Fire Safety	

4. Well Construction*

Well designation, Name or Number: 200860270			
Date Started: 7-8-20	**Date Completed:** 7-9-20	**Type Rig:** Air Rotary	
Class Well (Check One): ☐ I ☐ IIA ☐ IIB ☐ IIIA ☑ IIIB ☐ IIIC ☐ IIID ☐ IIIE ☐ IV			
Construction Type (Check One): ☑ New ☐ Existing-Modified: ☐ Well ☐ Pump: Date______			
Well Depth: 560 ft.	**Total Hole (borehole) Depth:** 560 ft.	**Depth to Bedrock:** 28 ft.	
Hole Size (Include reamed zones): 10 inches from 0 to 82 ft.		6 Inches from 82' to 560 ft.	
Height of Casing above Land Surface: 2 ft. 0 inches			
Casing Size (I.D.) and Materials: (below)	**Total Depth of Casing:** 82 ft.		
6 7/8 inches from +2' to 82 ft. ☐ infilled	Material Steel	Weight per ft. 13 or wall thickness .188 in.	
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.	
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.	
Screen Size & Mesh:			
inches from to ft. ☐ infilled	Mesh Size	Type	
inches from to ft. ☐ infilled	Mesh Size	Type	
inches from to ft. ☐ infilled	Mesh Size	Type	
Water Zones: from 535 to 537 ft.	from to ft.	from to ft.	
Gravel Pack:			
Size: Type:	from to ft.	Size: Type:	from to ft.
Grout Type: ☐ Bentonite Slurry ☑ Neat Cement ☐ Bentonite pellets/chips ☐ Concrete ☐ Neat Cement (6% bentonite)	from 55' to 0 ft. / from to ft.	**Grouting Method:** ☐ Poured from surface ☐ Poured through tremmie pipe ☑ Pumped from bottom upward	**Type of Seal:** ☑ pitless adapter ☐ sanitary seal
Camera Survey: ☐ Yes ☐ No		**Date Conducted:**	
Additional Well Construction Form Information Attached: ☐ Yes ☑ No			

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # _____
USGS Local # _____
VDH HDIN # 20860270
VDH PWSID # _____

Well designation, Name or Number*: _____

5. Disinfection

Well Disinfected: ☑ Yes ☐ No	**Date:** 3-18-21

6. Abandonment (*When abandoning the well, Sections 1 thru 4 must be completed and/or attach original GW-2)

Date Started:	**Date Completed:**
Static Water Level (unpumped level measured):	ft.
Casing Size (I.D.) and Materials:	**Casing Pulled:** ☐ Yes ☐ No ☐ Uncased Well
Depth of Fill:	**Type and Source of Fill:**
Grout: From to Type:	**From to Type:**
Method of permanently marking location:	

7. Pump Test**

Static Water Level (unpumped level measured): 60 ft.	
Date:	**Method (Check One):** ☐ Water Tape ☐ Airline ☐ Transducer ☐ Other
Stabilized measured pumping water level:	ft.
Date:	**Method (Check One):** ☐ Top of Well ☐ Top of Casing ☐ Surface Level
Test Pump Intake Depth: 560 ft	**Stabilized Yield:** 20 gpm after 1 hours
Natural Flow: ☐ Yes ☑ No	Flow Rate gpm
Estimated Well Yield: gpm	

8. Pump Data**

Type: ☑ submersible ☐ Turbine ☐ Shallow Jet ☐ Deep Jet ☐ Other: _____	**Motor HP:** 3
Production Pump Intake Depth: 500' ft	**Rated Capacity:** 19.2 gpm at 350' ft TDH

9. Geologic Information

Type Logs:	**Aquifer Test Performed:**
Water Quality Results Attached: Yes No	

Comments:

Formation _____ Lithology _____ Province _____ Geologic Map Used _____

Elevation _____

For Office Use

Form GW-2
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COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # ________
USGS Local # ________
VDH HDIN # 200860270
VDH PWSID # ________

*Indicates required field or section
**Indicates required field or section, if applicable

10. Driller's Log (Use additional sheets if necessary)*

Well designation, Name or Number:

Depth (feet)		Type of Rock or Soil	Remarks	Drilling Time (Min.)	Diagram of Well Construction (with dimensions)
From	To	(Color, material, fossils, hardness, etc.)	(Water, caving, cavities, etc.)		
0	28'	Overburden	Installed extra casing to prevent well wall cave in		6 5/8" O.D. Casing +2' to 82'; 10" Hole 0 to 82'; 6" Hole 82' to 560'
28'	35'	Sandstone			
35'	73'	Grey Granite			
73'	78'	Void			
78'	420'	Grey Granite			
420'	495'	Blue Granite			
495'	560'	Grey Granite			

11. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Signature*: [signature] Date: 7-9-20

License Number: 2710020310

COMMONWEALTH OF VIRGINIA
UNIFORM WATER WELL COMPLETION REPORT

DEQ Well # ________
USGS Local # ________
VDH HDIN # 200822270
VDH PWSID # ________

*Indicates required field or section
**Indicates required field or section, if applicable

Additional Well Construction Data

(Use and submit only if additional space is needed)

12. Additional Well Construction Data

Well designation, Name or Number:		
Physical Location:	**Date Started:**	**Date Completed:**

Hole Size (Include reamed zones):

inches from to ft.	inches from to ft.	inches from to ft.
inches from to ft.	inches from to ft.	inches from to ft.
inches from to ft.	inches from to ft.	inches from to ft.

Casing Size (I.D.) and Materials:

inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.
inches from to ft. ☐ infilled	Material	Weight per ft. or wall thickness in.

Screen Size & Mesh:

inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type
inches from to ft. ☐ infilled	Mesh Size	Type

Water Zones:

From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.
From to ft.	From to ft.	From to ft.	From to ft.

Gravel Pack:

Size: Type:	From to ft.	Size: Type:	From to ft.
Size Type:	From to ft.	Size: Type:	From to ft.
Size: Type:	From to ft.	Size: Type:	From to ft.

Grout Type:		**Grouting Method:**
☐ Bentonite Slurry ☐ Neat Cement	from to ft.	☐ Poured from surface
☐ Bentonite pellets/chips ☐ Concrete	from to ft.	☐ Poured through tremmie pipe
☐ Neat Cement (6% bentonite)	from to ft.	☐ Pumped from bottom upward

APPROVED
[illegible] COUNTY HEALTH DEPARTMENT
6-22-20
Date
Health Official

WELL Only OSE/PE/WWSP Report For:

[X] Well Construction Permit [ ] Well Repair Permit [ ] Well Abandonment Permit [ ] Well Modification Permit

Property Location:

911 Address: 222 DONMORE DRIVE City: GREAT FALLS 22066
Lot: 44A Section: 3 Subdivision:
GPIN or Tax Map #: 0022-02-0044A Health Department ID #:
Latitude: Longitude:

Applicant or Client Mailing Address

Name: NORTHERN VIRGINIA DRILLING INC.
Address: 11356 Industrial Road
City: MANASSAS State: VA Zip Code: 20109

Prepared by: OSE [ ] PE [ ] WWSP [X]

Name: SCOTT MILLER License #: 2719000339
Address: 11356 Industrial Road
City: MANASSAS State: VA Zip Code: 20109

Date of Submission: Date Revision 1:
OSE/PE/WWSP Job ID: Date Revision 2:

List of attachments (e.g., Private Well Worksheet, Construction Drawings, Abandonment Worksheet, etc.)

Commonwealth of Virginia
Scott W. Miller
2719000339
Master Water Well Systems Provider

Certification Statement

I hereby certify that the evaluations and/or designs as submitted comply with the applicable provisions of the Private Well Regulations (12 VAC5-630-10 *et seq.*) and all other applicable laws and regulations enforced by the Virginia Department of Health. I further certify that I currently possess the professional license required to perform work evidenced by the application by the laws of the Commonwealth as promulgated by the supervising agency.

I recommend that a (select one): Construction permit [X] Repair permit [ ] be (select one) Issued [ ]
Modification permit [ ] Abandonment permit [ ] Denied [ ]

OSE/PE/WWSP Signature: Date: JUNE 17 2020

This form contains personal information subject to disclosure per the Virginia Freedom of Information Act

Well Specifications

VDH Use Only
HDIN:

Applicant Information

Name: NORTHERN VA DRILLING INC Address: 11356 INDUSTRIAL RD
Phone: OFFICE 703-361-6859 CELL 703 203-4607 MANASSAS VA

Location Information

Tax Map/GPIN #: 0022 02 0044A Property Address: 222 DONMORE DRIVE GREAT FALLS 22066
Subdivision: SENECA FARM Section: 3 Block: ____ Lot: 44A
Directions: SEE ATTACHMENT

General Information

Well Purpose (select all that apply): ☒ Domestic Drinking Water ☐ Agricultural
☐ Irrigation ☐ Industrial/Commercial ☐ Geothermal

Well Class: 3-B Minimum Casing Depth: 55 ft.
Estimated Water Usage: _____ Minimum Grout Depth: 55 ft.

Horizontal Setbacks

Distance from Building Sewer: 156 ft. Distance from Pretreatment Unit(s): 304 ft.
Distance from Conveyance System: 215 ft. Distance from Absorption Area: 153 ft.
Distance from Property Line: 94 ft. Distance from foundations: 304 ft.
Distance from other source(s) of contamination: 200 ft.
List other source(s): _____

Note: NEW HOUSE NEEDS WELL

Commonwealth of Virginia
Scott W. Miller
2719000339
Master Water Well Systems Provider

Construction Drawings - Well Only

Property ID: 6022 02 0044A

SEE ATTACHMENT

Commonwealth of Virginia
Scott W. Miller
2719000339
Master Water Well Systems Provider

Schematic drawing of private well and topographic features. Show the lot lines of the building lot and building site, sketch of property showing any topographic features which may impact on the design of the well, all existing and/or proposed structures including sewage disposal systems and wells (actual and permitted) within 200 feet of the well area. The scale drawing of all sewage disposal systems shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc.

ONSITE SEWAGE DISPOSAL SYSTEM AND/OR WELL CONSTRUCTION PERMIT APPLICATION

Commonwealth of Virginia
Scott W. Miller
2719000339
Master Water Well Systems Provider

Property Address: 222 DONMORE DRIVE

Property City and Zip Code: GREAT FALLS 22066

Tax Map Number: 0022 02 0044A

Residential ☑ **Commercial** ☐

Is this a private sector OSE/PE submission? Yes ☐ No ☑ If yes, is the OSE/PE package with cover sheet attached? Yes ☐ No ☐

Is this application submitted under 163.6? Yes ☐ No ☐

Does this property serve as your (owner) principal place of residence? Yes ☑ No ☐ Multiple sites? ☐ Yes ☑ No

PERMIT OR SERVICE REQUESTED

☑ Individual Drinking Water Supply	☐ Certification Letter	☐ Pump and Haul
☐ Irrigation Well	☐ Construction Permit	☐ Voluntary Upgrade
☐ Well Abandonment	☐ Repair of Existing System	☐ Minor Modification
☐ Geothermal Well	☐ Subdivision	☐ Courtesy Inspection
☐ Well Repair	☐ Convert Existing Well	

Number of Bedrooms: 4

Basement Plumbing Fixtures? Yes ☐ No ☒

Is this a Replacement Well? Yes ☐ No ☒

Foundation Chemically Treated? Yes ☒ No ☐

WATER SUPPLY

Is the water supply: Public ☐ Private ☑

SEWAGE DISPOSAL

Is the sewage disposal: Public ☐ Private ☑

APPLICANT

Name: Northern Virginia Drilling Inc	**Mailing Address:** 11356 Industrial Road
Phone: Office 703-361-6859 Cell 703-203-4607	Manassas VA 20109
Email: neil.self@nvdinc.com	

PROPERTY OWNER

Name: JOHN RHODES	**Mailing Address:** 745 PLAYER CREST CIRCLE
Phone: 832-625-8382	SPRING TX 77382
Email: JOHNRRHODES10@GMAIL.COM	

IF COMMERCIAL PROPERTY | Estimated Daily Water Usage (GPD): | GPD calculations submitted: Yes ☐ No ☐

SUMMARY OF PROPOSED WORK | Drill new well and grout It

I give permission to Fairfax County Health Department to enter onto the property during normal business hours for the purpose of processing this application and to perform quality assurance checks of evaluations and designs until an operation permit is approved.

Signature _____ **Print Name** SCOTT MILLER

Date JUNE 17, 2020 **Property Owner** ☐ **Agent** ☑

For Department Use Only

Approved by PS Remarks _____ Approval Date 6-22-20

Certification Approval Date _____ HSEPTIC _____ HWELL 2008602770 Project # _____

Date Lot Approved _____ Type System _____ # of Bedrooms _____ GPD _____

Perc Rate _____ Depth _____ Septic Tank Gallons _____ Active Lin.Ft. _____ Reserve Lin.Ft. _____

Building Permit Number _____ Fee Amount _____ Receipt Number _____

REQUIRED DOCUMENTATION

The required documentation for each application type is listed below. Please provide all documentation and fees at the time the application is submitted. Please initial that pertinent documentation has been provided. Thank you.

Certification Letter

Applicant Initials

1. Site and Soil Evaluation Report _____
2. Surveyed property plat (3 copies) - to include: SM
   a. Metes and Bounds of property
   b. Soil profile hole locations, perc or K-Sat hole locations
   c. Proposed well location and well specifications (when a private well is proposed)
   d. Within 200 feet of the absorption area the following must be shown: existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings
   e. Information on proposed treatment level, proposed trench bottom area and proposed sewage volume and flow
   f. Proposed perimeter of soil absorption area, including reserve area if required
   g. All recorded easements
3. Perc or K-Sat results or Perc Waiver Request _____
4. If permeability limiting feature is less than 18" from ground surface, the following must be provided:
   a. Verification that the site is not flooded during the wet season _____
   b. Demonstration that there is sufficient hydraulic gradient to move the applied effluent off the site _____
   c. Water mounding calculations _____
5. Fee provided
   a. Sewage Disposal System with flow of 1000 GPD or less
      $310.00 VDH cert letter fee
      $10.00 VDH indemnification fee
      $200.00 County SDS application fee
      Total $520.00 per site** _____
   b. Sewage Disposal System with flow greater than 1000 GPD
      $1390.00 VDH cert letter fee
      $10.00 VDH indemnification fee
      $200.00 County SDS application fee
      Total $1600.00 per site** _____

Repair of Existing System

Applicant Initials

1. Completed Malfunction Assessment Form ☐ Check box if **not** applicable _____
2. Site and Soil Evaluation Report ☐ Check box if **not** applicable _____
3. Surveyed Property Plat (3 copies) - to include: ☐ Check box if **not** applicable _____
   a. Metes and Bounds of property
   b. Soil profile hole locations, perc or K-Sat hole locations ☐ Check box if **not** applicable
   c. Well location when a private well exists
   d. Complete construction drawing/design of proposed sewage system (including all elevations)
   e. Within 200 feet of the absorption zone or treatment unit the following must be shown: existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings
4. Perc or K-Sat results or Perc Waiver Request ☐ Check box if **not** applicable _____
5. Alternative system design/hydraulic plans ☐ Check box if **not** applicable _____
6. Water mounding calculations if distance to restriction is less than 18" _____
7. Pump plans (3 sets) ☐ Check box if **not** applicable _____

REQUIRED DOCUMENTATION

Construction Permit

Applicant Initials

Is this a revised design package? Yes ☐ No ☐ If yes, only provide complete documentation of all changes. _____

1. Site and Soil Evaluation Report _____
2. If Site Grading Plan is required, provide 1 approved or proposed copy. If submitting with a proposed copy of the Site Grading Plan, the submission will be held for up to 15 days pending approval of the Site Grading Plan. _____
3. If Site Grading Plan is **not** required, 3 copies of a surveyed property plat must be provided, all to include: _____
   a. Metes and Bounds of property
   b. Soil profile hole locations, perc or K-Sat hole locations ☐ Check box if **not** applicable
   c. Proposed well location and well specifications (when a private well is proposed)
   d. Complete construction drawing/design of proposed sewage system (including all elevations)
4. Within 200 feet of the absorption zone or treatment unit the following must be shown:
   existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings
5. Perc or K-Sat results or Perc Waiver Request _____
6. Alternative system design/hydraulic plans ☐ Check box if **not** applicable _____
7. If permeability limiting feature is less than 18" from ground surface, the following must be provided:
   a. Verification that the site is not flooded during the wet season _____
   b. Demonstration that there is sufficient hydraulic gradient to move the applied effluent off the site _____
   c. Water mounding calculations _____
8. Pump plans (3 sets) if applicable _____
9. Is the proposed sewage disposal system an alternative design? Yes ☐ No ☐ _____
10. Fee provided
    a. **If application is within 18 months of receiving a certification letter, no fee is required.**
    b. If applying under 9a., provide certification letter. _____
    c. Sewage Disposal System with flow of 1000 GPD or less
       $215.00 VDH Construction Permit fee
       $10.00 VDH indemnification fee
       $200.00 County SDS application fee **Total** $425.00** _____
       If #8 is "yes" **$200.00** County alternative SDS review fee
       Total $625.00 per site** _____
    d. Sewage Disposal System with flow greater than 1000 GPD
       $1390.00 VDH Construction Permit fee
       $10.00 VDH indemnification fee
       $200.00 County SDS application fee **Total** $1600.00** _____
       If #8 is "yes" **$200.00** County alternative SDS review fee
       Total $1800.00 per site**

Minor Modification

A minor modification may include, but is not limited to, relocation of sewer line, force main, conveyance line, etc. to meet set back to proposed construction such as an addition or pool; tie in new sewer line for proposed addition (e.g. pool house) to be connected to existing sewer line; relocation of septic tank and/or pump chamber. The following must be provided when a minor modification will be made:

1. Surveyed Property Plat (3 copies) - to include: _____
   i. Metes and Bounds of property
   ii. Well location when a private well exists
2. Architectural Plans, if applicable _____
3. Pump Plans (3 sets if applicable) _____
4. Fairfax County Building Permit Application _____
5. Fee provided _____
   a. VDH minor modification fee **$100.00**
   b. If associated with a building permit review - add **$85.00**

REQUIRED DOCUMENTATION

Individual Drinking Water Well	✓	Geothermal Well		Irrigation Well		Convert Existing Well	

Applicant Initials

1. Surveyed property plat (3 copies) to include: SM
   a. Metes and Bounds of property
   b. Proposed well location and well specifications
   c. Sanitary survey showing any obvious source of toxic or dangerous substances within 200ft of the proposed private well
   d. All recorded easements
2. Fee provided - **$500.00** If this is a **replacement well at the applicant's primary residence**, no fee is required _____

Well Abandonment	Applicant Initials	Well Repair	Applicant Initials
1. Completed 1st page of this application	_____	Completed 1st page of this application with detailed summary of proposed work	_____
2. **IF NOT** primary residence, add **$500.00** fee	_____		

Pump and Haul	Applicant Initials
1. Copy of contract with a licensed Sewage Handling Contractor	_____
2. Copy of Pump and Haul application	_____
3. Detailed construction schedule for completion of permanent disposal site	_____
4. Proof of Bonding	_____
5. Completed Malfunction Assessment Form (if application is due to malfunctioning system)	_____
6. Plans, specifications, fees and other data as required by the Health Department	_____

Voluntary Upgrade	Applicant Initials
1. Completed 1st page of this application	_____
2. **Call 703-246-2201 to schedule a consultation**	

Courtesy Inspection	Applicant Initials
1. Site and Soil Evaluation Report	_____
2. Describe the site or soil feature you have identified as marginal or questionable: _____	
3. What is the question to be discussed? _____	

CERTIFICATION STATEMENT

I hereby certify that the evaluations and/or designs contained herein were conducted in accordance with the *applicable provisions of* the Fairfax Code, Chapter 68.1: the Individual Sewage Disposal Facilities Code, Fairfax Code, Chapter 70.1: Private Well Water Ordinance, the Sewage Handling and Disposal Regulations (12 VAC54-610), the Private Well Regulations (12 VAC5-630), the Regulations for Alternative Onsite Sewage Systems (12 VAC5-613) and all other applicable laws, regulations and policies implemented by the Virginia Department of Health. I further certify that I currently possess any professinoal license required by the laws and regulations of the Commonwealth that have been duly issued by the applicable agency charged with licensure to perform the work contained herein.

☑ The work attached to this cover page has been conducted under an exemption to the practice of engineering, specifically the exemption in Code of Virginia Section 54.1-402.A.11

WWSP/OSE/PE Signature _____ License# 2719000339 Date 6/17/2020

Print name SCOTT MILLER

SOILS INC.

WELL ONLY OSE/PE/WWSP Report For:

☑ Well Construction Permit ☐ Well Repair ☐ Well Abandonment Permit ☐ Well Modification Permit

Property Location:

911 Address *222 Donmore Drive* City, State, Zip: *Great Falls, VA 22066*

Lot: *44A* Section: *3* Subdivision: *Seneca Farms*

GPIN or Tax Map #: *0022-02-0044A* Health Dept. ID #:

Latitude: Longitude:

Plan Was Revised - See New Plan 6-22-20

Owner :

Name: *John and Sheri Rhodes*

Address: *74 South Player Crest Circle* *The Woodlands, TX 77382*

Prepared by:

OSE Name: *Brian H. Phillips* License # *1940001374*

Address: *8399 West Main Street, Marshall, VA 20115*

PE Name: License #

Address:

Date of Report: *3/25/2020* Date of Revision #1:

OSE/PE/WWSP Job # *T1812* Date of Revision #2:

Contents/Index of this report:

1. Cover Sheet

2.Well System Specifications

3. Construction Drawing-Well

APPROVED
FAIRFAX COUNTY HEALTH DEPARTMENT
4.7.20
Date

COMMONWEALTH OF VIRGINIA
BRIAN H. PHILLIPS
Lic. No. 1940001374
3/25/2020
ALTERNATIVE ONSITE SOIL EVALUATOR

Certification Statement

I hereby certify that the evaluations and/or designs contain herein were conducted in accordance with the *applicable provisions of the Private Well Regulations (12VAC5-630-10 et seq.)* and all other applicable laws, regulations, and policies enforced by the Virginia Department of Health. I further certify that I currently posses the professional license required to perform work evidenced by the application by the laws of the Commonwealth as promulgated by the supervising agency.

HEALTH DEPARTMENT COPY

I recommend that a: ☑ Construction Permit ☐ Repair permit be: ☑ ***Issued***

☐ Modification Permit ☐ Abandonment permit ☐ ***Denied***

OSE/PE Signature: Date: 3/25/2020

Soils Inc.
T: (540) 364-1122 F: (540) 364-2060

SYSTEM SPECIFICATIONS

VDH USE ONLY
HDIN: _____

Application Information

Name: *John and Sheri Rhodes* Address: *74 South Player Crest Circle*

Phone: *0* *The Woodlands, TX 77382*

Location Information

Tax Map/GPIN #: *0022-02-0044A* Property Address: *222 Donmore Drive*

Subdivision: *Seneca Farms* Section: *3* Block: _____ Lot: *44A*

Directions:

General Information

Well Purpose (select all that apply): ☑ Domestic Drinking Water ☐ Agricultural

☐ Irrigiation ☐ Industrial/Commerical ☐ Geothermal

Well Class: *3B* Minimum Casing Depth: *50* ft.

Estimated Water Usage: *750* gpd Minimum Grout Depth: *50* ft.

Horizontal Setbacks

Distance from Building Sewer: *50* ft., min. Distance from Pretreatment Unit(s) *50* ft., min.

Distance Conveyance System: *50* ft., min. Distance to Absoprtion Area: *100* ft., min.

Distance from Property Line: *74.4* ft., min. Distance from Foundations: *50* ft., min.

Distance from other source(s) of contamination: *100* ft., min

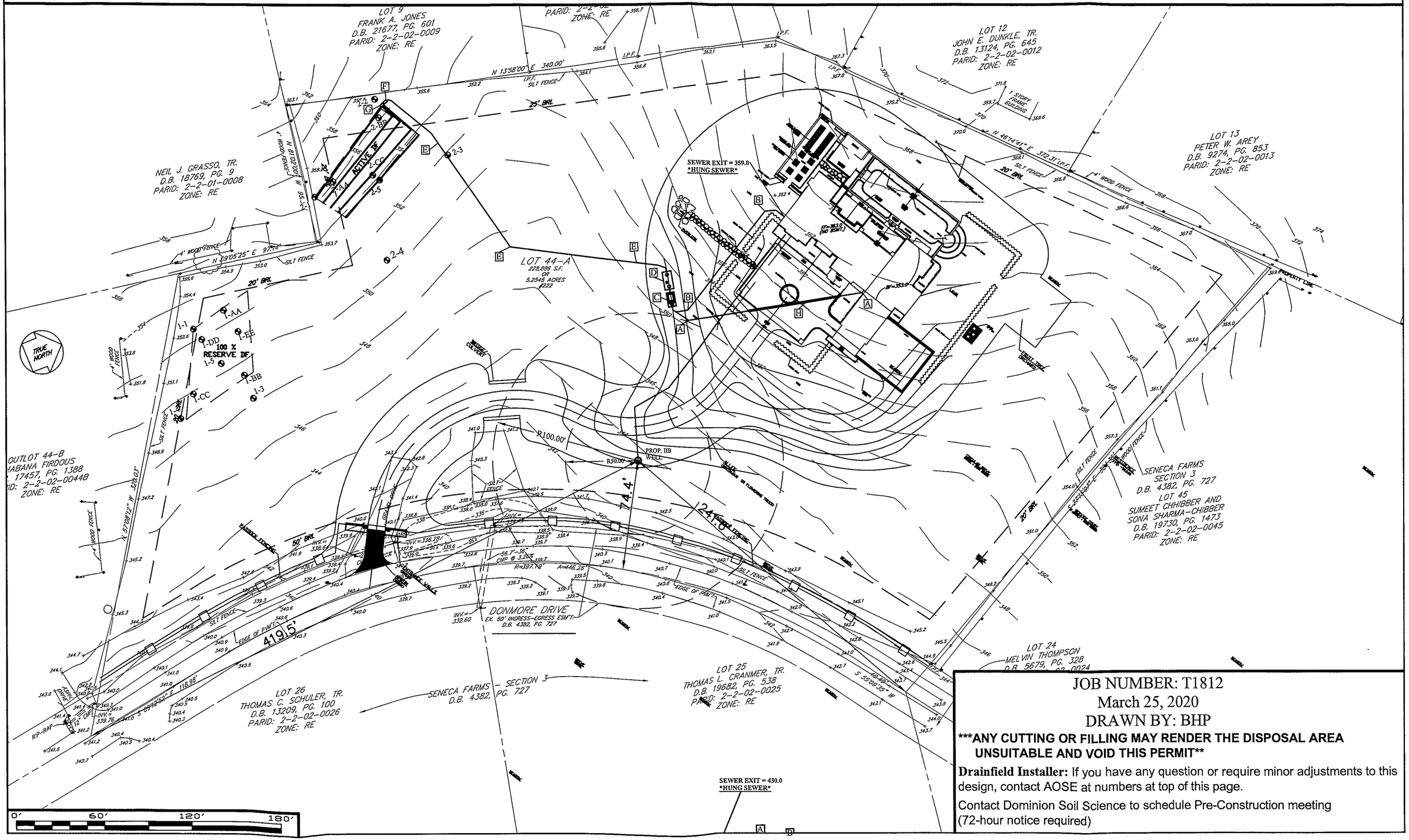
List other sources: *NA*

Notes:

This form contains personal information subject to disclosure under the Freedom of Information Act.

Soils Inc.
8399 West Main Street, Marshall, VA 20115 844-447-SOIL (7645); FAX 540-364-2060

DESIGN SKETCH-WELL AREA
222 DONMORE DRIVE; FAIRFAX COUNTY, VA



JOB NUMBER: T1812
March 25, 2020
DRAWN BY: BHP

*****ANY CUTTING OR FILLING MAY RENDER THE DISPOSAL AREA UNSUITABLE AND VOID THIS PERMIT****

Drainfield Installer: If you have any question or require minor adjustments to this design, contact AOSE at numbers at top of this page.

Contact Dominion Soil Science to schedule Pre-Construction meeting (72-hour notice required)

ONSITE SEWAGE DISPOSAL SYSTEM AND/OR WELL CONSTRUCTION PERMIT APPLICATION

COUNTY OF FAIRFAX
MAR 26 2020

Property Address: 222 Donmore Drive

Property City and Zip Code: Great Falls, VA 22066

Tax Map Number: 2-2-02-0044A | **Residential** ☒ **Commercial** ☐

Is this a private sector WWSP/OSE/PE submission? Yes ☒ No ☐ | Is the WWSP/OSE/PE package with cover sheet attached? Yes ☒ No ☐

Is this application submitted under 163.6? Yes ☐ No ☒ | If installing in an RPA have you included a waiver from LDS? Yes ☐ No ☐

Does this property serve as your (owner) principal place of residence? Yes ☐ No ☒ | Multiple sites? Yes ☐ No ☒

PERMIT OR SERVICE REQUESTED

☒ Individual Drinking Water Supply	☐ Certification Letter	☐ Pump and Haul
☐ Irrigation Well	☒ Construction Permit	☐ Voluntary Upgrade
☐ Well Abandonment	☐ Repair of Existing System	☐ Minor Modification
☐ Geothermal Well	☐ Subdivision	☐ Courtesy Inspection
☐ Well Repair	☐ Convert Existing Well	

Number of Bedrooms: 5

Basement Plumbing Fixtures? Yes ☒ No ☐

Is this a Replacement Well? Yes ☒ No ☐

WATER SUPPLY	**SEWAGE DISPOSAL**
Is the water supply:	Is the sewage disposal:
Public ☐ Private ☒	Public ☐ Private ☒

Foundation Chemically Treated? Yes ☒ No ☐ Borate? Yes ☐ No ☒

APPLICANT

Name: Soils Inc.	**Mailing Address:** 8399 W. Main Street
Phone: 540-364-1122	Marshall, VA 20115
Email: brian.phillips@soils-inc.com	

PROPERTY OWNER

Name: John Rhodes	**Mailing Address:** 74 S Player Crest Cir
Phone: 703-395-0101-Mike Ibrahim	Spring, TX, 77382
Email: patrick@pondroofing.com	

IF COMMERCIAL PROPERTY | Estimated Daily Water Usage (GPD): | GPD calculations submitted: Yes ☐ No ☐

SUMMARY OF PROPOSED WORK | Client would like an alternative septic design review for a new SFD.

1. WELL

I give permission to Fairfax County Health Department to enter onto the property during normal business hours for the purpose of processing this application and to perform quality assurance checks of evaluations and designs until an operation permit is approved.

Signature BHPhillips **Print Name** Brian H. Phillips

Date 03/25/2020 **Property Owner** ☐ **Agent** ☒

For Department Use Only

Approved by EH Remarks App WSS & OSS DESIGN Approval Date 4.7.20

Certification Approval Date _____ HSEPTIC 20080246 HWELL 20080270 Project # _____

Date Lot Approved _____ Type System _____ # of Bedrooms _____ GPD _____

Perc Rate _____ Depth _____ Septic Tank Gallons _____ Active Lin.Ft. _____ Reserve Lin.Ft. _____

Building Permit Number 20078035 Fee Amount 700 Receipt Number 908704

REQUIRED DOCUMENTATION

The required documentation for each application type is listed below. Please provide all documentation and fees at the time the application is submitted. Please initial that pertinent documentation has been provided. Thank you.

Certification Letter

Applicant Initials

1. Site and Soil Evaluation Report _____
2. Surveyed property plat (3 copies) - to include: _____
   a. Metes and Bounds of property
   b. Soil profile hole locations, perc or K-Sat hole locations
   c. Proposed well location and well specifications (when a private well is proposed)
   d. Within 200 feet of the absorption area the following must be shown: existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings
   e. Information on proposed treatment level, proposed trench bottom area and proposed sewage volume and flow
   f. Proposed perimeter of soil absorption area, including reserve area if required
   g. All recorded easements
3. Perc or K-Sat results or Perc Waiver Request _____
4. If permeability limiting feature is less than 18" from ground surface, the following must be provided:
   a. Verification that the site is not flooded during the wet season _____
   b. Demonstration that there is sufficient hydraulic gradient to move the applied effluent off the site _____
   c. Water mounding calculations _____
5. Fee provided
   a. Sewage Disposal System with flow of 1000 GPD or less
      $310.00 VDH cert letter fee
      $10.00 VDH indemnification fee
      $200.00 County SDS application fee
      Total $520.00 per site _____
   b. Sewage Disposal System with flow greater than 1000 GPD
      $1390.00 VDH cert letter fee
      $10.00 VDH indemnification fee
      $200.00 County SDS application fee
      Total $1600.00 per site _____

Repair of Existing System

Applicant Initials

1. Completed Malfunction Assessment Form ☐ Check box if **not** applicable _____
2. Site and Soil Evaluation Report ☐ Check box if **not** applicable _____
3. Surveyed Property Plat (3 copies) - to include: ☐ Check box if **not** applicable _____
   a. Metes and Bounds of property b. Soil profile hole locations, perc or K-Sat hole locations
   c. Well location when a private well exists d. Complete SDS design (including elevations)
   e. Identify all (existing or proposed) drinking water sources, buildings, and sewage disposal systems within 200 feet of the absorption area
4. Perc or K-Sat results or Perc Waiver Request ☐ Check box if **not** applicable _____
5. Alternative system design/hydraulic plans ☐ Check box if **not** applicable _____
6. Water mounding calculations if distance to restriction is less than 18" ☐ Check box if **not** applicable _____
7. Pump plans (3 sets) ☐ Check box if **not** applicable _____
8. Fee Provided _____
   a. Sewage Disposal System ≤ 1000 GPD **$225.00** with OSE/PE documentation, **$425.00** w/o OSE/PE documentation _____
   b. Sewage Disposal System > 1000 GPD **$1400** with OSE/PE documentation _____

REQUIRED DOCUMENTATION

Construction Permit

Applicant Initials

Is this a revised design package? Yes ☐ No ☒

1. Site and Soil Evaluation Report
2. If new dwelling or renovation is proposed complete architectural drawings are required. BHP
3. If Site Grading Plan is required by LDS, provide 1 approved or proposed copy. BHP
4. If Site Grading Plan is **not** required by LDS, 3 copies of a surveyed property plat must be provided, all to include:
   a. Metes and Bounds of property
   b. Soil profile hole locations, perc or K-Sat hole locations ☐ Check box if **not** applicable
   c. Proposed well location and well specifications (when a private well is proposed)
   d. Complete construction drawing/design of proposed sewage system, including all elevations.
5. Within 200 feet of the absorption zone or treatment unit the following must be shown:
   existing or proposed wells, springs, cisterns or sewage disposal systems, existing or proposed buildings
6. Perc or K-Sat results or Perc Waiver Request
7. Alternative system design/hydraulic plans ☐ Check box if **not** applicable BHP
8. If permeability limiting feature is less than 18" from ground surface, the following must be provided:
   a. Verification that the site is not flooded during the wet season
   b. Demonstration that there is sufficient hydraulic gradient to move the applied effluent off the site
   c. Water mounding calculations
9. Pump plans (3 sets) if applicable BHP
10. Is the proposed sewage disposal system an alternative design? Yes ☒ No ☐ BHP
11. Fee provided
    a. **If application is within 18 months of receiving a certification letter, no fee is required unless #10 is yes, then add $200**
    b. If applying under 11a., provide certification letter. BHP
    c. Sewage Disposal System with flow of 1000 GPD or less
       $215.00 VDH Construction Permit fee
       $10.00 VDH indemnification fee
       $200.00 County SDS application fee **Total $425.00**
       If #10 is "yes" add **$200.00** County alternative SDS review fee
       Total $625.00 per site
    d. Sewage Disposal System with flow greater than 1000 GPD
       $1390.00 VDH Construction Permit fee
       $10.00 VDH indemnification fee
       $200.00 County SDS application fee **Total $1600.00**
       If #10 is "yes" add **$200.00** County alternative SDS review fee
       Total $1800.00 per site

If you are submitting your SGP to HD instead of LDS, provide a min of 4 copies and add $85.00

Minor Modification

A minor modification may include, but is not limited to, relocation of sewer line, force main, conveyance line, etc. to meet set back to proposed construction such as an addition or pool; tie in new sewer line for proposed addition (e.g. pool house) to be connected to existing sewer line; relocation of septic tank and/or pump chamber. The following must be provided when a minor modification will be made:

1. Surveyed Property Plat (3 copies) - to include:
   i. Metes and Bounds of property
   ii. Well location when a private well exists
2. Architectural Plans, if applicable
3. Pump Plans (3 sets if applicable)
4. Fairfax County Building Permit Application
5. Fee provided
   a. VDH minor modification fee **$100.00**
   b. If associated with a building permit review - add **$85.00**

REQUIRED DOCUMENTATION

Individual Drinking Water Well ☒ Geothermal Well ☐ Irrigation Well ☐ Convert Existing Well ☐ | Applicant Initials

1. Surveyed property plat (3 copies) to include: BHP
   a. Metes and Bounds of property
   b. Proposed well location and well design package
   c. Sanitary survey showing any obvious source of toxic or dangerous substances within 200ft of the proposed private well
   d. All recorded easements
2. Fee provided - **$500.00** If this is a **replacement well at the applicant's primary residence**, no fee is required BHP

Well Abandonment

Applicant Initials

1. Completed 1st page of this application _____
2. **IF NOT** primary residence, add **$500.00** fee _____

Well Repair

Applicant Initials

Completed 1st page of this application with detailed summary of proposed work _____

Pump and Haul

Pump and Haul application must be signed and initialed by property owner | Owner's Initials

1. Copy of contract with a licensed Sewage Handling Contractor _____
2. Copy of VDH Pump and Haul application _____
3. Detailed construction schedule for completion of permanent disposal site ☐ Check box if **not** applicable _____
4. Proof of Bonding ☐ not required if emergency pump and haul _____
5. Completed Malfunction Assessment Form (if application is due to malfunctioning system) _____
6. Plans, specifications, fees and other data as required by the Health Department _____
7. Owner gives FCHD permission to inspect property during normal business hours for duration of the pump and haul _____

Voluntary Upgrade

Applicant Initials

1. Completed 1st page of this application _____
2. **Call 703-246-2201 to schedule a consultation**
3. Fee provided ≤ 1000 GPD - **$225** _____
   >1000 GPD - **$1400** _____

Courtesy Inspection

Applicant Initials

1. Site and Soil Evaluation Report _____
2. Describe the site or soil feature you have identified as marginal or questionable: _____
3. What is the question to be discussed? _____

Certification Statement

If the certification statement on the evaluation and/or design contains the references to the Fairfax County Code (as below) in addition to 610, 613, and 630 then the evaluator/designer does not have to complete this section.

I hereby certify that the evaluations and/or designs contained herein were conducted in accordance with the applicable provisions of the Fairfax Code, Chapter 68.1: the Individual Sewage Disposal Facilities Code, Fairfax Code, Chapter 70.1: Private Well Water Ordinance, the Sewage Handling and Disposal Regulations (12 VAC54-610), the Private Well Regulations (12 VAC5-630), the Regulations for Alternative Onsite Sewage Systems (12 VAC5-613) and all other applicable laws, regulations and policies implemented by the Virginia Department of Health. I further certify that I currently possess any professinoal license required by the laws and regulations of the Commonwealth that have been duly issued by the applicable agency charged with licensure to perform the work contained herein.

☒ The work attached to this cover page has been conducted under an exemption to the practice of engineering, specifically the exemption in Code of Virginia Section 54.1-402.A.11

Print name Brian H. Phillips License# 1940001374 Date 03/25/2020

WWSP/OSE/PE Signature _____

[redacted]OW EQUALIZATION – TIME DOSE
SYSTEMS INSPECTION SHEET

PERMIT #: 200830246 PLAN APPROVAL DATE: 4.7.20

LOCATION: 222 Donmore Drive TAX Map #: 002 02 00444

DESCRIPTION	PER PLANS	PER INSPECTION	DATE / INITIALS	COMMENTS
PUMP CHAMBER ACCESS IS 12" ABOVE GRADE AND GRADED PROPERLY	(YES) NO	(YES) NO	JPL 01/06/22	
ELECTRICAL JUNCTION BOX IS 6" ABOVE GRADE	(YES) NO	(YES) NO	JPL 01/06/22	
PUMP CHAMBER ACCESS RISER DIAMETER	30 IN.	30 IN.	3-31-21 CC	
CHAMBER CONSTRUCTION IS SATISFACTORY	(YES) NO	(YES) NO	↓	
Chamber Manufacturer & Size HANOVER	2000 TJ	Hanover 2000 TJ	↓	
Chamber Volume	36.4 GAL./IN.	36.4 GAL./IN.	↓	
PUMPS INSTALLED PROPERLY	(YES) NO	(YES) NO	JPL 01/06/22	
Make	Zoeller	Zoeller	Zoeller	
Model #	N98	N98	N98	
Dosing Volume	112.5 GAL.	/ GAL.		
Expected Flow Rate	32 GPM	/ GPM		
Expected Run Time	210 SEC.	/ SEC.		
Actual Flow Rate: Pump #1	[redacted]	43 GPM	JPL 01/06/22	
Actual Flow Rate: Pump #2	[redacted]	42 GPM	JPL 01/06/22	
Actual Run Time	[redacted]	159 SEC.	↓ ↓	
Standard Rest Time	[redacted]	0 HRS. MIN.		
Peak Rest Time	[redacted]	1 HRS. 48 MIN.		
CHECK VALVES INSTALLED PROPERLY	(YES) NO	(YES) NO	↓ ↓	
Type	BRASS	Brass	3-31-21 CC	
FORCE MAIN INSTALLED PROPERLY	(YES) NO	(YES) NO	JPL 3/26	200' Pressure Tested at 9 PSI
Size	2.067 IN.	2.0 IN.		
Material	PVC	PVC		
Installation Depth	24 IN.	24" IN.		
FLOATS INSTALLED PROPERLY	(YES) NO	YES NO		
Number	4	4	JPL 01/06/22	
Type	Diff.	Mech	↓ ↓	
DISTANCE HIGH LEVEL ALARM / LAG ALARM IS BELOW INLET	13.4 IN.	13.4 IN.		
DISTANCE OVERRIDE / PEAK ENABLER IS ABOVE FLOOR	34.4 IN.	35 IN.		
DISTANCE TIMER / ENABLER IS ABOVE FLOOR	22 IN.	23 IN.		
DISTANCE REDUNDANT OFF IS ABOVE FLOOR	18 IN.	18 IN.		
FLOW EQUALIZATION ZONE	20.6 IN.	20" IN.	↓ ↓	
CONTROL PANEL INSTALLED PROPERLY	[redacted]	(YES) NO		
Make AMERICAN ONSITE	[redacted]	AMERICAN ONSITE		
Model # DEPRAB124AJLOP(C)RCA	[redacted]	DEPRAB 124-AJLP(C)R(A)		
Are Alarms And Pump Controls On Separate Circuit Breakers	[redacted]	(YES) NO	JPL 01/06/22	per BOB tested positive w/ cover did not observe set up.
Do Floats Alternate Properly	[redacted]	(YES) NO		
Does The Panel Have Current Sensors To Sound Alarm If Pumps Are Not Working	[redacted]	(YES) NO	JPL 01/06/22	
Does Override / Peak Enabler Function Properly	[redacted]	(YES) NO	↓ ↓	
Event Counter Initial Setting: Pump #1	[redacted]	6		Peak count 7 High Count 5
Elapsed Time Meter Initial Setting: Pump #1	[redacted]	oh om		
Event Counter Initial Setting: Pump #2	[redacted]	16		
Elapsed Time Meter Initial Setting: Pump #2	[redacted]	oh 2m	↓ ↓	
4" CONCRETE BLOCK OR EQUIVALENT SET UNDER BOTH PUMPS	(YES) NO	(YES) NO	3-31-21 CC	
SURFACE DRAINAGE DIRECTED AWAY FROM ALL TANKS	(YES) NO	(YES) NO	JPL 01/06/22	24" cover

ATU Blower ribbon fuses

BIO-MICROBICS MICROFAST TREATMENT SYSTEM
INSPECTION SHEET

Permit #: 200830246 Plans Approved: 4.7.20

Location: 222 Donmore Drive Tax Map #: 00202 0044A

DESCRIPTION	PER DESIGN	PER INSPECTION	DATE / INITIAL
MicroFAST Tank Manufacturer	HANOVER	Hanover	3-31-21 CC
Size	1500 TJ	1500 TJ	↓
MicroFAST Unit Size	0.75	0.75	↓
Is The MicroFAST Unit Designed With A Lid Or On Leg Extensions?	LEGS		
Length of Air Supply Line From The Blower To MicroFAST Unit (Must NOT Be Greater Than 100 Feet)	<100 FT.	<100 FT.	JPL 1/6/22
Is The Air Supply Line A Minimum Of 2 Inches In Diameter?	YES NO	YES NO	Backfilled
Is The Air Supply Line To The MicroFAST Unit Secured To Prevent Vibration Induced Damage?	YES NO	YES NO	Backfilled
Is There Positive Fall On The Air Supply Line From The Blower Control System To The MicroFAST Unit?	YES NO	YES NO	Backfilled
Is The Air Supply Line Secured With Noncorrosive Clamps Every 2 Feet?	YES NO	YES NO	Backfilled
Is Blower Control System Located Above Grade?	YES NO	YES NO	yes
Is Blower Control System Located On Solid Surface Or Concrete Base?	BASE		yes
Is The Blower Functioning Properly?	YES NO	YES NO	yes
Is There A 24 Inch Tank Riser Over The Inlet Tee?	YES NO	YES NO	20"
Is Vent Pipe Located Above Grade To Avoid Infiltration?	YES NO	YES NO	JPL 1/6/22
Is Cap For Vent Pipe A Minimum Of 7.1 Square Inches?	YES NO	YES NO	↓
Is Cap For The Vent Pipe Secured With Stainless Steel Screws?	YES NO	YES NO	↓
Does The Vent Pipe Cap Have An Insect Screen?	YES NO	YES NO	↓
What Is The Distance Between The Bottom Of The Unit And The Bottom Of The Tank?	N/A IN.	N/A IN.	↓
Is There A 6 Inch Inspection / Pumpout Port Over The Treatment Zone?	YES NO	YES NO	↓
Is The 6 Inch Inspection / Pumpout Port Above Grade?	YES NO	YES NO	↓
Is The 6 Inch Inspection / Pumpout Port Cap Secured?	YES NO	YES NO	↓
Is The 6 Inch Inspection / Pumpout Port Securely Fastened To The Tank?	YES NO	YES NO	↓
How Much Backfill Is Over Tank?	IN.	24" IN.	↓

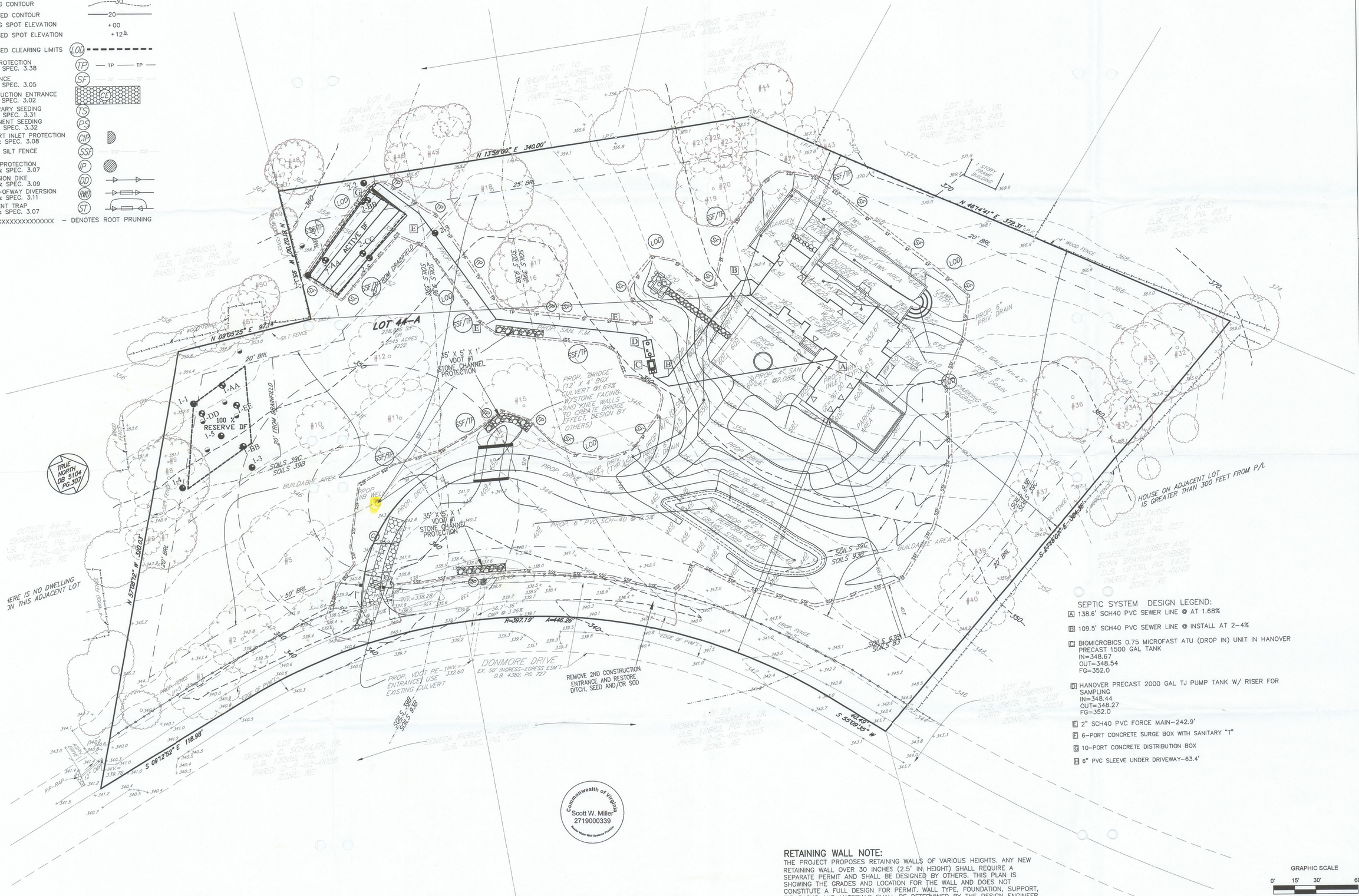
NOTES

Microfast # 34931

LEGEND FOR GRADING PLANS

- EXISTING CONTOUR — 30
- PROPOSED CONTOUR — 20
- EXISTING SPOT ELEVATION — +00
- PROPOSED SPOT ELEVATION — +12.5
- PROPOSED CLEARING LIMITS (LOD)
- TREE PROTECTION STD. & SPEC. 3.38 (TP) — TP — TP —
- SILT FENCE STD. & SPEC. 3.05 (SF)
- CONSTRUCTION ENTRANCE STD. & SPEC. 3.02 (CE)
- TEMPORARY SEEDING STD. & SPEC. 3.31 (TS)
- PERMANENT SEEDING STD. & SPEC. 3.32 (PS)
- CULVERT INLET PROTECTION STD. & SPEC. 3.08 (CIP)
- SUPER SILT FENCE (SSF)
- INLET PROTECTION STD. & SPEC. 3.07 (IP)
- DIVERSION DIKE STD. & SPEC. 3.09 (DD)
- RIGHT-OF-WAY DIVERSION STD. & SPEC. 3.11 (RWD)
- SEDIMENT TRAP STD. & SPEC. 3.07 (ST)

XXXXXXXXXXXXXXXXX – DENOTES ROOT PRUNING



Commonwealth of Virginia
Scott W. Miller
2719000339
Master Water Well Systems Installer

PROPOSED DISTURBED AREA = 74,488 SF OR 1.71 ACRES

SEPTIC SYSTEM DESIGN LEGEND:

- [A] 138.6' SCH40 PVC SEWER LINE @ AT 1.68%
- [B] 109.5' SCH40 PVC SEWER LINE @ INSTALL AT 2–4%
- [C] BIOMICROBICS 0.75 MICROFAST ATU (DROP IN) UNIT IN HANOVER PRECAST 1500 GAL TANK
  IN=348.67
  OUT=348.54
  FG=352.0
- [D] HANOVER PRECAST 2000 GAL TJ PUMP TANK W/ RISER FOR SAMPLING
  IN=348.44
  OUT=348.27
  FG=352.0
- [E] 2" SCH40 PVC FORCE MAIN–242.9'
- [F] 6–PORT CONCRETE SURGE BOX WITH SANITARY "T"
- [G] 10–PORT CONCRETE DISTRIBUTION BOX
- [H] 6" PVC SLEEVE UNDER DRIVEWAY–63.4'

RETAINING WALL NOTE:

THE PROJECT PROPOSES RETAINING WALLS OF VARIOUS HEIGHTS. ANY NEW RETAINING WALL OVER 30 INCHES (2.5' IN HEIGHT) SHALL REQUIRE A SEPARATE PERMIT AND SHALL BE DESIGNED BY OTHERS. THIS PLAN IS SHOWING THE GRADES AND LOCATION FOR THE WALL AND DOES NOT CONSTITUTE A FULL DESIGN FOR PERMIT. WALL TYPE, FOUNDATION, SUPPORT, TIE–BACKS AND MATERIALS SHALL BE DETERMINED BY THE DESIGN ENGINEER FOR DURING THE WALL PERMITTING PROCESS.

GRAPHIC SCALE
0' 15' 30' 60'
SCALE: 1"=30'

CIVIL SPUR
SITE PLANNING – DESIGN – CONSULTING
929 WEST BROAD STREET #200, FALLS CHURCH VA 22046
OFFICE (703) 663–7173 CELL (540) 207–5681
EMAIL: ROGER@CIVILSPUR.COM

GRADING PLAN AND EROSION AND SEDIMENT CONTROLS PHASE II

222 DONMORE DRIVE

LOT 44A SEC 3
SENECA FARMS
DRANESVILLE DISTRICT #1
FAIRFAX, VIRGINIA

REVISION	DATE

SCALE: 1"=30'

COMMONWEALTH OF VIRGINIA
ANNEMARIE M. TURNER
Lic. No. 037035
05–26–20
PROFESSIONAL ENGINEER

SHEET 3 OF 9

PAGE 4

GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS AND METHODS MUST CONFORM TO APPLICABLE LOCAL CODES AND STATE REGULATIONS.
2. ALL PIPE JOINTS SHALL BE PRIMED AND CHEMICALLY SEALED.
3. ANY DEVIATION FROM THIS DESIGN MUST BE APPROVED BY THE DESIGNER PRIOR TO INSTALLATION OF THE SYSTEM.
4. ELECTRICAL WIRING TO BE INSTALLED UNDER THE DIRECT SUPERVISION OF OF A LICENSED ELECTRICAL CONTRACTOR, ACCORDING TO NEC, STATE & LOCAL ELECTRICAL CODES AS APPLICABLE.
5. CONTRACTOR IS TO INSTALL CONCRETE TANKS ON UNIFORMLY FIRM AND STABLE COMPACTED GROUND, CRUSHED STONE IS RECOMMENDED TO PROVIDE UNIFORM SUPPORT TO THE TANK BOTTOMS.
6. SEPTIC TANK MUST BE WATERTIGHT AND CONFORM TO APPLICABLE STATE & LOCAL CODES & REQUIREMENTS.
7. CONTRACTOR MUST NOTIFY "MISS UTILITY" AND HAVE A CLEARED TICKET PRIOR TO STARTING EXCAVATION AT THE SITE.
8. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED AMOUNT OF IMPORTED FILL (IN PLACE).

SITE PREPARATION WORK:

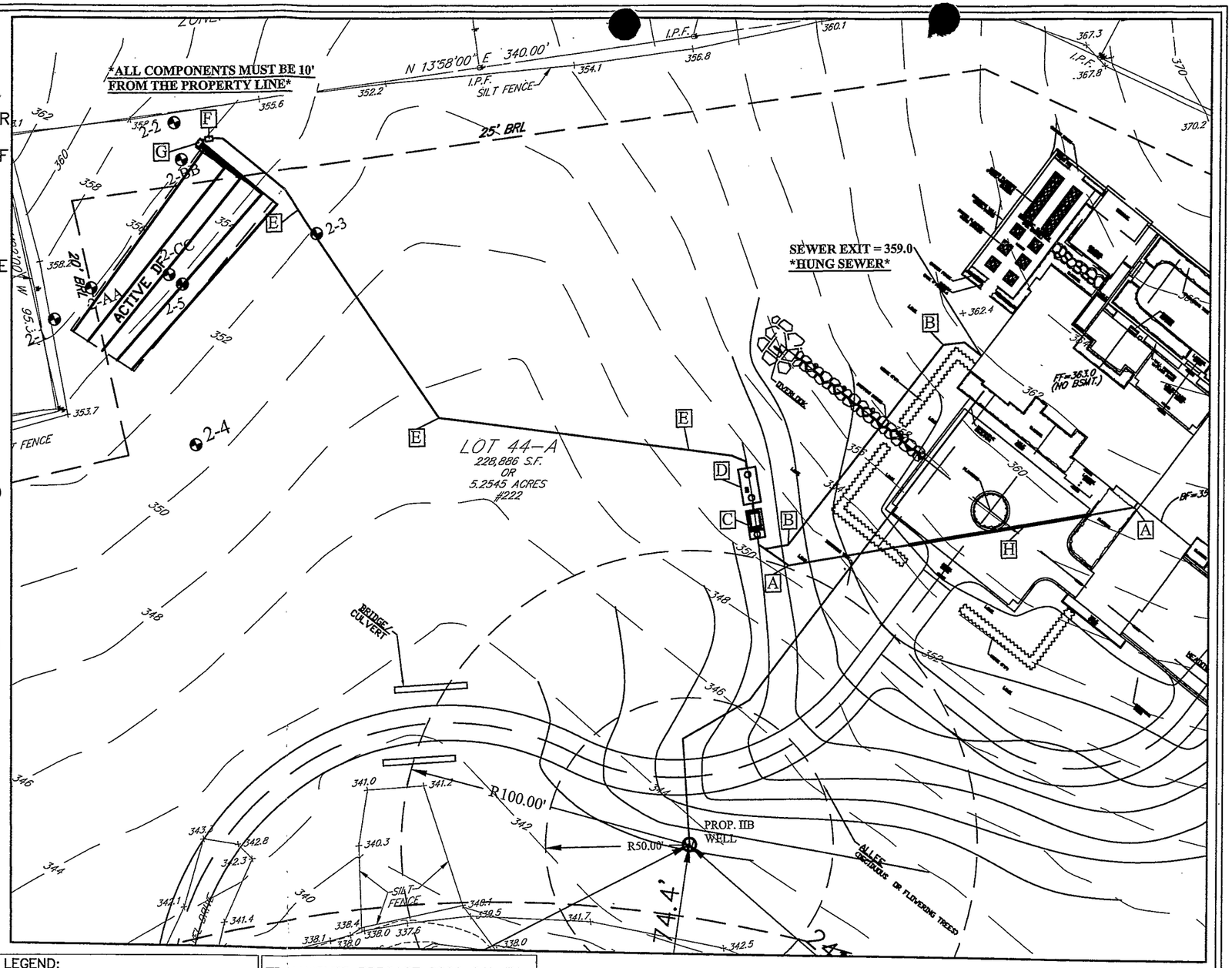
1. REFER TO SITE DRAWINGS AND NOTES FOR SPECIAL REQUIREMENTS.
2. MACHINERY SHOULD AVOID THE PERCOLATION AREA.
3. MACHINERY MUST NEVER TRAVERSE THE EXCAVATED OR EXPOSED PERCOLATION AREA.
4. IF WOODED, SPECIAL CARE MUST BE TAKEN IN CLEARING THE DRAINFIELD AREA.
5. CONTRACTOR MUST PROVIDE ADEQUATE ACCESS FOR CORRECT INSTALLATION.
6. THE SEWAGE SYSTEM MUST BE INSTALLED DURING DRY CONDITIONS.

PERCOLATION AREA:

1. INSTALL THE ABSORPTION AREA ON CONTOUR UNLESS THERE IS A GRADE CUT SPECIFIED ON THE DRAWINGS OR IN THE NOTES PROVIDED IN THIS DESIGN PACKAGE.
2. DO NOT SMEAR OR COMPACT THE PERCOLATION AREA DURING EXCAVATION.

SITE INSTALLATION AND RESTORATION:

1. MINIMUM BACKFILL COVER OVER THE AGGREGATE IS 12".
2. MAXIMUM BACKFILL COVER OVER THE AGGREGATE IS 20".
3. BACKFILL WITH SUITABLE LOOSE MATERIAL (SANDY LOAM TO SANDY CLAY LOAM) FREE OF LARGE OR DAMAGING OBJECTS. SEED AND STRAW BACKFILLED OR DISTURBED AREAS (OR PLACE SOD WHEN REQUIRED).
4. PROVIDE EROSION PROTECTION FOR BACKFILL MATERIAL IN ACCORDANCE WITH STATE & LOCAL STANDARDS AND MAINTAIN UNTIL PERMANENT PROTECTION IS ESTABLISHED.
5. BACKFILL SHOULD BE GRADED TO PREVENT INFILTRATION OF SURFACE WATER AND DIVERT SURFACE WATER RUN OFF AWAY FROM THE SYSTEM COMPONENTS.
6. DO NOT GRADE WITHIN 20' OF THE PROPOSED SYSTEM DISPOSAL AREA(S).
7. KEEP DRIVEWAY A MINIMUM OF 10' FROM THE SEPTIC SYSTEM AND ITS COMPONENTS.
8. ALL UTILITIES TO BE ≥ 10' TO THE SEWAGE SYSTEM.
9. ALL DF COMPONENTS TO BE A MINIMUM OF 10' FROM THE PROPERTY LINES, 10' FROM WALKOUT BASEMENT FOUNDATION AND 20' FROM PORTIONS OF FOUNDATION THAT ARE BURIED.



LEGEND:

- [A] 138.6' SCH40 PVC SEWER LINE @ AT 1.68%
- [B] 109.5' SCH40 PVC SEWER LINE @ INSTALL AT 2–4%
- [C] BIOMICROBICS 0.75 MICROFAST ATU (DROP IN) UNIT IN HANOVER PRECAST 1500 GAL TANK
  IN=348.67
  OUT=348.54
  FG=352.0
- [D] HANOVER PRECAST 2000 GAL TJ PUMP TANK W/ RISER FOR SAMPLING
  IN=348.44
  OUT=348.27
  FG=352.0
- [E] 2" SCH40 PVC FORCE MAIN–236.0'
- [F] 6–PORT CONCRETE SURGE BOX WITH SANITARY "T"
- [G] 10–PORT CONCRETE DISTRIBUTION BOX
- [H] 6" PVC SLEEVE UNDER DRIVEWAY–63.4'

SOILS INC.
8399 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060

PROJECT: 222 DONMORE DRIVE	
DATE: 04/02/2020	JOB NO. T1812
PAGE: 2 OF 8	
SCALE: 1"=40'	
GPIN OR TM #: 2–2–02–0044A	
COUNTY/STATE: FAIRFAX COUNTY, VA	

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods, and diverse communities of Fairfax County

February 8, 2021

John Rhodes TR
74 S Player Crest Circle
Spring, TX 77382

RE: Sewage Disposal System Construction Permit
Constructed on/at: 222 Donmore Drive, Great Falls VA 22066
TM# 0022 02 0044A

Health Department ID Number: 200830246
System Capacity: 5 Bedrooms/750 gallons per day

Dear John Rhodes TR:

This letter and the attached drawings, specifications, calculations, and the attached documentation dated March 25, 2020 constitute your permit to install a sewage disposal system on the property referenced above.

The Fairfax County Health Department (FCHD) hereby recognizes that the design submitted by Brian H. Phillips, AOSE, has been certified by the designer to comply with the requirements of the Code of Virginia and grants permission to install the system as designed in the area shown on the attached plans and specifications.

The sewage disposal system design is approved based on a 1.25 gal/ft^2/day loading rate at an install depth of 20". Chapter 68.1 of the Fairfax County Code requires a minimum gravel depth of eight inches under the installed percolation piping and two inches over the piping. A minimum of 12 inches and a maximum of 20 inches of clean backfill shall be placed over the gravel. Untreated building paper or other suitable material shall be placed at the interface of the gravel and soil. All trench widths are required to be 2 feet and be installed 6 feet center to center.

If modifications or revisions are necessary between now and when the system is constructed, please contact the OSE who designed the system upon which this permit is based. Should revisions be necessary during construction, your contractor should consult with the OSE. The OSE is authorized to make minor adjustments in the location or design of the system provided that adequate documentation is provided to FCHD.

The OSE that submitted the design for this permit is required by §32.1-164.1 of the Code of Virginia to inspect the system at the time of the installation and provide an inspection report and completion statement to FCHD. Chapter 68.1 of the Fairfax County Code requires that no part of the system shall be covered with earth or used until inspected, corrections made if necessary, and approved by the FCHD. The sewage system may not be placed into operation until you have obtained an Operation Permit from FCHD.

Fairfax County Health Department
Division of Environmental Health
Onsite Sewage and Water Section
10777 Main Street, Suite 102, Fairfax, VA 22030
Phone: 703-246-2201 TTY: 711 Fax: 703-278-8157
www.fairfaxcounty.gov/hd

John Rhodes TR
Health Department ID Number: 200830246
February 8, 2021

This permit is issued in accordance with the provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended, and § 12VAC5-610-340 of the Sewage Handling and Disposal Regulations of the Virginia Department of Health. The continued validity of this permit is contingent upon compliance with the operation and maintenance requirements contained in Part 3 of the Regulations for Alternative Onsite Sewage Systems of the Virginia Department of Health (12VAC5-613-120 et seq.). Owners are advised to be aware of the operation and maintenance instructions for their permitted alternative onsite sewage system and to follow them. Copies of the operation and maintenance instructions can be found by contacting the local health department for the locality where the onsite sewage disposal system is located.

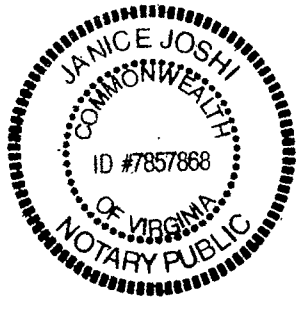
This Construction Permit is null and void if site and soil conditions are changed from those shown on your application or if conditions are changed from those shown on the attached plans and specifications. FCHD may revoke or modify any permit if, at a later date, it finds that the system would threaten public health or the environment.

This authorization to construct a sewage disposal system expires August 8, 2022. This permit is not transferable to another location.

Sincerely,

Crystal M. Crampton
Environmental Health Specialist

Kevin R. Wastler
Environmental Health Supervisor



County of Fairfax, Commonwealth of Virginia.

The foregoing instrument was acknowledged before me this 9th day of February, 2021, by Crystal M. Crampton and Kevin R. Wastler
(Name of person seeking acknowledgement)

Janice Joshi
Notary Public

My Commission Expires: December 31st, 2023

Operation and Maintenance Manual

SOILS INC.

MicroFAST 0.75 Pump to
Gravity System
at
222 Donmore Drive
Great Falls, VA 22066

APPROVED
FAIRFAX COUNTY HEALTH DEPARTMENT
1/26/22 James LeRoy
Date Health Official

Provided by:
Soils, Inc.
8331 W. Main Street
Marshall, VA 20115

Work Order Number: T1812
January 7, 2022

Table of Contents

Appendices

Introduction

Your new septic system is a major advancement over the septic systems of the past. Previously, the soil media was relied upon to provide nearly all of the wastewater treatment. With advancements in onsite wastewater treatment the burden has been significantly shifted to the Advanced Treatment Unit (ATU).

This manual provides information to help you monitor the health of your system and ensure the longest possible lifespan.

Please contact a qualified service provider or your local health department before performing any work on your septic system. Most work requires a health department permit and/or a qualified licensed professional to perform the work.

Contact Information:

System Designer
Soils, Inc.
8331 W. Main St.
Marshall, VA 20115
Phone: (540) 364-1122
Fax: (540) 364-2060
Soils-inc.com

Preferred Service Provider
Markham Smith
(703) 615-5000 (cell)
8331 W. Main St.
Marshall, VA 20115
Phone: (540) 364-1122
mark.smith@soils-inc.com

System Installer
Settle Excavating and Plumbing
5811 Windsor Retreat
Warrenton, VA 20186
(540) 699-0167

System Information

System Location:	222 Donmore Drive, Great Falls, VA 22066
Treatment System:	MicroFAST 0.75 Advanced Treatment Unit in a 2000 gallon Hanover Precast septic tank.
Disposal Method:	Pump to Gravity
Dispersal Method:	5 trenches, each 75' long. 4" black plastic perforated, corrugated drain pipe.
Design Loading:	750-gpd peak daily flow, 5 bedrooms

Note: *Additional information on system layout, components, etc. is included in the System Installation Completion Statement in the Appendices.*

Repair parts for your system can be found at VAMAC Plumbing Supply
The closest VAMAC locations to the above referenced property are:

3501 Jefferson Davis Hwy.
Fredericksburg, VA 22408
(540) 898-2096

13794 Telegraph Road
Woodbridge, VA 22192
(703)494-5449

11186 Leadbetter Road
Ashland, VA 23005
(804) 752-4680

601 McGhee Road
Winchester, VA 22603
(540) 535-1983

14 Cardinal Park Dr. SE
Leesburg, VA 20175
(703) 771-7990

8020 Centreville Rd.
Manassas, VA 20111
(703) 330-8990

700 Industrial Rd.
Warrenton, VA 20186
(540) 349-0081

750 Germanna Highway
Culpeper, VA 22701
(540) 399-2150

Control Functions

Make arrangements with a reliable service person to provide regular monitoring and maintenance, and place the service person's phone number on or in your control panel. The external control/alarm panel for your septic system should only be managed by a licensed service provider. Making changes to the operational conditions of your system can lead to system failure and voiding of any warranties, resulting in costly repairs and/or replacement.

Pump Control Panel

Your Pump Control Panel contains an alarm function to notify you of a problem with the system. The audible alarm can be silenced by utilizing the toggle switch located on the on the side of the panel box or the button located on the front cover. The alarm light will remain on until the alarm condition is fixed.

When the alarm activates it means the effluent level in the pump tank is outside the normal range. This usually occurs for one of two reasons: a) the pump has ceased to operate, or b) there has been a substantial inflow of sewage into the tank in a short period of time. The latter often occurs when a leaky toilet or faucet is adding a steady stream of water into the system. Your local hardware store will carry do-it-yourself kits to test for toilet leaks. If the inflow is from a known source that you can control, you should immediately shut off that flow into your drainage system. If you determine that an errant plumbing fixture is not the source of the problem, contact your service provider at once, as it is likely a pump issue. With normal use, the tank has a reserve storage capacity good for about 24 hours, so it is best if you restrict water usage until you can get your service provider on site.

MicroFAST Control Panel

The MicroFAST control panel provides an alarm to notify you when there is no power going to the ATU blower. To silence this alarm simply press the button labelled "Alarm." It is important to call your service provider right away if this alarm goes off, as it means the ATU is not functioning and therefore the effluent in the system is not being properly treated.

Guidelines for Operation

As a homeowner you can take measures to ensure the proper operation of your system. There are three general categories: What you put into your system, How much you put into your system, and How you maintain your system.

What you put into your system

It is very important that you are conscious of what you are putting into your system. Your ATU unit and drainfield host a sensitive ecosystem of microbes and bugs to treat the sewage. This balance can be easily upset if harmful chemicals or high strength waste is introduced to the system. Below you will find a list of items that should not be put into the system:

- Hair Combings
- Disposable Diapers
- Tampons
- Dental Floss
- Gauzes Bandages
- Oil
- Baby Wipes
- Thinners
- Pesticides
- Coffee Grounds
- Sanitary Napkins
- Condoms
- Cigarette Butts
- Fat/Grease
- Paper Towels
- Paints
- Prescriptions

This list is just a sample of items that should not be put into your septic system. If you ever have a question as to whether you should put something into your septic system, call your licensed service provider, or err on the side of caution and do not put it into your septic system. A good rule of thumb is this:

If it hasn't passed through you then it should not enter your septic system.
Toilet tissue is the only exception.

Additionally, never add any "septic system additives" to your system. Your ATU is a sophisticated system and when operating correctly will not need any special additives. These additives can upset the balance of the system and create significant problems.

The use of garbage disposals is not recommended with your system.

Operation Guidelines (Continued)

How much you put into your system

Almost as important as what you put into your system is how much you put in. Your system is designed for a particular gallon per day (GPD) loading. This is generally based on 75 gallons per person and 2 people per bedroom (150 gallons per bedroom). For your particular daily design rate, see the "System Information" portion of this manual.

In general, this should not be an issue if you adhere to the occupancy limits of your system. Several steps you can take to help avoid hydraulically overloading your system include:

- *Spreading laundry out over the entire week as opposed to doing multiple loads at a single time (e.g., Saturday morning)*
- *Avoid doing multiple water-intensive tasks at the same time (e.g., laundry, dishes, showers, baths)*
- *Install low flow fixtures*
- *Be conservative with your water usage*

How you maintain your system

Neither of the two above items will matter if you do not properly maintain your system. The first and most important thing you can do is to have a maintenance contract with a licensed service provider. In fact, having a contract with a licensed service provider is required by Virginia statute (see next section).

A licensed service provider will be able to catch potential problems and fix them before they become major issues, thereby saving you money in the long run. We highly recommend not simply going with the lowest cost service provider as that may cost you far more in the long run.

While your service provider will periodically check and provide maintenance to your syste, you will need to keep the system healthy on a day-to-day basis. In addition to following the guidelines on what (and what not) to put in the system, proper maintenance of the drainfield area is very important. Keep all the vegetation on and around the drainfield cut down and prevent any trees from encroaching on the drainfield area. The area around the treatment works should also be well maintained so all surface water is diverted away from the tanks and not allowed to pool on or around the tanks. Additionally, you should not drive heavy equipment over you drainfield tanks or tanks. The only equipment that should be driven on or around these components is a small riding mower.

With these simple steps your septic system should operate well and last you for many years.

Inspection Schedule

Inspections are an integral part of ensuring the proper operation of your system. As such, the State of Virginia requires that you maintain a service contract with a licensed service provider. While we recommend that you use the licensed service provider listed, any *licensed* service provider may be used.

All inspection and reports shall adhere to the minimum requirements prescribed in the *Alternative Onsite Sewage System Regulations*. The following Code Sections govern inspections and reports:

12VAC5-613-150. Operator requirements for AOSS with flows up to 40,000 GPD, minimum frequency of visits

The owner of each AOSS shall have that AOSS visited by an operator in accordance with Table 4.

Avg. Daily Flow	*Initial Visit*	*Regular visits following initial visit*
≤1,000 GPD	**Within 180 calendar days of the issuance of the operation permit**	**Every 12 months**
>1,000 GPD to 10,000		**Quarterly**

Table 4. Minimum Operator Visit Frequency for AOSSs up to 40,000 GPD

12VAC5-613-180. Mandatory visits; inspection requirements

When an operator is required to make a visit to an AOSS the operator shall, at a minimum, accomplish the following:

1. Inspect all components of the AOSS and conduct field measurements, sampling, and other observations required by this chapter, the O&M manual, or deemed necessary by the operator to assess the performance of the AOSS and its components.
2. Review and evaluate the operation of the AOSS, perform routine maintenance, make adjustments, and replace worn or dysfunctional components with functionally equivalent parts such that the system can reasonably be expected to return to normal operation.
3. If the AOSS is not functioning as designed or in accordance with the performance requirements of this chapter and, in the operator's professional judgment, cannot be reasonably expected to return to normal operation through routine operation and maintenance report immediately to the owner the remediation efforts necessary to return the AOSS to normal operation.

Inspection Schedule(Continued)

12VAC5-613-190. Reports

When required to file a report, the operator shall complete the report in a form approved by the division. In accordance with § 32.1-164 H of the Code of Virginia, the operator shall file each report using a web-based system and pay the required fee. The operator may, solely at his own discretion, file reports in addition to those required by this chapter. Each report shall be filed by the 15th of the month following the month in which the visit occurred and shall include the following minimum elements:

1. The name and license number of the operator;
2. The date and time of the report;
3. The purpose of the visit, such as required visit, follow-up, or reportable incident;
4. A summary statement stating whether:
    a. The AOSS is functioning as designed and in accordance with the performance requirements of this chapter;
    b. b. After providing routine operation and maintenance, the operator believes the AOSS will return to normal operation; or
    c. c. The system is not functioning as designed or in accordance with the performance requirements of this chapter and additional actions are required by the owner to return the AOSS to normal operation;
5. All maintenance performed or adjustments made, including parts replaced;
6. The results of field measurements, sampling, and observations;
7. The name of the laboratory that analyzed samples, if appropriate; and
8. A statement certifying the date the operator provided a copy of the report in electronic or hard copy form to the owner.

Sampling Information

Sampling is an important measure of how your system is performing. It can help identify issues before they become significant and reduce the likelihood of system failure or environmental contamination. As such, Virginia requires periodic sampling of your system. This sampling should be taken care of by your licensed service provider. The following are the Code Sections governing sampling:

12VAC5-613-100. Performance requirements; laboratory sampling and monitoring

A. Sampling shall be done in accordance with the requirements in the Alternative Onsite Sewage System Regulations. Samples shall be taken from the sampling port or the pump tank if a sampling port has not been provided with your system (See Installation Completion Statement for sampling port location).

B. All effluent samples must be taken at the end of all treatment, prior to the point where the effluent is discharged to the soil treatment area unless changed pursuant to 12VAC5-613-90 or 12VAC5-613-210. The designer shall identify the sampling points. When required, the sampling point for chlorine disinfection shall be at the end of the chlorine contact tank if TRC is to be used to measure compliance.

C. All sampling and monitoring shall be conducted according to procedures approved under 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency unless other procedures have been specified in this chapter.

D. The owner of each small AOSS must ensure that an initial grab sample of the effluent from the treatment unit is collected within 180 days of system operation. The sample must be analyzed in accordance with 40 CFR Part 136 or alternative methods approved by the U.S. Environmental Protection Agency within the first 180 days of operation. Thereafter, if the treatment unit has received general approval, a grab sample is required once every five years. Samples shall be analyzed for BOD5 and, if disinfection is required, fecal coliform. Treatment units utilizing chlorine disinfection may alternatively sample for TRC instead of fecal coliform. Sample results shall be submitted to the local health department by the 15th of the month following the month in which the sample was taken.

Owner Responsibilities

As the owner of an Alternative Onsite Sewage System (AOSS) you have several State mandated responsibilities. Below is the state code section detailing homeowner responsibilities.

12VAC5-613-140. Owner responsibilities

It is the owner's responsibility to do the following:

1. Have the AOSS operated and maintained by an operator;
2. Have an operator visit the AOSS at the frequency required by this chapter;
3. Have an operator collect any samples required by this chapter;
4. Keep a copy of the log provided by the operator on the property where the AOSS is located in electronic or hard copy form, make the log available to the department upon request, and make a reasonable effort to transfer the log to any future owner;
5. Follow the O&M manual and keep a copy of the O&M manual in electronic or hard copy form for the AOSS on the property where the AOSS is located, make the O&M manual available to the department upon request, and make a reasonable effort to transfer the O&M manual to any future owner; and
6. Comply with the onsite sewage system requirements contained in local ordinances adopted pursuant to the Chesapeake Bay Preservation Act (§ 10.1-2100 et seq. of the Code of Virginia) and the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC10-20) when an AOSS is located within a Chesapeake Bay Preservation Area.

SOILS INC.

8399 W. Main St.
Marshall, VA 20115
Phone: (540) 364-1122
Fax: (540) 364-2060
soils-inc.com

AOSE/PE Inspection Report and Completion Statement

Commonwealth of Virginia
State Department of Health **Fairfax** County Health Department

Health Department ID #: **200830246** Tax Map ID: **2-2-02-044A**

Name of AOSE/PE: **Brian H. Phillips** License # **1940001374**

Contactors Name: **Settle Excavating and Plumbing** License # **27010032072**

Owner's Name: **John and Sheri Rhodes**

Owner's Address: **74 South Player Crest Circle** **The Woodlands, TX 77382**

Location of Installation: **222 Donmore Drive, Great Falls, VA 22066**

Subdivision: **Seneca Farms** Block: Section: Lot: **44A**

Inspection Results		
Component	Comments, Materials, Etc. Deficiencies Observed, Date Deficiencies Observed, Corrective Actions Required	Date Approved
Water Supply Location and Construction	Class IIIB well, measurements pulled. Well permit # 200860270 & 210420206. By others. See note below.	*
Building Sewer	4" SCH40 PVC; >1 1/4" fall per 10'	3/26/2021
Septic Tank	1500 Gallon Hanover TJ Tank w/ATU	3/26/2021
Inlet-Outlet Structure	Sealed Unit	3/26/2021
Pump and Pump Station	2000 gallon Hanover TS Tank w/ Zoeller N98 pump. 450gal ADF, 112.5 gal/dose, 4 doses/day. 42 GPM; Run =2:39m, Rest=6h. P1: Ct=6, ETM=0:00h. P2: Ct=16, ETM=00:02h. Peak Ct=7, Alarm Ct=5.	1/6/2022
Conveyance Method	2" SCH40 PVC force main.	3/26/2021
Distribution Box or Pressure Manifold	6 port concrete surge box suppling 10 port concrete d-box with plastic levelers , both on concrete pads.	3/26/2021
Header, Conveyance, Drip, Chambers, Etc.	4" SCH40 PVC	3/26/2021
Absorption Trenches and Dispersal Field	5 trench laterals, each 75' long, 2' wide, and 6' on center. 4" black plastic perforated, corrugated drain pipe.	3/26/2021
(Other Components: Treatment Unit, etc.)	MicroFAST 0.75 ATU	1/6/2022
Note	Well location was changed by driller and builder. Soils, Inc. was not notified of the change and had no input as to the new location and was permitted by others.	*

Attach observed deficiencies and corrective actions taken on a separate completion statement as necessary.

AOSE/PE Completion Statement: As-Built Drawing

Commonwealth of Virginia
State Department of Health

Health Department ID Number: **200830246** Tax Map # **2-2-02-044A**

Triangulate critical system components to fixed reference points.

See attached as-built

COMMONWEALTH OF VIRGINIA
BRIAN H. PHILLIPS
Lic. No. 1940001374
1/25/2022
ALTERNATIVE ONSITE SOIL EVALUATOR

☑ Check here if the as built is on a separate page attached to this form.
(Attachment must display Health Department ID number, tax map number, and must be signed & dated by the AOSE/PE)

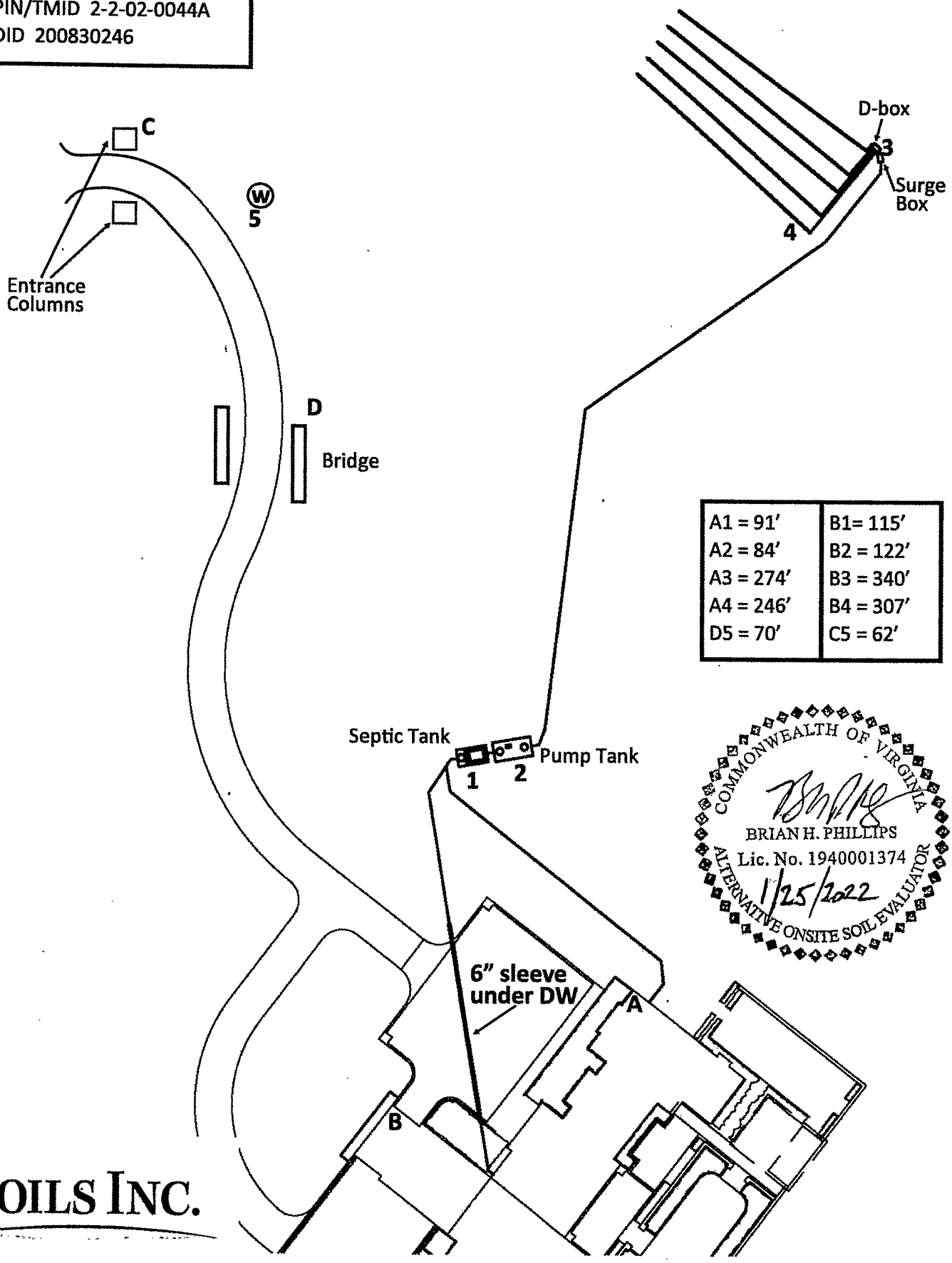
I hereby certify that on **1/6/2022** I, or an employee under my direct supervision, inspected this sewage system's construction. The onsite system has been installed and completed in accordance with the contruction. The onsite sewage system has been installed and completed in accrodznce with the construction permit issued **2/9/2021** and is in compliance with the *Sewage Handling & Disposal Regulations (12VAC5-610 et seq)*, the *Alternative Onsite Sewage Regulations (12VAC5-613*, and the *Private Well Regulations (12VAC5-630 et seq)*, when applicable, and the plans and specifications for this project.

AOSE/PE Signature: _____ Date: **1/25/2022**

Print Name: **Brian H. Phillips**

222 Donmore Drive
Great Falls, VA 22066
GPIN/TMID 2-2-02-0044A
HDID 200830246

12/10/20212 T1812



A1 = 91'	B1= 115'
A2 = 84'	B2 = 122'
A3 = 274'	B3 = 340'
A4 = 246'	B4 = 307'
D5 = 70'	C5 = 62'

COMMONWEALTH OF VIRGINIA
BRIAN H. PHILLIPS
Lic. No. 1940001374
1/25/2022
ALTERNATIVE ONSITE SOIL EVALUATOR

SOILS INC.

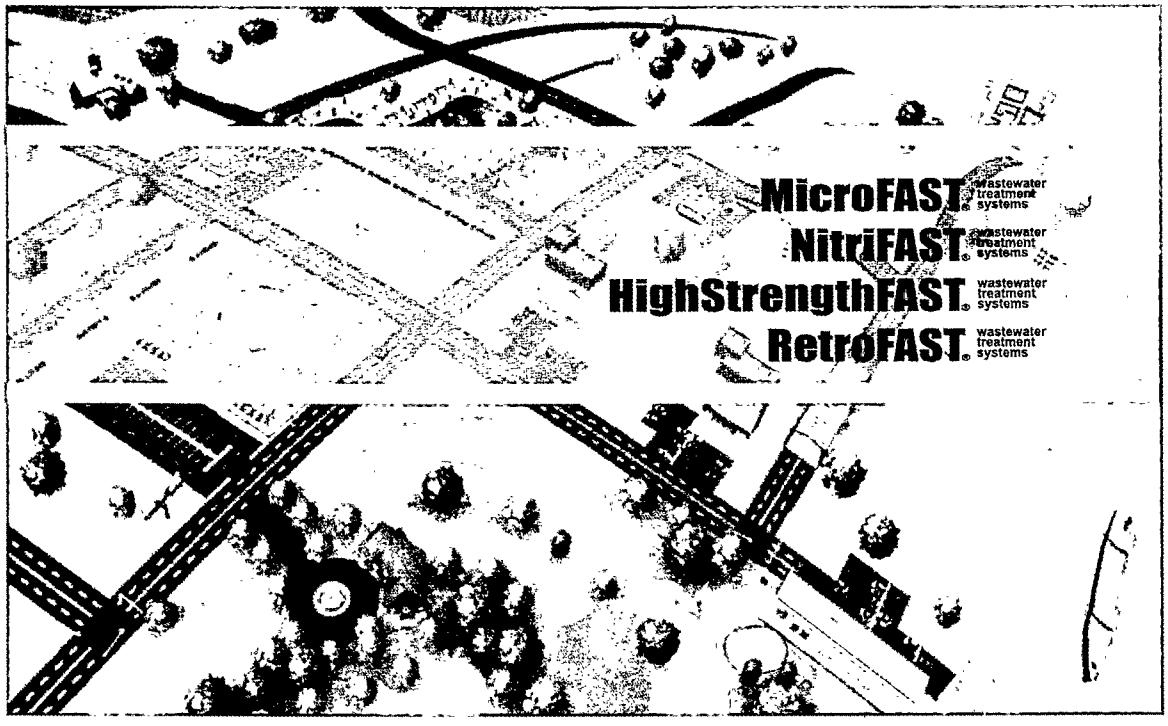
BIO-MICROBICS INCORPORATED

Better Water. Better World.®

FAST® Owner's Manual

FOR USE WITH

(NSF Std 40 & 245) **MicroFAST® 0.5, 0.75, 0.9, 1.5**
(non-NSF certified) **MicroFAST® 3.0, 4.5, 9.0**
(ETV/EPA tested) **RetroFAST® 0.150, 0.250, 0.375**
NitriFAST® 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0
HighStrengthFAST® 1.0, 1.5, 3.0, 4.5, 9.0



OWNER'S MANUAL

FOR USE WITH FAST® SYSTEMS:

(NSF® Std 40/245 cert.)	**MicroFAST® 0.5, 0.75, 0.9, 1.5**
(Non-NSF cert.)	**MicroFAST® 3.0, 4.5, 9.0**
	NitriFAST® 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0
	HighStrengthFAST® 1.0, 1.5, 3.0, 4.5, 9.0
(ETV®/EPA tested)	**RetroFAST® .150, .250, .375**

GENERAL INFORMATION

All FAST® products are ETL certified for safety (electrical, environmental, etc.). One or more of the following patents protects this process: 3,966,599; 3,966,608; 3,972,965; 5,156,742. Certified by NSF International, the MicroFAST® 0.5, 0.75, 0.9 and 1.5 systems meets NSF Standard 40, Class 1 and Standard 245 certifications for single-residence wastewater treatment devices. If you have questions regarding any Bio-Microbics products, please contact us:

800-753-FAST (3278) or (913) 422-0707
e-mail: onsite@biomicrobics.com

Dear FAST® System Owner

Congratulations! You have a FAST® (Fixed Activated Sludge Treatment) wastewater treatment system installed on your property.

At the forefront of green technology, the FAST® System by Bio-Microbics meets the highest industry treatment standards. Based on environmentally sound and simple scientific principles, the FAST® process is our continued commitment to improve small onsite treatment capabilities. You can take pride in knowing that, with the FAST® system, you will help ensure a clean environment for future generations.

Please take time to read this FAST® Owner's Manual, you will learn important safety precautions, review detailed information on proper use and care of your system. Designed for minimal operator attention, the FAST® System contains only one moving part – the blower. By consistently following a maintenance schedule and being mindful of what can go down your drains, you can enjoy the lasting benefits FAST® Wastewater Treatment System for decades to come.

Top things you can do to prolong the life of your system:

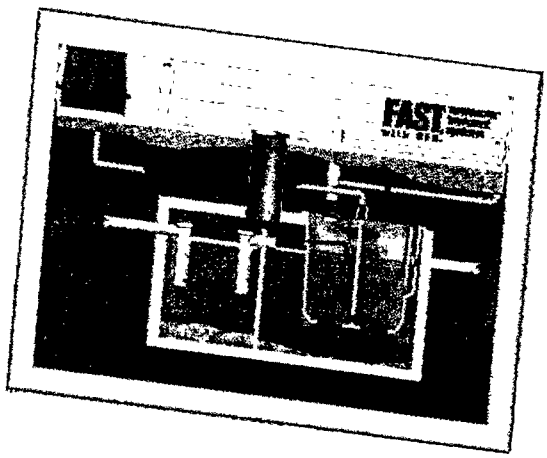
1. **Have the FAST® system inspected and tank pumped as necessary.**
2. **Keep track of the substances entering your system, please review the list of Do's & Don'ts**
3. **Keep the FAST® System operating - do not turn off the blower.**
4. **Care for your drain field or irrigation system (if incorporated into your FAST® System).**

If you should desire any further assistance, please contact Bio-Microbics at sales@biomicrobics.com or call us at 800-753-FAST (3278).

Thank you again for using FAST®!

Sincerely,

Bio-Microbics Team



NSF INTERNATIONAL

CERTIFIED SYSTEMS SERVICE POLICY

All NSF (National Sanitation Foundation) Standard 40 Class I and 245 certified wastewater treatment systems (MicroFAST® 0.5, 0.75, 0.9, 1.5) have an initial two-year service agreement included with the system's initial purchase price (two service calls per year). The NSF service calls **ONLY** cover NSF Standard 40 certified systems; other components of the septic system are NOT covered.

If there are any deficiencies in the FAST® system's operation or components, the service person will notify the owner in writing and detail when these deficiencies can be fixed.

The company listed on the blower housing or control panel label performs this service. During an NSF service call, the service company shall inspect the blower for proper operation, visually inspect the system's effluent for clarity, clean the blower air filter and assure proper function of the control panel. If these service calls are not performed on your NSF certified system, or not all of the items are checked, please call Bio-Microbics at:

For continual service of NSF certified systems beyond the first two years, an extended service agreement is available through your local Distributor or current service provider. This policy should provide the same services and may include any additional service that are required by local regulation. For continual service of NSF certified systems beyond the first two years, an extended service agreement is available through your local

ABOUT FAST®: The FAST® (Fixed Activated Sludge Treatment) system uses naturally occurring bacteria (biomass) to treat sewage for dispersal into the environment. This continuous process provides the biomass with waste (food) and air in a suitable environment. Dead bacteria and non-biodegradable waste settle and accumulate in the bottom of the septic tank for periodic removal.

The FAST® process consists of the treatment unit and blower. The blower provides air to the system via the air supply pipe. The air supply pipe and draft tube create an air lift. The air lift mixes oxygen and waste throughout the media inside the tank. Bacteria grows on the media and digests the waste. A vent pipe expels harmless vapors created by the process.

INTRODUCING SUBSTANCES INTO THE SYSTEM: While the FAST® wastewater treatment system will process most waste produced by the average household, introducing large amounts of subatances into the system may reduce the efficiency of the system or stop the treatment process by destroying the biomass. These substances can be grouped as: prohibited substances and limited-use substances. Please refer to the ***"DO'S AND DON'TS"*** list to get familiar with ***What You Can Put Down the Drain*** to maximize the system's efficiency and reduce the time period between septic tank pump-outs.

IN GENERAL: If a substance is harmful to humans or is anti-biotic in nature, it should not be put into any septic system - including FAST®.

If you have a question regarding the effect of a particular substance on the FAST® system, call your Bio-Microbics service technician.

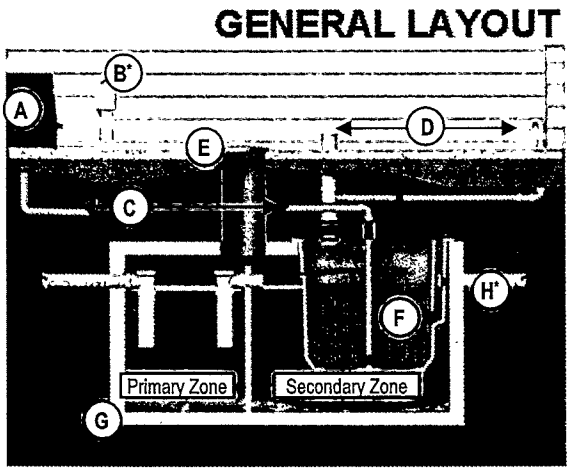
⚠ WARNING ***DO NOT ENTER THE SEPTIC TANK.*** *Hazards exist in a septic system. All precautions must be followed when inspecting the system. Keep tank openings covered at all times. Only authorized service personnel should service a septic system. Lethal gases, high voltage electricity, and other deadly hazards associated with the system.*

⚠ WARNING *Only qualified service staff should open access ports and/or covers. Infectious organisms exist in a septic tank. If any contact with wastewater, immediately wash and disinfect all exposed areas and contact personal physician. Failure to do so could result in severe sickness or death.*

SYSTEM COMPONENTS

The FAST® wastewater treatment system typically includes the following components:

- A. Blower & Housing
- B. Control Panel
- C. Air Piping
- D. Vent(s) and Observation Port
- E. Access
- F. FAST® Module
- G. Tank
- H. Outlet to Drain field



PLEASE NOTE:

There maybe associated equipment with your system: pumps (before and/or after the FAST® unit), distribution box, disinfection system, irrigation system, remote alarm, auto dialer, etc.

ONGOING SERVICE

⚠ WARNING *Only qualified service staff should open access ports and/or covers. Infectious organisms exist in a septic tank. If any contact with wastewater, immediately wash and disinfect all exposed areas and contact personal physician. Failure to do so could result in severe sickness or death.*

⚠ CAUTION *Avoid pumping down a tank after periods of heavy rain or when the ground water is likely to be above the bottom of the concrete tank. Emptying the tank under these conditions could cause the tank to float up and become dislodged.*

As the FAST® system processes the raw domestic waste (producing sludge and sloughed-off bacteria), the dead bacteria and non-biodegradable waste settle and accumulate in the bottom of the septic tank for periodic removal. The periodic removal time interval will change depending on the size of the system and varying load conditions.

TANK PUMPING PROCEDURE: As Required by Measurement of Sludge Depth

To determine the sludge depth accurately, open up the access ports/cover(s) to the primary zone (settling compartment), insert a sludge-measuring instrument, and take samples. If sludge is 18" (inches) deep or takes up 75% of the area below the port connecting settling compartment to secondary zone (which contains the FAST system), have the tank pumped out. All stricter, applicable regulations supersede these operational directions.

Also, check the sludge depth of the secondary zone. Open the access ports/cover(s) to the secondary zone and measure sludge depth. If sludge depth in the secondary zone is greater than 14" (inches), it is necessary to pump the bio-solids out.

Always pump out both zones of the system even if only one zone may require it.

1. Open the access ports/cover(s) and insert the hose. Be sure to **pump out both settling and treatment chambers** of the system.
2. Once the unit has been pumped out, **immediately refill the tank with clean water** to reduce the risk of the tank floating and to minimize the impact on treatment. Close the access ports/cover(s) making sure it is watertight.
3. **Properly dispose of the solids** in compliance with local and state regulations.

SEASONAL/INTERMITTENT USE PROPERTIES FAST® wastewater treatment system will function normally during short periods of inactivity, even if there is no wastewater flowing to the system. The power to the system should be left on during this time. Typical examples of extended periods of intermittent use and suggested operational procedures:

- **Summer use property** (shut down all winter) - blower should be turned off at end of summer and restarted upon return.
- **Weekend property** (used at least once every three weekends) - maintain normal operation or utilize FAST's SFR® blower timer feature on control panel. Consult your service provider and local regulations prior to any system changes.

Check with local regulations before attempting: If property is seldom used and blower is shut down completely for an extended period of time (i.e. summer use only), we suggest to arrange through your local service provider restarting the blower a week or two prior to returning to the property.

⚠ WARNING ***Only authorized service personnel should service a septic system and its components. Deadly hazards such as lethal gases and high voltage electricity are associated with the system.***

⚠ CAUTION ***Introducing harmful or damaging substances into the FAST system may void the warranty.***

LIMITED WARRANTY

Bio-Microbics, Inc. warrants every new residential FAST® system against defects in materials and workmanship for a period of two years after installation or three years from date of shipment, subject to the following terms and conditions, (Commercial FAST system for a period of one year after installation or eighteen months from date of shipment, whichever occurs first, subject to the following terms and conditions):

During the warranty period, if any part is defective or fails to perform as specified when operating at design conditions, and if the equipment has been installed and is being operated and maintained in accordance with the written instructions provided by Bio-Microbics, Inc., Bio-Microbics, Inc. will repair or replace at its discretion such defective parts free of charge. Defective parts must be returned by owner to Bio-Microbics, Inc.'s factory postage paid, if so requested. The cost of labor and all other expenses resulting from replacement of the defective parts and from installation of parts furnished under this warranty and regular maintenance items such as filters or bulbs shall be borne by the owner. This warranty does not cover general system misuse, aerator components which have been damaged by flooding or any components that have been disassembled by unauthorized persons, improperly installed or damaged due to altered or improper wiring or overload protection. This warranty applies only to the treatment plant and does not include any of the structure wiring, plumbing, drainage, septic tank or disposal system. Bio-Microbics, Inc. reserves the right to revise, change or modify the construction and/or design of the FAST system, or any component part or parts thereof, without incurring any obligation to make such changes or modifications in present equipment. Bio-Microbics, Inc. is not responsible for consequential or incidental damages of any nature resulting from such things as, but not limited to, defect in design, material, or workmanship, or delays in delivery, replacements or repairs.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. BIO-MICROBICS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO REPRESENTATIVE OR PERSON IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR TO ASSUME FOR BIO-MICROBICS, INC., ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF ITS PRODUCTS.

Module System Serial Number: _____

System Designer Name: _____

Designer Phone: _____

Health Official Name: _____

Health Official Phone: _____

Manufacturer Name: Bio-Microbics, Inc.

Manufacturer Phone: 1-800-753-FAST (3278)

Installed By: _____

Installer Phone: _____

Maintenance Provider Name: _____

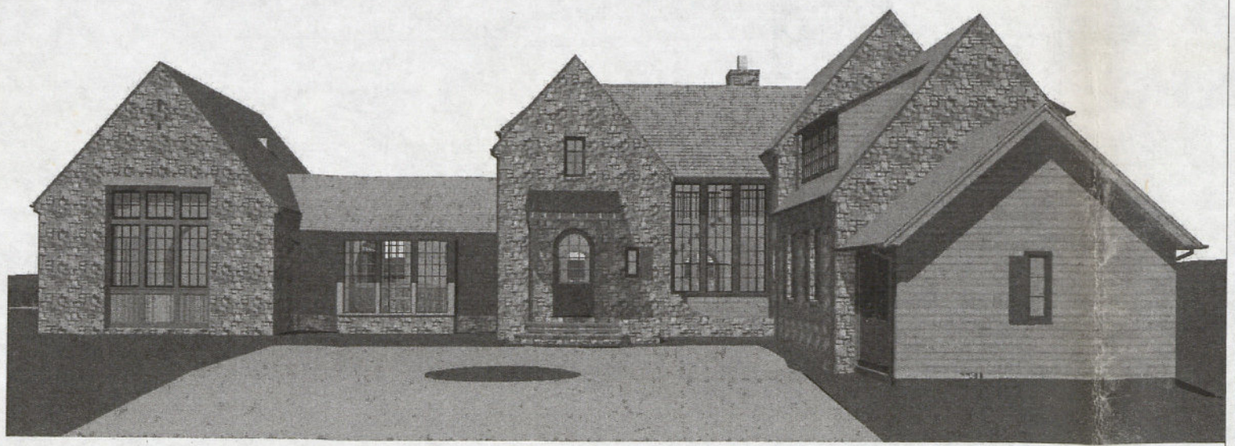
Maintenance Provider Phone: _____

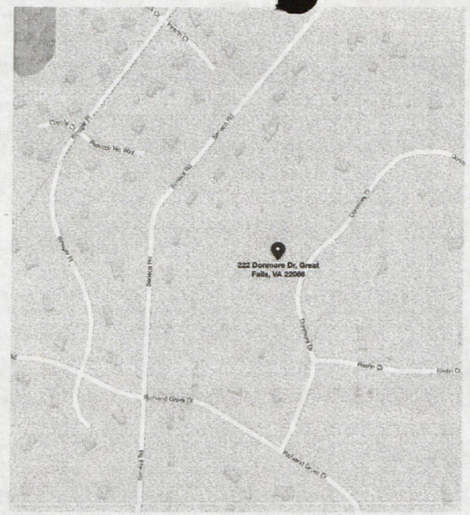
BIO-MICROBICS INCORPORATED

8450 Cole Parkway • Shawnee, KS 66227 • USA
Ph: 913-422-0707 • Fax: 913-422-0808
800-753-FAST (3278) • www.biomicrobics.com

Rhodes Residence

222 Donmore Drive
Great Falls, VA 22066





Vicinity Map

PROJECT INFO :

NEW 2-STORY SINGLE FAMILY RESIDENCE WITH BASEMENT AND DETACHED COVERED PORCH.

ADDRESS:	222 Donmore Drive Great Falls, VA 22066
LOCATION:	LOT 44-A, SEC 3
ZONING:	RE
SETBACKS:	FRONT: 60', SIDE: 50', REAR: 50'
LOT AREA:	228,886 SF (5.2544 AC)

	ALLOWED:	PROPOSED:
BUILDING HEIGHT:	35'-0" max	26'-11 1/2"

REFER TO CIVIL DOCUMENTS FOR COMPLETE CALCULATIONS AND MEASUREMENTS

BUILDING AREA:

	PROPOSED:
BASEMENT FLOOR AREA:	1,238 SF
FIRST FLOOR AREA:	3,639 SF
SECOND FLOOR AREA:	2,045 SF
BUILDING AREA:	**6,922 SF**
GARAGE AREA:	800 SF
ACCESSORY BLDG AREA:	132 SF
TOTAL FLOOR AREA:	**7,854 SF**

PLANS PREPARED BASED ON THE FOLLOWING CODES:

2015 VIRGINIA RESIDENTIAL CODE WITH FAIRFAX COUNTY LOCAL CRITERIA

BUILDING PLAN REVIEW COVER SHEET
LAND DEVELOPMENT SERVICES – BUILDING DIVISION
Revised December 13, 2016

Project name: Rhodes Residence
Project address: 222 Donmore Dr Great Falls VA 22066
Floor(s): 1/2 + basement **Suite(s):** 1
Work Description: New 2-story Single Family Residence w/ basement and detached covered porch.
Site-related plan #:
Applicable code: edition-year: 2015
☐ **Virginia Construction Code:** (new commercial, multi-family and R-3 residential construction)
☐ New Building ☐ Addition
☐ **Virginia Existing Building Code:** (existing commercial, multi-family and R-3 residential construction)
☐ Level 1 Alteration ☐ Repair
☐ Level 2 Alteration ☐ Change of occupancy
☐ Level 3 Alteration ☐ Moved building
☐ Historic building ☐ Addition
☒ **Virginia Residential Code** (new and alterations to existing R-5 residential construction)
Conditions: list below building-related proffers, development conditions, special permits, variances

Condition	Drawing # reference
1)	
2)	
3)	
4)	

Zoning application #:
Department of Code Compliance case: ☐ Yes ☒ No; if yes:
Case number:

RESIDENTIAL
Occupancy/Group: ☒ R-5 ☐ R-3
Building height: 24'-11 1/2" (feet)
Floor or roof trusses: ☐ Yes ☒ No
Masterfile model name: NA
Utility company easements on site: ☐ Yes ☒ No
Problem soils: ☒ Yes ☐ No; if yes, submit soils report
Affordable dwelling units required: ☐ Yes ☒ No
Sound transmission class required: ☐ Yes ☒ No
Energy compliance (choose design alternative):
☒ Prescriptive ☐ Per REScheck (output must be provided)

COMMERCIAL
Occupancy/Group(s):
Type(s) of construction:
Number of stories: High rise: ☐ Yes ☐ No
Unlimited area building: ☐ Yes ☐ No
Number of Type A dwelling units (multi-family):
Critical structure: ☐ Yes ☐ No; if yes, attach the Statement of Special Inspections
For tenant alteration and change of use:
Purpose of space:
Gross area per floor: (square feet)
Area of work: (square feet)
Gross area of tenant space: (square feet)
Base building design, code/year:
Fire protection:
Sprinklers: ☐ Full ☐ Partial ☐ None
Fire alarm system: ☐ Yes ☐ No
Approved central station: ☐ Yes ☐ No
Standpipes: ☐ Yes ☐ No
Hazardous materials:
☐ Combustible liquid ☐ Flammable liquid
☐ Other:
High pile storage installed: ☐ Yes ☐ No
Fire resistance ratings: (provide design numbers, prescription item number or calculated code section)
Floor/ceiling: Roof/ceiling:
Columns: Beams:
Corridors: Tenant walls:
Accessibility per ICC/ANSI A117.1: (choose one)
☐ **Fully compliant** (accessible route to primary function area, including restrooms and drinking fountain)
☐ **Technically infeasible** (fixture count cannot be reduced; family/accessible restroom is provided)
☐ **Upgrades required** (up to 20% of cost of alterations)
Cost of alterations: $
Cost of upgrades: $
Upgrades provided:
Electrical energy compliance: (choose design alternative)
☐ ANSI/ASHRAE/IESNA Standard 90.1
☐ Virginia Energy Conservation Code

DESIGNER INFORMATION
Signed and sealed drawings by a Virginia-licensed registered design professional (RDP) may be required by the Virginia Department of Professional and Occupational Regulation. Learn more by searching for "sealed drawings" on *forfaxcounty.gov*
RDP signature" and seal required: ☒ Yes ☐ No; If yes, signature and seal are provided:
☒ On each sheet
☐ With table of contents (permissible with eplans only)
** Signatures must be original on paper-submitted plans and electronically-protected in eplans.*
Designer information (complete for all applicable trades shown on the drawings):
Building:
Name: Neal Thomson, AIA
Occupation (if not an RDP): Architect
Telephone: 202-686-6583
Email: neal@thomsoncooke.com
License number: 015434
Structural:
Name: David Linton, P.E.
Telephone: 571-323-0320
Email: dlinton@lintonengineering.com
License number: 18787
Mechanical:
Name:
Telephone:
Email:
License number:
Electrical:
Name:
Telephone:
Email:
License number:
Plumbing:
Name:
Telephone:
Email:
License number:
DRAWINGS MISSING REQUIRED SEALS OR DO NOT HAVE ORIGINAL OR ELECTRONICALLY-PROTECTED SIGNATURES WILL NOT BE ACCEPTED DURING PERMIT APPLICATION.

GENERAL NOTES
- Failure to fully complete the applicable fields in this cover sheet may result in a failed plan review and subsequent delay in permit issuance.
- This cover sheet must be submitted on 11x17 paper, eplan or incorporated in the building drawings.
- Accessibility and energy conservation sections of this cover sheet are certifications endorsed by the applicable designer. Inaccuracies found during plan review must be corrected prior to permit issuance. Inaccuracy found in the field must be corrected prior to subsequent inspections.
- Once approved, building drawings are subject to any corrections noted therein. Permit issuance does not waive any code requirements not identified during plan review and does not prevent county inspectors from requiring corrections in the field or plan revisions.
- No changes shall be made to the approved drawings without prior county approval.
- Residential drawings are not reviewed for mechanical, electrical and plumbing systems. Compliance is evaluated during inspections.
- Truss shop drawings must be reviewed and approved by the county prior to erection.
- No inspections will be made unless a printed set of approved of drawings, including this cover sheet, are on the job site and available to the inspector.
- Call Miss Utility at 811, TTY 711 before you dig.
- Occupancy is not permitted until a final inspection has been approved and, when applicable, a Certificate of Occupancy is issued.

Standard Abbreviations

A/C	Air Conditioner(ir, ing, ed)	D	Drain, Dryer	GWB	Gypsum Wall Board	NIC	Not in Contract
AB	Anchor Bolt	DBL	Double	GYP	Gypsum	NO	Number
ABV	Above	DEM	Demolition	HB	Hose Bibb	NOM	Nominal
AD	Area Drain	DET	Detail	HD	Head	NTS	Not to Scale
ADJ	Adjustable	DIA	Diameter	HDR	Header	OC	Over
AFF	Above Finish Floor	DIAG	Diagonal	HDWD	Hardwood	OC	On Center
AGG	Aggregate	DIFF	Diffuser	HDWR	Hardware	OD	Outside Diameter
AHU	Air Handling Unit	DIM	Dimension	HGR	Hanger	OFF	Office
ALUM	Aluminum	DISP	Dispenser	HORIZ	Horizontal	OPNG	Opening
ANOD	Anodized	DISP(D)	Disposal	HR	Hour	OPP	Opposite
APC	Access Panel	DIV	Division	HT	Height	P	Pantry
ARCH	Architect(ural)	DL	Dead Load	HVAC	Heating, Ventilating & A/C	PART	Partition
AUTO	Automatic	DN	Down	HVC	Hose Valve Cabinet	PC	Portland Cement
AVG	Average	DR	Door	HWH	Hot Water Heater	PDR	Powder Room
BA	Bath	DS	Down Spout	ID	Inside Diameter	PL	Plate
BD	Board	DW	Dishwasher	INST	Installation	PLAM	Plastic Laminate
BEV	Bevel (Ed)	E	East	INSUL	Insulation/Insulating	PLAS	Plaster
BIT	Bituminous	EA	Each	INT	Interior	PLAST	Plastic
BLDG	Building	EF	Exhaust Fan			PLYWD	Plywood
BLK	Block	EJ	Expansion Joint	LAM	Laminated	PN	Panel
BLKG	Blocking	EL	Elevation	LAV	Lavatory	POL	Polished
BM	Beam	ELEC	Electric(al)	LB	Pound	PT	Paint
BMT	Basement	ELEV	Elevator	LBS	Library	PTDF	Pounds Per Square Foot
BOT	Bottom	EMER	Emergency	LIN	Linear	PSI	Pounds Per Square Inch
BR	Bedroom	ENCL	Enclosure	LIN	Linen Closet	PT	Point
BRG	Bearing	ENG	Engineering	LL	Live Load	PT	Pressure Treated
BRK	Brick	EP	Elec Panel	LLH	Long Leg Horizontal	PTD	Painted
BRL	Building Restriction Line	EQ	Equal	LLV	Long Leg Vertical	PVC	Polyvinyle Chloride
BTW	Between	EQUIP	Equipment	LP	Low Point	PVMT	Pavement
C	Center To Center	EW	Each Way	LR	Living Room	PTW	Pressure Treated Wood
CAB	Cabinet	EX	Exposed	LV	Low Voltage	PUE	Public Utility Easement
CJ	Control Joint	EXIST	Existing	LVL	Laminated Veneer Lumber	QTY	Quantity
CL	Center Line	EXT	Extension	LW	Light Weight	R	Radius, Riser
CL	Closet	FIN	Finish	MC	Medicine Cabinet	RAS	Rod And Shelf
CLG	Ceiling	FT	Feet or Foot	MACH	Machine	RAB	Rabbet (Ed)
CLR	Clear (ance)	FA	Fire Alarm	MAINT	Maintenance	RB	Rubber
CO	Clean Out	FD	Floor Drain	MAS	Masonry	RCP	Reflected Ceiling Plan
COL	Column	FDTN	Foundation	MAT'L	Material	RD	Roof Drain
CPT	Carpet	FG	Fiberglass	MAX	Maximum	REBAR	Reinforcing Bar
CT	Ceramic Tile	FIXT	Fixture	MECH	Mechanical	REC	Recessed
CTR	Center	FL	Floor	MEMB	Membrane	REF	Refrigerator
CTV	Cable TV	FOM	Face of Masonry	MET	Metal, Metallic	REFL	Reflective
CJ	Construction Joint	FOS	Face of Stud	MFG	Manufacturer	REG	Register
CJ	Control Joint	FP	Fire Place	MIN	Minimum	REQD	Required
CLJ	Contract Limit Line	FR	Fire Rated	MISC	Miscellaneous	REV	Revised, Reverse
CMU	Concrete Masonry Unit	FR	Frame	ML	Microlam	RFG	Roofing
CONC	Concrete	FTG	Footing	MO	Masonry Opening	RM	Room
CONST	Construction	FUR	Furred or Furring	MO	Masonry Opening	RO	Rough Opening
CONT	Continuous	GA	Gage or Gauge	MSL	Mean Sea Level	ROW	Right Of Way
CONTR	Contractor	GAL	Gallon	MTD	Mounted	S	South
CRS	Courses	GALV	Galvanized	MTG	Mounting	SCHED	Schedule
CTOP	Countertop	GC	General Contractor	N	North	SECT	Section
CTSK	Countersink	GL	Glass	NA	Not Applicable	SHT	Sheet
CU FT	Cubic Feet	GR	Grade	NEC	Necessary	SHWR	Shower
				NHC	No Head Casing		
						SIM	Similar
						SK	Addendum Sheet
						SP	Standard Pipe
						SPEC	Specification
						SQ	Square
						SS	Stainless Steel
						ST	Street
						STD	Standard
						STL	Steel
						STMD	Stained
						STOR	Storage
						STRUCT	Structur(al)
						SUSP	Suspension or Suspended
						SYS	System
						TBD	To Be Determined
						TD	Terrace Drain
						TECH	Technical
						TEL	Telephone
						TEMP	Temperature
						TO	Top Of
						TP	Toilet Paper
						T	Tread
						TAB	Top And Bottom
						T&G	Tongue and Groove
						TN	Trash
						THR	Threshold
						TOS	Top of Slab
						TOST	Top Of Steel
						TOW	Top of Wall
						TS	Tubular Steel
						TYP	Typical
						UNO	Unless Noted Otherwise
						UON	Unless Otherwise Noted
						UTIL	Utility
						VAN	Vanity
						VB	Vapor Barrier
						VCT	Vinyl Composition Tile
						VERT	Vertical
						VEST	Vestibule
						VIF	Verify in Field
						W	West
						W	Wide
						WO	Without
						WD	Wood
						WDW	Window
						WIC	Walk-in Closet
						WP	Waterproofing
						WT	Weight
						WWF	Welded Wire Fabric

Surface Materials

Brick – Running
Block – Running
Parged Concrete
Shingles/ Shakes
Metal Roof
Slate Roof
Marble/ Granite
Ceramic Tile – Size Varies
Stone Tile – Size Varies
Flagstone Irregular
Flagstone Random Rectangular
Wood Floor/ Siding
Stone Veneer

Section Materials

Brick
Poured Concrete
CMU
Rubble Stone
Fire Brick
Finish Stone/ Slate
Earth
Steel
Finish Wood
Plywood
Dimensional Lumber
Wood Blocking

Drawing Symbols

Building Section (1 / A2–3; DRAWING / SHEET)
Building Elevation (1 / A2–1; DRAWING / SHEET)
Wall Section/Detail (1 / A3–1; DRAWING / SHEET)
Interior Elevation (4 / A5–1 / 2; DRAWING OF FACING WALL / SHEET)
Roof Slope (12" RUN / 5 RISE)
Level Elevation: Section/Elevation (TOP OF PLATE 0'-2 1/2")
Level Elevation: Plan (8'-6")
A Revision
A Window
2 Door
2 Structure Member
2 Footing

Project Team

ARCHITECT
Thomson+Cooke Architects pllc
Neal Thomson, AIA
5155 MacArthur Blvd NW
Washington, DC 20016
202-686-6583
CONTRACTOR
Thorsen Construction
John Thorsen
5700-A General Washington Drive
Alexandria, Virginia 22312
703-501-1506
STRUCTURAL ENGINEER
Linton Engineering LLC
David Linton, PE
46090 Lake Center Plaza, Suite 309
Potomac Falls VA 20165
571-323-0320
CIVIL ENGINEER
Civil Spur LLC
Roger Bohr, PE
929 Broad Street Suite# 200
Falls Church, Virginia 22046
703-663-7173
LANDSCAPE ARCHITECT
Joseph Richardson Landscape Architecture
Joseph Richardson, PLA, ASLA
880 North Pollard Street
Arlington VA 22203
202-670-4405

Drawing List

0000 Cover	S000 Design Notes
0001 Code Notes	S001 Typical Details
0002 Window & Door Schedule	S002 Typical Details
A100 Basement Plan	S003 Typical Details
A101 First Floor Plan	S100 Basement Foundation Plan
A102 Second Floor Plan	S101 First Floor Framing Plan
A103 Roof Plan	S102 Second Floor/Low Roof Framing Plan
A104 Shed Plans & Elevations	S103 Roof Framing Plan
A200 Exterior Elevations	S104 IRC Wind Bracing Plans & Details
A201 Exterior Elevations	S105 IRC Wind Bracing Details Cont'd
A202 Building Sections	S200 Sections & Details
A203 Building Sections	S201 Sections & Details
A204 Building Sections	S203 Sections & Details
A205 Building Sections	S204 Sections & Details
A206 Building Sections	S202 Sections & Details
A300 Wall Sections	
A301 Wall Sections	
A400 Typical Details	
A401 Typical Details	
A402 Misc. Details	
A403 Front Door Details	
A404 Fireplace 1 Details	
A405 Fireplace 2 Details	
E000 Basement Electrical Plan	
E001 First Floor Electrical Plan	
E002 Second Floor Electrical Plan	

THOMSON & COOKE ARCHITECTS
5155 MACARTHUR BLVD NW
WASHINGTON DC 20016
202.686.6583
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Rhodes Residence
222 Donmore Drive Great Falls VA 22066

Cover

10-15-2019	PRELIMINARY PRICING ISSUE
11-20-2019	PPS ADDENDUM - REV 1
03-16-2020	PERMIT SET

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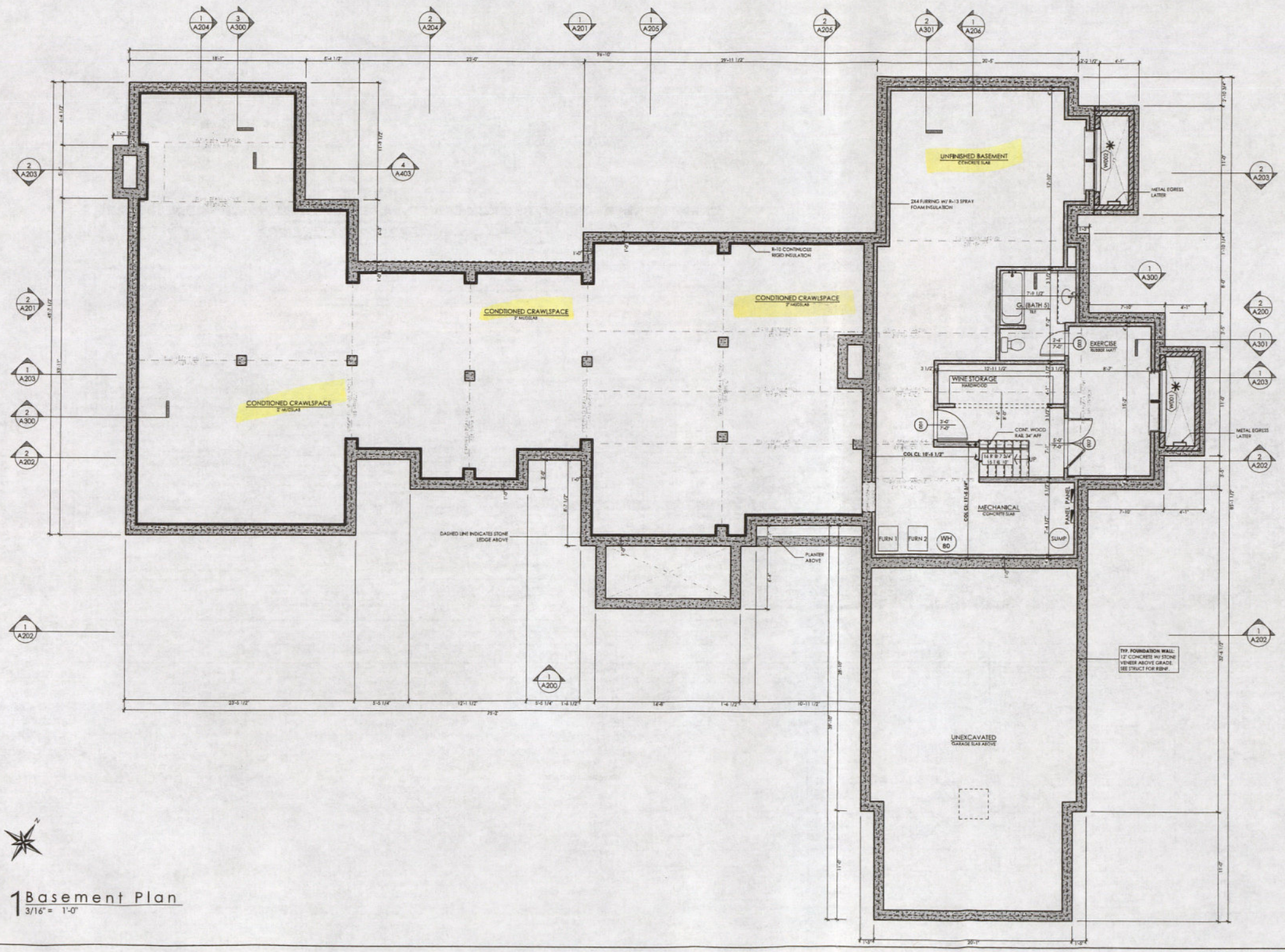
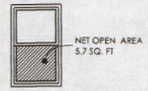


1 Basement Plan
3/16" = 1'-0"

note: *

ALL BEDROOM (I.E. SLEEPING ROOMS) SHALL HAVE AN EMERGENCY ESCAPE WINDOW (IRC 2012, 310). THIS WINDOW SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQ. FT WITH A CLEAR HEIGHT OF 24 INCHES AND A CLEAR WIDTH OF 20 INCHES. THE MAXIMUM HEIGHT OF THE CLEAR OPENING FROM THE FLOOR IS 44 INCHES (IRC 2012, 310)



WINDOW DETAIL

GENERAL NOTES:

1. UNLESS INDICATED OTHERWISE DIMENSIONS ARE TO FACE OF FRAMING.
2. VERIFY ALL EXTERIOR RISER AND TREAD DIMENSIONS IN THE FIELD.
3. (SD) ALL SMOKE/CARBON MONOXIDE DETECTORS TO BE HARD-WIRED TO DEDICATED CIRCUIT, INTERCONNECTED & PROVIDED WITH BATTERY BACKUP
4. PROVIDE CARBON MONOXIDE ALARMS PER R315.1
5. ALL STAIRS HANDRAILS AND GUARDS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION R311 AND R312 OF THE 2012 IRC.
6. SEE FRAMING PLANS FOR COORDINATION OF POST REQUIREMENTS.
7. ALL INTERIOR PARTITIONS NOT DIMENSIONED SHALL BE 3 1/2"
8. ALL ANGLES ARE 90 AND OR 45 UNLESS NOTED OTHERWISE.
9. REFER TO EXTERIOR ELEVATIONS & DOOR/ WINDOW SCHEDULE FOR WINDOW HEAD HEIGHTS.
10. ALL DOOR DIMENSIONS GIVEN IN FEET AND INCHES.

WALL TYPES

TYPICAL EXTERIOR WALL: 2"X6" WOOD STUDS 16" O.C. WITH R- 15 OPEN CELL SPRAY FOAM INSULATION, 1/2" OSB SHEATHING, TYVEK BUILDING WRAP, AND SIDING. SEE ELEVATIONS. INTERIOR FINISH TO BE 1/2" GYP. BOARD.

TYPICAL INTERIOR WALL: 2"X4" STUDS 16" O.C. WITH 1/2" GYP BOARD EACH SIDE.

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Basement Plan

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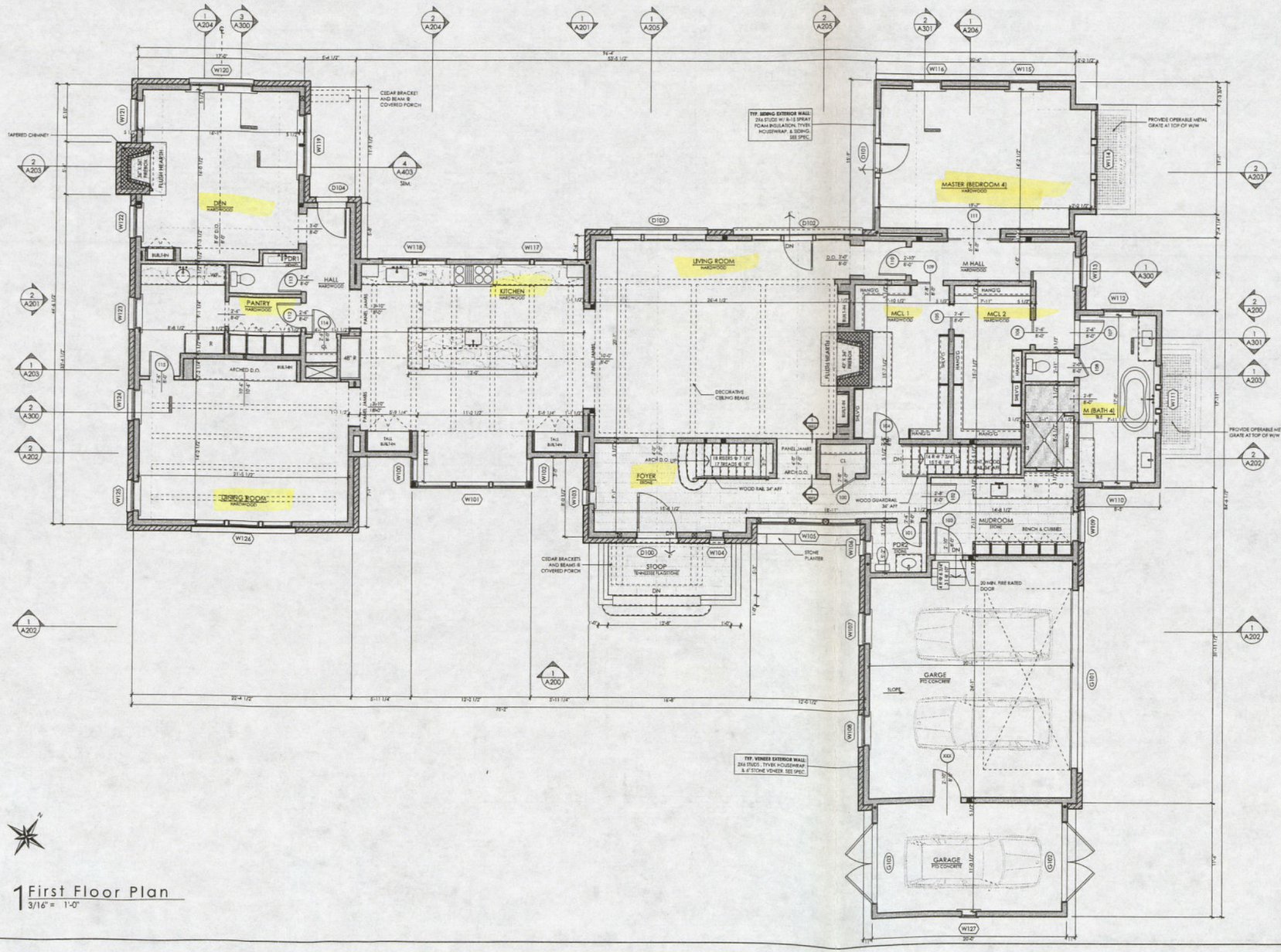
A100



1 First Floor Plan
3/16" = 1'-0"

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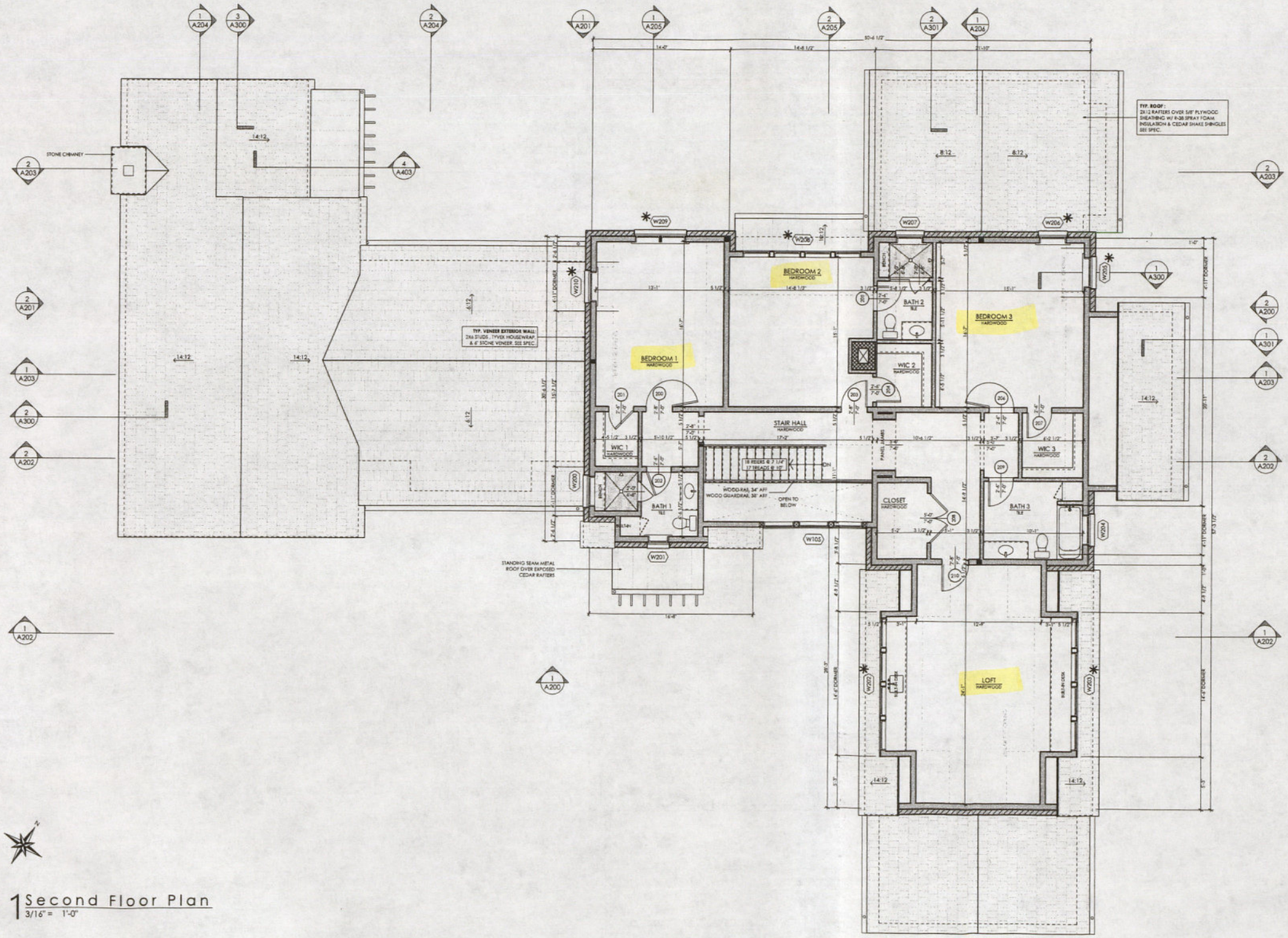
First Floor Plan

10-15-2019	PRELIMINARY PRICING ISSUE
11-20-2019	PPS ADDENDUM - REV 1
03-16-2020	PERMIT SET

A101



1 Second Floor Plan
3/16" = 1'-0"

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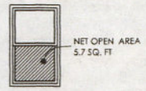

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Second Floor Plan

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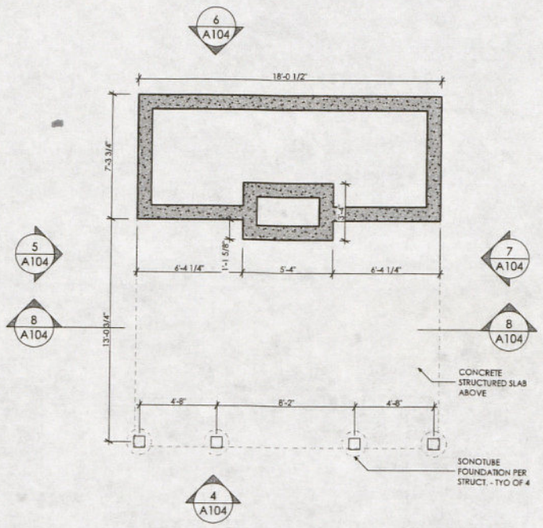
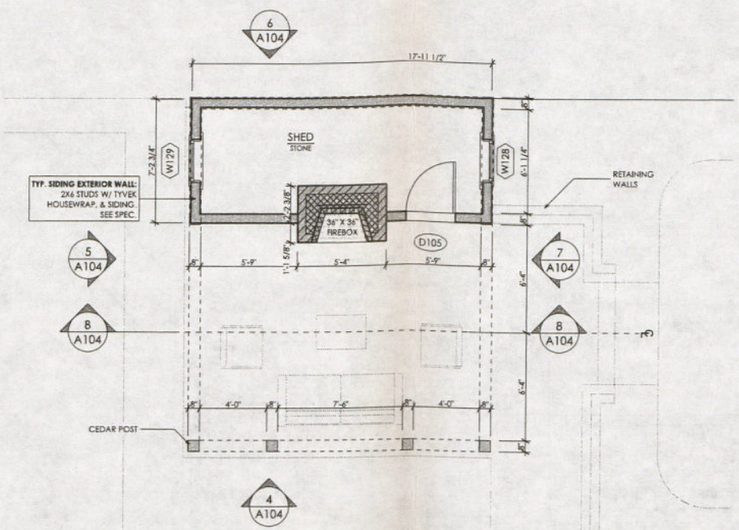
03-16-2020	PERMIT SET

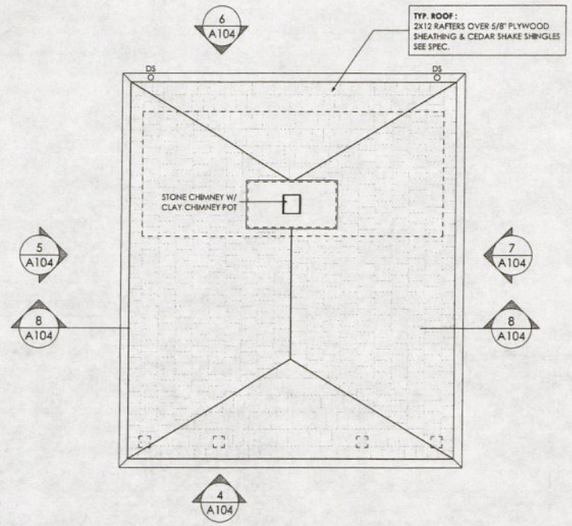
A102



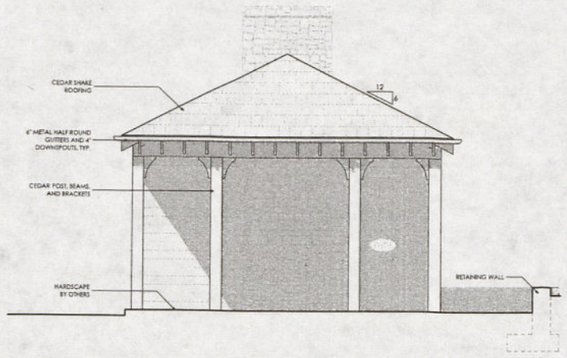
1 Shed Foundation Plan
1/4" = 1'-0"



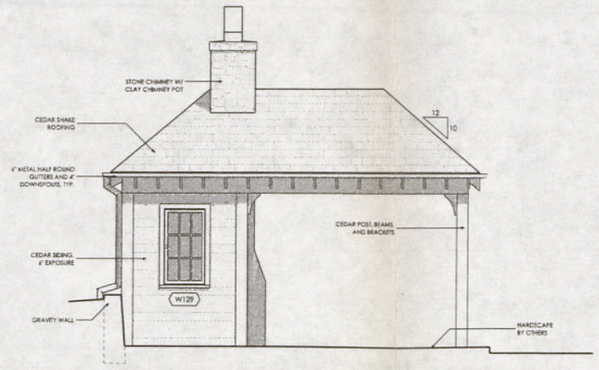
2 Shed 1st Floor Plan
1/4" = 1'-0"



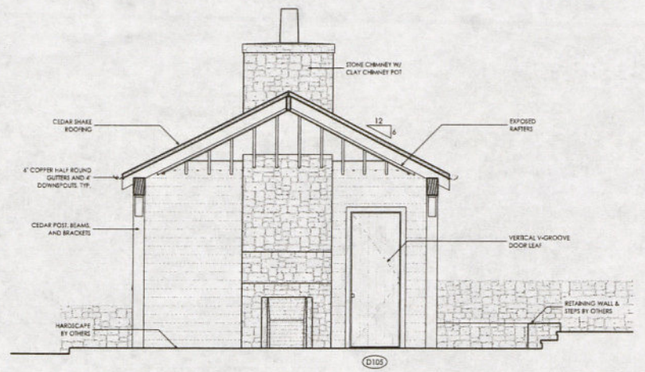
3 Roof Plan
1/4" = 1'-0"



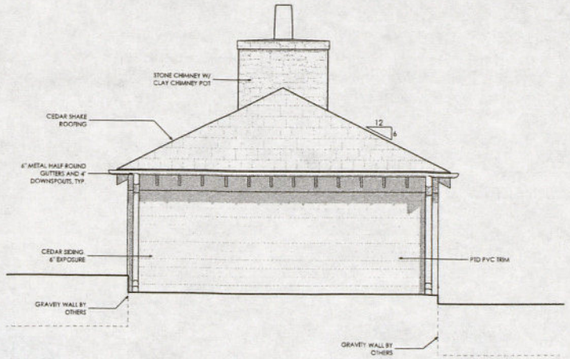
4 Shed Front Elevation
1/4" = 1'-0"



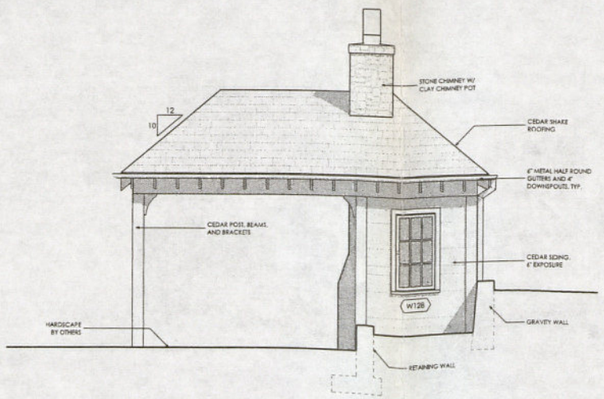
5 Shed Left Elevation
1/4" = 1'-0"



8 Shed Section 1
1/4" = 1'-0"



6 Shed Rear Elevation
1/4" = 1'-0"



7 Shed Right Elevation
1/4" = 1'-0"

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Shed Plans & Elevations

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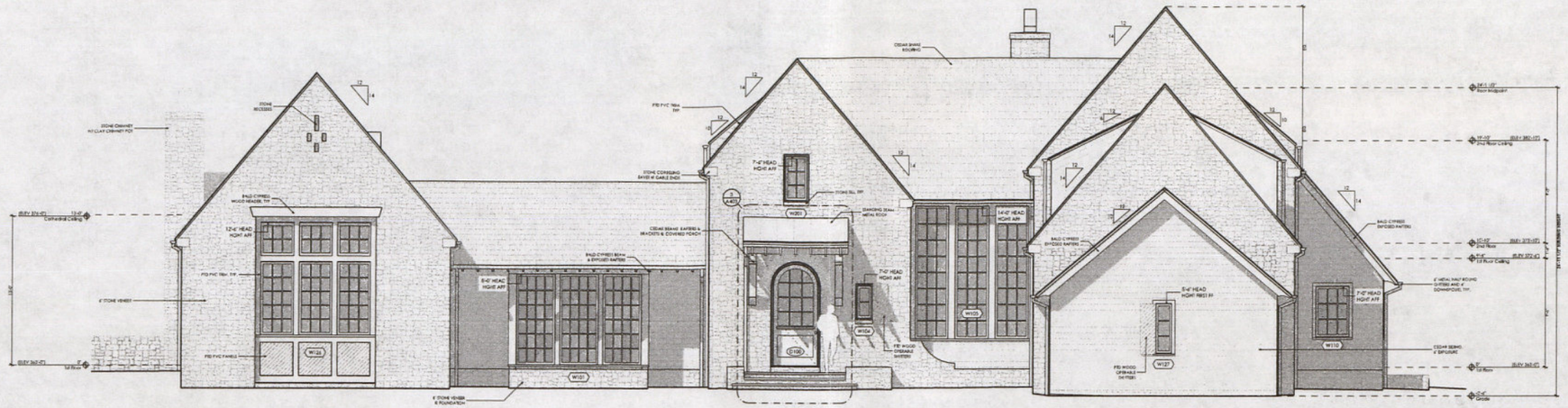
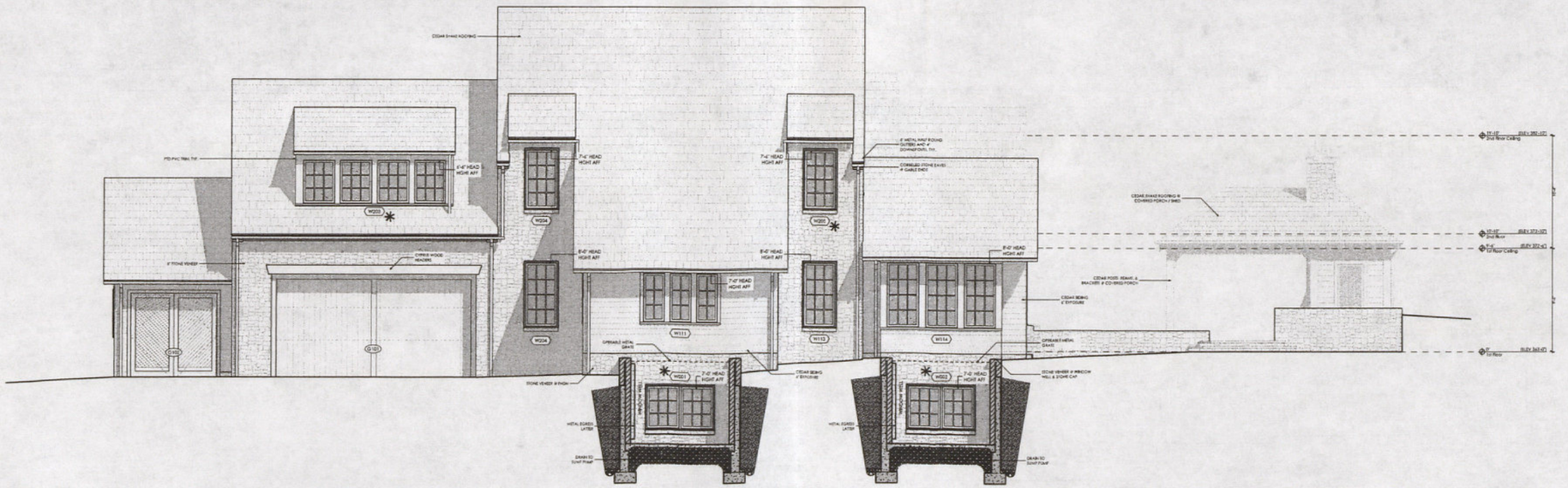
03-16-2020	PERMIT SET

A104



1 Front Elevation
3/16" = 1'-0"



2 Right Elevation
3/16" = 1'-0"

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Exterior Elevations

10-15-2019	PRELIMINARY PRICING ISSUE
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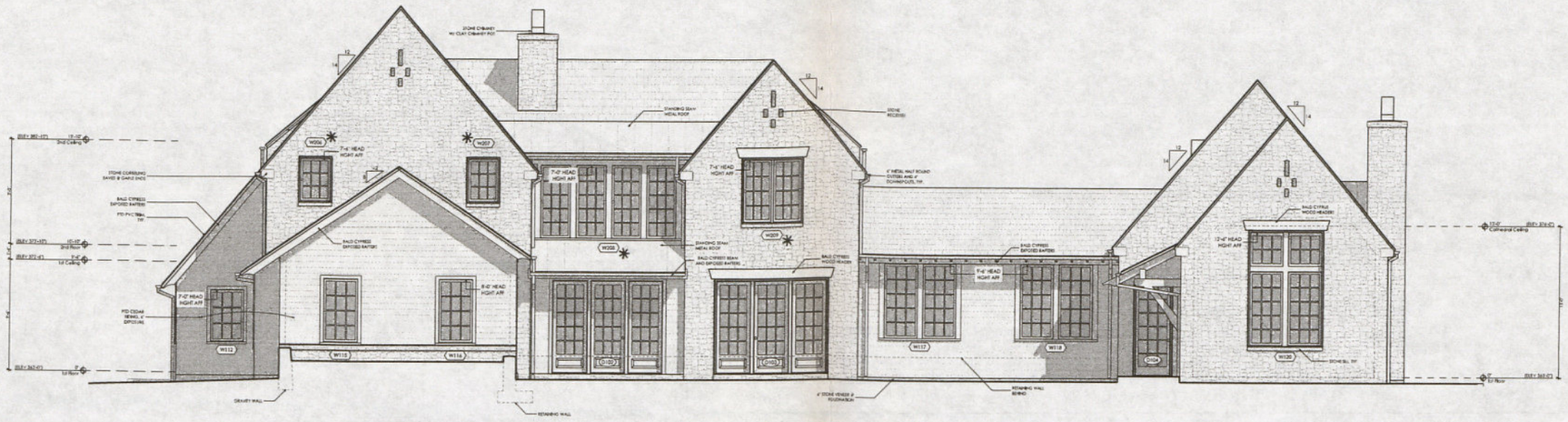
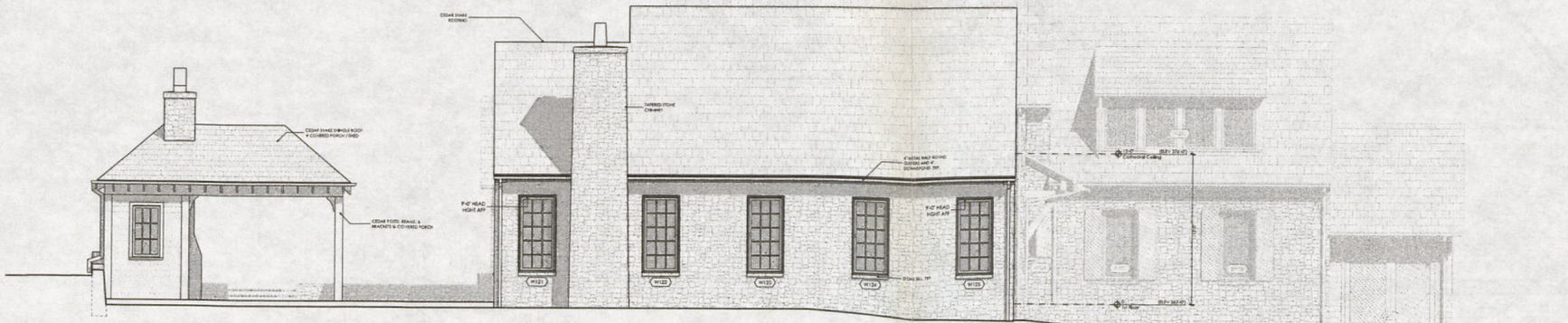
03-16-2020	PERMIT SET

A200



1 Rear Elevation
3/16" = 1'-0"



2 Left Elevation
3/16" = 1'-0"

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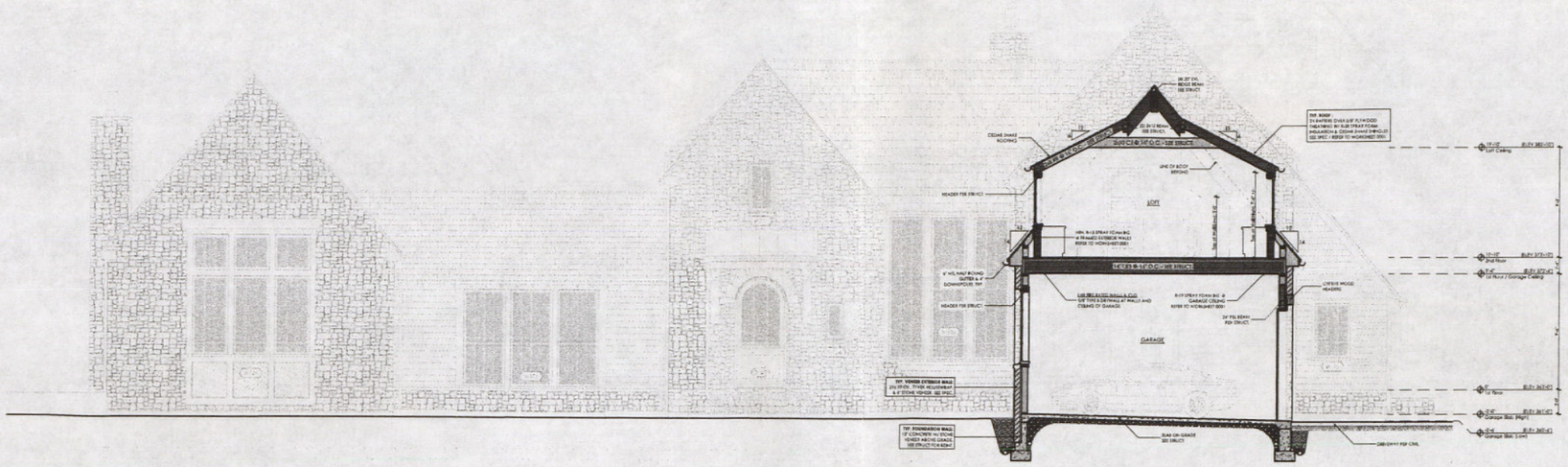
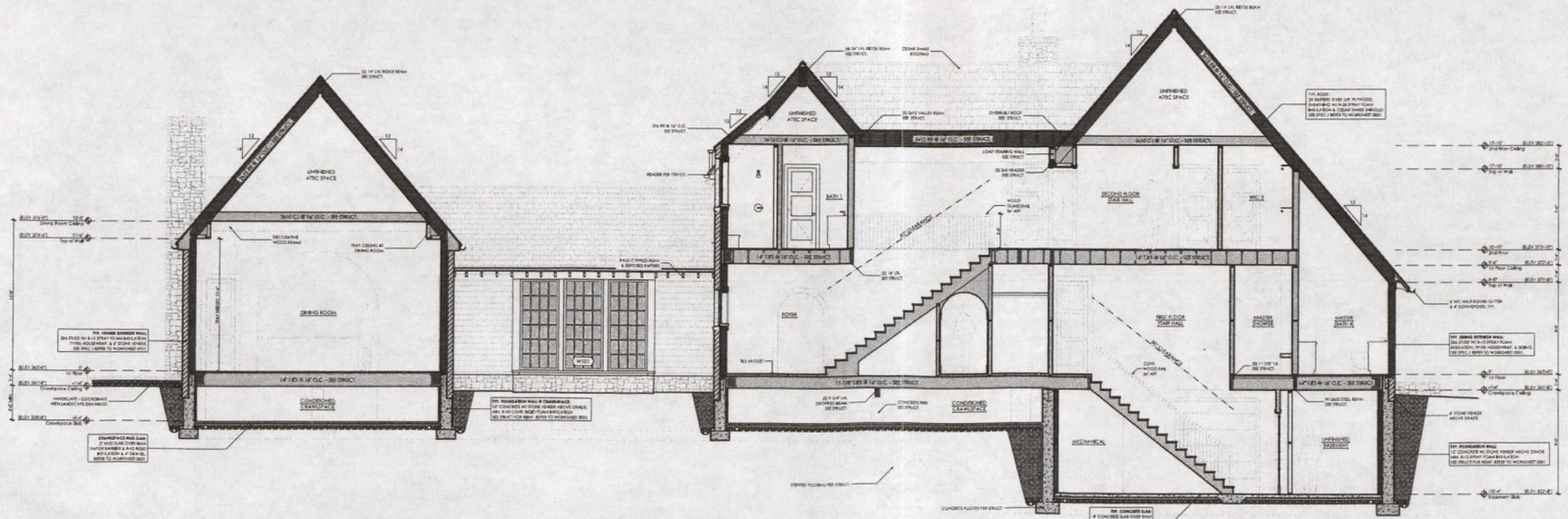
Exterior Elevations

10-15-2019	PRELIMINARY PRICING ISSUE
11-20-2019	PPS ADDENDUM - REV 1
03-16-2020	PERMIT SET

A201



1 Building Section 1
3/16" = 1'-0"



2 Building Section 2
3/16" = 1'-0"

NOTE:

SEE TABLE 1 ON SHEET 0001 FOR ALL INSULATION AND U-FACTORS FOR MATERIALS AND LOCATIONS TO BE INSTALLED.

SEE TABLE 2 ON SHEET 0002 FOR ALL FENESTRATION U FACTORS FOR ALL GLAZING FOR EACH WINDOW AND DOOR TO BE INSTALLED.

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Building Sections

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11-20-2019	PPS ADDENDUM - REV 1
03-16-2020	PERMIT SET

A202

WELL Only OSE/PE/WWSP Report For:

☒ Well Construction Permit ☐ Well Repair Permit ☐ Well Abandonment Permit ☐ Well Modification Permit

Property Location:

911 Address: 222 DONMORE DRIVE City: GREAT FALLS VA 22066

Lot: 44A Section: Subdivision: SENECA FARMS

GPIN or Tax Map #: 00722 02 0044A Health Department ID #:

Latitude: Longitude:

Applicant or Client Mailing Address

Name: NORTHERN VIRGINIA DRILLING INC.

Address: 11356 INDUSTRIAL ROAD

City: MANASSAS State: VA Zip Code: 20109

Prepared by: OSE ☐ PE ☐ WWSP ☒

Name: SCOTT MILLER License #: 2719000339

Address: 11356 INDUSTRIAL ROAD

City: MANASSAS State: VA Zip Code: 20109

Date of Submission: Date Revision 1:

OSE/PE/WWSP Job ID: Date Revision 2:

List of attachments (e.g., Private Well Worksheet, Construction Drawings, Abandonment Worksheet, etc.)

DRILLING 5 GEOTHERMAL WELLS

400FT EACH CLOSED LOOP

GROUTE FROM BOTTOM TO TOP

Commonwealth of Virginia
Scott W. Miller
2719000339
Master Water Well Driller

APPROVED
FAIRFAX COUNTY HEALTH DEPARTMENT
2/11/21
Date

Certification Statement

I hereby certify that the evaluations and/or designs as submitted comply with the applicable provisions of the Private Well Regulations (12 VAC5-630-10 *et seq.*) and all other applicable laws and regulations enforced by the Virginia Department of Health. I further certify that I currently possess the professional license required to perform work evidenced by the application by the laws of the Commonwealth as promulgated by the supervising agency.

I recommend that a (select one): Construction permit ☒ Repair permit ☐ be (select one) Issued ☐

Modification permit ☐ Abandonment permit ☐ Denied ☐

OSE/PE/WWSP Signature: Date: 2/10/2021

HEALTH DEPARTMENT COPY

This form contains personal information subject to disclosure per the Virginia Freedom of Information Act (Virginia Code title 2.2-3700 *et seq.*).

Revised 06/21/2018

Well Specifications

VDH Use Only
HDIN:

Applicant Information

Name: NORTHERN VA DRILLING INC Address: 11356 INDUSTRIAL ROAD

Phone: OFFICE 703-361-6859 CELL 703-303-4607 MANASSAS VA 20109

Location Information

Tax Map/GPIN #: 0022 02 0044A Property Address: 222 DONNYBROOK DRIVE GREAT FALLS VA 22066

Subdivision: SENECA FARMS Section: 3 Block: ___ Lot: 44A

Directions: SEE ATTACHMENTS

General Information

Well Purpose (select all that apply): ☐ Domestic Drinking Water ☐ Agricultural ☐ Irrigation ☐ Industrial/Commercial ☒ Geothermal

Well Class: 4 Minimum Casing Depth: NA ft.

Estimated Water Usage: ___ Minimum Grout Depth: 400 ft.

Horizontal Setbacks

Distance from Building Sewer: 5 ft. Distance from Pretreatment Unit(s): 20FT ft.

Distance from Conveyance System: 68 ft. Distance from Absorption Area: 254 ft.

Distance from Property Line: 140 ft. Distance from foundations: 20FT ft.

Distance from other source(s) of contamination: 220FT ft.

List other source(s): HOUSE ACROSS ST

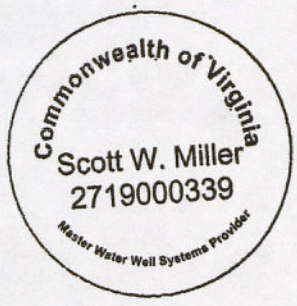
Note: DRILLING 5 GEOTHERMAL WELLS 400FT EACH GROUTE FROM BOTTOM TO TOP

Commonwealth of Virginia
Scott W. Miller
2719000339
Master Water Well Systems Provider

Construction Drawings - Well Only

Property ID: C022 02 0044A

SEE ATTACHMENT



Schematic drawing of private well and topographic features. Show the lot lines of the building lot and building site, sketch of property showing any topographic features which may impact on the design of the well, all existing and/or proposed structures including sewage disposal systems and wells (actual and permitted) within 200 feet of the well area. The scale drawing of all sewage disposal systems shall show sewer lines, pretreatment unit, pump station, conveyance system, and subsurface soil absorption system, reserve area, etc.

ALTERNATIVE TRENCH SEWAGE DISPOSAL SYSTEM DESIGN WITH PUMP SYSTEM

PROPERTY ID: 222 DONMORE DRIVE, GREAT FALLS, VA 22066
TAX MAP ID: 2-2-02-044A
SUBDIVISION NAME: SENECA FARMS, LOT 44A

CLIENT: JOHN RHODES TR
74 S PLAYER CREST CIR
SPRING, TX 77382

GENERAL NOTES

BOUNDARY, TOPOGRAPHY, AND SITE GRADING PLAN INFORMATION HEREON TAKEN FROM CIVIL SPUR.

SEWAGE SYSTEM DEPTH, LAYOUT, AND SOILS LOADING RATE PRESCRIBED BY SOILS INC. SOILS WORK PERFORMED BY SOILS INC.

ANY CHANGES TO THIS PERMIT MUST BE APPROVED BY THE SYSTEM DESIGNER.

INSPECTION(S) BY THE SEWAGE SYSTEM DESIGNER AND HEALTH DEPARTMENT ARE REQUIRED. IT IS THE SEPTIC CONTRACTOR'S RESPONSIBILITY TO CALL THE DESIGNER AND HEALTH DEPARTMENT TO ARRANGE FOR ALL INSPECTIONS.

THIS PLAN IS TO BE USED IN CONJUNCTION WITH THE APPROVED PERMIT ONLY. IT IS THE OWNER'S/INSTALLER'S RESPONSIBILITY TO VERIFY THAT THIS PLAN IS PART OF THE APPROVED HEALTH DEPARTMENT PERMIT.

SHOULD WATER CONDITIONERS BE USED IN THE DWELLING, THE BACKWASH MUST NOT BE PLUMBED INTO THE SEWER LINE OR OTHERWISE PERMITTED TO ENTER THE SEPTIC TANK AND/OR PUMP STATION.

THE SEWAGE SYSTEM CONTRACTOR INSTALLING THIS SYSTEM MUST HOLD THE REQUIRED SEWAGE DISPOSAL CONSTRUCTION INSTALLATION ADN REPAIR LICENSE THROUGH DPOR. THE SEWAGE SYSTEM INSTALLATION CONTRACTOR MUST BE CERTIFIED BY THE AND APPROVED THROUGH THE SYSTEM MANUFACTURER FOR INSTALLATION OF THEIR PRODUCT.

PRIOR TO INSTALLATION OF THE SYSTEM, A PRE-CONSTRUCTION MEETING AT THE SITE WITH THE SEWAGE SYSTEM CONTRACTOR AND THE SYSTEM DESIGNER IS REQUIRED.

NO PORTION OF THE SEWAGE ABSORPTION AREA MAY BE INSTALLED IN WET WEATHER OR IN WET SOIL CONDITIONS.

CONTROL PANEL NOTE

AN AMERICAN MANUFACTURING CONTROL PANEL IS TO BE LOCATED OUTSIDE THE HOUSE, WITHIN DIRECT LINE OF SITE OF THE PUMP CHAMBER. THE CONTROL PANEL MUST COMPLY WITH LOCAL REQUIREMENTS. THERE MUST BE INDIVIDUAL CIRCUITS FOR THE PILOT, ALARM AND PUMP. BOTH AUDIO AND VISUAL ALARMS SHALL BE PLACED IN A CONSPICUOUS LOCATION AS SHOWN ON THE PLANS-WITHIN DIRECT SIGHT OF THE PUMP STATION. A REMOTE ALARM, AMERICAN MANUFACTURING MODEL A1-A OR EQUIVALENT, SHALL BE PLACED INSIDE THE HOUSE.

DESIGN CRITERIA

NUMBER OF BEDROOMS:	5
PEAK DESIGN FLOW:	750 GPD
AVERAGE DAILY FLOW:	450-525 GPD
ACTIVE AREA DESIGN PERC RATE:	40 MPI @ 20"
ACTIVE AREA SOIL LOADING RATE:	1.25 GPD/FT^2
ACTIVE AREA DESIGN LOADING RATE:	1.25 GPD/FT^2
ACTIVE AREA SEWAGE TREATMENT LEVEL:	TL3

DESIGN CRITERIA, CONT'D

ACTIVE PERCOLATION AREA PROVIDED: 5 LINES, 75' LONG, 2' WIDE & 6' ON CENTER, ON CONTOUR

ACTIVE AREA INSTALLATION DEPTH: 20"

RESERVE AREA SOIL EFFLUENT LOADING RATE: 0.33 GPD/FT^2

RESERVE AREA PERCOLATION RATE: 50 MPI @ 12"

RESERVE PERCOLATION AREA PROVIDED: DRIP SYSTEM 48.5' (AVG) x 47'.

RESERVE AREA INSTALLATION DEPTH: 62"

RESERVE AREA SEWAGE TREATMENT LEVEL: TL3

COUNTY OF FAIRFAX
MAR 26 2020

DRAINFIELD CALCULATIONS:

LENGTH OF THE TRENCH PROVIDED = 5 x 75' = 375 LF.

375 LF X 2 FT TRENCH = 750 SF TREATMENT AREA PROVIDED.

MIN OF 600 SF REQUIRED. 750 SF PROVIDED > 600 SF. REQUIRED

TL-3 TREATMENT

LOADING RATE OF 1.25 GAL/FT^2/DAY.

SPACING = 6 FT O.C.

WIDTH OF TRENCH = 2.0'

GROSS FLOOR AREA ≥ 7,500 SF; PER ARCHITECTURAL PLANS

BASEMENT = WALKOUT

WATER SERVICE

THE PROPERTY IS TO BE SERVED BY THE NEW CLASS IIIB PRIVATE WELL (SEE SEPARATE WELL DESIGN PKG FOR FURTHER INO).

NITROGEN COMPLIANCE NOTE

THIS SEWAGE TREATMENT AND DISPOSAL SYSTEM UTILIZES A VA DEPARTMENT OF HEALTH RECOGNIZED NSF STANDARD 245 APPROVED AEROBIC TREATMENT UNIT AND IS THEREFORE DEEMED TO COMPLY WITH 12VAC5-613-90.D

WATER LINE/MAIN NOTES

REFERENCE: 12VAC5-590-1150 (B & C)

1. UNDER NORMAL CONDITIONS WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM A SEWER LINE.

2. UNDER NORMAL CONDITIONS WATER LINES CROSSING SEWERS SHALL BE LAID TO PROVIDE A SEPARATION OF AT LEAST 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE & THE TOP OF THE SEWER LINE WHENEVER POSSIBLE

APPROVED
FAIRFAX COUNTY HEALTH DEPARTMENT
4.7.20 Date
Health Official

COMMONWEALTH OF VIRGINIA
BRIAN H. PHILLIPS
Lic. No. 1940001374
3/25/2020
ALTERNATIVE ONSITE SOIL EVALUATOR

SOILS INC.
8399 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060

PROJECT: 222 DONMORE DRIVE	
DATE: 03/25/2020	JOB NO. T1812
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SCALE: NTS	
GPIN OR TM #: 2-2-02-0044A	
COUNTY/STATE: FAIRFAX COUNTY, VA	

GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS AND METHODS MUST CONFORM TO APPLICABLE LOCAL CODES AND STATE REGULATIONS.
2. ALL PIPE JOINTS SHALL BE PRIMED AND CHEMICALLY SEALED.
3. ANY DEVIATION FROM THIS DESIGN MUST BE APPROVED BY THE DESIGNER PRIOR TO INSTALLATION OF THE SYSTEM.
4. ELECTRICAL WIRING TO BE INSTALLED UNDER THE DIRECT SUPERVISION OF OF A LICENSED ELECTRICAL CONTRACTOR, ACCORDING TO NEC, STATE & LOCAL ELECTRICAL CODES AS APPLICABLE.
5. CONTRACTOR IS TO INSTALL CONCRETE TANKS ON UNIFORMLY FIRM AND STABLE COMPACTED GROUND, CRUSHED STONE IS RECOMMENDED TO PROVIDE UNIFORM SUPPORT TO THE TANK BOTTOMS.
6. SEPTIC TANK MUST BE WATERTIGHT AND CONFORM TO APPLICABLE STATE & LOCAL CODES & REQUIREMENTS.
7. CONTRACTOR MUST NOTIFY "MISS UTILITY" AND HAVE A CLEARED TICKET PRIOR TO STARTING EXCAVATION AT THE SITE.
8. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED AMOUNT OF IMPORTED FILL (IN PLACE).

SITE PREPARATION WORK:

1. REFER TO SITE DRAWINGS AND NOTES FOR SPECIAL REQUIREMENTS.
2. MACHINERY SHOULD AVOID THE PERCOLATION AREA.
3. MACHINERY MUST NEVER TRAVERSE THE EXCAVATED OR EXPOSED PERCOLATION AREA.
4. IF WOODED, SPECIAL CARE MUST BE TAKEN IN CLEARING THE DRAINFIELD AREA.
5. CONTRACTOR MUST PROVIDE ADEQUATE ACCESS FOR CORRECT INSTALLATION.
6. THE SEWAGE SYSTEM MUST BE INSTALLED DURING DRY CONDITIONS.

PERCOLATION AREA:

1. INSTALL THE ABSORPTION AREA ON CONTOUR UNLESS THERE IS A GRADE CUT SPECIFIED ON THE DRAWINGS OR IN THE NOTES PROVIDED IN THIS DESIGN PACKAGE.
2. DO NOT SMEAR OR COMPACT THE PERCOLATION AREA DURING EXCAVATION.

SITE INSTALLATION AND RESTORATION:

1. MINIMUM BACKFILL COVER OVER THE AGGREGATE IS 12".
2. MAXIMUM BACKFILL COVER OVER THE AGGREGATE IS 20".
3. BACKFILL WITH SUITABLE LOOSE MATERIAL (SANDY LOAM TO SANDY CLAY LOAM) FREE OF LARGE OR DAMAGING OBJECTS. SEED AND STRAW BACKFILLED OR DISTURBED AREAS (OR PLACE SOD WHEN REQUIRED).
4. PROVIDE EROSION PROTECTION FOR BACKFILL MATERIAL IN ACCORDANCE WITH STATE & LOCAL STANDARDS AND MAINTAIN UNTIL PERMANENT PROTECTION IS ESTABLISHED.
5. BACKFILL SHOULD BE GRADED TO PREVENT INFILTRATION OF SURFACE WATER AND DIVERT SURFACE WATER RUN OFF AWAY FROM THE SYSTEM COMPONENTS.
6. DO NOT GRADE WITHIN 20' OF THE PROPOSED SYSTEM DISPOSAL AREA(S).
7. KEEP DRIVEWAY A MINIMUM OF 10' FROM THE SEPTIC SYSTEM AND ITS COMPONENTS.
8. ALL UTILITIES TO BE ≥ 10' TO THE SEWAGE SYSTEM.
9. ALL DF COMPONENTS TO BE A MINIMUM OF 10' FROM THE PROPERTY LINES, 10' FROM WALKOUT BASEMENT FOUNDATION AND 20' FROM PORTIONS OF FOUNDATION THAT ARE BURIED.

LEGEND:

- [A] 138.6' SCH40 PVC SEWER LINE @ AT 1.68%
- [B] 109.5' SCH40 PVC SEWER LINE @ INSTALL AT 2–4%
- [C] BIOMICROBICS 0.75 MICROFAST ATU (DROP IN) UNIT IN HANOVER PRECAST 1500 GAL TANK
  IN=348.67
  OUT=348.54
  FG=352.0
- [D] HANOVER PRECAST 2000 GAL TJ PUMP TANK W/ RISER FOR SAMPLING
  IN=348.44
  OUT=348.27
  FG=352.0
- [E] 2" SCH40 PVC FORCE MAIN–242.9'
- [F] 6–PORT CONCRETE SURGE BOX WITH SANITARY "T"
- [G] 10–PORT CONCRETE DISTRIBUTION BOX
- [H] 6" PVC SLEEVE UNDER DRIVEWAY–63.4'

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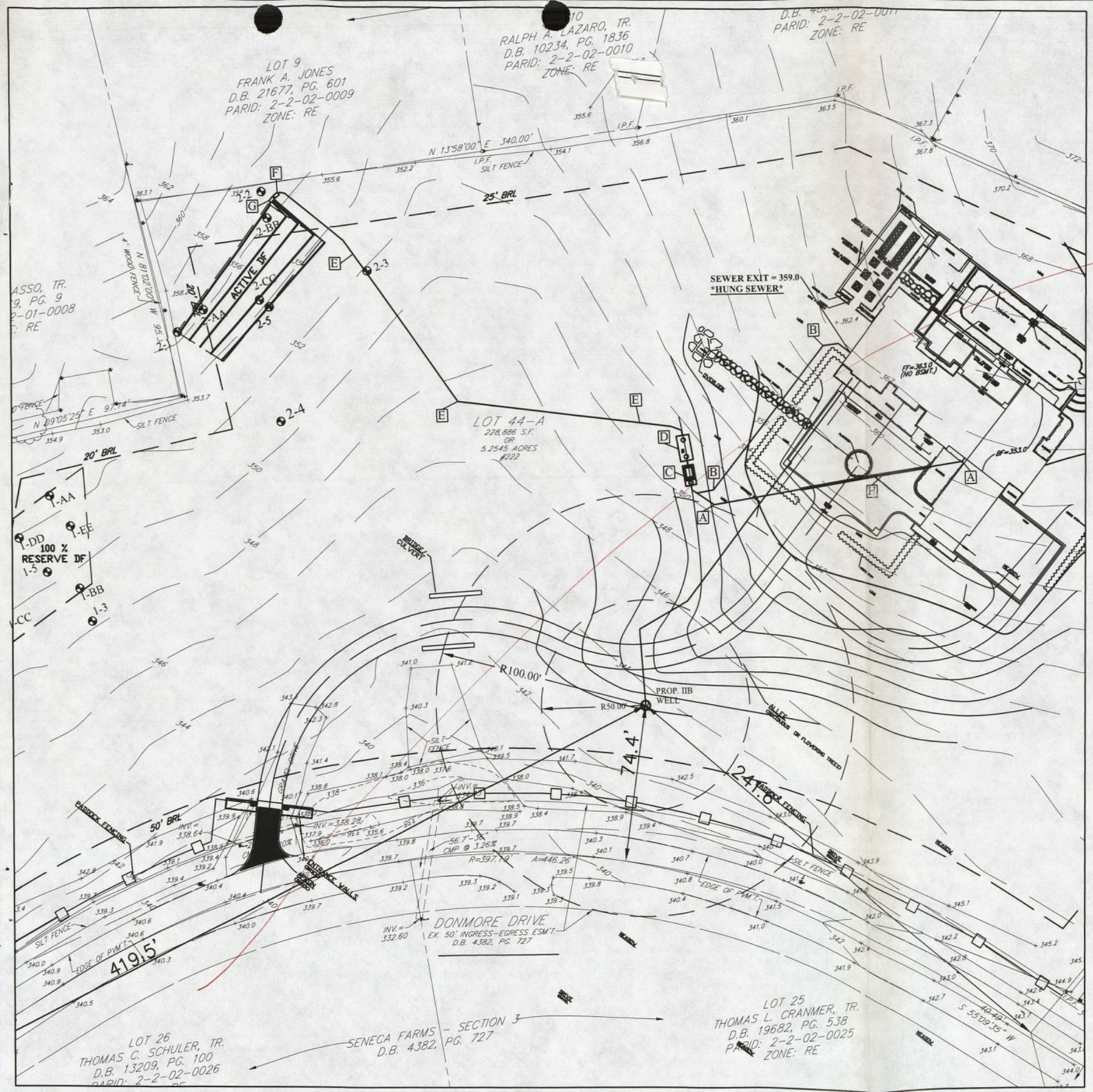

ON-SITE SEWAGE DISPOSAL SYSTEM INFORMATION:

BASEMENT ELEVATION = 353.0'
INVERT ELEV. OF SEWER LINE #1 @ HOUSE = 351.0'
INVERT ELEV. OF SEWER LINE #2 @ HOUSE = 359.0'

INVERT IN @ SEPTIC TANK = 348.67'
INVERT OUT @ SEPTIC TANK = 348.54'
GROUND ELEV. @ SEPTIC TANK = 352.0'
TOP OF SEPTIC TANK = 350.0'
PROP. GROUND COVER = 24"

INVERT IN @ PUMP TANK = 348.44'
INVERT OUT @ PUMP TANK = 348.27'
GROUND ELEV. @ PUMP TANK = 352.0'
TOP OF PUMP TANK = 349.94'
PROP. GROUND COVER = 24.7"

GROUND ELEV. @ SURGE BOX = 356.3'
INVERT IN @ SURGE BOX = 355.7'
GROUND ELEV. @ DIST. BOX #1 = 356.3'
INVERT IN @ DIST. BOX #1 = 355.5'

SEWER PIPE #1 LENGTH FROM HOUSE TO TANK = 138.6'
SLOPE = 1.68%

SEWER PIPE #2 LENGTH FROM HOUSE TO TANK = 109.5'
SLOPE = INSTALL 2-4%

MATERIALS:

- SEWER LINE: 4" PVC, SCHEDULE 40, LENGTH: 138.6' & 109.5' W/ CLEANOUTS EVERY 50'-60'.
- HEADER LINE: 4" PVC, SCH. 40
- FORCE MAIN: 242.9'
- DRAINLINE = 4" PERFORATED CORRUGATED PLASTIC PERC PIPE. USE 2 ' WIDE TRENCHES @ 6' CENTER TO CENTER SPACING
- SEPTIC TANK: HANOVER 1,500 GAL. MICROFAST T/S TANK
- TREATMENT UNIT: MICROFAST 0.75 ATU W/ BLOWER
- PUMP TANK: HANOVER 2,000 GAL. T/S PUMP TANK W/ RISER OVER INLET AND OUTLET. INLET RISER TO PROVIDE ACCESS FOR SAMPLING.

NOTE:
ALL SYSTEM COMPONENTS TO BE A MINIMUM OF 10' FROM ALL PROPERTY LINES

0' 50' 100' 150'

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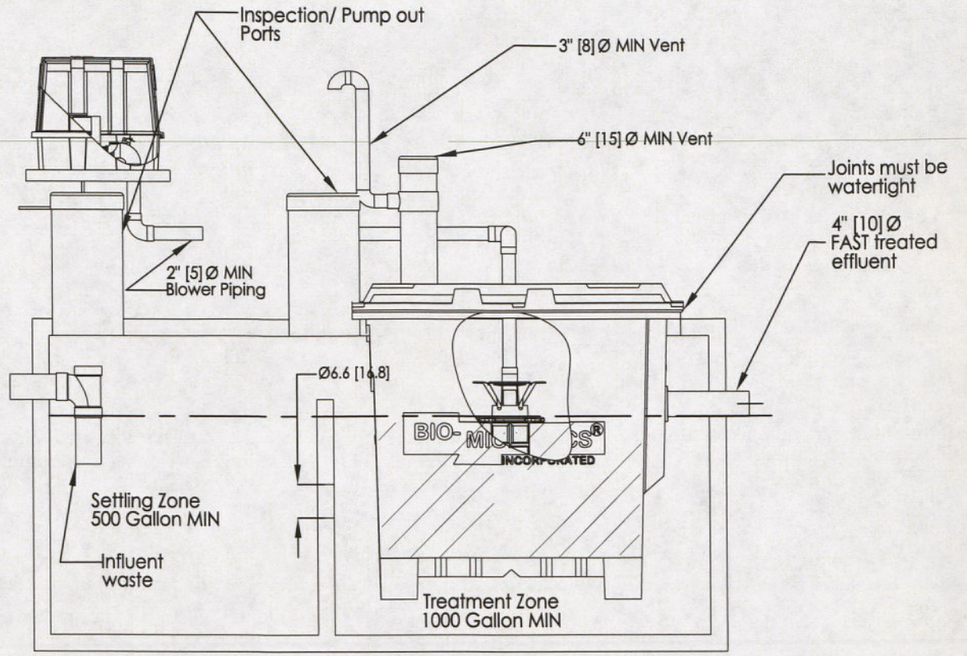
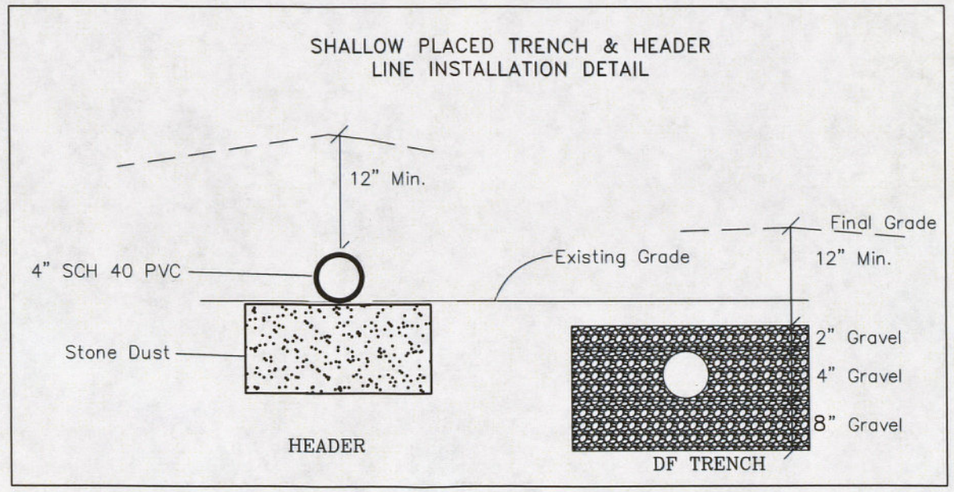


BIOMICROBICS MICROFAST 0.75 UNIT WITH DROP IN UNIT IN A HANOVER PRECAST 1,500 GALLON TOP SEAM TANK



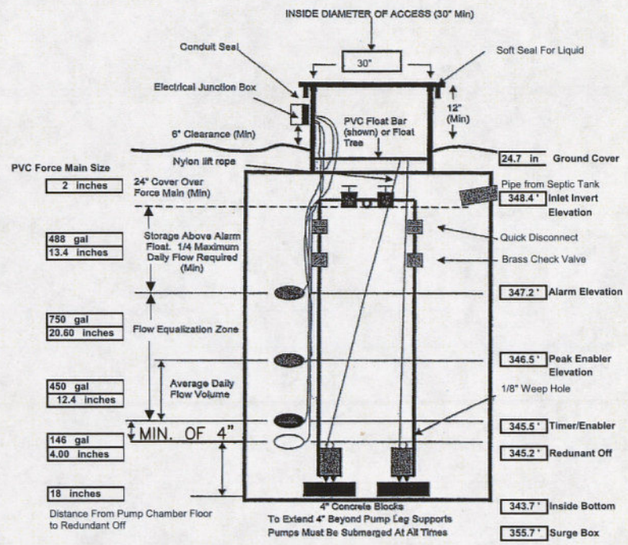
HEADER LINES ARE TO BE CONSTRUCTED AS FOLLOWS:

- INVERT OF HEADER LINES MUST BE 1' ABOVE GRAVEL IN THE TRENCHES.
- HEADER LINES ARE TO BE BEDDED & COVERED IN STONE DUST.
- NO MACHINERY MAY TRAVERSE OVER THE DRAINFIELD OR HEADER LINE AREA.
- SITE MUST BE HAND CLEARED AND STUMPS GROUND IN PLACE.
- USE 4" SCH40 PVC SMOOTH BORE PIPE FOR HEADER LINES.
- BACKFILL 12" OVER HEADER LINES.
- BACKFILL MIN. 6" OVER DRAINFIELD AREA AND GRADE APPROPRIATELY TO SHED WATER AWAY FROM DRAINFIELD & PROVIDE MIN. 12" OF COVER AS REQ'D

PUMP TANK

Gallons	INSIDE DIMENSIONS (Inches)			Gal/inch.	Manufacturer
	Length	Width	Liq.depth		
2,000	144.0	72.0	56	36.4	HANOVER 2,000(TJ)

Note: The wastewater entering the chamber must not disturb the floats.



The flow equalization zone = 1 x daily design flow(750 gallons) = 750 gallons

HANOVER PRECAST 2,000 GALLON TOP SEAM PUMP TANK WITH POLY RISER OVER INLET PORT FOR SAMPLING 36.36 GPI, 48" MAX BACKFILL DEPTH

PUMP STATION CONTROL NOTE:

PER FAIRFAX COUNTY REQUIREMENTS, THE PEAK ENABLER FLOAT MUST FUNCTION TO "INCREASE THE DOSING FREQUENCY (NUMBER OF DOSING CYCLES) BY 1.25 TIMES THE INITIAL SETTING WHILE MAINTAINING THE SET VOLUME PER CYCLE, UNTIL THE LEVEL IN THE PUMP CHAMBER IS REDUCED TO NORMAL". THE HIGH LEVEL ALARM/LAG PUMP ENABLER "CONTINUES THE DOSING FREQUENCY WHILE MAINTAINING THE SET VOLUME PER CYCLE, UNTIL THE LEVEL IN THE PUMP CHAMBER IS REDUCED TO NORMAL".

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FAIRFAX COUNTY DIVISION OF ENVIRONMENTAL HEALTH
SEWAGE EFFLUENT PUMP CALCULATIONS

Plans prepared by: SOILS INC. Permit Holders Name: John Rhodes

Address: 8399 W. MAIN STREET Property Address: 222 Donmore Drive, Great Falls, VA 22066
MARSHALL, VA 20115

Phone: 540-364-1122 Subdivision:

Date: 3/25/2020 No. of Bedrooms: 5 Tax Map I.D. 2-2-02-0044A

1	750	Peak Design Flow
2	450	Average Daily Flow (60% of Peak Design Flow)
3	112.5	number of gallons to be pumped each cycle
4	2000	Pump Chamber Size (gallons)
5	36.40	Gallons per Inch in Pump Chamber
6	3.09	Inches of Drawdown per Cycle.
7	488.0	Gallons Storage Above the Alarm (1/4 of Maximum Daily Flow Required)
8	10.50	Static Head (feet)
9	2	PVC Force Main Diameter (2" Minimum)
10	243	Length of Force Main (feet)
11	373	Equivalent Length of Force Main (feet)
12	23.24	Total Dynamic Head (TDH) @ of 40 g.p.m. (feet)
13	61.48	Total Dynamic Head (TDH) @ of 80 g.p.m. (feet)
14	32	Expected Pump Flow Rate (g.p.m.)
15	210	Expected Pump Run Time (seconds)

16 _____ Recommended pump: #1 Manufacturer ZOELLER Model # N98
32 g.p.m. at 18.8 feet TDH.
115 Volts 1 phase 1/2 horsepower

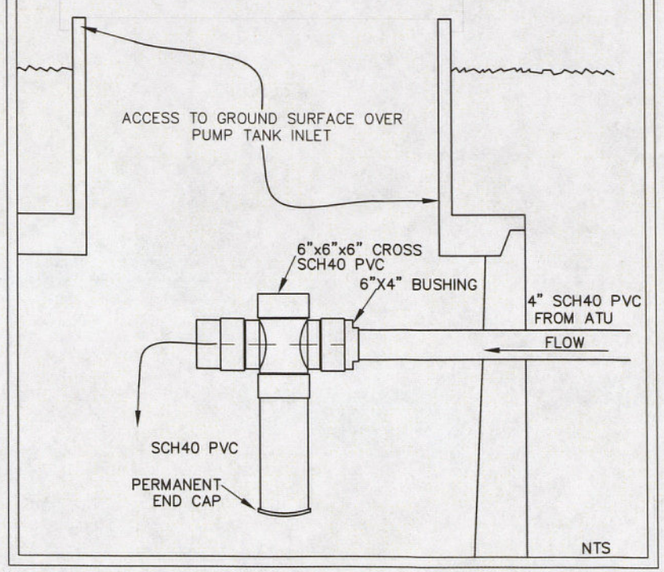
17 Recommended Control Panel: Model: American Manufacturing Model # DEPRAB124ACJLOP(C)R(A)
115 Volts 1 phase

18 Pump Run Time: 3 minutes 30 seconds at system head

19 Pump "Off" Time: 5 hours 57 minutes

20 Peak Pump "Off" Time: 4 hours 47 minutes

SAMPLE PORT DETAIL



TDH CALCULATION FOR SYSTEM CURVE

Assumes: f = 0.022 for 2 inches piper for typical operating range.
Static head in feet : 10.5 Measured/Estimated.
Friction headloss $h_f = (fxLxV^2)/(2xgxD) = (2.257 \times 10\text{-}5)LQ2$ (Q in gpm, L in feet.)

The total equivalent pipe length = 373

TDH CALCULATIONS

Q (gpm)	L_e (feet)	h_{static} (feet)	h_f (feet)	TDH
0	373	10.5	0.00	10.50
10	373	10.5	0.80	11.30
20	373	10.5	3.19	13.69
30	373	10.5	7.17	17.67
40	373	10.5	12.74	23.24
50	373	10.5	19.91	30.41
60	373	10.5	28.68	39.18
70	373	10.5	39.03	49.53
80	373	10.5	50.98	61.48

EQUIVALENT LENGTH CALCULATION

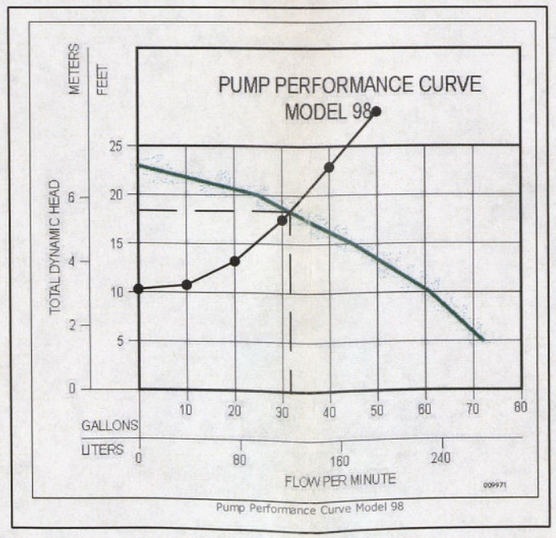
Elements	2" eq. Length	Number	Eq. Length
Length (Includes modules' length)	243	1	243
Reg. 90 deg	9	4	36
Reg. 45 deg	4	3	12
T- Diversion	11	1	11
Coupling (disconnected)	2	0	0
Check Valve	17	1	17
Ball Valve	54	1	54
2" Manifold (8')	12	0	0
	Total Length		373

PROGRAMMABLE TIMER SETTINGS

Anticipated Pump Rate	32 gpm	From system Vs pump curve for selected pump.
Treatment Design Flow	450 gpd	From design flow from facility.
Re-circulation Volume	0 gpd	As applicable (1:1 recirc ratio will add a volume equal to that of design flow.
Drainback Volume per Dose	0 gal.	Typically 2 hrs. for single pass and 1 hr.
Dosing Interval (Pump Rate Time)	6 hrs.	for 1:1 recirculation.
Number of Doses	4 /day	
Drainback Volume per Day	0 gpd	
Pump Design Flow	450 gpd	Treatment plus Recirc. Plus Drainback.
Approx. Volume per Dose	112.5 gal.	
Pump Run Time per Dose (Min.)	3.5 min	
Pump Run Time per Dose (Sec.)	210 sec.	
Tank Volume (gal per inch)	36.4 gal/inc	From manufacturer's data.
Draw Down per Dose	3.09 inch	Prior to drainback.

DIMENSIONS OF SEPTIC TANK

Volume	Length(in)	Width(in)	Liquid Depth(in)	Free Board	Remarks
1,500	144.0	73.0	61.0	12"	MICROFAST 0.75 (Hanover TJ)



Pump Performance Curve Model 98

"Quality Pumps Since 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

ZOELLER PUMP CO.

SECTION: 2.20.035
FM0973
0312
Supersedes
0310

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

visit our web site:
www.zoeller.com

COMPARE THESE FEATURES

- Non-clogging engineered plastic vortex impeller design
- Corrosion resistant powder coated epoxy finish
- Durable cast construction. Cast switch case, motor, pump housing and base. No sheet metal parts to rust or corrode.
- Castings - All cast iron class 25-30 25000# tensile strength
- Stainless steel screws, guard, handle, arm and seal assembly
- Float operated submersible (NEMA 6) 2-pole mechanical switch
- Motor - Permanent split capacitor, 60 Hz, 1725 RPM, oil-filled, hermetically sealed, automatic reset thermal overload protection
- Bearings - Upper & lower oil fed cast iron
- Carbon and ceramic shaft seal
- Entire unit pressure tested after assembly.
- Watertight neoprene "□" ring between motor and pump housing
- Maximum temperature for effluent or dewatering 130°F - 54°C
- Passes ½ inch spherical solids
- No screens to clog
- Standard cord length 15 ft. (UL Listed)
- 1½" NPT Discharge (1½" X 2" PVC Adapter included with BN & BE Models)
- On point - 9½"
- Off point - 3"
- Major width - 10 ⅛"
- Height - 12"

SIMPLEX AND DUPLEX SYSTEMS AVAILABLE

PACKAGED SYSTEMS AVAILABLE

Note: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

98 Cast Iron Series

"FLOW-MATE"

(FOR PUMP PREFIX IDENTIFICATION SEE NEWS & VIEWS 0052)

FOR SEPTIC TANK
LOW PRESSURE PIPE (LPP)
AND ENHANCED FLOW STEP SYSTEMS

EFFLUENT
OR DEWATERING PUMP
SUBMERSIBLE
1½" NPT DISCHARGE

Tested to UL Standard UL778 and Certified to CSA Standard C22.2 No. 108

MODELS AVAILABLE

- Automatic or Nonautomatic
- ½ HP, 1 Ph., 115V or 230V
- Available with Piggyback Variable Level Float Switch.

SPMA Granted 50 YEARS


MODEL 98

POWDER COATED TOUGH


MODEL BN98

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Specifications For MicroFAST 0.75 Wastewater Treatment System

1. GENERAL

The contractor shall furnish and install (1) MicroFAST 0.75 treatment system as manufactured by Bio-Microbics, Inc. The treatment system shall be complete with all needed equipment as shown on the drawings and specified herein.

The principal items of equipment shall include FAST System insert, insert lid (or leg extensions if that option is chosen), blower assembly, blower controls and alarms. The MicroFAST 0.75 unit shall be situated within a 1,500 gallon minimum compartment in a two compartment tank as shown on the plans. Tank(s) must conform to local, state, and all other applicable codes. The contractor shall provide coordination between the FAST system and tank supplier with regard to fabrication of the tank, installation of the FAST unit and delivery to the job site.

2. OPERATING CONDITIONS

The MicroFAST 0.75 treatment system shall be capable of treating the wastewater produced by typical family activities (bath, laundry, kitchen, etc.) ranging from (1) one to (10) ten persons and not to exceed 750 US Gallons per day (2842.5 LPD).

3. MEDIA

The FAST media shall be manufactured of rigid PVC, polyethylene or polypropylene and it shall be supported by the polyethylene insert. The media shall be fixed in position and contain no moving or wearing parts and shall not corrode. The media shall be designed and installed to ensure that sloughed solids immediately descend through the media to the bottom of the septic tank.

4. BLOWER

The MicroFAST 0.75 unit shall come equipped with a regenerative type blower capable of delivering 17-25 CFM. The blower assembly shall include an inlet filter with metal filter element.

5. REMOTE MOUNTED BLOWER

The blower may be mounted remote with no more than 100 ft (30.5 M) of piping and no more than four elbows, from the MicroFAST unit on a contractor supplied concrete base. The blower must not set in standing water and its elevation must be higher than the normal flood level. A two-piece, rectangular housing shall be provided with tamper-proof screws. The discharge air line from the blower to the MicroFAST shall be provided and installed by the contractor.

6. ELECTRICAL

The electrical source should be within 150 feet of the blower. Consult local code for longer wiring distances. All wiring must conform to code. The input power required for the blower is 115/230 Volts, Single Phase, 60/50 Hertz, 3.8/1.9 Full Load Amps, minimum wire size is 16 A.W.G. (Locked Rotor Amps are 18.6/9.3). All conduit and wiring between the electrical control panel (optional), the power supply, and the blower shall be furnished and installed by the contractor.

7. ALARMS

The alarm system shall consist of a visual and audible alarm to indicate loss of power to the blower and/or high water level. A manual silence switch is included.

8. INSTALLATION AND OPERATING INSTRUCTIONS

All work must be done in accordance with local codes and regulations. Installation of the MicroFAST 0.75 shall be done in accordance with the written instructions provided by the manufacturer. No more than four foot of fill may be placed over the FAST lid. Operation manuals shall be furnished which will include a description of installation, operation, and system maintenance procedures. There shall be a separate manual for the installer, service provider, and owner, tailored to each.

9. WARRANTY

The manufacturer of the MicroFAST 0.75 treatment system shall warrant for three years from the date of shipment or two years form the date of start-up, whichever occurs first, that the equipment they provide will be free from defects in material and workmanship.

In the event a mechanical component fails to perform as specified or is proven defective in service during the warranty period, the manufacturer shall repair or replace such defective parts. (Cost of labor on repair/replacement is not covered under this warranty.) The replacement or repair of those items normally consumed in service such as air filter, etc., shall be considered as part of routine maintenance and upkeep.

It is not intended that the manufacturer assume responsibility for contingent liabilities or consequential damages of any nature resulting from defects in design, material or workmanship, or delays in delivery, replacement, or otherwise.

9. FLOW AND DOSING

Wastewater treatment systems work best when influent flow is delivered as consistently as possible. FAST systems have been successfully designed, tested and certified recieving gravity, demand-based influent flow. However when influent flow is controlled (either by pump or other means) to the FAST system to help with highly variable flow conditions, then multiple feeding events should be used to help assure even flow, optimum performance, and reliability.

IN THE INTEREST OF TECHNOLOGICAL PROGRESS, ALL PRODUCTS ARE SUBJECT TO DESIGN AND/OR MATERIAL CHANGE WITHOUT NOTICE.

Date 01-03-05

BIO-MICROBICS® INCORPORATED
1-800-753-FAST (3278)

MicroFAST®0.75

Drawn by BMI

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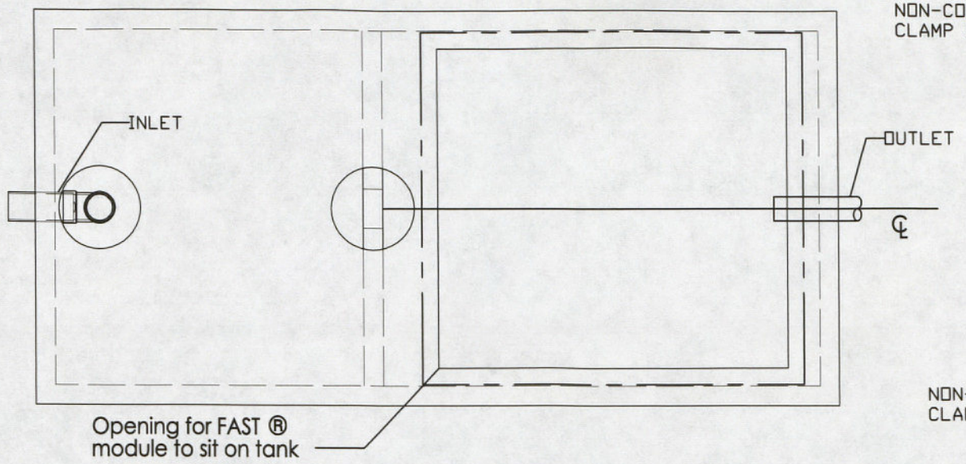
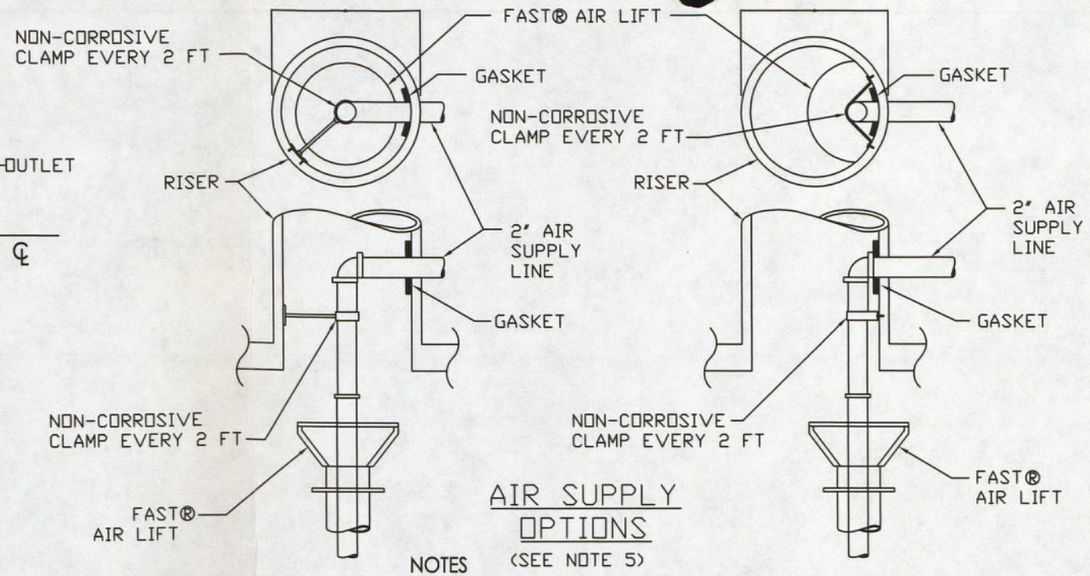
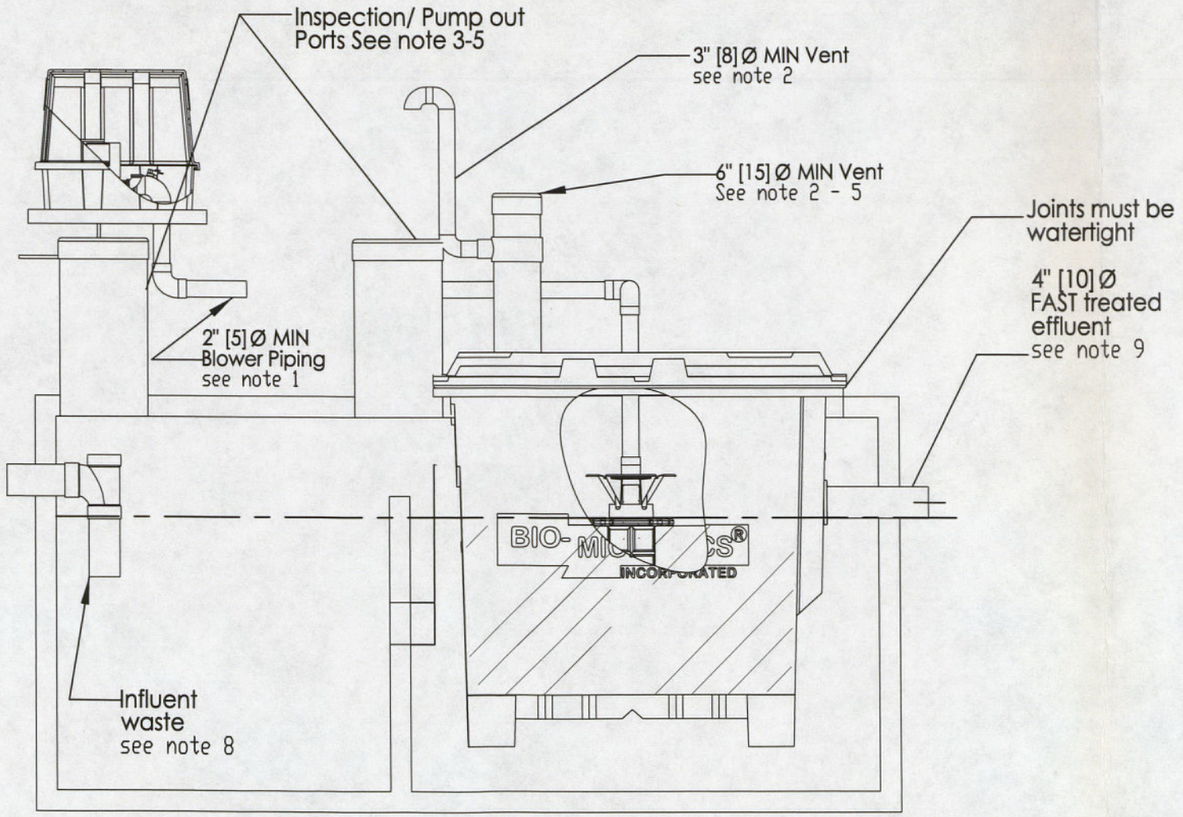


PLAN VIEW



AIR SUPPLY OPTIONS (SEE NOTE 5)



ELEVATION

NOTES

1. Airline piping to FAST® may not exceed 100 FT [30m] total length and have a maximum of 4 elbows in the piping system. For distances greater than 100 FT [30m] consult factory. Blower must be located above flood levels on a concrete base 26" X 20" X 2" [65 X 50 X 5cm] min.
2. Vent to desired location and cover opening with a vent grate with at least 7 sq in.[45 sq. cm] open surface area. Secure with stainless steel screws. Vent piping must not allow condensate build up or create back pressure. Vent must be above finished grade or higher (see sheet 4 of 4).
3. All appurtenances to FAST® (e.g. tanks, access ports, electrical, etc.) must conform to all applicable country, state, province, and local plumbing and electrical codes. Pump out access shall be adequate to thoroughly clean out both zones.
4. All inspection, viewing and pump out ports must be secured to prevent accidental or unauthorized access.
5. Tank, piping, conduit, etc. are provided by others. Blower control system by Bio-Microbics, Inc. See Installation Manual.
6. If less than the specified minimums are considered necessary, consult factory for guidance.
7. All piping and ancillary equipment installed after FAST must not impede or restrict free flow of effluent.
8. The tank(s) shall be designed to prevent air passage between the settling zone/tank and the treatment zone and preventing an air lock. Examples include a baffle wall sealed to the lid or treatment zone inlet line with a pipe cap. Consult factory for guidance.
9. Installations using a FAST® system lid are capable of withstanding AASHTO H-10 equivalent loads. Any installation in which a FAST lid is buried deeper than 3 feet, or where additional loading conditions may occur, a professional engineer should be consulted. FAST® with feet option should be considered. Refer to Installation Manual for more details.
10. Specialized treatment levels may require specific features to be incorporated into the design. Consult factory for guidance.

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Date 01-03-05

BIO-MICROBICS® INCORPORATED
1-800-753-FAST(3278)

MicroFAST ®0.75

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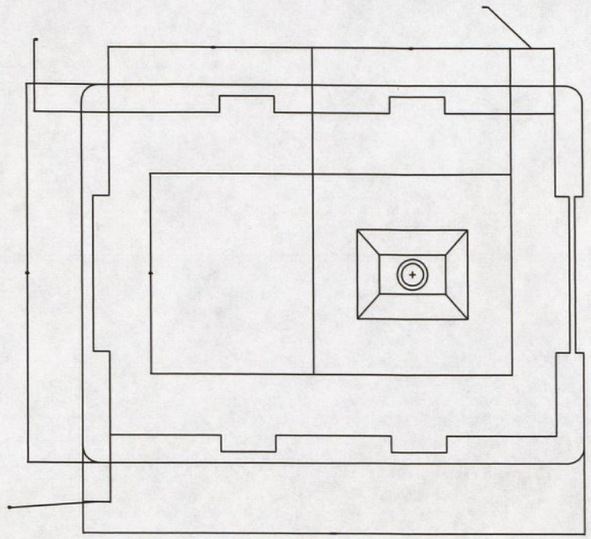
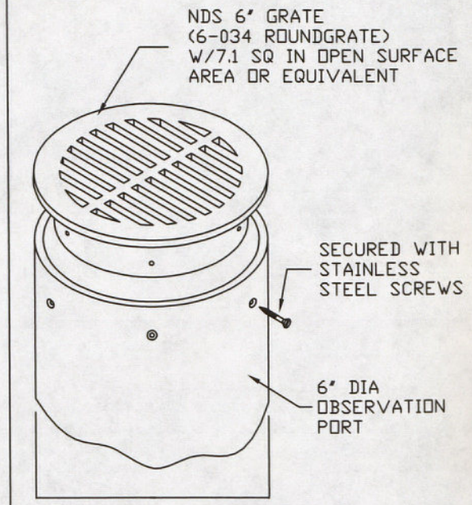
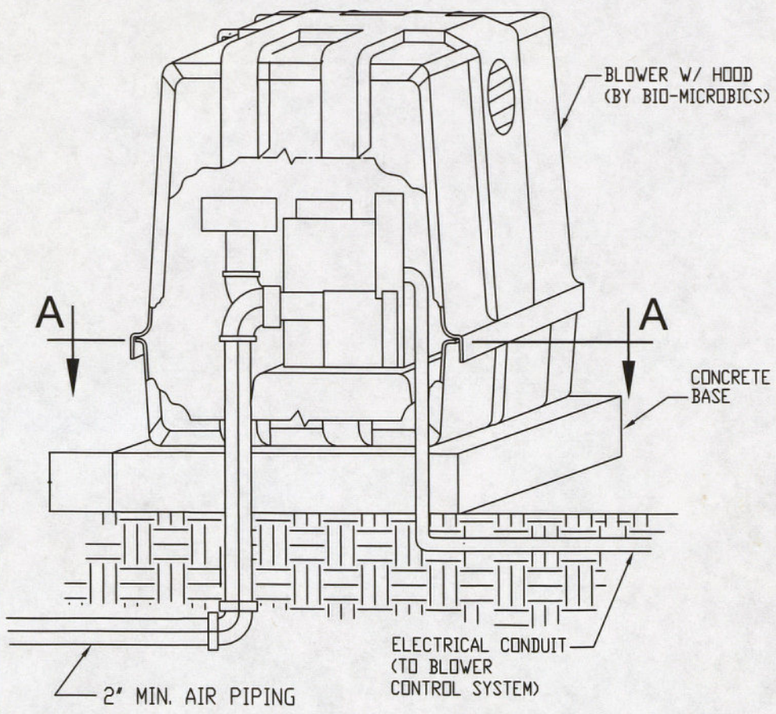
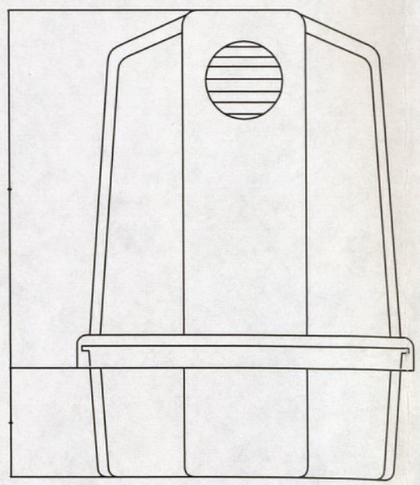


BLOWER HOUSING BASE
DIMENSIONS (SECTION A-A)



VENTS
W/FAST LID





BLOWER
HOUSING
DIMENSIONS

NOTES

1. VENT TO BE LOCATED ABOVE FINISH GRADE OR HIGHER TO AVOID INFILTRATION. CAP WITH 6" VENT GRATE W/AT LEAST 7.1 SQ. IN. OF OPEN SURFACE AREA. SECURE WITH STAINLESS STEEL SCREWS (SEE MCF 0.75 L DWG).

   OR:

   RUN VENT TO DESIRED LOCATION AND COVER OPENING WITH 3" VENT GRATE W/AT LEAST 7.1 SQ. IN. OPEN SURFACE AREA. SECURE WITH STAINLESS STEEL SCREWS. VENT MUST NOT ALLOW EXCESS MOISTURE BUILDUP OR BACK PRESSURE.

IN THE INTEREST OF TECHNOLOGICAL PROGRESS, ALL PRODUCTS ARE SUBJECT TO DESIGN AND/OR MATERIAL CHANGE WITHOUT NOTICE.

Date 01-03-05

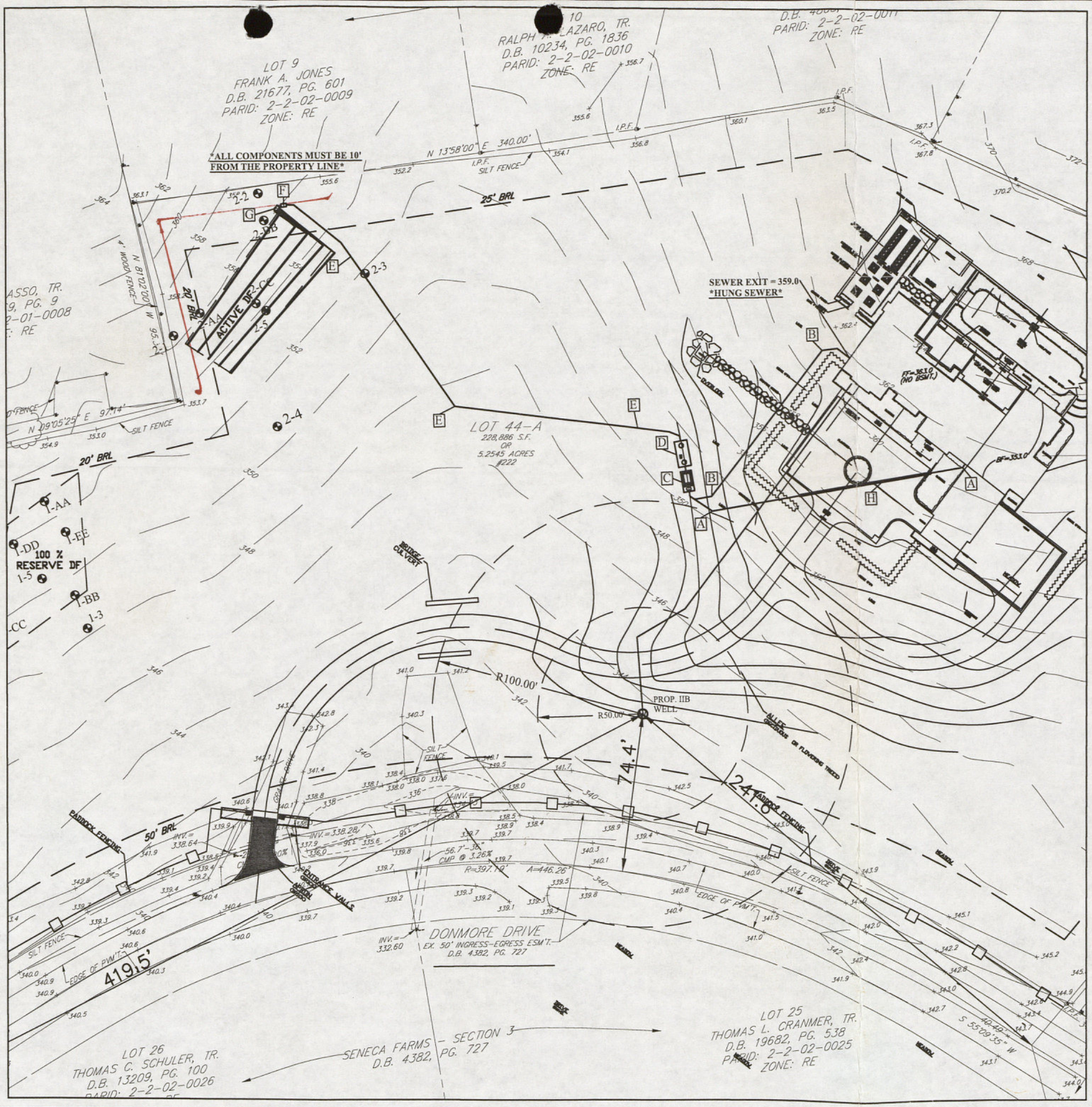
BIO-MICROBICS INCORPORATED
1-800-753-FAST(3278)

MicroFAST®0.75

Drawn by BMI

PROJECT: 222 DONMORE DRIVE
DATE: 03/25/2020 JOB NO. T1812
PAGE: 8 OF 8
SCALE: NTS
GPIN OR TM #: 2-2-02-0044A
COUNTY/STATE: FAIRFAX COUNTY, VA

SOILS INC.
8399 WEST MAIN ST, MARSHALL, VA 20115
P.844.447.SOIL (7645) F.540.364.2060



ON-SITE SEWAGE DISPOSAL SYSTEM INFORMATION:

BASEMENT ELEVATION = 353.0'
INVERT ELEV. OF SEWER LINE #1 @ HOUSE = 351.0'
INVERT ELEV. OF SEWER LINE #2 @ HOUSE = 359.0'

INVERT IN @ SEPTIC TANK = 348.67'
INVERT OUT @ SEPTIC TANK = 348.54'
GROUND ELEV. @ SEPTIC TANK = 352.0'
TOP OF SEPTIC TANK = 350.0'
PROP. GROUND COVER = 24"

INVERT IN @ PUMP TANK = 348.44'
INVERT OUT @ PUMP TANK = 348.27'
GROUND ELEV. @ PUMP TANK = 352.0'
TOP OF PUMP TANK = 349.94'
PROP. GROUND COVER = 24.7"

GROUND ELEV. @ SURGE BOX = 356.3'
INVERT IN @ SURGE BOX = 355.7'
GROUND ELEV. @ DIST. BOX #1 = 356.3'
INVERT IN @ DIST. BOX #1 = 355.5'

SEWER PIPE #1 LENGTH FROM HOUSE TO TANK = 138.6'
SLOPE = 1.68%

SEWER PIPE #2 LENGTH FROM HOUSE TO TANK = 109.5'
SLOPE = INSTALL 2-4%

MATERIALS:

- SEWER LINE: 4" PVC, SCHEDULE 40, LENGTH: 138.6' & 109.5' W/ CLEANOUTS EVERY 50'-60'.
- HEADER LINE: 4" PVC, SCH. 40
- FORCE MAIN: 242.9'
- DRAINLINE = 4" PERFORATED CORRUGATED PLASTIC PERC PIPE. USE 2 ' WIDE TRENCHES @ 6' CENTER TO CENTER SPACING
- SEPTIC TANK: HANOVER 1,500 GAL. MICROFAST T/S TANK
- TREATMENT UNIT: MICROFAST 0.75 ATU W/ BLOWER
- PUMP TANK: HANOVER 2,000 GAL. T/S PUMP TANK W/ RISER OVER INLET AND OUTLET. INLET RISER TO PROVIDE ACCESS FOR SAMPLING.

NOTE:
ALL SYSTEM COMPONENTS TO BE A MINIMUM OF 10' FROM ALL PROPERTY LINES

0' 50' 100' 150'

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PROJECT: 222 DONMORE DRIVE	
DATE: 04/02/2020	JOB NO. T1812
PAGE: 3 OF 8	
SCALE: 1"=50'	
GPIN OR TM #: 2-2-02-0044A	
COUNTY/STATE: FAIRFAX COUNTY, VA	

LEGEND FOR GRADING PLANS

EXISTING CONTOUR	30
PROPOSED CONTOUR	20
EXISTING SPOT ELEVATION	+00
PROPOSED SPOT ELEVATION	+12.5
PROPOSED CLEARING LIMITS	LOD
TREE PROTECTION STD. & SPEC. 3.38	TP
SILT FENCE STD. & SPEC. 3.05	SF
CONSTRUCTION ENTRANCE STD. & SPEC. 3.02	CE
TEMPORARY SEEDING STD. & SPEC. 3.31	TS
PERMANENT SEEDING STD. & SPEC. 3.32	PS
CULVERT INLET PROTECTION STD. & SPEC. 3.08	CIP
SUPER SILT FENCE	SSF
INLET PROTECTION STD. & SPEC. 3.07	IP
DIVERSION DIKE STD. & SPEC. 3.09	DD
RIGHT-OFWAY DIVERSION STD. & SPEC. 3.11	RWD
SEDIMENT TRAP STD. & SPEC. 3.07	ST

XXXXXXXXXXXXXXXX – DENOTES ROOT PRUNING

HEALTH DEPARTMENT

CULVERT / BRIDGE NOTE:

THE CULVERT / BRIDGE IS BEING PLACED WITHIN THE SWALE THAT CARRIES OFF-SITE RUNOFF THROUGH THE SITE. WORK TO INSTALL THE CULVERT / BRIDGE SHALL BE PERFORMED AS PART OF PHASE 2 CONSTRUCTION AND SHALL BE DONE SWIFTLY BEHIND THE PROTECTION OF A DIVERSION DIKE. ONCE THE CULVERT IS INSTALLED AND THE AREA STABILIZED THE DIKE CAN BE REMOVED AT THE INSPECTORS DISCRETION. THE CULVERT SHALL BE COUNTER SUNK INTO THE GROUND AND THE BOTTOM SHALL BE COVERED WITH SOIL AND TURF OR STONW TO CREATE A NATURAL SWALE THROUGH THE CULVERT AND NOT HAVE A SMOOTH CONCRETE BOTTOM THAT WILL INCREASE FLOW VELOCITY.

PHASED CONSTRUCTION NOTE:

DUE TO THE LARGE SWALE AND AMOUNT OF OFFSITE WATER RUNNING THROUGH THE SITE AND ENTERING THE CULVERT UNDER DONMORE DRIVE A PHASED CONSTRUCTION DESIGN IS PROPOSED. THE FIRST PHASE WILL CONSIST OF THE HOUSE AREA, PROPOSED POND AND A PORTION OF THE DRIVEWAY. THIS AREA WILL BE WORKED AND STABILIZED PRIOR TO CONSTRUCTION WITHIN THE PHASE 2 WORK AREA WHICH CONSISTS OF THE REMAINDER OF THE DRIVEWAY, CULVERT BRIDGE AND SEPTIC FIELD. AT SITE INSPECTORS DISCRETION THERE MAY BE MINIMAL OVERLAP OF WORK WITHIN THE TWO AREAS. THE PHASED DESIGN IS TO MAINTAIN OFF-SITE WATER FLOW THROUGH THE SITE IN THE LEAST DISRUPTIVE MANNER THROUGHOUT CONSTRUCTION. THIS SHEET SHOWS THE PHASE 2 CONSTRUCTION. THIS CONSTRUCTION WILL WORK WITHIN THE SWALE RUNNING THROUGH THE SITE. THE DESIGN CALLS FOR A RIP-RAP LEVEL SPREADER AT THE UPPER SWALE CROSSING AND A DIVERSION DIKE AT THE LOWER PORTION TO DIRECT RUNOFF AROUND THE AREA OF CULVERY INSTALLATION. ONCE THE CULVERT IS INSTALLED AND THE AREA STABILIZED THEN THE DIVERSION DIKE CAN BE REMOVED AND THE SWALE ALLOWED TO FOLLOW IT'S NATURAL COURSE. WORK WITHIN THE SWALE AREA SHOULD BE APPROACHED AS IF WORKING WITHIN A LIVE STREAM. WORK SHOULD BE SWIFT AND DONE DURING TIMES OF MINIMAL RAIN. AREAS SHALL BE STABILIZED QUICKLY ONCE WORK IS COMPLETED.

PROPOSED DISTURBED AREA = 74,488 SF OR 1.71 ACRES

RETAINING WALL NOTE:

THE PROJECT PROPOSES RETAINING WALLS OF VARIOUS HEIGHTS. ANY NEW RETAINING WALL OVER 30 INCHES (2.5' IN HEIGHT) SHALL REQUIRE A SEPARATE PERMIT AND SHALL BE DESIGNED BY OTHERS. THIS PLAN IS SHOWING THE GRADES AND LOCATION FOR THE WALL AND DOES NOT CONSTITUTE A FULL DESIGN FOR PERMIT. WALL TYPE, FOUNDATION, SUPPORT, TIE-BACKS AND MATERIALS SHALL BE DETERMINED BY THE DESIGN ENGINEER FOR DURING THE WALL PERMITTING PROCESS.

APPROVED
FAIRFAX COUNTY HEALTH DEPARTMENT
2.12.21

SEPTIC SYSTEM DESIGN LEGEND:

A. 138.6' SCH40 PVC SEWER LINE @ AT 1.68%

B. 109.5' SCH40 PVC SEWER LINE @ INSTALL AT 2-4%

C. BIOMICROBICS 0.75 MICROFAST ATU (DROP IN) UNIT IN HANOVER PRECAST 1500 GAL TANK
IN=348.67
OUT=348.54
FG=352.0

D. HANOVER PRECAST 2000 GAL TJ PUMP TANK W/ RISER FOR SAMPLING
IN=348.44
OUT=348.27
FG=352.0

E. 2" SCH40 PVC FORCE MAIN-242.9'

F. 6-PORT CONCRETE SURGE BOX WITH SANITARY "T"

G. 10-PORT CONCRETE DISTRIBUTION BOX

H. 6" PVC SLEEVE UNDER DRIVEWAY-63.4'

REVISION NOTE:

THIS REVISION IS FOR THE REDESIGN OF THE PROPOSED DETENTION POND ON-SITE. POND WAS REVISED TO REMOVE A GRAVEL STORAGE AREA UNDERNEATH AND TO SOFTEN GRADES ALONG SIDES OF POND.

GRAPHIC SCALE
0' 15' 30' 60'
SCALE: 1"=30'

REVISION	DATE

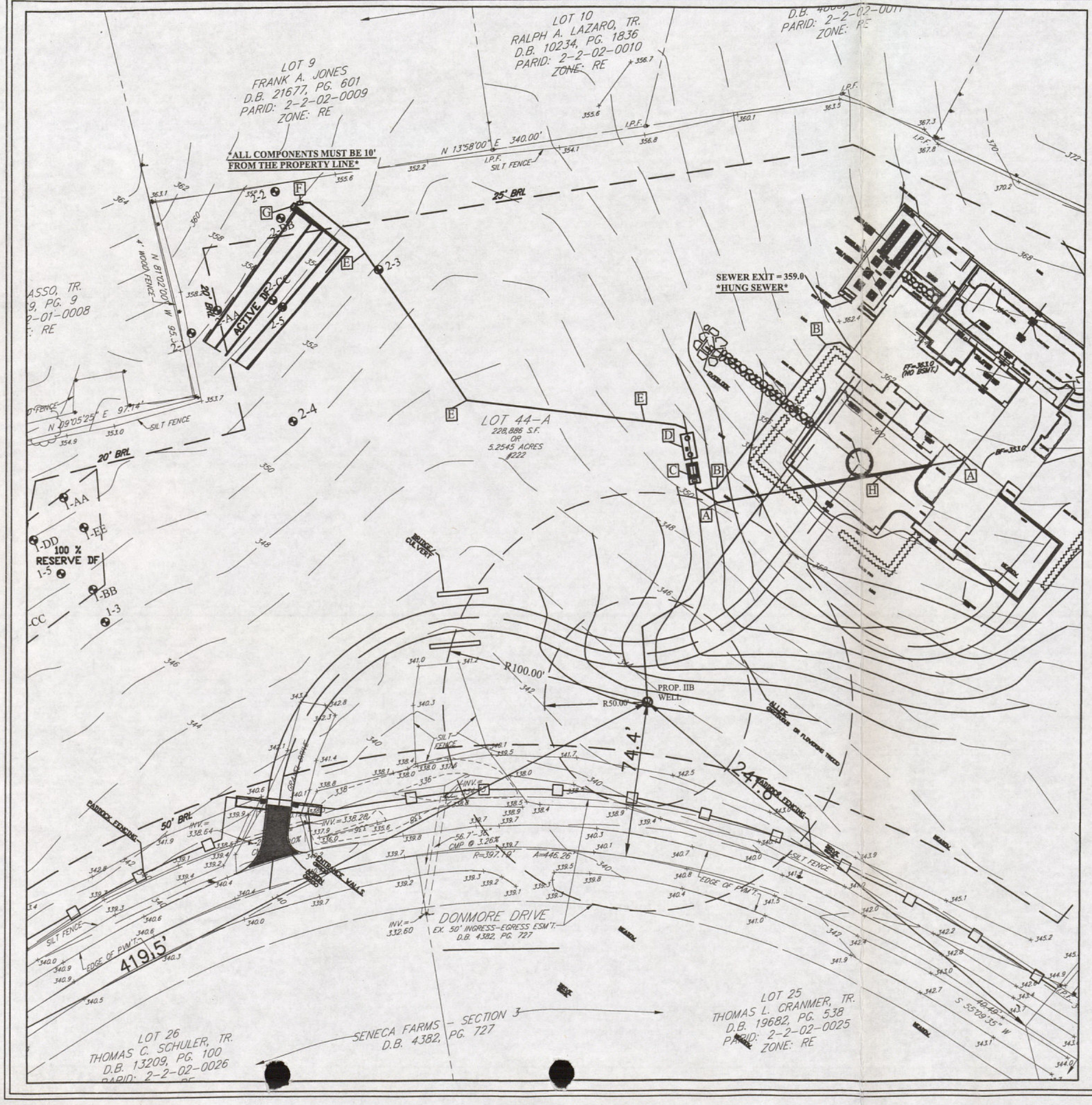
SCALE: 1"=30'

COMMONWEALTH OF VIRGINIA
ANNEMARIE M. TURNER
Lic. No. 037035
11-18-20
PROFESSIONAL ENGINEER

SHEET 3B OF 9

CIVIL SPUR
SITE PLANNING – DESIGN – CONSULTING
929 WEST BROAD STREET #200, FALLS CHURCH VA. 22046
OFFICE (703) 663-7173 CELL (540) 207-5681
EMAIL: ROGER@CIVILSPUR.COM

PHASE 2 CONSTRUCTION PLAN
222 DONMORE DRIVE
LOT 44A SEC. 3
SENECA FARMS
DRANESVILLE DISTRICT #1
FAIRFAX, VIRGINIA



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