

Michael Hurst
23000 Sussex Highway
Seaford, DE 19973


Subject: Request for a Formal Waiver (FW)
Tax ID Number: 531-15.00-30.28
Location: Lonesome Road, Sussex County, Delaware

To: The Delaware Department of Natural Resources and Environmental Control (DNREC) through the Division of Water and the Groundwater Discharges Section

I, Michael Hurst, do hereby request a Formal Waiver (FW) under the Section 5.6.2 of the *Regulations Governing the Design, Installation and Operation of On-site Wastewater Treatment and Disposal Systems* (DNREC, January 11, 2014).

The above property had been and approved for a Sand-lined Elevated Sand Mound with Advanced Pre-treatment under a Formal Variance in 2006. I purchased the property believing the Site Evaluation was approved. The system was never installed and the records from the DNREC Approved Formal Variance have been expunged. A New Site Evaluation was conducted by Delmarva Environmental including Groundwater Level Monitoring and Test Pits to evaluate depth of Sand-lining. A Wetland Delineation has been performed and verified by the Army Corp of Engineers. I request that a Sand-lined Elevated Sand Mound with Advanced Pre-treatment be permitted for this property based on the Site Evaluation work conducted by Ian Kaufman, CPSS/SC of Delmarva Environmental, Inc. This is for new construction and the current Regulations do not allow sand-lining into the water table and design limiting zones of 0 inches. This letter asks for these requirements to be waived for this property.

Thank you for considering this request.



Michael Hurst

5-21-2024
Date

Request for a Formal Waiver
Michael Hurst
Page 2 of 2

Attachments:

Sussex County Mapping & Contiguous Property Owners' Contact Information

Parcel 531-15.00-30.16 John Zittinger

Parcel 531-15.00-30.26 Maureen Mahaffy

Parcel 51-15.00-30.27 Thomas Edward Baker

Site Evaluation Approval-Formal Waiver

Site Evaluation Report-Formal Waiver

Drawing

Soil Profile Notes

Test Pit 1

Test Pit 2

Groundwater Level Monitoring

DNREC NavMap

Web Soil Survey

County Mapping

County Mapping with Aerial

Notice of Denial November 13, 2006 (4 pages)

Approved Formal Variance March 26, 2008 (8 pages)

Property Information Page for Michael Hurst 531-15.00-30.28

Wetland Jurisdictional Determination Request dated October 26, 2021

JD Application

Wetland Delineation Report October 12, 2021

Preliminary Jurisdictional Determination dated January 28, 2022

Certified Professional Soil Scientist/Soil Classifier

Ian R. Kaufman

e-mail irkaufman1@gmail.com

PO Box 117
Dagsboro, DE 19939

Office (302) 732-9858
Mobile (302) 542-3356

RECEIVED 302-732-9858

06/05/2024

GROUNDWATER

571372

Site Evaluation Approval-Formal Waiver

The soils on this site are approved when the following is completed in full and is signed by the approving authority. This is not a septic permit but is required to obtain a septic permit. A septic permit is required to obtain a building or placement permit. Isolation requirements from wells, easements, ditches, and other encumbrances may limit the area that is available for a septic permit. It is the responsibility of the designer to verify the information provided by this approval prior to obtaining a septic permit. The information provided here is obtained primarily by field observations and is believed to be accurate under the conditions that existed at the time of the evaluation. Compaction of soils from lot clearing, grading activities, and filling activities may negate this approval or modify the type of system that can be permitted and installed. Lots that are wooded at the time the evaluation are to be inspected prior to septic system installation at the discretion of the Installer.

Owner's Name:	Michael Hurst	Parcel Number:	531-15.00-30.28
Owner's Address:	23000 Sussex Highway Seaford, DE 19973	Job Number:	23002

Initial Disposal System and Location: Sand-lined Elevated Sand Mound with Advanced Pre-treatment meeting PSN3 Nitrogen Removing Standards. Sand-lining is to be to a minimum depth of 84 inches to be approximately 1-foot into good permeable material. The location is in the vicinity of Test Pits 1 and 2 provided that setback requirements under DNREC Exhibit C are met.

Depth to Limiting Zone: 0 inches for design purposes based on observed redoximorphic features and groundwater levels.

Design Considerations and Comments:

1. See Site Evaluation Report and Drawing.
2. See Exhibit Q in the Delaware Regulations, amended January 11, 2014 (2014 Regulations) for criteria on Sand-lined Elevated Sand Mound systems. Contact DNREC or Class-C designer for current criteria on Advanced Pre-treatment meeting PSN3 Standards.
3. See Exhibit C Minimum Isolation Distances in the 2014 Regulations. All isolation distances specified in Exhibit C must be maintained e.g., 100-foot isolation distance between system and domestic water supply wells.
4. The wastewater disposal area should be clearly marked e.g., by surrounding it with construction fence and the area should be avoided as much as is feasible during construction to avoid disturbance/soil compaction. The Department of Natural Resources and Environmental Control (DNREC) has formulated guidance for clearing/soil compaction avoidance; contact DNREC at 302-739-9947 for guidance.

Replacement Disposal System and Location: Same as initial system if space permits or sand-lined upgrade.

Limitations of Soil Evaluation for System Design/Emplacement: The soil evaluation was performed to evaluate soil conditions with respect to a wastewater disposal system for a single family residence. For alternative uses contact the site evaluator or DNREC to determine whether additional site evaluation services are necessary.

PAID
\$ 75.00 06/05/2024

Instructions to Property Owner

1. Contact a Class C Designer.
2. A permeability rate of **75 minutes per inch after sand-lining** has been estimated for the soil on your site based on soil textures and tables published by DNREC. You may use the estimated rate or, at your expense, have a percolation test conducted by a Class A Percolation Tester. Contact Delmarva Environmental, Inc. and DNREC if you choose to conduct a percolation test.
3. For questions call Delmarva Environmental, Inc. at (302) 732-9858 or DNREC at (302) 739-9947

This report has been prepared by:

[Signature] 5/21/24
Ian R. Kaufman, Certified Professional Soil Scientist
Delaware License Number 2175

Delmarva Environmental, Inc. has conducted this site evaluation in accordance with DNREC Regulations and Policies with the best of its ability and with the information provided by the owner and under the conditions that existed at the time of the evaluation. Delmarva Environmental, Inc. is only liable for this evaluation to the extent of the cost of this evaluation.

For Office Use Only

Awaiting Formal Waiver Advertisement Results and DNREC Director Decision.

DNREC Reviewing Soil Scientist-Approving Authority	Date	Date Field Checked	Expiration Date
DNREC Disclaimer: Approval of a site evaluation indicates only that the site evaluation, based on information presented to us, was conducted in compliance with these Regulations. It is not an indication of the correctness or quality of the site evaluation and does not guarantee the evaluation is free of omissions or that a permit can be issued.			

Site Evaluation Report-Formal Waiver

Owner's Name: Michael Hurst
Owner's Address: 23000 Sussex Highway
 Seaford, DE 19973

Parcel Number: 531-15.00-30.28

Job Number: 23002

Property Location: Lonesome Road
 Seaford, DE 19973
 (Approximately 0.994 Acres)

Evaluation Date: January 6, 2024 to
 May 16, 2024

DNREC Environmental Navigator Information:

Watershed: Butler Mill Branch-Nanticoke River 020801090405

Potential Floodplain: None

Potential Wetlands: Yes, Delineated

Potential Tax Ditch Right of Ways: None

Depth to and Type of Limiting Zones Encountered:

- Test Pit 1: ~3 inches to redoximorphic features, ~72 inches to permeable material, ~103 inches to free water in Test Pit (5/16/24),
 GLM Well #3: Average Peak from 3/29/24 to 4/11/24=17.35 inches below ground surface.
 Aquic Paleudult
- Test Pit 2: ~10 inches to redoximorphic features, ~72 inches to permeable material, ~105 inches to free water in Test Pit (5/16/24),
 GLM Well #1: Average Peak from 3/29/24 to 4/11/24=6.4 inches below ground surface.
 Aquic Paleudult
- GLM Well #2: Average Peak from 3/29/24 to 4/11/24=8.0 inches below ground surface.
- GLM Well #4 (13 inches deep): Average Peak from 3/29/24 to 4/11/24=7.5 inches below ground surface.

Summary of Evaluation: This evaluation was conducted to determine the type of on-site wastewater treatment and disposal system (OWTDS) that is suited for this property under current DNREC Regulations and policies. Soils in the evaluated area appear to be somewhat poorly to poorly drained based on the depth to redoximorphic features used to estimate the depth of the seasonal high water table. This site was previously evaluated and denied based on a November 13, 2006 "Notice of Denial" letter from DNREC. On March 26, 2008 DNREC Approved a Formal Variance with the stipulations that the system be a Sand-lined Elevated Sand Mound with Advanced Pre-treatment for a single family dwelling of no more than 480 gallons per day. Groundwater Level Observation Wells were installed in December 2006 and monitored for an unknown amount of time. The depth of the Observation Wells appears to be to 60 inches with a fourth well added to a depth of approximately 13 inches. Percolation Tests were conducted on August 11, 2007 and rates at 24 inches were found to be 60 minutes per inch at Test A and >480 minutes per inch at Test B and C. No septic permit was ever applied for and the previous work Approved by DNREC has been expunged from the files. In an October 2021 survey from Miller-Lewis Land Surveyors the location of the Groundwater Level Monitoring Wells and the extent of Non-tidal Wetlands is shown. A Review of the Wetland Location was conducted by the Army Corps of Engineers and verified base on a letter dated January 28, 2022.

This Site Evaluation was conducted to apply for a Formal Waiver. The owner wishes to build a single family dwelling on the property and this evaluation was conducted with Test Pits to determine the depth for Sand-lining as part of a Formal Waiver Request for a Sand-lined Elevated Sand Mound with Advanced Pre-treatment. Based on Test Pits 1 and 2 Sand-lining to below 72 inches will be below the slowly permeable material identified as being unsuited for a septic system. Groundwater levels were monitored in the existing Observation Wells from January 12, 2024 to May 16, 2024.

The Web Soil Survey (NRCS, 2024) indicates that the evaluated portion of the site is potentially underlain by somewhat well drained Rosedale loamy sand, 0 to 2 percent slopes (RoA) and poorly drained Hurlock sandy loam, 0 to 2 percent slopes (HvA). It is Delmarva Environmental's opinion that soils in the immediate vicinity of Test Pit 1 and Test Pit 2 do not correlate to the above soil mapping units. Soils appear to be Poorly Drained Lenni or Othello Soils. These soils have heavy clay loam textures coming in around 16 to 20 inches below the surface and having a slowly permeable clay loams to a depth of approximately 72 inches. Below ~72 soils are sandy and coarse loamy to at least 108 inches below ground surface (the limit of observation).

SITE EVALUATION

DelMarVa Environmental, Inc.
 Ian R. Kaufman, CPSS/SC
 PO Box 117
 Dagsboro, DE 19939

T.M. #531-15.00-30.28

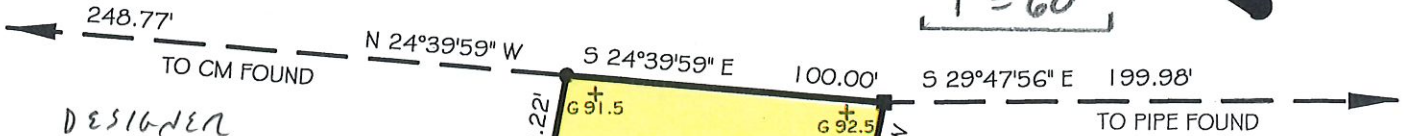
HURST
 JAN. 2023

DK 5/2/24

(DWELL/HL)

JOB#: 73002

1" = 60'



DESIGNER
 AND INSTALLER
 WILL VERIFY FEATURES
 SHOWN ON DRAWING

0.994 Acres +/-
 WOODED LOT

N/F
 JOHN C. # BRUCEIA C. ZITTINGER
 D.B. 2696-61
 T.M. 531-15.00-30.16

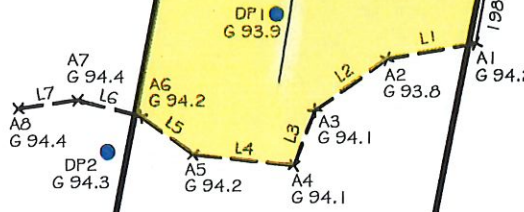
N/F
 EDWARD T. BAKER
 D.B. 4814-338
 T.M. 531-15.00-30.27

WETLANDS LINE CHART
 LINE "A"

LINE	BEARING	DISTANCE
L1	N 39°27'31" W	28.01'
L2	N 64°54'20" W	27.86'
L3	S 81°28'14" W	18.19'
L4	N 23°24'25" W	31.77'
L5	N 06°07'26" E	20.45'
L6	N 15°17'30" W	20.26'
L7	N 37°20'04" W	18.79'

LINE "B"

L8	S 49°02'39" W	30.59'
L9	S 44°19'32" W	27.11'
L10	S 40°01'47" W	27.35'
L11	S 64°36'35" W	12.11'
L12	S 02°44'30" W	5.17'
L13	S 22°49'26" E	24.37'
L14	N 30°42'34" W	28.34'
L15	N 10°50'59" W	6.29'
L16	N 52°54'45" E	30.80'
L17	N 39°58'47" E	21.84'



~1%
 SLOPE

WELL
 >100'
 (DWELL/HL)

SITE-A
 DITCH

- x A4 G 94.1 WETLAND FLAG WITH GRADE
- MON. WELL MONITORING WELL
- G 94.5 SPOT GRADE
- (DWELL/HL)
- WELL (PER OWNER)

CONC. MON. (FD)
 PIPE (SET)
 DEED REF: 5353-162

LONESOME ROAD - SCR 541
 (50' RW)

THIS SURVEY AND PLAT DOES NOT VERIFY THE EXISTENCE OR NON-EXISTENCE OF RIGHTS-OF-WAY OR EASEMENTS CROSSING THIS PROPERTY OTHER

Nontidal Wetlands
 Wetland Delineation Data Point


SOIL PROFILE NOTES

Profile #: TEST PIT 1 Job Number: 23002
 Date of Observation: 5/16/24
 Tax ID Number: 531-15-00-30,28
 Project Name: HUNST
 Location: LONESOME ROAD
 Slope: 0 - 1%
 Relief: SLIGHT BACKSLOPE
 Depth to Redoximorphic Features or other potential limiting factor: ~3"
 Estimated Permeability based on field estimates of soil textures: SLOW TO 72"
 Free water at time of observation: ~103"
 Soil Classification: AQUIC PALUDULT
 GPS Coordinates: N 38.621709° , W 75.665498°

Horizon	Depth (inches)		Moist Munsell Colors			RMF or Non-RMF Colors; Quantity/Size/Contrast	Field Estimated Soil Texture	Structure Grade/Size/Type	Consistence (moist)
			Matrix	Redoximorphic Features (RMF)	Non-RMF & Mottles				
A	0	3	10YR4/2	—	—	—	SL	2MSBK	FR
E	3	16	2.5Y6/3	10YR7/2	—	C 2 P	SL	2MSBK	FR
Bt	16	30	10YR6/4	10YR7/2 10YR6/8	—	C 2 F	CL-	2MSBK	FR/FA
Btg	30	72	10YR7/1	10YR6/8	—	C 2 P	CL	2MSBK	FI
Cg	72	108	10YR7/2	10YR7/8	10YR7/3	C 3 F C 2 D	LS+SL	0MA	FR+VFR

Nomenclature and abbreviations are adapted from the *Field Book for Describing and Sampling Soils; Version 3.0* (NRCS, 2012)

Comments: WATER IN WELL #1 ~30" BELOW GROUND SURFACE
WOODS


 Ian R. Kaufman, CPSS/SC (ARCPACS #03237)
 Delaware Class-D.3 Soil Scientist (#2175)
 Virginia LAOSE (#1940001206)

Certified Professional Soil Scientist/Soil Classifier

PO Box 117
 Dagsboro, DE 19939

Ian R. Kaufman
 email: irkaufman1@gmail.com

Office (302) 732-9858
 Mobile (302) 542-3356

SOIL PROFILE NOTES

Profile #: TEST PIT 2 Job Number: 23002

Date of Observation: 5/16/24

Tax ID Number: 531-15.00-30.28

Project Name: HURST

Location: LONGSOME RD

Slope: 0-1%

Relief: SLIGHT BACKSLOPE

Depth to Redoximorphic Features or other potential limiting factor: ~10"

Estimated Permeability based on field estimates of soil textures: slow TO 72"

Free water at time of observation: ~105"


Soil Classification: ARVIC PALEUDULT

GPS Coordinates: N 38.621826 ° , W 75.665371 °

Horizon	Depth (inches)		Moist Munsell Colors			RMF or Non-RMF Colors; Quantity/Size/Contrast	Field Estimated Soil Texture	Structure Grade/Size/Type	Consistence (moist)
			Matrix	Redoximorphic Features (RMF)	Non-RMF & Mottles				
A	0	4	10YR 3/2	—	—	—	SL	2 MGR	FR
E	4	10	10YR 6/4	—	—	—	SL	2 MSBK	FR
Bt ₁	10	21	2.5YR 6/3	10YR 7/1 10YR 7/8	—	C 2 D C 2 D	SCL	1 MSBK	FR
Bt ₂	21	30	10YR 6/4	10YR 7/1 10YR 6/8	—	C 2 D C 2 D	CL-	2 MSBK	FR/FI
Bt ₃	30	72	10YR 7/1	10YR 6/8	—	C 2 P	CL	2 MSBK	FI
C ₃	72	108	10YR 7/1	10YR 4/8	10YR 7/3	C 3 F C 2 P	SLWS	0 MA	FR 2VFR

Nomenclature and abbreviations are adapted from the *Field Book for Describing and Sampling Soils; Version 3.0* (NRCS, 2012)

Comments:


Ian R. Kaufman, CPSS/SC (ARCPACS #03237)
Delaware Class-D.3 Soil Scientist (#2175)
Virginia LAOSE (#1940001206)

Certified Professional Soil Scientist/Soil Classifier

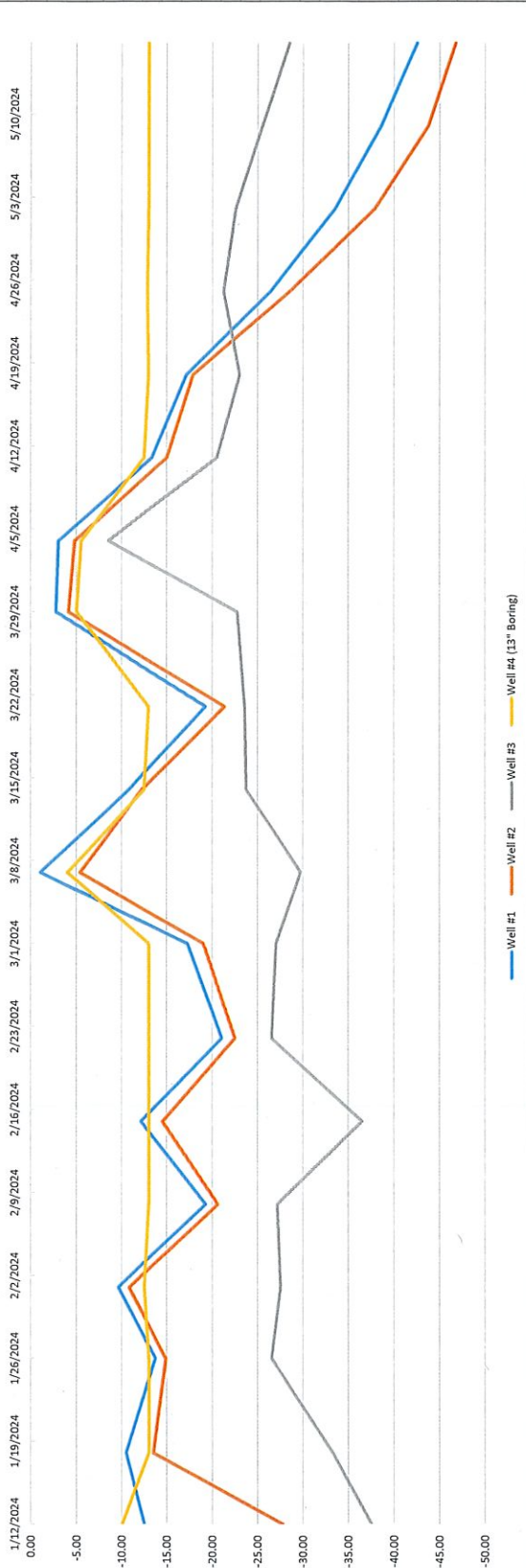
PO Box 117
Dagsboro, DE 19939

Ian R. Kaufman
email: irkaufman1@gmail.com

Office (302) 732-9858
Mobile (302) 542-3356

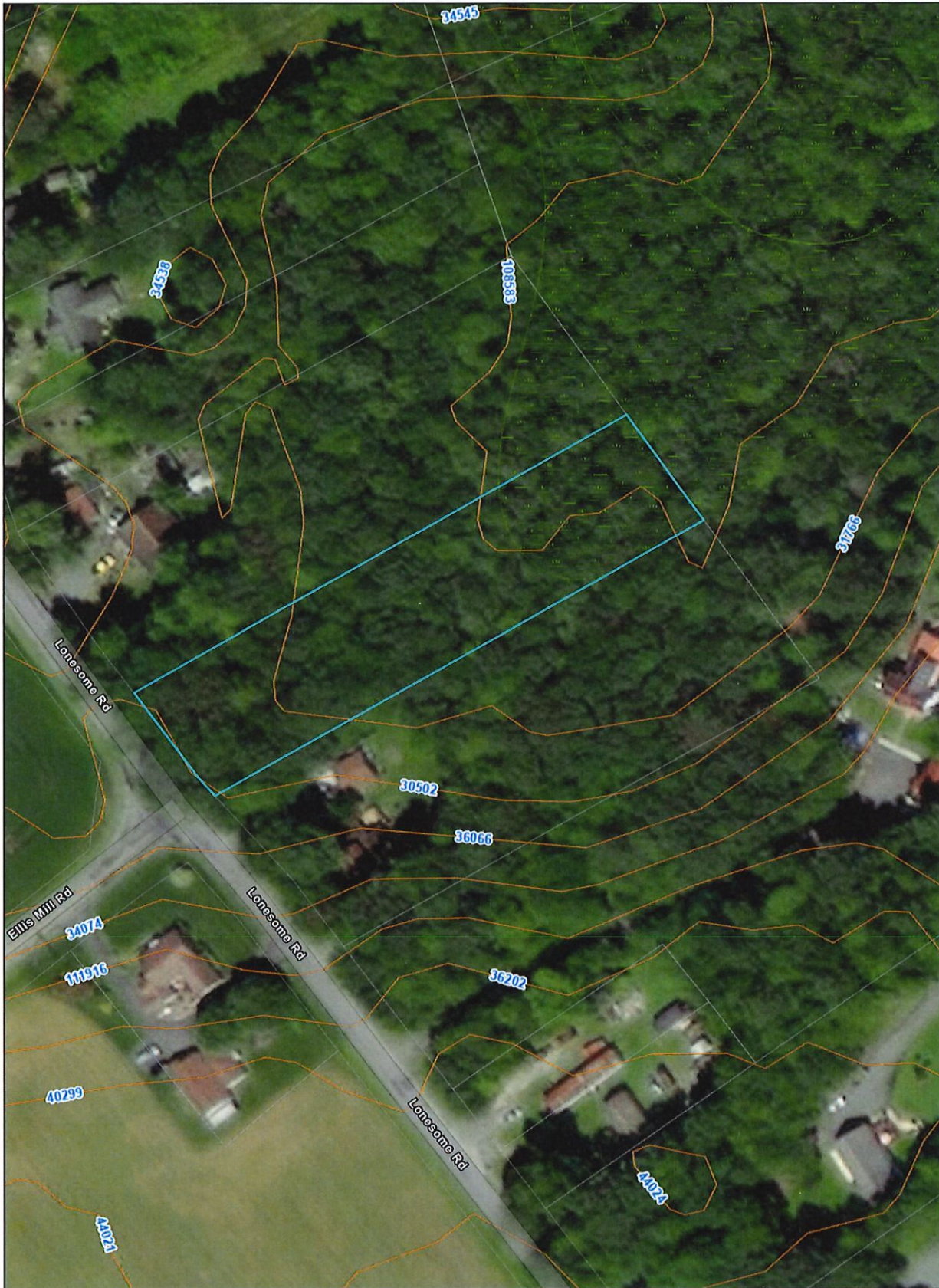
Hurst:Lonesome Road																			
Date	1/12/2024	1/18/2024	1/26/2024	2/1/2024	2/8/2024	2/15/2024	2/22/2024	3/1/2024	3/7/2024	3/14/2024	3/21/2024	3/29/2024	4/4/2024	4/11/2024	4/18/2024	4/25/2024	5/2/2024	5/9/2024	5/16/2024
Well #1	-12.50	-10.50	-13.75	-9.68	-19.25	-12.13	-21.06	-17.25	-1.00	-10.81	-19.25	-2.75	-3.00	-13.38	-17.13	-26.38	-33.50	-38.56	-42.50
Well #2	-27.75	-13.50	-14.88	-10.86	-20.63	-14.50	-22.50	-19.00	-5.38	-12.25	-21.38	-4.13	-4.81	-15.00	-17.88	-28.50	-37.88	-43.75	-46.75
Well #3	-37.50	-33.25	-26.50	-27.50	-27.13	-36.50	-26.50	-27.00	-29.75	-23.75	-23.57	-22.75	-8.50	-20.50	-23.00	-21.25	-22.56	-25.50	-28.50
Well #4 (13" Boring)	-10.00	-13.00	-13.00	-12.50	-13.00	-13.00	-13.00	-13.00	-4.00	-12.50	-13.00	-5.00	-5.50	-12.50	-13.00	-12.88	-13.00	-13.00	-13.00

HURST: Lonesome Road
GLM 2024



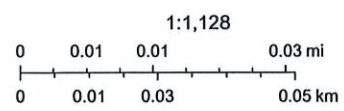
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531-15.00-30.28 - DNREC NavMap



1/7/2023, 7:57:17 AM

- HUC 12
- 2017 Wetlands (not regulatory)
- Sussex
- State Parcels



Wetland mapping is supported with funding provided by the Environmental Protection Agency, Delaware Geological Survey, U.S. Geological Survey



Sussex County, Delaware (DE005)			
Sussex County, Delaware (DE005)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HuA	Hurlock loamy sand, 0 to 2 percent slopes	1.6	53.3%
RoA	Rosedale loamy sand, 0 to 2 percent slopes	1.4	46.7%
Totals for Area of Interest		3.1	100.0%

Soil Map

Search

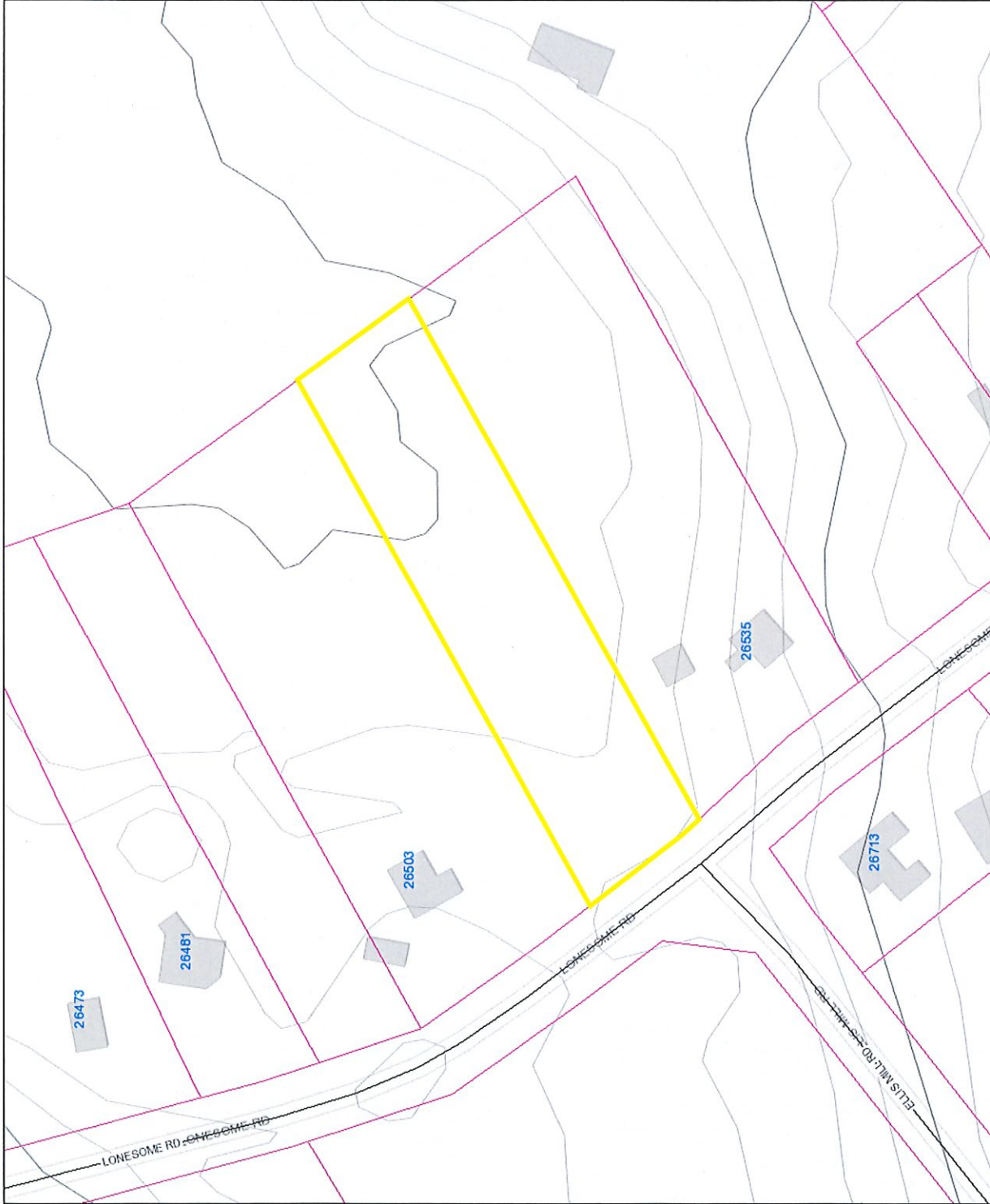
Map Unit Legend

Scale (not to scale)

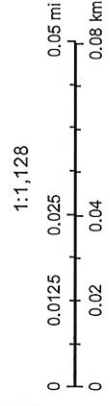
Warning: Soil Map may not be valid at this scale.



PIN:	531-15.00-30.28
Owner Name	HURST MICHAEL
Book	5353
Mailing Address	14 EAST HIGH ST
City	SEAFORD
State	DE
Description	NE/RD 541
Description 2	ACROSS FROM RD 538
Description 3	
Land Code	



- polygonLayer Override 1
- polygonLayer Override 1
- Tax Parcels
- 911 Address
- Streets
- County Boundaries
- Flood Zones 2018
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- A
- AE
- AO
- OPEN WATER
- VE





Sussex County

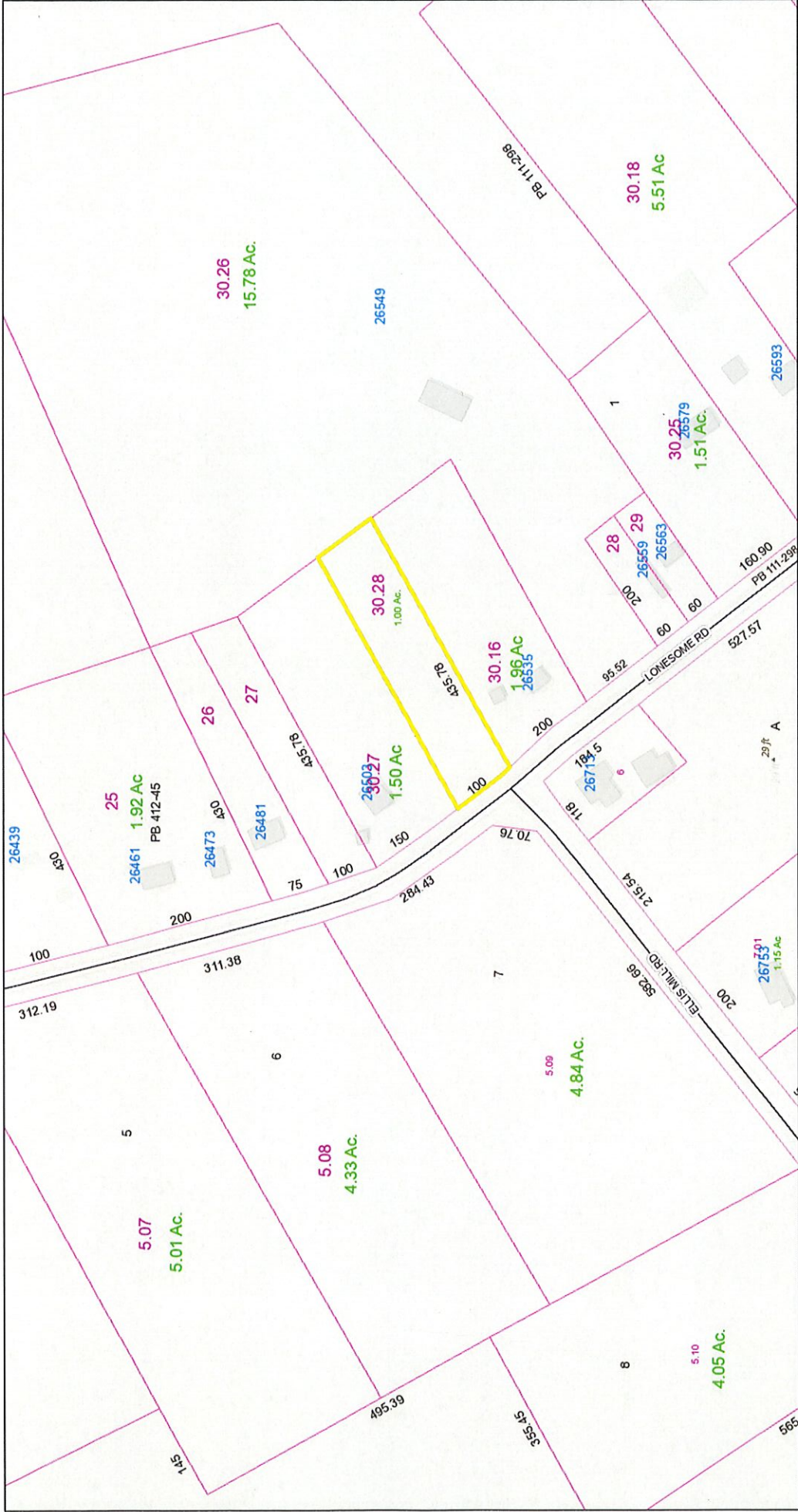
PIN:	531-15.00-30.28
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Land Code	



- polygonLayer
 - Override 1
 - polygonLayer
 - Override 1
 - Tax Parcels
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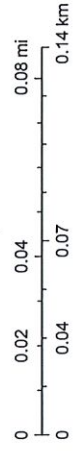
Sussex County



May 21, 2024

- Override 1
- Override 1
- Tax Parcels
- Streets
- County Boundaries

1:2,257



Delaware Department of Education, Wetland mapping is supported with funding provided by the Environmental Protection Agency, Delaware Geological Survey, U.S. Geological Survey, Delaware Public Service Commission, FEIMA, County of Sussex, DE, Delaware FirstMap, VITA, Esri, HERE, Garmin, INCREMENT P, USGS, EPA,

PARID: 531-15.00-30.16
ZITTINGER JOHN C & BRUCEIA C

26535 LONESOME RD

Property Information

Property Location: 26535 LONESOME RD
Unit:
City: SEAFORD
State: DE
Zip: 19973

Class: RES-Residential
Use Code (LUC): RS-RESIDENTIAL SINGLE FAMILY
Town: 00-None
Tax District: 531 – SEAFORD
School District: 3 - SEAFORD
Fire District: 87-Seafood
Deeded Acres: 1.9600
Frontage: 0
Depth: .000
Irr Lot:
Plot Book Page: /PB

100% Land Value: \$3,900
100% Improvement Value: \$23,700
100% Total Value: \$27,600

Legal

Legal Description: N/RT 541 APPROX
4320 50' NW RT 536

Owners

Owner	Co-owner	Address	City	State	Zip
ZITTINGER JOHN C & BRUCEIA C		26535 LONESOME RD	SEAFORD	DE	19973

PARID: 531-15.00-30.26
MAHAFFY MAUREEN

26549 LONESOME RD

Property Information

Property Location: 26549 LONESOME RD
Unit:
City: SEAFORD
State: DE
Zip: 19973

Class: AGR-Agriculture
Use Code (LUC): AH-AG W/ HOMESITE
Town: 00-None
Tax District: 531 - SEAFORD
School District: 3 - SEAFORD
Fire District: 87-Seafood
Deeded Acres: 15.7801
Frontage: 0
Depth: .000
Irr Lot:
Plot Book Page: /PB

100% Land Value: \$6,400
100% Improvement Value: \$31,000
100% Total Value: \$37,400

Legal

Legal Description: E/RD 541
220'S/RD 538

Owners

Owner	Co-owner	Address	City	State	Zip
MAHAFFY MAUREEN		26549 LONESOME RD	SEAFORD	DE	19973

PARID: 531-15.00-30.27
BAKER THOMAS EDWARD

26503 LONESOME RD

Property Information

Property Location: 26503 LONESOME RD
Unit:
City: SEAFORD
State: DE
Zip: 19973

Class: RES-Residential
Use Code (LUC): RV-RESIDENTIAL VACANT
Town: 00-None
Tax District: 531 - SEAFORD
School District: 3 - SEAFORD
Fire District: 87-Seafood
Deeded Acres: 1.5000
Frontage: 0
Depth: .000
Irr Lot:
Plot Book Page: /PB

100% Land Value: \$3,000
100% Improvement Value
100% Total Value

Legal

Legal Description: NE/RD 541
ACROSS FROM RD 538

Owners

Owner	Co-owner	Address	City	State	Zip
BAKER THOMAS EDWARD		26503 LONESOME RD	SEAFORD	DE	19973



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES &
ENVIRONMENTAL CONTROL
DIVISION OF WATER RESOURCES

20653 Dupont Blvd. Unit 5
Georgetown, DE 19947

CERTIFIED MAIL
7005 1820 0002 5795 5068

NOTICE OF DENIAL

November 13, 2006

Arch Street Associates, L.L.C.
141-A Silver Lake Drive
Rehoboth Beach, DE 19971

Tax Map No.: 5-31-15.00-30.28

Dear Arch Street Associates, L.L.C.:

The soils on the referenced parcel were evaluated on July 15, 2006, by a private soil scientist. Based on information prepared by the private soil scientist and presented to the Department of Natural Resources and Environmental Control (DNREC), it is apparent that the evaluated parcel has severe limitations for on-site wastewater treatment and disposal due to the presence of poorly drained soils. This decision is due to the presence of soil indicators directly below the A horizon suggesting prolonged periods of saturation at or near the soil surface. Accordingly, the requirements of Section 6.06000 Conventional On-Site Wastewater Treatment and Disposal Systems Criteria of the Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems, cannot be met. In addition, the requirements of Section 5.10000 Alternative Wastewater Treatment and Disposal Systems are not applicable to your parcel at this time.

Options you may consider

Ground water observation wells accurately show the depth to the seasonal high water table provided precipitation levels and other environmental factors are considered "normal" for the year. Refer to Section 5.01200 Observation Wells/Piezometer for specific details and information. The season for the installation and reading of observation wells is from December

Delaware's good nature depends on you!

Holding that
Jim Casareto
Program Manager

(302)
232-9019

DNREC checks around march

costs
750 to
Pit in
well

certified mail
needed
by
November
15, 2006

EX-111
DEC 5
7025

\$150,000
if it sneezes
if it is ok and he sets
PC30 meters RS
total
\$1250
include
5 yrs
Lease

Bruce Bayley - (410) 708-3854

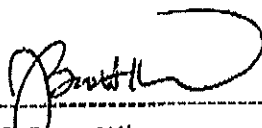
EX-111
No alt.

Arch Street Associates, L.L.C.
11/13/2006
Page 2 of 2

1st through May 15th annually. If you disagree with the findings of the evaluation and wish to install observation wells, contact J. Scott Kline at (302) 856-4561 for information.

I encourage you to contact our office at (302) 856-4561 concerning your site evaluation. If you are dissatisfied with the findings of the evaluation, you may appeal to the Environmental Appeals Board within 20 days after the receipt of this letter. The board may affirm, modify or reverse the decision of the Secretary. Should you wish to pursue this appeal, contact Gale Donovan at (302) 739-9909.

Administrative
Assistant



J. Scott Kline
Environmental Scientist IV
Small Systems Branch

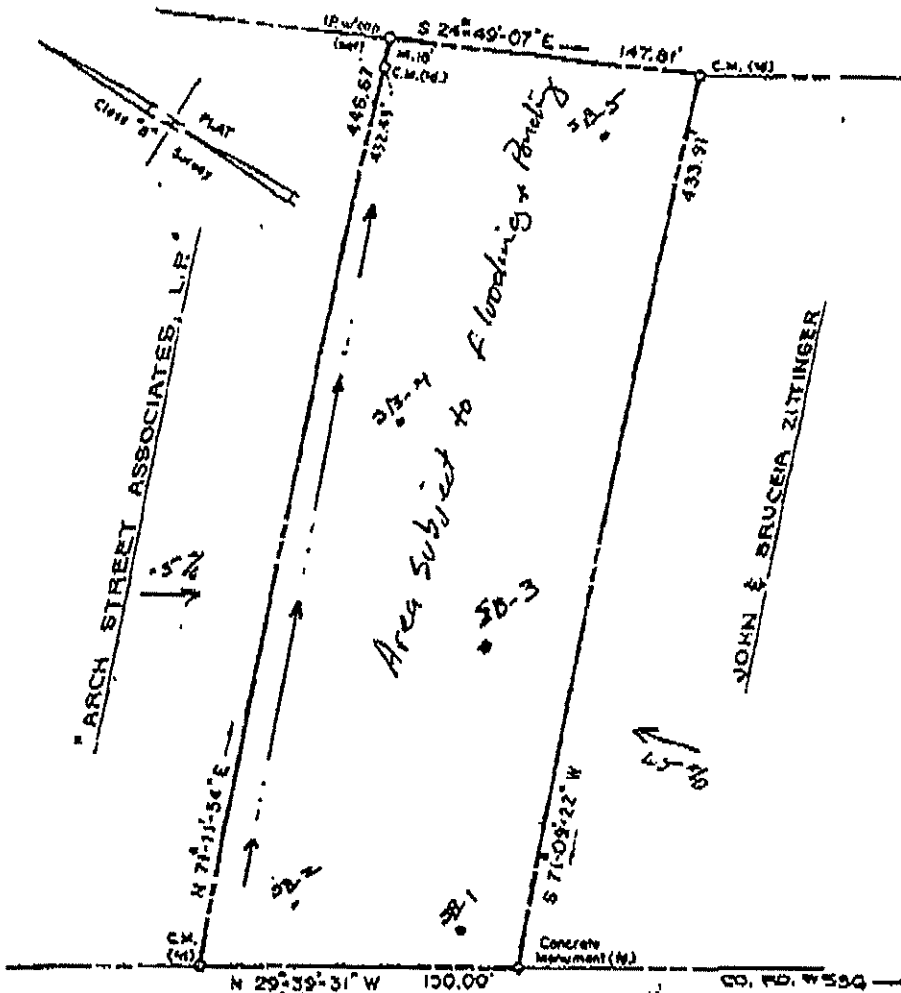
take receipt
wells will be scheduled w/in 30 days

pc: file

regional council
\$5000
OK
3 months
variance
have holding tank installed
can do same thing
everyone
w/in 1000
get noticed
noticed by anyone
behaviors

some wetland areas
land -
swims -
Pond
or use an easement
Obtain
land or
at Parcel
Parcel
is 2000

Parcel **F**
"RONALD MOORE & CONNIE M. MITCHELL" Subdivision
(P.B. 53-105)



COUNTY ROAD #541
(50' R/W)

1.4875 Acres

Prepared for
"ARCH STREET ASSOCIATES, L.P."

Located in
SEAFORD HUNDRED - SUSSEX COUNTY - DELAWARE
Scale: 1"=60'
Aug. 5, 2006

COAST SURVEY, INC.
Land Surveying & Planning
P.O. BOX 117
MIDDLETOWN, DE 19966
(302) 945-7784

5-81-15-30.28

506-35

NOV 17 06 04:32P J.R. Moore and Sons 302-227-5773 p.4
AUG 09 06 03:41P J.R. Moore and Sons 302-227-5773 p.1

Soil Profile Notes

Profile No. 1 Soil Series X Test Pit 7 15'
 Property Owner Ave. Street Test Date 5-21-15.00-70.78
 Slope 5% Landform upland flat Test Date 5-21-15.00-70.78
 Depth to Limiting Zone: 5'
 Taxonomic Classification: Typic Endosol

Horizon	Depth	Matrix	Mottles	Mottles Desc.	Texture	Structure	Consistence
A	0 to 5	10y 7/3			cl	2 Fw	Fr
E	5 to 14	2.5y 6/3	10y 4. 2.5y 8/3	C-2 O	sl	2 Fm sbk	Fr
B ₁	11 to 20	2.5y 6/1			sl +	2 m sbk	Fr

Comments: Note: acid - L of O horizon - chert - + finding horizons

Profile No. 2 Soil Series X Test Pit 60 20'
 Slope 0% Landform upland DEPT Test Date 60 20'
 Depth to Limiting Zone: 0 To Redoximorphic Features
 Taxonomic Classification: Typic Endosol

Horizon	Depth	Matrix	Mottles	Mottles Desc.	Texture	Structure	Consistence
A	0 to 4	10y 7/2			sl/cl	2 Fw	Fr
E ₁	4 to 13	2.5y 6/2			L	2 m sbk	Fr
B ₁	13 to 18	5y 6/1			cl	2 m sbk	Fr

Comments: acid - L of O horizon - chert - chert line can be seen

Profile No. 3 Soil Series X Test Pit 90 20'
 Slope 0% Landform upland DEPT Test Date 90 20'
 Depth to Limiting Zone: 0 To Redoximorphic Features
 Taxonomic Classification: Typic Endosol

Horizon	Depth	Matrix	Mottles	Mottles Desc.	Texture	Structure	Consistence
A	0 to 6	10y 7/1			sl	2 Fw	Fr
E _a	6 to 11	2.5y 6/1	2.5y 4/6	C-1 O	sl	2 m sbk	Fr
B ₁	11 to 18	5y 6/1	5y 4/6	C-2 O	sl +	2 m sbk	Fr

Comments: acid - L of O horizon - chert - chert line can be seen

PSL



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

89 KINGS HIGHWAY
DOVER, DELAWARE 19901

OFFICE OF THE
SECRETARY

PHONE: (302) 739-9000
FAX: (302) 739-6242

March 26, 2008

Mr. Ronald Moore
Arch Street Associates
141-A Silver Lake Drive
Rehoboth Beach, DE 19971

RE: Formal Variance
Tax Map # 5-31-15-30.28

Dear Mr. Moore:

The Department has reviewed and advertised your request for a Formal Variance on the above-mentioned parcel. The advertisement period expired as of close of business February 18, 2008. The Department has received no objections.

The Department has therefore **approved** your request to allow an on-site wastewater treatment and disposal system to be installed on soils that do not meet either the limiting zone or permeability requirements, of the current regulations, provided that the following conditions are followed:

- 1) The system will serve a single family dwelling and will have a design flow rate not exceeding 480 gallons per day.
- 2) The system required will be a sand lined elevated sand mound with pre-treatment. A Class D Soil Scientist will be required to excavate test pits to determine the feasibility and/or extent of sand lining.
- 3) The system must be placed in the best possible landscape position as determined by a Class D Soil Scientist.

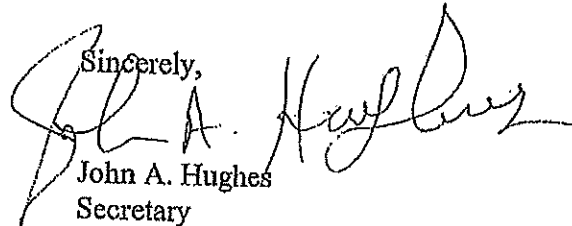
Additionally, a permanent holding tank may be considered for this property.

Delaware's Good Nature depends on you!

Mr. Ronald Moore
March 26, 2008
Page 2

A copy of your approved site evaluation is enclosed. Should you have any questions please feel free to contact Jim Cassidy of the Ground Water Discharges Section at (302) 856-4561.

Sincerely,

A handwritten signature in black ink, appearing to read "John A. Hughes". The signature is fluid and cursive, with a large initial "J" and "H".

John A. Hughes
Secretary

pc: file

SOIL PROFILE NOTES



Laurel Oak, LLC
 ...Where your dirt is our business

420 Cosden Road
 Barclay, MD 21607
 Tel. (302) 943-1772 Fax. (410) 438-3532

Bruce B. Bagley
 CPSSc, CPAg

Profile #: OB1
 Date of Test: ~~11/30/06~~ 12/4/06 Soil Boring or Test Pit _____
 Property Owner: Firch Street Associates
 Property Location: Lonesome Rd.
 Site Evaluator: Bruce B. Bagley, CPSSc License No. D-2464
 Slope: 2 % Relief: Sidesh
 Estimated Permeability: _____ MPI
 Depth to Limiting Zone: _____ inches
 Soil Series Identified: _____

Horizon	Depth	Colors		Mottles Desc. Ab. S. Con.	Texture	Structure	Consistence
		Matrix	Mottles				
A	0 to 6	10YR 3/4			SL	2ms	fr
Bt1	6 to 14	2.5Y 6/4			L	2msbk	fr
Bt2	14 to 26	2.5Y 5/6	10YR 5/8	8/2 f20	SCC	2msbk	fr
Bt3	26 to 41	2.5Y 4/2	2.5Y 5/6	4/6 c2p	CL	1msbk	fr-fr
Cg	41 to 60	10YR 4/2	10YR 5/6	t20	CL	m	firm
	to						
	to						
	to						

Comments: H2O = N 69048.2
 E 178347.5

Site Evaluator's Signature Bruce B. Bagley

SOIL PROFILE NOTES



Laurel Oak, LLC
 ...Where your dirt is our business

420 Cosden Road
 Barclay, MD 21607
 Tel. (302) 943-1772 Fax. (410) 438-3532

Bruce B. Bagley
 CPSSc, CPAg

Profile #: OB 2
 Date of Test: 12/4/06 Soil Boring X or Test Pit _____
 Property Owner: Arch street Associates
 Property Location: Lonesome Rd
 Site Evaluator: Bruce B. Bagley, CPSSc License No. D-2464

Slope: _____ % Relief: _____
 Estimated Permeability: _____ MPI
 Depth to Limiting Zone: _____ inches
 Soil Series Identified: _____

Horizon	Depth	Colors		Mottles Desc. Ab. S. Con.	Texture	Structure	Consistence
		Matrix	Mottles				
A	to 7	10y 3/4			SL	2mgr	fr
Bt1	to 17	2.5y 4/6			L	2msble	fr
Bt2	to 37	2.5y 5/6	2.5y 3/8 4/2	C2d	SCL	2msbk	fr
Bc	to 47	2.5y 4/2	2.5y 5/8 5/6	C2d	CL	M	fr fi
Cg	to 60	2.5y 4/2			CL	M	fi
	to						
	to						
	to						

Comments: H2O N 69059.43
E 178338.41

Site Evaluator's Signature _____

SOIL PROFILE NOTES



Bruce B. Bagley
CPSSc, CPAg

Laurel Oak, LLC
...Where your dirt is our business

420 Cosden Road
Barclay, MD 21607
Tel. (302) 943-1772 Fax. (410) 438-3532

Profile #: OB3
 Date of Test: 12/4/06 Soil Boring _____ or Test Pit _____
 Property Owner: Arch Street Associates
 Property Location: Lonesome Rd.
 Site Evaluator: Bruce B. Bagley, CPSSc License No. D-2464
 Slope: _____ % Relief: _____
 Estimated Permeability: _____ MPI
 Depth to Limiting Zone: _____ inches
 Soil Series Identified: _____

Horizon	Depth	Colors		Mottles Desc. Ab. S. Con.	Texture	Structure	Consistence
		Matrix	Mottles				
A	0 to 5	10y ^r 3/4			SL	2ms ^r	fr
Bt1	5 to 15	2.5y 4/6			L	2ms 6k	fr
Bt2	15 to 21	2.5y 5/6			SSCL	2ms 6k	fr
Bt3	21 to 32	2.5y 5/8	2.5y 4 1/2 4/6	cap	CL	M	fi
Bc	32 to 48	2.5y 4/6	2.5y 5 1/8 4/6	cap	CL	M	fi
Cg	48 to	2.5y 7/2	10y 5/6	cap	CL	M	fi
	to						
	to						

Comments: H2O N 69042.95
 E 178331.97

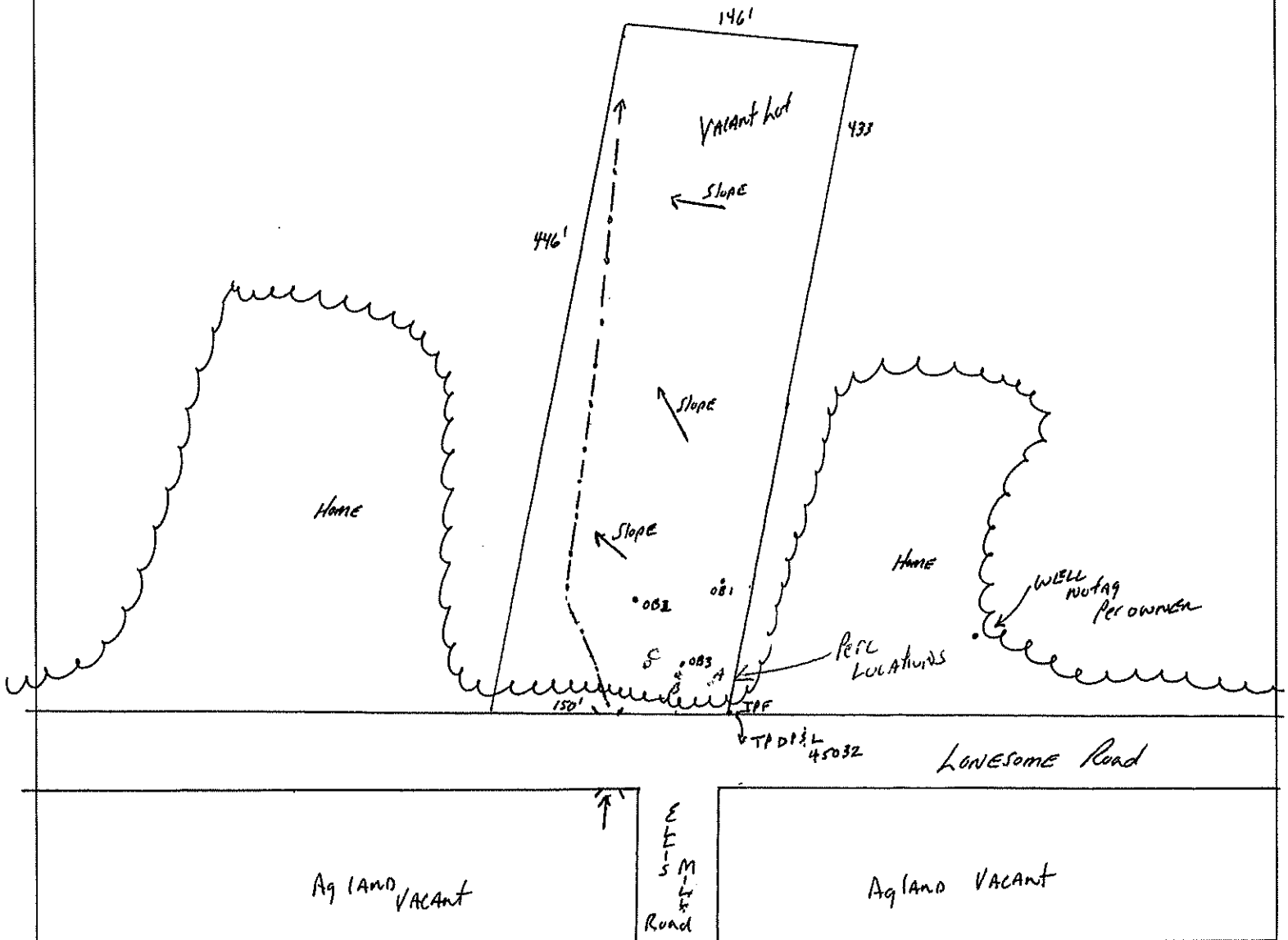
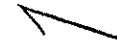
Site Evaluator's Signature _____

Plot Drawing

Arch Street Associates, LLC

SCALE: 1 inch = 100'

INDICATE NORTH:



ALL other wells > 150'



Bruce B. Bagley
PRES. CBAA

Laurel Oak, LLC

...Where your dirt is our business

420 Cosden Road
Barclay, MD 21607
Tel. (302) 943-1772 Fax. (410) 438-3532

John P. J.
11/20/06

PARID: 531-15.00-30.28

HURST MICHAEL

Property Information

Property Location:

Unit:

City:

State:

Zip:

Class: RES-Residential
Use Code (LUC): RV-RESIDENTIAL VACANT
Town: 00-None
Tax District: 531 - SEAFORD
School District: 3 - SEAFORD
Fire District: 87-Seafood
Deeded Acres: 1.0000
Frontage: 0
Depth: .000
Irr Lot:
Plot Book Page: /PB

100% Land Value: \$2,000

100% Improvement Value

100% Total Value

Legal

Legal Description: NE/RD 541
ACROSS FROM RD 538

Owners

Owner	Co-owner	Address	City	State	Zip
HURST MICHAEL	DORIS SARAGINO	23000 SUSSEX HWY	SEAFORD	DE	19973



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, PHILADELPHIA DISTRICT
100 PENN SQUARE EAST
PHILADELPHIA PENNSYLVANIA 19107-3390

January 28, 2022

Regulatory Branch

SUBJECT: Preliminary Jurisdictional Determination NAP-2021-01031-85
Lonesome Road SX
Center coordinates (38.622039°, -75.665075°)

Michael Hurst
14 East High Street
Seaford, Delaware 19973

Dear Mr. Hurst:

This Preliminary Jurisdictional Determination (PJD) is provided in response to your request on January 3, 2022 for concurrence from this office of the delineation of aquatic resources. The site associated with your request is located at 26503 Lonesome Road, Tax Map Parcel Number 531-15.00-30.28 in Seaford, Sussex County, Delaware.

The findings of this PJD are documented in the **enclosed** PJD Form. The locations of aquatic resources are depicted on the **enclosed** plan(s) identified as BOUNDARY SURVEY PLAN FOR MICHAEL HURST & DORIS SARAGINO LONSEOME ROAD, SEAFORD, DE. 19973 SEAFORD HUNDRED SUSSEX COUNTY STATE OF DELAWARE, prepared by Miller Lewis, Incorporated, dated October 7, 2021, 1 sheet.

This PJD is non-binding and indicates that there may be jurisdictional aquatic resources on the subject site. PJDs are advisory in nature and may not be appealed. The applicant retains the right to request an Approved Jurisdictional Determination (AJD) which would make a determination of federal jurisdiction and may be appealed. Please be aware that for purposes of computation of impacts, compensatory mitigation requirements and other resource protection measures, a permit decision made on the basis of a PJD will treat all waters and wetlands that would be impacted by the permitted activity as if they are subject to federal jurisdiction.

The delineation, included herein, has been conducted to identify the location and extent of the aquatic resource boundaries for the particular site identified in this request. This delineation may not be valid for the Wetland Conservation Provisions of the Food Security Act of 1985, as amended. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should discuss the applicability of a certified wetland determination with the local USDA service center, prior to starting work.

This PJD is valid for a period of five (5) years. This PJD is issued in accordance with current Federal guidance and is based upon the existing site conditions and information

provided by you in your request. This office reserves the right to reevaluate and modify the PJD at any time should existing site conditions change, or should the information provided by you prove to be false, incomplete or inaccurate.

If you have any questions regarding this matter, please contact Michael D. Yost at (267) 240-5278 or michael.d.yost@usace.army.mil.

Sincerely,

Todd A. Hoernemann
Chief, Application Section I

Enclosures

cc:
Michael Klebasko, Wetland Studies and Solutions, Incorporated
Wetlands and Subaqueous Lands Section, DDNREC

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR PJD: January 18, 2022

B. NAME AND ADDRESS OF PERSON REQUESTING PJD: Wetland Studies and Solutions, Inc.

C. DISTRICT OFFICE, FILE NAME, AND NUMBER: CENAP-OPR-2021-01031-85 Lonesome Road SX

D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:

(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)

State: **Delaware** County/parish/borough: **Sussex** City: **Seaford**

Center coordinates of site (lat/long in degree decimal format):

Lat.: **38.622039°N** Long.: **75.665075°W**

Universal Transverse Mercator:

Name of nearest waterbody: **Nanticoke River**

E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date: January 18, 2022

Field Determination. Date(s): December 20, 2021

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
1	38°37'19"N	75°39'54"W	+/-0.994 acres	Wetland	Section 404


- 1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed the various types of JDs and their characteristics and circumstances when they may be appropriate.
- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "*may be*" waters of the U.S. and/or that there "*may be*" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

SUPPORTING DATA. Data reviewed for PJD (check all that apply)


Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor:
Map: Vicinity map, USGS map, NWI map, Soils map, Wetland delineation plan.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report. Rationale: _____.
- Data sheets prepared by the Corps: _____.
- Corps navigable waters' study: _____.
- U.S. Geological Survey Hydrologic Atlas: Sharptown, DE MD 1992.
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1" = 2,000', Butler Mill Branch-Nanticoke River.
- Natural Resources Conservation Service Soil Survey. Citation: Sussex County Digital Data, U.S. Department of Agriculture, 2019.
- National wetlands inventory map(s). Cite name: Lonesome Road Property.
- State/local wetland inventory map(s): _____.
- FEMA/FIRM maps: _____.
- 100-year Floodplain Elevation is: _____.(National Geodetic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): _____.
or Other (Name & Date): Site photographs - 03/30/2021
- Previous determination(s). File no. and date of response letter: _____.
- Other information (please specify): _____.

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.



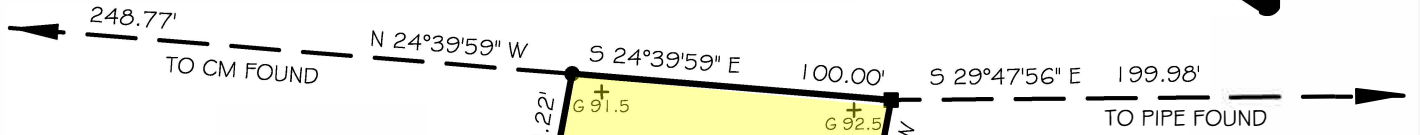
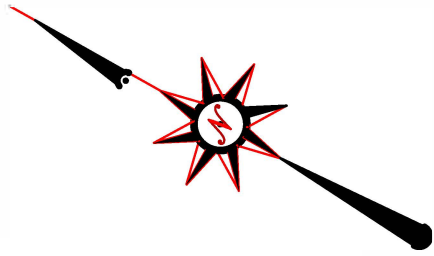
Signature and date of
Regulatory staff member
completing PJD
January 28, 2022



Signature and date of
person requesting PJD
(REQUIRED, unless obtaining
the signature is impracticable)¹

¹ Districts may establish timeframes for requestor to return signed PJD forms. If the requestor does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

N/F
 MAUREEN MAHAFFY & DARCIE DEBAUN JOHNSTON
 D.B. 4521-38
 T.M. 531-15.00-30.26



N/F
 JOHN C. # BRUCEIA C. ZITTINGER
 D.B. 2696-61
 T.M. 531-15.00-30.16

N/F
 EDWARD T. BAKER
 D.B. 4814-338
 T.M. 531-15.00-30.27

0.994 Acres +/-
 WOODED LOT

WETLANDS LINE CHART
 LINE "A"

LINE	BEARING	DISTANCE
L1	N 39°27'31" W	28.01'
L2	N 64°54'20" W	27.86'
L3	S 81°28'14" W	18.19'
L4	N 23°24'25" W	31.77'
L5	N 06°07'26" E	20.45'
L6	N 15°17'30" W	20.26'
L7	N 37°20'04" W	18.79'

LINE "B"

L8	S 49°02'39" W	30.59'
L9	S 44°19'32" W	27.11'
L10	S 40°01'47" W	27.35'
L11	S 64°36'35" W	12.11'
L12	S 02°44'30" W	5.17'
L13	S 22°49'26" E	24.37'
L14	N 30°42'34" W	28.34'
L15	N 10°50'59" W	6.29'
L16	N 52°54'45" E	30.80'
L17	N 39°58'47" E	21.84'

- A4 G 94.1 WETLAND FLAG WITH GRADE
- MON. WELL TOP 97.7 G 94.9 MONITORING WELL
- G 94.5 SPOT GRADE

SITE B.M. = 100.0' ASSUMED
 TOP OF CONCRETE MONUMENT

- CONC. MON. (FD)
 - PIPE (SET)
- DEED REF: 5353-162

LONESOME ROAD - SCR 54 I
 (50' RM)

- Nontidal Wetlands
- Wetland Delineation Data Point

THIS SURVEY AND PLAT DOES NOT VERIFY THE EXISTENCE OR NON-EXISTENCE OF RIGHTS-OF-WAY OR EASEMENTS CROSSING THIS PROPERTY OTHER THAN THOSE SHOWN.
 NO TITLE SEARCH PROVIDED OR STIPULATED.

I, STEPHEN M. SELLERS REGISTERED AS A PROFESSIONAL LAND SURVEYOR IN THE STATE OF DELAWARE, HEREBY STATE THAT THE INFORMATION SHOWN ON THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND MEETS THE STANDARDS OF PRACTICE AS ESTABLISHED BY THE STATE OF DELAWARE BOARD OF PROFESSIONAL LAND SURVEYORS. ANY CHANGES TO THE PROPERTY CONDITIONS, IMPROVEMENTS, BOUNDARY OR PROPERTY CORNERS AFTER THE DATE SHOWN HEREON SHALL NECESSITATE A NEW REVIEW AND CERTIFICATION FOR ANY OFFICIAL OR LEGAL USE.

BOUNDARY SURVEY PLAN FOR
MICHAEL HURST & DORIS SARAGINO

LONESOME ROAD, SEAFORD, DE. 19973
 SEAFORD HUNDRED SUSSEX COUNTY
 STATE OF DELAWARE
 SCALE 1" = 60' OCTOBER 7, 2021

PREPARED BY:

PH: 302-629-9895
 FAX: 302-629-2391

MILLER
 LAND SURVEYING
LEWIS, INC.

1560 MIDDLEFORD RD.

• SEAFORD, DE. 19973

STEPHEN M. SELLERS PLS 566 DATE
 SURVEY CLASS: SUBURBAN

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Michael Hurst	File Number: NAP-2021-01031-85	Date: 1/18/2022
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input checked="" type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/appeals.aspx> or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

U.S. Army Corps of Engineers, Philadelphia District
ATTN: CENAP-OPR
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390
Telephone: (215) 656-6728
E-mail: NAPREGULATORY@usace.army.mil

If you only have questions regarding the appeal process you may also contact:

Ms. Naomi J. Handell
Regulatory Program Manager (CENAD-PD-OR) U.S. Army Corps of Engineers Fort Hamilton Military Community
301 General Lee Avenue
Brooklyn, New York 11252-6700
Telephone: (917) 790-8523
E-mail: Naomi.J.Handell@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

Signature of appellant or agent.

Date:

Telephone number:



October 26, 2021

VIA EMAIL: todd.a.schaible@usace.army.mil

Mr. Todd Schaible, Regulatory Chief
U.S. Army Corps of Engineers – Philadelphia District
100 Penn Square East
Wanamaker Building
Philadelphia, PA 19107

Re: JD Request for Lonesome Road Property
Anne Arundel County, Maryland
WSSI Project #: 31439.01

Dear Mr. Schaible:

On behalf of the property owner, Wetland Studies and Solutions, Inc. is requesting an Approved Jurisdictional Determination (AJD) for the above referenced +/-1-acre property, located at 26503 Lonesome Road in Sussex County, Delaware. Please find attached an electronic copy of our Wetland Delineation Report containing a description of the site and copies of a vicinity map, soil survey map, National Wetland Inventory map, U.S.G.S. topographic map, completed Wetland Delineation Data Sheets, and on-site photographs. Also, attached is a wetland delineation plan depicting the surveyed limits of potentially jurisdictional waters of the U.S. (including wetlands) within the study area.

Please have the Corps project manager contact me to schedule a date for the JD as soon as possible. I believe this information is sufficient for your review of the project. However, if you need any additional information, or have any questions, please do not hesitate to contact me.

Sincerely,

WETLAND STUDIES AND SOLUTIONS, INC.

A handwritten signature in blue ink that reads "Michael J. Klebasko".

Michael J. Klebasko, P.W.S.
Manager-Maryland Environmental Science

Enclosures: 1. Completed JD Application
2. Wetland Delineation Report and Plan dated April 7, 2021

cc: Michael Hurst (via e-mail: dydez@icloud.com)

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Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

- I am requesting a JD on property located at: 26503 Lonesome Road
(Street Address)
City/Township/Parish: Seaford County: Sussex State: DE
Acreage of Parcel/Review Area for JD: 0.994
Section: _____ Township: _____ Range: _____
Latitude (decimal degrees): 38.621944 Longitude (decimal degrees): 75.665
(For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- I currently own this property. I plan to purchase this property.
 I am an agent/consultant acting on behalf of the requestor.
 Other (please explain): _____
- Reason for request: (check as many as applicable)
 I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
 I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
 I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
 I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
 I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
 A Corps JD is required in order to obtain my local/state authorization.
 I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
 I believe that the site may be comprised entirely of dry land.
 Other: _____
- Type of determination being requested:
 I am requesting an approved JD.
 I am requesting a preliminary JD.
 I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
 I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: Michael J. Klebasko Date: 10/26/2021

• Typed or printed name: Michael J. Klebasko, P.W.S
Company name: Wetland Studies and Solutions, Inc.
Address: 1131 Benfield Boulevard, Suite L
Millersville, Maryland 21108
Daytime phone no.: 410-271-4793
Email address: mklebasko@wetlands.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

Lonesome Road

Sussex County, Delaware

WSSI #31439.01

Waters of the U.S. (Including Wetlands) Delineation

October 12, 2021

Prepared for:
Michael Hurst
14 East High Street
Seaford, Delaware 19973

Prepared by:



1131 Benfield Boulevard, Suite L
Millersville, Maryland 21108
Tel: 410-672-5990 Email: contactus@wetlands.com
www.wetlands.com

Waters of the U.S. (Including Wetlands) Delineation

**Lonesome Road
(0.994 acres)**

WSSI #31439.01

Introduction

Wetland Studies and Solutions, Inc. (WSSI) has determined the boundaries of the jurisdictional wetlands and other waters of the U.S. (i.e., streams) on the referenced site. As discussed in this report, jurisdictional wetlands and other waters of the U.S. are present on the site. These waters of the U.S. include palustrine forested (PFO) and palustrine scrub/shrub (PSS) wetlands associated with an unnamed tributary to Butler Mill Branch. Our findings are depicted as a surveyed map on the Boundary Survey Plan ([Attachment I](#)) and are discussed briefly below.

Project Location

The site is located east of the intersection of Ellis Mill Road and Lonesome Road in Seaford, Sussex County, Delaware. [Exhibit 1](#) is a vicinity map that depicts the approximate boundaries of the site and its general location.

Methodology

This wetland delineation was performed pursuant to the *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1 (1987 Manual) and subsequent guidance and modified by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*, Version 2.0 dated November 2010. Field work was performed by Amanda Atwell, P.W.S.¹, C.P.S.S.² on March 30, 2021.

Prior to conducting field work, relevant background information was reviewed, including the U.S. Geological Survey (USGS) maps which include 20-foot topographic lines, forest, structures, and roads, as well as the locations of ponds, intermittent, and perennial streams ([Exhibit 2](#)); the Digital National Wetlands Inventory maps ([Exhibit 3](#), downloaded October 2020); the U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS) soil survey map for Sussex County, Delaware ([Exhibits 4a, 4b](#)); and the Summer 2018 Natural Color Imagery ([Exhibit 5](#)).

Observations of vegetation, soils, and hydrology were recorded at representative locations in the wetlands and adjacent non-wetland areas to determine the wetland boundaries. Wetland Determination data forms describing representative plant communities, hydrology indicators, and soil characteristics are included as [Exhibit 6](#). Photographs of the data point locations, representative wetland and non-wetland communities, and other existing site conditions are included in [Exhibit 7](#). The surveyed locations of delineated wetlands, other waters of the U.S., data sites, and assessed stream reaches and the approximate locations of photographs are depicted on [Attachment I](#).

¹ Professional Wetland Scientist #3163, Society of Wetlands Scientists Certification Program, Inc.

² Certified Professional Soil Scientist #34308, Society of Soil Scientists of America.

Waters of the U.S. Delineation Findings

In WSSI's opinion, jurisdictional wetlands are present within the property. There are two (2) systems located within the study area that connect offsite, northeast of the property. The first is a PSS wetland swale originating at a culvert under Lonesome Road. This ditched and streamlined feature contains hydric soils, hydrophytic vegetation and wetland hydrology and conveys water into the larger wetland system located east of the property. The second feature is a PFO wetland located within the eastern half of the property. This PFO represents the outer limits of a much larger PFO system associated with an unnamed tributary to Butler Mill Branch, originating east of the property.

A roadside ditch is located along Lonesome Road (Photo 7). Because this swale was constructed in an upland as a stormwater conveyance, it our professional opinion that it should not be classified as a jurisdictional wetland or other water of the U.S. Non-tidal drainage ditches with ephemeral flow that are not a relocated tributary or excavated within a tributary and do not drain wetlands are not generally considered to be waters of the U.S. At the time of the Jurisdictional Determination site visit, WSSI will request the U.S. Army Corps of Engineers (USACE) to concur that this ditch is not a jurisdictional waters of the U.S.

Summary

In WSSI's opinion, jurisdictional wetlands are present within the study area, based on our site observations, as described above and depicted on Attachment I.

The waters of the U.S. on the site (i.e., the wetlands) are regulated by Sections 401 and 404 of the Clean Water Act and by state and Sussex County wetlands laws and cannot be disturbed without the appropriate permits. Such permits may include permits from local agencies, as well as the USACE, depending upon the extent and type of impacts.

Limitations

This study is based on examination of the vegetation, soils and hydrology and available reference documents. Field indicators can change with variations in hydrology and other factors. Therefore, our conclusions may vary significantly from future observation by others. This report assesses the potential for wetlands at the site at the time of our review and does not address conditions at a given time in the future.

Our review and report have been prepared in accordance with generally accepted guidelines for the conduct of a survey for potential wetlands. Conclusions presented herein are based upon our review of available information, the results of our field studies, and/or professional judgement. We make no other warranties, either expressed or implied, and our report is not a recommendation to buy, sell or develop the property.

We offer no opinion and do not purport to opine on the possible application of various building codes, zoning ordinances, other land use or platting regulations, environmental or health laws and other similar statutes, laws, ordinances, code and regulations affecting the possible use and occupancy of the Property for the purpose for which it is being used, except as specifically provided above.

The foregoing opinions are based on applicable laws, ordinances, and regulations in effect as of the date hereof and should not be construed to be an opinion as to the matters set out herein should such laws, ordinances or regulations be modified, repealed or amended.

Any reuse or modification of any of this document (whether hard copies or electronic transmittals) prepared by WSSI without written verification or adaptation by WSSI will be at the sole risk of the individual or entity utilizing said document and such use is without the authorization of WSSI. WSSI shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of this document. Client shall indemnify WSSI from any claims arising out of unauthorized use or modification of the document whether hard copy or electronic.

This report does not constitute a jurisdictional determination of waters of the U.S. since such determinations must be verified by the USACE (as applicable) and are subject to review by the U.S. Environmental Protection Agency.

WETLAND STUDIES AND SOLUTIONS, INC.



Michael J. Klebasko, PWS
Maryland Environmental Science Manager



Courtney Egolf, WPIT
Environmental Scientist

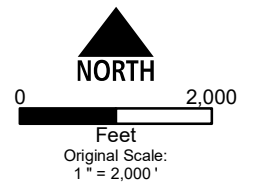
L:\31000s\31400\31439.01\Admin\05-ENVR\Components\01-Delin Rpt [FINAL].docx

EXHIBIT 1



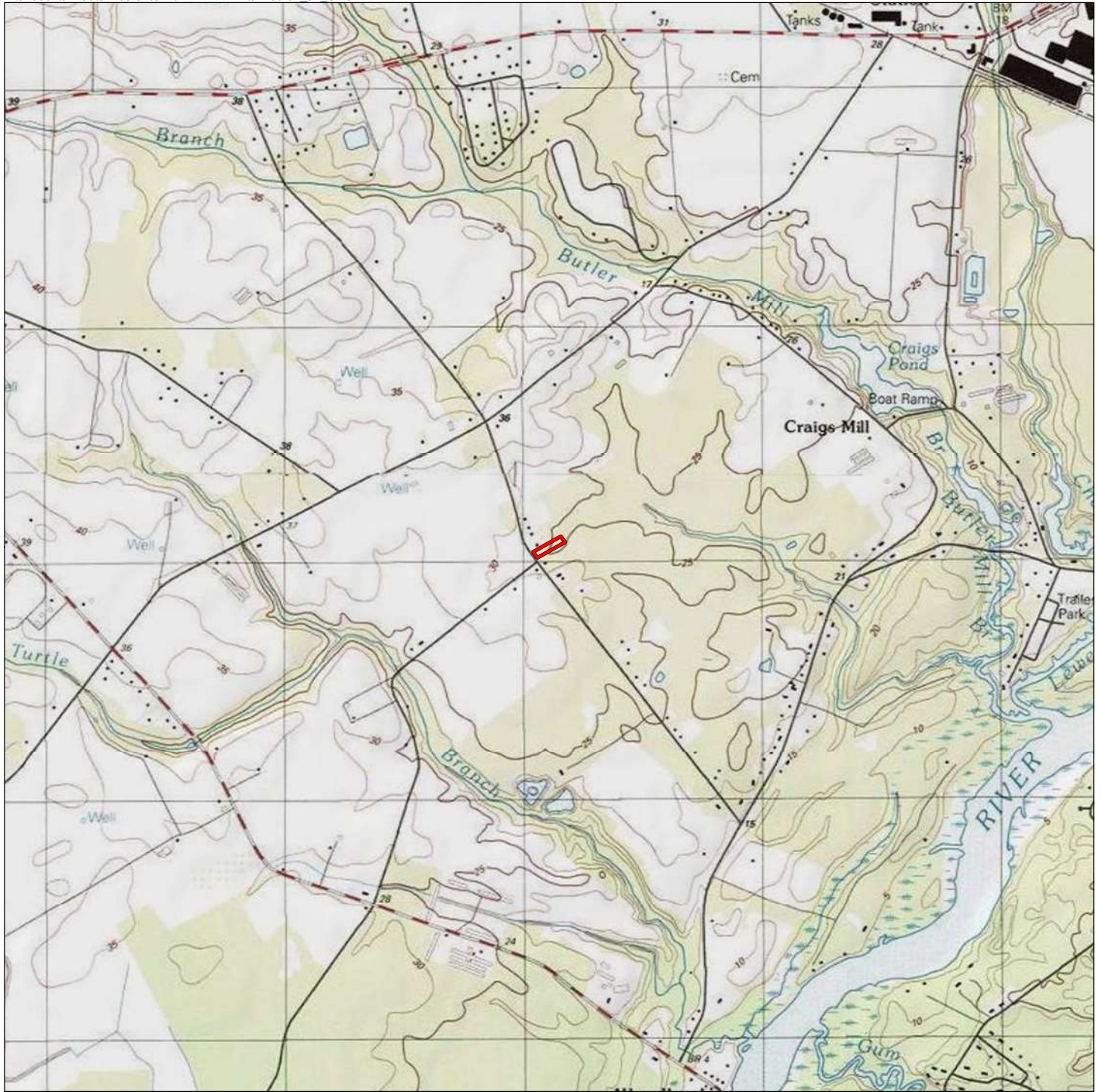
 Project Area

Vicinity Map
Lonesome Road Property
WSSI #31439.01



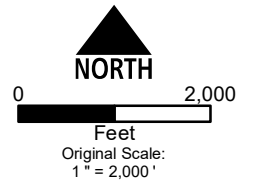
Source: World Street Map - ESRI

EXHIBIT 2



 Project Area

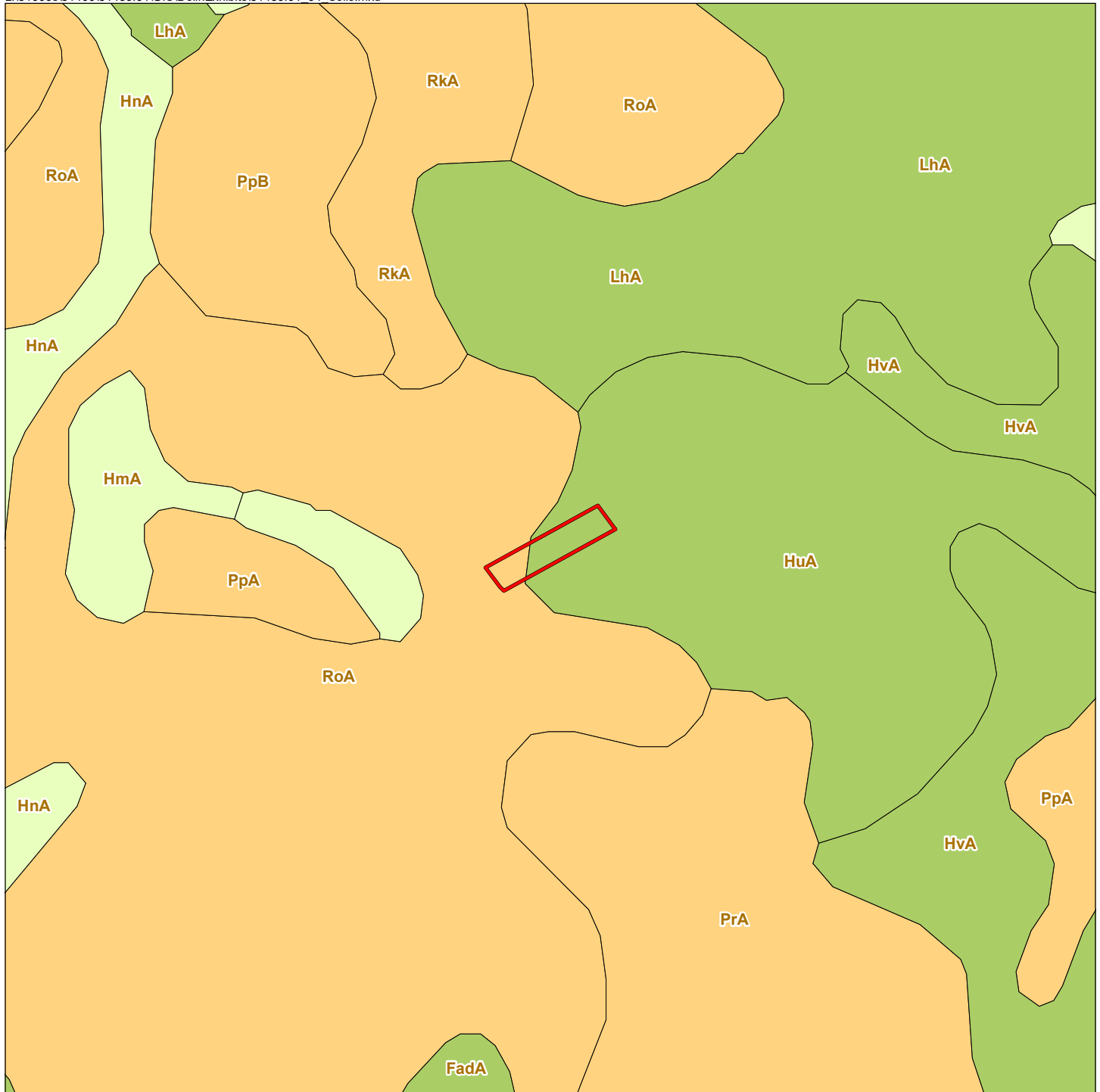
**USGS 7.5' Quadrangle Map
Lonesome Road Property
WSSI #31439.01**








Sharptown, DE MD 1992
Latitude: 38°37'19"N
Longitude: 75°39'54"W
Hydrologic Unit Code (HUC): 020801090405
HUC12 Name: Butler Mill Branch-Nanticoke River
COE Region: Atlantic and Gulf Coastal Plain

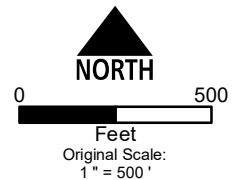
EXHIBIT 3

EXHIBIT 4



-  Project Area
-  Hydric Soil
-  Soil with Hydric Inclusion
-  Non-Hydric Soil
-  Water

Soils Map
Lonesome Road Property
WSSI #31439.01



Major Land Resource Area: Northern Tidewater Area, 153D
Land Resource Region: Atlantic and Gulf Coast Lowland Forest and Crop Region, T
Source: Sussex County Digital Data, U.S. Department of Agriculture, 2019

Exhibit 4b: MAPPED SOIL TYPES

Map Unit Symbol	Map Unit Name	Hydric Rating	Hydrologic Soil Group	K Factor (Whole Soil)
HuA	Hurlock loamy sand, 0 to 2 percent slopes	80	A/D	0.02
RoA	Rosedale loamy sand, 0 to 2 percent slopes	0	A	0.10

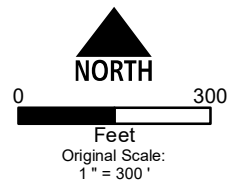
Source: <http://websoilsurvey.nrcs.usda.gov> (April 2021)

EXHIBIT 5



 Project Area

**Summer 2018 Natural Color Imagery
Lonesome Road Property
WSSI #31439.01**



Source: National Agriculture Imagery Program (NAIP)

EXHIBIT 6

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Lonesome Road Property City/County: Sussex Sampling Date: 3 /30/2021
 Applicant/Owner: Michael Hurst State: DE Sampling Point: DP1
 Investigator(s): AA Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): T Lat: 38°37'19" Long: 75°39'54" Datum: NAD 83
 Soil Map Unit Name: Hurlock loamy sand NWI classification: PFO1/4B

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: All three wetland parameters (i.e., wetland hydrology, hydrophytic vegetation, and hydric soils) were satisfied at this data point, which characterizes a palustrine forested wetland in the central portion of the study area.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) </td> <td style="width: 50%; border: none;"> <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) </td> <td style="width: 50%; border: none;"> <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U) </td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)				

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1"</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2"</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0"</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Five percent of the area had visible standing water.

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: DP1

Tree Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	25	<input checked="" type="checkbox"/>	FAC
2. <u>Quercus alba</u>	20	<input checked="" type="checkbox"/>	FACU
3. <u>Pinus taeda</u>	20	<input checked="" type="checkbox"/>	FAC
4. <u>Ilex opaca</u>	15	<input type="checkbox"/>	FAC
5. <u>Quercus pagoda</u>	10	<input type="checkbox"/>	FACW
6. _____			
7. _____			
8. _____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

90 = Total Cover
 50% of total cover: 45 20% of total cover: 18

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <input type="text"/>	x 1 = <input type="text"/>
FACW species <input type="text"/>	x 2 = <input type="text"/>
FAC species <input type="text"/>	x 3 = <input type="text"/>
FACU species <input type="text"/>	x 4 = <input type="text"/>
UPL species <input type="text"/>	x 5 = <input type="text"/>
Column Totals: <input type="text"/> (A)	<input type="text"/> (B)
Prevalence Index = B/A = <input type="text"/>	

Sapling/Shrub Stratum (Plot size: 30' Radius)

1. <u>Ilex opaca</u>	30	<input checked="" type="checkbox"/>	FAC
2. <u>Nyssa sylvatica</u>	15	<input checked="" type="checkbox"/>	FAC
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

45 = Total Cover
 50% of total cover: 22.5 20% of total cover: 9

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 30' Radius)

1. <u>Lonicera japonica</u>	15	<input checked="" type="checkbox"/>	FACU
2. <u>Smilax rotundifolia</u>	5	<input checked="" type="checkbox"/>	FAC
3. <u>Clethra alnifolia</u>	5	<input checked="" type="checkbox"/>	FACW
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

Woody Vine Stratum (Plot size: 30' Radius)

1. _____			
2. _____			
3. _____			
4. _____			
5. _____			

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

Nomenclature and indicators from The National Wetland Plant List: 2018 wetland ratings with updates through December 2020; NI species are not used in the Dominance Test Calculation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Lonesome Road Property City/County: Sussex Sampling Date: 3/30/2021
 Applicant/Owner: Michael Hurst State: DE Sampling Point: DP2
 Investigator(s): AA Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): T Lat: 38°37'19" Long: 75°39'54" Datum: NAD 83
 Soil Map Unit Name: Hurlock loamy sand NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

Remarks:
 Only one (i.e., wetland hydrology, hydrophytic vegetation, and hydric soils) of the three wetland parameters was satisfied at this data point, which characterizes a forested upland in the central portion of the study area or site.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width: 50%; border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15) (LRR U)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)		Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)																															
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<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)																															
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> FAC-Neutral Test (D5)																																
<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)																																

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 8" Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: DP2

Tree Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer rubrum</u>	35	<input checked="" type="checkbox"/>	FAC
2. <u>Quercus alba</u>	25	<input checked="" type="checkbox"/>	FACU
3. <u>Prunus serotina</u>	10	<input type="checkbox"/>	FACU
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

70 = Total Cover
 50% of total cover: 35 20% of total cover: 14

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>80</u>	x 3 = <u>240</u>
FACU species <u>137</u>	x 4 = <u>548</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>217</u> (A)	<u>788</u> (B)
Prevalence Index = B/A = <u>3.63</u>	

Sapling/Shrub Stratum (Plot size: 30' Radius)

Sapling/Shrub Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ilex opaca</u>	30	<input checked="" type="checkbox"/>	FAC
2. <u>Prunus serotina</u>	10	<input checked="" type="checkbox"/>	FACU
3. <u>Nyssa sylvatica</u>	10	<input checked="" type="checkbox"/>	FAC
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)

50 = Total Cover
 50% of total cover: 25 20% of total cover: 10

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 30' Radius)

Herb Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lonicera japonica</u>	75	<input checked="" type="checkbox"/>	FACU
2. <u>Allium canadense</u>	15	<input type="checkbox"/>	FACU
3. <u>Smilax rotundifolia</u>	5	<input type="checkbox"/>	FAC
4. <u>Mitchella repens</u>	2	<input type="checkbox"/>	FACU
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

Woody Vine Stratum (Plot size: 30' Radius)

Woody Vine Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

97 = Total Cover
 50% of total cover: 48.5 20% of total cover: 19.4

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

Nomenclature and indicators from The National Wetland Plant List: 2018 wetland ratings with updates through December 2020; NI species are not used in the Dominance Test Calculation.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Lonesome Road Property City/County: Sussex Sampling Date: 3 /31/2021
 Applicant/Owner: Michael Hurst State: DE Sampling Point: DP3
 Investigator(s): AA Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-2
 Subregion (LRR or MLRA): T Lat: 38°37'19" Long: 75°39'54" Datum: NAD 83
 Soil Map Unit Name: Rosedale loamy sand NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: None of the three wetland parameters (i.e., wetland hydrology, hydrophytic vegetation, and hydric soils) were satisfied at this data point, which characterizes an herbaceous upland in the southwestern portion of the study area or site.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width: 50%; border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15) (LRR U)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> True Aquatic Plants (B14)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9)		Secondary Indicators (minimum of two required) <table style="width: 100%; border: none;"> <tr> <td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> </tr> <tr> <td style="border: none;"><input checked="" type="checkbox"/> Drainage Patterns (B10)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Dry-Season Water Table (C2)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> FAC-Neutral Test (D5)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)</td> </tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)
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<input type="checkbox"/> Sphagnum Moss (D8) (LRR T, U)																																

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Four Strata) - Use scientific names of plants

Sampling Point: DP3

Tree Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>2</u>	x 2 = <u>4</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>22</u> (A)	<u>69</u> (B)
Prevalence Index = B/A = <u>3.14</u>	

Sapling/Shrub Stratum (Plot size: 30' Radius)

1. _____	Absolute % Cover	Dominant Species?	Indicator Status
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

_____ = Total Cover
 50% of total cover: _____ 20% of total cover: _____

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Herb Stratum (Plot size: 30' Radius)

1. <u>Lonicera japonica</u>	Absolute % Cover	Dominant Species?	Indicator Status
2. <u>Poa sp.</u>	<u>8</u>	<input checked="" type="checkbox"/>	NI
3. <u>Juncus effusus</u>	<u>5</u>	<input type="checkbox"/>	OBL
4. <u>Trifolium repens</u>	<u>5</u>	<input type="checkbox"/>	FACU
5. <u>Rubus hispidus</u>	<u>2</u>	<input type="checkbox"/>	FACW
6. <u>Nigella arvensis</u>	<u>2</u>	<input type="checkbox"/>	FACU
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

Woody Vine Stratum (Plot size: 30' Radius)

1. _____	Absolute % Cover	Dominant Species?	Indicator Status
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____

Hydrophytic Vegetation Present? Yes No

Remarks: (If observed, list morphological adaptations below).

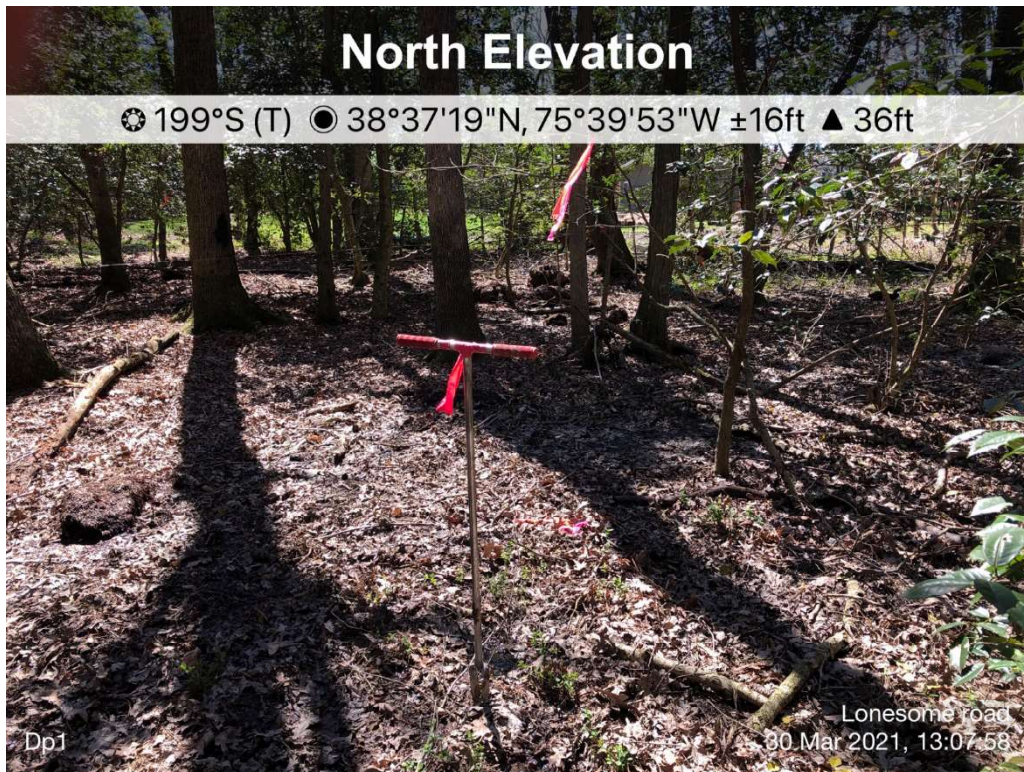
Nomenclature and indicators from The National Wetland Plant List: 2018 wetland ratings with updates through December 2020; NI species are not used in the Dominance Test Calculation. This data point was completed within a roadside swale, so the radius was modified to include vegetation within swale only.

EXHIBIT 7

**EXHIBIT 7
SITE PHOTOGRAPHS
Lonesome Road
WSSI #31439.01**



1. View of soil profile at Data Point 1 (03/30/2021).



2. View of vegetation at Data Point 1 (03/30/2021).

EXHIBIT 7
SITE PHOTOGRAPHS
Lonesome Road
WSSI #31439.01



3. View of soil profile at Data Point 2 (03/30/2021).



4. View of vegetation at Data Point 2 (03/30/2021).

EXHIBIT 7
SITE PHOTOGRAPHS
Lonesome Road
WSSI #31439.01

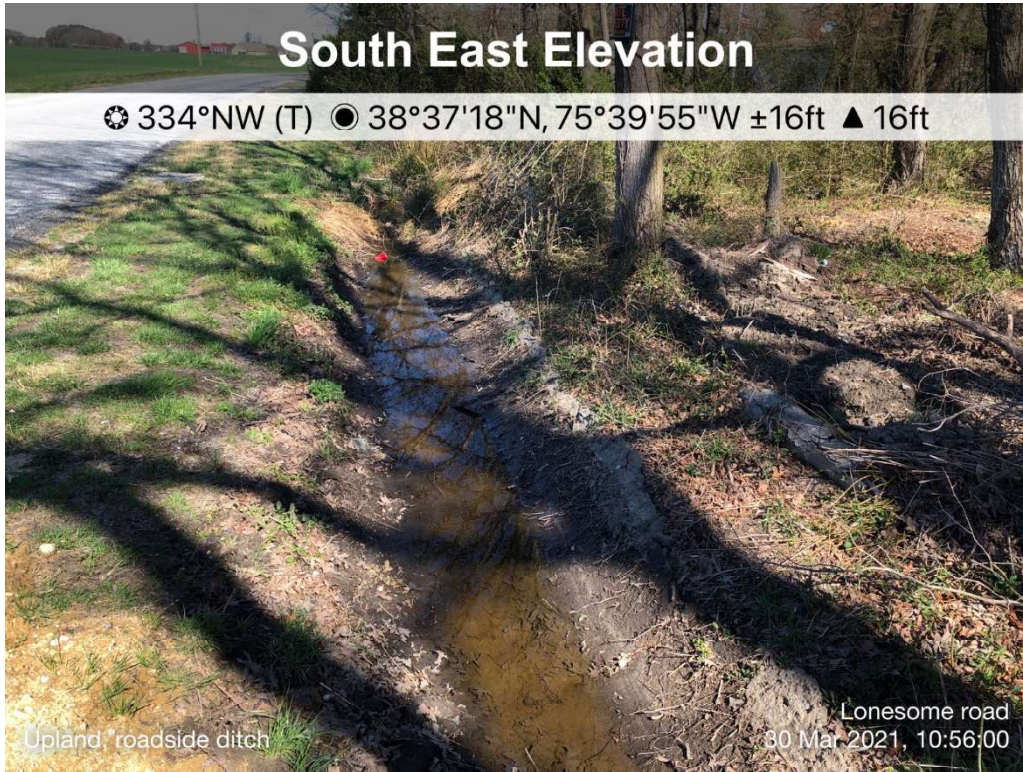


5. View of soil profile at Data Point 3 (03/30/2021).



6. View of vegetation at Data Point 3 (03/30/2021).

EXHIBIT 7
SITE PHOTOGRAPHS
Lonesome Road
WSSI #31439.01

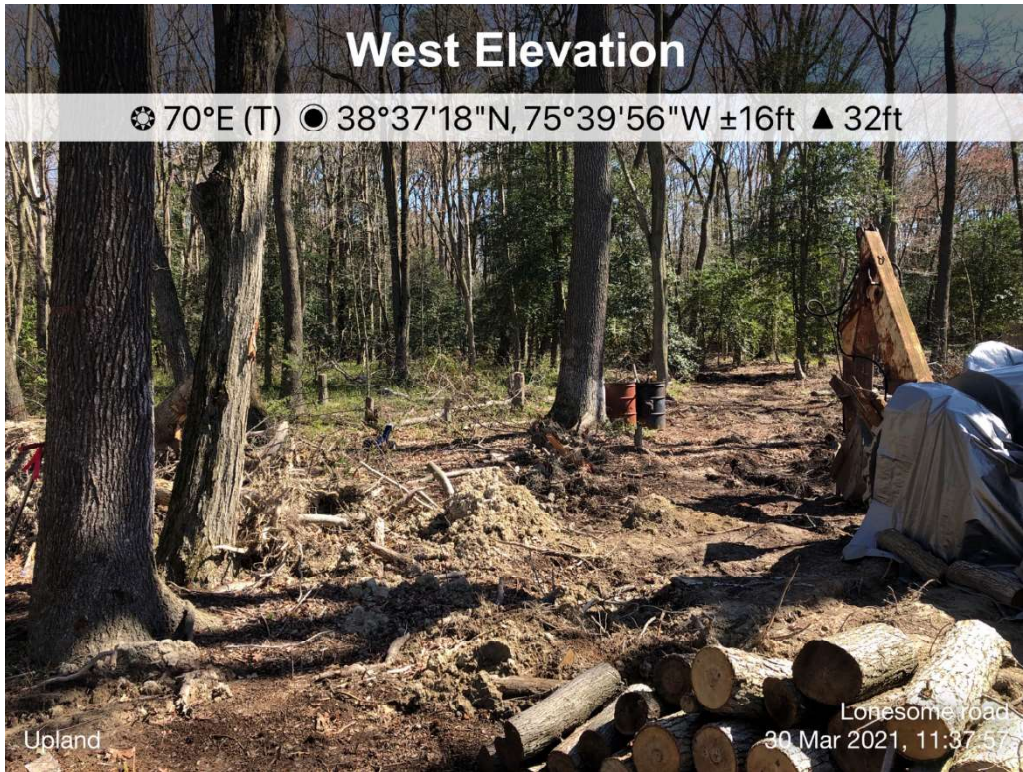


7. View of roadside ditch along southern portion of property (03/30/2021).



8. View of wetland swale along western edge of property, delineated by flag series B (03/30/2021).

**EXHIBIT 7
SITE PHOTOGRAPHS
Lonesome Road
WSSI #31439.01**

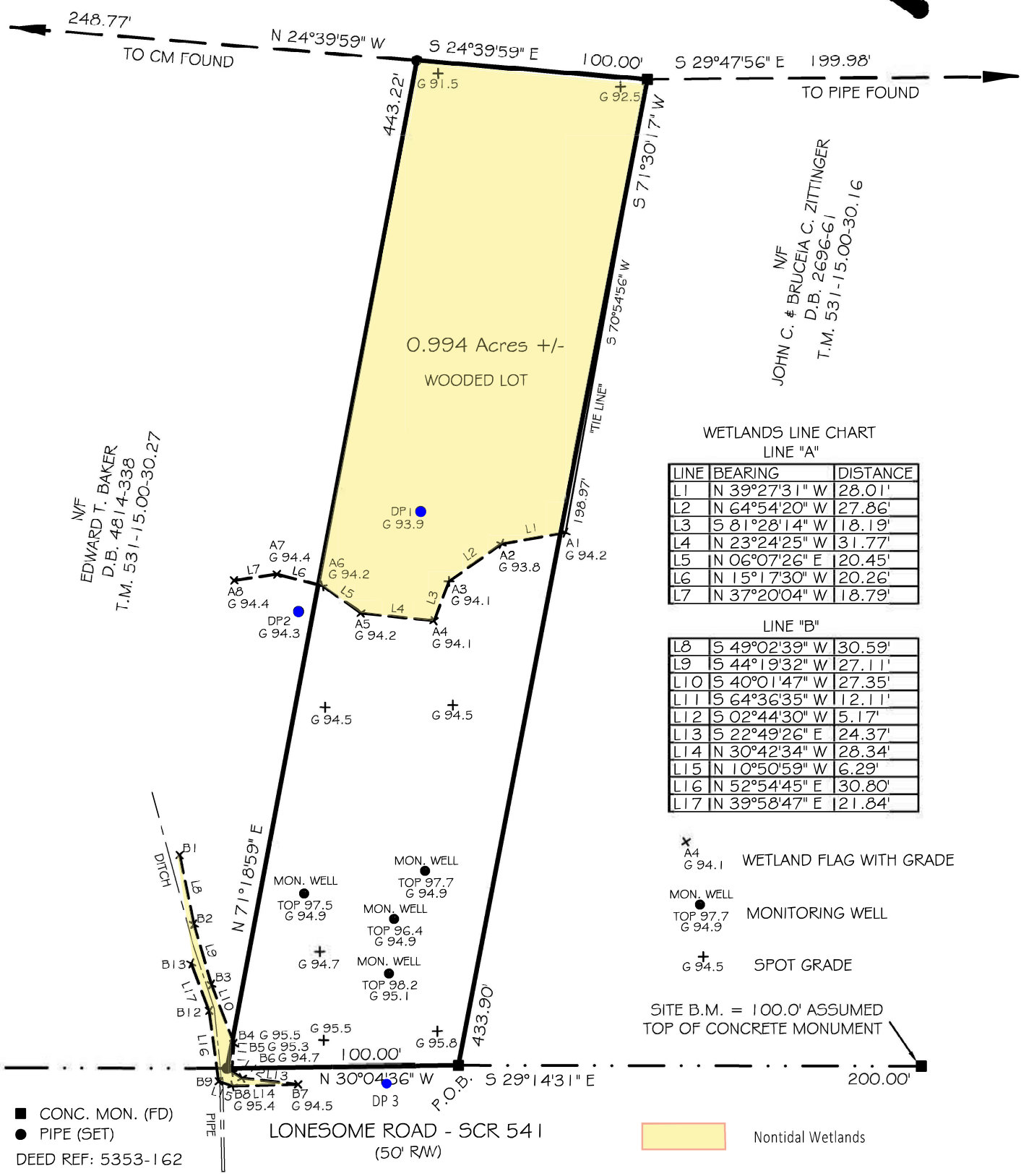


9. View of representative uplands (03/30/2021).



10. View of wetland located along the northern edge of property (03/30/2021)

ATTACHMENT 1



M/F
EDWARD T. BAKER
D.B. 4814-338
T.M. 531-15.00-30.27

M/F
JOHN C. # BRUCEIA C. ZITTINGER
D.B. 2696-61
T.M. 531-15.00-30.16

WETLANDS LINE CHART
LINE "A"

LINE	BEARING	DISTANCE
L1	N 39°27'31" W	28.01'
L2	N 64°54'20" W	27.86'
L3	S 81°28'14" W	18.19'
L4	N 23°24'25" W	31.77'
L5	N 06°07'26" E	20.45'
L6	N 15°17'30" W	20.26'
L7	N 37°20'04" W	18.79'

LINE "B"

L8	S 49°02'39" W	30.59'
L9	S 44°19'32" W	27.11'
L10	S 40°01'47" W	27.35'
L11	S 64°36'35" W	12.11'
L12	S 02°44'30" W	5.17'
L13	S 22°49'26" E	24.37'
L14	N 30°42'34" W	28.34'
L15	N 10°50'59" W	6.29'
L16	N 52°54'45" E	30.80'
L17	N 39°58'47" E	121.84'

- x A4 G 94.1 WETLAND FLAG WITH GRADE
- TOP 97.7 G 94.9 MON. WELL MONITORING WELL
- ⊕ G 94.5 SPOT GRADE
- SITE B.M. = 100.0' ASSUMED TOP OF CONCRETE MONUMENT

■ CONC. MON. (FD)
● PIPE (SET)
DEED REF: 5353-162

THIS SURVEY AND PLAT DOES NOT VERIFY THE EXISTENCE OR NON-EXISTENCE OF RIGHTS-OF-WAY OR EASEMENTS CROSSING THIS PROPERTY OTHER THAN THOSE SHOWN. NO TITLE SEARCH PROVIDED OR STIPULATED.

I, STEPHEN M. SELLERS REGISTERED AS A PROFESSIONAL LAND SURVEYOR IN THE STATE OF DELAWARE, HEREBY STATE THAT THE INFORMATION SHOWN ON THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND MEETS THE STANDARDS OF PRACTICE AS ESTABLISHED BY THE STATE OF DELAWARE BOARD OF PROFESSIONAL LAND SURVEYORS. ANY CHANGES TO THE PROPERTY CONDITIONS, IMPROVEMENTS, BOUNDARY OR PROPERTY CORNERS AFTER THE DATE SHOWN HEREON SHALL NECESSITATE A NEW REVIEW AND CERTIFICATION FOR ANY OFFICIAL OR LEGAL USE.

BOUNDARY SURVEY PLAN FOR MICHAEL HURST & DORIS SARAGINO

LONESOME ROAD, SEAFORD, DE. 19973
SEAFORD HUNDRED SUSSEX COUNTY
STATE OF DELAWARE
SCALE 1" = 60' OCTOBER 7, 2021