

ROBERT C. WHEATLEY, CHAIRMAN  
KIM HOEY STEVENSON, VICE CHAIRMAN  
R. KELLER HOPKINS  
J. BRUCE MEARS  
HOLLY WINGATE



2 THE CIRCLE | PO BOX 417  
GEORGETOWN, DE 19947  
(302) 855-7878 T  
(302) 854-5079 F  
sussexcountyde.gov

# Sussex County Planning & Zoning Commission

## REVISED AGENDA

November 21, 2019

6:00 P.M

### Call to Order

### Approval of Agenda

Approval of Minutes – October 17, 2019

### Old Business

#### C/U 2194 Imagination-Renovation, LLC

KS

An Ordinance to grant a Conditional Use of land in an AR-1 Agricultural Residential District for a furniture making and repair business to be located on a certain parcel of land lying and being in Indian River Hundred, Sussex County, containing 5.0 acres, more or less. The property is lying on the east side of Rust Rd. approximately 0.25 mile south of Harbeson Rd. (Rt. 5). 911 Address: 20601 Rust Rd., Harbeson. Tax Parcel: 234-4.00-10.32.

#### C/Z 1893 Lisa Horsey

HW

An Ordinance to amend the Comprehensive Zoning Map of Sussex County from an AR-1 Agricultural Residential District to a C-2 Medium Commercial District for a certain parcel of land lying and being in Broad Creek Hundred, Sussex County, containing 0.474 acre, more or less. The property is lying at the northeast corner of Sussex Hwy. (Rt. 13) and Boyce Rd. 911 Address: 28537 Sussex Hwy., Laurel. Tax Parcel: 132-12.00-113.00.

#### C/Z 1894 Howard Pepper, Jr

HW

An Ordinance to amend the Comprehensive Zoning Map of Sussex County from an AR-1 Agricultural Residential District to a C-3 Heavy Commercial District for a certain parcel of land lying and being in Baltimore Hundred, Sussex County, containing 2.368 acres, more or less. The property is lying on the east side of DuPont Blvd. (Rt. 113), approximately 0.38 mile south of Lazy Lagoon Rd. 911 Address: 35029 DuPont Blvd., Frankford. Tax Parcel: 533-4.00-61.00.

### Public Hearings

#### 2019-8 Azalea Woods – Shingle Point Properties, LLC and Natelli Communities

KS

A cluster subdivision to divide 316.02 acres +/- into 610 single-family lots to be located on a certain parcel of land lying and being in Georgetown Hundred and Broadkill Hundred, Sussex County. The property is located on between Shingle Point Rd. and Gravel Hill Rd., north of



Lewes-Georgetown Hwy. (Rt. 9). Tax Parcels: 135-11.00-32.04, 49.00, 56.00 and a portion of 135-11.00-48.00. Zoning Districts. AR-1 (Agricultural Residential District) and C-1 (General Commercial District).

**2019-21 Nancy L. Marshall, Gideon Sisk, III, and David Bartee** KH

A standard subdivision to divide 10.855 acres +/- into 4 single-family lots to be located on a certain parcel of land lying and being in Broad Creek Hundred, Sussex County. The property is located on the south side of Phillips Hill Rd., approximately 706.67 ft. east of East Trap Pond Rd. and on the east side if Trap Pond Rd., approximately 155 ft. south of Phillips Hill Rd. Tax Parcel: 232-20.00-20.22. Zoning District. AR-1 (Agricultural Residential District).

**2019-22 Elmer T. Adkins, Sr., Trustee** KH

A standard subdivision to divide 9.0 acres +/- into 2 single-family lots to be located on a certain parcel of land lying and being in Nanticoke Hundred, Sussex County. The property is located on the northeast corner of Joseph’s Rd. and Concord Rd. Tax Parcel 231-21.00-4.00. Zoning Districts. AR-1 (Agricultural Residential District).

**2019-23 John J. Hamstead** KH

A standard subdivision to divide 9.48 acres +/- into 4 single-family lots to be located on a certain parcel of land lying and being in Cedar Creek Hundred, Sussex County. The property is located on the west side of Calhoun Rd., approximately 888 ft. north of Rust Rd. Tax Parcel 130-6.00-82.04. Zoning Districts. GR (General Residential District).

**C/U 2198 Jeffrey Myer** KH

**An Ordinance to grant a Conditional Use of land in an AR-1 Agricultural Residential District for indoor and outdoor retail sales to be located on a certain parcel of land lying and being in Nanticoke Hundred, Sussex County, containing 0.8474 acres, more or less.** The property is lying on the northwest corner of Seashore Hwy. and Oak Rd. 911 Address: 10595 and 10609 Seashore Hwy., Bridgeville. Tax Parcel: 430-22.00-10.01.

**Other Business**

**2019-3 Lands of Betty Staats** KH  
Final Subdivision Plan

**S-17-31 Weston Willows (F.K.A Besche Apartment Complex)** KS  
Final Site Plan & Landscape Plan

**S-19-45 Big Oyster Brewery** KS  
Revised Site Plan

**2016-1 Middle Creek Preserve Subdivision** BM  
Preliminary and Amenities Plan

**Additional Business**

Consideration of request for re-hearing for application C/U 2192 Thomas and Judy Munce (Napolean Hernandez)

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**Planning and Zoning Commission meetings can be monitored on the internet at [www.sussexcountyde.gov](http://www.sussexcountyde.gov).**

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**In accordance with 29 Del. C. §10004(e)(2), this Agenda was posted on November 14, 2019, at 1:00 p.m., and at least seven (7) days in advance of the meeting.  
Revised November 14, 2019 at 3:17 pm to remove CU 2191 Jason Hill.**

**This Agenda is subject to change to include the addition or deletion of items, including Executive Sessions, which arise at the time of the Meeting.**

**Agenda items listed may be considered out of sequence.**

####

**PLANNING & ZONING COMMISSION**

ROBERT C. WHEATLEY, CHAIRMAN  
KIM HOEY STEVENSON, VICE-CHAIRMAN  
R. KELLER HOPKINS  
J. BRUCE MEARS  
HOLLY J. WINGATE



**Sussex County**

DELAWARE  
sussexcountyde.gov  
302-855-7878 T  
302-854-5079 F  
JANELLE CORNWELL, AICP  
DIRECTOR

**PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET**  
Planning Commission Public Hearing Date November 21, 2019

Application: Azalea Woods (2019-08)

Applicant: Natelli Communities – Attention: Tom Natelli, Jr.  
506 Main Street  
Gaithersburg, MD 20878

Owner: Shingle Point Properties, LLC  
P.O. Box 4347  
Ocean City, MD 21842

Site Location: Between Shingle Point Road (S.C.R. 249) and Gravel Hill Road (S.C.R. 248), north of Route 9.

Current Zoning: Agricultural Residential (AR-1) (p/o 39.04 General Commercial (C-1))

Proposed Use: 610 Single-Family Lots (Cluster Subdivision)

Comprehensive Land Use Plan Reference: Low Density Areas (39.04 – Commercial Areas)

Councilmatic District: Mr. Burton

School District: Indian River School District

Fire District: Georgetown Fire District

Sewer: Artesian

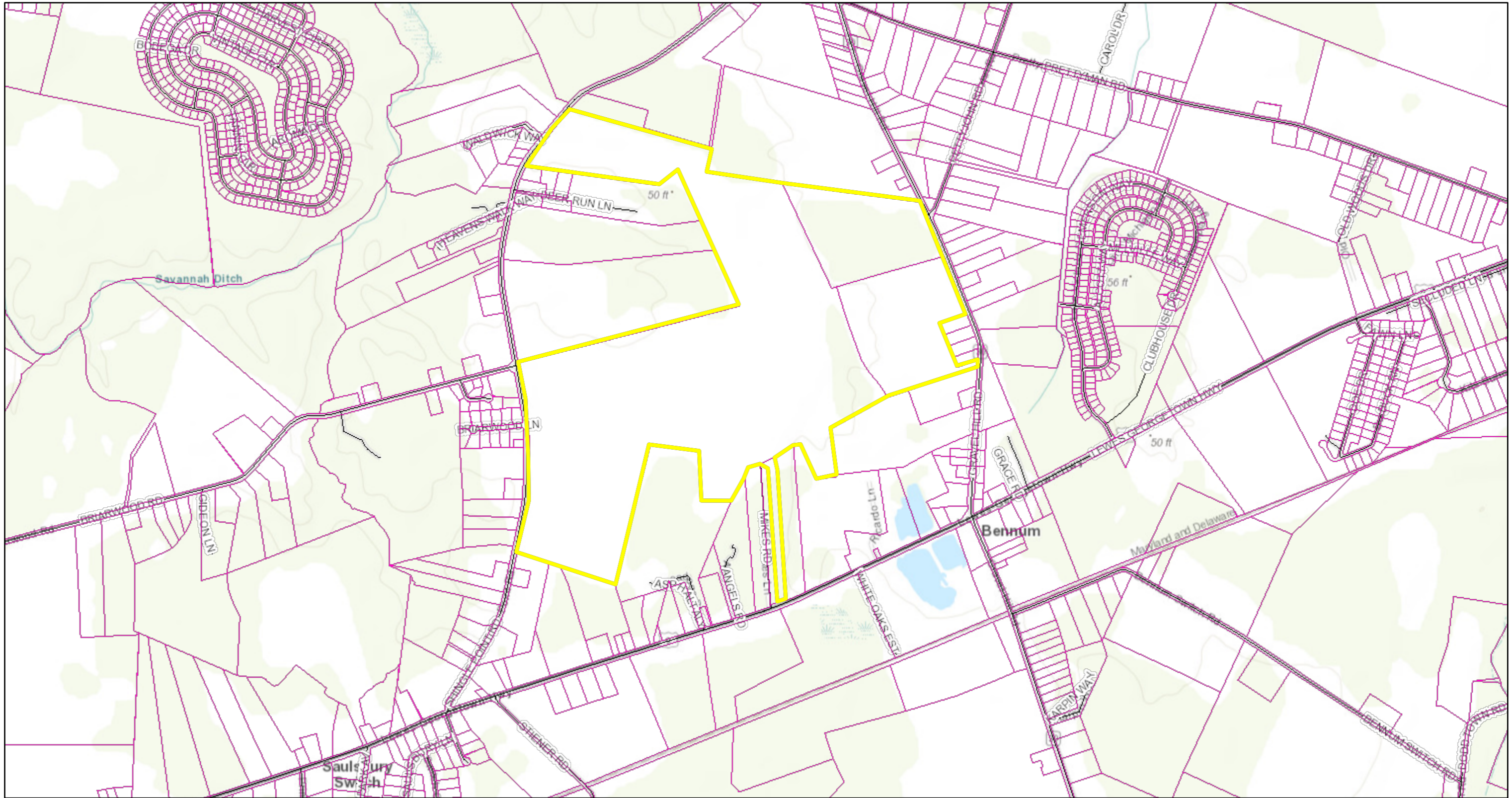
Water: Artesian

Site Area: 316.02 +/- acres

Tax Map ID.: 135-11.00-32.04, 49.00, 56.00 & p/o 48.00.



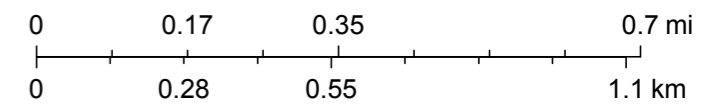
# Sussex County



October 29, 2019

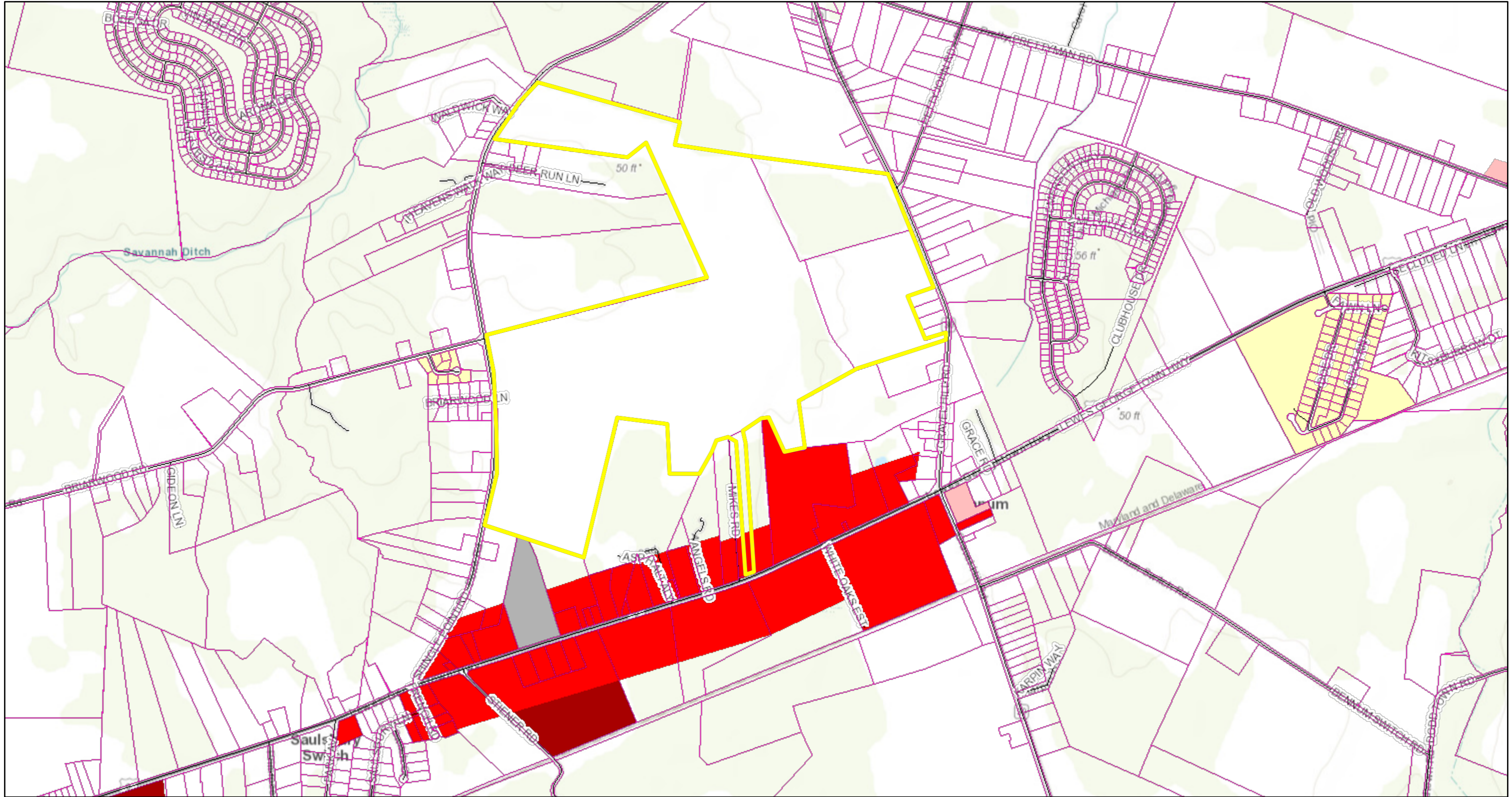
- Override 1
- Override 1
- Tax Parcels
- Streets
- County Boundaries

1:18,056



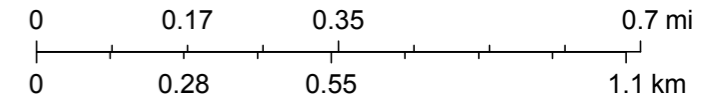
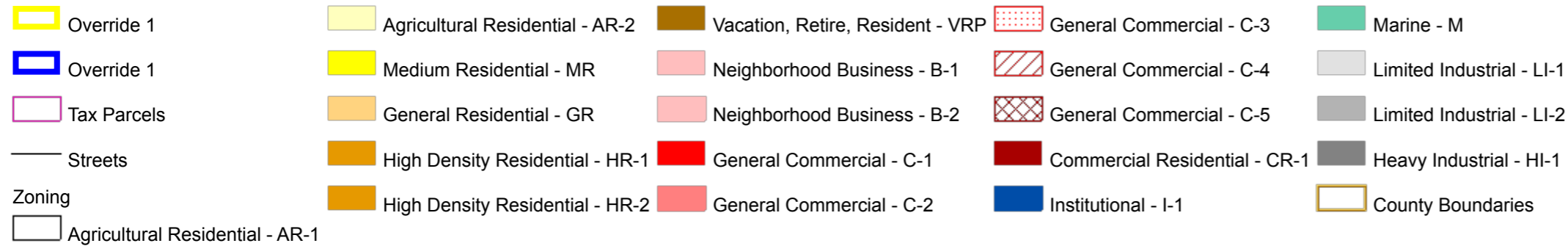
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, Sussex County Government

# Sussex County



October 29, 2019

1:18,056

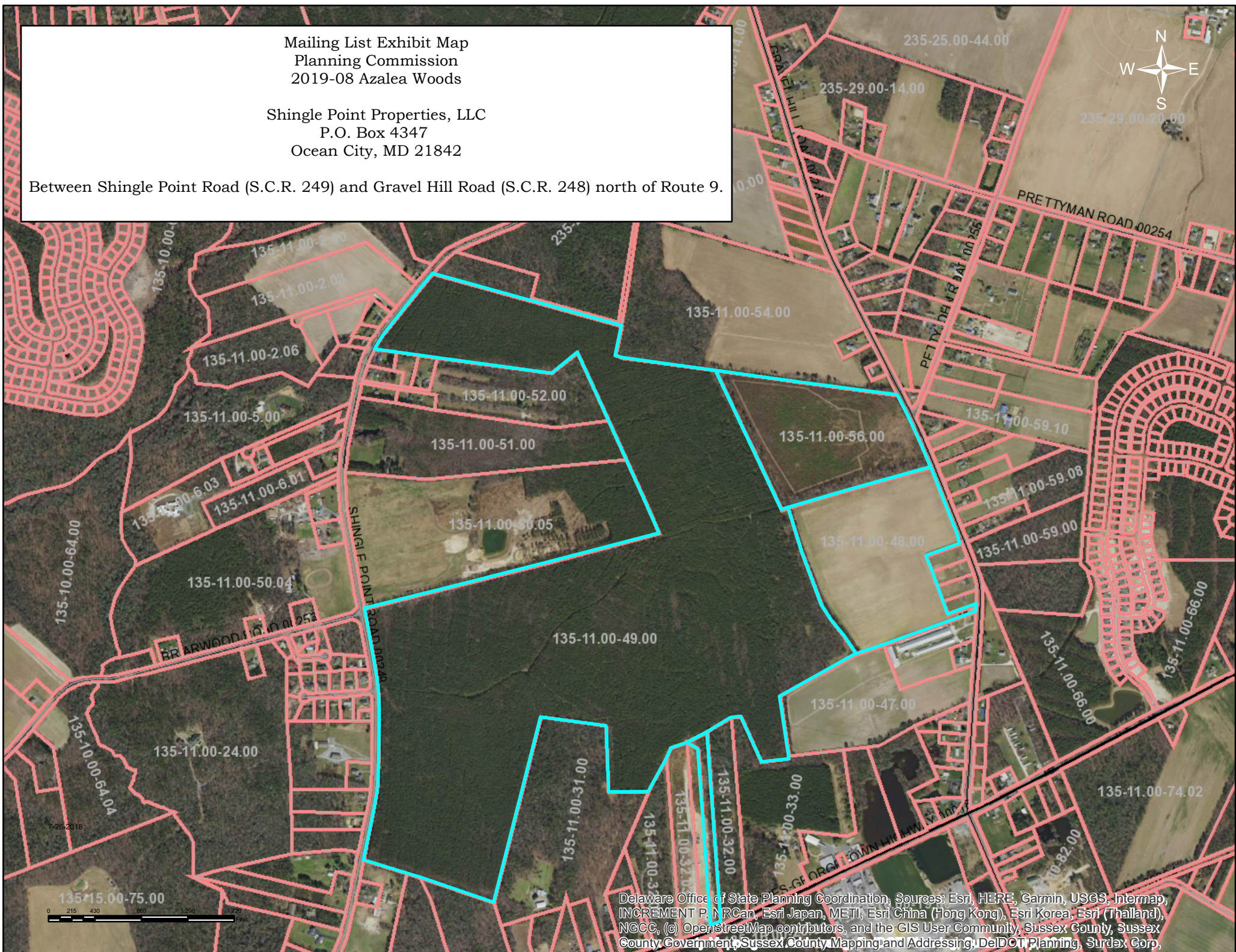


Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community, Sussex County, Sussex County Government

Mailing List Exhibit Map  
Planning Commission  
2019-08 Azalea Woods

Shingle Point Properties, LLC  
P.O. Box 4347  
Ocean City, MD 21842

Between Shingle Point Road (S.C.R. 249) and Gravel Hill Road (S.C.R. 248) north of Route 9.



Delaware Office of State Planning Coordination, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Sussex County, Sussex County Government, Sussex County Mapping and Addressing, DelDOT, Planning, Surdex Corp,

File #: \_\_\_\_\_

## Sussex County Major Subdivision Application

### Sussex County, Delaware

Sussex County Planning & Zoning Department  
2 The Circle (P.O. Box 417) Georgetown, DE 19947  
302-855-7878 ph. 302-854-5079 fax

#### Type of Application: (please check applicable)

Standard:

Cluster:

ESDDOZ:

#### Location of Subdivision:

Between Shingle Point Road and Gravel Hill Road north of Rte 9.

#### Proposed Name of Subdivision:

Azalea Woods

Tax Map #: 135-11; P 32.04, 49, 56, & P/O 48 Total Acreage: 316.02 +/-

Zoning: AR-1 Density: 1.93 Minimum Lot Size: 7,500 sf Number of Lots: 610  
P/O P 32.04 C-1

Open Space Acres: 162 +/-

Water Provider: Artesian Sewer Provider: Artesian

#### Applicant Information

Applicant Name: Natelli Communitis Attn: Tom Natelli, Jr

Applicant Address: 506 Main Street

City: Gaithersburg State: MD Zip Code: 20878

Phone #: 301.670.4020 E-mail: tommy@natelli.com

#### Owner Information

Owner Name: Shingle Point Properties, LLC

Owner Address: PO Box 4347

City: Ocean City State: MD Zip Code: 21842

Phone #: \_\_\_\_\_ E-mail: \_\_\_\_\_

#### Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: James A Fuqua Jr, Esq

Agent/Attorney/Engineer Address: 26 The Circle

City: Georgetown State: DE Zip Code: 19947

Phone #: 302.856.7777 E-mail: jimf@fylaw.com





# Check List for Sussex County Major Subdivision Applications

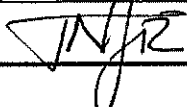
The following shall be submitted with the application

- Completed Application
- Provide fifteen (15) copies of the Site Plan or Survey of the property and a PDF (via e-mail)
  - o Plan shall show the existing conditions, setbacks, roads, floodplain, wetlands, topography, proposed lots, landscape plan, etc. Per Subdivision Code 99-22, 99-23 & 99-24
  - o Provide compliance with Section 99-9.
  - o Deed or Legal description, copy of proposed deed restrictions, soil feasibility study
- Provide Fee \$500.00
- Optional - Additional information for the Commission to consider (ex. photos, exhibit books, etc.) If provided submit seven (7) copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.
- Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.
- PLUS Response Letter (if required)
- 51% of property owners consent if applicable

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

  
\_\_\_\_\_

Date: 1/24/19

Signature of Owner

\_\_\_\_\_

Date: \_\_\_\_\_

For office use only:

Date Submitted: \_\_\_\_\_ Fee: \$500.00 Check #: \_\_\_\_\_  
Staff accepting application: \_\_\_\_\_ Application & Case #: \_\_\_\_\_  
Location of property: \_\_\_\_\_  
Date of PC Hearing: \_\_\_\_\_ Recommendation of PC Commission: \_\_\_\_\_

**SUSSEX COUNTY ENGINEERING DEPARTMENT**  
**UTILITY PLANNING DIVISION**  
**C/U & C/Z COMMENTS**

TO: **Janelle Cornwell**

REVIEWER: **Chris Calio**

DATE: **11/5/2019**

APPLICATION: **2019-08 – Azalea Woods**

APPLICANT: **Natelli Communities – Attn: Tom Natelli, Jr.**

FILE NO: **NCPA-5.03**

TAX MAP &  
PARCEL(S): **135-11.00-32.04, 49.00, 56.00 & p/o 48.00**

LOCATION: **Between Shingle Point Road (SCR 249) and Gravel Hill Road (SCR 248), north of Route 9.**

NO. OF UNITS: **610 single-family lots**

GROSS  
ACREAGE: **316.02 +/-**

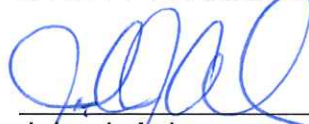
SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

**SEWER:**

- (1). Is the project in a County operated and maintained sanitary sewer and/or water district?  
Yes  No
- a. If yes, see question (2).  
b. If no, see question (7).
- (2). Which County Tier Area is project in? **Tier 3**
- (3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.
- (4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **N/A** If yes, the current System Connection Charge Rate is **Click or tap to enter a fee** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

- (6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **No**
- Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.
- (7). Is project adjacent to the Unified Sewer District? **No**
- (8). Comments: **The proposed subdivision is not in an area where the Sussex County Engineering Department has a schedule to provide sanitary sewer service.**
- (9). Is a Sewer System Concept Evaluation required? **No**
- (10). Is a Use of Existing Infrastructure Agreement Required? **No**

UTILITY PLANNING APPROVAL:



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John J. Ashman  
Director of Utility Planning

Xc: Hans M. Medlarz, P.E.  
Jayne Dickerson  
No Permit Tech Assigned

Sussex County, Delaware  
Technical Advisory Committee

Comment Sheet

\*\*\*\*\*



DATE OF REVIEW: April 10, 2019

REVIEWING AGENCY: Delaware State Fire Marshal's Office, Sussex Office

INDIVIDUAL REVIEWERS: Duane T. Fox, CFPS, CFPE, CFI, Asst. Chief Technical Services  
Dennett E. Pridgeon, CFPS, CFPE, CFI, Sr. Fire Protection Specialist  
Jefferson L. Cerri, CFI, Sr. Fire Protection Specialist  
Joseph Moran, CFI, Sr. Fire Protection Specialist  
Desiree B. McCall, CFI, Sr. Fire Protection Specialist

AGENCY PHONE NUMBERS: 302-856-5298, Fax: 302-856-5800

RE: AZALEA WOODS (19-8)

*The reasons and conditions applied to this project and their sources are itemized below:*

\*\*\*\*\*

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)
- Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**

- All structures over 10,000 sqft aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sqft, 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR

c. **Accessibility**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Shingle Point Rd and Gravel Hill Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

d. **Gas Piping and System Information:**

- Provide type of fuel proposed, and show locations of bulk containers on plan.

e. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website:

[www.statefiremarshal.delaware.gov](http://www.statefiremarshal.delaware.gov), technical services link, plan review, applications or brochures.

***THIS DOCUMENT IS INFORMATIONAL ONLY, AND DOES NOT CONSTITUTE ANY TYPE OF APPROVAL FROM THE DELAWARE STATE FIRE MARSHAL'S OFFICE***

## MAPPING & ADDRESSING

MEGAN NEHRBAS  
MANAGER OF GEOGRAPHIC  
INFORMATION SYSTEMS (GIS)  
(302) 855-1176 T  
(302) 853-5889 F



# Sussex County

DELAWARE  
sussexcountyde.gov

January 31, 2019

Solutions IPEM  
Attn: Jason Palkewicz  
303 N Bedford St.  
*Georgetown, De. 19947*

RE: Proposed Subdivision Name(s)

I have reviewed the name(s) submitted for your proposed subdivision AZALEA WOODS, which is located in Georgetown (135-11.00-32.04,48,49&56). In reviewing the proposed name(s) the following has been approved for this subdivision:

## AZALEA WOODS

Should you have any questions please contact the Sussex County Addressing Department at 302-853-5888 or 302-855-1176.

Sincerely,

*Terri L. Dukes*

Terri L. Dukes  
Addressing Technician II

CC: Christin Headley  
Planning & Zoning





MICHAEL T. SCUSE  
SECRETARY  
E. AUSTIN SHORT  
DEPUTY SECRETARY  
KENNETH M. BOUNDS  
DEPUTY SECRETARY

STATE OF DELAWARE  
DEPARTMENT OF AGRICULTURE  
2320 SOUTH DUPONT HIGHWAY  
DOVER, DELAWARE 19901  
DDA.DELAWARE.GOV

TELEPHONE (302) 698-4500  
TOLL FREE (800) 282-8685  
FAX (302) 697-6287

May 20, 2019

Christin Headley  
Planning and Zoning Manager  
Planning and Zoning Commission  
2 The Circle PO Box 417  
Georgetown, Delaware 19947

Subject: **2019-8-Azalea Woods**

Dear Mr. Headley,

Thank you for submitting the site plan for Azalea Woods subdivision submitted by Solutions. The Sussex County Planning and Zoning Forested Buffer Ordinance Number 1984 Section 99-5 requires a forested buffer of 30 feet near adjacent agriculture lands, Azalea Woods does have the required buffers for both forested and agricultural setback.

Sussex County Planning and Zoning Forested Buffer Ordinance Number 1984 Section 99-5 also requires a planting list which is to follow 70% deciduous and 30% evergreens to be planted in the buffer strip which was not provided in the plans. A comprehensive display of plantings in the buffers should be included with species being used for review. We recommend a planting list and planting specifications be submitted once the project has advance to that stage.

If you have any more questions please feel free to contact me 302.659.6704 or email me at [Michael.Martini@state.de.us](mailto:Michael.Martini@state.de.us)

Sincerely,

A handwritten signature in black ink that reads 'Michael Martini'.

Michael Martini  
Urban Forestry Program  
Delaware Forest Service

## Christin Headley

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**From:** Hayes, John G. (DNREC) <John.Hayes@delaware.gov>  
**Sent:** Tuesday, April 9, 2019 11:36 AM  
**To:** Christin Headley  
**Subject:** RE: TAC Review for 2019-8 Azalea Woods & 2019-10 Lands of Timmons

**Categories:** TAC Comments

Christin,

The Groundwater Discharges Section has no comment on Azalea Woods (2019-8) since it is proposed to utilize public sewer by Artesian.

The Groundwater Discharges Section (GWDS) has not received a feasibility study for the Lands of Timmons (2019-10) which is a requirement in order to determine on-site wastewater treatment and disposal system suitability and a primary step prior to individual site evaluations. We would suggest that a decision on this project be delayed until such time the feasibility study is completed and reviewed by the GWDS.

Jack

John G. "Jack" Hayes, Jr.  
Environmental Program Manager  
Delaware Department of Natural Resources and Environmental Control  
Groundwater Discharges Section  
89 Kings Highway  
Dover, DE 19901  
[John.hayes@state.de.us](mailto:John.hayes@state.de.us)  
(302) 739-9327  
(302) 739-7764 Fax

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**From:** Christin Headley [mailto:christin.headley@sussexcountyde.gov]  
**Sent:** Tuesday, April 09, 2019 9:55 AM  
**To:** Brad Hawkes <bhawkes@sussexcountyde.gov>; C. Daniel Parsons <dparsons@sussexcountyde.gov>; Dean Holden - Chesapeake Electric <dholden@chpk.com>; Fox, Duane T. (FireMarshal) <Duane.Fox@delaware.gov>; Butler, Eileen M. (DNREC) <Eileen.Butler@delaware.gov>; Cinelli, Jennifer (DelDOT) <jennifer.cinelli@delaware.gov>; Jessica Watson - Sussex Conservation <Jessica.watson@state.de.us>; John J. Ashman <jashman@sussexcountyde.gov>; Hayes, John G. (DNREC) <John.Hayes@delaware.gov>; Kennel, John M. (DNREC) <John.Kennel@delaware.gov>; John Martin <jmartin@chpk.com>; Martin, John (DNREC) <John.Martin@delaware.gov>; Fleming, Kate M. (DNREC) <Kate.Fleming@delaware.gov>; Kelley Gabbard <kgabbard@chpk.com>; Crystall, Meghan (DNREC) <Meghan.Crystall@delaware.gov>; Tholstrup, Michael S. (DNREC) <Michael.Tholstrup@delaware.gov>; Mike Brady <MBRADY@sussexcountyde.gov>; Melendez, Milton (DDA) <milton.melendez@delaware.gov>; Rob Davis <rdavis@sussexcountyde.gov>; Subdivision (MailBox Resources) <Subdivision@delaware.gov>; Susan Isaacs <sisaaacs@sussexcountyde.gov>; Laws, Susanne K (DelDOT) <Susanne.Laws@delaware.gov>; Terri Dukes <tdukes@sussexcountyde.gov>; Tiffany Giroux <tgiroux@chpk.com>; Troy Dickerson <TDickerson@decoop.com>; Vince Robertson <vrobertson@pgslegal.com>  
**Subject:** TAC Review for 2019-8 Azalea Woods & 2019-10 Lands of Timmons

Good Morning,



Sussex County Planning Office has received two (2) applications that require TAC review. Attached is a memo regarding each application and a PDF of the plans submitted.

Please provide comments on or before Monday, June 10, 2019.

Please feel free to contact me with any questions.

Thanks,

*Christin Headley*

Christin Headley, Planning Technician  
Planning & Zoning Department  
2 The Circle  
PO Box 417  
Georgetown, DE 19947  
302-855-7878  
[christin.headley@sussexcountyde.gov](mailto:christin.headley@sussexcountyde.gov)

## Christin Headley

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**From:** Sapp, Derek (DelDOT) <Derek.Sapp@delaware.gov>  
**Sent:** Monday, June 17, 2019 1:52 PM  
**To:** Christin Headley  
**Cc:** Joinville, Claudy (DelDOT); Brestel, Troy (DelDOT); Laws, Susanne K (DelDOT); Yates, Brian K. (DelDOT)  
**Subject:** FW: TAC Review for 2019-8 Azalea Woods & 2019-10 Lands of Timmons  
**Attachments:** 2019-8 Azalea Woods Preliminary Subdivision Plat.pdf; 2019-10 Lands of Timmons Preliminary Subdivision Plan.pdf; TAC Memo 2019-8 Azalea Woods & 2019-10 Lands of Timmons.pdf

**Categories:** TAC Comments

Christin,

This project is conducting a TIS. Other than our normal requirements of appropriate widths of Right-Of-Way for each road classification, 15-foot wide permanent easements along all road frontages, etc. I wouldn't have any comments at this time related to the entrances or road improvements. They must of-course follow the DelDOT Development Coordination Manual and submit design deviation forms for any requirements that they cannot meet.

Thank you,

Derek Sapp  
Subdivision Manager  
(302) 760-4803

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**From:** Christin Headley [<mailto:christin.headley@sussexcountyde.gov>]  
**Sent:** Tuesday, April 09, 2019 9:55 AM  
**To:** Brad Hawkes <[bhawkes@sussexcountyde.gov](mailto:bhawkes@sussexcountyde.gov)>; C. Daniel Parsons <[dparsons@sussexcountyde.gov](mailto:dparsons@sussexcountyde.gov)>; Dean Holden - Chesapeake Electric <[dholden@chpk.com](mailto:dholden@chpk.com)>; Fox, Duane T. (FireMarshal) <[Duane.Fox@delaware.gov](mailto:Duane.Fox@delaware.gov)>; Butler, Eileen M. (DNREC) <[Eileen.Butler@delaware.gov](mailto:Eileen.Butler@delaware.gov)>; Cinelli, Jennifer (DelDOT) <[jennifer.cinelli@delaware.gov](mailto:jennifer.cinelli@delaware.gov)>; Jessica Watson – Sussex Conservation <[Jessica.watson@state.de.us](mailto:Jessica.watson@state.de.us)>; John J. Ashman <[jashman@sussexcountyde.gov](mailto:jashman@sussexcountyde.gov)>; Hayes, John G. (DNREC) <[John.Hayes@delaware.gov](mailto:John.Hayes@delaware.gov)>; Kennel, John M. (DNREC) <[John.Kennel@delaware.gov](mailto:John.Kennel@delaware.gov)>; John Martin <[jmartin@chpk.com](mailto:jmartin@chpk.com)>; Martin, John (DNREC) <[John.Martin@delaware.gov](mailto:John.Martin@delaware.gov)>; Fleming, Kate M. (DNREC) <[Kate.Fleming@delaware.gov](mailto:Kate.Fleming@delaware.gov)>; Kelley Gabbard <[kgabbard@chpk.com](mailto:kgabbard@chpk.com)>; Crystall, Meghan (DNREC) <[Meghan.Crystall@delaware.gov](mailto:Meghan.Crystall@delaware.gov)>; Tholstrup, Michael S. (DNREC) <[Michael.Tholstrup@delaware.gov](mailto:Michael.Tholstrup@delaware.gov)>; Mike Brady <[MBRADY@sussexcountyde.gov](mailto:MBRADY@sussexcountyde.gov)>; Melendez, Milton (DDA) <[milton.melendez@delaware.gov](mailto:milton.melendez@delaware.gov)>; Rob Davis <[rdavis@sussexcountyde.gov](mailto:rdavis@sussexcountyde.gov)>; Subdivision (MailBox Resources) <[Subdivision@delaware.gov](mailto:Subdivision@delaware.gov)>; Susan Isaacs <[sisaacs@sussexcountyde.gov](mailto:sisaacs@sussexcountyde.gov)>; Laws, Susanne K (DelDOT) <[Susanne.Laws@delaware.gov](mailto:Susanne.Laws@delaware.gov)>; Terri Dukes <[tdukes@sussexcountyde.gov](mailto:tdukes@sussexcountyde.gov)>; Tiffany Giroux <[tgiroux@chpk.com](mailto:tgiroux@chpk.com)>; Troy Dickerson <[TDickerson@decoop.com](mailto:TDickerson@decoop.com)>; Vince Robertson <[vrobertson@pgslegal.com](mailto:vrobertson@pgslegal.com)>  
**Subject:** TAC Review for 2019-8 Azalea Woods & 2019-10 Lands of Timmons

Good Morning,

Sussex County Planning Office has received two (2) applications that require TAC review. Attached is a memo regarding each application and a PDF of the plans submitted.

Please provide comments on or before Monday, June 10, 2019.

Please feel free to contact me with any questions.

Thanks,

*Christin Headley*

Christin Headley, Planning Technician  
Planning & Zoning Department  
2 The Circle  
PO Box 417  
Georgetown, DE 19947  
302-855-7878  
[christin.headley@sussexcountyde.gov](mailto:christin.headley@sussexcountyde.gov)

## Christin Headley

---

**From:** Dickerson, Troy <TDickerson@delaware.coop>  
**Sent:** Wednesday, April 10, 2019 4:11 PM  
**To:** Christin Headley  
**Subject:** RE: TAC Review for 2019-8 Azalea Woods & 2019-10 Lands of Timmons

**Categories:** TAC Comments

Christin,

The Azalea Woods subdivision is located within DP&L's service territory so they would be the electric service provider.

Thanks!

**Troy W. Dickerson, P.E.**

Assistant V.P. of Engineering  
Voice: (302) 349-3125  
Cell: (302) 535-9048  
Fax: (302) 349-5891  
[tdickerson@delaware.coop](mailto:tdickerson@delaware.coop)



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**From:** Christin Headley <christin.headley@sussexcountyde.gov>  
**Sent:** Tuesday, April 9, 2019 9:55 AM  
**To:** Brad Hawkes <bhawkes@sussexcountyde.gov>; C. Daniel Parsons <dparsons@sussexcountyde.gov>; Dean Holden - Chesapeake Electric <dholden@chpk.com>; Duane T. Fox <Duane.Fox@state.de.us>; Eileen M. Butler <Eileen.Butler@state.de.us>; Jennifer Cinelli <jennifer.cinelli@state.de.us>; Jessica Watson – Sussex Conservation <Jessica.watson@state.de.us>; John J. Ashman <jashman@sussexcountyde.gov>; John Hayes – Groundwater Discharge <john.hayes@state.de.us>; John Kennel – DE Coastal Programs <john.kennel@state.de.us>; John Martin <jmartin@chpk.com>; John Martin – Watershed Stewardship <john.martin@state.de.us>; Kate Fleming – DNREC Fish & Wildlife <kate.fleming@state.de.us>; Kelley Gabbard <kgabbard@chpk.com>; Meghan Crystall – DNREC <Meghan.Crystall@state.de.us>; Michael Tholstrup – Energy & Climate <Michael.Tholstrup@state.de.us>; Mike Brady <MBRADY@sussexcountyde.gov>; Milton Melendez – Dept. of Ag <Milton.melendez@state.de.us>; Rob Davis <rdavis@sussexcountyde.gov>; Subdivision mailbox email – DelDOT <Subdivision@state.de.us>; Susan Isaacs <sisaac@sussexcountyde.gov>; Susanne Laws - DelDOT <Susanne.Laws@state.de.us>; Terri Dukes <tdukes@sussexcountyde.gov>; Tiffany Giroux <tgiroux@chpk.com>; Dickerson, Troy <TDickerson@delaware.coop>; Vince Robertson <vrobertson@pgslegal.com>  
**Subject:** TAC Review for 2019-8 Azalea Woods & 2019-10 Lands of Timmons

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Thanks,

*Christin Headley*

Christin Headley, Planning Technician  
Planning & Zoning Department  
2 The Circle  
PO Box 417  
Georgetown, DE 19947  
302-855-7878  
[christin.headley@sussexcountyde.gov](mailto:christin.headley@sussexcountyde.gov)

## ENGINEERING DEPARTMENT

ADMINISTRATION	(302) 855-7718
AIRPORT & INDUSTRIAL PARK	(302) 855-7774
ENVIRONMENTAL SERVICES	(302) 855-7730
PUBLIC WORKS	(302) 855-7703
RECORDS MANAGEMENT	(302) 854-5033
UTILITY ENGINEERING	(302) 855-7717
UTILITY PERMITS	(302) 855-7719
UTILITY PLANNING	(302) 855-1299
FAX	(302) 855-7799



# Sussex County

DELAWARE

[sussexcountyde.gov](http://sussexcountyde.gov)

HANS M. MEDLARZ, P.E.  
COUNTY ENGINEER

MICHAEL E. BRADY  
DIRECTOR OF PUBLIC WORKS

May 20, 2019

REF: **T. A. C. COMMENTS  
AZALEA WOODS  
TIER 4  
SUSSEX COUNTY ENGINEERING DEPARTMENT  
SUSSEX COUNTY TAX MAP NUMBER  
233-14.00 PARCELS 10.00 & 10.02  
PROJECT CLASS-5  
AGREEMENT NO. 1128**

The following comments are the result of the Sussex County Engineering Department's review of the preliminary site plan for the above referenced project:

### **PUBLIC WORKS DIVISION COMMENTS**

1. Proposed developments with private roads or projects required by the County to conform to or exceed the County street design requirements shall be regulated by and conform to Sussex County Code and the comments here listed.
2. Utility placement may be difficult given the proposed width of the utility easement also includes a 5-foot wide sidewalk. Please provide a typical utility plan section depicting utility placement.
3. This project is not located within the limits of a Ground Water Management Zone GMZ. Projects located within a GMZ must be forwarded to the County Engineer for review and comment.
4. Project Construction Drawings shall show, in detail, the proposed improvements. The work required includes preparation and delivery of an AutoCAD 2012 digitized plan showing existing and proposed lines, grades, topography and features in a given area, which was utilized in preparing plans for construction. The individual sheet types will be in a separate design to show plan views on sheets separate from profile views. In addition, each sheet of the plans shall be submitted in a PDF format.
5. All work shall be geo-referenced to the Delaware State Grid System NAD-83 (HARN) and provided in an AutoCAD 2012 format. North will always be shown in an up direction on all plans.
6. Topographic contours at one-foot intervals shall be shown and referenced to United States Geological Survey Mean Sea Level Datum NAVD 1988 Datum.
7. The plans shall be provided on 24" x 36" drawing sheets at a scale of 1" = 50'.



The plans shall show and address the following items at minimum:

8. The project requires professional land surveying services to accurately delineate, and show the following items but is not limited to the following: all property and right-of-way lines, established at a minimum, two (2) horizontal and vertical control concrete project benchmarks, survey monuments, easements, existing and proposed topographic contours at 1-foot vertical intervals and spot elevations as necessary to establish grades, the locations of all existing structures, highway and roadway pavements, shoulders, curbs, driveways, sidewalks, lighting structures, traffic control signs, and all public and private utilities, including, but not limited to, electric power and telephone lines, poles and boxes, underground electric, telephone, and communication lines, potable water lines, fire hydrants and valve boxes, gas lines, wells, sanitary sewers including septic systems, rim and invert elevations of manholes and cleanouts, and the rims and invert elevations and type of storm water structures, drainage ditches, ponds, streams and waterways, flood zones and flood zone boundaries and elevations, and State and Federal wetlands, trees, cemeteries and historic features, and the finished floor elevations of buildings.
9. Plans shall show the seal and signature of a registered Delaware land surveyor or registered Delaware professional engineer.
10. The plan requires a Certification Signature and/or a Certification Block for the Delaware Professional Engineer or Delaware Land Surveyor.
11. The plan requires a Certification Signature and/or a Certification Block for the Owner or Representative of the Owner.
12. The plan requires a Certification Signature and/or a Certification Block for the Professional Wetlands Delineator.
13. The name, address, phone number and contact person's name of the Owner of Record, the Developer and the Engineer or Surveyor preparing the plan.
14. Indicate the location of all wetlands both State and Federal, to facilitate compliance with County, State and Federal requirements.
15. Define the courses and distances of the property perimeter and the approximate acreage contained therein. Establish and set in the field two (2) CONCRETE MONUMENT project bench marks, preferably at property perimeter corners, geo-referenced to the Delaware State Plane Coordinate system NAD 83 and show the location including the North and East coordinates of the marks on the plans.
16. Indicate the development construction phases proposed showing the boundaries of each phase. Phasing boundaries shall include buildings, residential units, amenities, roads, storm water management facilities, wastewater systems and all other improvements and utilities required to service each phase.
17. Show the layout, width and names of all streets, alleys, crosswalks and easements proposed to be dedicated for private or public use. Street names shall not duplicate nor closely resemble existing street names in the same hundred or postal district, except for extensions of existing streets.

18. Provide the limits and elevations of the one-hundred (100) year flood. This may require the design engineer to complete an analysis and provide a report including the depiction of the subject watershed(s), calculations and other technical data necessary to determine the limits and elevations base flood. The design engineer must resolve discrepancies, if any, between surveyed topography and the FEMA Flood Insurance Rate Maps.
19. For parking lots and drives, provide spot elevations at the edge of pavement, right-of-way or travel way centerline, at changes in grade, and high points and low points, to the nearest drainage facilities. Show the limits of the various surface materials and provide construction sections.
20. Provide and show the locations and details of all ADA compliant accessible walks and ramp features.
21. If the site has a cemetery located on it the Developer shall contact the Delaware State Historic Preservation Office and satisfy the requirements of that Office prior to beginning any construction activity. This area shall not be disturbed by this project. Adequate access to the site and buffers to protect the site, shall be provided.
22. Private rights-of-way adjacent to and abutting parcels not part of the project shall be located and designed to provide adequate buffer so that construction activities do not encroach onto adjacent properties.
23. Provide statements explaining how and when the developer proposes to provide and install the required water supply, sewers or other means of sewage disposal, street pavement, drainage structures and any other required improvements.
24. Provide statements concerning any proposed deed restrictions to be imposed by the owner.
25. Where special physical conditions exist, which may act as constraints on normal development or may preclude development, the developer may be required to submit special technical data, studies or investigations. This information must be prepared by individuals technically qualified to perform such work. Additional information may include but is not limited to the following: on-site sanitary sewage disposal feasibility, water supply surveys, such as test well drilling, storm water runoff computations and identification of areas subject to periodic flooding.
26. If special conditions are found to exist, the Engineering Department may elect to withhold approval of a construction plan until it is determined that it is technically feasible to overcome such conditions. The Engineering Department may then require the developer to incorporate specific improvement design criteria into the plat as a condition to its approval.
27. When special studies or investigations pertain to a regulatory program of another public agency, the developer shall submit the results of these studies or investigations to said public agencies for technical review and approval. Approvals and/or written comments from these agencies shall be supplied to Sussex County by the developer.

#### **UTILITY PLANNING DIVISION COMMENTS**



REVIEWER: **Rob Davis**

APPLICATION: **2019-8 – Azalea Woods**

APPLICANT: **Shingle Point Properties, LLC & Lisa Jester**

FILE NO: **NCPA – 5.03**

TAX MAP &  
PARCEL(S): **135-11.00 Parcels 32.04, 48.00, 49.00 & 56.00**

LOCATION: **Between Shingle Point Road and Gravel Hill Road, north of  
Route 9**

NO. OF UNITS: **610**

GROSS  
ACREAGE: **316.02**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **Choose an  
item.**

**SEWER:**

- (1). Is the project in a County operated and maintained sanitary sewer and/or water district?  
Yes  No
- a. If yes, see question (2).  
b. If no, see question (7).
- (2). Which County Tier Area is project in? Tier 3
- (3). Is wastewater capacity available for the project? No If not, what capacity is available? **Click or tap here to enter text..**
- (4). Is a Construction Agreement required? No If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? No If yes, how many? **Click or tap here to enter text..** Is it likely that additional SCCs will be required? **No**  
If yes, the current System Connection Charge Rate is **Choose an item.** per EDU. Please contact **Choose an item.** at **302-855-7719** for additional information on charges.

(6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **No**

Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.

(7). Is project adjacent to the Unified Sewer District? **No**

(8). Comments: **The proposed project is not located in an area where Sussex County expects to provide sewer service, and we recommend that wastewater service be provided by Artesian Wastewater Company, Inc as proposed. For questions regarding these comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-7820.**

(9). Is a Sewer System Concept Evaluation required? **No**

(10). Is a Use of Existing Infrastructure Agreement Required? **No**

If the above items, as applicable, are incorporated into the development plans, then preliminary approval is recommended. However, final plan approval should be withheld pending the approval of the construction plans by the Sussex County Engineering Department.



April 18, 2019

Ms. Christin Headley  
Sussex County Planning & Zoning Commission  
PO Box 417  
Georgetown, DE 19947

**Re:** Sussex County Technical Advisory Committee

Dear Ms. Headley:

The Division of Public Health Office of Engineering is in receipt of the following applications:

1. **Application:** *2019-10 Lands of Timmons*

This application indicates that individual wells will supply water. Plan review is not required by the Office of Engineering. *Routine plumbing permits will be required.*

2. **Application:** *2019-8 Azalea Woods*

This application indicates central water will be supplied by Artesian Water Company, Inc. *This project requires an Approval to Construct and an Approval to Operate from the Office of Engineering when constructing a new water system or altering an existing water system.* In order to obtain an Approval to Construct, plans and specifications must be prepared by a registered Delaware professional engineer. Plans for the system, including water mains or extensions thereto, storage facilities, treatment works, and all related appurtenances, must be approved by the Office of Engineering prior to construction. It is the owner's responsibility to ensure as-built drawings are maintained throughout all phases of construction.

Prior to receiving an Approval to Operate for this project, the Office of Engineering requires one set of as-built drawings, including profile markups, for all plans approved for construction. An Approval to Operate will be issued after all applicable requirements are met.

Please do not hesitate to contact me at 302-741-8646 with questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "William J. Milliken, Jr.".

William J. Milliken, Jr.  
Engineer III  
Office of Engineering

**TO: Christin Headley**  
**Sussex County Planning and Zoning**  
**Sussex County Courthouse**  
**P. O. Box 417**  
**Georgetown, DE 19947**

**FROM: John Martin**  
**DATE: April 23, 2019**  
**SUBJECT: TAC review comments**

**Watershed: Broadkill**  
**Subdivision/Applicant: Azalea Woods (2019-8)**  
**Tax Map#(s): 135.00-11.00-32.04 et al.**  
**Proposed waste disposal type: Central Sewer**

## **Requirements**

### **TMDLs**

- The project is located in the greater Delaware River and Bay drainage, specifically within the Broadkill River watershed. In this watershed, the State of Delaware has developed specific Total Maximum Daily Load (TMDL) pollutant reduction targets for nitrogen, phosphorus, and bacteria (under the auspices of Section 303(d) of the Clean Water Act). A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited waterbody” can assimilate and still meet State water quality standards (e.g., dissolved oxygen, nutrients, and bacteria; State of Delaware Surface Water Quality Standards, as amended July 11, 2004) to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. The TMDL for the Broadkill River watershed calls for a 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 75 percent reduction in bacteria from baseline conditions.
- A nutrient management plan is required under the *Delaware Nutrient Management law (3 Del. Chapter 22)* for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. This project’s open space may exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at 739-4811 for further information concerning compliance requirements – or, view the following web link for additional information: <http://dda.delaware.gov/nutrients/index.shtml>

## **Recommendations**

## Soils

- Based on NRCS soils survey mapping update in subject parcel, the primary soil mapping unit of concern are Fallsington (FaA) and Lenni (Lh). **Fallsington and Lenni are poorly to very poorly-drained wetland associated (hydric) soils that have severe limitations for development (unsuitable for development) and should be avoided. (Figure 1).**
- We strongly discourage building on hydric soils because they are functionally important source of water storage (functions as a “natural sponge”); the loss of water storage through excavation, filling, or grading of intact native hydric soils increases the probability for more frequent and destructive flooding events. The probability for flooding is further compounded by increases in surface imperviousness as building density in the area increases over time. Moreover, destruction of hydric soils increases the amount pollutant runoff (i.e., hydric soils sequester and detoxify pollutants) which contributes to lower observed water quality in regional waterbodies and wetlands. We strongly recommend the applicant contact a licensed (Delaware Class D) soil scientist to make a site specific assessment (i.e., soil survey mapping) of the soils on this site. A list of licensed Class D soil scientists can be obtained at the following web link:  
<http://www.dnrec.delaware.gov/wr/Information/GWDInfo/Pages/GroundWaterDischargesLicensesandLicensees.aspx>

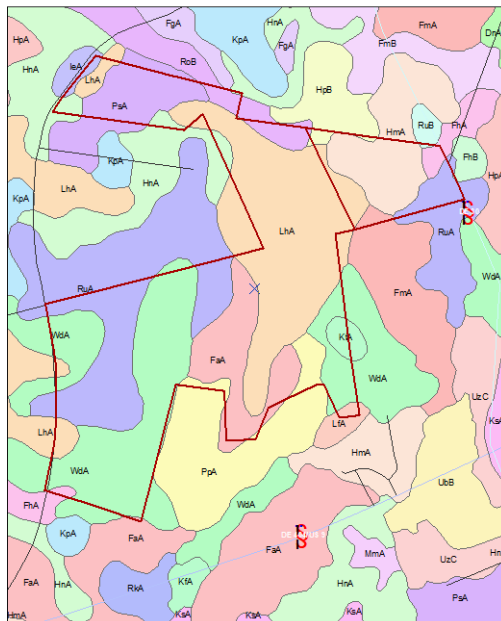


Figure 1: NRCS soil survey mapping update.

0 500 1,000 2,000 Feet

## TMDL compliance through the PCS

In response to concerns about the need for reducing nonpoint source nutrient (nitrogen and phosphorus) and bacterial pollutants to levels sufficient to meet the TMDL reduction requirements prescribed for waters of the greater Broadkill River watershed, a multifaceted and comprehensive process known as a pollution control strategy (PCS) was developed. Specifically, a PCS is a combination of best management practices and control technologies that reduce nutrient and bacterial pollutant runoff loading in waters of a given watershed to level(s) consistent with the TMDL(s) reduction levels specified for that watershed. The PCS for the Broadkill River watershed consists of recommendations from the following three areas: agriculture, stormwater, and wastewater. Although the Pollution Control Strategy (PCS) has been established for the Broadkill watershed, implementation of the TMDL load reduction requirement(s) to a specific project(s) is hampered by circumstance that the PCSs' strategies are entirely voluntary in nature. Additional information about Broadkill River PCS can be reviewed in the follow web link: <http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx>

Therefore in support of the PCS, the applicant is also strongly urged to reduce nutrient and bacterial pollutants through voluntary commitment to the implementation of the following recommended BMPs, which would:

- Preserve and/or maintain as much of the existing forested area as possible. Given the environmental sensitivity (e.g., water quality and wildlife habitat) of the greater Broadkill River watershed, the Division of Watershed Stewardship strongly opposes the applicant's apparent plan to remove most (if not all) of the existing forestland to accommodate this development. We believe that that that much of the existing forest land should remain intact and/or undeveloped. We further suggest additional native tree, shrub and/or native herbaceous vegetation plantings in remaining areas of open space, wherever possible. Finally, removing forest cover to accommodate open-water stormwater management structure(s) – as currently proposed - is not considered an environmentally acceptable practice by the Division of Watershed Stewardship.
- Conduct a United States Army Corps of Engineers (USACE) approved wetlands delineation by a qualified soils scientist (Delaware licensed Class D soil scientist) before commencing any construction activities. According to information submitted in the TAC application, a wetlands delineation was conducted but not submitted to DRNREC for review. We strongly discourage building on hydric soils as these soils provide benefits for water quality and flood protection. Based on NRCS and SWMP mapping, both wetland soils and/or potential jurisdictional wetlands are mapped in subject parcel (Figures 1 & 2). A field-based site-specific wetlands delineation by a licensed soil scientist is strongly recommended to more precisely assess the presence of wetland and/or hydric soils (a wetlands determination is

also important for determining appropriate placement of recommended buffer). A list of licensed Class D soil scientists can be obtained from the following web link:  
<http://www.dnrec.delaware.gov/wr/Information/GWDInfo/Pages/GroundWaterDischargesLicensesandLicensees.aspx>

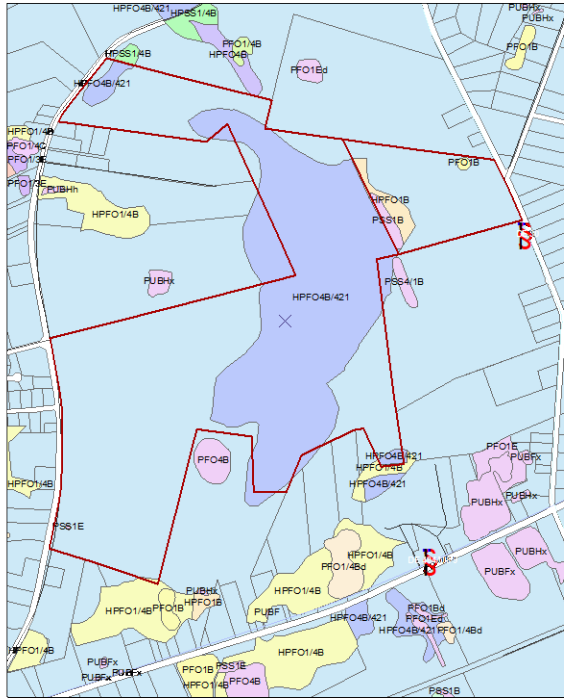
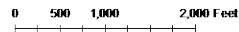


Figure 2: SWMP mapped wetlands



- Establish a vegetated buffer of at least 100 feet from the adjoining wetlands and waterbodies. Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. Wetland and Stream Buffer Requirements – A Review. J. Environ. Qual. 23: 878-882.), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish said 100-foot vegetated buffer (planted in native vegetation) from all waterbodies (including all ditches and ponds) and all non-tidal (USACE approved wetlands delineation) and tidal wetlands (State-approved wetlands delineation for State-regulated tidal wetlands).

- Calculate post-construction surface imperviousness with all forms of created (or constructed) surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, ponds, and roads) included in the calculation for surface imperviousness. Omission of any of the above-stated forms of surface imperviousness will result in an underestimate of the actual post-development surface imperviousness and the environmental impacts associated with this imperviousness.
- Employ green-technology storm water management and a rain garden(s) - in lieu of open-water stormwater management structures - as BMPs to mitigate or reduce nutrient and bacterial pollutant runoff. If open-water stormwater management is selected (and approved) for use, these structures should be used for their intended purpose – that is, the management of stormwater - not for the creation of additional pond acreage to enhance property values or aesthetics. Open-water stormwater ponds are problematic because they attract nuisance geese and create conditions conducive for growth of nuisance algae (via nutrient inputs from goose waste and nutrient runoff from residential development), while further contributing to the degradation of overall water quality in the Broadkill watershed. According to information submitted in the TAC application, at least 20 open-water stormwater management ponds have been proposed for this project; the Division of Watershed Assessment considers the number of ponds proposed as excessive and/or unnecessary. As mentioned previously, we much prefer the deployment of green-technology stormwater management instead.
- Use pervious paving materials (when compatible or consistent with water quality concerns in designated areas of excellent recharge and/or well-head protection areas via determination by a DNREC hydrogeologist(s)) instead of conventional paving materials (e.g., asphalt or concrete) to help reduce the amount of water and pollutant runoff draining to adjoining streams and wetlands.
- Assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the “Nutrient Load Assessment protocol.” The protocol is a tool used to assess changes in nutrient loading (e.g., nitrogen and phosphorus) resulting from the conversion of individual or combined land parcels to a changed or different land use(s); thus providing applicants and governmental entities with quantitative information about the project’s impact(s) on baseline water quality. We strongly encourage the applicant/developer use this protocol, or use the land-use loading rate model and report developed by the Chesapeake Bay program (with calculations performed by a consulting engineering firm or licensed engineer on behalf of the applicant) to help them design and implement the most environmentally-effective BMPs. The link for Chesapeake Bay model report is:  
<http://cast.chesapeakebay.net/Documentation/ModelDocumentation>





Sussex County, Delaware  
Technical Advisory Committee

Comment Sheet

\*\*\*\*\*



DATE OF REVIEW: April 10, 2019

REVIEWING AGENCY: Delaware State Fire Marshal's Office, Sussex Office

INDIVIDUAL REVIEWERS: Duane T. Fox, CFPS, CFPE, CFI, Asst. Chief Technical Services  
Dennett E. Pridgeon, CFPS, CFPE, CFI, Sr. Fire Protection Specialist  
Jefferson L. Cerri, CFI, Sr. Fire Protection Specialist  
Joseph Moran, CFI, Sr. Fire Protection Specialist  
Desiree B. McCall, CFI, Sr. Fire Protection Specialist

AGENCY PHONE NUMBERS: 302-856-5298, Fax: 302-856-5800

RE: AZALEA WOODS (19-8)

*The reasons and conditions applied to this project and their sources are itemized below:*

\*\*\*\*\*

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)
- Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**

- All structures over 10,000 sqft aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sqft, 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR

c. **Accessibility**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Shingle Point Rd and Gravel Hill Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

d. **Gas Piping and System Information:**

- Provide type of fuel proposed, and show locations of bulk containers on plan.

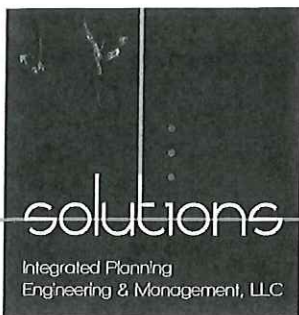
e. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website:

[www.statefiremarshal.delaware.gov](http://www.statefiremarshal.delaware.gov), technical services link, plan review, applications or brochures.

***THIS DOCUMENT IS INFORMATIONAL ONLY, AND DOES NOT CONSTITUTE ANY TYPE OF APPROVAL FROM THE DELAWARE STATE FIRE MARSHAL'S OFFICE***



November 5, 2018

Mrs. Constance C. Holland, AICP, State Planning Director  
Haslet Armory  
122 Martin Luther King Jr. Blv. South  
Dover, DE 19901

**RE: PLUS review 2018-07-08 ; Wilson Moore**

Dear Mrs. Holland;

Please allow this letter to serve as our response to the PLUS review of the Wilson-Moore property. Answers to comments have been provided following each comment taken directly from your comment letter for ease of use. Our responses are in red and in different font for ease in review.

Thank you for meeting with State agency planners on July 25, 2018 to discuss the Wilson Moore project. According to the information received you are seeking review of a 580 unit subdivision on 316.02 acres between Rt. 9 and Gravel Hill Road in Level 4 in Sussex County.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. **The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.**

Response: The developer will comply with all Federal, State and local regulations regarding the development of this property. The developer will comply with any and all regulations/restrictions set forth by Sussex County.

### **Strategies for State Policies and Spending**

This project represents land development that will result in 580 residential units in an Investment Level 4 area according to the *2015 Strategies for State Policies and Spending*. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4 areas. These areas are comprised of prime

agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed will bring new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and 100% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

Because the development is inconsistent with the *Strategies for State Policies and Spending*, the State cannot support this proposed development.

Response: This site has some frontage on a principal arterial state road and will have an entrance on a major collector road. There are 2 ongoing subdivisions under construction with a mile of the project boundary. A school is also located within 3 miles of the project. Furthermore, public water and sewer connections are available for the site.

With that said, **the comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to build on this property, construct the development you indicate, or any subdivision thereof on these lands.**

### **Code Requirements/Agency Permitting Requirements**

#### **Department of Transportation – Contact Bill Brockenbrough 760-2109**

- The site access on Gravel Hill Road (Delaware Route 30) and Shingle Point Road (Sussex Road 249) must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <http://www.deldot.gov/Business/subdivisions/index.shtml?dc=changes>.
- Pursuant to Section P.3 of the Manual, a Pre-Submittal Meeting is required before plans are submitted for review.
- Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is

submitted for review and the Construction Stage Fee when construction plans are submitted for review.

- Sections 1.2.1 and 5.2.2 of the Manual address where entrances should be located. DelDOT offers three comments in this regard:
  - The proposed access on US Route 9 is not acceptable. Route 9 is a principal arterial highway and the site has frontage suitable for providing adequate access on both Gravel Hill Road and Shingle Point Road. No vehicular access will be permitted on US Route 9.
  - The proposed access on Gravel Hill Road opposite Pettyjohn Road (Sussex Road 255) appears acceptable in concept. Any necessary improvements will be identified through the TIS and plan review processes.
  - DelDOT may require that the access proposed on Shingle Point Road opposite Briarwood Lane (a subdivision street) be shifted north to be opposite Briarwood Road (Sussex Road 253). The relative feasibility and desirability of the two locations will need to be evaluated.
- Per Section 2.2.2.1 of the Development Coordination Manual, Traffic Impact Studies (TIS) are warranted for developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day. The PLUS application states that the proposed development would generate 5,223 vehicle trip ends per day. DelDOT calculates that the development would generate 5,240 vehicle trip ends per day on weekdays and 549 vehicle trip ends per hour during the evening peak hour of the adjacent roads. Therefore a TIS is warranted and DelDOT will require that a TIS be done.

The purpose of a TIS is to identify needed off-site improvements. Improvements that DelDOT can identify without a TIS include improvement of Shingle Point Road to meet DelDOT local road standards, including 11-foot lanes and 5-foot shoulders in both directions from Briarwood Road to US Route 9 and intersection realignments on Shingle Point Road at US Route 9 and at Gravel Hill Road to provide for perpendicular approaches at both locations.

- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Gravel Hill Road and Shingle Point Road and, if the relevant parcel remains in the assemblage, US Route 9. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.
- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way along the site's frontage on Gravel Hill Road and Shingle Point Road to meet DelDOT's standards for collector roads and local roads, respectively. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the physical centerline along Gravel Hill Road and 30 feet of right-of-way from the physical

centerline along Shingle Point Road. If the parcel fronting on US Route 9 remains in the assemblage, DelDOT will require a 40-foot dedication there too. The following right-of-way dedication note is required, **“An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.”**

- In accordance with Section 3.2.5.1.1 of the Manual, if this development is proposing a neighborhood sign/structure, then a permanent easement shall be established at the site entrance. The easement shall be located outside of any existing and/or proposed right-of-way. It will also need to be verified that the sign/structure does not pose a sight distance and/or safety hazard.
- In accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of 15-foot wide permanent easements across the property frontage on both Gravel Hill Road and Shingle Point Road. If the parcel fronting on US Route 9 remains in the assemblage, DelDOT will require a similar easement there too. The location of the easements shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, **“A 15-foot wide permanent easement is hereby established for the State of Delaware, as per this plat.”**
- In accordance with Section 3.4 of the Manual, a record plan shall be prepared prior to issuing “Letter of No Objection”. The record plan submittal shall include the items listed on the Critical Items for Acceptance: Record Plan document available on the DelDOT website at <https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items-Record-Subdivision.pdf?09222017>.
- Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:
  - A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
  - Depiction of all existing entrances within 450 feet of the proposed entrance on Gravel Hill Road and within 600 feet of the proposed entrance on Shingle Point Road.
  - Notes identifying the type of any off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.
- Section 3.5 of the Manual provides DelDOT’s requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT-maintained public streets for subdivisions. Private or municipal streets should follow the County’s requirements for connectivity.
- Section 3.5.4.2 of the Manual addresses requirements for shared-use paths and sidewalks. Referring to Section 3.5.4.2.A of the Manual, installation of a sidewalk or Shared Use Path along the development’s road frontage is required for developments generating more than 2,000

vehicle trip ends per day. DelDOT will require a Shared Use Path along the development frontage on both Gravel Hill Road and Shingle Point Road.

- Referring to Section 3.5.5 of the Manual, existing and proposed transit stops and associated facilities as required by the Delaware Transit Corporation (DTC) or DelDOT shall be shown on the Record Plan.
- Section 3.5.4.4 of the Manual addresses access-ways, which are similar to Shared Use Paths (SUP) but are used to connect from an SUP or sidewalk along a road to an interior trail or subdivision street when the spacing between streets is inadequate to accommodate convenient pedestrian and bicycle travel. DelDOT anticipates requiring at least two access-ways, near the north and south limits of the site frontage on Shingle Point Road.
- In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State right-of-way along US Route 9, Gravel Hill Road and Shingle Point Road.
- Referring to Section 4.3 of the Manual, an entrance plan shall be prepared prior to issuing entrance approval. The entrance plan submittal shall include the items listed on the Critical Items for Acceptance: Entrance/Construction/Subdivision Set Plan document available on the DelDOT website at [https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items\\_Entrance\\_Construction\\_Subdivision.pdf?09222017](https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items_Entrance_Construction_Subdivision.pdf?09222017).
- In accordance with Section 5.2.5.6 of the Manual, a separate turning template plan shall be provided to verify vehicles can safely enter and exit the site entrance. As per Section 5.2.3 of the Manual, the entrance shall be designed for the largest vehicle using the entrance.
- In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrances and how long those lanes should be. The worksheet can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.
- In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.
- In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.
- Because the proposed development would not have State-maintained streets, Section 6.4.3 of the Manual, which pertains to the inspection and acceptance of commercial entrances, applies. Construction inspection responsibilities shall be in accordance with Figure 6.4.3-a. DelDOT's



preliminary reading of this figure is that the project requires Level I inspection and that a construction inspection agreement will not be needed.

- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.
- This project is located within the regulated airspace zones of Delaware Coastal Airport (GED), which is a public-use facility. Federal Aviation Regulation (FAR) Part 77 imposes height restrictions on any structures within these zones. DelDOT requires that the applicant for this project submits a "Proposed Construction/Alteration in Airport Zones Notification Form" in accordance with Delaware Code (2 Del. C. § 602).

This notification form can be submitted during the plan approval process with the local land use jurisdiction, but DelDOT's Office of Aeronautics is willing to test hypothetical height numbers to prevent any future project complications. Please contact Mr. Nate Attard with the Office of Aeronautics at (302) 760-2174 with any questions or concerns. A copy of the notification form can be found at this address:

[https://www.deldot.gov/Programs/aviation\\_svcs/pdfs/aviation\\_obstruction\\_review\\_form.pdf?012913](https://www.deldot.gov/Programs/aviation_svcs/pdfs/aviation_obstruction_review_form.pdf?012913).

Response: The developer will continue to coordinate with DelDOT regarding final frontage improvements, off-site improvements, final entrance locations, and cost sharing. Record and Entrance Plans will be submitted to DelDOT in accordance with the latest DelDOT regulations.

**Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352**

- The Department of Natural Resources and Environmental Control did not submit comments regarding this application. If the development of this property requires permits from a DNREC section, please contact the DNREC regulatory agency directly.

Response: It is understood that the developer will need to coordinate with DNREC directly.

**State Historic Preservation Office – Contact Carlton Hall 736-7404**

- There are no known archaeological sites, or known National Register listed or eligible properties on the parcel. However there is a cemetery (S04957), known as Calhoun Cemetery located on the western neighboring parcel.
- If any project or development proceeds, the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law. Disturbing unmarked graves or burials triggers

Delaware's Unmarked Human Burials and Human Skeletal Remains Law (Del. C. Title 7, Ch. 54), For more information, please review the following websites:

[www.history.delaware.gov/preservation/umhr.shtml](http://www.history.delaware.gov/preservation/umhr.shtml) and  
[www.history.delaware.gov/preservation/cemeteries.shtml](http://www.history.delaware.gov/preservation/cemeteries.shtml).

- If there is federal involvement, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential cultural or historic resources. For further information on the Section 106 process please review the Advisory Council on Historic Preservation's website at: [www.achp.gov](http://www.achp.gov)

Response: The developer is aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law and will proceed accordingly should an unknown burial site or remains be encountered during the development process.

Preplanning activities for this project involved making a detailed delineation and survey of state and federally regulated wetland and water boundaries. The project has been designed to avoid impacts to both state and federally regulated wetlands. In the event that regulated activities are proposed which require a permit from the U.S. Army Corps of Engineers or other federal agency, the developer will consult with those agencies to determine the area of potential effects for that permit known as the "permit area". As determined by the Section 106 process, the developer will then retain a qualified archeologist to perform any required site evaluations for resources potential eligible for inclusion in the National Register of Historic Places with the "permit area" of the project prior to any disturbance.

#### **Delaware State Fire Marshall's Office – Contact John Rudd 323-5365**

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

- Fire Protection Water Requirements:
  - Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
  - The infrastructure for fire protection water shall be provided, including the size of water mains

Response: The development will be designed to meet the required fire protection water requirements.

- Accessibility:

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from the main thoroughfare must be constructed so fire department apparatus may negotiate it. If a “center island” is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision. Where traffic circles (round-abouts) are located in the subdivision, they too are to be arranged in such a manner that they will not adversely affect quick and unimpeded travel of fire apparatus throughout the subdivision. Additionally, where trees are to be situated adjacent to travel roads in the subdivision, some forethought should be exercised regarding how future growth of the trees may affect fire department travel throughout the subdivision.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

Response: The development will be designed to meet the required accessibility requirements.

- Gas Piping and System Information:
  - Provide type of fuel proposed, and show locations of bulk containers on plan.

Response: Fuel type and bulk container locations, if provided, will be included in the plan.

- Required Notes:
  - Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
  - Name of Water Supplier
  - Proposed Use
  - National Fire Protection Association (NFPA) Construction Type
  - Maximum Height of Buildings (including number of stories)
  - Provide Road Names, even for County Roads

Response: All required notes will be included on the construction plans.

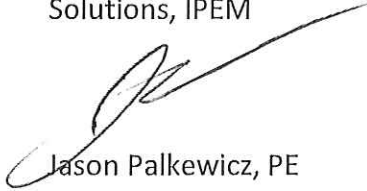
**Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.**

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

We are available to meet and discuss any or all of the proposed revisions.

Sincerely,

Solutions, IPEM

A handwritten signature in black ink, appearing to read 'Jason Palkewicz', with a long, sweeping underline that extends to the right.

Jason Palkewicz, PE

2019-8



STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

JENNIFER COHAN  
SECRETARY

April 4, 2019

Ms. Betty Tustin  
The Traffic Group, Inc.  
104 Kenwood Court  
Berlin, MD 21811

Dear Ms. Tustin:

We have reviewed the traffic counts and trip distributions that we received on February 27, 2019 for the **Wilson Moore** (Tax Parcels 135-11.00-32.04, 48.00, 49.00 & 56.00) traffic impact study (TIS). Upon our review, we find that the traffic counts are acceptable as submitted, subsequent to the application of a seasonal adjustment factor of 1.11 to Steiner Road.

Concerning the site trip distribution, please use the distribution enclosed with this letter in developing the site traffic volumes.

Considering background growth factors, please apply the following growth factors to the seasonally adjusted traffic volumes in developing future traffic:

Road	Growth Factor	Total Growth from 2018 to 2032
US Route 9	1.015	1.232
Delaware Route 5	1.005	1.072
Delaware Route 30	1.005	1.072
Springfield Road (Sussex Road 47)	1.005	1.072
Shingle Point Road (Sussex Road 249)	1.005	1.072
Huff Road (Sussex Road 252)	1.005	1.072
Briarwood Road (Sussex Road 253)	1.005	1.072
Prettyman Road (Sussex Road 254)	1.005	1.072
Pettyjohn Road (Sussex Road 255)	1.005	1.072
Sand Hill Road (Sussex Road 319)	1.005	1.072
Steiner Road (Sussex Road 320)	1.005	1.072
Park Avenue (Sussex Road 321)	1.005	1.072
All Other Roads	1.000	1.000

Ms. Betty Tustin  
April 1, 2019  
Page 2 of 2

You may contact Mr. Troy Brestel at (302) 760-2167 if you have any questions concerning this correspondence.

Sincerely,



T. William Brockenbrough, Jr.  
County Coordinator

TWB:tbm

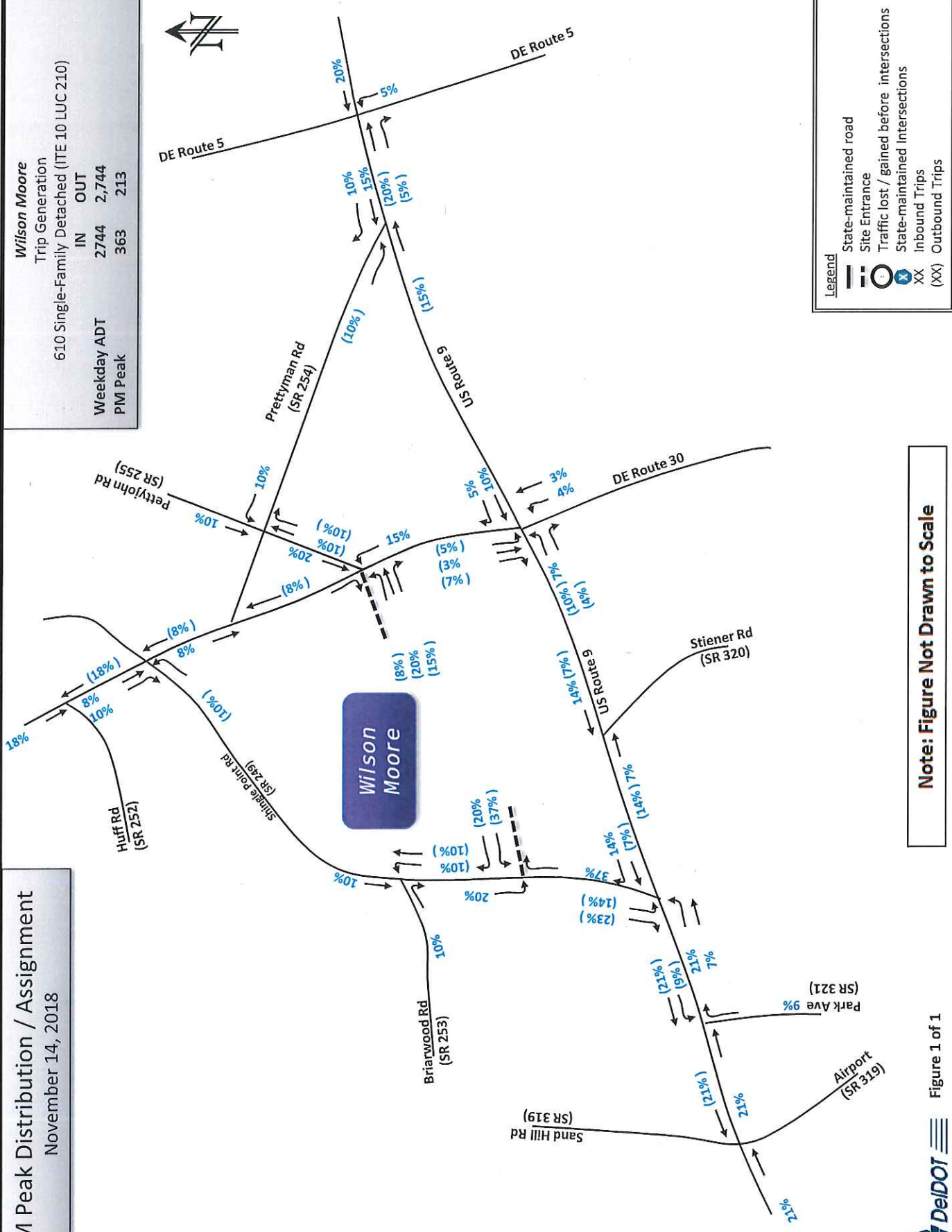
Enclosure

cc: Janelle Cornwell, Sussex County Planning and Zoning  
J. Marc Coté, Assistant Director, Development Coordination  
Troy Brestel, Project Engineer, Development Coordination  
Claudy Joinville, Project Engineer, Development Coordination

# PM Peak Distribution / Assignment

November 14, 2018

<b>Wilson Moore</b>	
Trip Generation	
610 Single-Family Detached (ITE 10 LUC 210)	
Weekday ADT	2744
PM Peak	363
IN	2,744
OUT	213



Note: Figure Not Drawn to Scale

Figure 1 of 1



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

JENNIFER COHAN  
SECRETARY

June 12, 2019

Ms. Betty Tustin  
The Traffic Group, Inc.  
104 Kenwood Court  
Berlin, MD 21811

Dear Ms. Tustin:

We have reviewed the preliminary traffic impact study (TIS) that we received on May 23, 2019 for the **Azalea Woods (f.k.a. Wilson Moore)** (Tax Parcels 135-11.00-32.04, 48.00, 49.00 & 56.00) residential development. Upon our review, we find that there are several items that need to be addressed. Please address the following items and resubmit the affected portions of the preliminary TIS.

- 1) For the US Route 9 / Sand Hill Road / Airport Road intersection, please apply a seasonal adjustment factor of 1.11 to the existing traffic counts on the Airport Road approach.
- 2) For the US Route 9 / Sand Hill Road / Airport Road intersection, please apply an annual growth factor of 1.005 (1.072 in total) to the seasonally adjusted traffic counts on the Airport Road approach.
- 3) For the Sports at the Beach committed development, please verify the proposed commercial expansion of the site with Sussex County and include it in the preliminary TIS.
- 4) As a result of items 1, 2 and 3, the Case 1, 2 and 3 volumes will need to be updated. Please update those volumes.



Ms. Betty Tustin  
June 12, 2019  
Page 2 of 2

You may contact Mr. Troy Brestel at (302) 760-2167 if you have any questions concerning this correspondence.

Sincerely,



T. William Brockenbrough, Jr.  
County Coordinator

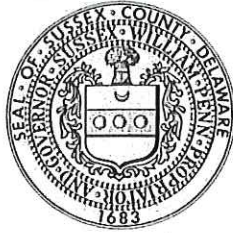
TWB:tbm

cc: Janelle Cornwell, Sussex County Planning and Zoning  
J. Marc Coté, Assistant Director, Development Coordination  
Troy Brestel, Project Engineer, Development Coordination  
Claudy Joinville, Project Engineer, Development Coordination

**PLANNING & ZONING**

JANELLE M. CORNWELL, AICP  
DIRECTOR

(302) 855-7878 T  
(302) 854-5079 F



**Sussex County**

DELAWARE  
sussexcountyde.gov

## Memorandum

To: Sussex County Technical Advisory Committee

From: Christin Headley, Planning Technician

Date: April 8, 2019

RE: Major Subdivision

The Sussex County Planning and Zoning Office has received two (2) applications for a major subdivision that require review by the Sussex County Technical Advisory Committee. Please review the applications and provide comments back to the Planning and Zoning Office on or before **Monday, June 10, 2019**.

- 1.) **2019-8 – Azalea Woods**- This is a Standard subdivision. The Standard subdivision is for the creation of six hundred ten (610) single family lots. The property is located between Shingle Point Rd. & Gravel Hill Rd., north of Rt.9. Tax Parcels: 135-11.00-32.04, 135-11.00-48.00, 135-11.00-49.00, & 135-11.00-56.00. Zoning: AR-1 (Agricultural Residential District) & C-1 (General Commercial District). Owner: Shingle Point Properties, LLC & Lisa Jester.
- 2.) **2019-10 – Lands of Timmons**- This is a Standard subdivision. The Standard subdivision is for the creation of seven (7) single family lots. The property is located on Nine Foot Rd. & Hickory Hill Rd. Tax Parcels: 233-14.00-10.00 & 233-14.00-10.02. Zoning: AR-1 (Agricultural Residential District). Owner: John & Ralph Timmons

Please feel free to send your comments via e-mail. Please feel free to contact me with any questions at (302) 855-7878 during normal business hours 8:30am-4:30pm Monday through Friday or e-mail me at [christin.headley@sussexcountyde.gov](mailto:christin.headley@sussexcountyde.gov).

RECEIVED

MAY 14 2019

SUSSEX COUNTY  
PLANNING & ZONING





2019-8

TM #135-11.00-32.04, 135-11.00-48.00, 135-11.00-49.00, 135-11.00-56.00

Azalea Woods



2019-8

TM #135-11.00-32.04, 135-11.00-48.00, 135-11.00-49.00, 135-11.00-56.00

Azalea Woods



Natural Resources  
Conservation Service

May 13, 2019

Georgetown  
Service Center

Janelle M. Cornwell, Director  
Sussex County Planning & Zoning  
Sussex County Courthouse  
Georgetown, DE 19947

21315 Berlin Road  
Unit 3  
Georgetown, DE  
19947

**RE: Azalea Woods  
Georgetown Hundred  
610 single family lots**

Voice 302.856.3990  
Fax 855.306.8272

Dear Ms. Cornwell:

Soils within the delineated area on the enclosed map are:

- FaA Fallsington sandy loam, 0 to 2 percent slopes
- FhA Fort Mott-Henlopen complex, 0 to 2 percent slopes
- FmA Fort Mott loamy sand, 0 to 2 percent slopes
- HmA Hammonton loamy sand, 0 to 2 percent slopes
- HnA Hammonton sandy loam, 0 to 2 percent slopes
- HpB Henlopen loamy sand, 2 to 5 percent slopes
- IeA Ingleside loamy sand, 0 to 2 percent slopes
- KfA Keyport fine sandy loam, 0 to 2 percent slopes
- LfA Lenni sandy loam, 0 to 2 percent slopes
- LhA Lenni silt loam, 0 to 2 percent slopes
- PpA Pepperbox loamy sand, 0 to 2 percent slopes
- PsA Pepperbox-Rosedale complex, 0 to 2 percent slopes
- RoB Rosedale loamy sand, 2 to 5 percent slopes
- RuA Runclint loamy sand, 0 to 2 percent slopes
- RuB Runclint loamy sand, 2 to 5 percent slopes
- WdA Woodstown sandy loam, 0 to 2 percent slopes

Soil Interpretation Guide

Soil Limitation Class

Buildings

Map Symbol	Urbanizing Subclass	With Basement	Without Basement	Septic Filter Fields
FaA	R2	Very limited	Very limited	Very limited
FhA	G1	Not limited	Not limited	Somewhat limited/not limited

FmA	G1	Not limited	Not limited	Somewhat limited
HmA	Y2	Very limited	Somewhat limited	Very limited
HnA	Y2	Very limited	Somewhat limited	Very limited
HpB	G2	Not limited	Not limited	Not limited
IeA	Y2	Somewhat limited	Not limited	Very limited
KfA	Y2	Very limited	Somewhat limited	Very limited
LfA	R2	Very limited	Very limited	Very limited
LhA	R2	Very limited	Very limited	Very limited
PpA	Y2	Very limited	Somewhat limited	Very limited
PsA	Y2	Very limited/Somewhat limited	Somewhat limited/Not limited	Very limited
RoB	Y2	Somewhat limited	Not limited	Very limited
RuA	Y2	Somewhat limited	Not limited	Very limited
RuB	Y2	Somewhat limited	Not limited	Very limited
WdA	Y2	Very limited	Somewhat limited	Very limited

Definition of soil limitation ratings classes:

Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development.

**"Not limited"** indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.

**"Somewhat limited"** indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected.

**"Very limited"** indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

**G1:**

These soils are on nearly level to strongly sloping (0-10% slopes), well drained, mostly permeable soils. As sites for large commercial, industrial, institutional, and residential developments, these soils have fewer limitations than any other soils in the state. Slopes are favorable, and grading can be done without difficulty. Foundation conditions are generally good. Grasses, trees, and do well. Principal soil limitations: No apparent soil limitations for conventional uses.

**G2:**

The soils in this classification are nearly level or gently sloping, excessively drained or somewhat excessively drained, very sandy, rapidly permeable soils. These soils are sandy and droughty. They are well suited for large commercial and industrial developments, and somewhat less suited for residential uses because of low available moisture for grasses. Care should be taken in location of septic filter fields, wells, and the size of the building lots. Because of the excessive permeability of these particular soils, there is a probability of polluting nearby wells, springs, ponds, streams, or other sources of water.

**R2:**

The soils in this classification are nearly or gently sloping, very poorly, poorly, and somewhat poorly drained. Seasonal high water tables, local ponding, and high potential frost action severely limit these soils for residential developments. The principal soil limitations are: 1) soil is highly susceptible to frost action, 2) excavations are likely to fill with water in late winter or early spring, 3) wet foundations or basements probable, and 4) hazard of temporary ponding of water in areas lacking outlets. Loose running sand commonly encountered in deep excavations.

**Y2:**

The soils in this classification are nearly level or gently sloping, moderately well drained or well drained with ground water between four to six feet from the surface, and are subject to seasonal high water tables. Seasonal wetness and seepage around foundations moderately limits these soils for residential use. The principal soil limitations are: 1) lateral seepage in subsoil causes concentration of water around foundations, 2) soil is highly susceptible to frost action, 3) excavations are likely to fill with water in late winter or early spring, and 4) wet basements or foundations are probable.

The soil interpretations above do not eliminate the need for detailed investigations at each proposed construction site. However, the interpretations can serve as a guide to planning more detailed investigations. No consideration was given in these interpretations regarding the size and shape of the soil area; nor to the pattern they form with other soils in the landscape. Also, because of the scale of the maps used, small areas of other kinds of soils may be included within some delineations of the soil map. Thus, an individual lot or building site could occupy a small area that would not fit the interpretations given for the soils symbol representing the entire delineation of the map. Interpretations apply to the soils in their natural state and not for areas that may have been altered through grading, compacting, and the like.

Sincerely,



Thelton D. Savage  
District Conservationist  
USDA, Natural Resources Conservation Service

TDS/bh

# FUQUA, WILLARD, STEVENS & SCHAB, P.A.

PAYNTER HOUSE   
26 THE CIRCLE OR P.O. BOX 250  
GEORGETOWN, DELAWARE 19947  
PHONE 302-856-7777  
FAX 302-856-2128  
onthecircle@fwsslaw.com

JAMES A. FUQUA, JR.  
WILLIAM SCHAB  
TIMOTHY G. WILLARD  
TASHA MARIE STEVENS  
MELISSA S. LOFLAND  
NORMAN C. BARNETT  
www.fwsslaw.com

HART HOUSE   
9 CHESTNUT STREET  
GEORGETOWN, DELAWARE 19947  
PHONE 302-856-9024  
FAX 302-856-6360  
realestate@fwsslaw.com

REHOBOTH OFFICE   
20245 BAY VISTA ROAD, UNIT 203  
REHOBOTH BEACH, DE 19971  
PHONE 302-227-7727  
FAX 302-227-2226

LEWES REAL ESTATE OFFICE   
16698 KINGS HIGHWAY, SUITE B  
LEWES, DELAWARE 19958  
PHONE 302-645-6626  
FAX 302-645-6620  
realestate@fwsslaw.com

June 6, 2019

Vince Robertson, Esquire  
Parkowski, Guerke & Swayze, P.A.  
19354 Miller Road  
Rehoboth Beach, DE 19971

Re: Azalea Woods / Subdivision # 2019-8

Dear Mr. Robertson:

In regard to the above subdivision application, the Declaration Of Restrictions for the development will contain provisions similar to the following:

## 1. ORGANIZATION AND OPERATION OF PROPERTY OWNERS' ASSOCIATION

A. It is the intention of the party of the first part that a non-profit corporation called the "Azalea Woods Homeowners Association, Inc." (hereinafter "Homeowners Association") is to be formed, at any time, to control and maintain the entranceway, roads, streets, street lights, sidewalks, stormwater management areas including surface drainage facilities and erosion and sedimentation control facilities, buffer areas and any community or common areas, maintained for the general good of the development and vacant and unimproved lots in the development, whether or not such lots be owned by the party of the first part, its successors or assigns, and to do any other things and perform any labor necessary or desirable in the judgment of such association to maintain the development in good repair and condition and to landscape any property in the development not owned by private parties.

RECEIVED

JUN 12 2019

SUSSEX COUNTY  
PLANNING & ZONING

\* Please reply to the above referenced location



Page 2

May 7, 2019

B. All persons purchasing property (exclusive of the party of the first part) within the area herein conveyed, by acceptance of their deeds, agree to the formation of the said Homeowners Association and further agree to become members thereof and pay their pro rata share of the funds necessary for the performance of its functions. All lot owners, by accepting title to any lot, automatically become members of said Association and subject to all assessments, regulations and rules thereof. Assessments on private property owners (exclusive of the party of the first part) may be made annually but shall not exceed \$\_\_\_\_\_ per annum, total, per lot unless such assessment over and above this amount is approved by a majority of the property owners, each lot being entitled to one vote regardless of how title hereto may be held or how many lots may be owned by one person, partnership or corporation. The party of the second part, their heirs and assigns, hereby agrees to be contractually liable for said assessment at law if the same is made in accordance herewith.

C. The Homeowners Association shall be managed by the developer until the roads and common areas have been conveyed to the Association or until the last lot is sold by the developer or until such earlier time as the developer deems appropriate, at which time a meeting of all lot owners shall be convened for the purpose of electing directors or officer including but not limited to president, treasurer and secretary of same from the general membership.

D. Upon the first to occur of the events mentioned in the preceding paragraph, all privileges, rights, powers, duties and authority of the party of the first part contained in these restrictive covenants shall thereupon vest in the Association, and thereafter such privileges, rights, powers, duties and authority shall be exercisable by the Association, and thereafter whenever the expression "party of the first part" is used herein, it shall be taken to mean the Homeowners Association.

Page 3

May 7, 2019

## 2. USE OF ROADS

A. All streets and roads shown on the plot of the development are hereby dedicated for the use of the property owners. Each such property owner, by the acceptance of the conveyance of a lot or lots, hereby agrees to assume the responsibility of maintaining, repairing and replacing all streets and roads in the development. This responsibility shall be shared equally by every lot and shall be binding on the property owners, their heirs and assigns. All deeds to lots shall comply with 9 Delaware Code, Section 9623 by containing a statement that such private streets and roads are not maintained by the State.

B. The party of the first part hereby gives and grants to the party of the second part, their heirs, executors, administrators and assigns, and to all other persons now or hereafter entitled to occupy any lots within the area described above, the right, in common with the party of the first part, its successors and assigns, of free and uninterrupted use of the road, streets, courts and any other ways hereafter laid out and opened in or through said lands for the general use of all lot owners, for convenient ingress, egress and passage to and from various parts of the lands hereby conveyed, and to and from points outside of the area described above.

C. Notwithstanding the above, the developer and/or the Association reserves the right to dedicate all streets to public use and convey said streets to the State of Delaware.

D. The party of the first part reserves unto itself, its successors or assigns, easements for the erection, construction, maintenance and use of underground cables, poles, wires, conduits, culverts, pipes, and the necessary property or desirable attachments in connection therewith for the transmission of electricity for lighting, heating, telephone, cable television, and other purposes; for public and private sewers; storm water drains; pipe lines for supplying gas, water and heat; and for any other public or quasi-public utility or function conducted, maintained or performed or to be installed in the future in any manner above or beneath the surface of the ground. The party of the first part,

Page 4

May 7, 2019

its agents, employees, successors and assigns (and, with the permission of the party of the first part, its successors or assigns), the representatives of utility companies, private or quasi-public, and the representative or public agencies shall have the right to enter upon such strips subject to said easements at any time, for any of the utilitarian purposes for which said easements are reserved.

### 3. AGRICULTURAL USES

This property is located in the vicinity of land used primarily for agricultural purposes on which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities.

Please contact me if you have any questions.

Very truly yours,



James A. Fuqua, Jr.

JAF/jel

Pc: Lauren DeVore, Sussex County Planning & Zoning Dept.

**FUQUA, WILLARD, STEVENS & SCHAB, P.A.**

PAYNTER HOUSE   
26 THE CIRCLE OR P.O. BOX 250  
GEORGETOWN, DELAWARE 19947  
PHONE 302-856-7777  
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LEWES, DELAWARE 19958  
PHONE 302-645-6626  
FAX 302-645-6620  
realestate@fwsslaw.com

October 28, 2019

Janelle Corwell, Director  
Sussex County Planning & Zoning Dept.  
2 The Circle  
Georgetown, DE 19947

**Re: "Azalea Woods"  
Subdivision # 2019-8**

RECEIVED

NOV 08 2019

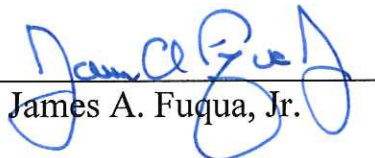
SUSSEX COUNTY  
PLANNING & ZONING

Dear Ms. Cornwell:

Please include the attached documents in the file and record of the above application which is scheduled for a public hearing before the Planning and Zoning Commission on November 21<sup>st</sup>.

Very truly yours,

FUQUA, WILLARD,  
STEVENS & SCHAB, P.A.

By:   
James A. Fuqua, Jr.

JAF/jel  
Enclosures

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# Natelli Communities

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THOUGHTFUL PLANNING  
TIMELESS DESIGN  
ATTENTION TO DETAIL

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## PRESS RELEASE

FOR IMMEDIATE RELEASE

Media Contact: Mary McCann  
Office Phone: 301.670.4020  
Email: [MMcCann@Natelli.com](mailto:MMcCann@Natelli.com)

[NatelliCommunities.com](http://NatelliCommunities.com)

### **Bay Forest Honored with Multiple Awards by HBADE named, Delaware Community of the Year**

GAITHERSBURG, MD (May 23, 2019) – On the heels of being named Best Community In the Nation by the National Association of Homebuilders, Natelli Communities is proud to announce Bay Forest at Bethany Beach as the recipient of six Regal Awards, including Delaware Community Of The Year, by the Home Builders Association of Delaware ("HBADE"). Judged by industry professionals, these awards represent the "Best of the Best" in the most prestigious residential design, sales and marketing competition throughout Delaware.

In addition to being named Delaware Community of the Year, Bay Forest was honored with: *Best Exterior Merchandising for a Clubhouse, Best Exterior Merchandising for a Community, Best Design for an Outdoor Area, Best Amenity Value, and Sussex County Community of the Year.*

In Its 25<sup>th</sup> year, the HBADE Annual Regal Awards celebrate outstanding achievements in Delaware's Home Building Industry including: excellence in building, superior planning and development and superior amenities. The event was held on May 17<sup>th</sup> at Mulligans Point in Georgetown, Delaware.

The Bay Forest community is located in Sussex County, Delaware, approximately four miles west of the oceanfront resort of Bethany Beach. The master plan for the 400-acre community is designed to take advantage of several key environmental features of the site, including the Collins Creek tributary, and several expansive areas of mature forestland. Amenities include an entry lake with fountains, miles of interconnecting pathways, two clubhouses, fitness facility, recreation barn, outdoor bar, yoga and aerobics studio, 3 pools, bocce ball, putting green, volleyball and basketball courts, tennis center, private marina with boat storage for canoeing and kayaking, playgrounds, outdoor fireplace settings, community herb garden with potting shed, and a community shuttle to downtown Bethany. For more information, visit: [www.BayForestBeach.com](http://www.BayForestBeach.com), or on Facebook: <https://www.facebook.com/bayforestbeach/>

Tom Natelli, CEO of Natelli Communities, expressed his gratitude to his dedicated team who has worked tirelessly to bring the vision of Bay Forest to a reality. " We take pride in establishing first class communities with outstanding amenities for generations to enjoy."

**About Natelli Communities:** Thoughtful Planning, Timeless Design and Attention To Detail are the hallmarks of Natelli Communities award-winning reputation. With over 75 exceptionally planned communities across the Mid Atlantic, the privately held real estate investment and development concern has earned dozens of local and national awards including: the prestigious Urban Land Institute National Award of Excellence for Large Scale Communities, Best Community In The Nation by the National Association of Homebuilders, Washington Metro Area Environmental Developer of the Year, and Suburban Maryland Builder of the Year. For more information, visit: <http://www.NatelliCommunities.com>.

###

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# Natelli Communities

---

THOUGHTFUL PLANNING  
TIMELESS DESIGN  
ATTENTION TO DETAIL

---

## PRESS RELEASE FOR IMMEDIATE RELEASE

Media Contact: Mary McCann  
Office Phone: 301.670.4020  
Email: [MMcCann@Natelli.com](mailto:MMcCann@Natelli.com)

[NatelliCommunities.com](http://NatelliCommunities.com)

### Natelli Communities wins National Award for Bay Forest Community

GAITHERSBURG, MD (February 21<sup>st</sup>, 2019) – On February 20<sup>th</sup>, 2019, The National Association of Home Builders (“NAHB”) announced that Natelli Communities won the NAHB “Best in American Living Award” for large scale residential communities, for its development of the Bay Forest Community located in Bethany Beach, Delaware. The award was announced at the International Builders’ Show in Las Vegas, which is being attended by approximately 90,000 people.

According to NAHB, *“The Best in American Living Awards is the National Association of Home Builders’ premier residential design awards program. The award spotlights the most creative and talented building industry professionals who have redefined design excellence for homes and communities nationally and internationally. Winning projects showcase what building industry professionals need to know to set their product apart and hit the right mark with today’s highly educated and discerning home buyers.”*

The Bay Forest community is located in Sussex County, Delaware, approximately four miles west of the oceanfront resort of Bethany Beach. The master plan for the 400 acre community is designed to take advantage of several key environmental features of the site, including the Collins Creek tributary, and several expansive areas of mature forestland. Amenities include an entry lake with fountains, miles of interconnecting pathways, two clubhouses with fitness facilities, a recreation barn, outdoor bar, yoga and aerobics studio, 3 pools, bocce ball, putting green, volleyball, basketball courts, tennis center, private marina with boat storage for canoeing and kayaking, playgrounds, outdoor fireplace settings, community herb garden with potting shed, and a community shuttle to downtown Bethany.

In awarding the top prize to Natelli Communities for the 950 home Bay Forest Community, the Judges noted that *“The project team maximized water and green spaces and created a nice sense of micro-communities inside the natural habitat. The community has a lovely pool and resort-like amenities and the outside of the (recreation) barn is spectacular.”*

Tom Natelli, CEO of Natelli Communities, thanked his entire staff for their dedication to fulfilling the original vision for the community and also thanked the team of consultants who have supported their efforts. *“Goodwill and appreciation are earned by consistently exceeding the expectations of others*

*and our team of professionals understands that this is a fundamental part of our company's DNA. We take tremendous pride in delivering living environments that exceed expectations and contribute positively to the quality of life our customers desire."*

To see the award announcement on NAHB's site, please visit the following link:

<https://bestinamericanliving.com/awards/2018-0858/>

For more information on Bay Forest at Bethany Beach, visit the community website at:

[www.BayForestBeach.com](http://www.BayForestBeach.com).

**About the Best in American Living Awards:**

Now in its 35<sup>th</sup> year, BALA recognizes outstanding achievement by builders and design professionals in all sectors of the residential housing industry including single-family production, custom, multifamily, affordable, remodeling, community and interiors. Buying a home is often the most significant purchase people will make in their lifetime, and BALA winners spotlight what building industry professionals need to know to set their project apart and hit the right mark with today's highly educated and discerning home buyers. Additional Information about the BALA program can be found at [bestinamericanliving.com](http://bestinamericanliving.com).

**About Natelli Communities:**

Thoughtful Planning, Timeless Design and Attention To Detail are the hallmarks of Natelli Communities award-winning reputation. With over 75 exceptionally planned communities across the Mid Atlantic, the privately held real estate investment and development concern has earned dozens of local and national awards including: the prestigious Urban Land Institute National Award of Excellence for Large Scale Communities, Washington Metro Area Environmental Developer of the Year, and Suburban Maryland Builder of the Year. For more information, visit: <http://www.NatelliCommunities.com>.

###

# PRELIMINARY PLAT

## FOR

# AZALEA WOODS

GEORGETOWN HUNDRED - SUSSEX COUNTY, DELAWARE  
FOR  
NATELLI COMMUNITIES

### LEGEND

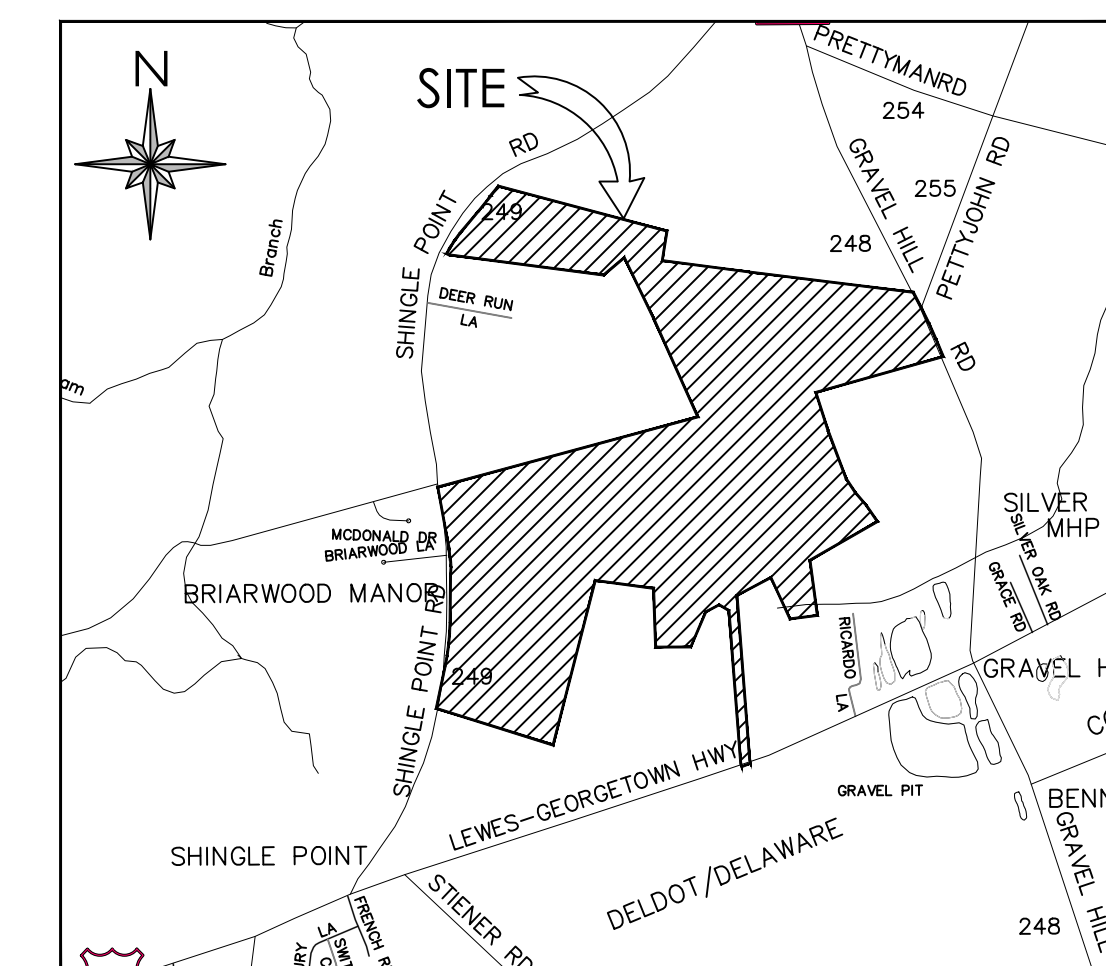
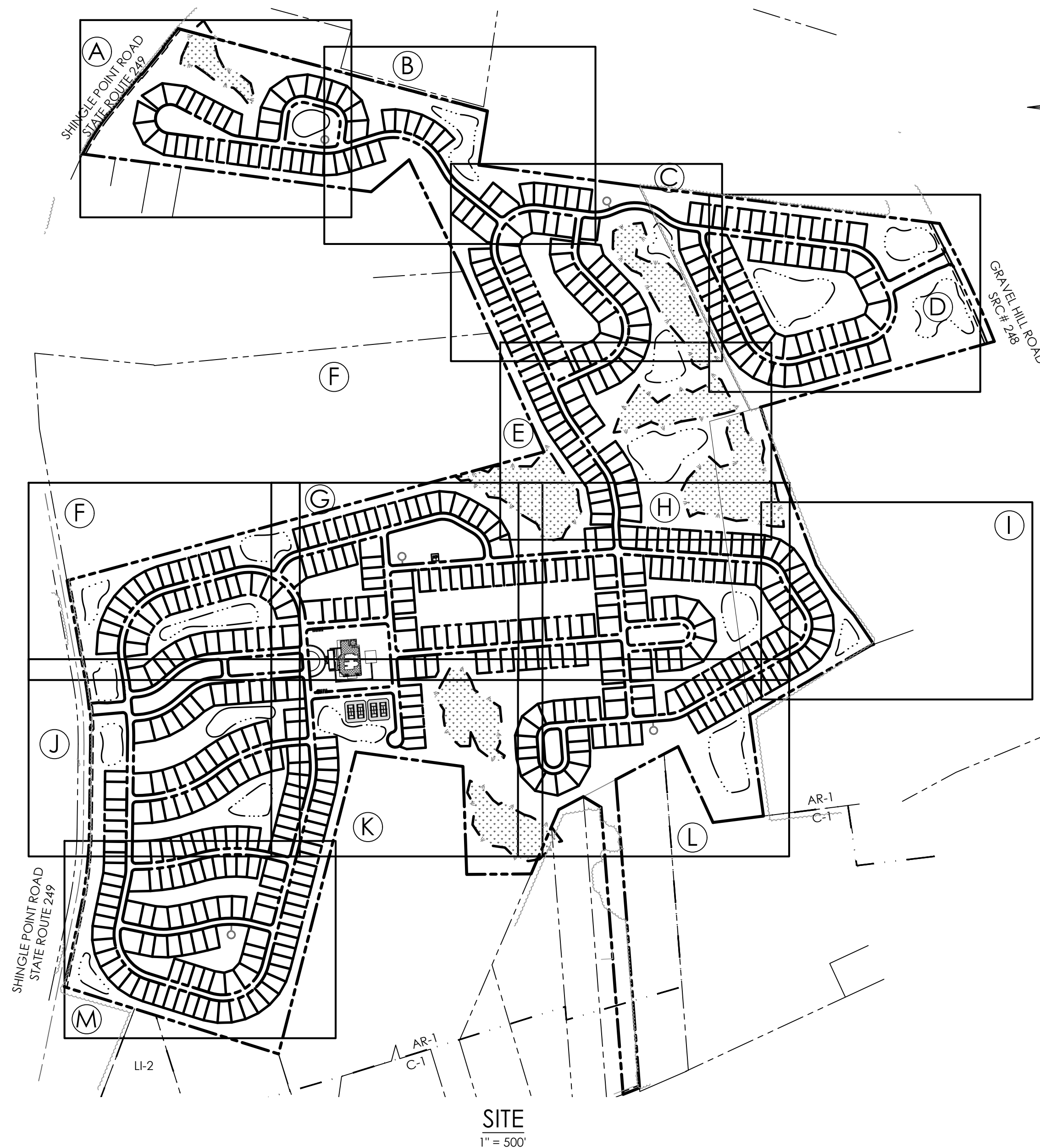
	EXISTING	PROPOSED
PROPERTY LINE	---	---
EASEMENT LINE	---	---
SETBACK LINE	N/A	---
R.O.W. LINE	---	---
MAJOR CONTOUR	---10---	N/A
MINOR CONTOUR	---7---	N/A
SPOT ELEVATION	+19.25	28.00
ROAD CENTERLINE	---	---
EDGE OF CONCRETE	N/A	---
EDGE OF PAVEMENT	---	---
PAVEMENT HATCH	N/A	▨
CURB	N/A	▨
SIDEWALK	N/A	▨
SIDEWALK HATCH	N/A	▨
EDGE OF POND	N/A	---
WETLANDS - SUBJECT TO CORPS OF ENGINEERS REGULATORY PROGRAM (SECTION 404)	W	N/A
CURB INLET	N/A	▨
YARD INLET	N/A	▨
STORM PIPE	N/A	SD
SANITARY MANHOLE	N/A	S
SANITARY PIPE	N/A	SS
WATER PIPE	N/A	W
FIRE HYDRANT	N/A	⊕
TREE LINE	---	---
ZONING LINE	---	---

### PRELIMINARY PLAT

- COVER SHEET
- EXISTING CONDITIONS PLAN
- EXISTING CONDITIONS PLAN
- PRELIMINARY PLAT A
- PRELIMINARY PLAT B
- PRELIMINARY PLAT C
- PRELIMINARY PLAT D
- PRELIMINARY PLAT E
- PRELIMINARY PLAT F
- PRELIMINARY PLAT G
- PRELIMINARY PLAT H
- PRELIMINARY PLAT I
- PRELIMINARY PLAT J
- PRELIMINARY PLAT K
- PRELIMINARY PLAT L
- PRELIMINARY PLAT M
- PRELIMINARY PLAT ROAD SECTIONS

### NOTES:

- ALL ON-SITE STREETS ARE PRIVATE AND SHALL BE MAINTAINED BY THE OWNER UNTIL DEDICATION TO THE HOMEOWNERS ASSOCIATION. THE PERPETUAL MAINTENANCE OF THE STREETS SHALL BE BY THE RESPECTIVE ORGANIZATION.
- STORMWATER MANAGEMENT AND STORM DRAINAGE SHALL BE IN ACCORDANCE WITH THE SUSSEX COUNTY CONSERVATION DISTRICT AND SUSSEX COUNTY ENGINEERING REQUIREMENTS. THE SITE IS TO BE TREATED BY MULTIPLE WET PONDS. MAINTENANCE OF THE ON-SITE STORMWATER MANAGEMENT FACILITIES AND STORM DRAINAGE SYSTEM SHALL BE BY THE OWNER UNTIL DEDICATION TO THE HOMEOWNERS ASSOCIATION. THE PERPETUAL MAINTENANCE OF THE ABOVE PROACTIVE SHALL BE BY THE RESPECTIVE ORGANIZATION.
- ALL OPEN SPACE, INCLUDING BUFFERS AND FOREST STRIPS, SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
- FOR ANY NEW DEVELOPMENT LOCATED IN WHOLE OR IN PART WITH 50 FEET OF THE BOUNDARY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES, NO IMPROVEMENT REQUIRING AN OCCUPANCY APPROVAL FOR A RESIDENTIAL TYPE USE SHALL BE CONSTRUCTED WITHIN 50 FEET OF THE BOUNDARY OF THE LANDS USED PRIMARILY FOR AGRICULTURAL PURPOSES.
- POTABLE WATER, SANITARY SEWER, STORM DRAINAGE, STREET PAVEMENT SHALL BE CONSTRUCTED BY DEVELOPER. PHASING OF IMPROVEMENTS SHALL BE PER COUNTY AND CONSERVATION DISTRICT REQUIREMENTS.



### VICINITY MAP

SCALE: 1" = 2,000'

#### SITE DATA:

- OWNER: SHINGLE POINT PROPERTIES, LLC  
P.O. BOX 4347  
OCEAN CITY, MD 21842
- DEVELOPER: NATELLI COMMUNITIES  
506 MAIN STREET  
GAIHERSBURG, MD 20878  
CONTACT: TOM NATELLI  
301.670.4020
- ENGINEER/SURVEYOR: SOLUTIONS IPERM, LLC  
303 N. BEDFORD STREET  
GEORGETOWN, DE 19947  
CONTACT: JASON PALKIEWICZ, PE  
302.297.9215
- TAX MAPS
  - 135-11.00-49.00  
AREA = 258.7562  
DEED REFERENCE: 4854/263
  - 135-11.00-56.00  
AREA = 35.5937  
DEED REFERENCE: 4854/261
  - 135-11.00-32.04  
AREA = 3.9719  
DEED REFERENCE: 4854/258  
PLAT REFERENCE: 31/96 & 206/74
  - P/O 135-11.00-48.00  
AREA = 17.6982  
DEED REFERENCE: 3361/187
- EXISTING ZONING: TAX MAP 135-11.00-49.00, 135-11.00-56.00, P/O 135-11.00-48.00 & PART OF 135-11.00-32.04:  
AR-1 - AGRICULTURAL RESIDENTIAL  
SETBACKS:  
FRONT = 40' (CORNER = 15')  
SIDE = 15' (2 REQUIRED)  
REAR = 20'  
MAXIMUM BUILDING HEIGHT = 42'
- PART OF 135-11.00-32.04:  
C-1 - GENERAL COMMERCIAL  
SETBACKS:  
FRONT = 40'  
SIDE = 10'  
REAR = 10'  
MAXIMUM BUILDING HEIGHT = 42'
- PROPERTIES ARE LOCATED IN FLOOD ZONE X (UNSHADED) - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN PER FIRM MAP NUMBER 10005C0325L, MAP REVISED JUNE 20, 2018.
- SOIL TYPES:  
FodA - FALLSINGTON SANDY LOAM - HYDROLOGIC SOIL GROUP: B/D  
FPA - FORT MOTT/HENLOPEN COMPLEX - HYDROLOGIC SOIL GROUP: A  
FPA - FORT MOTT LOAMY SAND - HYDROLOGIC SOIL GROUP: A  
HNA - HAMMONTON SANDY LOAM - HYDROLOGIC SOIL GROUP: B  
HbB - HENLOPEN LOAMY SAND - HYDROLOGIC SOIL GROUP: A  
IeA - INGLESIDE LOAMY SAND - HYDROLOGIC SOIL GROUP: A  
KFA - KEYPORT FINE SANDY LOAM - HYDROLOGIC SOIL GROUP: D  
KPA - KEYPORT SILT LOAM - HYDROLOGIC SOIL GROUP: D  
LFA - LENNI SANDY LOAM - HYDROLOGIC SOIL GROUP: D  
LHA - LENNI SILT LOAM - HYDROLOGIC SOIL GROUP: D  
PpA - PEPPERBOX LOAMY SAND - HYDROLOGIC SOIL GROUP: A  
PpA - PEPPERBOX-ROSEDALE COMPLEX - HYDROLOGIC SOIL GROUP: A  
Rsb - ROSEDALE LOAMY SAND - HYDROLOGIC SOIL GROUP: A  
RUA - RUNCLINT LOAMY SAND - HYDROLOGIC SOIL GROUP: A  
WddA - WOODSTOWN SANDY LOAM - HYDROLOGIC SOIL GROUP: C

- PROPOSED: AR-1 CLUSTER SUBDIVISION  
DENSITY = 610 UNITS / 316.02 AC = 1.93 UNITS/AC  
PERMITTED DENSITY = 2.0 UNITS/AC  
MIN. LOT AREA = 7,500 S.F.  
MIN. LOT WIDTH = 60'  
MAXIMUM BUILDING HEIGHT: 42'  
SETBACKS:  
FRONT = 25'  
SIDE = 10'  
REAR = 10'

- WATER SUPPLY: ARTESIAN
- SANITARY SEWER: ARTESIAN
- TOPOGRAPHY AND BOUNDARY SHOWN HEREIN ARE AS PROVIDED BY SOLUTIONS IPERM LLC.
- OPEN SPACE = 162.161 ± AC (51.31% ±)
- EXISTING WOODLANDS = 258.756 ± AC  
WOODLANDS TO REMAIN = 85.083 ± AC
- PROPERTIES ARE LOCATED WITHIN THE DESIGNATION OF FAIR FOR THE GROUNDWATER RECHARGE POTENTIAL
- PROPERTIES DO NOT LIE WITHIN A WELL HEAD PROTECTION AREA.



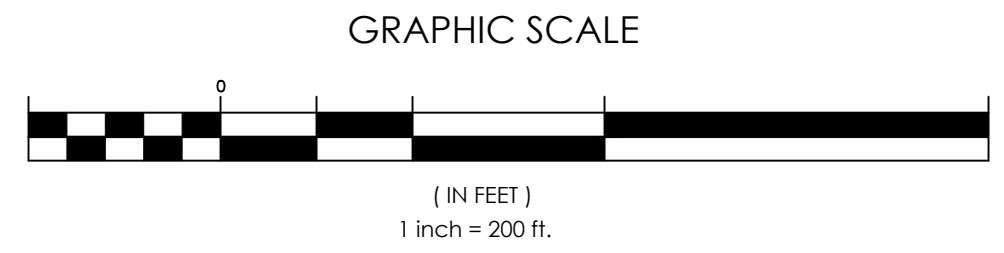
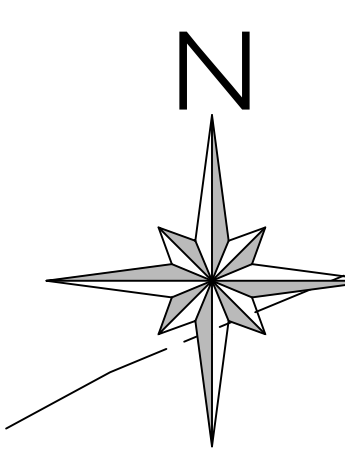
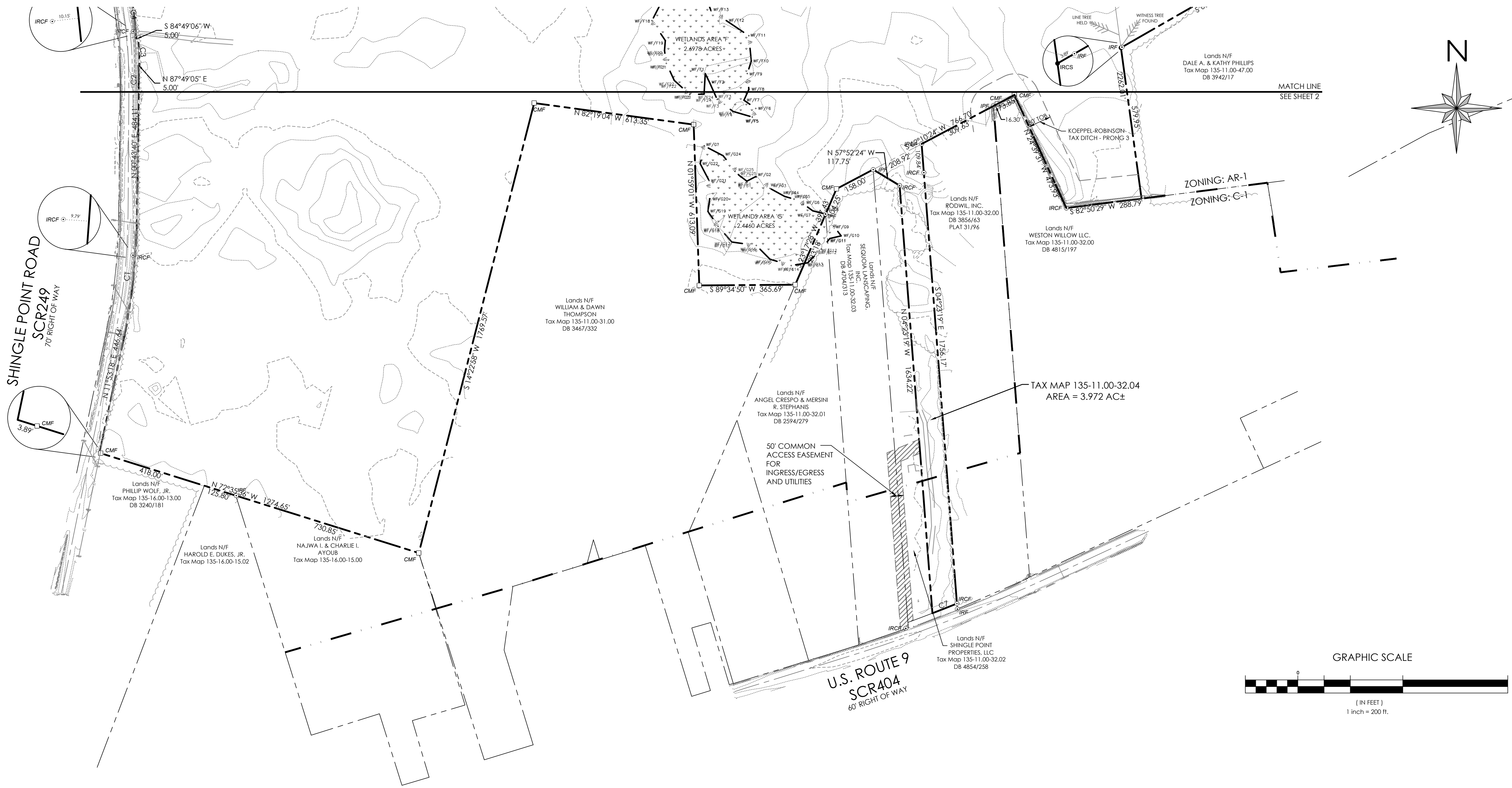
NO.	DATE	DESCRIPTION
1	11/5/19	REVISIONS TO AMENITIES

COVER SHEET for  
**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=200'
Drawn By:	ML
Designed By:	JP
Approved By:	JP

Sheet No.: 1  
File Name: g18003-prelim-cover





WETLAND COORDINATE TABLE

Table with 24 columns: DESCRIPTION, NORTHING, EASTING. Contains coordinates for wetland points WF/A1 through WF/F8.

CURVE TABLE

Table with 5 columns: CURVE, RADIUS, ARC LENGTH, CHORD LENGTH, CHORD BEARING. Lists data for curves C1 through C7.

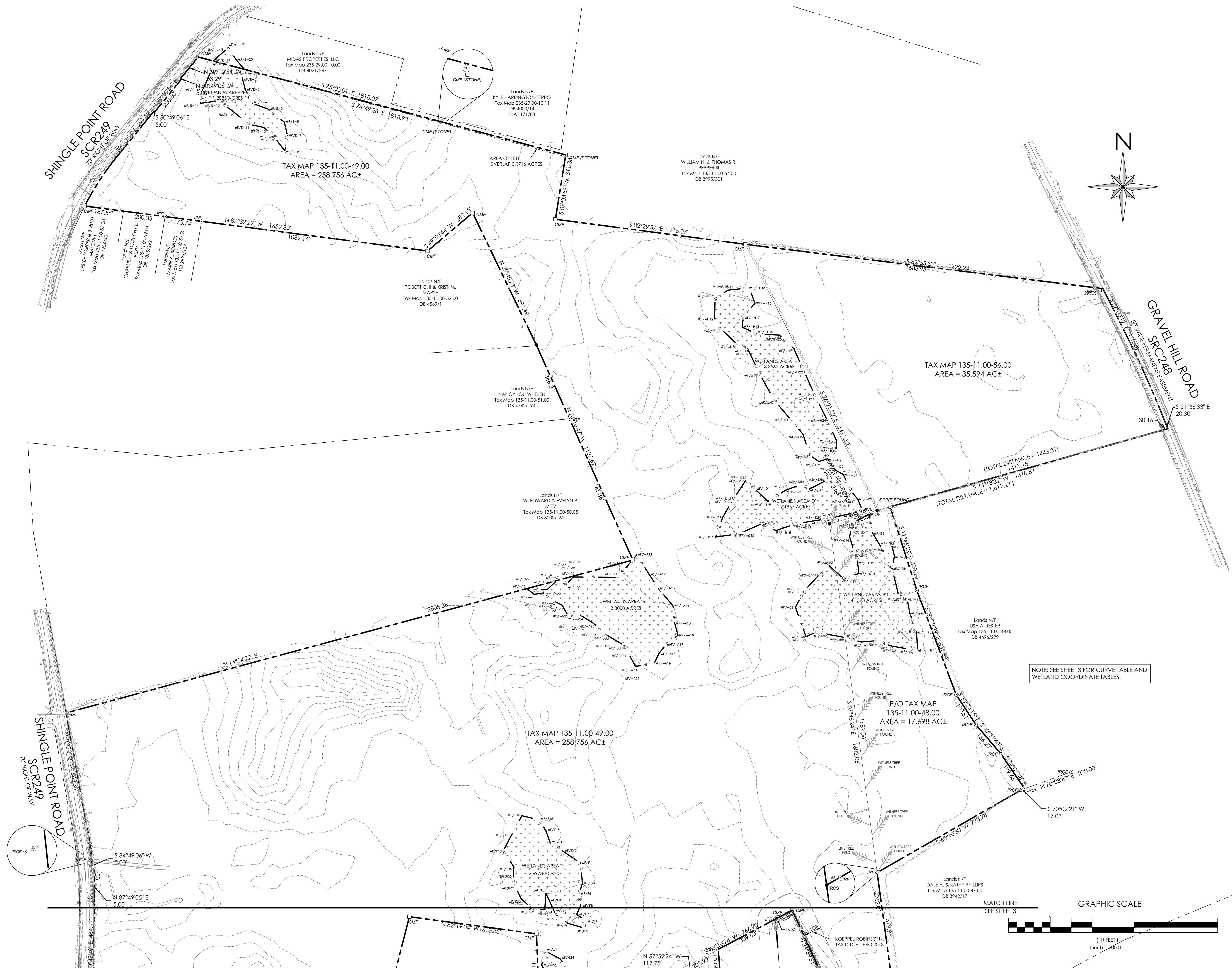
SOLUTIONS logo and contact information for 303 North Bedford Street, Georgetown, DE 19147.

Professional Engineer seal for Jason Palkewicz, License No. 12083, State of Delaware.

REVISIONS table with columns: NO., DATE, DESCRIPTION. Shows one revision on 11/5/19.

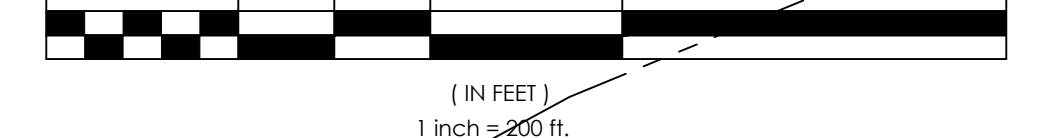
EXISTING CONDITIONS PLAN for AZALEA WOODS, SUSSEX COUNTY, DELAWARE. Prepared for: NATELLI COMMUNITIES.

Project metadata including Date (6/26/18), Job Number (G18003), Scale (1"=200'), and approved signatures.



NOTE: SEE SHEET 3 FOR CURVE TABLE AND WETLAND COORDINATE TABLES.

MATCH LINE SEE SHEET 3



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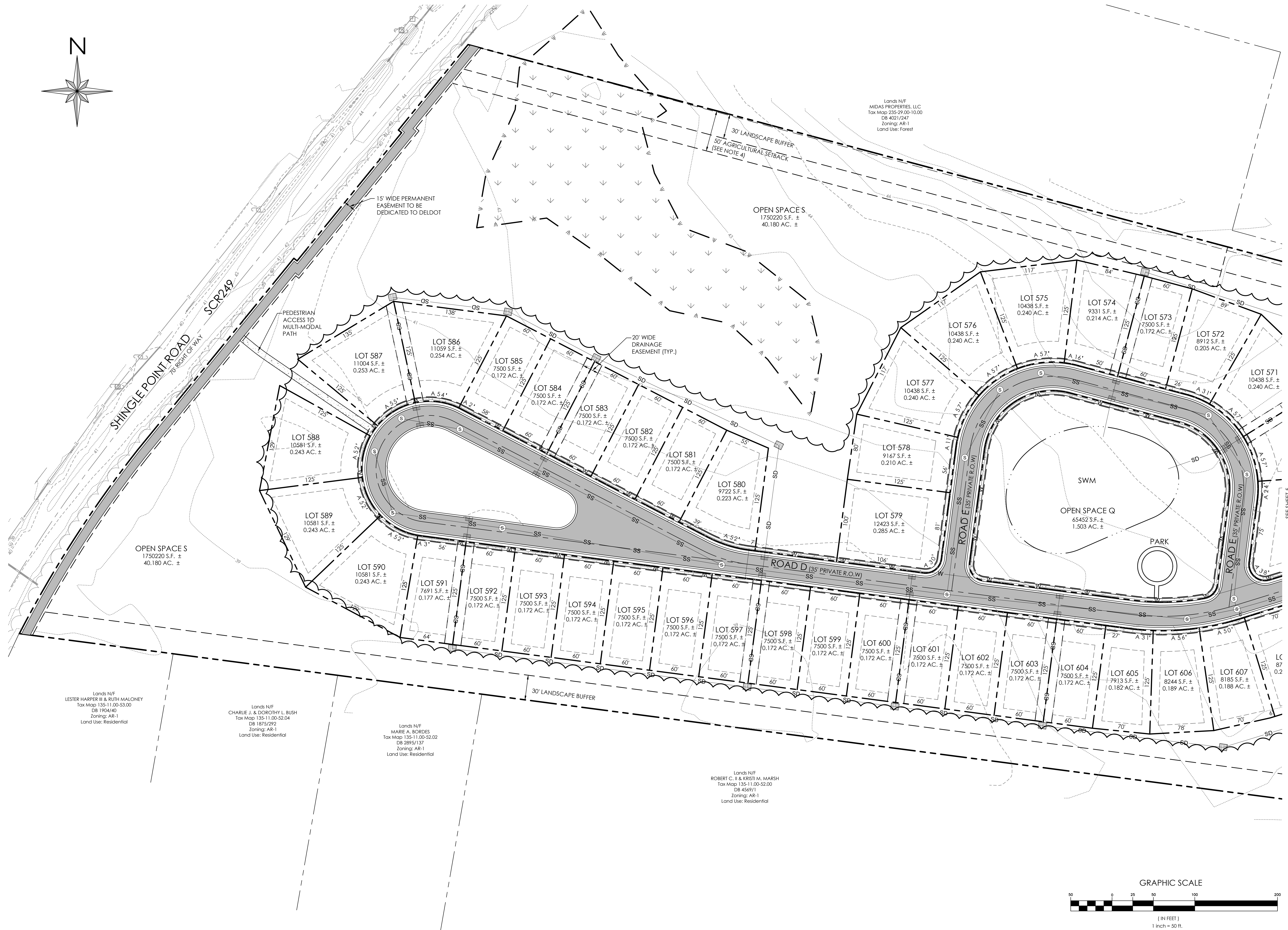
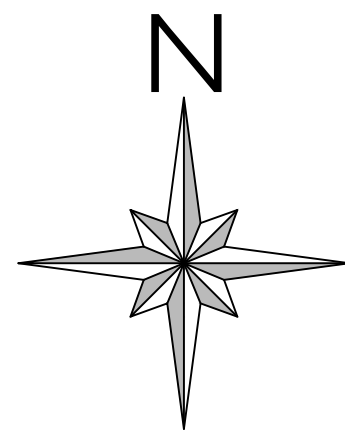


NO.	DATE	DESCRIPTION
1	11/5/19	REVISIONS TO AMENITIES

EXISTING CONDITIONS PLAN  
for  
**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=200'
Drawn By:	ML
Designed By:	JIP
Approved By:	JIP

Sheet No.: **2**  
File Name: g18003-prelim-ex-site



Lands N/F  
LESTER HARPER III & RUTH MALONEY  
Tax Map 135-11.00-53.00  
DB 1904/40  
Zoning: AR-1  
Land Use: Residential

Lands N/F  
CHARLIE J. & DOROTHY L. BUSH  
Tax Map 135-11.00-52.04  
DB 1875/292  
Zoning: AR-1  
Land Use: Residential

Lands N/F  
MARIE A. BORDES  
Tax Map 135-11.00-52.02  
DB 2895/137  
Zoning: AR-1  
Land Use: Residential

Lands N/F  
ROBERT C. II & KRISTI M. MARSH  
Tax Map 135-11.00-52.00  
DB 4589/11  
Zoning: AR-1  
Land Use: Residential

Lands N/F  
MIDAS PROPERTIES, LLC  
Tax Map 235-29.00-10.00  
DB 4021/247  
Zoning: AR-1  
Land Use: Forest

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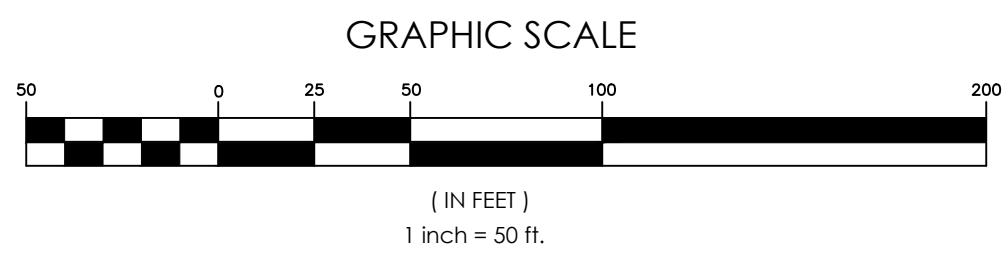
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1	REVISIONS TO AMENITIES

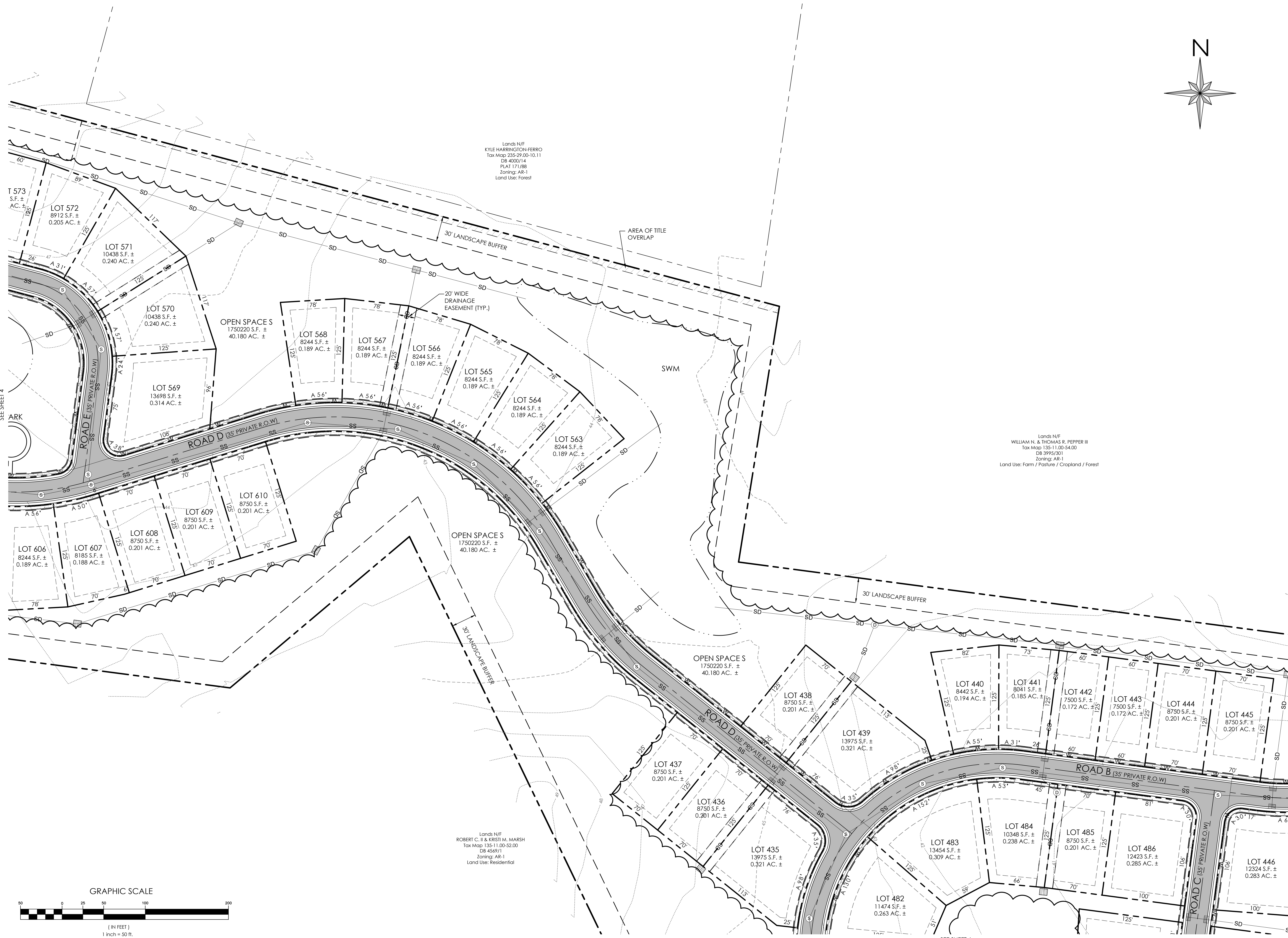
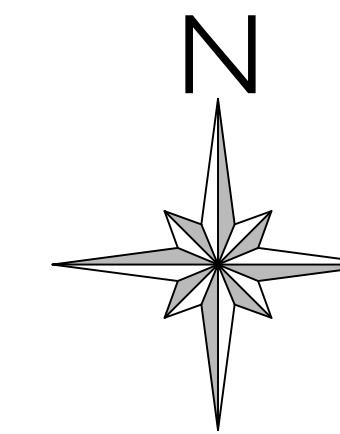
PRELIMINARY PLAT A  
for  
**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES



Date: 6/26/18  
Job Number: G18003  
Scale: 1"=50'  
Drawn By: MLL  
Designed By: JJP  
Approved By: JJP

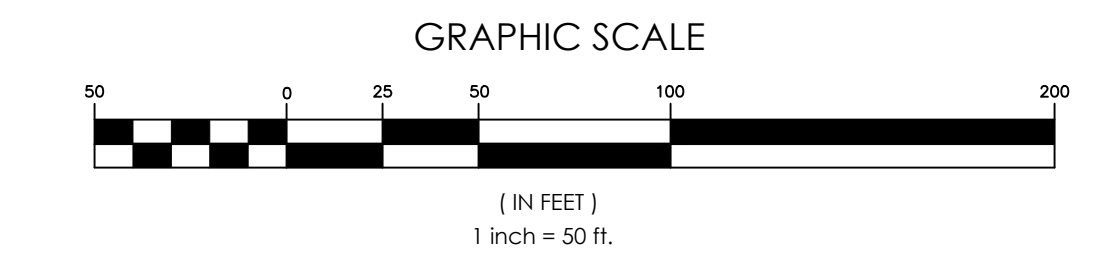
Sheet No.: 4

File Name: g18003-prelim-site



SEE SHEET 4

SEE SHEET 6

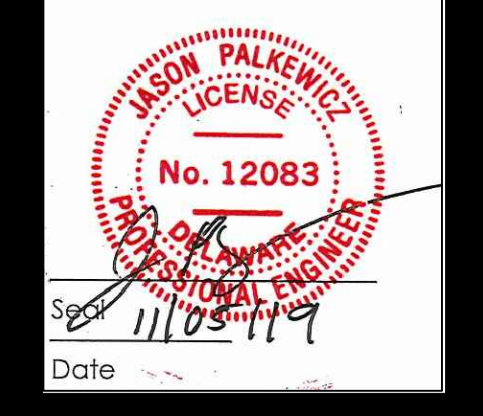


Lands N/F  
 KYLE HARRINGTON-FERRO  
 Tax Map 235-29-00-10.11  
 DB 4000/14  
 PLAT 171/88  
 Zoning: AR-1  
 Land Use: Forest

Lands N/F  
 WILLIAM N. & THOMAS R. PEPPER III  
 Tax Map 135-11-00-54.00  
 DB 3995/301  
 Zoning: AR-1  
 Land Use: Farm / Pasture / Cropland / Forest

Lands N/F  
 ROBERT C. II & KRISTI M. MARSH  
 Tax Map 135-11-00-52.00  
 DB 4569/1  
 Zoning: AR-1  
 Land Use: Residential

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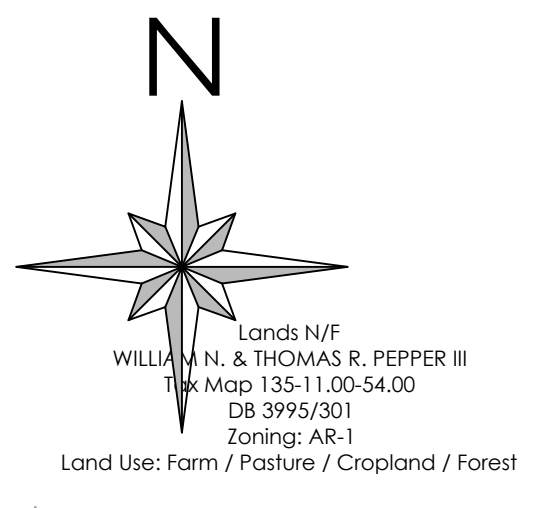
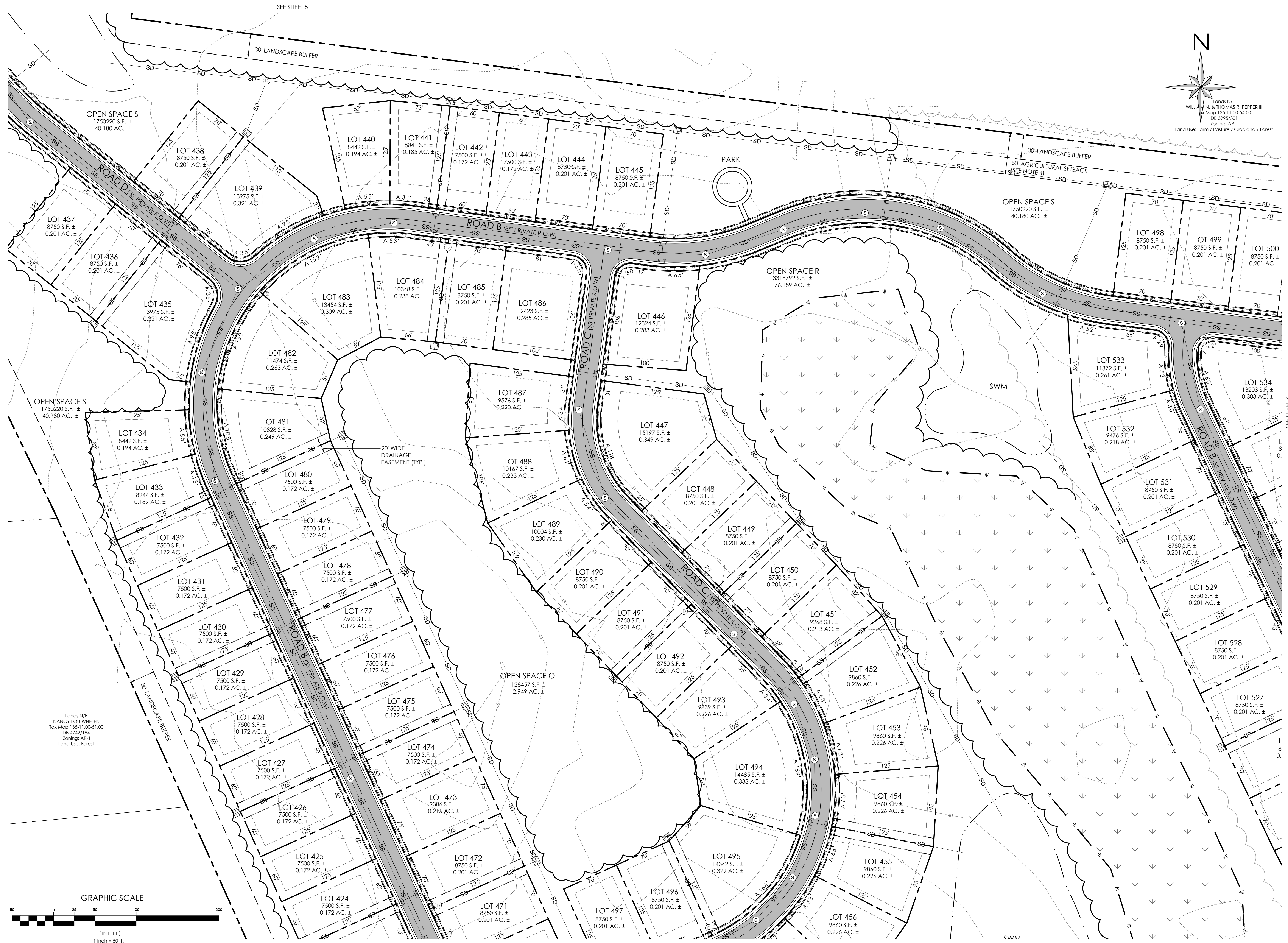


REVISIONS	
NO.	DESCRIPTION
1	REVISIONS TO AMENITIES

PRELIMINARY PLAT B  
 for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	ML
Designed By:	JIP
Approved By:	JIP

Sheet No.: 5  
 File Name: g18003-prelim-site



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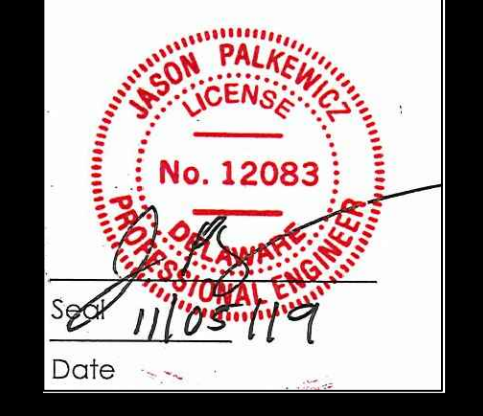
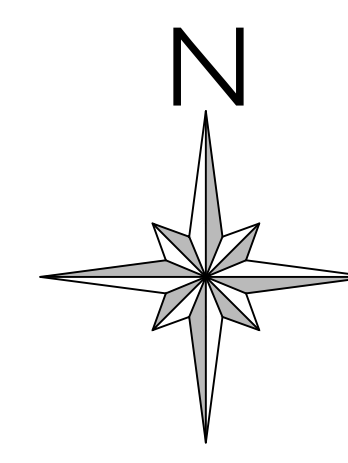
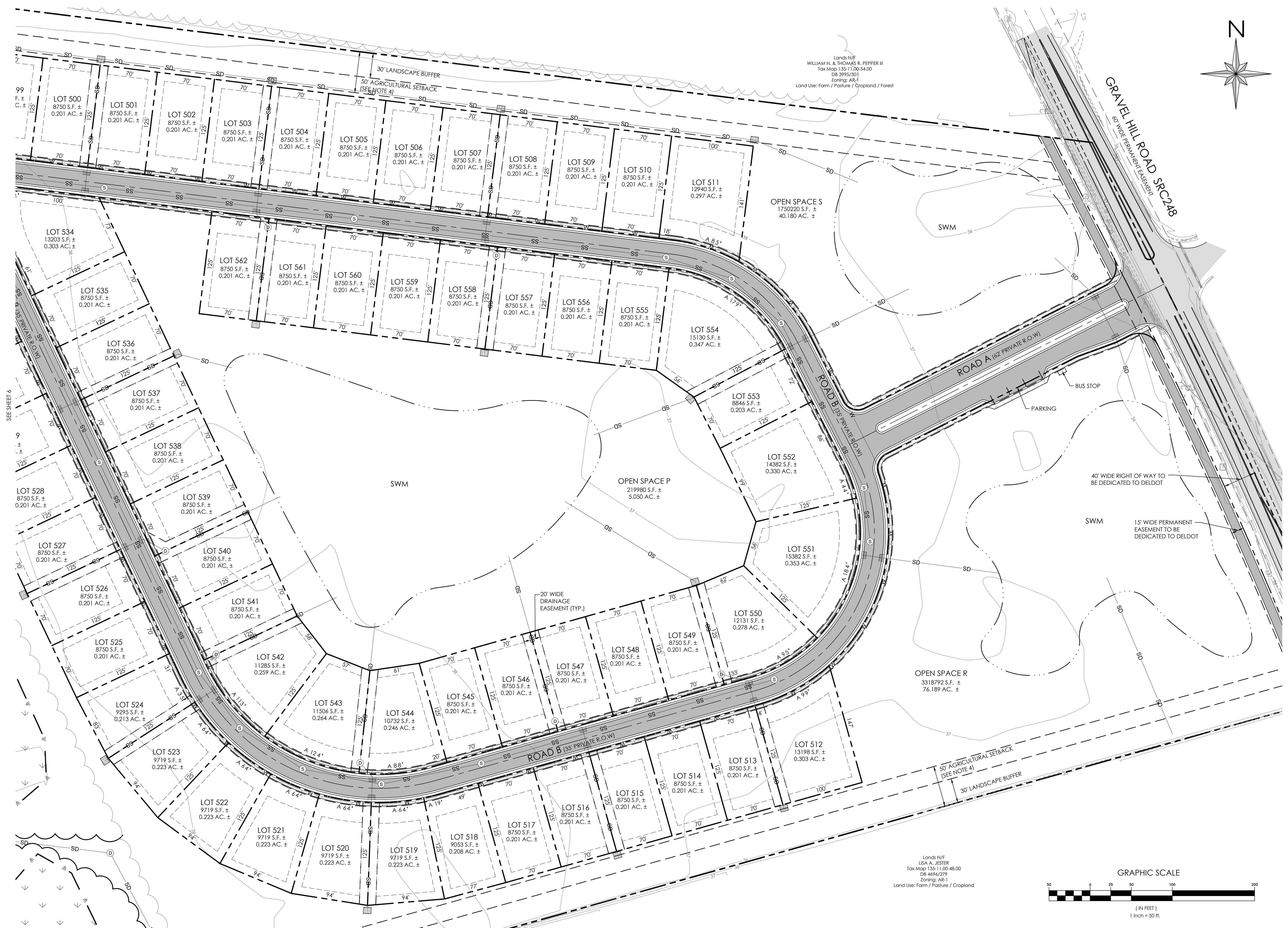


REVISIONS	
NO.	DESCRIPTION
1	REVISIONS TO AMENITIES
DATE	11/5/19

PRELIMINARY PLAT C  
for  
**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	ML
Designed By:	JIP
Approved By:	JIP

Sheet No.: **6**  
File Name: g18003-prelim-site

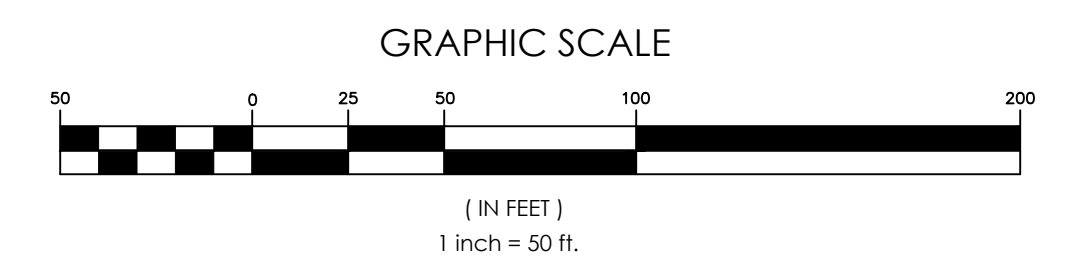


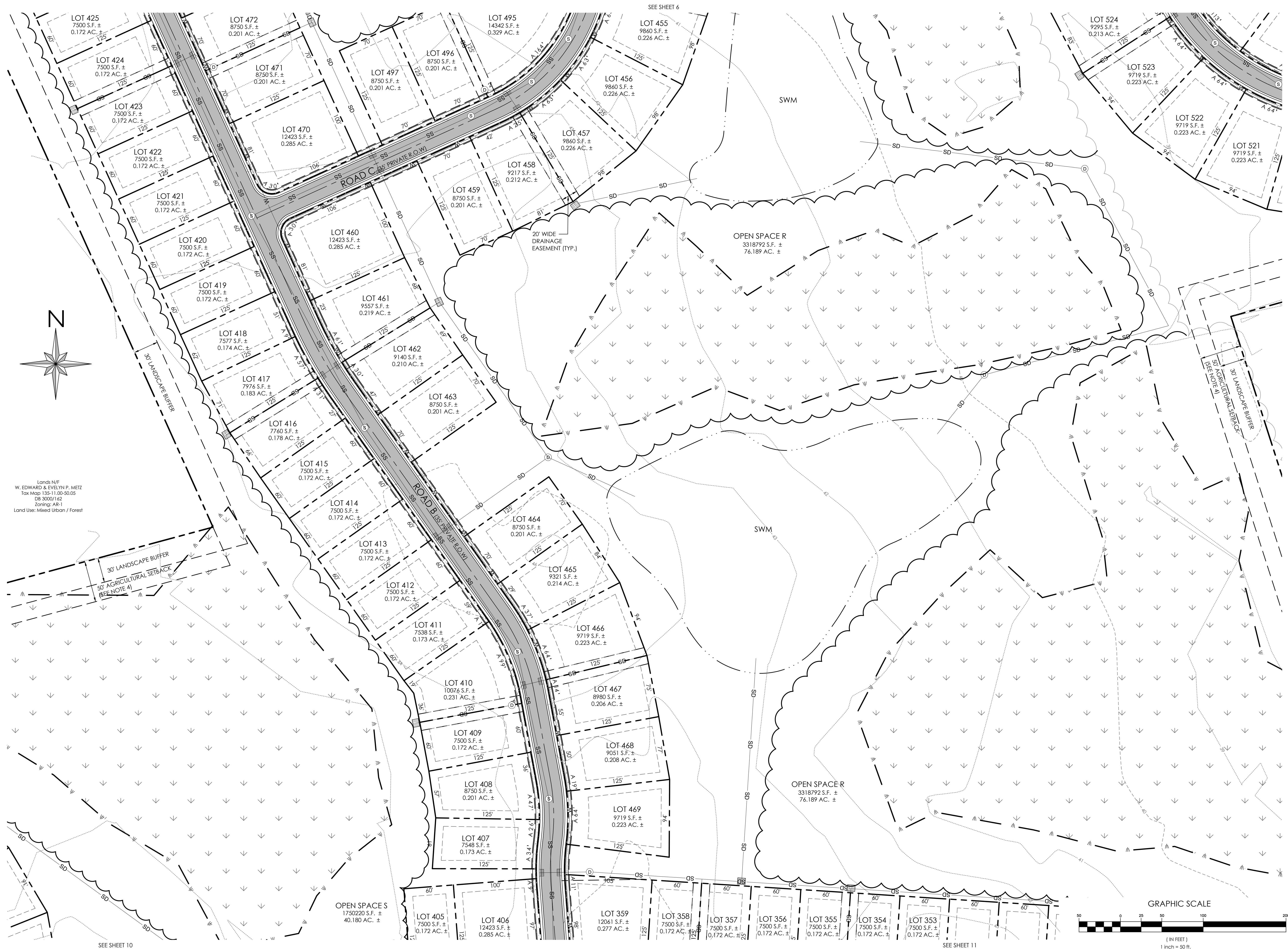
NO.	DATE	DESCRIPTION
1	11/5/19	REVISIONS TO AMENITIES

PRELIMINARY PLAT  
 for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	MLL
Designed By:	JIP
Approved By:	JIP

Lands N/F  
 USA A. JESTER  
 Tax Map 135-11.00-48.00  
 DB 4698/279  
 Zoning: AR-1  
 Land Use: Farm / Pasture / Cropland

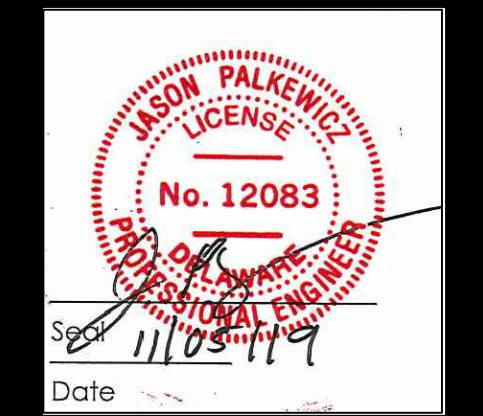




Lands I/F  
 W. EDWARD & EVELYN P. METZ  
 Tax Map 135-11.00-50.05  
 DB 3000/162  
 Zoning: AR-1  
 Land User: Mixed Urban / Forest

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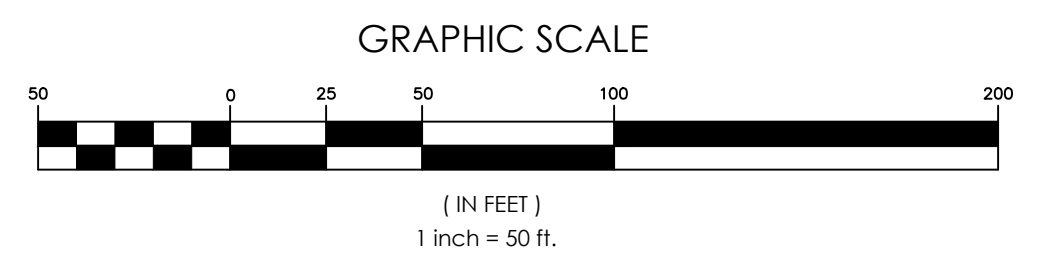
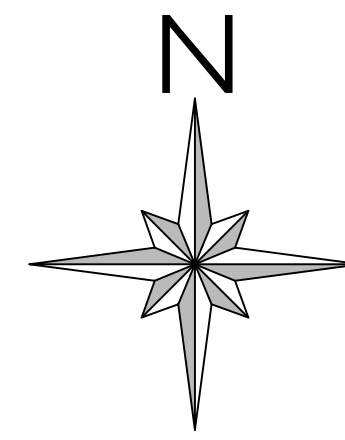
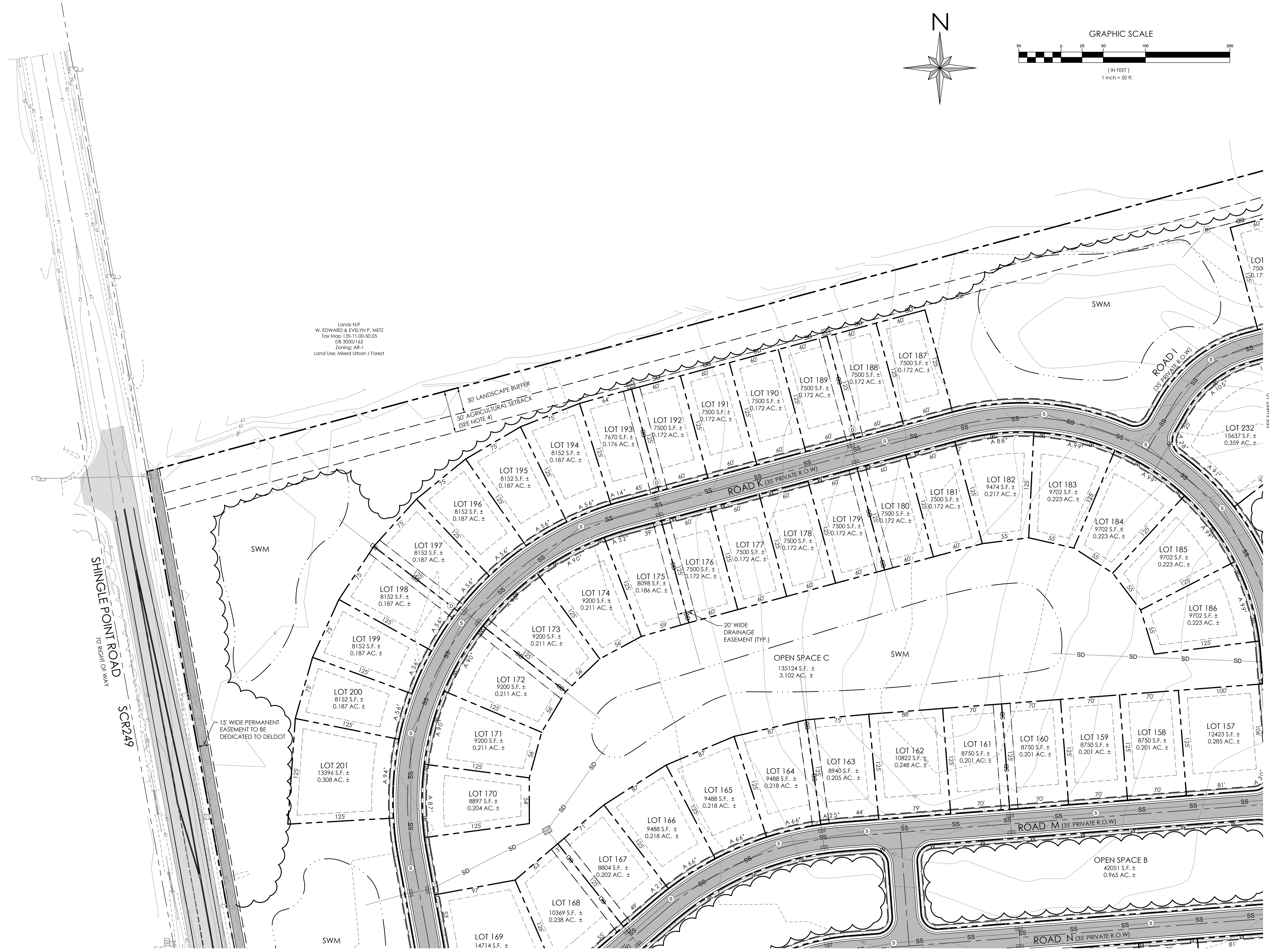


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NO.	DATE	REVISIONS TO AMENITIES
1	11/5/19	

PRELIMINARY PLATE  
 for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	MLL
Designed By:	JIP
Approved By:	JIP

Sheet No.: 8  
 File Name: g18003-prelim-site



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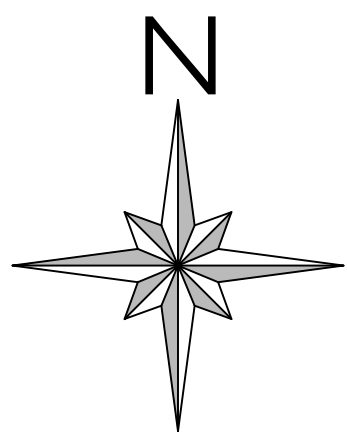
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NO.	DESCRIPTION
1	REVISIONS TO AMENITIES
DATE	11/5/19

PRELIMINARY PLAT F  
 for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

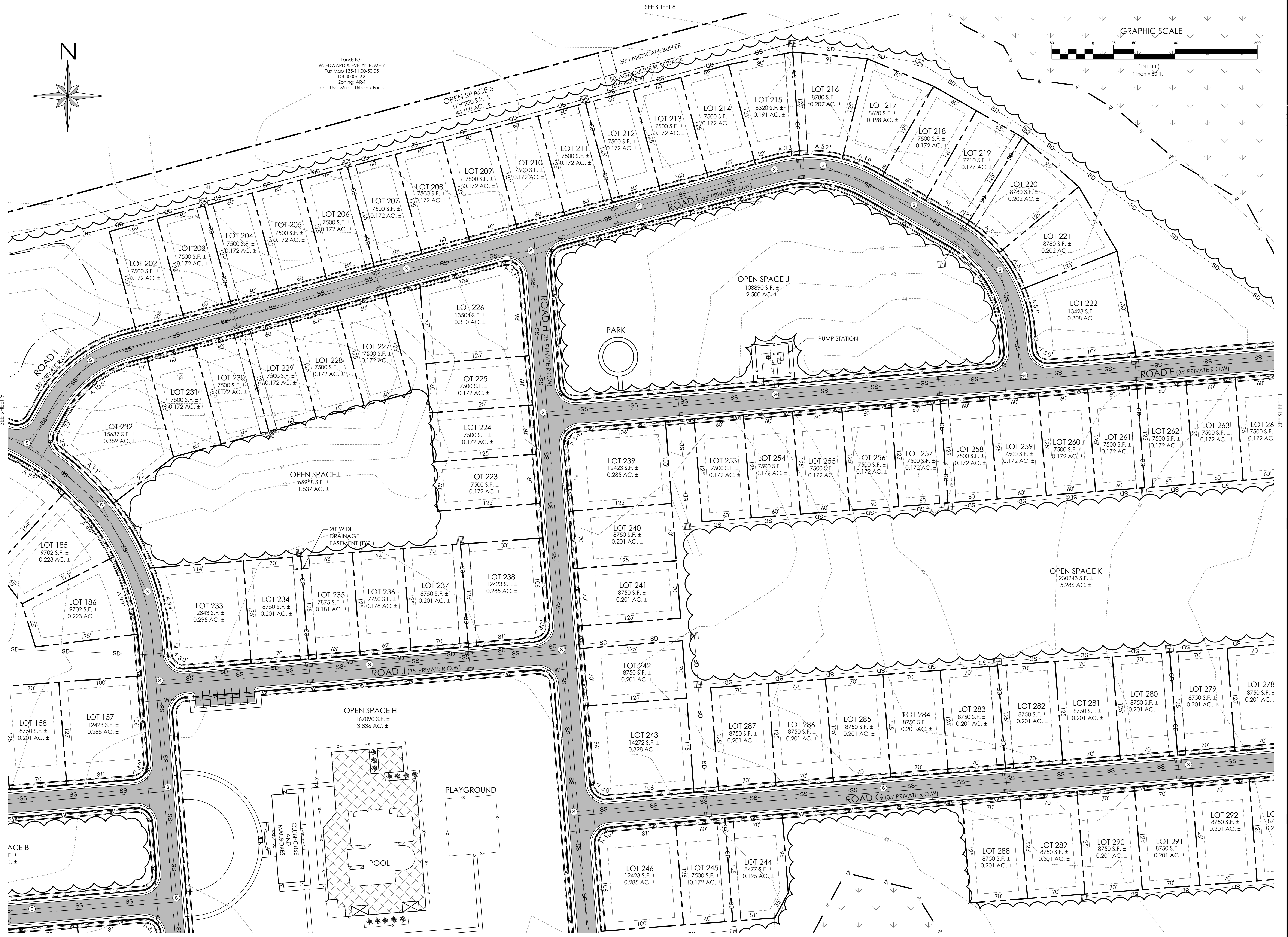
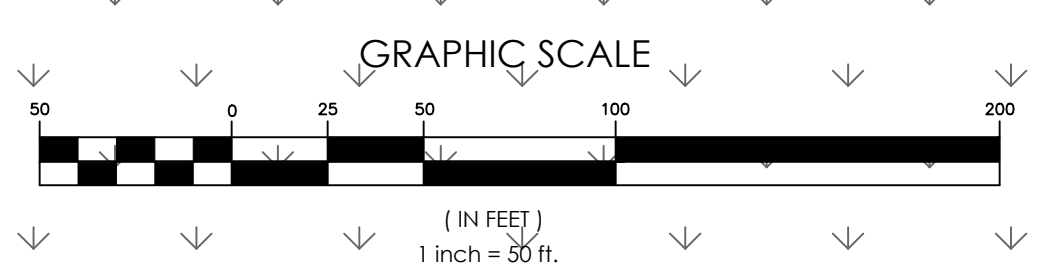
Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	MLL
Designed By:	JIP
Approved By:	JIP

Sheet No.: 9  
 File Name: g18003-prelim-site





Lands N/F  
 W. EDWARD & EVELYN P. MEIZ  
 Tax Map 135-11.00-50.05  
 DB 3000/162  
 Zoning: AU-1  
 Land Use: Mixed Urban / Forest



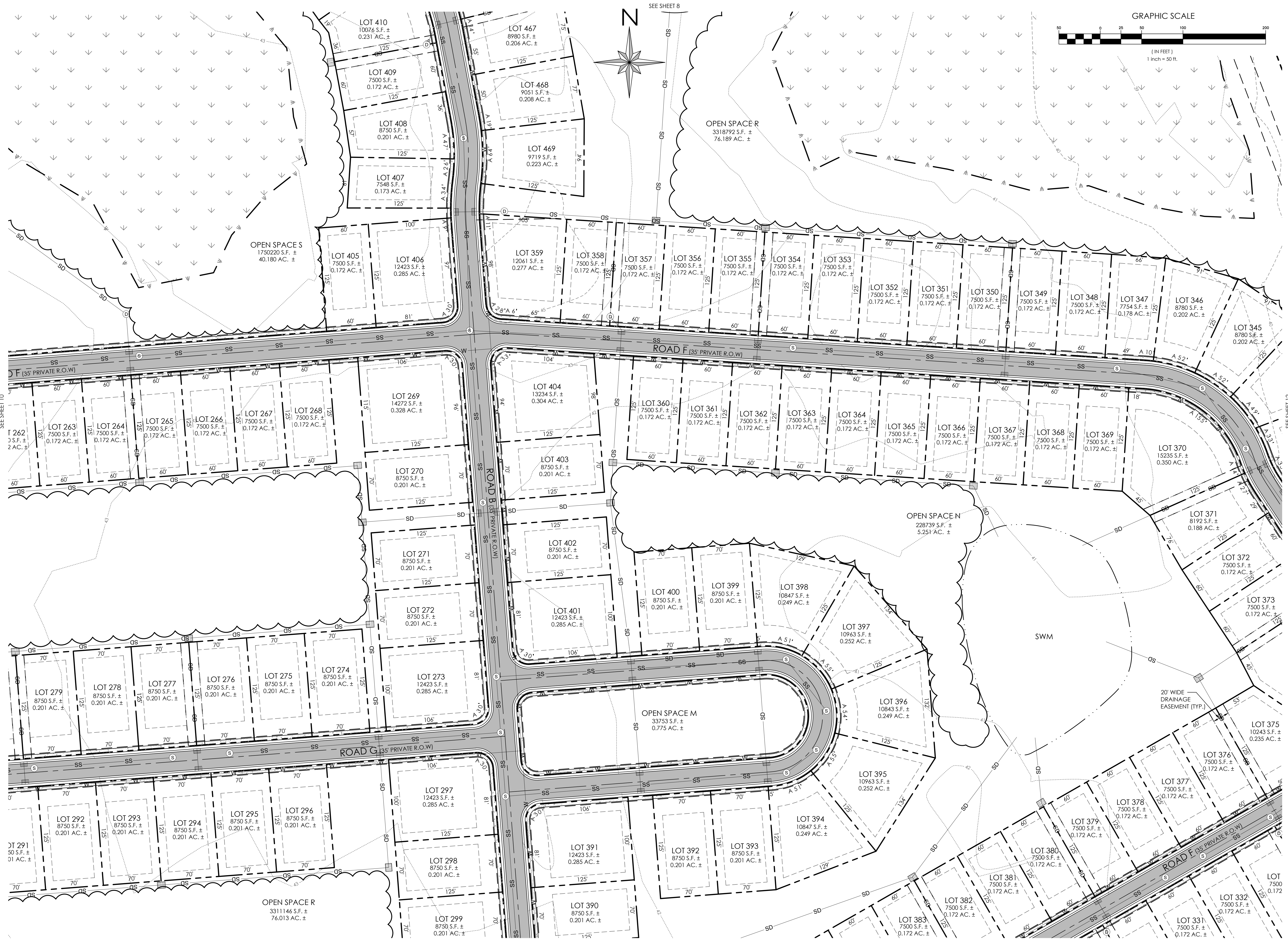
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NO.	DATE	REVISIONS TO AMENITIES
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PRELIMINARY PLAT G  
 for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

Date:	6/26/18	Scale:	1"=50'	Drawn By:	ML	Designed By:	JIP	Approved By:	JIP
Job Number:	G18003								
Sheet No.:	10								
File Name:	g18003-prelim-site								



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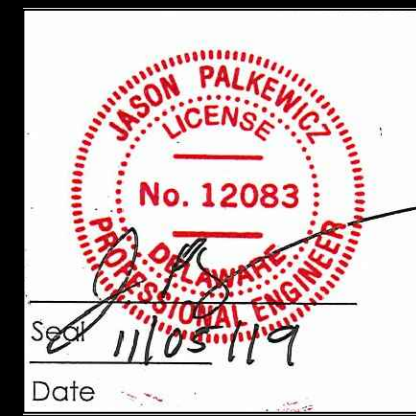
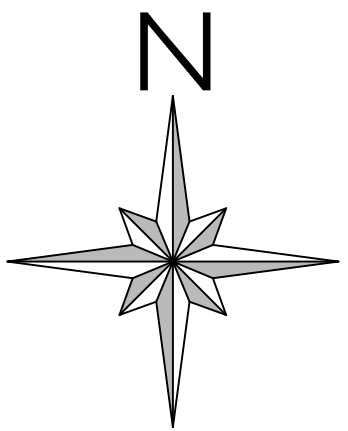
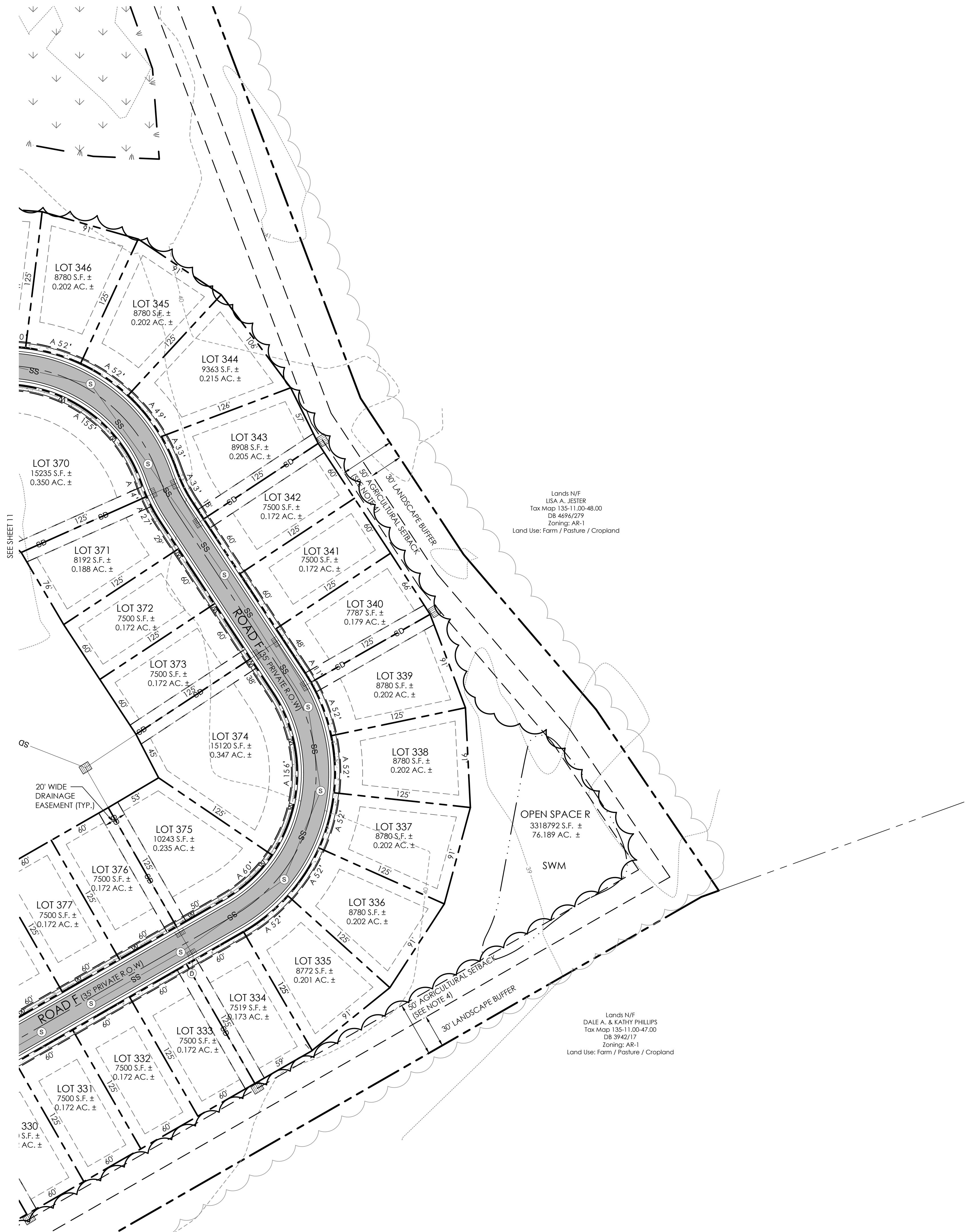


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NO.	DATE	DESCRIPTION
1	11/5/19	REVISIONS TO AMENITIES

PRELIMINARY PLAT		
NO.	DATE	DESCRIPTION
1	11/5/19	REVISIONS TO AMENITIES

**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES

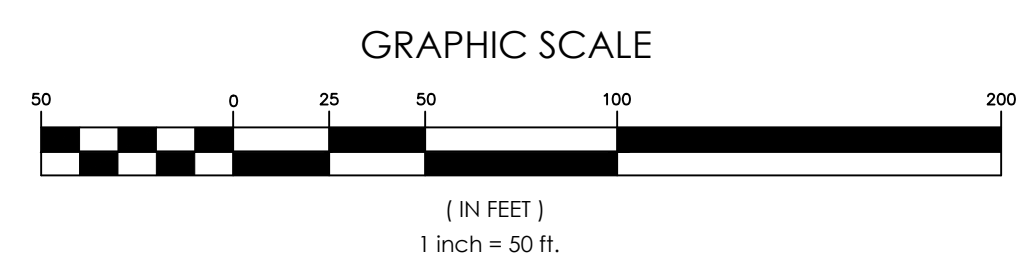
Date:	6/26/18	Job Number:	G18003	Scale:	1"=50'	Drawn By:	ML	Checked By:	JP
Sheet No.:	11	File Name:	g18003-prelim-site	Designed By:	JP	Approved By:	JP		

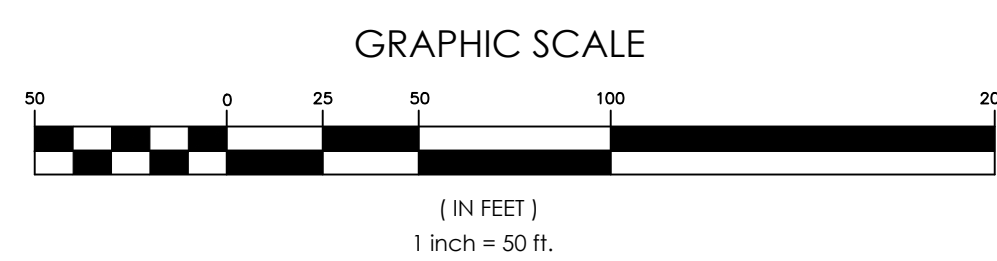
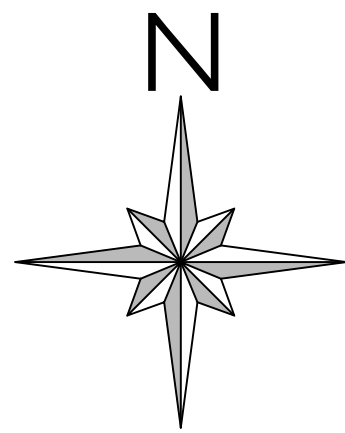


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NO.	DESCRIPTION
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PRELIMINARY PLAT  
 for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	MLL
Designed By:	JJP
Approved By:	JJP





SHINGLE POINT ROAD SCR249  
70' RIGHT OF WAY

SEE SHEET 16

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LANDSCAPE ARCHITECTURE  
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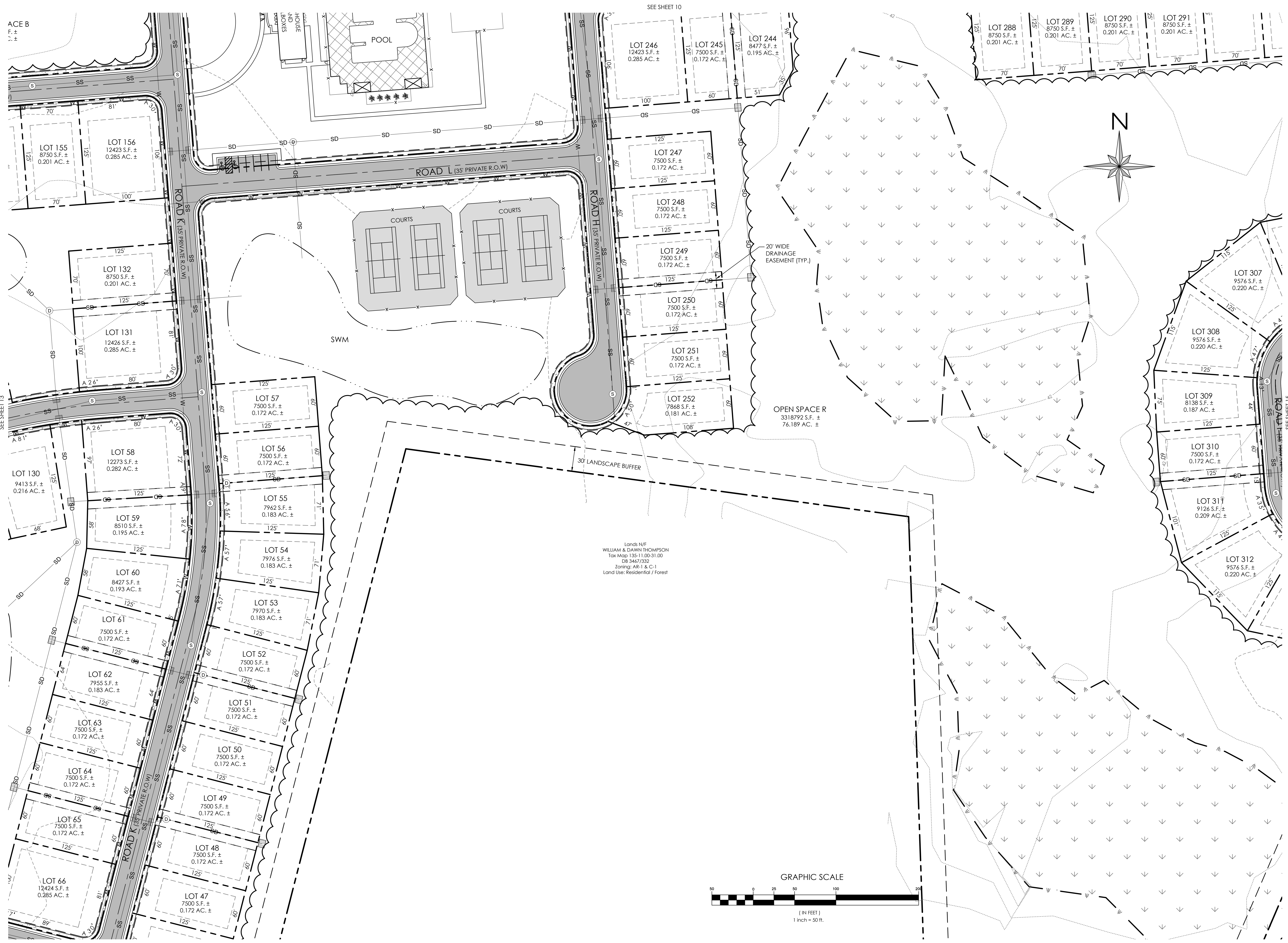


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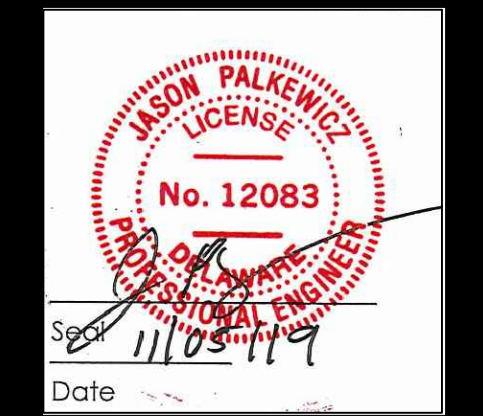
PRELIMINARY PLAT J  
for  
**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES

Date: 6/26/18  
Job Number: G18003  
Scale: 1"=50'  
Drawn By: MLL  
Designed By: JIP  
Approved By: JIP

Sheet No.: **13**  
File Name: g18003-prelim-site



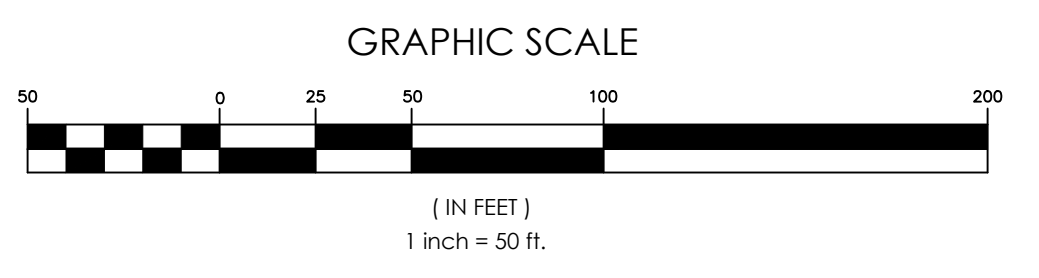
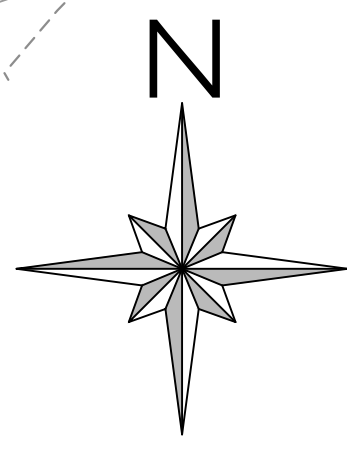
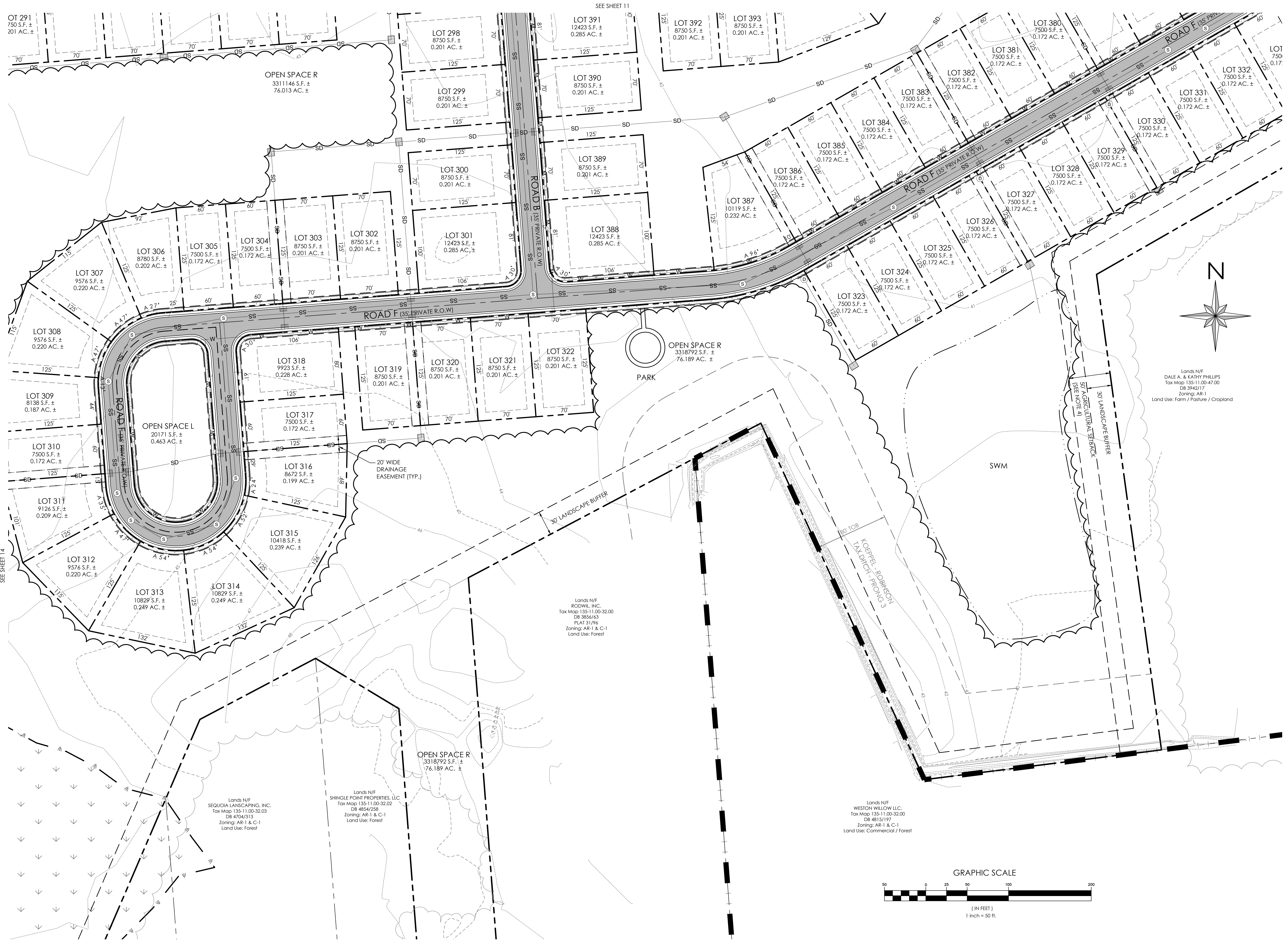
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PRELIMINARY PLAT K  
for  
**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES

Date: 6/26/18  
Job Number: G18003  
Scale: 1"=50'  
Drawn By: MLL  
Designed By: JIP  
Approved By: JIP  
Sheet No.: 14  
File Name: g18003-prelim-site



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Date: 11/15/19

NO.	DATE	DESCRIPTION
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PRELIMINARY PLAT L  
 for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	ML
Designed By:	JIP
Approved By:	JIP

Sheet No.: 15

File Name: g18003-prelim-site

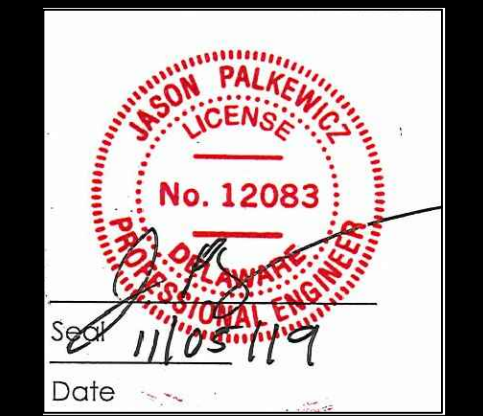


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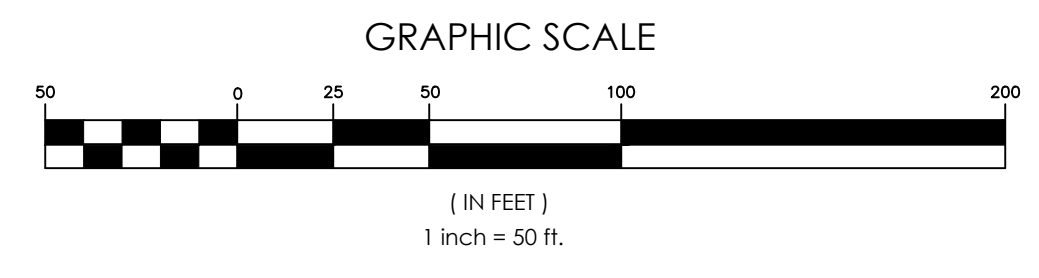


NO.	DATE	DESCRIPTION
1	11/15/19	REVISIONS TO AMENITIES

PRELIMINARY PLAT M  
for  
**AZALEA WOODS**  
SUSSEX COUNTY, DELAWARE  
Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	1"=50'
Drawn By:	MLL
Designed By:	JIP
Approved By:	JIP

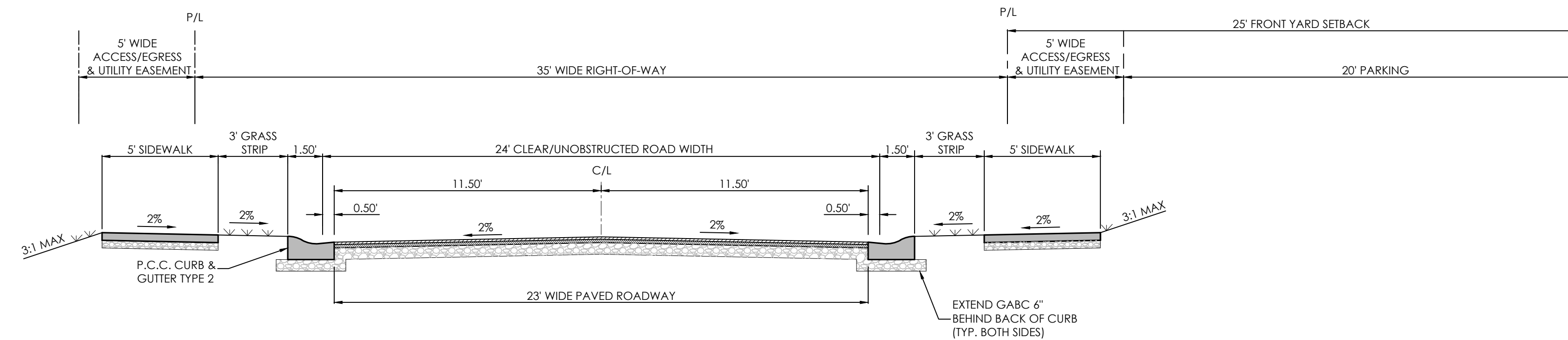
Sheet No.: 16  
File Name: g18003-prelim-site



Lands N/F  
PHILIP WOLF, JR.  
Tax Map 135-16.00-13.00  
DB 3240/181  
Zoning: AR-1  
Land Use: Farm / Pasture

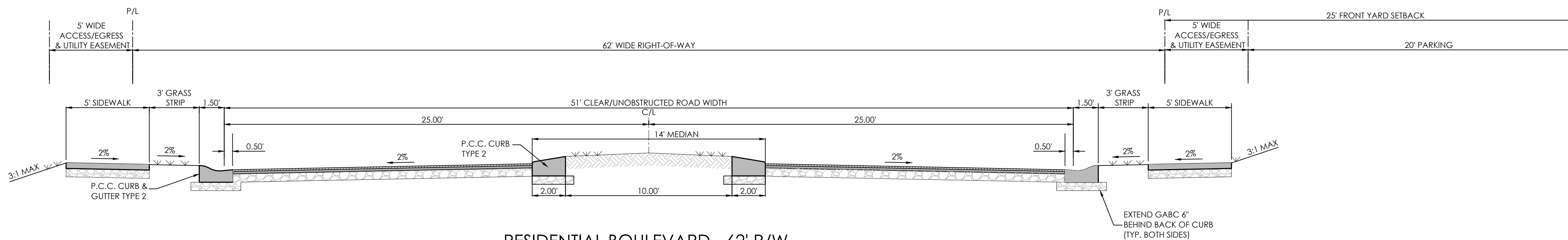
Lands N/F  
HAROLD E. DUKES, JR.  
Tax Map 135-16.00-15.02  
Zoning: LH-1  
Land Use: Mixed Urban / Forest

Lands N/F  
WILLIAM & DAWN THOMPSON  
Tax Map 135-11.00-31.00  
DB 3467/332  
Zoning: AR-1 & C-1  
Land Use: Residential / Forest



**RESIDENTIAL STREET - 35' R/W**  
 NOT TO SCALE

- NOTES:
1. PROVIDE 4" OF TOPSOIL COVERED WITH SEED AND MULCH ON PROPOSED GRASS AREAS.
  2. SUBBASE AND SUBGRADE SHALL BE COMPACTED TO 95% OF ASTM D1557, MODIFIED PROCTOR METHOD.



**RESIDENTIAL BOULEVARD - 62' R/W**  
 NOT TO SCALE

NO.	DATE	DESCRIPTION
1	11/5/19	REVISIONS TO AMENITIES

PRELIMINARY PLAT ROAD SECTIONS

for  
**AZALEA WOODS**  
 SUSSEX COUNTY, DELAWARE  
 Prepared for: NATELLI COMMUNITIES

Date:	6/26/18
Job Number:	G18003
Scale:	N.T.S.
Drawn By:	ML
Designed By:	JIP
Approved By:	JIP

Sheet No.:

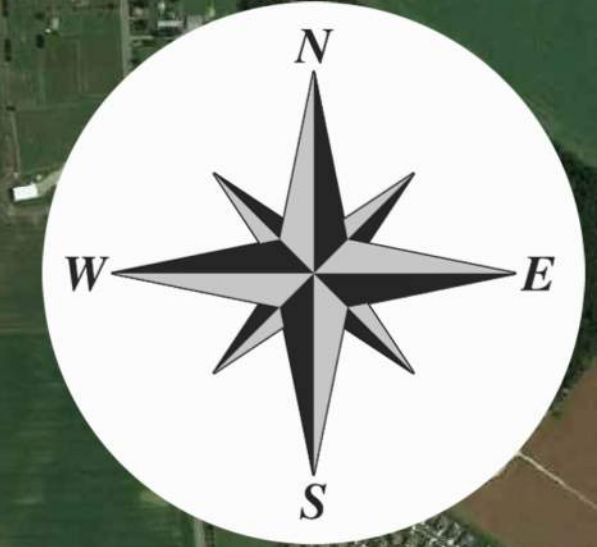
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File Name:  
 g18003-prelim-site



# AZALEA WOODS

1" = 1000'



VINES OF SANDHILL

BEAVER CREEK

COUNTY SEAT GARDENS

SANDHILL ACRES

SHINGLE POINT ROAD

GRAVEL HILL ROAD

HAWTHORNE

Harbeson

DEERWOOD

ROUTE 9

SPORTS AT THE BEACH

Georgetown

**solutions**

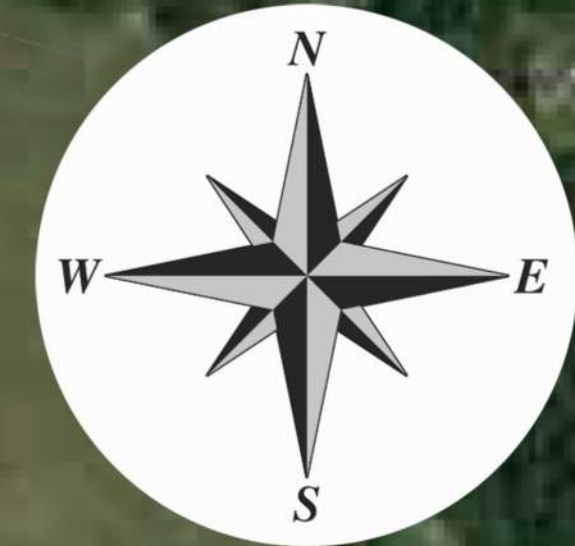
Integrated Planning  
Engineering & Management, LLC

303 North Bedford Street  
Georgetown, DE 19947

Tel: 302.297.9215  
www.solutionsipem.com

# AZALEA WOODS

1" = 200'



SHINGLE POINT ROAD

GRAVEL HILL ROAD



RTE 9

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www.solutionsipem.com

# Azalea Woods

## Project Reference Material AR-1 Cluster



**November 2019**

Prepared for: Natelli Communities





**APPLICANT/DEVELOPER: Natelli Communities**

Contact: Mr. Tom Natelli, Jr  
506 Main Street  
Gaithersburg, MD 20878  
Telephone: 301.670.4020  
Email: [tommy@natelli.com](mailto:tommy@natelli.com)

**CIVIL ENGINEER/  
LAND PLANNER Solutions IPEM, LLC**

Contact: Mr. Jason Palkewicz, PE  
303 North Bedford Street  
Georgetown, DE 19947  
Telephone: 302.297.9215  
Email: [jpalkewicz@solutionsipem.com](mailto:jpalkewicz@solutionsipem.com)

**ENVIRONMENTAL Watershed Eco, LLC**

Contact: Mr. James C McCulley IV, PWS  
PO Box 1225  
Middletown, DE 19790  
Telephone: 302.464.0831  
Email: [jim@watershedeco.com](mailto:jim@watershedeco.com)

**ATTORNEY: Fuqua, Willard, Stevens & Schab, PA**

Contact: Mr. James A. Fuqua Jr, Esq.  
26 The Circle  
Georgetown, DE 19947  
Telephone: 302.856.7777  
FAX: 302.856.2128  
Email: [jjmf@fywlaw.com](mailto:jjmf@fywlaw.com)

**TRAFFIC: The Traffic Group, Inc.**

Contact: Mrs. Betty Tustin, PE, PTOE  
104 Kenwood Court  
Berlin, MD 21811  
Telephone: 443.290.4060  
Email: [btustin@trafficgroup.com](mailto:btustin@trafficgroup.com)

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### **Resumes:**

Jason Palkewicz, PE

# Azalea Woods



## I. Executive Summary

Azalea Woods is a proposed 316.0 acre Cluster Subdivision composed of 610 single-family detached homes on individual lots. The site is located North of Rte 9 between Shingle Point Road and Gravel Hill Road. The land is currently zoned AR-1 with a portion located within the C-1 zone.

An Application for Major Subdivision has been submitted to allow for the proposed homes. The site has been planned to provide efficient and safe pedestrian and vehicular patterns. Site Planning carefully maintains the existing wetland areas and integrates current storm water management regulations. The roadway improvements and entrance to Azalea Woods will be designed in accordance with DeDOT standards and regulations.

Azalea Woods is located within Investment Level 4 of the State Strategies for Policies and Spending Map.



The proposed community provides 610 homes on roads within private rights-of-way with curb and gutter and sidewalks, street lights and preserved wooded and wetland areas. A total of 162.0 +/- acres (51%) of interconnected open space of which 80.1 +/- acres are maintained as forest; 20.7 +/- acres of wetlands (forest and wetlands overlap). The vast majority of homes back up to natural open space, buffers or storm water management features.

A centrally located recreation facility is provided with a pool, clubhouse, and pickleball courts.

### **Proposed Density and Calculations:**

Gross Site Area = 316.0 +/- acres

#### Allowable Homes Calculation (AR-1Cluster):

2.0 homes/acre

$316.0 \times 2.0 = 632$  homes

#### Proposed Homes:

610 Homes

#### Actual Density:

$610 / 316.0 = 1.93$  homes/acre

In conclusion, the proposed community has been thoughtfully planned to achieve a superior living environment for future residents. This plan provides appealing amenities that will result in sustainable property values with neutral to positive impacts on property values in nearby neighborhoods while promoting the health, safety and welfare of the citizens of Sussex County.



## II. Project Overview

### A. Boundary Plat, Topographic & Non-Tidal Wetlands Survey

A boundary survey for the property was prepared by Solutions IPEM, LLC. The total area of the property is 316.0 +/- acres. This survey provides the location and extent of existing woodlands and wetlands located on the site. Wetlands were field located by Watershed Eco, LLC.

### B. Overview of Current Site Conditions

The property for the proposed Azalea Woods community is located North of Rte 9 between Shingle Point Road and Gravel Hill Road. The proposed development is in the vicinity of the residential communities of Vines at Sandhill and Hawthorne. The site is mostly woodlands with non-tidal wetlands.

The property is located within flood zone X, (areas determined to be outside the 2.0% annual chance floodplain), per map number 10005C0 Panel 03325L, map revised June 20, 2018. The site is located within areas of fair groundwater recharge potential. A portion of the drains to the adjacent Koepfel-Robinson tax ditch.



A soils report was prepared by Geo-Technical Associates, Inc. to determine depth to ground water and storm water feasibility. The depth to seasonal high ground water is approximately 4 feet below grade.

### C. Land Plan and Amenities

The land plan takes into account:

- Existing site conditions
- Stormwater outfalls
- Adjacent communities
- Existing roadways
- Current housing trends
- Recreational needs
- Existing wetland

The resultant plan has:

- 30' perimeter setback to property lines as a planted buffer. All lots have a 50' buffer.
- Variable width lots to allow for 40' - 50' wide homes and a livable backyard.
- Proposed lots have a 50' separation from the non-tidal wetlands.
- A majority of the lots back up to open space, buffers, swm features, and recreational facilities.
- Sidewalks along the roadways that connect to the multi-modal path along the property frontage.

- Main recreation facility including:
  - Pool
  - Clubhouse
  - Pickleball courts
  - Gathering areas
  - Tot lot
- Streetlights.
- Community mailbox cluster.
- School bus stop.
- An efficient stormwater management system that acts as an amenity.



**D. DeIDOT Improvements**

A series of discussions were held with DeIDOT officials concerning area roadway improvements related to Azalea Woods specifically with regard to off-site transportation improvements and frontage improvements. A traffic impact study (TIS) was prepared for the proposed community. The resultant required improvements are anticipated to include:

- Right and left turn lanes at the entrances on Shingle Point Road and Gravel Hill Road.
- Shingle Point Road and Gravel Hill Road travel lanes and shoulders will be widened.
- Financial contributions to intersection improvements.

**E. Preliminary Land Use Service (PLUS)**

A concept plan for Azalea Woods (formally known as Wilson-Moore) was presented to PLUS in January of 2019. A response letter was provided to PLUS which addressed their comments point by point.

**F. Sanitary Sewer Planning Area**

The Azalea Woods community is located with Sussex County Tier 3 - Coordinated CPCN Area. This area is served by Artesian Resources. Several meetings have been held with Artesian to discuss serving the project. It has been confirmed that Artesian has the ability to serve the Azalea Woods community.



### III. Compliance with Applicable Regulations

#### A. Compliance with AR-1 (Agricultural Residential District)

The project is located within the AR-1 and C-1 zones. The site is being developed with residential lots lies within the AR-1 zone and will meet the requirements of the AR-1 Cluster as existed at the time of application.

The proposed land use is in conformity with the Zoning Ordinance which allows 2.0 dwelling units per acre based on the gross site area.

Purpose: Azalea Woods conforms with the purpose of the AR-1 code in as much as it is a low density residential community that protects water resources, watersheds, forest area and scenic views. Specific design elements include:

- The existing trees around the wetlands are maintained.
- The majority of the homes back up to open space (woodlands, storm water facilities and other natural areas).
- Tot lots and parks are provided for the homeowner use.
- Recreation facilities such as community building, pool, are provided.
- Sidewalks and a connection to the multi modal path are provided.
- No wetlands are impacted.
- There are no wellhead protection areas on the property.
- The site is within the fair groundwater recharge areas.

Permitted Uses: The AR-1 allows the proposed single-family cluster development.

Permitted Accessory Uses: The zoning allows outdoor amenities for use of occupants and their guests.

Conditional Uses: Azalea Woods is not applying for any conditional uses.

Special Use Exceptions: Azalea Woods is not applying for any special use exceptions.

Permitted Signs: All proposed development signage will conform to the regulations provided in 115-159.2.

Height, Area and Bulk Requirements: The height, area and bulk requirements are established by the requirements set forth in the AR-1 zoning article. The following is a summary of the lot dimensions and setbacks for Azalea Woods, all of which are in conformity with County requirements:

Single Family Lots -

- Minimum Lot Area = 7,500 S.F.
- Minimum Lot Width = 60'
- Front Yard = 25' (15' Corner Lot)
- Side Yard = 10'

Rear Yard = 10'  
Maximum Building Height = 42'

**B. Statement of Compliance with Chapter 99, Sussex County Subdivision of Land**

**Chapter 99-9 (C)**

The proposed development plan has taken into consideration all items listed within the Subdivision of Land – Chapter 99, Section C within the Sussex County Code and complies with it in the following manner:

**1. *“Integration of the proposed subdivision into existing terrain and surrounding landscape.”***

- a. The Developer has taken great effort to work with the existing terrain and surrounding landscape in the planning of the community specifically by respecting existing topography with the location of homes, roadway, and utilities. The proposed location of storm water management facilities was also based on extensive soils borings and a soil report.
- b. Forested non-tidal wetlands have been preserved.
- c. A minimum 30' landscaped buffer with additional space for storm water management, forest and/or wetland preservation has been provided adjacent to all surrounding property lines.
- d. The proposed lots within the community are a minimum of 50' from the outbounds of the property.

**2. *“Minimal use of wetlands and floodplains.”***

- a. Property lines are a minimum of 50' from the existing wetlands.
- b. All of the proposed lots are located within flood Zone X (unshaded), areas determined to be outside the 0.2% annual chance floodplain.

**3. *“Preservation of natural and historic features.”***

- a. The forested wetlands will be preserved.
- b. There are no known historic sites.
- c. The roadway system, stormwater features and lots were designed in such a way to minimize impacts/disturbance of steep slopes.

**4. *“Preservation of open space and scenic views.”***

- a. The design for the community allows views from homes and street of the wooded wetlands as well as the landscaped storm water management / open space areas.

- b. The existing forested wetlands are being preserved as an open space amenity and surround the majority of the site.

**5. *“Minimization of tree, vegetation, and soil removal and grade changes.”***

- a. Disturbance to the site will be limited to only those areas required for homes, roads, storm water management and utility installation. All undisturbed vegetation that is compatible with native vegetation shall remain.
- b. Grade changes to the site shall be limited to those necessary to provide positive drainage and proper cover over utilities.

**6. *“Screening of objectionable features from neighboring properties and roadways.”***

- a. Screening of objectionable features on the site from adjacent properties and roadways shall be provided utilizing the required 30’ landscaped buffer around the perimeter of the site or existing forested areas and storm water management facilities where those exist.
- b. The proposed lots within the community are a minimum of 50’ from the outbounds of the property.

**7. *“Provision for water supply.”***

- a. Artesian will provide potable water and fire protection for the development.

**8. *“Provision for sewage disposal.”***

- a. The Azalea Woods community wastewater service will be provided by Artesian.

**9. *“Provision for solid waste disposal.”***

- a. Arrangements will be made with a commercial trash hauler to provide trash collection for Azalea Woods.

**10. *“Prevention of surface and groundwater pollution.”***

- a. All runoff from the Azalea Woods site will be directed via the closed road section and storm drain network into a storm water management system consisting of Best Management Practices (BMP) for treatment and discharge. The storm water management facilities will be designed in accordance with Delaware / Sussex County standards.
- b. Ultimately, through post-development design, runoff will receive better treatment than during pre-development conditions. The project will meet the current storm water management regulations as required by DNREC.
- c. A soils report was prepared to determine locations where infiltration BMP’s could be utilized.

**11. "Minimization of erosion and sedimentation, minimization of changes in groundwater levels, minimization of increased rates of runoff, minimization of potential for flooding and design of drainage so that groundwater recharge is maximized."**

- a. As stated above, stormwater management quality and quantity will be provided by a storm water management system consisting of Best Management Practices (BMP) for treatment and discharge. The BMP's will be designed per Delaware / Sussex County standards. The stormwater collection/treatment system will be adequately sized to prevent flooding.
- b. Erosion and sediment control will be provided by methods approved by the Sussex Conservation District. An erosion and sediment control plan will be prepared and submitted for review.

**12. "Provision for safe vehicular and pedestrian movement within the site and to adjacent ways."**

- a. Entrance to the site shall be designed per current DelDOT standards.
- b. To promote pedestrian traffic within the development, 5' sidewalks are provided along both sides of the road.
- c. All roads will be designed in accordance with Sussex County standards.

**13. "Effect on area property values."**

- a. It is expected that the proposed Azalea Woods community will cause current property values to remain the same if not increase the value of the properties in the area. Great attention has been paid to the detail and aesthetic qualities of the plan, the livability of the community and amenities provided.

**14. "Preservation and conservation of farmland."**

- a. The proposed subdivision will not adversely affect adjacent farmland due to landscaped buffers and other natural wooded areas and wetland that separate the community from farmland.

**15. "Effect on schools, public buildings, and community facilities."**

- a. Azalea Woods will have no adverse effect on schools, public buildings and community facilities as demonstrated by the PLUS comments.
- b. Community amenities will include a clubhouse, pool and pickleball courts. In addition, Azalea Woods includes several open space areas for other active and passive uses.

**16. "Effect on area roadways and public transportation."**

- a. A series of meetings was held with DelDOT officials concerning area roadway improvements related to Azalea Woods specifically with regard to off-site transportation improvements and frontage improvements. The improvements requirements are anticipated to include:
  - Right and left turn lanes at the entrances on Shingle Point Road and Gravel Hill Road.
  - Shingle Point Road and Gravel Hill Road travel lanes and shoulders will be widened.
  - Financial contributions to intersection improvements.

**17. "Compatibility with Other Land Uses."**

- a. The project is relatively adjacent to other residential cluster communities of Vines at Sand Hill and Hawthorne, thus being compatible in density, home style and land use.

**18. "Effect on Area Waterways."**

- a. Runoff will be treated for water quality and quantity prior to discharge.

**C. Statement of Conformity with Sussex County, Delaware, Comprehensive Plan Update, March 2019**

**Chapter 4 Future Land Use:**

The site is located within the Low Density Area and complies as follows:

- The proposed land plan addresses environmental concerns.
  - o Greater than 30% of the site is set aside as open space.
  - o 30' perimeter landscape buffer.
- Single-family homes are permitted.
- The proposed density of 1.93 du/ac is in compliance with the 2 du/ac as appropriate in this location.
- Central water and sewer will be available to the site.

**Chapter 5 Conservation:**

The proposed community complies with the Conservation section as follows:

- The site complies with surface water runoff requirements.
- There are no well head protection areas nor excellent ground recharge areas within the proposed site.
- Wetlands will be preserved.
- No lots are proposed within the existing wetlands.
- No flood zones exist on-site.
- Central water and sewer will be available to the site.

**Chapter 6 Recreation and Open Space:**

The proposed community complies with the Recreation and Open Space section as follows:

- The site is located within Region 5 of the Delaware Statewide Comprehensive Outdoor Recreation Plan and provides the following:
  - o High Priorities:
    - Swimming pools

- Picnic Areas
    - Walking/jogging paths (multi-modal)
    - Bike paths (multi-modal)
  - Moderate Priorities:
    - Tennis (pickleball) courts
- In addition, the community provides:
  - Gathering areas
  - Sidewalks
  - Tot lots
  - Pocket parks

**Chapter 7 Utilities:**

The proposed community complies with the Utilities section as follows:

- There are no well head protection areas nor excellent ground recharge areas within the proposed site.
- Water will be provided by Artesian who has the CPCN for the project.
- The Azalea Woods community wastewater service will be provided by Artesian.
- Adequate areas are provided for stormwater management and stormwater drainage.
- It is anticipated that solid waste collection will be by a licensed commercial hauler.

**Chapter 8 Housing:**

The proposed community complies with the Housing section as follows:

- The community is located East of Georgetown and will provide housing for retirees as well as those working in the County.

**Chapter 9 Economic Development:**

The proposed community complies with the Economic Development section as follows:

- This development project will directly provide employment/opportunities in:
  - Construction
  - Professional, Business and IT Services
  - Finance, Insurance and Real Estate
  - Utilities
- The development will also indirectly provide job opportunities in:
  - Leisure and Hospitality
  - Education and Healthcare

**Chapter 10 Historic Preservation:**

The proposed community complies with the Historic Preservation section as follows:

- There are no known historic sites located on the site.

**Chapter 12 Community Design:**

The proposed community complies with the Community Design section as follows:

- The proposed community is a cluster subdivision, which is widely used in AR-1 zoning.
- Both buffer and internal street trees are proposed.
- Street lighting will be provided.
- Sidewalks are proposed on both side of the roadways.
- The lot sizes within the cluster make rear garages impossible and side loads very unlikely.



- The narrower right-of-way allows for homes to be placed closer to the road.
- The proposed homes will be limited to 42' in height.
- No variances to the required setbacks are proposed.
- Although no direct connection of walking trails or bicycle paths to the existing adjacent communities is possible, the community will connect to multi-modal paths within DeIDOT's right-of-way.
- The entrance to the community will be landscaped.
- Cross walks will be provided.
- Landscape/forested buffers will be provided along the perimeter.
- Utilities are proposed to be underground.
- Street signage will be provided throughout the community.

**Chapter 13 Mobility Element:**

The proposed community complies with the Mobility Element section as follows:

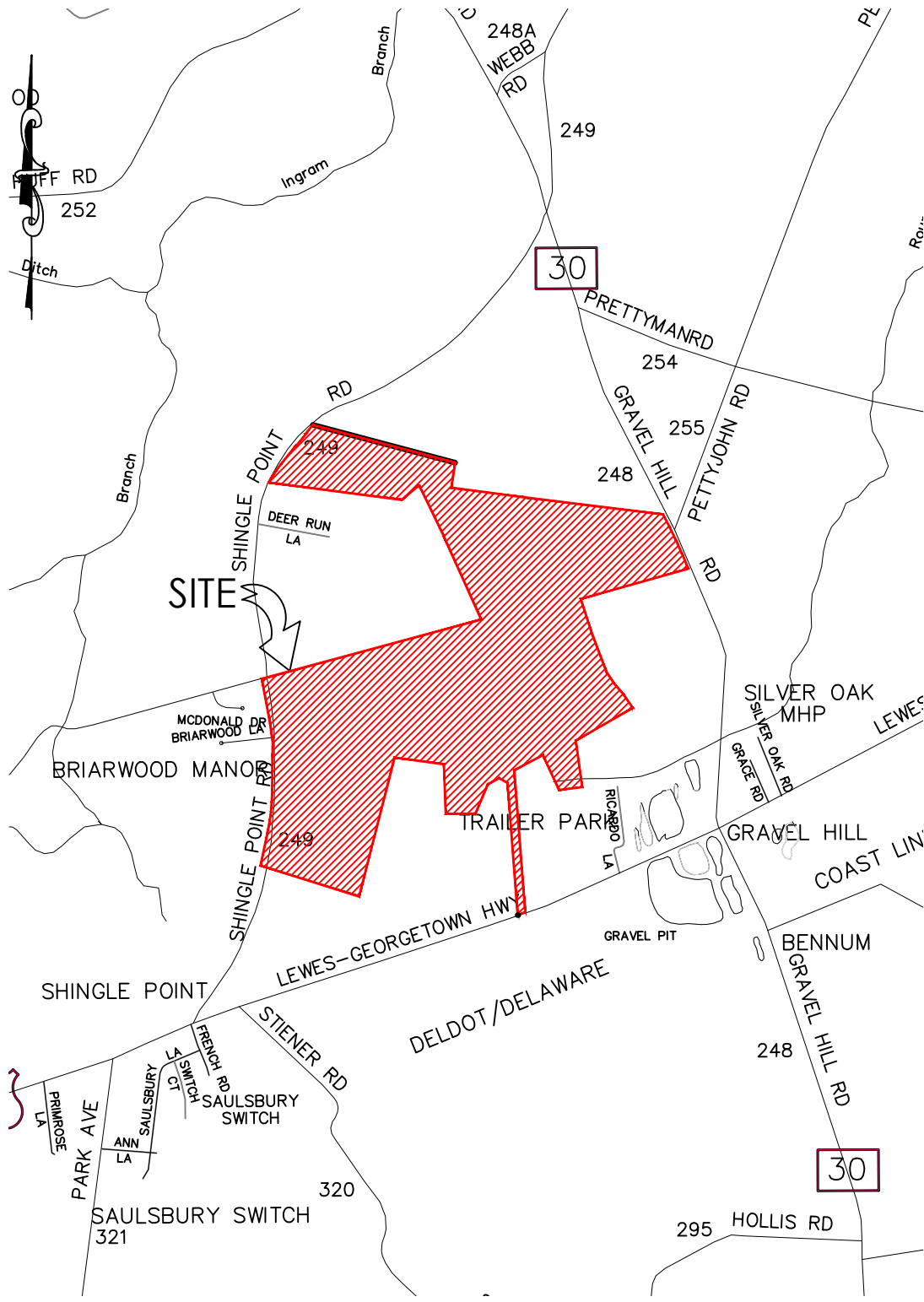
- Entrance, roadway and off-site improvements necessitated by DeIDOT will be designed and constructed per DeIDOT standards.
- Improvements are anticipated to include
  - o Road widening
  - o Shoulder construction
  - o Installation of turn lanes
  - o Multi-modal paths
  - o Drainage improvements

**IV. Conclusion**

The proposed community of Azalea Woods will enhance the area with a well-planned design, upscale homes, amenities, and no negative impact on the land. The design preserves large amounts of open space while preserving attractive views within and into the community. The homes will have a neutral to positive impact on the value of the surrounding neighborhoods and will provide the County with additional tax revenue. Passive amenities include existing woodlands and wetlands on-site. Active amenities include pool, tot lot, clubhouse, and pickleball as well as dedicated open spaces for other activities. The design also preserves and enhance existing views through non-disturbance and accentuating certain features of the existing terrain.

The proposed Community of Azalea Woods meets the standards set forth by the County and State and will provide a superior living environment for future residents without placing a burden on the County, State or taxpayers to serve this community.

VICINITY MAP



AZALEA WOODS



November 5, 2018

Mrs. Constance C. Holland, AICP, State Planning Director  
Haslet Armory  
122 Martin Luther King Jr. Blv. South  
Dover, DE 19901

**RE: PLUS review 2018-07-08 ; Wilson Moore**

Dear Mrs. Holland;

Please allow this letter to serve as our response to the PLUS review of the Wilson-Moore property. Answers to comments have been provided following each comment taken directly from your comment letter for ease of use. Our responses are in red and in different font for ease in review.

Thank you for meeting with State agency planners on July 25, 2018 to discuss the Wilson Moore project. According to the information received you are seeking review of a 580 unit subdivision on 316.02 acres between Rt. 9 and Gravel Hill Road in Level 4 in Sussex County.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. **The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.**

**Response: The developer will comply with all Federal, State and local regulations regarding the development of this property. The developer will comply with any and all regulations/restrictions set forth by Sussex County.**

### **Strategies for State Policies and Spending**

This project represents land development that will result in 580 residential units in an Investment Level 4 area according to the *2015 Strategies for State Policies and Spending*. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4 areas. These areas are comprised of prime

agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed will bring new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and 100% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

Because the development is inconsistent with the *Strategies for State Policies and Spending*, the State cannot support this proposed development.

**Response:** This site has some frontage on a principal arterial state road and will have an entrance on a major collector road. There are 2 ongoing subdivisions under construction with a mile of the project boundary. A school is also located within 3 miles of the project. Furthermore, public water and sewer connections are available for the site.

With that said, the comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to build on this property, construct the development you indicate, or any subdivision thereof on these lands.

### **Code Requirements/Agency Permitting Requirements**

#### **Department of Transportation – Contact Bill Brockenbrough 760-2109**

- The site access on Gravel Hill Road (Delaware Route 30) and Shingle Point Road (Sussex Road 249) must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <http://www.deldot.gov/Business/subdivisions/index.shtml?dc=changes>.
- Pursuant to Section P.3 of the Manual, a Pre-Submittal Meeting is required before plans are submitted for review.
- Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is

submitted for review and the Construction Stage Fee when construction plans are submitted for review.

- Sections 1.2.1 and 5.2.2 of the Manual address where entrances should be located. DelDOT offers three comments in this regard:
  - The proposed access on US Route 9 is not acceptable. Route 9 is a principal arterial highway and the site has frontage suitable for providing adequate access on both Gravel Hill Road and Shingle Point Road. No vehicular access will be permitted on US Route 9.
  - The proposed access on Gravel Hill Road opposite Pettyjohn Road (Sussex Road 255) appears acceptable in concept. Any necessary improvements will be identified through the TIS and plan review processes.
  - DelDOT may require that the access proposed on Shingle Point Road opposite Briarwood Lane (a subdivision street) be shifted north to be opposite Briarwood Road (Sussex Road 253). The relative feasibility and desirability of the two locations will need to be evaluated.
- Per Section 2.2.2.1 of the Development Coordination Manual, Traffic Impact Studies (TIS) are warranted for developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day. The PLUS application states that the proposed development would generate 5,223 vehicle trip ends per day. DelDOT calculates that the development would generate 5,240 vehicle trip ends per day on weekdays and 549 vehicle trip ends per hour during the evening peak hour of the adjacent roads. Therefore a TIS is warranted and DelDOT will require that a TIS be done.

The purpose of a TIS is to identify needed off-site improvements. Improvements that DelDOT can identify without a TIS include improvement of Shingle Point Road to meet DelDOT local road standards, including 11-foot lanes and 5-foot shoulders in both directions from Briarwood Road to US Route 9 and intersection realignments on Shingle Point Road at US Route 9 and at Gravel Hill Road to provide for perpendicular approaches at both locations.

- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Gravel Hill Road and Shingle Point Road and, if the relevant parcel remains in the assemblage, US Route 9. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.
- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT will require dedication of right-of-way along the site's frontage on Gravel Hill Road and Shingle Point Road to meet DelDOT's standards for collector roads and local roads, respectively. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the physical centerline along Gravel Hill Road and 30 feet of right-of-way from the physical

centerline along Shingle Point Road. If the parcel fronting on US Route 9 remains in the assemblage, DelDOT will require a 40-foot dedication there too. The following right-of-way dedication note is required, **“An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.”**

- In accordance with Section 3.2.5.1.1 of the Manual, if this development is proposing a neighborhood sign/structure, then a permanent easement shall be established at the site entrance. The easement shall be located outside of any existing and/or proposed right-of-way. It will also need to be verified that the sign/structure does not pose a sight distance and/or safety hazard.
- In accordance with Section 3.2.5.1.2 of the Manual, DelDOT will require the establishment of 15-foot wide permanent easements across the property frontage on both Gravel Hill Road and Shingle Point Road. If the parcel fronting on US Route 9 remains in the assemblage, DelDOT will require a similar easement there too. The location of the easements shall be outside the limits of the ultimate right-of-way. The easement area can be used as part of the open space calculation for the site. The following note is required, **“A 15-foot wide permanent easement is hereby established for the State of Delaware, as per this plat.”**
- In accordance with Section 3.4 of the Manual, a record plan shall be prepared prior to issuing “Letter of No Objection”. The record plan submittal shall include the items listed on the Critical Items for Acceptance: Record Plan document available on the DelDOT website at <https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items-Record-Subdivision.pdf?09222017>.
- Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:
  - A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
  - Depiction of all existing entrances within 450 feet of the proposed entrance on Gravel Hill Road and within 600 feet of the proposed entrance on Shingle Point Road.
  - Notes identifying the type of any off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.
- Section 3.5 of the Manual provides DelDOT’s requirements with regard to connectivity. The requirements in Sections 3.5.1 through 3.5.3 shall be followed for all development projects having access to state roads or proposing DelDOT-maintained public streets for subdivisions. Private or municipal streets should follow the County’s requirements for connectivity.
- Section 3.5.4.2 of the Manual addresses requirements for shared-use paths and sidewalks. Referring to Section 3.5.4.2.A of the Manual, installation of a sidewalk or Shared Use Path along the development’s road frontage is required for developments generating more than 2,000

vehicle trip ends per day. DelDOT will require a Shared Use Path along the development frontage on both Gravel Hill Road and Shingle Point Road.

- Referring to Section 3.5.5 of the Manual, existing and proposed transit stops and associated facilities as required by the Delaware Transit Corporation (DTC) or DelDOT shall be shown on the Record Plan.
- Section 3.5.4.4 of the Manual addresses access-ways, which are similar to Shared Use Paths (SUP) but are used to connect from an SUP or sidewalk along a road to an interior trail or subdivision street when the spacing between streets is inadequate to accommodate convenient pedestrian and bicycle travel. DelDOT anticipates requiring at least two access-ways, near the north and south limits of the site frontage on Shingle Point Road.
- In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State right-of-way along US Route 9, Gravel Hill Road and Shingle Point Road.
- Referring to Section 4.3 of the Manual, an entrance plan shall be prepared prior to issuing entrance approval. The entrance plan submittal shall include the items listed on the Critical Items for Acceptance: Entrance/Construction/Subdivision Set Plan document available on the DelDOT website at [https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items\\_Entrance\\_Construction\\_Subdivision.pdf?09222017](https://www.deldot.gov/Business/subdivisions/pdfs/Critical-Items_Entrance_Construction_Subdivision.pdf?09222017).
- In accordance with Section 5.2.5.6 of the Manual, a separate turning template plan shall be provided to verify vehicles can safely enter and exit the site entrance. As per Section 5.2.3 of the Manual, the entrance shall be designed for the largest vehicle using the entrance.
- In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrances and how long those lanes should be. The worksheet can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.
- In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.
- In accordance with Section 5.14 of the Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.
- Because the proposed development would not have State-maintained streets, Section 6.4.3 of the Manual, which pertains to the inspection and acceptance of commercial entrances, applies. Construction inspection responsibilities shall be in accordance with Figure 6.4.3-a. DelDOT's

preliminary reading of this figure is that the project requires Level I inspection and that a construction inspection agreement will not be needed.

- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.
- This project is located within the regulated airspace zones of Delaware Coastal Airport (GED), which is a public-use facility. Federal Aviation Regulation (FAR) Part 77 imposes height restrictions on any structures within these zones. DelDOT requires that the applicant for this project submits a "Proposed Construction/Alteration in Airport Zones Notification Form" in accordance with Delaware Code (2 Del. C. § 602).

This notification form can be submitted during the plan approval process with the local land use jurisdiction, but DelDOT's Office of Aeronautics is willing to test hypothetical height numbers to prevent any future project complications. Please contact Mr. Nate Attard with the Office of Aeronautics at (302) 760-2174 with any questions or concerns. A copy of the notification form can be found at this address:

[https://www.delDOT.gov/Programs/aviation\\_svcs/pdfs/aviation\\_obstruction\\_review\\_form.pdf?012913](https://www.delDOT.gov/Programs/aviation_svcs/pdfs/aviation_obstruction_review_form.pdf?012913).

**Response:** The developer will continue to coordinate with DelDOT regarding final frontage improvements, off-site improvements, final entrance locations, and cost sharing. Record and Entrance Plans will be submitted to DelDOT in accordance with the latest DelDOT regulations.

**Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352**

- The Department of Natural Resources and Environmental Control did not submit comments regarding this application. If the development of this property requires permits from a DNREC section, please contact the DNREC regulatory agency directly.

**Response:** It is understood that the developer will need to coordinate with DNREC directly.

**State Historic Preservation Office – Contact Carlton Hall 736-7404**

- There are no known archaeological sites, or known National Register listed or eligible properties on the parcel. However there is a cemetery (S04957), known as Calhoun Cemetery located on the western neighboring parcel.
- If any project or development proceeds, the developer should be aware of the Unmarked Human Burials and Human Skeletal Remains Law. Disturbing unmarked graves or burials triggers



Delaware's Unmarked Human Burials and Human Skeletal Remains Law (Del. C. Title 7, Ch. 54), For more information, please review the following websites:

[www.history.delaware.gov/preservation/umhr.shtml](http://www.history.delaware.gov/preservation/umhr.shtml) and  
[www.history.delaware.gov/preservation/cemeteries.shtml](http://www.history.delaware.gov/preservation/cemeteries.shtml).

- If there is federal involvement, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider their project's effects on any known or potential cultural or historic resources. For further information on the Section 106 process please review the Advisory Council on Historic Preservation's website at: [www.achp.gov](http://www.achp.gov)

**Response:** The developer is aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law and will proceed accordingly should an unknown burial site or remains be encountered during the development process.

Preplanning activities for this project involved making a detailed delineation and survey of state and federally regulated wetland and water boundaries. The project has been designed to avoid impacts to both state and federally regulated wetlands. In the event that regulated activities are proposed which require a permit from the U.S. Army Corps of Engineers or other federal agency, the developer will consult with those agencies to determine the area of potential effects for that permit known as the "permit area". As determined by the Section 106 process, the developer will then retain a qualified archeologist to perform any required site evaluations for resources potential eligible for inclusion in the National Register of Historic Places with the "permit area" of the project prior to any disturbance.

#### **Delaware State Fire Marshall's Office – Contact John Rudd 323-5365**

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

- Fire Protection Water Requirements:
  - Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
  - The infrastructure for fire protection water shall be provided, including the size of water mains

**Response:** The development will be designed to meet the required fire protection water requirements.

- Accessibility:

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from the main thoroughfare must be constructed so fire department apparatus may negotiate it. If a "center island" is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision. Where traffic circles (roundabouts) are located in the subdivision, they too are to be arranged in such a manner that they will not adversely affect quick and unimpeded travel of fire apparatus throughout the subdivision. Additionally, where trees are to be situated adjacent to travel roads in the subdivision, some forethought should be exercised regarding how future growth of the trees may affect fire department travel throughout the subdivision.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

**Response: The development will be designed to meet the required accessibility requirements.**

- Gas Piping and System Information:
  - Provide type of fuel proposed, and show locations of bulk containers on plan.

**Response: Fuel type and bulk container locations, if provided, will be included in the plan.**

- Required Notes:
  - Provide a note on the final plans submitted for review to read " All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"
  - Name of Water Supplier
  - Proposed Use
  - National Fire Protection Association (NFPA) Construction Type
  - Maximum Height of Buildings (including number of stories)
  - Provide Road Names, even for County Roads

Response: All required notes will be included on the construction plans.

**Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.**

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

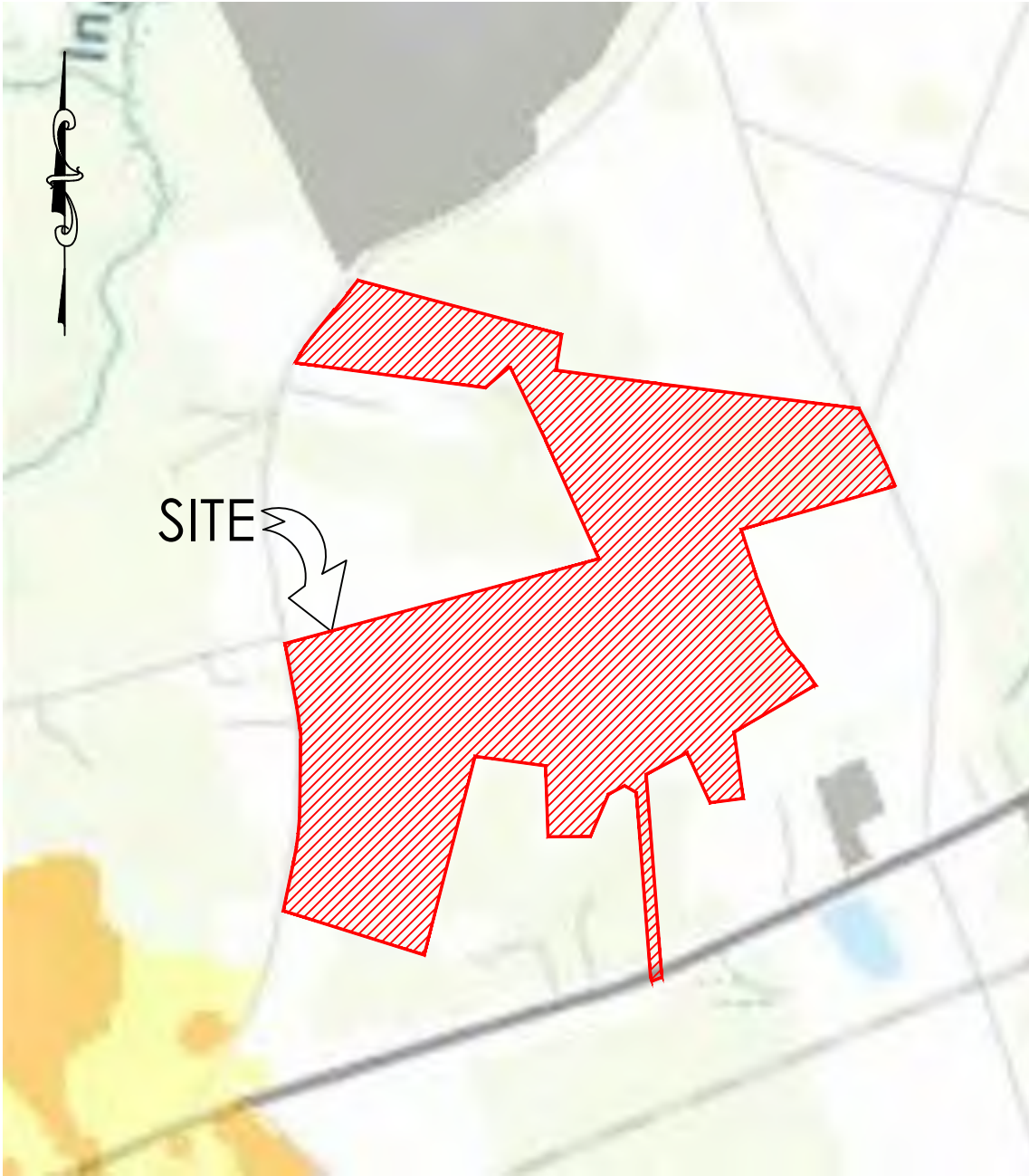
We are available to meet and discuss any or all of the proposed revisions.

Sincerely,

Solutions, IPEM

A handwritten signature in blue ink, appearing to read 'Jason Palkewicz', is written over the typed name.

Jason Palkewicz, PE



INVESTMENT LEVEL 2

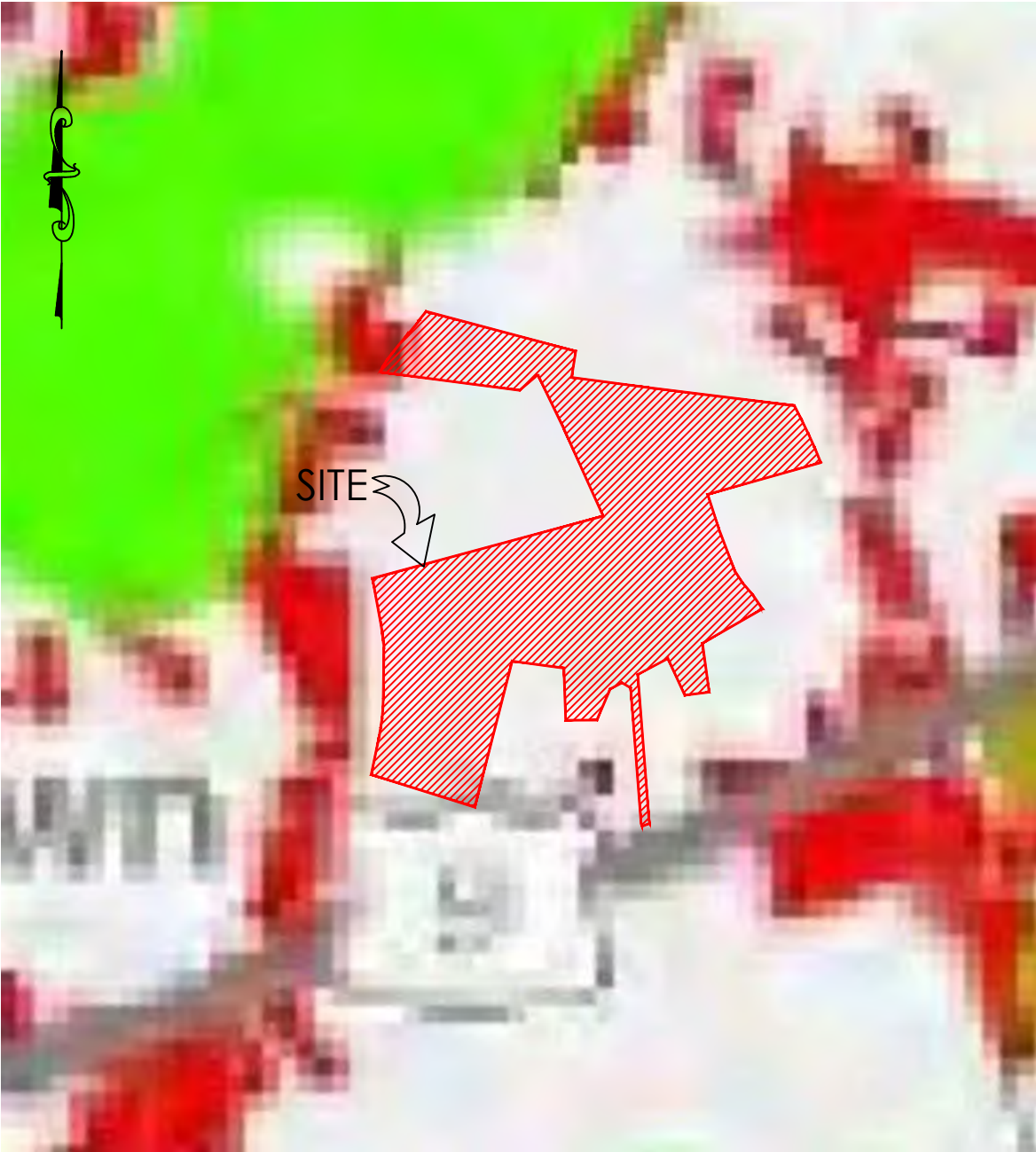
INVESTMENT LEVEL 3

INVESTMENT LEVEL 4

NOTE:  
IMAGE TAKEN FROM DELAWARE  
STATE STRATEGIES 2015  
INTERACTIVE MAP.

# AZALEA WOODS





DEVELOPED LANDS



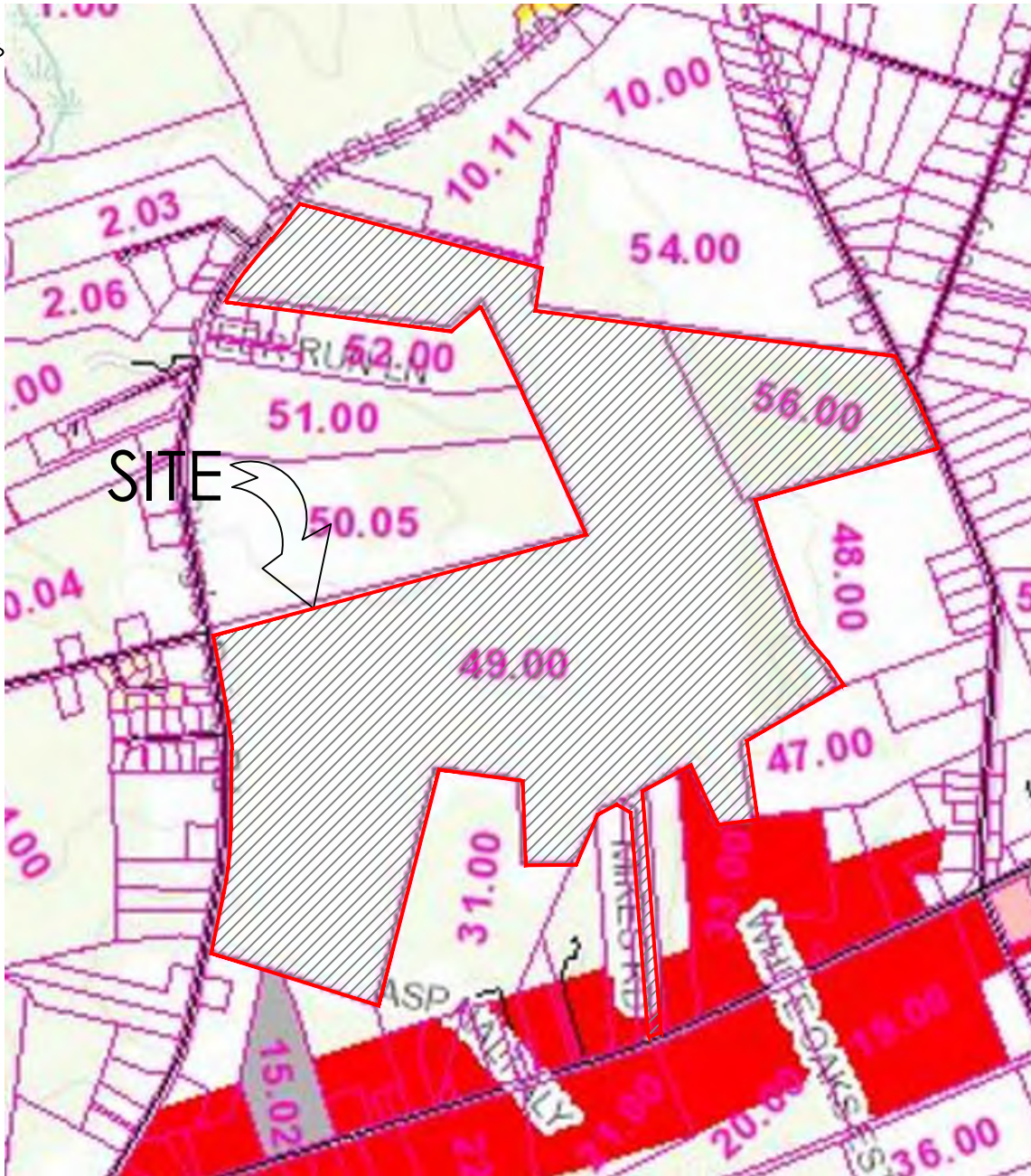
PROTECTED LANDS



MAJOR PROPOSED DEVELOPMENTS

# AZALEA WOODS



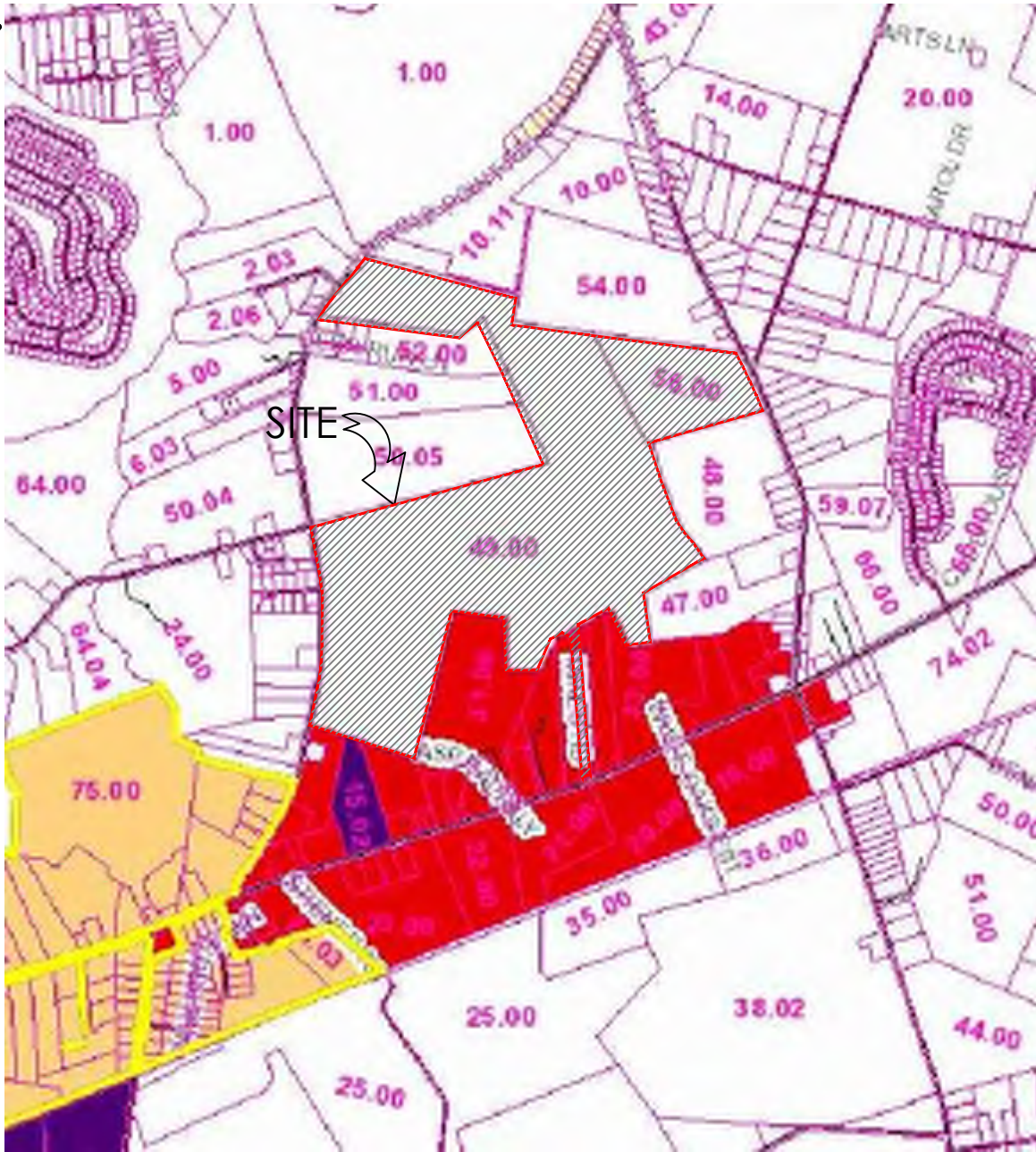


SITE

- AGRICULTURAL - AR-1
- GENERAL RESIDENTIAL - GR

# AZALEA WOODS





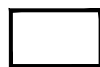
DEVELOPING AREAS



INDUSTRIAL



COMMERCIAL



LOW DENSITY AREA

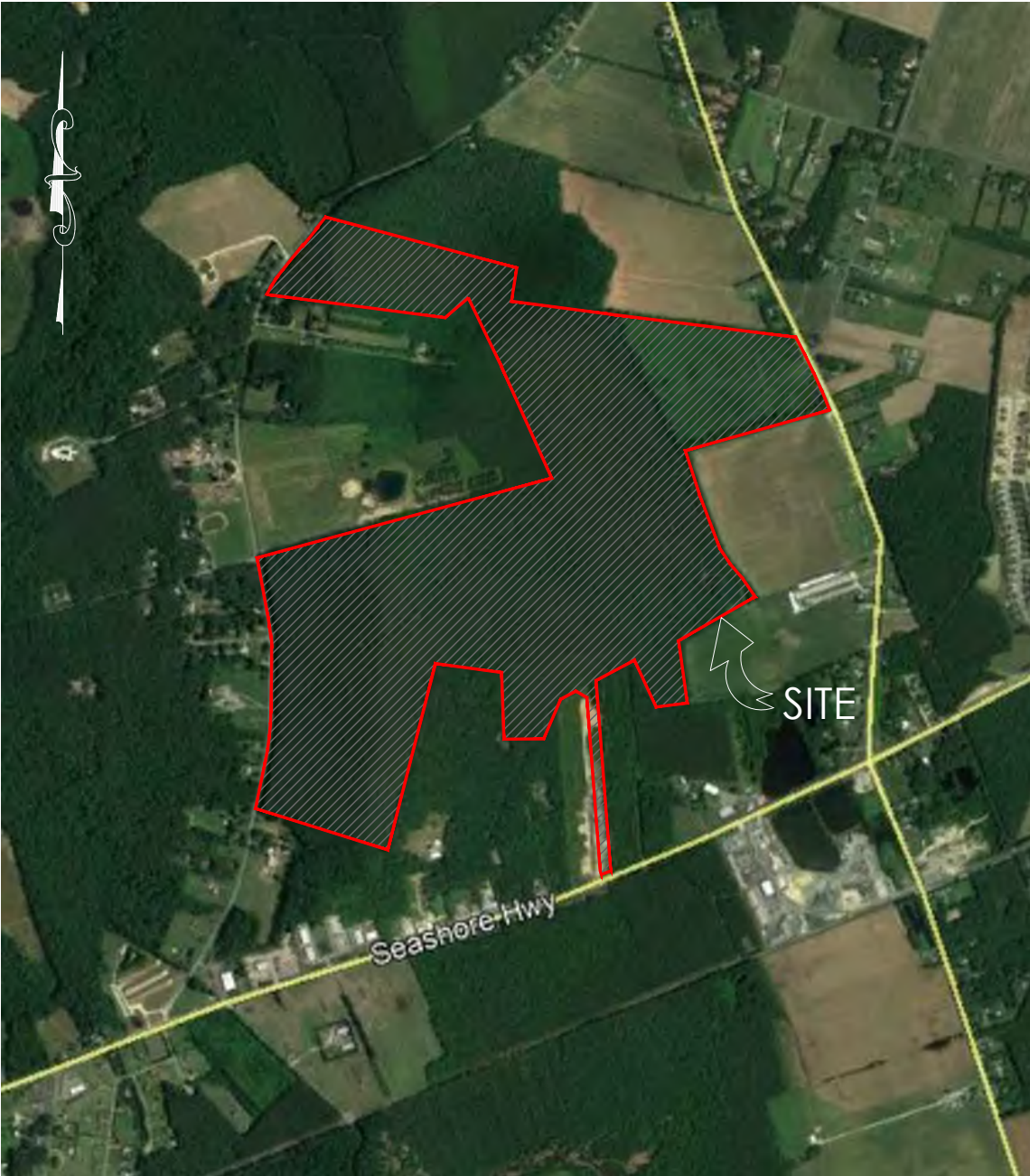


EXISTING DEVELOPED LANDS

# AZALEA WOODS



AERIAL



AZALEA WOODS







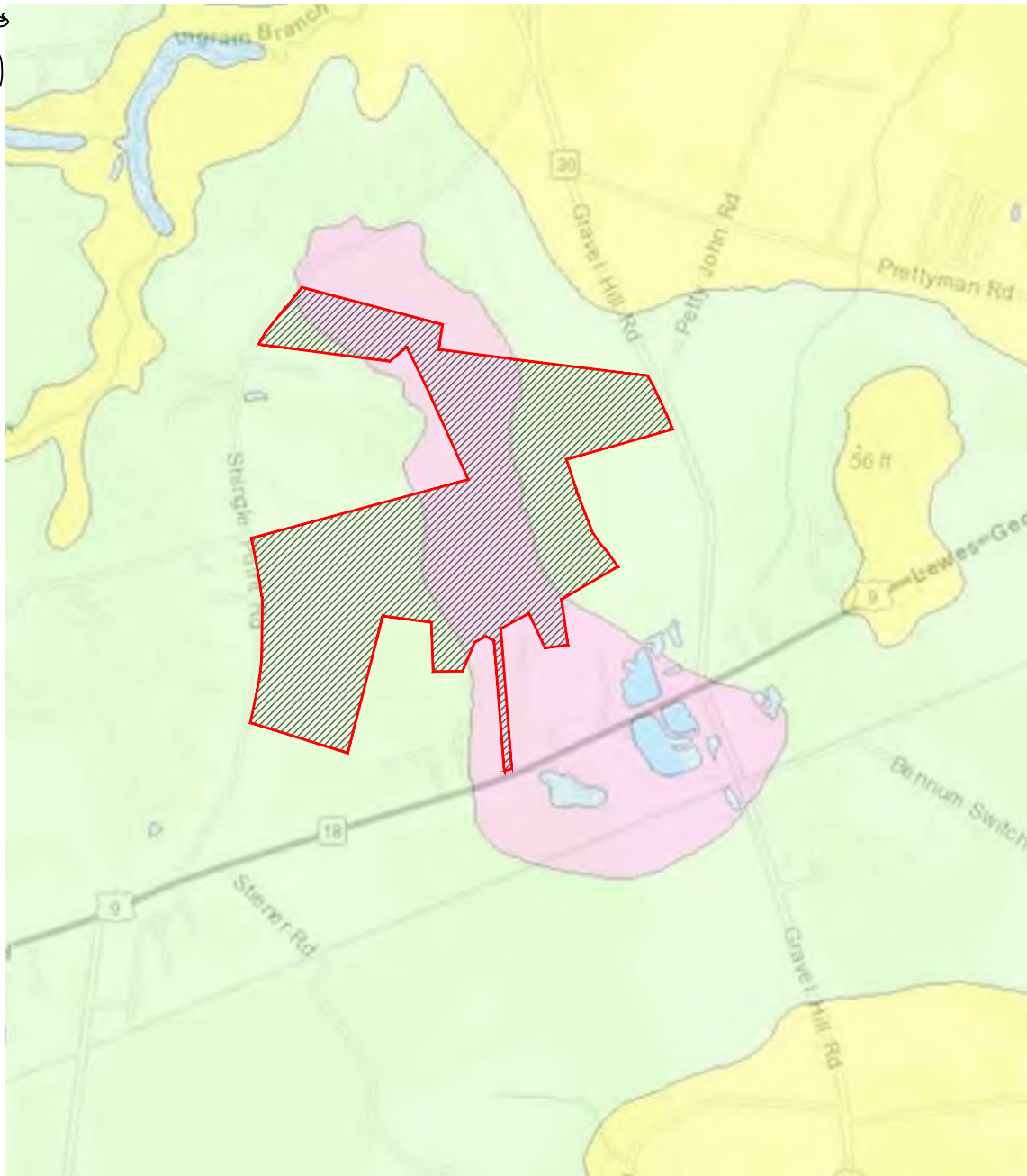
# FLOOD MAP







PROPERTY IS LOCATED IN FLOOD ZONE X (UNSHADED) - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FIRM MAP 10005C0325L, MAP REVISED JUNE 20, 2018.

## AZALEA WOODS





-  EXCELLENT GROUNDWATER RECHARGE
-  GOOD GROUNDWATER RECHARGE
-  FAIR GROUNDWATER RECHARGE
-  POOR GROUNDWATER RECHARGE

## AZALEA WOODS

# GROUNDWATER RECHARGE PLAN



# Wetlands/Waters Delineation Report for: **Azalea Woods Subdivision**

Completed: October 25, 2019

Fieldwork: December 2017, February and June 2018



Prepared by:



**Watershed Eco LLC**  
James C. McCulley IV, PWS  
#000471

203 Clydia Court  
Middletown, Delaware 19709  
[www.WatershedEco.com](http://www.WatershedEco.com)

## A. Site Description, Landscape Setting

This Study Area lies west of Gravel Hill Road (Route 30), north of Route 9, east and south of Road 249 at approximate Latitude and Longitude: 38.722679, -75.326178.



**Figure 1: Location Map**

The site is mostly wooded with logging roads and is managed for timber harvest. Aerial photos depict harvests in the past (see below).

The Study Area occupies a flat area in between Round Pole Branch and Ingram Branch.

Waters and Wetlands were identified within the Study Area as described in this report.

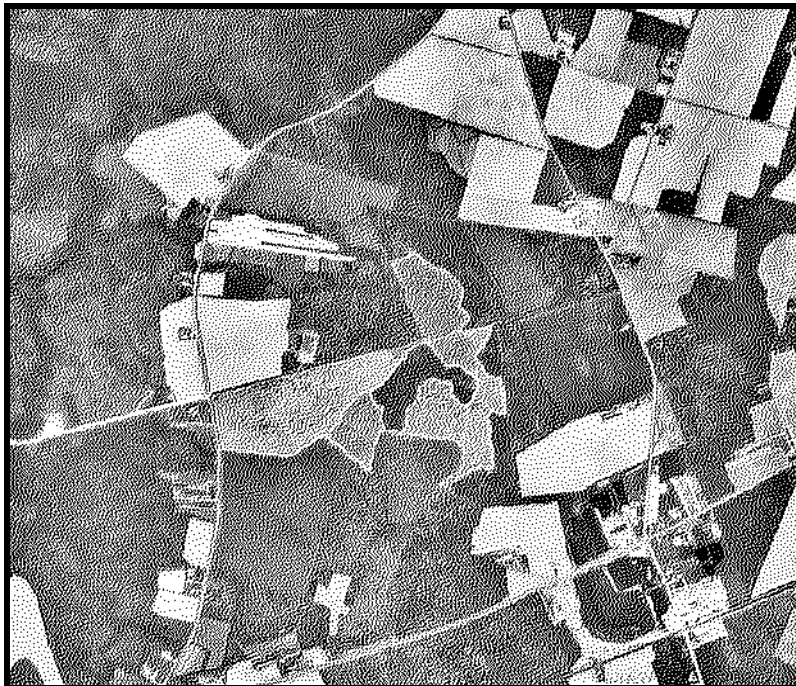
## B. Site Alterations Current and Past Land Use

The 1937 aerial photo depicts the site containing mostly forest land with the parcel along Gravel Hill Road in agricultural use.



**Figure 2: 1937 Aerial Photo**

The 1968 aerial photo depicts clearing over much of the site. The area mapped as wetlands near the center of the site is not cleared.



**Figure 3: 1968 Aerial Photo**

The 1992 aerial photo depicts the site as revegetating with woody vegetation. This color infrared photo shows the site as mostly dry with a few small areas of saturated soils in the areas flagged as wetlands in this study.



**Figure 4: 1992 Aerial Photo**

The 2002 aerial photo depicts the majority of the site has been cleared. No standing water or saturated soils are visible in this infrared photo.



**Figure 5: 2002 Aerial Photo**

The 2013 aerial photo depicts conditions similar the current site conditions with the majority of the site revegetating in woody vegetation and the parcel along Gravel Hill Road has been cleared.



**Figure 6: 2013 Aerial Photo**

The State Tidal Wetlands Map depicts no tidal wetlands in the area mapped in this study.

#### B.1 Soils -

The mapped soils are shown below, all of the mapped soils are moderately well-drained to excessively drained (green) and poorly drained (orange). Wetlands mapped in this study were in the areas of the mapped poorly drained soils (see details in attached soil report).

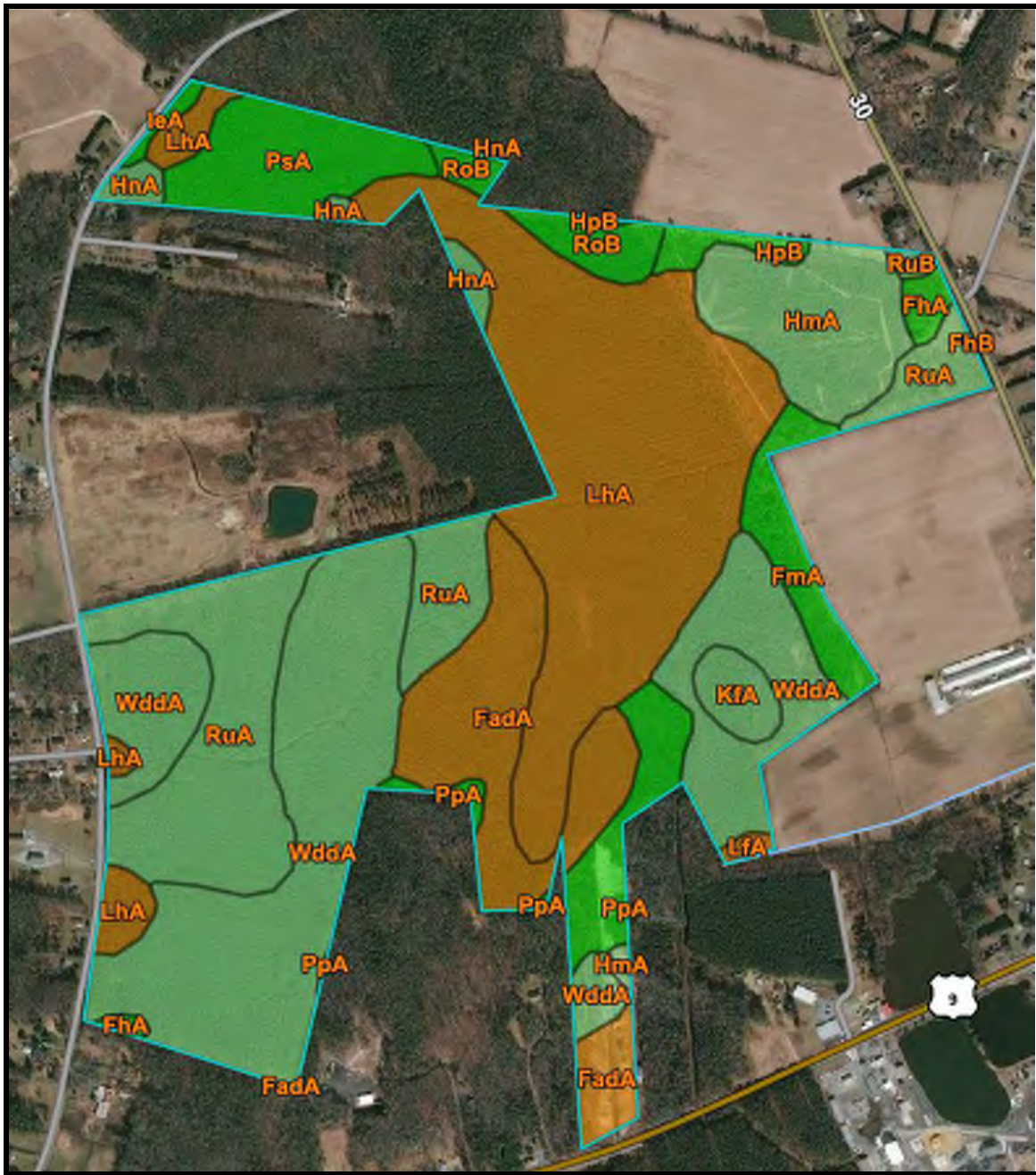


Figure 7: Soils Map

B.2 Hydrology –

The USGS Mapping indicates that the site occupies a slight ridge draining east to Round Pole Branch and west to Ingram Branch. No wet areas or blue-lines are depicted on the Property, Round Pole Branch is depicted as a blue-line on the southeastern property boundary and was mapped as Waters in the field.





**Figure 8: USGS Map**

### B.3 Vegetation -

The site consisted of the following Land Cover types:

**Developed Area** – the “panhandle” area extending to Route 9 at the southern portion of the site was undergoing construction of buildings and parking on fill at the time of the investigation and was assumed to be uplands by this study.

**Managed Woodlands** – the majority of the site was managed woodlands with extensive logging roads and was periodically harvested and replanted. These woodlands were dominated by Loblolly Pine with Red Maple, American Holly, Black Cherry and Sweetgum with Sweet bay Magnolia and Common Greenbriar in the wetter areas.

**Scrub/Shrub** – The parcel along Gravel Hill Road in the eastern portion of the site had been more recently cleared and was revegetating in scrub/shrub vegetation. This area was dominated by Loblolly Pine with Eastern Red Cedar, Black Cherry, Blackberry, Multiflora Rose, Red Maple and Sweetgum.

Wetland plant communities were found associated with several low areas within the woodlands on the site as depicted on the wetlands mapping.

## C. Results and Conclusions

Based on the site investigation and collected data, it was determined that waters and wetlands existed in the Study Area. The site was traversed over multiple days and all areas meeting the criteria of wetlands were flagged in the field. Wetland flags were located using handheld GPS and plotted on aerial photos (see below). Additionally, the wetland flags were surveyed and plotted by Solutions (see below and attached).

The State of Delaware and the U.S. Army Corps of Engineers regulates the Waters in the ditch along the southeast property line. Additionally, the Corps of Engineers may regulate the isolated wetlands mapped in this study. The Federal Rules are currently in a state of flux and isolated wetlands (with no direct connection to Waters of the US), may not be regulated under the Clean Water Act.

Based on the above, it is the opinion of Watershed Eco, LLC and James C. McCulley IV, PWS #000471, that wetlands and other Waters of the United States and the State of Delaware exist in the Study Area.

Additionally, the NWI Maps depict the majority of the site as non-wetlands with two linear areas in the east where wetlands were flagged in this study.



**Figure 9: NWI Mapping**

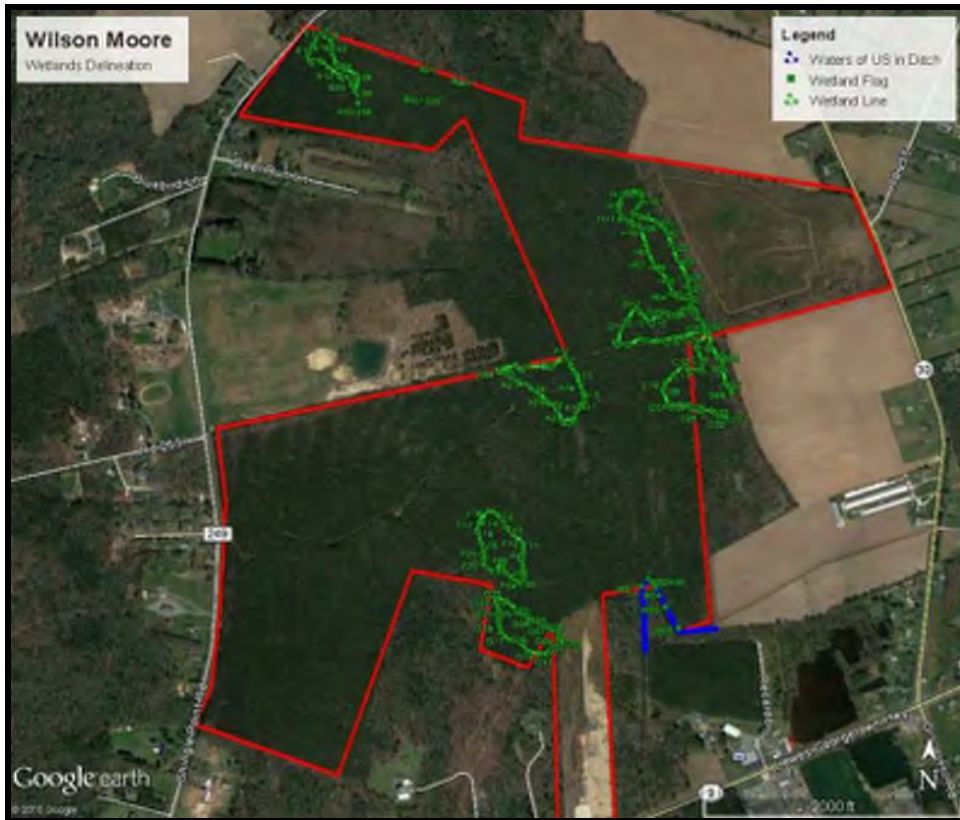


Figure 10: Wetland Flagging This Study

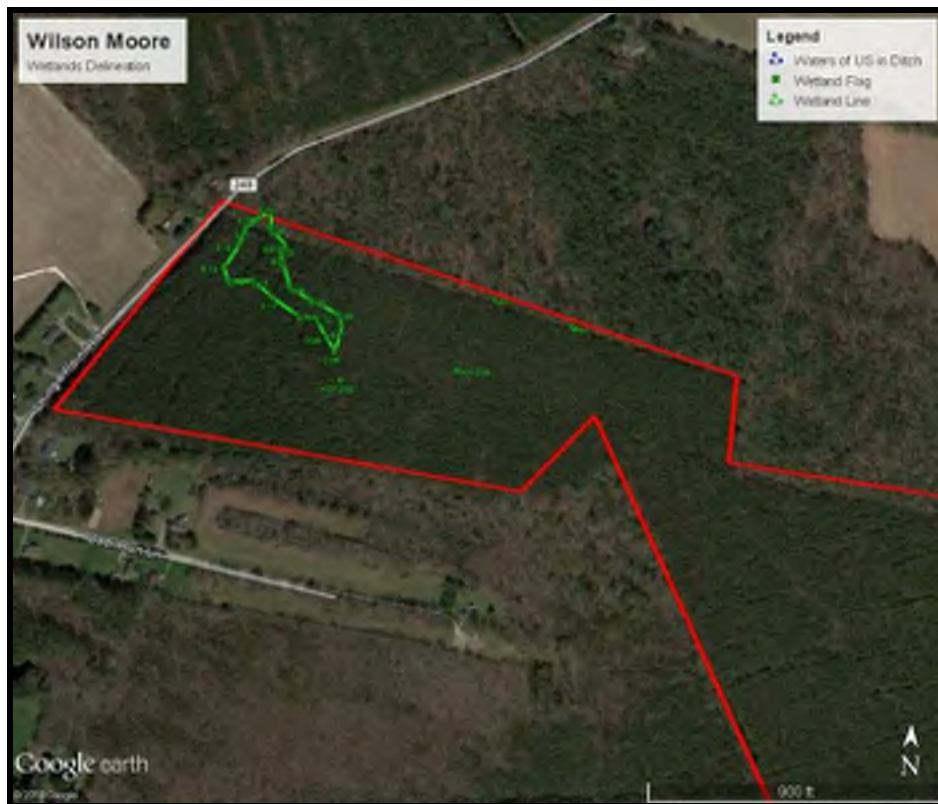


Figure 11: Wetlands North



Figure 12: Wetlands Central

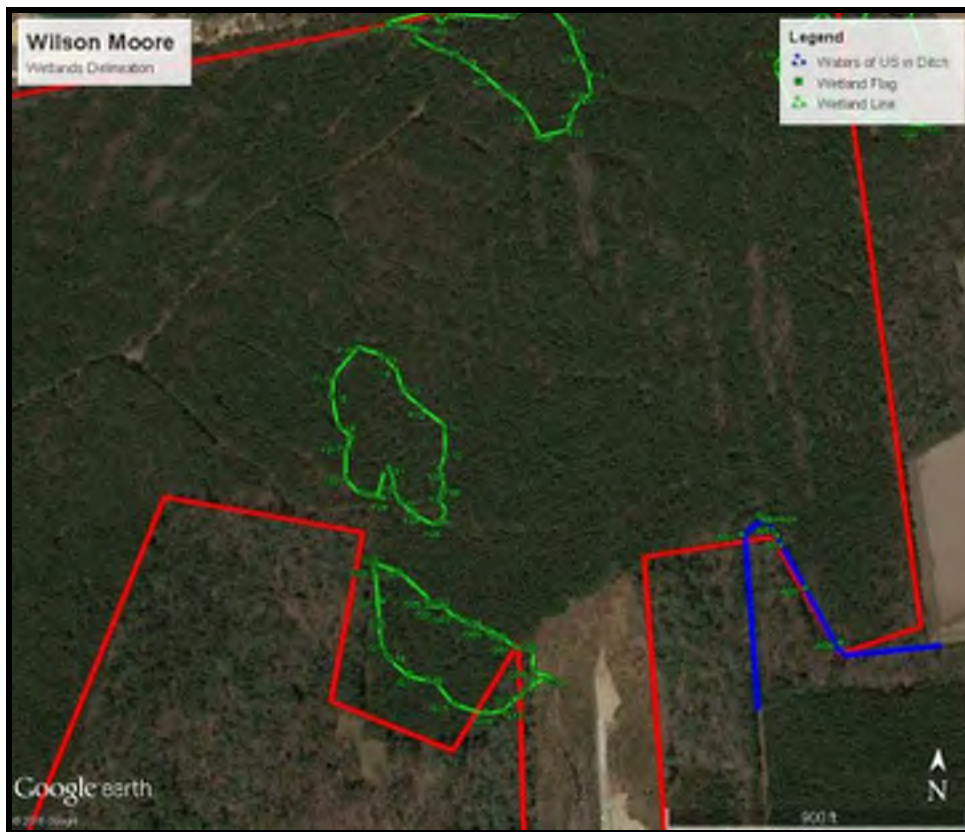


Figure 13: Wetlands South

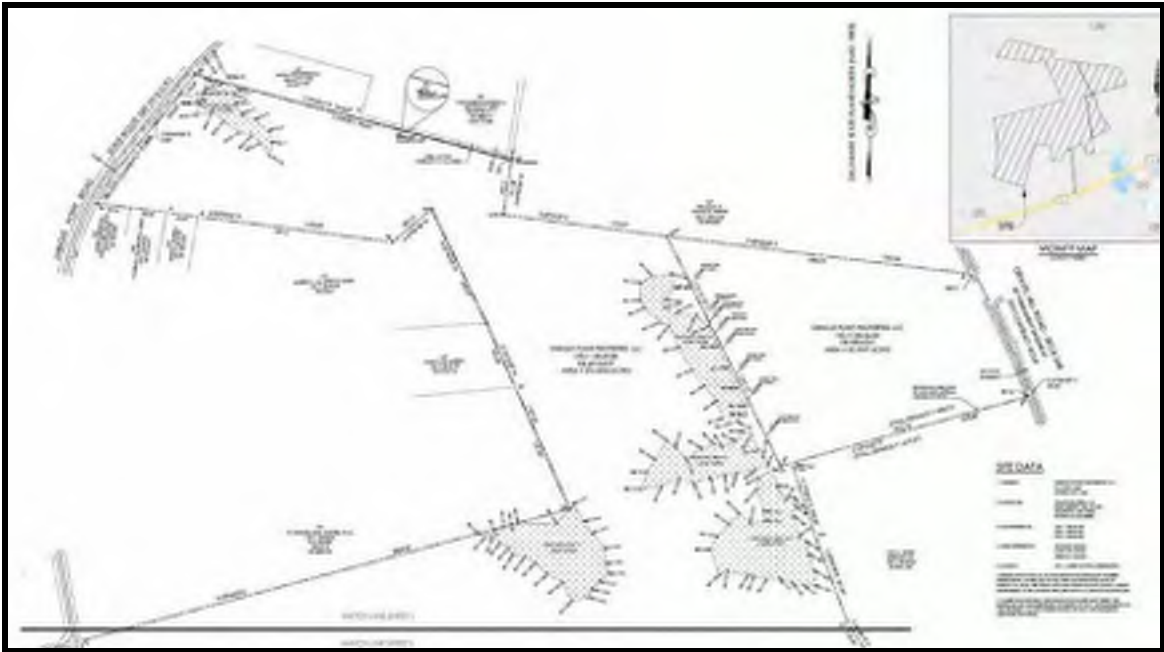


Figure 14: North Survey

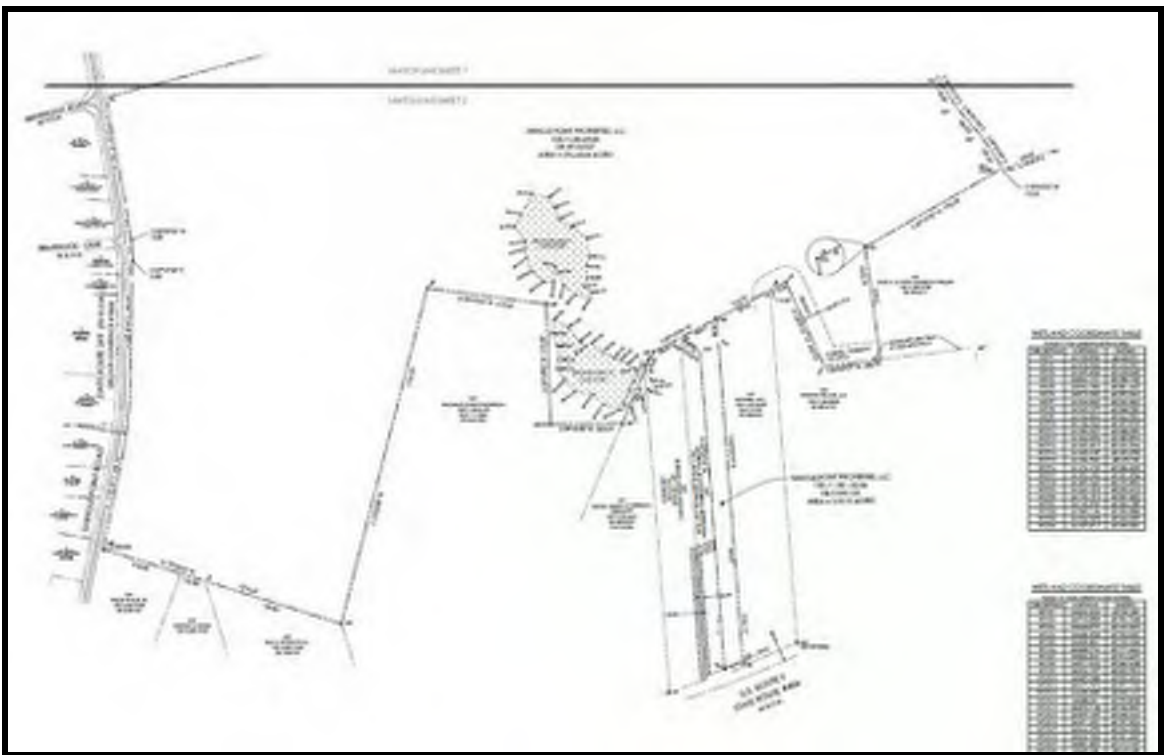
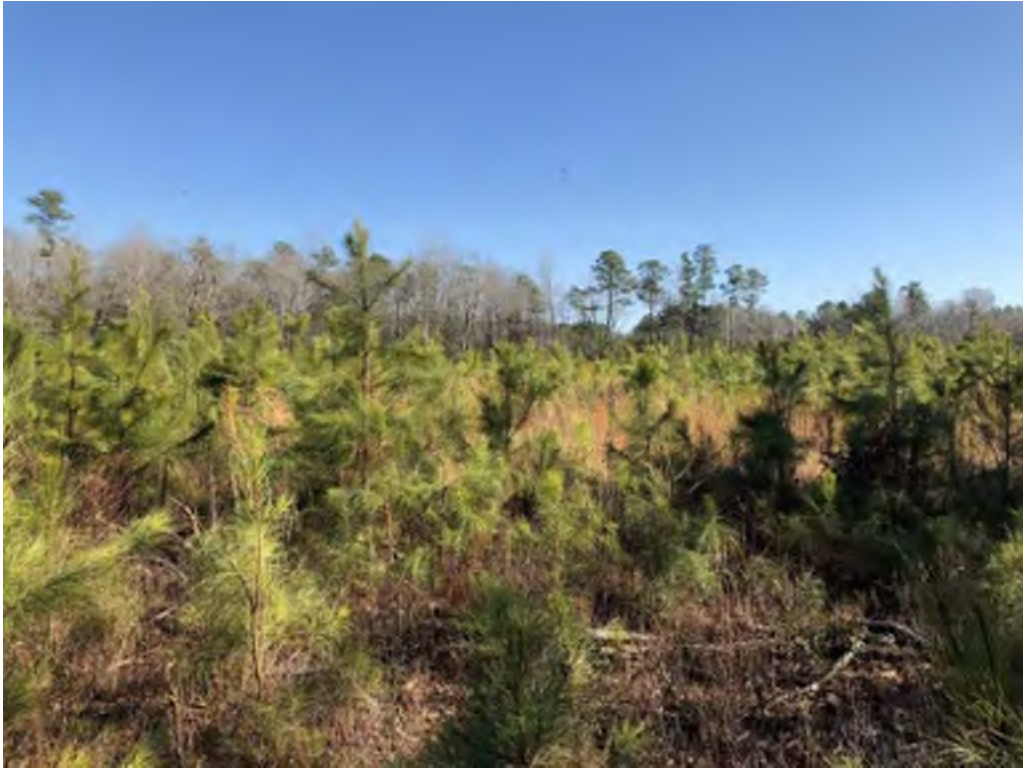


Figure 15: South Survey

## REPRESENTATIVE PHOTOS



**Photo 1: Scrub/Shrub on Gravel Hill Road Parcel**



**Photo 2: Logging Road Through Woodlands**



**Photo 3: Wetland Area**



**Photo 4: Sweet Bay Magnolia in Wetland Area**



**Photo 5: Upland Soil Typical of the Site**



**Photo 6: Hydric Soils and High Water Table in Wet Area**



# **ATTATCHMENTS**



United States  
Department of  
Agriculture

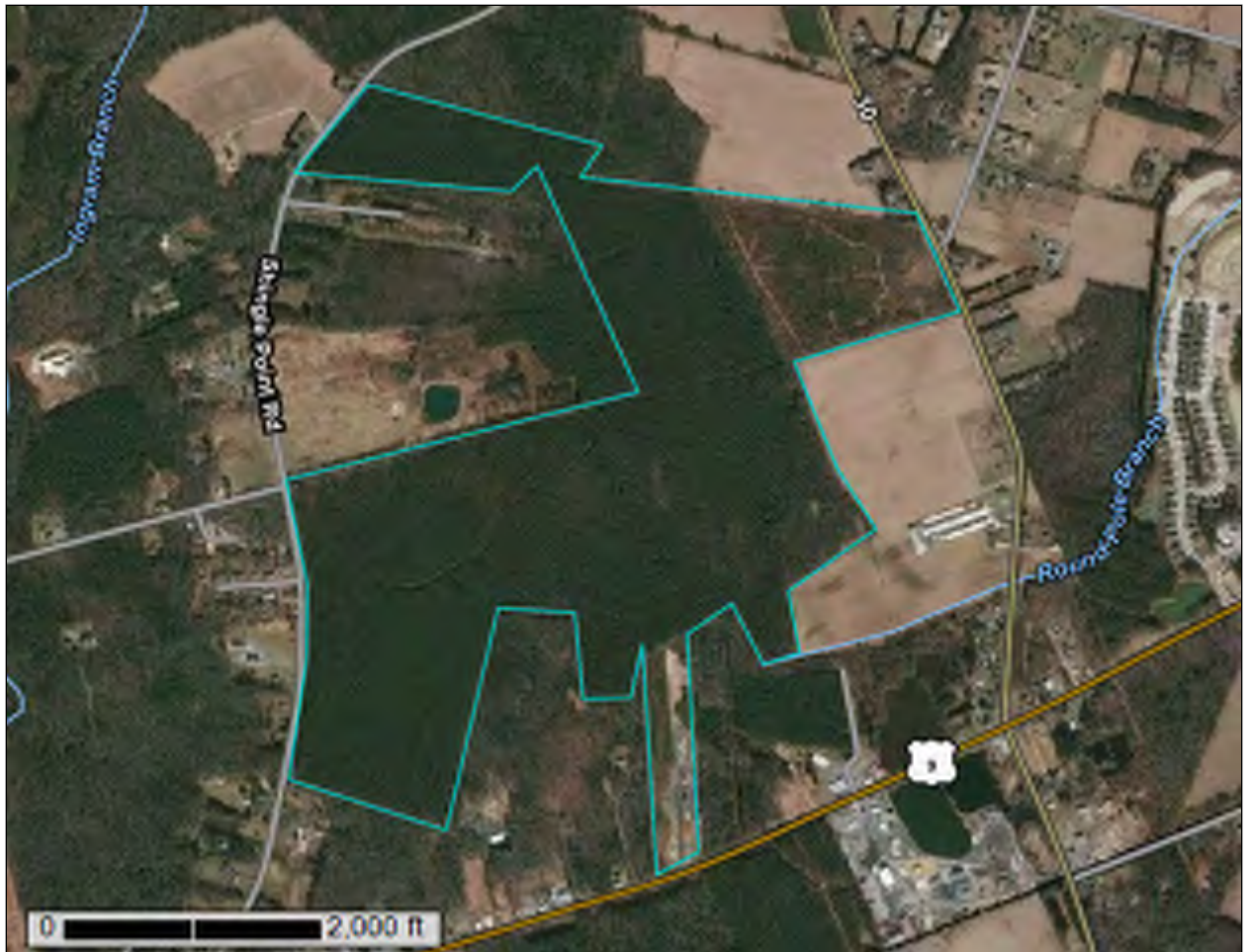
**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Sussex County, Delaware**

**Wilson Moore**



# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

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# How Soil Surveys Are Made

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Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

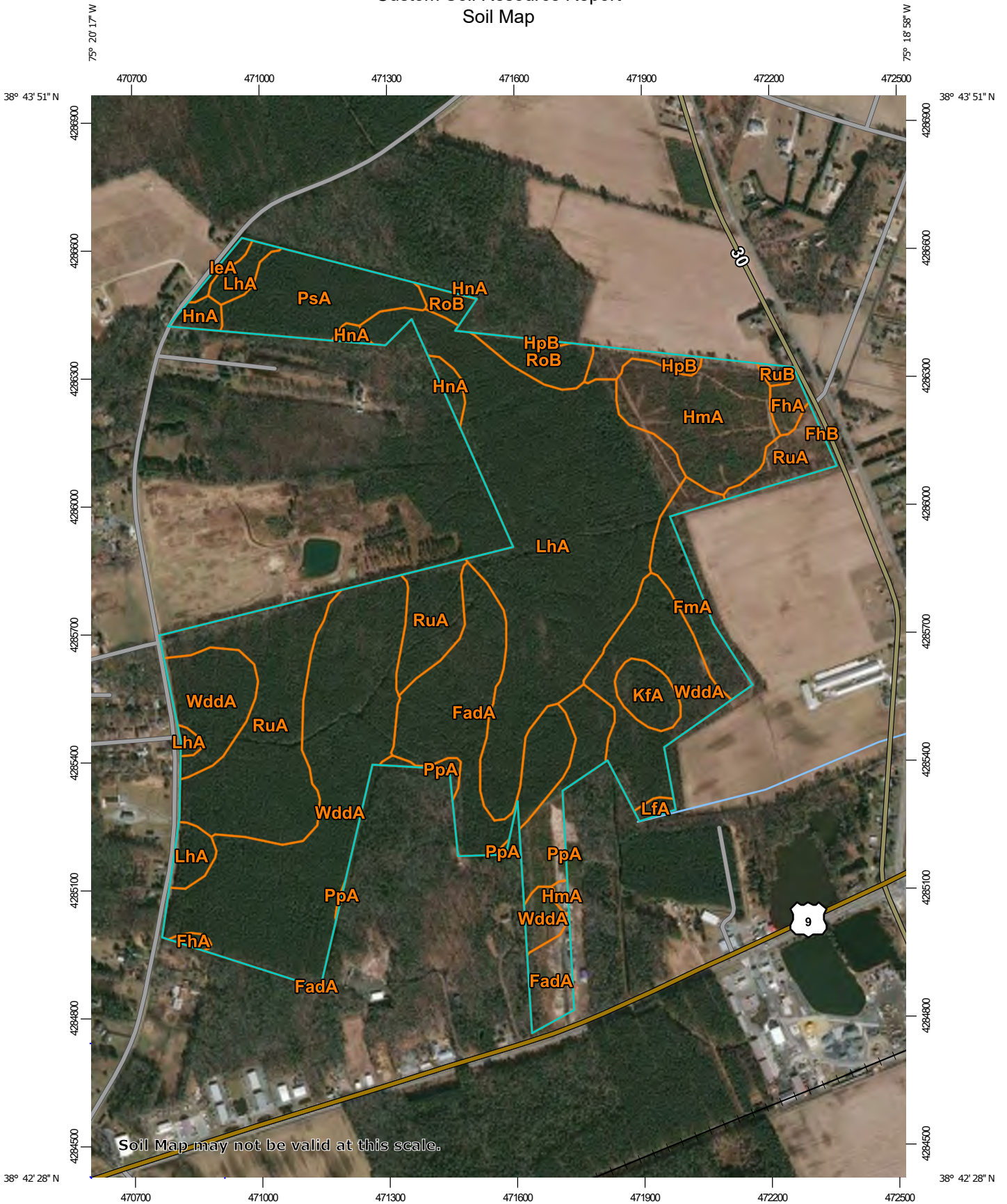


# Soil Map

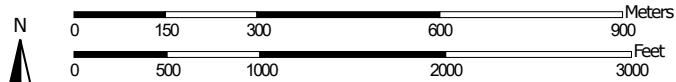
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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map

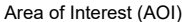





































Map Scale: 1:12,400 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

### MAP LEGEND

- Area of Interest (AOI)**
  -  Area of Interest (AOI)
- Soils**
  -  Soil Map Unit Polygons
  -  Soil Map Unit Lines
  -  Soil Map Unit Points
- Special Point Features**
  -  Blowout
  -  Borrow Pit
  -  Clay Spot
  -  Closed Depression
  -  Gravel Pit
  -  Gravelly Spot
  -  Landfill
  -  Lava Flow
  -  Marsh or swamp
  -  Mine or Quarry
  -  Miscellaneous Water
  -  Perennial Water
  -  Rock Outcrop
  -  Saline Spot
  -  Sandy Spot
  -  Severely Eroded Spot
  -  Sinkhole
  -  Slide or Slip
  -  Sodic Spot
- Water Features**
  -  Streams and Canals
- Transportation**
  -  Rails
  -  Interstate Highways
  -  US Routes
  -  Major Roads
  -  Local Roads
- Background**
  -  Aerial Photography
- Other Features**
  -  Spoil Area
  -  Stony Spot
  -  Very Stony Spot
  -  Wet Spot
  -  Other
  -  Special Line Features

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sussex County, Delaware  
 Survey Area Data: Version 20, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 21, 2018—Mar 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FadA	Fallsington sandy loams, 0 to 2 percent slopes, Northern Tidewater Area	32.4	9.9%
FhA	Fort Mott-Henlopen complex, 0 to 2 percent slopes	2.7	0.8%
FhB	Fort Mott-Henlopen complex, 2 to 5 percent slopes	0.0	0.0%
FmA	Fort Mott loamy sand, 0 to 2 percent slopes	8.8	2.7%
HmA	Hammonton loamy sand, 0 to 2 percent slopes	20.9	6.4%
HnA	Hammonton sandy loam, 0 to 2 percent slopes	3.8	1.2%
HpB	Henlopen loamy sand, 2 to 5 percent slopes	3.1	0.9%
IeA	Ingleside loamy sand, 0 to 2 percent slopes	1.0	0.3%
KfA	Keyport fine sandy loam, 0 to 2 percent slopes	4.5	1.4%
LfA	Lenni sandy loam, 0 to 2 percent slopes	0.8	0.2%
LhA	Lenni silt loam, 0 to 2 percent slopes	84.7	26.0%
PpA	Pepperbox loamy sand, 0 to 2 percent slopes	11.0	3.4%
PsA	Pepperbox-Rosedale complex, 0 to 2 percent slopes	15.7	4.8%
RoB	Rosedale loamy sand, 2 to 5 percent slopes	6.7	2.1%
RuA	Runclint loamy sand, 0 to 2 percent slopes	43.8	13.4%
RuB	Runclint loamy sand, 2 to 5 percent slopes	0.8	0.3%
WddA	Woodstown sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	85.0	26.1%
<b>Totals for Area of Interest</b>		<b>325.8</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

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A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps.

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The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Sussex County, Delaware

### FadA—Fallsington sandy loams, 0 to 2 percent slopes, Northern Tidewater Area

#### Map Unit Setting

*National map unit symbol:* 2thvq

*Elevation:* 0 to 40 feet

*Mean annual precipitation:* 42 to 48 inches

*Mean annual air temperature:* 52 to 58 degrees F

*Frost-free period:* 180 to 220 days

*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Fallsington, undrained, and similar soils:* 48 percent

*Fallsington, drained, and similar soils:* 27 percent

*Minor components:* 25 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Fallsington, Undrained

##### Setting

*Landform:* Depressions, swales, flats, drainageways

*Landform position (two-dimensional):* Footslope

*Landform position (three-dimensional):* Dip, talf

*Down-slope shape:* Concave, linear

*Across-slope shape:* Concave, linear

*Parent material:* Loamy fluviomarine deposits

##### Typical profile

*Oe - 0 to 2 inches:* mucky peat

*A - 2 to 10 inches:* sandy loam

*Btg - 10 to 32 inches:* sandy clay loam

*BCg - 32 to 39 inches:* loamy sand

*Cg1 - 39 to 46 inches:* sandy clay loam

*Cg2 - 46 to 80 inches:* sand

##### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Poorly drained

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)

*Depth to water table:* About 0 to 10 inches

*Frequency of flooding:* None

*Frequency of ponding:* Occasional

*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)

*Available water storage in profile:* Moderate (about 8.8 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 5w

*Hydrologic Soil Group:* B/D

*Hydric soil rating:* Yes

## Description of Fallsington, Drained

### Setting

*Landform:* Depressions, swales, flats  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Dip, talf  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Loamy fluviomarine deposits

### Typical profile

*Ap - 0 to 10 inches:* sandy loam  
*Btg - 10 to 32 inches:* sandy clay loam  
*BCg - 32 to 39 inches:* loamy sand  
*Cg1 - 39 to 46 inches:* sandy clay loam  
*Cg2 - 46 to 80 inches:* sand

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 1.98 in/hr)  
*Depth to water table:* About 10 to 20 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* Rare  
*Salinity, maximum in profile:* Nonsaline to very slightly saline (0.0 to 2.3 mmhos/cm)  
*Available water storage in profile:* Moderate (about 8.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3w  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* B/D  
*Hydric soil rating:* Yes

## Minor Components

### Woodstown

*Percent of map unit:* 9 percent  
*Landform:* Flats, broad interstream divides, fluviomarine terraces  
*Landform position (three-dimensional):* Tread, rise, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### Hammonton

*Percent of map unit:* 8 percent  
*Landform:* Drainageways, flats  
*Landform position (three-dimensional):* Dip, rise  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### Othello

*Percent of map unit:* 8 percent  
*Landform:* Drainageways, flats, depressions, swales



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*Landform position (two-dimensional):* Foothlope, toeslope  
*Landform position (three-dimensional):* Dip, talf  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* Yes

### **FhA—Fort Mott-Henlopen complex, 0 to 2 percent slopes**

#### **Map Unit Setting**

*National map unit symbol:* 1qtgh  
*Elevation:* 20 to 70 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Prime farmland if irrigated

#### **Map Unit Composition**

*Fort mott and similar soils:* 45 percent  
*Henlopen and similar soils:* 35 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### **Description of Fort Mott**

##### **Setting**

*Landform:* Fluvio marine terraces, flats  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits over fluvio marine sediments

##### **Typical profile**

*Ap - 0 to 10 inches:* loamy sand  
*E - 10 to 24 inches:* loamy sand  
*Bt - 24 to 36 inches:* sandy loam  
*C - 36 to 80 inches:* loamy sand

##### **Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (1.28 to 5.95 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 5.3 inches)

##### **Interpretive groups**

*Land capability classification (irrigated):* 2s

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*Land capability classification (nonirrigated): 2s*  
*Hydrologic Soil Group: A*  
*Hydric soil rating: No*

### Description of Henlopen

#### Setting

*Landform: Marine terraces, dunes*  
*Down-slope shape: Convex*  
*Across-slope shape: Linear*  
*Parent material: Sandy eolian deposits and loamy fluviomarine sediments*

#### Typical profile

*Ap - 0 to 10 inches: loamy sand*  
*E - 10 to 46 inches: loamy sand*  
*Bt - 46 to 62 inches: sandy loam*  
*C - 62 to 80 inches: sand*

#### Properties and qualities

*Slope: 0 to 2 percent*  
*Depth to restrictive feature: More than 80 inches*  
*Natural drainage class: Somewhat excessively drained*  
*Runoff class: Negligible*  
*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)*  
*Depth to water table: More than 80 inches*  
*Frequency of flooding: None*  
*Frequency of ponding: None*  
*Available water storage in profile: Low (about 5.9 inches)*

#### Interpretive groups

*Land capability classification (irrigated): 2s*  
*Land capability classification (nonirrigated): 3s*  
*Hydrologic Soil Group: A*  
*Hydric soil rating: No*

### Minor Components

#### Downer

*Percent of map unit: 5 percent*  
*Landform: Flats*  
*Hydric soil rating: No*

#### Ingleside

*Percent of map unit: 5 percent*  
*Landform: Flats*  
*Hydric soil rating: No*

#### Runclint

*Percent of map unit: 5 percent*  
*Landform: Dunes, flats, knolls*  
*Hydric soil rating: No*

#### Rosedale

*Percent of map unit: 5 percent*  
*Landform: Knolls, flats*  
*Hydric soil rating: No*

## **FhB—Fort Mott-Henlopen complex, 2 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1qtgj  
*Elevation:* 20 to 70 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Fort mott and similar soils:* 45 percent  
*Henlopen and similar soils:* 35 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Fort Mott**

#### **Setting**

*Landform:* Fluvio-marine terraces, flats, knolls  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear, convex  
*Parent material:* Sandy eolian deposits over fluvio-marine sediments

#### **Typical profile**

*Ap - 0 to 10 inches:* loamy sand  
*E - 10 to 24 inches:* loamy sand  
*Bt - 24 to 36 inches:* sandy loam  
*C - 36 to 80 inches:* loamy sand

#### **Properties and qualities**

*Slope:* 2 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (1.28 to 5.95 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 5.3 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 2s  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

## Description of Henlopen

### Setting

*Landform:* Dunes, marine terraces

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear

*Parent material:* Sandy eolian deposits and loamy fluviomarine sediments

### Typical profile

*Ap - 0 to 10 inches:* loamy sand

*E - 10 to 46 inches:* loamy sand

*Bt - 46 to 62 inches:* sandy loam

*C - 62 to 80 inches:* sand

### Properties and qualities

*Slope:* 2 to 5 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Somewhat excessively drained

*Runoff class:* Negligible

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 5.95 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water storage in profile:* Low (about 5.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2s

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

## Minor Components

### Runclint

*Percent of map unit:* 5 percent

*Landform:* Knolls, dunes, flats

*Hydric soil rating:* No

### Ingleside

*Percent of map unit:* 5 percent

*Landform:* Flats

*Hydric soil rating:* No

### Downer

*Percent of map unit:* 5 percent

*Landform:* Flats

*Hydric soil rating:* No

### Rosedale

*Percent of map unit:* 5 percent

*Landform:* Flats, knolls

*Hydric soil rating:* No

## **FmA—Fort Mott loamy sand, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1qtgk  
*Elevation:* 10 to 120 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Fort mott and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Fort Mott**

#### **Setting**

*Landform:* Flats, fluviomarine terraces  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits over fluviomarine sediments fluviomarine deposits

#### **Typical profile**

*Ap - 0 to 10 inches:* loamy sand  
*E - 10 to 24 inches:* loamy sand  
*Bt - 24 to 36 inches:* sandy loam  
*C - 36 to 80 inches:* loamy sand

#### **Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (1.28 to 5.95 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 5.3 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 2s  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

## Minor Components

### **Ingleside**

*Percent of map unit:* 5 percent  
*Landform:* Depressions, flats, fluviomarine terraces  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Hydric soil rating:* No

### **Rosedale**

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Talf, dip  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Runclint**

*Percent of map unit:* 5 percent  
*Landform:* Flats, fluviomarine terraces  
*Landform position (three-dimensional):* Dip, talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

### **Downer**

*Percent of map unit:* 5 percent  
*Landform:* Flats, fluviomarine terraces  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

## **HmA—Hammonton loamy sand, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1qth0  
*Elevation:* 0 to 140 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* All areas are prime farmland

### **Map Unit Composition**

*Hammonton and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Hammonton

### Setting

*Landform:* Drainageways, depressions, flats  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Loamy fluviomarine sediments

### Typical profile

*Ap - 0 to 11 inches:* loamy sand  
*Bt - 11 to 30 inches:* sandy loam  
*Cg - 30 to 80 inches:* sand

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Moderately well drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)  
*Depth to water table:* About 20 to 40 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 5.3 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2w  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* B  
*Hydric soil rating:* No

## Minor Components

### Ingleside

*Percent of map unit:* 5 percent  
*Landform:* Depressions, flats, fluviomarine terraces  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Hydric soil rating:* No

### Klej

*Percent of map unit:* 5 percent  
*Landform:* Flats, depressions  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

### Hurlock, drained

*Percent of map unit:* 5 percent  
*Landform:* Depressions, flats, swales  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Hydric soil rating:* Yes

**Rosedale**

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

**HnA—Hammonton sandy loam, 0 to 2 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 1qth1  
*Elevation:* 0 to 120 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* All areas are prime farmland

**Map Unit Composition**

*Hammonton and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Hammonton**

**Setting**

*Landform:* Flats, drainageways, depressions  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Parent material:* Loamy fluviomarine sediments

**Typical profile**

*Ap - 0 to 11 inches:* sandy loam  
*Bt - 11 to 30 inches:* sandy loam  
*Cg - 30 to 80 inches:* sand

**Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Moderately well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)  
*Depth to water table:* About 20 to 40 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 5.4 inches)

**Interpretive groups**

*Land capability classification (irrigated):* 2w



## Custom Soil Resource Report

*Land capability classification (nonirrigated): 2w*  
*Hydrologic Soil Group: B*  
*Hydric soil rating: No*

### Minor Components

#### **Hurlock, drained**

*Percent of map unit: 5 percent*  
*Landform: Flats, depressions, swales*  
*Down-slope shape: Linear, concave*  
*Across-slope shape: Linear, concave*  
*Hydric soil rating: Yes*

#### **Rosedale**

*Percent of map unit: 5 percent*  
*Landform: Flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

#### **Klej**

*Percent of map unit: 5 percent*  
*Landform: Flats, depressions*  
*Landform position (three-dimensional): Dip*  
*Down-slope shape: Linear, concave*  
*Across-slope shape: Linear, concave*  
*Hydric soil rating: No*

#### **Ingleside**

*Percent of map unit: 5 percent*  
*Landform: Fluvio-marine terraces, flats*  
*Landform position (three-dimensional): Rise*  
*Down-slope shape: Linear*  
*Across-slope shape: Linear*  
*Hydric soil rating: No*

## **HpB—Henlopen loamy sand, 2 to 5 percent slopes**

### **Map Unit Setting**

*National map unit symbol: 1qth4*  
*Elevation: 20 to 70 feet*  
*Mean annual precipitation: 42 to 48 inches*  
*Mean annual air temperature: 52 to 58 degrees F*  
*Frost-free period: 180 to 220 days*  
*Farmland classification: Prime farmland if irrigated*

### **Map Unit Composition**

*Henlopen and similar soils: 80 percent*  
*Minor components: 20 percent*  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Henlopen

### Setting

*Landform:* Dunes, marine terraces

*Down-slope shape:* Convex, linear

*Across-slope shape:* Linear

*Parent material:* Sandy eolian deposits and loamy fluviomarine sediments

### Typical profile

*Ap - 0 to 10 inches:* loamy sand

*E - 10 to 46 inches:* loamy sand

*Bt - 46 to 62 inches:* sandy loam

*C - 62 to 80 inches:* sand

### Properties and qualities

*Slope:* 2 to 5 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Somewhat excessively drained

*Runoff class:* Negligible

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.57 to 5.95 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water storage in profile:* Low (about 5.9 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2s

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* A

*Hydric soil rating:* No

## Minor Components

### Runclint

*Percent of map unit:* 5 percent

*Landform:* Knolls, dunes, flats

*Hydric soil rating:* No

### Fort mott

*Percent of map unit:* 5 percent

*Landform:* Flats

*Hydric soil rating:* No

### Ingleside

*Percent of map unit:* 5 percent

*Landform:* Flats

*Hydric soil rating:* No

### Rosedale

*Percent of map unit:* 5 percent

*Landform:* Flats, knolls

*Hydric soil rating:* No

## **1eA—Ingleside loamy sand, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1qthb  
*Elevation:* 10 to 120 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* All areas are prime farmland

### **Map Unit Composition**

*Ingleside and similar soils:* 75 percent  
*Minor components:* 25 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Ingleside**

#### **Setting**

*Landform:* Flats, depressions, fluviomarine terraces  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave

#### **Typical profile**

*Ap - 0 to 10 inches:* loamy sand  
*E - 10 to 15 inches:* sandy loam  
*Bt - 15 to 33 inches:* sandy loam  
*BC - 33 to 43 inches:* sandy loam  
*C1 - 43 to 56 inches:* loamy sand  
*2C2 - 56 to 80 inches:* silt loam

#### **Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 5.95 in/hr)  
*Depth to water table:* About 40 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Moderate (about 6.6 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 1  
*Land capability classification (nonirrigated):* 1  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

**Minor Components**

**Cedartown**

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Hydric soil rating:* No

**Downer**

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Rise  
*Hydric soil rating:* No

**Hammonton**

*Percent of map unit:* 5 percent  
*Landform:* Flats, swales, depressions  
*Hydric soil rating:* No

**Evesboro**

*Percent of map unit:* 5 percent  
*Landform:* Dunes, flats, knolls  
*Landform position (three-dimensional):* Rise  
*Hydric soil rating:* No

**Woodstown**

*Percent of map unit:* 5 percent  
*Landform:* Flats, depressions, swales  
*Hydric soil rating:* No

**KfA—Keyport fine sandy loam, 0 to 2 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 1qthn  
*Elevation:* 10 to 120 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* All areas are prime farmland

**Map Unit Composition**

*Keyport and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Keyport**

**Setting**

*Landform:* Depressions, flats, fluviomarine terraces  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Silty and clayey fluviomarine deposits

## Custom Soil Resource Report

### Typical profile

*Ap - 0 to 10 inches:* fine sandy loam

*Bt - 10 to 48 inches:* silty clay loam

*2Cg - 48 to 80 inches:* stratified silt loam to sandy loam

### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches

*Natural drainage class:* Moderately well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.06 to 0.20 in/hr)

*Depth to water table:* About 20 to 40 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water storage in profile:* High (about 9.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2w

*Land capability classification (nonirrigated):* 2w

*Hydrologic Soil Group:* D

*Hydric soil rating:* No

### Minor Components

#### Lenni

*Percent of map unit:* 5 percent

*Landform:* Depressions, drainageways, flats, swales

*Landform position (three-dimensional):* Dip

*Hydric soil rating:* Yes

#### Rosedale

*Percent of map unit:* 5 percent

*Landform:* Dunes, flats, knolls

*Landform position (three-dimensional):* Rise

*Hydric soil rating:* No

#### Pepperbox

*Percent of map unit:* 5 percent

*Landform:* Flats, swales, depressions

*Hydric soil rating:* No

## LfA—Lenni sandy loam, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* 1qthx

*Elevation:* 10 to 120 feet

*Mean annual precipitation:* 42 to 48 inches

*Mean annual air temperature:* 52 to 58 degrees F

*Frost-free period:* 180 to 220 days

*Farmland classification:* Farmland of statewide importance

**Map Unit Composition**

*Lenni, undrained, and similar soils: 50 percent*

*Lenni, drained, and similar soils: 35 percent*

*Minor components: 15 percent*

*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Lenni, Undrained**

**Setting**

*Landform: Flats, swales, depressions*

*Down-slope shape: Linear, concave*

*Across-slope shape: Linear, concave*

*Parent material: Clayey fluviomarine sediments*

**Typical profile**

*Oe - 0 to 2 inches: moderately decomposed plant material*

*A - 2 to 7 inches: sandy loam*

*Eg - 7 to 14 inches: loam*

*Btg - 14 to 51 inches: clay*

*2Cg - 51 to 80 inches: fine sandy loam*

**Properties and qualities**

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*Natural drainage class: Poorly drained*

*Runoff class: Low*

*Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)*

*Depth to water table: About 0 to 10 inches*

*Frequency of flooding: None*

*Frequency of ponding: Occasional*

*Available water storage in profile: Moderate (about 7.9 inches)*

**Interpretive groups**

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 4w*

*Hydrologic Soil Group: D*

*Hydric soil rating: Yes*

**Description of Lenni, Drained**

**Setting**

*Landform: Flats, swales, depressions*

*Down-slope shape: Linear, concave*

*Across-slope shape: Linear, concave*

*Parent material: Clayey fluviomarine sediments*

**Typical profile**

*Ap - 0 to 7 inches: sandy loam*

*Eg - 7 to 14 inches: loam*

*Btg - 14 to 51 inches: clay*

*2Cg - 51 to 80 inches: fine sandy loam*

**Properties and qualities**

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*Natural drainage class: Poorly drained*

## Custom Soil Resource Report

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Very low to moderately low (0.00 to 0.06 in/hr)

*Depth to water table:* About 10 to 20 inches

*Frequency of flooding:* None

*Frequency of ponding:* Rare

*Available water storage in profile:* Moderate (about 7.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3w

*Land capability classification (nonirrigated):* 3w

*Hydrologic Soil Group:* D

*Hydric soil rating:* Yes

### Minor Components

#### Pepperbox

*Percent of map unit:* 5 percent

*Landform:* Flats, knolls

*Landform position (three-dimensional):* Rise

*Hydric soil rating:* No

#### Rosedale

*Percent of map unit:* 5 percent

*Landform:* Flats, knolls, dunes

*Landform position (three-dimensional):* Rise

*Hydric soil rating:* No

#### Keyport

*Percent of map unit:* 5 percent

*Landform:* Flats

*Landform position (three-dimensional):* Rise

*Hydric soil rating:* No

## LhA—Lenni silt loam, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* 1qthy

*Elevation:* 20 to 70 feet

*Mean annual precipitation:* 42 to 48 inches

*Mean annual air temperature:* 52 to 58 degrees F

*Frost-free period:* 180 to 220 days

*Farmland classification:* Farmland of statewide importance

### Map Unit Composition

*Lenni, drained, and similar soils:* 50 percent

*Lenni, undrained, and similar soils:* 30 percent

*Minor components:* 20 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Lenni, Drained

### Setting

*Landform:* Flats, depressions, swales  
*Landform position (three-dimensional):* Dip, talf  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Parent material:* Clayey fluviomarine sediments

### Typical profile

*Ap - 0 to 7 inches:* silt loam  
*Eg - 7 to 14 inches:* loam  
*Btg - 14 to 51 inches:* clay  
*2Cg - 51 to 80 inches:* fine sandy loam

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Poorly drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.04 to 0.57 in/hr)  
*Depth to water table:* About 10 to 20 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* Rare  
*Available water storage in profile:* Moderate (about 7.6 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* Yes

## Description of Lenni, Undrained

### Setting

*Landform:* Depressions, swales, flats  
*Landform position (three-dimensional):* Dip, talf  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Clayey fluviomarine sediments

### Typical profile

*Oe - 0 to 2 inches:* moderately decomposed plant material  
*A - 2 to 7 inches:* silt loam  
*Eg - 7 to 14 inches:* loam  
*Btg - 14 to 51 inches:* clay  
*2Cg - 51 to 80 inches:* fine sandy loam

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Poorly drained  
*Runoff class:* Low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to moderately high (0.04 to 0.57 in/hr)  
*Depth to water table:* About 0 to 10 inches



## Custom Soil Resource Report

*Frequency of flooding:* None  
*Frequency of ponding:* Occasional  
*Available water storage in profile:* Moderate (about 8.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* D  
*Hydric soil rating:* Yes

### Minor Components

#### Crosiadore

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Rise  
*Hydric soil rating:* No

#### Keyport

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Hydric soil rating:* No

#### Mattapex

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Rise  
*Hydric soil rating:* No

#### Corsica

*Percent of map unit:* 5 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

## PpA—Pepperbox loamy sand, 0 to 2 percent slopes

### Map Unit Setting

*National map unit symbol:* 1qtjj  
*Elevation:* 0 to 70 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Pepperbox and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

## Description of Pepperbox

### Setting

*Landform:* Depressions, flats  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits over fluvial marine sediments

### Typical profile

*A - 0 to 10 inches:* loamy sand  
*E - 10 to 25 inches:* loamy sand  
*Bt - 25 to 37 inches:* sandy loam  
*2Btg - 37 to 65 inches:* sandy clay loam  
*2Cg - 65 to 80 inches:* sandy clay loam

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Moderately well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)  
*Depth to water table:* About 20 to 40 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Moderate (about 8.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2w  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

## Minor Components

### Rosedale

*Percent of map unit:* 10 percent  
*Landform:* Flats  
*Hydric soil rating:* No

### Fort mott

*Percent of map unit:* 5 percent  
*Landform:* Flats, knolls  
*Landform position (three-dimensional):* Rise  
*Hydric soil rating:* No

### Rockawalkin

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Hydric soil rating:* No

## **PsA—Pepperbox-Rosedale complex, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1qtjn  
*Elevation:* 0 to 70 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Prime farmland if irrigated

### **Map Unit Composition**

*Rosedale and similar soils:* 45 percent  
*Pepperbox and similar soils:* 45 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Rosedale**

#### **Setting**

*Landform:* Flats  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits over fluviomarine sediments

#### **Typical profile**

*A - 0 to 9 inches:* loamy sand  
*E - 9 to 25 inches:* loamy sand  
*Bt - 25 to 38 inches:* sandy loam  
*C - 38 to 68 inches:* loamy sand  
*2Cg - 68 to 80 inches:* sandy clay loam

#### **Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.20 to 5.95 in/hr)  
*Depth to water table:* About 40 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 5.3 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* 2s  
*Land capability classification (nonirrigated):* 2s  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

## Description of Pepperbox

### Setting

*Landform:* Depressions, flats  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Sandy eolian deposits over fluviomarine sediments

### Typical profile

*A - 0 to 10 inches:* loamy sand  
*E - 10 to 25 inches:* loamy sand  
*Bt - 25 to 37 inches:* sandy loam  
*2Btg - 37 to 65 inches:* sandy clay loam  
*2Cg - 65 to 80 inches:* sandy clay loam

### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Moderately well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately low to high  
(0.06 to 1.98 in/hr)  
*Depth to water table:* About 20 to 40 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Moderate (about 8.2 inches)

### Interpretive groups

*Land capability classification (irrigated):* 2w  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

## Minor Components

### Rockawalkin

*Percent of map unit:* 5 percent  
*Landform:* Flats  
*Hydric soil rating:* No

### Fort mott

*Percent of map unit:* 5 percent  
*Landform:* Knolls, flats  
*Landform position (three-dimensional):* Rise  
*Hydric soil rating:* No

## RoB—Rosedale loamy sand, 2 to 5 percent slopes

### Map Unit Setting

*National map unit symbol:* 1qtjy

## Custom Soil Resource Report

*Elevation:* 0 to 120 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Rosedale and similar soils:* 75 percent  
*Minor components:* 25 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Rosedale

#### Setting

*Landform:* Flats  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits over fluviomarine sediments

#### Typical profile

*A - 0 to 9 inches:* loamy sand  
*E - 9 to 25 inches:* loamy sand  
*Bt - 25 to 38 inches:* sandy loam  
*C - 38 to 68 inches:* loamy sand  
*2Cg - 68 to 80 inches:* sandy clay loam

#### Properties and qualities

*Slope:* 2 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Well drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.20 to 5.95 in/hr)  
*Depth to water table:* About 40 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 5.3 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 2e  
*Land capability classification (nonirrigated):* 2e  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

### Minor Components

#### Evesboro

*Percent of map unit:* 10 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Galloway

*Percent of map unit:* 5 percent  
*Landform:* Flats, depressions

## Custom Soil Resource Report

*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

### **Klej**

*Percent of map unit:* 5 percent  
*Landform:* Flats, depressions  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

### **Hambrook**

*Percent of map unit:* 5 percent  
*Landform:* Flats, fluviomarine terraces, depressions  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

## **RuA—Runclint loamy sand, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* 1qtjz  
*Elevation:* 0 to 120 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*Runclint and similar soils:* 75 percent  
*Minor components:* 25 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Runclint**

#### **Setting**

*Landform:* Flats, fluviomarine terraces  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Sandy eolian deposits and/or fluviomarine sediments

#### **Typical profile**

*Ap - 0 to 9 inches:* loamy sand  
*E - 9 to 22 inches:* sand  
*Bw - 22 to 39 inches:* sand  
*BC - 39 to 59 inches:* sand  
*2C - 59 to 80 inches:* loamy coarse sand

#### **Properties and qualities**

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches

## Custom Soil Resource Report

*Natural drainage class:* Excessively drained  
*Runoff class:* Negligible  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to very high (0.57 to 19.98 in/hr)  
*Depth to water table:* About 40 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 3.5 inches)

### Interpretive groups

*Land capability classification (irrigated):* 3s  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

### Minor Components

#### Evesboro

*Percent of map unit:* 10 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Hurlock, drained

*Percent of map unit:* 5 percent  
*Landform:* Depressions, flats, swales  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Hydric soil rating:* Yes

#### Klej

*Percent of map unit:* 5 percent  
*Landform:* Flats, depressions  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

#### Galloway

*Percent of map unit:* 5 percent  
*Landform:* Flats, depressions  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

## RuB—Runclint loamy sand, 2 to 5 percent slopes

### Map Unit Setting

*National map unit symbol:* 1qtk1

## Custom Soil Resource Report

*Elevation:* 0 to 120 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* Not prime farmland

### Map Unit Composition

*Runclint and similar soils:* 75 percent  
*Minor components:* 25 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Runclint

#### Setting

*Landform:* Fluviomarine terraces, knolls, flats, dunes  
*Landform position (three-dimensional):* Rise  
*Down-slope shape:* Linear, convex  
*Across-slope shape:* Linear, convex  
*Parent material:* Sandy eolian deposits and/or fluviomarine sediments

#### Typical profile

*Ap - 0 to 9 inches:* loamy sand  
*E - 9 to 22 inches:* sand  
*Bw - 22 to 39 inches:* sand  
*BC - 39 to 59 inches:* sand  
*2C - 59 to 80 inches:* loamy coarse sand

#### Properties and qualities

*Slope:* 2 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Excessively drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to very high (0.57 to 19.98 in/hr)  
*Depth to water table:* About 40 to 72 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water storage in profile:* Low (about 3.5 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 3s  
*Land capability classification (nonirrigated):* 4s  
*Hydrologic Soil Group:* A  
*Hydric soil rating:* No

### Minor Components

#### Evesboro

*Percent of map unit:* 10 percent  
*Landform:* Flats  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Hydric soil rating:* No

#### Galloway

*Percent of map unit:* 5 percent



## Custom Soil Resource Report

*Landform:* Flats, depressions  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

### **Klej**

*Percent of map unit:* 5 percent  
*Landform:* Flats, depressions  
*Down-slope shape:* Linear, concave  
*Across-slope shape:* Linear, concave  
*Hydric soil rating:* No

### **Hurlock, drained**

*Percent of map unit:* 5 percent  
*Landform:* Depressions, swales, flats  
*Landform position (three-dimensional):* Dip  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Hydric soil rating:* Yes

## **WddA—Woodstown sandy loam, 0 to 2 percent slopes, Northern Tidewater Area**

### **Map Unit Setting**

*National map unit symbol:* 2thvr  
*Elevation:* 0 to 110 feet  
*Mean annual precipitation:* 42 to 48 inches  
*Mean annual air temperature:* 52 to 58 degrees F  
*Frost-free period:* 180 to 220 days  
*Farmland classification:* All areas are prime farmland

### **Map Unit Composition**

*Woodstown and similar soils:* 80 percent  
*Minor components:* 20 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of Woodstown**

#### **Setting**

*Landform:* Depressions, broad interstream divides, flats, fluviomarine terraces  
*Landform position (two-dimensional):* Footslope, summit  
*Landform position (three-dimensional):* Tread, dip, talf  
*Down-slope shape:* Concave, linear  
*Across-slope shape:* Concave, linear  
*Parent material:* Loamy fluviomarine deposits

#### **Typical profile**

*Ap - 0 to 7 inches:* sandy loam  
*E - 7 to 11 inches:* sandy loam  
*Bt - 11 to 29 inches:* sandy loam  
*BCg - 29 to 45 inches:* fine sandy loam

## Custom Soil Resource Report

*Cg - 45 to 80 inches: loamy sand*

### Properties and qualities

*Slope: 0 to 2 percent*

*Depth to restrictive feature: More than 80 inches*

*Natural drainage class: Moderately well drained*

*Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)*

*Depth to water table: About 20 to 40 inches*

*Frequency of flooding: None*

*Frequency of ponding: None*

*Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)*

*Available water storage in profile: Moderate (about 8.3 inches)*

### Interpretive groups

*Land capability classification (irrigated): None specified*

*Land capability classification (nonirrigated): 2w*

*Hydrologic Soil Group: C*

*Hydric soil rating: No*

### Minor Components

#### Hammonton

*Percent of map unit: 6 percent*

*Landform: Depressions, broad interstream divides, flats, drainageways*

*Landform position (two-dimensional): Footslope, summit*

*Landform position (three-dimensional): Dip, talf*

*Down-slope shape: Concave, linear*

*Across-slope shape: Concave, linear*

*Hydric soil rating: No*

#### Fallsington

*Percent of map unit: 6 percent*

*Landform: Depressions, swales, drainageways, flats*

*Landform position (two-dimensional): Footslope*

*Landform position (three-dimensional): Dip, talf*

*Down-slope shape: Concave, linear*

*Across-slope shape: Concave, linear*

*Hydric soil rating: Yes*

#### Mattapex

*Percent of map unit: 4 percent*

*Landform: Swales, flats, depressions, broad interstream divides*

*Landform position (two-dimensional): Footslope, summit*

*Landform position (three-dimensional): Dip, talf*

*Down-slope shape: Concave, linear*

*Across-slope shape: Linear, concave*

*Hydric soil rating: No*

#### Hambrook

*Percent of map unit: 4 percent*

*Landform: Depressions, flats, fluviomarine terraces*

*Landform position (two-dimensional): Footslope, summit*

*Landform position (three-dimensional): Tread, dip, talf*

*Down-slope shape: Concave, linear*

*Across-slope shape: Concave, linear*

Custom Soil Resource Report

*Hydric soil rating:* No

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- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

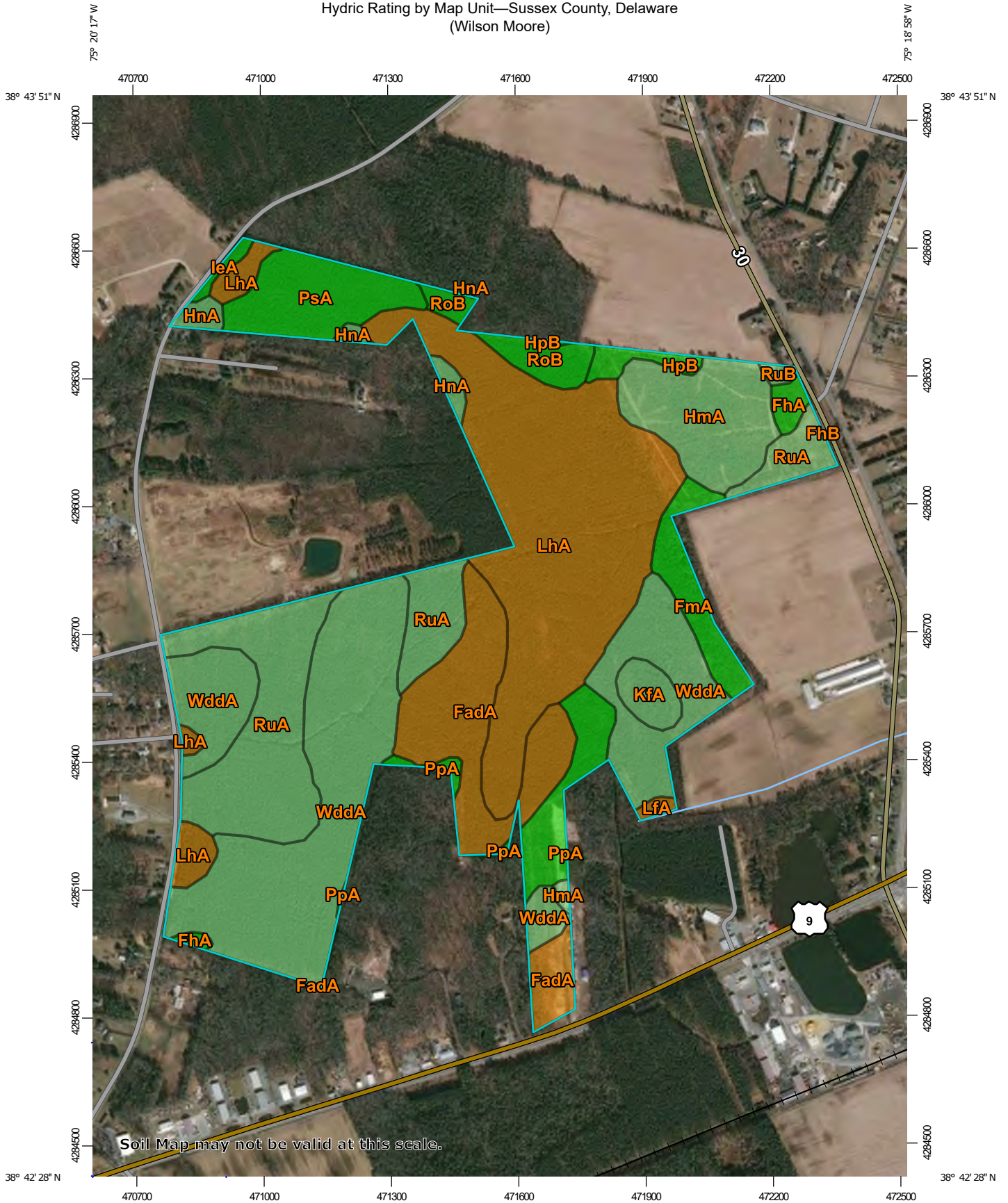
## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

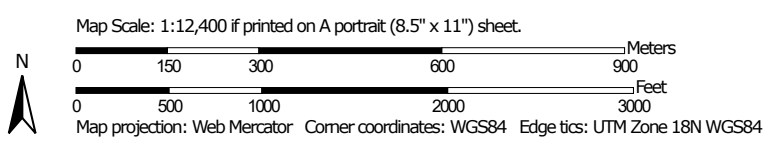
United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

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Hydric Rating by Map Unit—Sussex County, Delaware  
(Wilson Moore)



Soil Map may not be valid at this scale.









## MAP LEGEND

### Area of Interest (AOI)







Area of Interest (AOI)

### Soils







#### Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

#### Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available






#### Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available


### Water Features

-  Streams and Canals

### Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

### Background

-  Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sussex County, Delaware  
Survey Area Data: Version 20, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 21, 2018—Mar 12, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FadA	Fallsington sandy loams, 0 to 2 percent slopes, Northern Tidewater Area	83	32.4	9.9%
FhA	Fort Mott-Henlopen complex, 0 to 2 percent slopes	0	2.7	0.8%
FhB	Fort Mott-Henlopen complex, 2 to 5 percent slopes	0	0.0	0.0%
FmA	Fort Mott loamy sand, 0 to 2 percent slopes	0	8.8	2.7%
HmA	Hammonton loamy sand, 0 to 2 percent slopes	5	20.9	6.4%
HnA	Hammonton sandy loam, 0 to 2 percent slopes	5	3.8	1.2%
HpB	Henlopen loamy sand, 2 to 5 percent slopes	0	3.1	0.9%
IeA	Ingleside loamy sand, 0 to 2 percent slopes	0	1.0	0.3%
KfA	Keyport fine sandy loam, 0 to 2 percent slopes	5	4.5	1.4%
LfA	Lenni sandy loam, 0 to 2 percent slopes	85	0.8	0.2%
LhA	Lenni silt loam, 0 to 2 percent slopes	85	84.7	26.0%
PpA	Pepperbox loamy sand, 0 to 2 percent slopes	0	11.0	3.4%
PsA	Pepperbox-Rosedale complex, 0 to 2 percent slopes	0	15.7	4.8%
RoB	Rosedale loamy sand, 2 to 5 percent slopes	0	6.7	2.1%
RuA	Runclint loamy sand, 0 to 2 percent slopes	5	43.8	13.4%
RuB	Runclint loamy sand, 2 to 5 percent slopes	5	0.8	0.3%
WddA	Woodstown sandy loam, 0 to 2 percent slopes, Northern Tidewater Area	6	85.0	26.1%
<b>Totals for Area of Interest</b>			<b>325.8</b>	<b>100.0%</b>



## Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

### References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

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Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

## Rating Options

*Aggregation Method: Percent Present*








*Component Percent Cutoff: None Specified*

*Tie-break Rule: Lower*

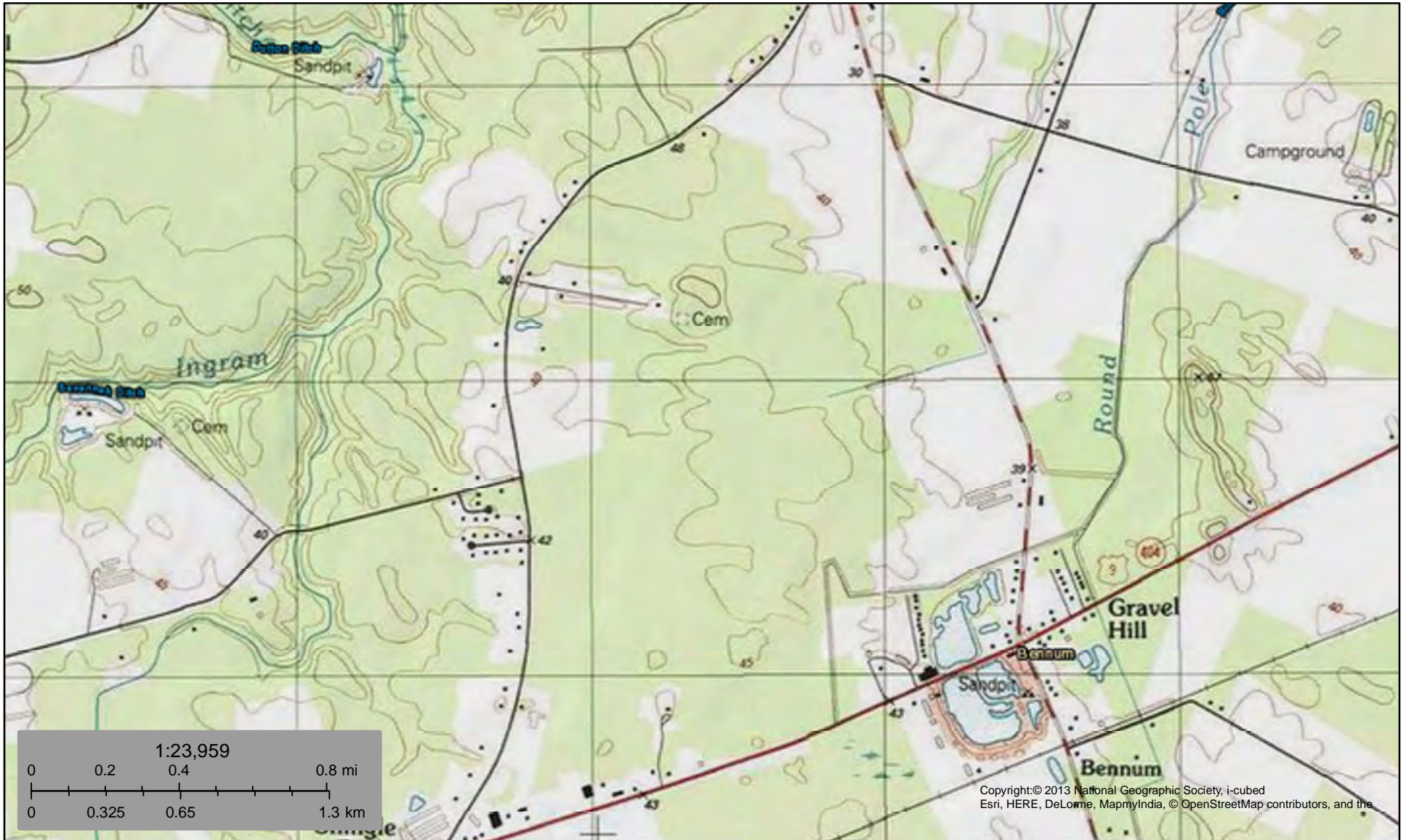


February 5, 2018

**Wetlands**

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Other
-  Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



February 5, 2018

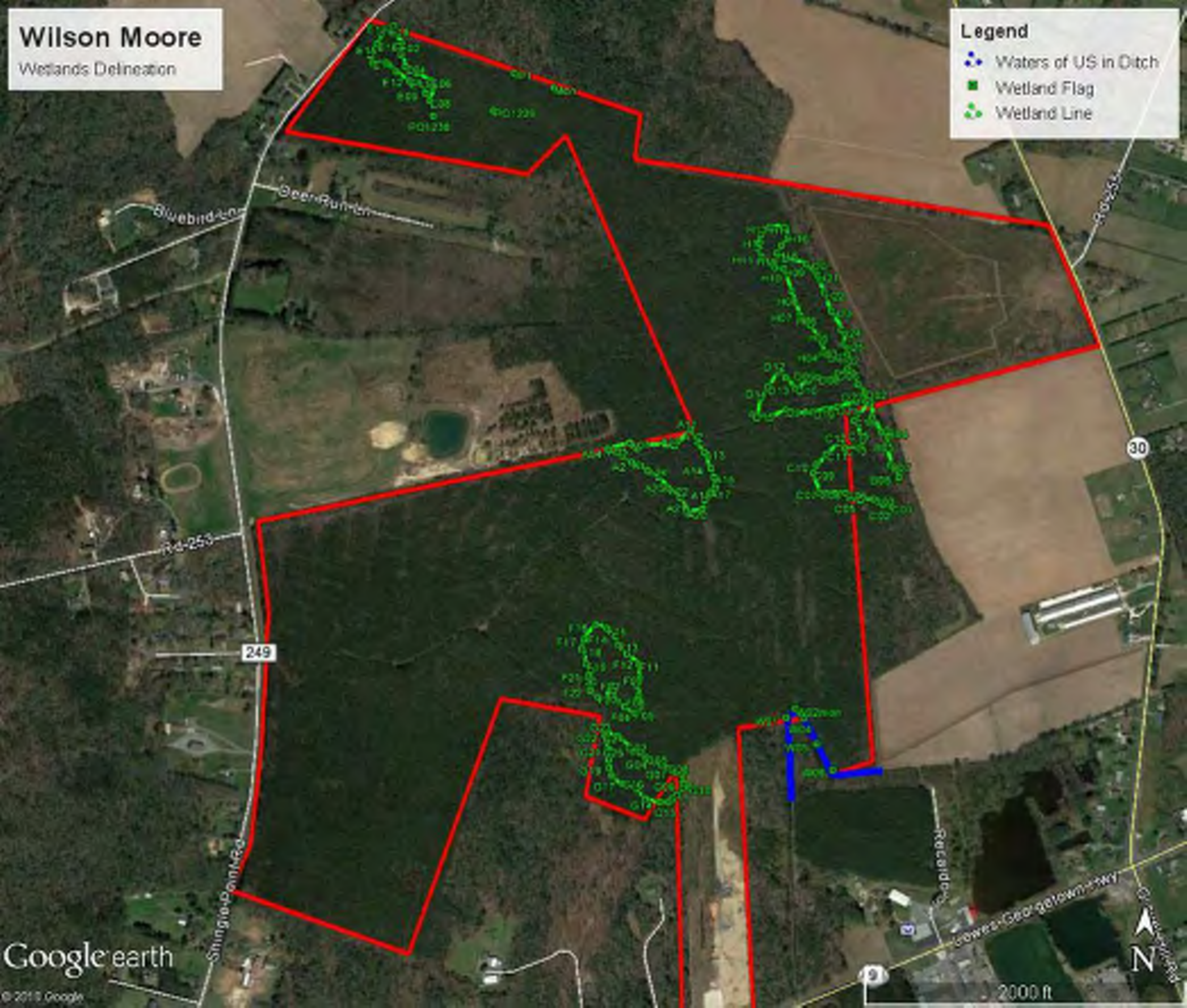
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# Wilson Moore

Wetlands Delineation

## Legend

- Waters of US in Ditch
- Wetland Flag
- Wetland Line



# Wilson Moore

Wetlands Delineation

## Legend




- Waters of US in Ditch
- Wetland Flag
- Wetland Line

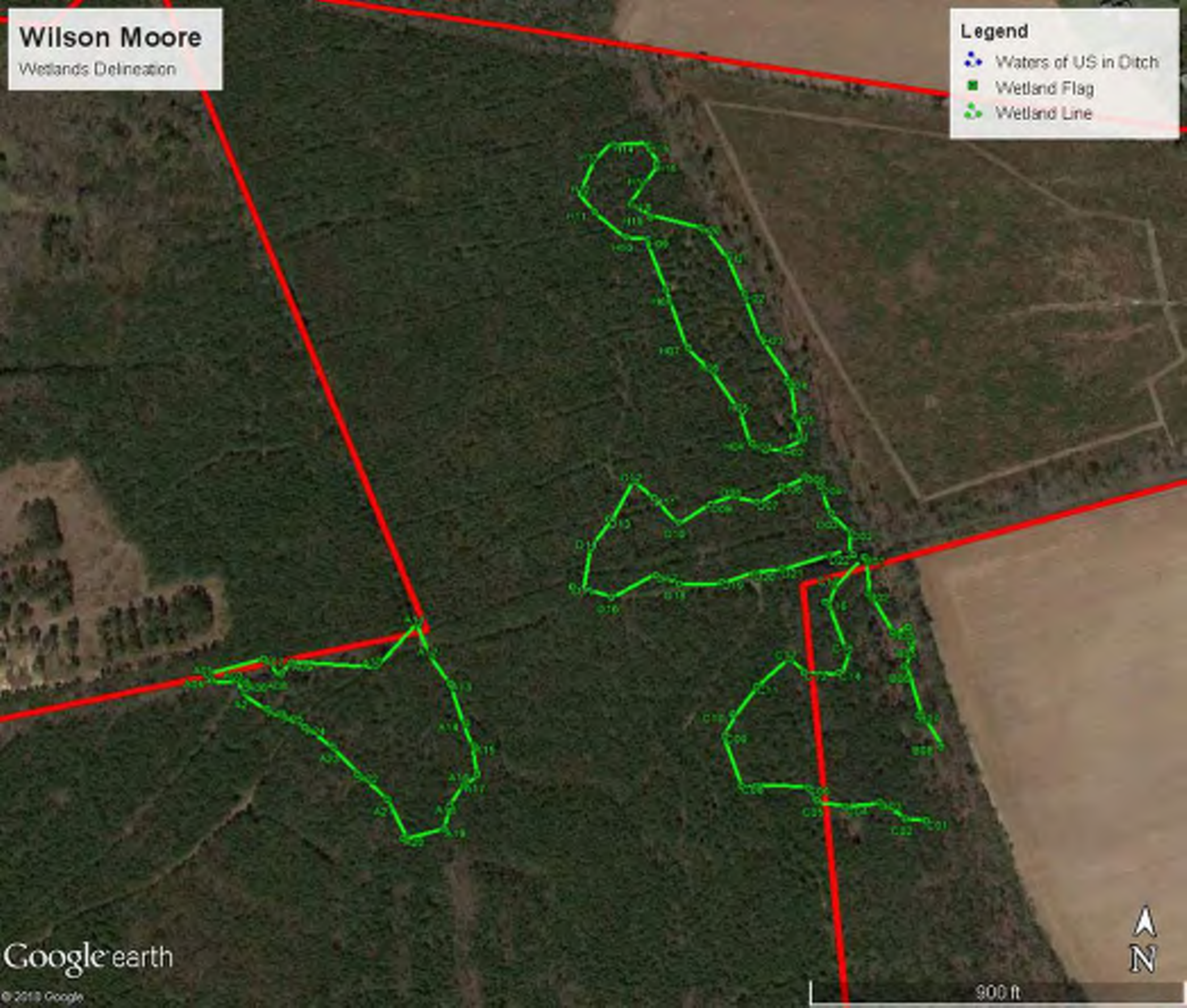


# Wilson Moore

Wetlands Delineation

## Legend

-  Waters of US in Ditch
-  Wetland Flag
-  Wetland Line



# Wilson Moore

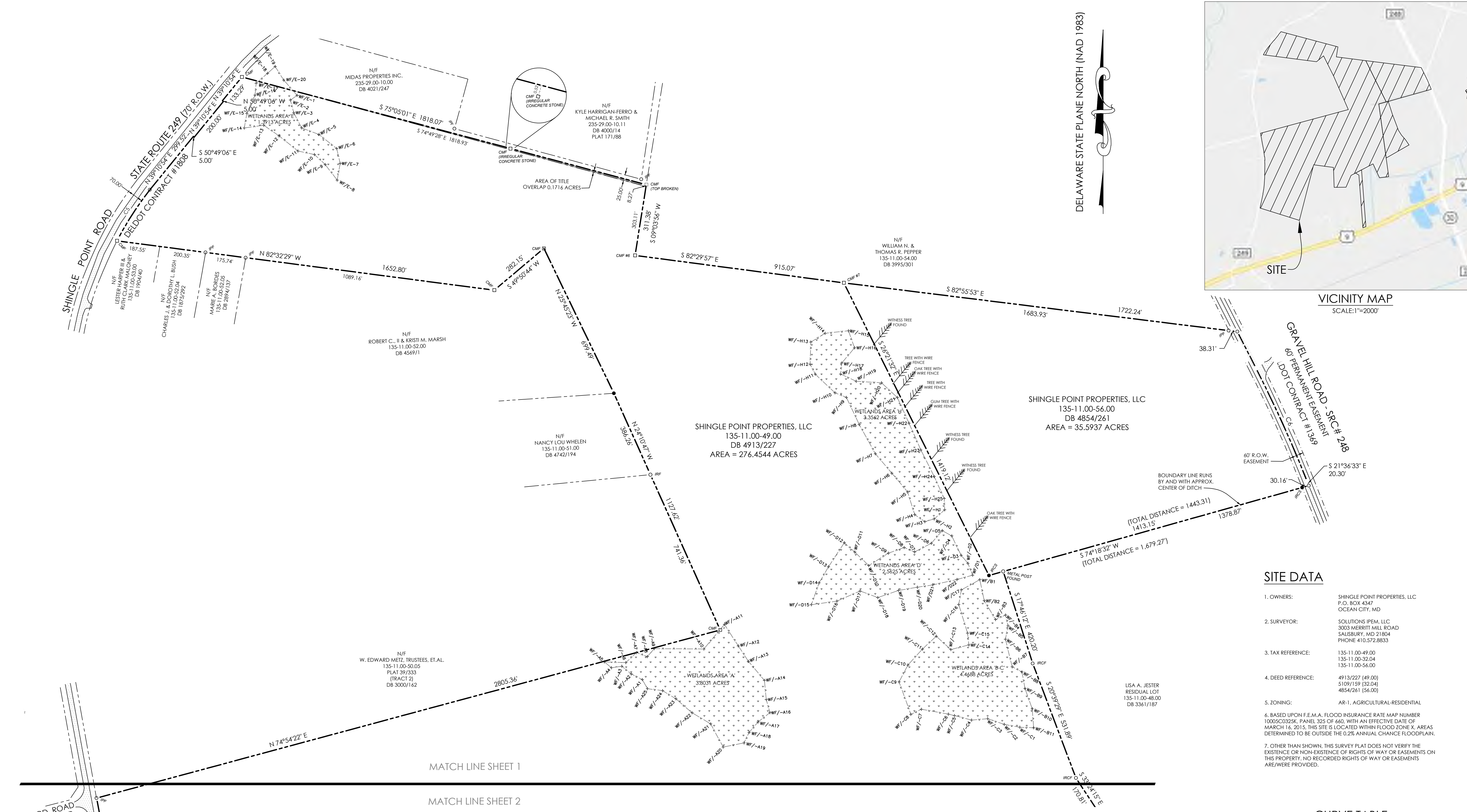
Wetlands Delineation

## Legend

- Waters of US in Ditch
- Wetland Flag
- Wetland Line







DELAWARE STATE PLANE NORTH (NAD 1983)

**SITE DATA**

- OWNERS: SHINGLE POINT PROPERTIES, LLC  
P.O. BOX 4347  
OCEAN CITY, MD
- SURVEYOR: SOLUTIONS IP/EM, LLC  
3003 HERRITT HILL ROAD  
SALISBURY, MD 21804  
PHONE 410.572.8833
- TAX REFERENCE: 135-11.00-49.00  
135-11.00-32.04  
135-11.00-56.00
- DEED REFERENCE: 4913/227 (49.00)  
5109/159 (32.04)  
4854/261 (56.00)
- ZONING: AR-1, AGRICULTURAL-RESIDENTIAL
- BASED UPON F.E.M.A. FLOOD INSURANCE RATE MAP NUMBER 10005C032K, PANEL 325 OF 460, WITH AN EFFECTIVE DATE OF MARCH 16, 2015. THIS SITE IS LOCATED WITHIN FLOOD ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
- OTHER THAN SHOWN, THIS SURVEY PLAT DOES NOT VERIFY THE EXISTENCE OR NON-EXISTENCE OF RIGHTS OF WAY OR EASEMENTS ON THIS PROPERTY. NO RECORDED RIGHTS OF WAY OR EASEMENTS ARE/WERE PROVIDED.

**CURVE TABLE**

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C1	1340.011	159.70	158.97	N 0° 18' 29" E
C2	1945.06	376.94	376.35	S 0° 49' 26" E
C3	1397.35	1247.72	1247.39	N 32° 52' 59" E

**WETLANDS CERTIFICATION**

I, JAMES MCCULLEY, PWS, STATE THAT THE BOUNDARIES OF WATERS OF THE UNITED STATES INCLUDING WETLANDS SUBJECT TO THE CORPS OF ENGINEERS REGULATORY PROGRAM DELINEATED UPON THIS PLAN HAVE BEEN DETERMINED USING MY PROFESSIONAL JUDGEMENT IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLAND DELINEATION MANUAL, REGULATIONS AND SUPPLEMENT GUIDANCE (33CFR 328.3(a)(8)), WATER OF THE U.S. DEFINITION/CECW-OR 10-7-1991, QUESTIONS AND ANSWERS ON THE 1987 COE MANUAL/CECW-OR, 9-26-1990, RGL 90-7/CECW-OR, 3-6-1992, CLARIFICATION AND INTERPRETATIONS OF THE 1987 MANUAL. THIS DELINEATION HAS NOT BEEN CONDUCTED FOR USDA PROGRAM OR AGRICULTURAL PURPOSES.

**WETLAND COORDINATE TABLE**  
FLAGS A1-A25 (AREA=3.8031 ACRES)

DESCRIPTION	NORTHING	EASTING
WF/A1	262482.4475	681480.5196
WF/A2	262507.0209	681432.6017
WF/A3	262540.4069	681391.3519
WF/A4	262534.0075	681346.4549
WF/A5	262559.4331	681315.4802
WF/A6	262556.2502	681408.8975
WF/A7	262599.3853	681454.5379
WF/A8	262582.6159	681502.2032
WF/A9	262616.9342	681532.4146
WF/A10	262615.5821	681747.6463
WF/A11	262722.3892	681837.4491
WF/A12	262628.8751	681897.1308
WF/A13	262561.9982	681941.5949
WF/A14	262478.7073	682010.8035
WF/A15	262395.6942	682018.9514
WF/A16	262338.6702	682034.7538
WF/A17	262297.8135	681983.0546
WF/A18	262252.7089	681944.1162
WF/A19	262207.2497	681922.2686
WF/A20	262189.1977	681831.4503
WF/A21	262289.8421	681777.4303
WF/A22	262338.2041	681696.5203
WF/A23	262398.7403	681626.4123
WF/A24	262434.4344	681568.3397
WF/A25	262442.8863	681502.8796

**WETLAND COORDINATE TABLE**  
FLAGS B1-B11 & C1-C17 (AREA=4.4688 ACRES)

DESCRIPTION	NORTHING	EASTING
WF/B1	262916.898	682946.2776
WF/B2	262825.4613	682945.4856
WF/B3	262743.5896	683014.7572
WF/B4	262742.8245	683058.295
WF/B5	262715.988	683069.1716
WF/B6	262657.6648	683057.8673
WF/B7	262538.1216	683086.9719
WF/B8	262515.8854	683129.3715
WF/B9	262443.4317	683142.7067
WF/B10	262355.3608	683174.1198
WF/B11	262272.8730	683180.2507
WF/C1	262275.3826	683120.0765
WF/C2	262287.7349	683052.8082
WF/C3	262312.3785	682980.2684
WF/C4	262306.5456	682910.904
WF/C5	262326.0596	682836.2381
WF/C6	262332.4093	682809.5584
WF/C7	262353.5511	682692.7019
WF/C8	262331.1702	682646.6518
WF/C9	262472.44	682595.9891
WF/C10	262546.0847	682634.2376
WF/C11	262614.9251	682697.041
WF/C12	262670.685	682757.4106
WF/C13	262612.8902	682820.5324
WF/C14	262633.289	682898.8792
WF/C15	262684.5049	682893.3186

**WETLAND COORDINATE TABLE**  
FLAGS D1-D22 (AREA=2.5625 ACRES)

DESCRIPTION	NORTHING	EASTING
WF/D1	262936.3381	682915.4658
WF/D2	262988.1315	682894.6177
WF/D3	263022.8362	682865.215
WF/D4	263106.6736	682824.5461
WF/D5	263129.9919	682783.6513
WF/D6	263074.7449	682735.6213
WF/D7	263037.3501	682663.2274
WF/D8	263056.6336	682618.0157
WF/D9	263032.1475	682549.5146
WF/D10	262978.0853	682463.993
WF/D11	263036.9112	682403.2087
WF/D12	263077.5946	682357.6708
WF/D13	262972.8611	682289.3144
WF/D14	262902.8271	682248.3466
WF/D15	262807.9729	682214.6498
WF/D16	262823.3893	682325.3093
WF/D17	262867.6309	682426.3708
WF/D18	262838.9302	682503.28
WF/D19	262869.9248	682593.0722
WF/D20	262883.9384	682675.4393
WF/D21	262893.9559	682741.7529
WF/D22	262917.1928	682847.4957

**WETLAND COORDINATE TABLE**  
FLAGS E1-E20 (AREA=1.3913 ACRES)

DESCRIPTION	NORTHING	EASTING
WF/E1	265021.3793	679980.8839
WF/E2	265001.271	679951.9431
WF/E3	264946.1674	679966.2495
WF/E4	264880.336	680000.4686
WF/E5	264851.8371	680076.1202
WF/E6	264790.606	680152.8173
WF/E7	264725.7918	680168.2585
WF/E8	264653.2181	680155.0549
WF/E9	264721.0509	680103.1574
WF/E10	264764.6581	680056.2519
WF/E11	264779.8604	679964.7851
WF/E12	264845.4114	679902.8194
WF/E13	264891.8357	679834.0624
WF/E14	264880.0851	679751.4741
WF/E15	264944.0116	679762.4437
WF/E16	265022.8225	679797.9806
WF/E17	265074.2045	679803.1429
WF/E18	265117.5197	679852.5334
WF/E19	265147.2517	679885.6571
WF/E20	265088.0658	679922.8792

**WETLAND COORDINATE TABLE**  
FLAGS H1-H25 (AREA=3.3562 ACRES)

DESCRIPTION	NORTHING	EASTING
WF/H1	263220.2659	682793.9327
WF/H2	263181.0391	682748.2233
WF/H3	263168.9036	682707.8817
WF/H4	263199.5956	682663.5775
WF/H5	263298.0748	682633.6472
WF/H6	263379.436	682564.5232
WF/H7	263464.0977	682492.5743
WF/H8	263591.1002	682422.9602
WF/H9	263709.1273	682366.7075
WF/H10	263729.1342	682317.1818
WF/H11	263809.8877	682233.4359
WF/H12	263883.251	682209.236
WF/H13	263949.4355	682122.1975
WF/H14	263987.641	682074.1597
WF/H15	263998.5945	682074.8435
WF/H16	263924.4638	682042.1845
WF/H17	263858.3785	682046.669
WF/H18	263810.3267	682031.8024
WF/H19	263779.1329	682010.0231
WF/H20	263772.634	682019.0644
WF/H21	263708.4013	682088.1244
WF/H22	263596.8016	682038.7795
WF/H23	263480.4789	682090.4796
WF/H24	263364.7735	682048.4254
WF/H25	263269.4382	682071.8305



**solutions**  
303 North Bedford Street  
Georgetown, DE 19947  
T. 302.297.9215  
3003 Merritt Hill Road  
Salisbury, MD 21804  
T. 410.572.8833  
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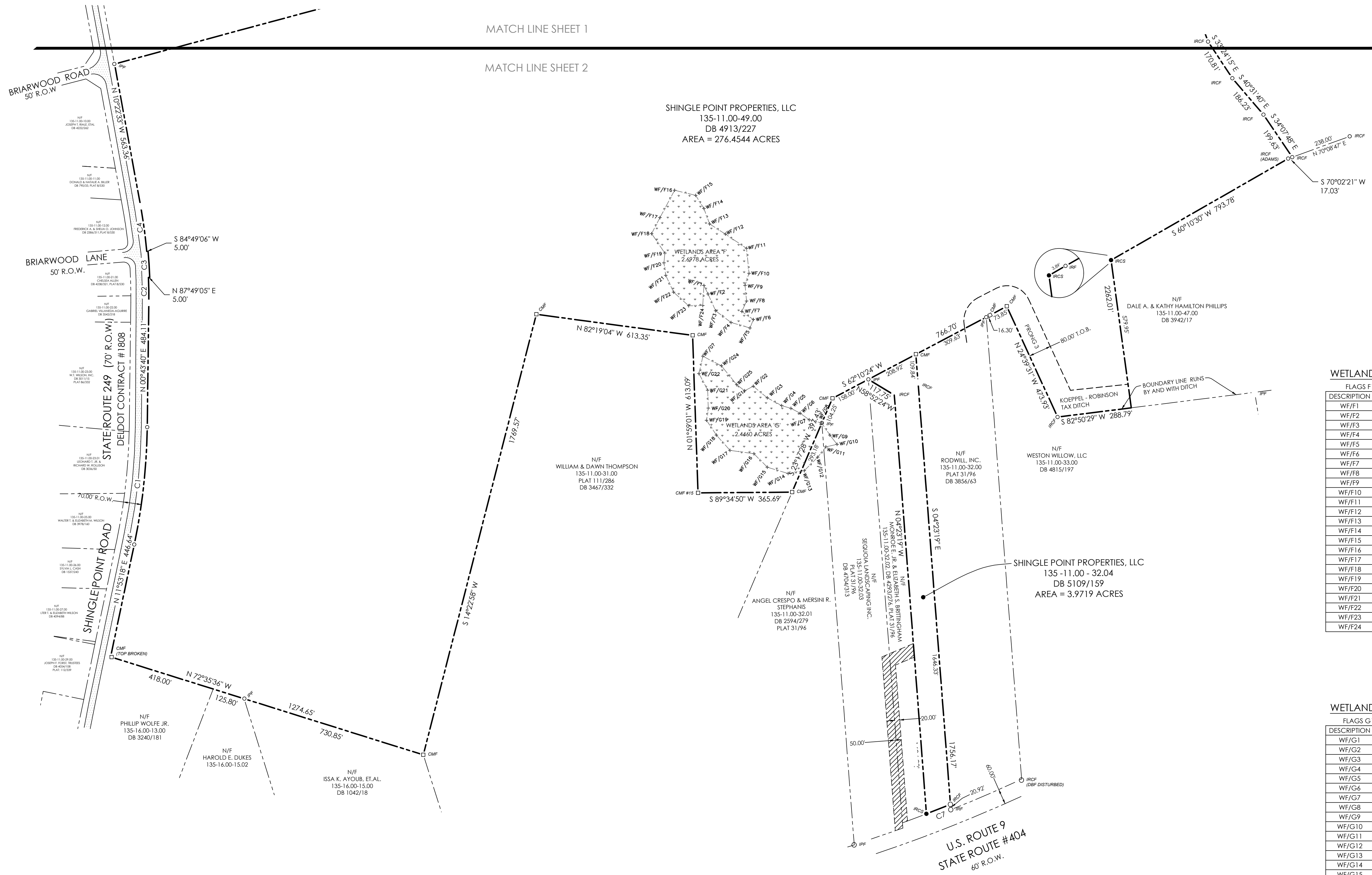
Seal  
Date

**REVISIONS**

NO.	DATE	DESCRIPTION

BOUNDARY OF WATERS AND WETLANDS OF THE UNITED STATES  
SUBJECT TO THE CORPS OF ENGINEERS REGULATORY PROGRAM  
for  
**SHINGLE POINT PROPERTIES, LLC**  
GEORGETOWN HUNDRED  
SUSSEX COUNTY, DELAWARE

Date: 05-08-2018  
Job Number: G18003  
Scale: 1"=200'  
Drawn By: ARB  
Designed By:  
Approved By: BMH  
Sheet No.: 1 of 2  
File Name: G18003-Wetlands.dwg



MATCH LINE SHEET 1

MATCH LINE SHEET 2

SHINGLE POINT PROPERTIES, LLC  
 135-11.00-49.00  
 DB 4913/227  
 AREA = 276.4544 ACRES

SHINGLE POINT PROPERTIES, LLC  
 135-11.00-32.04  
 DB 5109/159  
 AREA = 3.9719 ACRES

WETLAND COORDINATE TABLE

FLAGS F1-F24 (AREA=2.6978 ACRES)

DESCRIPTION	NORTHING	EASTING
WF/F1	261105.9933	681402.591
WF/F2	261073.2356	681418.7817
WF/F3	261007.6533	681448.0469
WF/F4	260962.1921	681508.1987
WF/F5	260940.7593	681581.6627
WF/F6	260973.5325	681595.0062
WF/F7	261004.8505	681550.0824
WF/F8	261045.7277	681568.7301
WF/F9	261106.3346	681562.7551
WF/F10	261153.7623	681577.9727
WF/F11	261250.4477	681568.4981
WF/F12	261306.0593	681485.8995
WF/F13	261345.4013	681424.5966
WF/F14	261405.4187	681402.6785
WF/F15	261456.7031	681370.745
WF/F16	261476.4123	681288.6839
WF/F17	261370.1252	681231.4736
WF/F18	261307.7657	681199.2876
WF/F19	261232.1515	681250.4413
WF/F20	261194.1513	681247.3525
WF/F21	261145.2789	681254.1587
WF/F22	261080.1136	681284.5586
WF/F23	261026.9378	681343.4097
WF/F24	261027.8717	681398.0501

WETLAND COORDINATE TABLE

FLAGS G1-G25 (AREA=2.4460 ACRES)

DESCRIPTION	NORTHING	EASTING
WF/G1	260696.3424	681561.284
WF/G2	260713.8505	681594.7648
WF/G3	260668.8797	681649.0675
WF/G4	260638.4028	681705.0301
WF/G5	260628.0841	681740.9265
WF/G6	260608.9746	681777.0624
WF/G7	260583.5041	681812.0279
WF/G8	260571.0262	681860.4638
WF/G9	260524.1997	681892.7813
WF/G10	260487.9388	681920.3518
WF/G11	260477.7972	681877.1752
WF/G12	260438.0482	681845.1615
WF/G13	260385.301	681792.8736
WF/G14	260374.7148	681730.0937
WF/G15	260399.1092	681648.9662
WF/G16	260451.4201	681597.0024
WF/G17	260464.4795	681504.2008
WF/G18	260524.1822	681451.3307
WF/G19	260581.3823	681412.7327
WF/G20	260629.228	681419.408
WF/G21	260698.7024	681417.1398
WF/G22	260763.1352	681383.195
WF/G23	260830.7893	681398.7223
WF/G24	260793.271	681470.4732
WF/G25	260719.821	681530.229

Seal  
 Date

REVISIONS

NO.	DATE	DESCRIPTION

BOUNDARY OF WATERS AND WETLANDS OF THE UNITED STATES  
 SUBJECT TO THE CORPS OF ENGINEERS REGULATORY PROGRAM

for  
**SHINGLE POINT PROPERTIES, LLC**  
 GEORGETOWN HUNDRED  
 SUSSEX COUNTY, DELAWARE

Date: 05-08-2018  
 Job Number: G19003  
 Scale: 1"=200'  
 Drawn By: AMRB  
 Designed By:  
 Approved By: B. HALL

Sheet No.: 2 of 2  
 File Name:

# GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND  
ENVIRONMENTAL CONSULTANTS

*A Practicing Geoprofessional Business Association Member Firm*



March 16, 2018

Natelli Communities  
506 Main Street, 3<sup>rd</sup> Floor  
Gaithersburg, Maryland 20878

Attn: Mr. Robert Leggieri

Re: Report of Subsurface Exploration  
***Wilson - Moore Property***  
Sussex County, Delaware

Dear Mr. Leggieri:

In accordance with our agreement dated January 29, 2018 and subsequent agreement for supplemental exploration, Geo-Technology Associates (GTA) has completed subsurface exploration for the Wilson-Moore Property project located in Sussex County, Delaware. The exploration consisted of performing seven Standard Penetration Test (SPT) borings and eight hand auger borings within the proposed development area, visually classifying the soils, and performing limited laboratory testing. Transmitted herein is a report of our findings and conclusions about our preliminary recommendations with respect to general development implications. GTA conducted a Phase I Environmental Site Assessment (ESA) in conjunction with the current exploration. A report detailing the results of the ESA will be forwarded to Natelli Communities separately.

Unless Natelli Communities specifies otherwise, the samples collected as a part of the subsurface exploration will be disposed of after a period of 60 days from the date of this report. Thank you for the opportunity to be of assistance. If you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,

**GEO-TECHNOLOGY ASSOCIATES, INC.**

Travis Caraway, E.I.T.  
Staff Geotechnical Professional

Gregory R. Sauter, P.E.  
Vice President



TPC/GRS/llh  
31180247

21133 Sterling Avenue, Suite 7, Georgetown, DE 19947 (302) 855-9761 Fax: (302) 856-3388

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## REPORT OF SUBSURFACE EXPLORATION

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### **Wilson-Moore Property** Sussex County, Delaware

March 16, 2018

Prepared For:

**Natelli Communities**  
506 Main Street, 3<sup>rd</sup> Floor  
Gaithersburg, Maryland 20878

Attn: Mr. Robert Leggieri

---

Prepared By:

**GEO-TECHNOLOGY ASSOCIATES, INC.**  
*Geotechnical and Environmental Consultants*  
21133 Sterling Avenue, Suite 7  
Georgetown, Delaware 19947  
302-855-9761 / Fax 302-856-3388

GTA Job No: 31180247

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**REPORT OF SUBSURFACE EXPLORATION  
WILSON-MOORE PROPERTY  
SUSSEX COUNTY, DELAWARE  
MARCH 2018**

**INTRODUCTION**

Geo-Technology Associates, Inc. (GTA) was retained by Natelli Communities to perform a geotechnical exploration of the Wilson-Moore Property project. The scope of this study included field exploration, limited laboratory testing and analysis pertaining to general development implications. The field exploration consisted of seven Standard Penetration Test (SPT) borings and eight hand auger borings located throughout the property. Conclusions and recommendations regarding site development were derived from analysis of field data and a conceptual plan prepared by Solutions IPEM, LLC. and dated January 19, 2018.

GTA conducted a Phase I Environmental Site Assessment (ESA) in conjunction with the current exploration. A report detailing the results of the ESA will be forwarded separately.

**SITE CONDITIONS**

Referring to the Site Location Plan and Exploration Location Plan included as Figure Nos. 1 and 2 in Appendix A, the project site consists of an irregularly shaped parcel located in Sussex County, Delaware. The site is located along the north side of Lewes-Georgetown Highway (Route 9), west side of Gravel Hill Road (Route 30) and east side of Shingle Point Road. The project site is mostly wooded with logging trails throughout the area. The site is generally flat with a ground surface at the exploration locations generally ranging between Elevation 37 and 44 Mean Sea Level (MSL) as estimated from Google Earth.

**SITE GEOLOGY**

According to the Geologic Map of the Harbeson Quadrangle, Delaware (2011) published by the Delaware Geological Survey, the site is within the Coastal Plain Physiographic Province. Coastal Plain sediments below the surficial deposits exposed in the eastern half of the site area were generally deposited in commonly estuarine environments of Quaternary geologic age. The Pleistocene deposits are designated as the Lynch Heights Formation of the Delaware Bay Group and

typically consist of "... medium sand with discontinuous beds of fine to very fine silty sand... clayey silt, and organic-rich clayey silt to silty sand." On the western half of the site, the Coastal Plain sediments below the surficial deposits exposed were generally deposited in commonly estuarine environments of Tertiary geologic age. The Pliocene deposits are designated as the Beaverdam Formation. Sediments of the Beaverdam Formation typically consist of "... medium sands with some beds of coarse gravelly sands and... silty clay." Please refer to the publication for additional information.

### **SUBSURFACE EXPLORATION**

To characterize subsurface conditions, seven Standard Penetration Test (SPT) borings, designated as B-1 through B-6 and B-8, and eight hand auger borings designated as B-7 and B-9 through B-15, were performed at the approximate locations shown on the Exploration Location Plan, presented as Figure 2 in Appendix A. Boring locations B-1 through B-8 were selected by GTA with Borings B-9 through B-15 selected by Solutions IPEM. The borings were staked in the field by GTA using a handheld Garmin 64 GPS unit. Ground surface elevations at the borings were estimated from Google Earth. Actual ground surface elevations were not determined. The exploration locations indicated on the plan should be considered approximate.

The SPT borings were advanced to depths of approximately 15 feet below existing grades using an ATV-mounted CME-55 drill rig. Standard Penetration Testing was performed in the boreholes, with soil samples obtained at approximately 2-foot intervals in the upper 10 feet and then at 5-foot intervals thereafter. Standard Penetration Testing involves driving a 2-inch O.D., 1 3/8 -inch I.D. split-spoon sampler with a 140-pound hammer free-falling 30 inches. The SPT N-value, given as blows per foot (bpf), is defined as the total number of blows required to drive the sampler from 6 to 18 inches below the initial sampling depth. Temporary piezometers were placed in the borings to facilitate groundwater readings. The piezometers were removed after longer term readings were performed.

The drill rig was not able to access Boring B-7 without substantial clearing. Borings B-7 and B-9 through B-15 were advanced with a hand auger to a depth of 10 feet or to a depth where wet caving conditions were generally encountered ranging from a nominal depth of 7 to 10 feet below the ground surface. A temporary piezometer was placed in the test holes and water readings were taken one to four days after completion. The piezometers were removed after the final water readings and the holes backfilled. In-situ soil strength was evaluated at selected intervals in Boring B-7 using Dynamic Cone Penetration (DCP) testing (ASTM STP 399). This test is conducted by driving a 1.5-inch diameter cone into the subsoil using a 15-pound hammer, free-falling a vertical distance of 20 inches. The number of hammer-blows required to drive the cone 1¾ inches is an indication of the soil strength and density. The DCP penetration resistance value can be correlated to the Standard Penetration Testing (SPT) N-value, referencing ASTM Special Technical Paper 399.

Samples obtained from the borings were delivered to GTA's office for visual classification by GTA personnel. Select samples recovered from the field exploration were submitted for limited laboratory analysis. The soil layers were classified in accordance with the Unified Soil Classification System (USCS). Classifications provided on the logs are visual descriptions, supplemented by available laboratory data. The exploration logs are presented in Appendix B. The logs represent our interpretation of the field data based on observation and selected soil classification tests. The interfaces indicated on the logs may be gradual.

### **SUBSURFACE CONDITIONS**

The explorations generally confirm the description of subsurface conditions provided in the *SITE GEOLOGY* section of this report. Below a 6 to 12-inch thick topsoil layer at the borings, the explorations encountered native soils visually classified as predominately consisting of Poorly-graded SAND with silt (USCS SP-SM), Poorly-graded SAND (SP), Silty SANDs (SM) and Clayey SANDs (SC). The relative densities of the granular soils were very loose to medium dense based on SPT N-values of 2 to 16 blows per foot (bpf). The granular soils were interspersed with fine-grained layers consisting of Lean CLAYs, Sandy Lean CLAYs (CL), Sandy SILTs, and SILT with Sand



(ML). The consistency of the fine-grained soils was soft to very stiff based on the N values of 3 to 16 bpf.

Water was encountered during the exploration program at depths of 4 to 13 feet below the ground surface. Boring B-4 was dry to 15 feet and B-11 and B-13 were dry to 10 feet when drilled. At Boring B-7, B-10, B-12 and B-14, perched water was encountered ranging from a depth of 0.5 to 4 feet below the ground surface. Longer term water levels recorded one to four days after completion ranged between 0.8 and 11.9 feet below the existing ground surface. Boring B-13 was dry to 10 feet when the longer-term water level was recorded. With the exception of Borings B-7, B-10 and B-14 where perched water was encountered, the longer-term water levels at the remaining borings ranged between approximate Elevation 31 to 35 MSL and averaged at nominal Elevation 33 MSL.

GTA’s estimate of the seasonal high groundwater level is based upon water levels near seasonal highs; and soil coloring and mottling. The results of the groundwater level readings and GTA’s opinion of the estimated seasonal high groundwater depth are summarized as follows:

**GROUNDWATER DATA SUMMARY**

Exploration No.	Existing Ground Surface Elevation (MSL)*	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Water at Completion	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Water at One to Four Days After Completion	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Estimated Seasonal High Groundwater*
B-1	37	6.0 / 31.0	5.2 / 31.8	5 / 32
B-2	38	9.0 / EL 29.0	6.7 / 31.3	6 / 32
B-3	43	13.0 / EL 30.0	11.9 / 31.1	11 / 32
B-4	44	Dry 15.0 / Dry EL 29.0	9.6 / 34.4	9 / 35
B-5	43	13.0 / EL 30.0	10.5 / 32.5	10 / 33
B-6	38	6.0 / EL 32.0	3.5 / 34.5	3 / 35
B-7	39	1.5 / EL 37.5 (Perched)	0.8 / EL 38.2 (Perched)	0 / 39 (Perched)
B-8	41	12 / EL 29	7.4 / 33.6	7 / 34
B-9	39	4.5 / EL 34.5	4.1 / 34.9	4 / 35
B-10	39	3.0 / EL 36.0 (Perched)	1.5 / 37.5 (Perched)	1 / 38 (Perched)

Exploration No.	Existing Ground Surface Elevation (MSL)*	Depth Below Existing Ground Surface (ft.) / Elevation (MSL) to Water at Completion	Depth Below Existing Ground Surface (ft.) / Elevation (MSL) to Water at One to Four Days After Completion	Depth Below Existing Ground Surface (ft.) / Elevation (MSL) to Estimated Seasonal High Groundwater*
B-11	42	Dry 10.0 / Dry EL 32.0	8.3 / 33.7	8 / 34
B-12	42	4.0 / EL 38 (Perched)	7.6 / 34.4	7 / 35
B-13	43	Dry 10.0 / Dry EL 33.0	Dry 10.0 / Dry EL 33.0	10 / 33
B-14	41	0.5 / EL 40.5 (Perched)	0.5 / EL 40.5 (Perched)	0 / 41 (Perched)
B-15	37	6.5 / EL 30.5	5.5 / EL 31.5	5 / 32

\* Existing ground surface elevation was estimated from Google Earth.

\*\*Seasonal high groundwater estimate based upon observed soil mottling and color, and should be considered approximate.

The groundwater levels can be expected to fluctuate with seasonal changes, precipitation, and other factors such as development activity. Additionally, perched water conditions develop in granular soils overlying fine-grained soils during the “wet season” as well as during periods of precipitation. Please refer to the exploration logs and Table 1, Exploration Data Summary provided in Appendix B for further information. Idealized estimated seasonal high groundwater elevations and subsurface profiles are shown on Figure Nos. 3 through 5 in Appendix A.

### **LABORATORY TESTING**

Selected samples obtained from the borings were tested for grain-size analyses, Atterberg Limits, moisture-density relationships, and/or natural moisture contents. The grain-size analysis and Atterberg Limits testing were performed to determine the Unified Soil Classification System (USCS) designations for the soil. USCS classifications provide information regarding soil behavior beneath pavement, foundation systems, and infiltration areas. The results of testing are as follows:

#### **SUMMARY OF INDEX TESTING**

EXPLORATION NO.	DEPTH (ft)	USCS CLASSIFICATION	LL %	PI %
B-2	6 – 8	SILT with Sand (ML)	NP	NP
B-5	6 – 8	Sandy SILT (ML)	26	25
B-6	1 - 5	Sandy SILT (ML)	NP	NP

Note: LL=Liquid Limit PI=Plastic Index NP=Non-Plastic NT= Not Tested

A bulk, near-surface sample was tested for moisture-density relationships in accordance with the Standard Proctor (ASTM D-698) method for use in evaluating the suitability of these soils for reuse as fill. Results of these tests are summarized in the following table.

**SUMMARY OF MOISTURE-DENSITY TESTING  
(ASTM D-698, Standard Proctor)**

<b>EXPLORATION NO.</b>	<b>DEPTH (FT)</b>	<b>MAXIMUM DRY DENSITY (PCF)</b>	<b>OPTIMUM MOISTURE (%)</b>	<b>NATURAL MOISTURE (%)</b>
B-6	1 – 5	118.3	13.2	12.2

Note: \*NT= Not Tested

Please refer to the laboratory test results included within Appendix C for additional information.

**CONCLUSIONS AND RECOMMENDATIONS**

Based upon the results of this study, it is our opinion that development of the property for residential usage is feasible, given that the geotechnical recommendations are followed and that the standard level of care is maintained during construction. Relatively shallow groundwater and very loose to soft subsurface soils will impact the site development. GTA’s preliminary recommendations are provided in the following paragraphs.

**Earthwork**

Prior to the placement of compacted fill, areas below proposed foundation, slab, and pavement should be stripped and grubbed to remove topsoil and materials with concentrated organic matter. Considering a topsoil thickness ranging between 6 and 12-inches at the borings and the generally tree covered site, GTA recommends that for earthwork estimates, an average stripping thickness of 1 to 1½ feet be utilized. The actual stripping thickness will be dependant on localized topsoil development, precipitation, soil moisture, construction traffic disturbance, and contractor care.

Precipitation will result in standing water at low areas and in localized undercut areas. If the water is allowed to pond, the exposed subgrade materials may deteriorate and additional over-

excavation or subgrade improvement may be required at the affected areas. Positive drainage should be provided to protect exposed subgrades. During wet season construction, GTA anticipates that the existing surficial soils may soften and significant rutting may occur. The affected material will likely require removal prior to placement of fill. GTA recommends a summer season earthwork operation to minimize the economic impact of wet near surface soils.

Most near surface on-site soils beneath the topsoil are considered suitable for re-use as structural fill material. Excavated site materials conforming to SP, SP-SM, SW-SM or SM classifications will be suitable for re-use in structural areas of mass earthwork construction. The moisture content of the bulk sample material tested was approximately one percent below the optimum moisture, and at the tested moisture, on-site soils similar to the sample tested will likely require, limited if any, moisture adjustment. A contingency should be established for moisture adjustments, including moisture amendment to facilitate compaction. During prevailing wet weather and for soils excavated near or below groundwater, soils will likely require drying by aeration after spreading over a large area and prior to compaction in fill construction.

Materials conforming to USCS CL and SC may be used in designated low permeability zones of the pond construction. Off-site borrow should meet Unified Soil Classification System (USCS) designation SM, SP, SW, GP, GM, or GW for general structural fill and be approved by GTA. All fills should be constructed in maximum 8-inch thick loose lifts and be compacted to the following specifications:

**COMPACTION SPECIFICATIONS**

<b>Structure / Fill Location</b>	<b>Compaction / Moisture Specification</b>
Below foundations, retaining walls, floor slabs, fills below top one foot of pavement subgrade and within wall backfill or slopes steeper than 5H:1V	95% of ASTM D-698 Moisture: ± 3% of optimum
Fills within top one foot of pavement subgrade	98% of ASTM D-698 Moisture: ± 3% of optimum

A soils-technician should monitor fill construction on a full-time basis under the supervision of a geotechnical engineer in accordance with the 2012 International Residential Code (IRC). Compactive effort should be verified by in-place density testing.

### **Subsurface Utilities**

Based upon the results of the exploration, GTA anticipates that standard excavating techniques should be suitable for utility installation to depths of 10 feet. Firm natural soil and controlled compacted fill are considered suitable for support of the proposed pipe systems. Due to the potential for collapse of unsupported excavation in granular soils, the utility contractor should be prepared to provide adequate earth support systems during utility construction. Dewatering through the use of “sump and pump” for trenches extending 1 to 2 feet below groundwater, in conjunction with well point techniques in deeper utility areas, will be required for utility installation. At the current groundwater levels, most utility installations extended to 10 feet will likely encounter groundwater.

### **Surface and Subsurface Drainage**

Final building pad and pavement grades should be carefully established to provide adequate surface drainage away from the foundations. Groundwater levels referenced in the *SUBSURFACE CONDITIONS* section and in Table 1, Exploration Data Summary of the report are, in our opinion, below seasonal high groundwater levels. Furthermore, soil layers containing appreciable amounts of silt or clay tend to perch groundwater at higher levels during wetter periods.

### **Foundations**

It is GTA’s opinion that residential house construction may be supported on native soils or structural fill using shallow spread footings preliminarily designed for a maximum net allowable bearing pressure on the order of 2,000 to 2,500 pounds per square foot (psf). Minimum widths for wall footings of 16 inches and column footings of 24 inches are recommended. Exterior footings should be founded a minimum of 24 inches below the final exterior grades to provide protection from frost action.

Standard footing details should prove acceptable for construction. However, the presence of very loose to soft soils in portions of the site may require alteration to the standard detail or improvement of the footing subgrade. If very loose or soft soils are encountered at footing subgrade, these materials will require remediation. Remediation may include undercut and replacement of subgrade material. Remediation should be performed during foundation construction as directed by the project geotechnical engineer.

### **Stormwater Management Facilities**

The guidelines established in the Delaware Sediment and Stormwater program technical Document Article 3.06, Appendix 3.06.2. *A-1 Soil Investigation Procedures* indicate that the minimum infiltration rate for all runoff reduction and infiltration practices is one-inch per hour. Also, a vertical separation of at least two-feet from the seasonal high groundwater elevation is required for all infiltration practices unless an underdrain is provided.

The estimated seasonal high groundwater ranges from approximate Elevation 32 to 35 MSL and corresponds to average Elevation 34 MSL. At Borings B-1, B-2, B-5, B-9, B-11, B-12, B-13 and B-15, predominant subsurface soils observed in the test borings above groundwater generally consisted of Silty SANDs, Poorly-graded SANDs, to Poorly-graded SANDs with silt which generally correspond to Sandy Loam; Loamy Sand to Sand in accordance with the USDA Soil Classification System. Sandy Loam to Loamy Sand and Sand soils are typically marginal to good soils for infiltration practices. At the remaining borings, areas of Clayey SANDs, Lean CLAYs, Sandy SILTS and SILT with Sand, were encountered, which visually correspond to Sandy Clay Loam, Clay Loam, and Silt Loam and have poor infiltration characteristics. Field infiltration testing should be performed prior to designing infiltration facilities on the site.

For wet pond construction, groundwater levels may be above the pond bottom level during construction. The contractor should be prepared to stabilize and dewater pond excavations. Subgrades excavated below the water table will be prone to instability and softening. All SWM pond construction should conform to *Delaware Conservation Practice Standard Pond Code 378* and *Code*

521, latest editions and *Delaware Sediment and Stormwater Regulations*, latest edition, as applicable.

**Pavements**

Pavement sections should be designed based on anticipated subgrade conditions and traffic intensity. Based on GTA’s experience with similar developments, construction traffic is likely to be more significant for the design of the pavements. The pavement section thickness should be designed to reflect construction traffic and the subgrade supporting quality of the site soils. It is likely that the majority of the on-site soils conforming to USCS Classifications SP, SP-SM or SM, and AASHTO A-1, A-2, or A-3 will be suitable for the support of standard pavement thickness sections. However, subgrade materials should be carefully evaluated prior to graded aggregate base placement and paving. Site materials conforming to USCS SC, CL or ML (AASHTO A-4, A-6 or A-7), are not recommended for use in the upper 1 ½ feet of pavement subgrade unless the pavement sections are designed for these potentially poor pavement subgrades supporting quality soils. Therefore, GTA recommends that the upper 12 inches of pavement subgrade be constructed of fill with the following characteristics:

Liquid Limit	35 or less
Plasticity Index	5 or less
Maximum Dry Density	105 pcf or greater
California Bearing Ratio	7 or greater

Prior to construction of pavement sections, the pavement subgrade should be proof-rolled with a loaded tandem-axle dump truck under the observation of GTA to verify stability. Unstable or unsuitable soils should be over-excavated to a stable bearing layer. The subgrade may be re-established with approved, controlled, compacted stabilized fill. A contingency for undercutting and replacement of unsuitable materials should be provided.

All pavement materials and construction should conform to the State of Delaware, Department of Transportation (DelDOT), STANDARD SPECIFICATIONS, latest edition, as applicable.

### **ADDITIONAL SERVICES**

We recommended that GTA be retained to provide consultation, observation and testing services for the following items.

- Provide additional exploration, including infiltration testing, as appropriate as development features are further defined.
- Review preliminary structural loads when estimated.
- Provide observation and testing services during fill placement to evaluate if the work is being performed in accordance with the project specifications and intent of this report.
- Observe the proof-rolling of pad and pavement subgrades prior to placing fill or base course to evaluate stability.
- Review foundation construction for compliance with the project drawings and the intent of this geotechnical report.
- Provide “special inspection” services during building construction for compliance with building code requirements.

### **LIMITATIONS**

This report, including all supporting boring logs, field data, field notes, laboratory test data, calculations, estimates and other documents prepared by GTA in connection with this project have been prepared for the exclusive use of Natelli Communities pursuant to agreements between GTA and Natelli Communities dated January 29, 2018 and agreement to perform supplemental exploration, and in accordance with generally accepted engineering practice. All terms and conditions set forth in the Agreement and the General Provisions appended thereto are incorporated herein by reference. No warranty, express or implied, is made herein. Use and reproduction of this report by any other person without the expressed written permission of GTA and Natelli Communities is unauthorized and such use is at the sole risk of the user.



The analysis and preliminary recommendations contained in this report are based on the data obtained from limited observation and testing of the encountered materials. Test borings indicate soil conditions only at specific locations and times and only at the depths penetrated. They do not necessarily reflect strata or variations that may exist between test boring locations. Consequently, the analysis and recommendations must be considered preliminary until the subsurface conditions can be verified by direct observation at the time of construction. If variations of subsurface conditions from those described in this report are noted during construction, recommendations in this report may need to be re-evaluated.

In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report are verified in writing. Geo-Technology Associates, Inc. is not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data or engineering analysis without the expressed written authorization of Geo-Technology Associates, Inc.

The scope of our services for this geotechnical exploration did not include any environmental assessment or investigation for the presence or absence of wetlands, or hazardous or toxic materials in the soil, surface water, groundwater or air, on or below or around this site. Any statements in this report or on the logs regarding odors or unusual or suspicious items or conditions observed are strictly for the information of our Client. This report and the attached logs are instruments of service. The subject matter of this report is limited to the facts and matters stated herein. Absence of a reference to any other conditions or subject matter shall not be construed by the reader to imply approval by the writer.

**31180247**

**GEO-TECHNOLOGY ASSOCIATES, INC.**

# Important Information about This

# Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

**The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, clients can benefit from a lowered exposure to the subsurface problems that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed below, contact your GBA-member geotechnical engineer. Active involvement in the Geoprofessional Business Association exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.**

## Geotechnical-Engineering Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client. *Those who rely on a geotechnical-engineering report prepared for a different client can be seriously misled.* No one except authorized client representatives should rely on this geotechnical-engineering report without first conferring with the geotechnical engineer who prepared it. *And no one – not even you – should apply this report for any purpose or project except the one originally contemplated.*

## Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read it *in its entirety*. Do not rely on an executive summary. Do not read selected elements only. *Read this report in full.*

## You Need to Inform Your Geotechnical Engineer about Change

Your geotechnical engineer considered unique, project-specific factors when designing the study behind this report and developing the confirmation-dependent recommendations the report conveys. A few typical factors include:

- the client's goals, objectives, budget, schedule, and risk-management preferences;
- the general nature of the structure involved, its size, configuration, and performance criteria;
- the structure's location and orientation on the site; and
- other planned or existing site improvements, such as retaining walls, access roads, parking lots, and underground utilities.

Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light-industrial plant to a refrigerated warehouse;
- the elevation, configuration, location, orientation, or weight of the proposed structure;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.*

## This Report May Not Be Reliable

*Do not rely on this report* if your geotechnical engineer prepared it:

- for a different client;
- for a different project;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, that it could be unwise to rely on a geotechnical-engineering report whose reliability may have been affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If your geotechnical engineer has not indicated an "apply-by" date on the report, ask what it should be, and, in general, if you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying it.* A minor amount of additional testing or analysis – if any is required at all – could prevent major problems.

## Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface through various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing were performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgment to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team from project start to project finish, so the individual can provide informed guidance quickly, whenever needed.

## This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, *they are not final*, because the geotechnical engineer who developed them relied heavily on judgment and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* revealed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

## This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a full-time member of the design team, to:

- confer with other design-team members,
- help develop specifications,
- review pertinent elements of other design professionals' plans and specifications, and
- be on hand quickly whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction observation.

## Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for informational purposes only*. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report, but they may rely on the factual data relative to the specific times, locations, and depths/elevations referenced. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may

perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

## Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely*. Ask questions. Your geotechnical engineer should respond fully and frankly.

## Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually relate any environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures*. If you have not yet obtained your own environmental information, ask your geotechnical consultant for risk-management guidance. As a general rule, *do not rely on an environmental report prepared for a different client, site, or project, or that is more than six months old*.

## Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

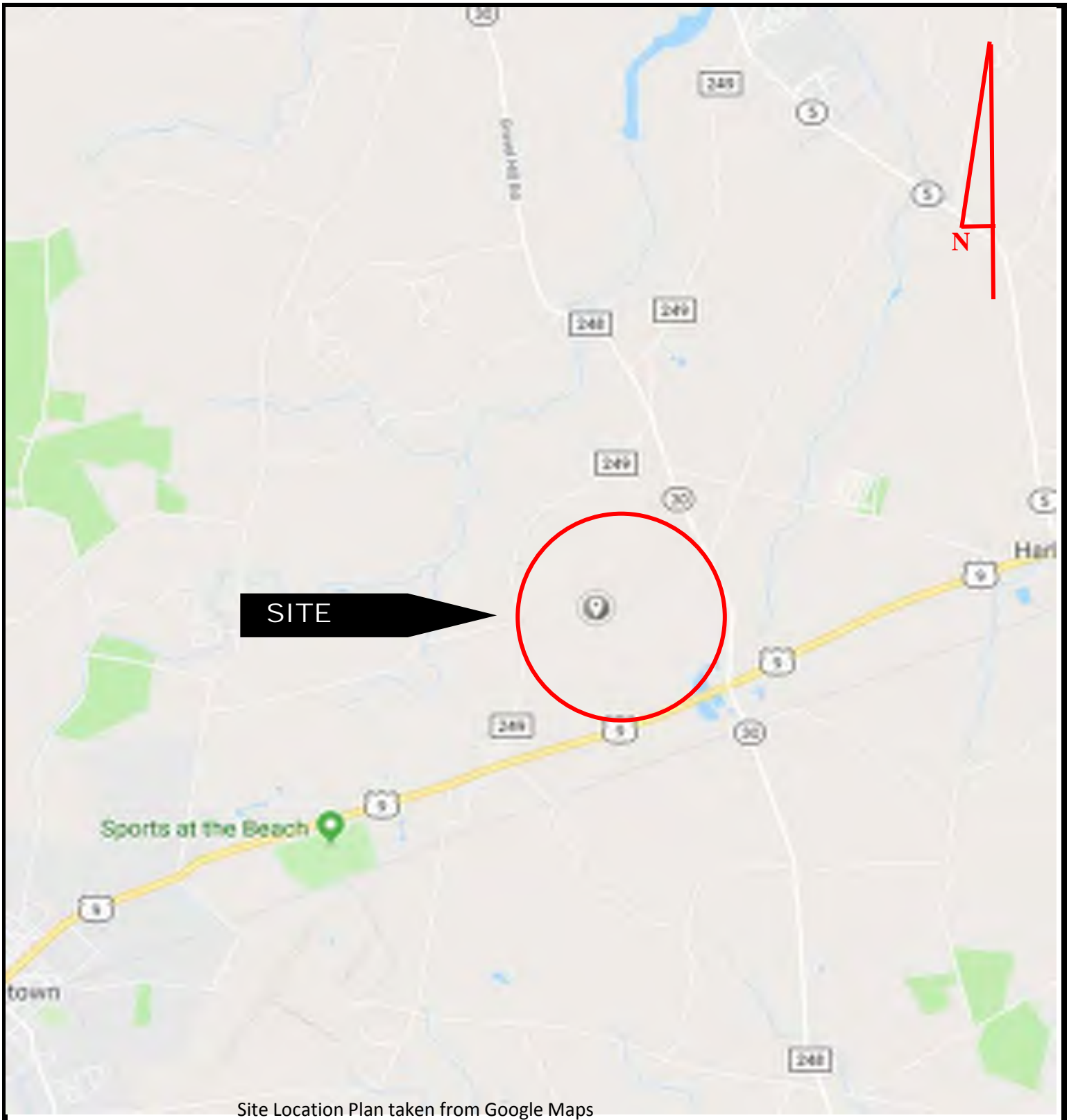
While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, none of the engineer's services were designed, conducted, or intended to prevent uncontrolled migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration*. Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. *Geotechnical engineers are not building-envelope or mold specialists*.



Telephone: 301/565-2733

e-mail: [info@geoprofessional.org](mailto:info@geoprofessional.org) [www.geoprofessional.org](http://www.geoprofessional.org)

**APPENDIX A**  
**FIGURES**



Site Location Plan taken from Google Maps



**GEO-TECHNOLOGY ASSOCIATES, INC.**  
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
 21133 Sterling Avenue, Suite 7  
 Georgetown, Delaware 19947  
 (302) 855-9761 Fax (302) 856-3388

**Site Location Plan**  
**Wilson Moore Property**  
**Sussex County, Delaware**

SCALE	DATE	DRAWN BY	DESIGN BY	REVIEW BY	JOB NO.
NTS	February 2018	GTA	Google Maps	GRS	31180247



 - Indicates approximate location of borings

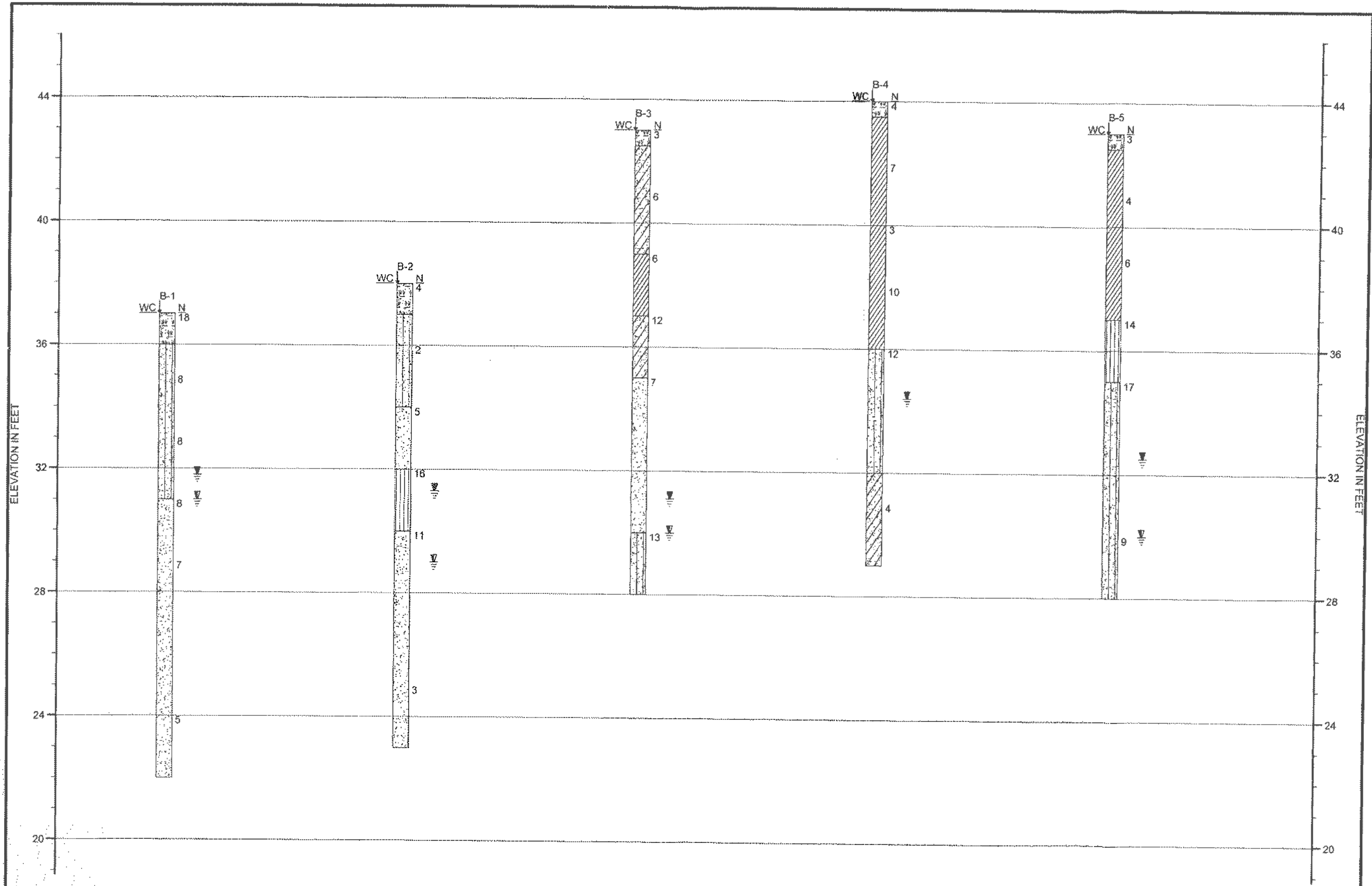
Exploration Location Plan taken from Google Earth and a concept plan prepared by Solutions IPEM dated January 19, 2018



**GEO-TECHNOLOGY ASSOCIATES, INC.**  
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
 21133 Sterling Avenue, Suite 7  
 Georgetown, Delaware 19947  
 (302) 855-9761 Fax (302) 856-3388

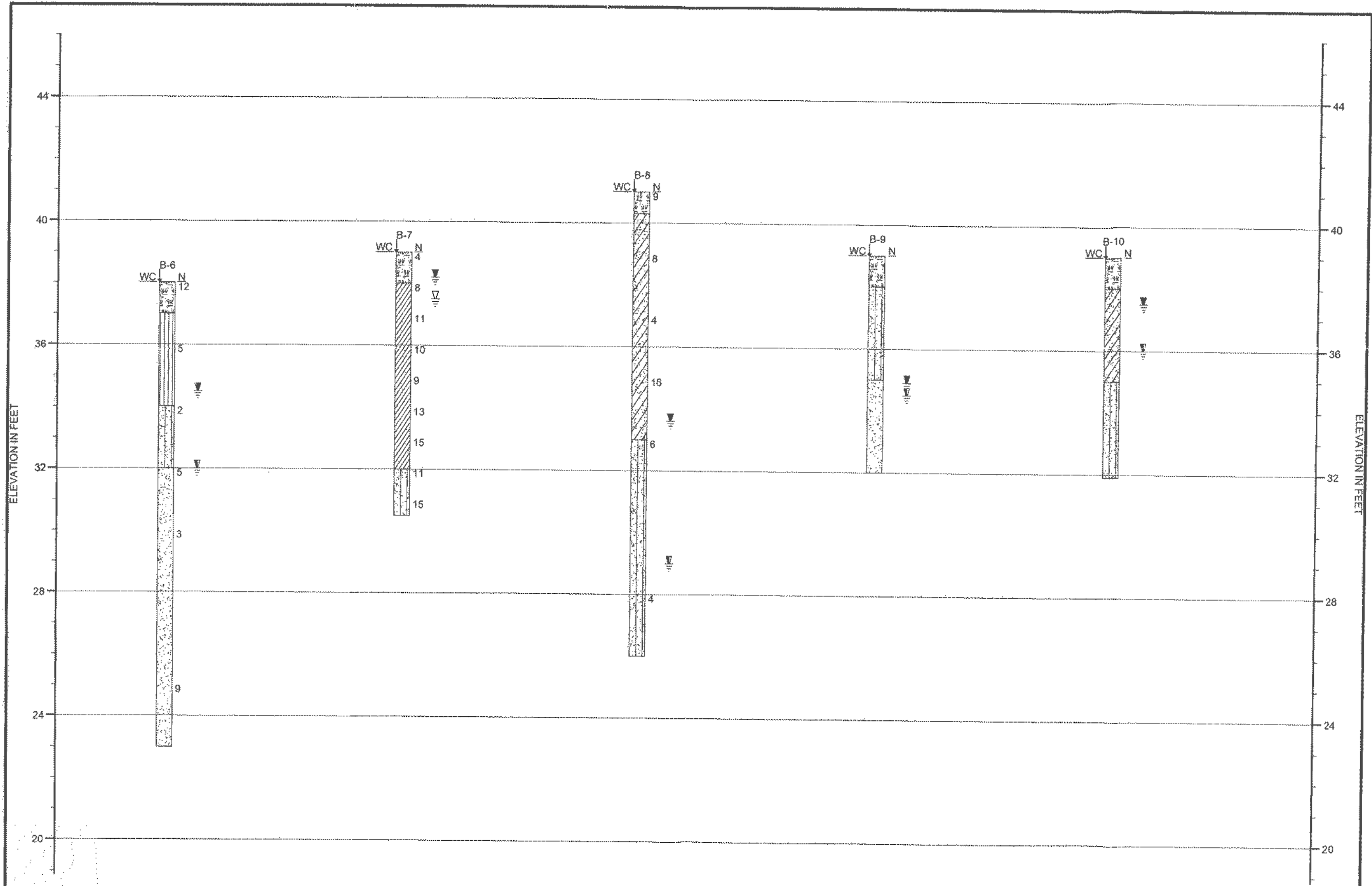
**Exploration Location Plan  
 Wilson Moore Property  
 Sussex County, Delaware**

SCALE 1"~750'	DATE February 2018	DRAWN BY GTA	DESIGN BY Solutions	REVIEW BY GRS	JOB NO. 31180247
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Symbol Description		
	Topsoil	
	SC - Clayey Sand	
	SP-SM - Poorly Graded Sand with Silt	
	SP - Poorly Graded Sand	
	ML - Silt	
	CL - Lean Clay	

Geo-Technology Associates, Inc.			
SUBSURFACE PROFILE			
VERTICAL SCALE: 1"=4'	DRAWN BY TPC	APPROVED BY GRS	DATE: 3/14/2018
Wilson Moore Property Sussex County, Delaware			
PROJECT NO. 31180247			3

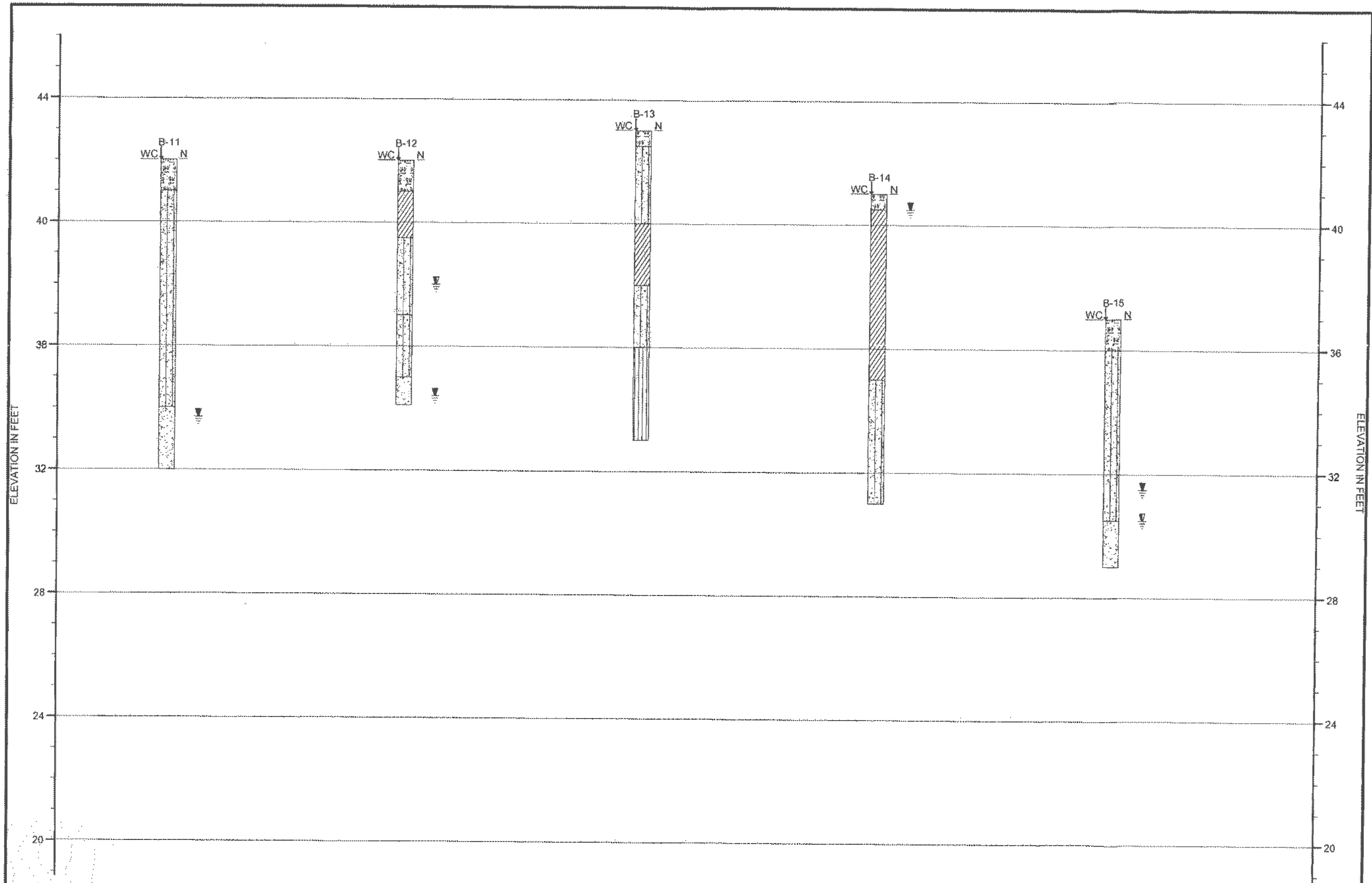


**Symbol Description**

Topsoil	CL - Lean Clay	Water table during drilling
ML - Silt	SM - Silty Sand	Water table at completion
SP-SM - Poorly Graded Sand with Silt	SC - Clayey Sand	Water table at 3rd check
SP - Poorly Graded Sand	Approximate horizontal location of exploration	Water table after 24 hours

Geo-Technology Associates, Inc.			
SUBSURFACE PROFILE			
VERTICAL SCALE: 1"=4'	DRAWN BY TPC	APPROVED BY GRS	DATE: 3/14/2018
Wilson Moore Property Sussex County, Delaware			
PROJECT NO. 31180247			4





Symbol Description

- |                                      |  |                             |
|--------------------------------------|--|-----------------------------|
| Topsoil                              | SM - Silty Sand                                | Water table during drilling |
| SP-SM - Poorly Graded Sand with Silt | ML - Silt                                      | Water table at completion   |
| SP - Poorly Graded Sand              | Approximate horizontal location of exploration | Water table at 3rd check    |
| CL - Lean Clay                       |  |                             |

Geo-Technology Associates, Inc.			
SUBSURFACE PROFILE			
VERTICAL SCALE: 1"=4'	DRAWN BY TPC	APPROVED BY GRS	DATE: 3/14/2018
Wilson Moore Property Sussex County, Delaware			
PROJECT NO. 31180247			5

**APPENDIX B**  
**EXPLORATION DATA**

**GEO-TECHNOLOGY ASSOCIATES, INC.**  
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
 21133 Sterling Avenue, Suite 7 Georgetown, Delaware 19947  
 302-855-9761 302-856-3388 FAX



**TABLE 1**  
**Exploration Data Summary**  
*Wilson-Moore Property*  
 Sussex County, Delaware  
 GTA Project No.: 31180247

Exploration No.	*Existing Ground Surface El. (MSL)	Total Depth of Exploration (ft.)	Topsoil Thickness (In.)	Extent of USCS SM, SP-SM, SP, or SC Soils From - To (ft.)	Extent of USCS CL, ML Soils From - To (ft.)	Depth to Groundwater/ Groundwater El. Encountered During Drilling (ft./MSL)	Depth to Groundwater/ Groundwater El. at One - Four Days After Completion of Exploration (ft./ MSL)
B-1	37	15	12	1.0 – 15.0	NE**	6.0 / 31.0	5.2 / 31.8
B-2	38	15	12	1.0 – 6.0; 8.0 - 15.0	6.0 – 8.0	9.0 / EL 29.0	6.7 / 31.3
B-3	43	15	6	0.5 – 4.0; 6.0-15.0	4.0 – 6.0	13.0 / EL 30.0	11.9 / 31.1
B-4	44	15	6	8.0 – 15.0	0.5 – 8.0	Dry 15.0 / Dry EL 29.0	9.6 / 33.4
B-5	43	15	6	8.0 – 15.0	0.5 – 8.0	13.0 / EL 30.0	10.5 / 32.5
B-6	38	15	12	4.0 – 15.0	1.0 – 4.0	6.0 / EL 32.0	3.5 / 34.5
B-7	39	8.5	12	7.0 – 8.5	1.0 – 7.0	1.5 / EL 37.5 (Perched)	0.8 / EL 38.2 (Perched)
B-8	41	15	8	0.7 – 15.0	NE	12 / EL 29	7.4 / 33.6
B-9	39	7	12	1.0 – 7.0	NE	4.5 / EL 34.5	4.1 / 34.9
B-10	39	7	12	1.0 – 7.0	NE	3.0 / EL 36.0 (Perched)	1.5 / 37.5 (Perched)
B-11	42	10	12	1.0 – 10.0	NE	Dry 10.0 / Dry EL 32.0	8.3 / 33.7
B-12	42	7.9	12	2.5 – 7.9	1.0 – 2.5	4.0 / EL 38 (Perched)	7.6 / 34.4

\*Existing ground surface elevations estimated by GTA from Google Earth. \*\*NE – Not Encountered.

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 21133 Sterling Avenue, Suite 7 Georgetown, Delaware 19947  
 302-855-9761 302-856-3388 FAX



**TABLE 1**  
**Exploration Data Summary**  
*Wilson-Moore Property*  
 Sussex County, Delaware  
 GTA Project No.: 31180247

Exploration No.	*Existing Ground Surface El. (MSL)	Total Depth of Exploration (ft.)	Topsoil Thickness (In.)	Extent of USCS SM, SP-SM, SP, or SC Soils From - To (ft.)	Extent of USCS CL, ML Soils From - To (ft.)	Depth to Groundwater/ Groundwater El. Encountered During Drilling (ft./MSL)	Depth to Groundwater/ Groundwater El. at One - Four Days After Completion of Exploration (ft./MSL)
B-13	43	10	6	0.5 – 3.0; 5.0 – 7.0	3.0 – 5.0; 7.0 – 10.0	Dry 10.0 / Dry EL 33.0	Dry 10.0 / Dry EL 33.0
B-14	41	10	6	6.0 – 10.0	0.5 – 6.0	0.5 / EL 40.5 (Perched)	0.5 / EL 40.5 (Perched)
B-15	37	8	12	1.0 – 8.0	NE	6.5 / EL 30.5	5.5 / EL 31.5

\*Existing ground surface elevations estimated by GTA from Google Earth. \*\*NE – Not Encountered.



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Artesian Water Company

Artesian Wastewater Management

Artesian Utility Development

Artesian Water Pennsylvania

Artesian Water Maryland

Artesian Wastewater Maryland

October 28, 2019

Mr. Jason Palkewicz  
Solutions IPED  
303 N Bedford Street  
Georgetown, DE 19947

RE: Azalea Woods Subdivision Ability to Serve Letter

With reference to your request concerning Water and Wastewater Service (collectively, "Service") for the proposed Azalea Woods Subdivision Project on Gravel Hill Road in Georgetown Hundred, Sussex County, Delaware known as Tax Parcel Numbers 135-11.00-49.00, 56.00, 32.04 & part of 48.00 (the "Property"), please be advised as follows:

Subject to the following conditions, Artesian Water Company, Inc. and Artesian Wastewater Management, Inc. (collectively, "Artesian") are willing and able to provide Service to the Property that meets all applicable State of Delaware, Delaware Department of Natural Resources and Environmental Control, and Sussex County standards. Artesian has existing water and wastewater Certificates of Public Convenience and Necessity ("CPCNs") from the Delaware Public Service Commission.

Based on current conditions and subject to the development entity and Artesian entering Water and Wastewater Service Agreements (collectively, "Agreements") that addresses the financial terms of the provision of Service for the Property, in accordance with Artesian's tariff as approved by the Delaware Public Service Commission, Artesian is willing and able to provide the required Service for this Property.

This letter shall expire if Agreements are not executed within one year of the date of this letter.

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

Yours very truly,

ARTESIAN WATER COMPANY, INC.

A handwritten signature in blue ink, appearing to read "Adam Gould".

Adam Gould  
Manager of Systems Planning and Design



---

**REPORT OF  
PHASE I ENVIRONMENTAL SITE ASSESSMENT**

**WILSON / MOORE PROPERTY**  
**Sussex County, Delaware**

March 20, 2018

Prepared for:

**Natelli Communities**  
506 Main Street, 3<sup>rd</sup> Floor  
Gaithersburg, Maryland 20878

Attn: Mr. Robert Leggieri

---

Prepared by:

**GEO-TECHNOLOGY ASSOCIATES, INC.**  
*Geotechnical and Environmental Consultants*  
3445-A Box Hill Corporate Center Drive  
Abingdon, Maryland 21009  
(410) 515-9446  
Facsimile (410) 515-4895  
[www.gtaeng.com](http://www.gtaeng.com)

GTA Project No: 31180247

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND  
ENVIRONMENTAL CONSULTANTS

*A Practicing Geoprofessional Business Association Member Firm*



March 20, 2018

Natelli Communities  
506 Main Street, 3<sup>rd</sup> Floor  
Gaithersburg, Maryland 20878

Attn: Mr. Robert Leggieri


Re: Phase I Environmental Site Assessment  
***Wilson/Moore Property***  
Sussex County, Delaware

Dear Mr. Leggieri:

In accordance with our agreement dated March 20, 2018, Geo-Technology Associates, Inc. (GTA) has performed a Phase I Environmental Site Assessment (ESA) of the above referenced property. The subject property comprises approximately 294 acres of land located east of Shingle Point Road and west of Gravel Hill Road, in the Georgetown area of Sussex County, Delaware. The majority of the subject property contains undeveloped wooded land. A portion of the southern subject property contains a garage structure, two pole barns, three sheds and a partially constructed storage pavilion. GTA understands that the subject property is planned to be developed with single-family residences and will be serviced by publicly available water and sewer utilities.

We appreciate the opportunity to be of assistance on this project. Should you have any questions regarding this information, or should you require additional information, please contact the undersigned at your convenience.

Sincerely,  
GEO-TECHNOLOGY ASSOCIATES, INC.



Nicholas B. Guns  
Project Scientist



Mark D. Rodano  
Vice President

NBG/MDR/cds  
31180247

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3445-A Box Hill Corporate Center Drive, Abingdon, MD 21830 (410) 515-9446 Fax: (410) 515-4895

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## EXECUTIVE SUMMARY

Geo-Technology Associates, Inc. (GTA) has performed a Phase I Environmental Site Assessment (ESA) of the Wilson / Moore Property (the "subject property", "site"). This ESA was performed in general accordance with ASTM International (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-13)*.

This *Executive Summary* is limited in scope and detail and is presented for the convenience of the reader. Do not rely on this *Executive Summary* for any purpose except that for which it was prepared. Please refer to the full report for details concerning the environmental condition of the subject property, as well as the scope and limitations of this ESA. Rely only on the full report for information about the findings, recommendations, and other concerns.

The subject property comprises approximately 294 acres of land located east of Shingle Point Road and west of Gravel Hill Road, in the Georgetown area of Sussex County, Delaware. The majority of the subject property contains undeveloped wooded land. A portion of the southern subject property contains a garage structure, two pole barns, three sheds and a partially constructed storage pavilion. Historically, the subject property has consisted of wooded land since at least 1917. The majority of the subject property was harvested for timber during the mid-1960s, and again during the mid-1990s. Land uses in the site vicinity have historically included open land, woods, farms, and scattered residences. One garage structure was built on the southern portion of the site in 2016, and two open-sided pole-barns were built on the southern portion of the site in 2018. The garage is reportedly heated with portable kerosene space heaters. GTA personnel did not observe above-ground storage tanks (ASTs), underground storage tanks (USTs), groundwater monitoring wells, or similar environmental concerns in association with the subject property. The subject property was not identified as a site of known environmental concern or regulation in an environmental regulatory database report.

The surrounding vicinity currently contains open land, undeveloped woods, and scattered residential and commercial developments. Historically, the surrounding vicinity contained open land, undeveloped woods, farms, and scattered residential development. A Federal and State environmental regulatory database report identified seven sites of environmental concern or regulation in the surrounding vicinity. Based on their locations relative to the subject property, the anticipated direction of groundwater flow, and/or their regulatory statuses, the identified regulatory sites are unlikely to have adversely impacted the environmental quality of the subject property.

This Phase I ESA has revealed no evidence of recognized environmental conditions (RECs) in connection with the subject property.



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GBA Publication – *“Important Information about This Geoenvironmental Report” (4 pages)*

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Appendix A	Figures
	Figure 1 – Site Location Map
	Figure 2 – Topographic Map
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Appendix B	Site Photographs (3 pages)
Appendix C	Correspondence (23 pages)
Appendix D	Environmental Data Resources (EDR) Radius Map™ Report (54 pages)

# PHASE I ENVIRONMENTAL SITE ASSESSMENT

WILSON / MOORE PROPERTY

SUSSEX COUNTY, DELAWARE

MARCH 20, 2018

## 1.0 INTRODUCTION

### 1.1 Purpose

At the request of Natelli Communities (Client), Geo-Technology Associates, Inc. (GTA) performed the following Phase I Environmental Site Assessment (ESA) to identify recognized environmental conditions (RECs) that may be associated with the subject property, which is described in *Section 2.0* of this Report. The ASTM International (ASTM) has defined a REC and related terms as follows:

- Recognized Environmental Condition (REC): “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.”
- Historical REC (HREC): “a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.”
- Controlled REC (CREC): “a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.”
- De Minimis: “a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions.”

This Report was prepared by GTA for the sole and exclusive use of Natelli Communities. Use and reproduction of this Report by any other person without the express written permission of GTA and Natelli Communities is unauthorized, and such use is at the sole risk of the user.

## 1.2 Scope of Services

This ESA was performed and this Report was prepared in general accordance with applicable standards and with a review of reasonably ascertainable data, as set forth in the ASTM *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-13)*. The scope of services for this Phase I ESA generally included the following:

- Records Review – Review of reasonably ascertainable current and historical records for the subject property and site vicinity, including, but not limited to, a regulatory database report summarizing Federal and State environmental agency records; aerial photography; street directories; *Sanborn® Fire Insurance Maps*; property tax files; chain of title information for the subject property (if provided by the Client or property owner); physical setting documentation; and previous environmental reports.
- Site Reconnaissance – Non-intrusive visual observations of the subject property for indications of hazardous substances, petroleum products, above-ground storage tanks (ASTs), underground storage tanks (USTs), groundwater monitoring wells, polychlorinated biphenyl (PCB)-containing equipment, stained soil, stressed vegetation, pits, ponds, lagoons, structures, utilities, access roads, and similar features of potential environmental concern.
- Interviews – Interviews (in person, via telephone, or via written request) with, but not limited to, relevant regulatory authorities and present and past property owners, operators, or occupants, where relevant.
- Report – Preparation of a Phase I ESA Report summarizing the information collected.

Considerations that were not reviewed as part of this ESA, and that are considered non-scope issues by ASTM and/or otherwise beyond the scope of this assessment, include, but are not limited to, asbestos-containing materials (ACMs), radon, lead-based paint (LBP), lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents, mold, water potability issues (e.g., nitrates, pH, turbidity, coliforms, etc.), other substances under naturally occurring conditions (e.g., metals such as arsenic), methane,

miscellaneous building components (e.g., mercury-containing switches or bulbs, PCB-containing light ballasts), and high voltage power lines.

### **1.3 Limitations**

GTA's conclusions regarding this site have been based on observations of existing conditions at the time of the site reconnaissance and an interpretation of site history and site usage data. Therefore, conclusions reached regarding the conditions of this site do not represent a warranty that all areas within the site are of a similar quality as may be inferred from observable site conditions and available site history. Please be advised that as stated in the ASTM Standard, no environmental site assessment can wholly eliminate uncertainty regarding the potential for environmental liability in connection with the property. GTA's evaluation and analysis are intended to reduce, but not eliminate, the potential for conditions that result in liability for the Client.

Please be advised that ASTM indicates that a Phase I ESA completed less than 180 days prior to the date of the property transaction is presumed to be valid. To satisfy the ASTM Standard, ESAs completed more than 180 days prior to the date of the property transaction are required to be updated.

The following limitations should be noted with respect to this Phase I ESA. These limitations are not necessarily exceptions to the ASTM Standard.

- No chain of title documentation has been provided to GTA.
- The earliest available historical use information consisted of a 1917 United States Geological Survey (USGS) Map.
- Portions of the subject property were densely vegetated, and the on-site structures were locked, limiting GTA's site observations.
- The subject property boundaries were not marked at the time of GTA's site visit. GTA estimated the property boundaries using existing site features, the tax map information described in *Section 2.1*, aerial photographs, and/or site plans, if available.
- GTA requested contact information for the previous property owner from the current property owner, who indicated that such information was not available.

#### **1.4 Significant Assumptions**

As part of this ESA, GTA has obtained data from various sources (e.g., historical documents, regulatory information, site drawings, interviews with individuals familiar with the site and regulatory representatives). GTA relies on this information in forming a professional opinion and assumes that the information is accurate and correct. GTA shall not be responsible for conditions or consequences arising from incorrect data sources or relevant facts that were concealed, withheld or not fully disclosed at the time this Report was prepared. Unless otherwise noted, GTA assumes that the user has requested this Phase I ESA to qualify for a “landowner liability protection” (LLP) to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability.

#### **1.5 Data Gaps**

ASTM defines a “data gap” as a lack of or inability to obtain information required by the Phase I ESA standard despite good faith efforts by the Environmental Professional to gather such information. Data gaps may result from incompleteness in any of the activities required by the Phase I ESA, including, but not limited to, the site reconnaissance and interviews. Common data gaps include the inaccessibility of structures and inability to interview key site managers. Significant data gaps are those that affect the ability of the Environmental Professional to identify RECs. Significant data gaps were not identified as part of this ESA.

#### **1.6 Qualifications**

I, Nicholas B. Guns, declare that, to the best of my professional knowledge and belief, I meet the definition of an *Environmental Professional* as defined in Part 312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the “All Appropriate Inquiries” in general conformance with the standards and practices set forth in 40 CFR Part 312. The qualifications of the Environmental Professionals who performed this Phase I ESA are available to the Client upon request.

## 2.0 PHYSICAL SETTING

### 2.1 Site Location

The subject property comprises approximately 294 acres of land located east of Shingle Point Road and west of Gravel Hill Road, in the Georgetown area of Sussex County, Delaware. The majority of the subject property contains undeveloped wooded land. A portion of the southern subject property contains a garage structure, two pole barns, three sheds and a partially constructed storage pavilion. A *Site Location Map* for the subject property is presented as *Figure 1 (Appendix A)*.

According to the records of the Sussex County Online Parcel Map, the subject property comprises five parcels identified as Parcel IDs 135-11.00-49.00, 135-11.00-56.00, 135-11.00-32.02, 135-11.00-32.03 and 135-11.00-32.04. Property owners for parcel 49.00 are identified as Glatfelter Holdings, Inc. Property owners for parcel 56.00 are identified as Ernest L. Moore. Property owners for parcel 32.02 are identified as Monroe E. and Elizabeth S. Brittingham. Property owners for parcel 32.03 are identified as Sequoia Landscaping, Inc. Property owners for parcel 32.04 are identified as Monroe E. and Elizabeth S. Brittingham. Parcels 49.00 and 56.00 are zoned agricultural/residential. Parcel 32.02 and 32.03 are zoned "General Business."

GTA was provided with a copy of an unnamed, undated, hand-drawn concept plan (Plan) of the subject property, prepared by Solutions Integrated Planning Engineering and Management (Solutions). The Solutions Plan does not indicate site acreage. No structures are depicted on the subject property, or in the site vicinity. The Solutions Plan indicates that the subject property is proposed to be developed with single-family residential lots and public open space areas. Proposed utilities are not noted. The residential lots will be accessed by two roads, which will extend east from Shingle Point Road and extend west from Gravel Hill Road, or by several additional interior roads that will extend from the main ingress-egress roads. While it appears that several stormwater management facilities are depicted on the Solutions Plan, associated labels were not provided. Topographic information depicted on the Solutions Plan was generally consistent the USGS Maps referenced in *Section 2.2*.

## 2.2 Topography

The topographic information on the USGS Topographic Quadrangle Map (Harbeson, DE) for the site vicinity indicates that the ground surface elevations on the site range from approximately 50 feet above Mean Sea Level (ft MSL) on the northern portion of the subject property, to approximately 40 ft MSL on the eastern, southeastern and southwestern portions of the subject property. Several topographic knolls are located on the central portion of the subject property. The eastern portion of the subject property is depicted sloping downward to the east and southeast, toward the northeasterly flowing unnamed tributaries of Round Pole Branch, which cross the northern and northwestern portions of the subject property. Smaller areas located on the western and northern portions of the subject property appear slope downward to the west, towards the northerly flowy tributaries of Savannah Ditch. The topographic information depicted on the Solutions Plan is generally consistent with that shown on the USGS Map. A *Topographic Map* for the site and vicinity, based on the USGS Map, is included as *Figure 2*.

## 2.3 Soils

According to the U.S. Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS) Web Soil Survey (reviewed on March 20, 2018), the site is underlain by Fallington loams (FadA, FgdA), Fort Mott-Henlopen complexes (FhA, FhB), Fort Mott loamy sand (FmA), Hammonton loamy sands (HmA, HnA), Henlopen loamy sand (HpB), Henlopen loamy sand (HpB), Ingleside loamy sand (IeA), Keyport fine sandy loam (KfA, KpA), Lenni loams (LfA, LhA), Pepperbox loamy sand (PpA), Pepperbox-Rosedale complex (PsA), Rosedale loamy sand (RoB), Runclint loamy sand (RuA, RuB), and Woodstown sandy loam (WddA).

## 2.4 Geology and Hydrogeology

According to the Delaware Geological Survey *Geologic Map of the Harbeson Quadrangle, Delaware* (2011), the site vicinity is situated in the Coastal Plain Physiographic Province, which is a characterized undifferentiated and interlayered sedimentary deposits. Specifically, the site is indicated to be underlain by the Lynch Heights Formation and the Beaverdam Formation. The Lynch Heights formation is characterized as loose, fine to very fine,

moderately silty, pale-yellow to yellow sand that ranges from two to 15 ft in thickness north of US Rt. 9 and east of Gravel Hill Road (Rt. 30). To the west of Gravel Hill Road, these sands are interbedded with a body of compact, gray to greenish-gray, clayey silt to silty clay from two to 15 ft thick that forms a topographic high oriented roughly north-south. On the western margin of this clay body a paleochannel with a similar orientation is filled with 5 to 15 ft of gravelly sand grading upward to fine to medium sand. Interpreted to be estuarine sands, tidal flat or estuarine muds, and tidal channel sands, respectively. The Beaverdam Formation is characterized as a heterogeneous unit ranging from very coarse sand with pebbles to silty clay. The predominant lithologies at the land surface are white to mottled light-gray and reddish-brown, silty to clayey, fine to coarse sand. Laminae and beds of very coarse sand with pebbles to gravel are common as are laminae and beds of bluish-gray to light-gray silty clay.

Hydrologically, the Coastal Plain is underlain by both unconfined and confined aquifers of unconsolidated sediments, which overlie consolidated bedrock and dip toward the southeast. Groundwater storage and movement are functions of the primary porosity of the sediments. Larger storage is provided by gravel and sand, with little to no storage provided by clay. Near-surface, unconfined aquifers typically consist of sediments of higher permeability and are recharged locally, primarily through precipitation that permeates through the unsaturated zone into the aquifer. The water table in unconfined aquifers is therefore highly variable, fluctuating with the seasons and with rates of precipitation. Variations in the groundwater surface and flow generally reflect the topography and relative locations of surface water features. Intermittent confining layers can locally alter the water table conditions. The deeper, confined aquifers are bound by confining layers above and below, creating an artesian system. Confined aquifers are recharged in areas where the formation crops out, generally in more remote areas to the west.

The groundwater flow direction in the site vicinity is assumed to mirror surficial topography. Accordingly, the groundwater flow direction is assumed to be generally toward the north in the immediate site vicinity.



### 3.0 SITE AND VICINITY DESCRIPTION

#### 3.1 Site Conditions

GTA personnel performed a site reconnaissance on March 12, 2018. GTA personnel were unaccompanied at the time. The weather was sunny with temperatures in the mid-40's. Portions of the subject property were densely vegetated, and the on-site garage and sheds were locked, limiting GTA's site observations. A *Site Sketch* is included as *Figure 3*. Photographs taken during GTA's site reconnaissance are presented as *Appendix B*.

##### 3.1.1 Site Description

The majority of the subject property contains undeveloped wooded land. A portion of the southern subject property contains a garage structure, two pole barns, three sheds and a partially constructed storage pavilion. The subject property was accessed directly from Shingle Point Road, located adjacently west of the site, and by Lewes Georgetown Highway, located adjacently south of the site.

Surface water drainage on the majority of the subject property is conveyed via overland flow into the northeasterly flowing unnamed tributaries of Round Pole Branch, which cross the northern and northwestern portions of the subject property. Smaller areas located on the western and northern portions of the subject property appear to convey overland flow drainage into a drainage swale located along Shingle Point Road.

##### 3.1.2 Structures

A single-story garage is located on the southern portion of the subject property. The garage is of wood frame and slab-on-grade construction. The garage was serviced by electric, and private well and septic utilities. No additional utilities were observed in the area of the garage.

A partially constructed pole-barn (Barn 1) is located on the southern portion of the subject property, approximately 50 feet north of the garage. The pole-barn was of wood frame and slab on grade construction, and was not enclosed. No utilities were observed in the area of the barn.

A partially constructed pole-barn (Barn 2) was observed on the southern portion of the subject property, approximately 100 feet southeast of the garage. The pole-barn was of wood frame construction and built directly on the ground surface. No utilities were observed in the area of the barn.

Three sheds and a partially constructed two-walled pavilion structure were also located on the southern portion of the site, approximately 200 feet north of the garage building. The sheds are of wood frame construction and appeared to be sitting on the ground surface. The pavilion structure was steel and wood frame construction and also appeared to be sitting on the ground surface. The sheds and the pavilion structure did not appear to be heated or serviced by utilities. The sheds were locked at the time of GTA's reconnaissance, limiting site observations.

### **3.1.3 Storage Tanks**

GTA observed an empty, out-of-use 275-gallon AST on the southern portion of the subject property. No petroleum odors or stained soil were observed in the area of the AST. GTA personnel did not observe indications of additional ASTs or surface features that would be indicative of USTs (e.g., fill pipes, vent pipes, manholes) on the subject property.

### **3.1.4 Petroleum Compounds/Hazardous Substances**

Aside from the out-of-use AST, GTA personnel did not observe indications of the use, storage, or disposal of petroleum compounds or hazardous substances on the subject property.

One recently installed pad-mounted electrical transformer is located on the southern portion of the subject property, approximately 50 feet south of the garage structure. GTA personnel did not observe obvious signs of leaks or spills in the vicinity of the transformer.

### **3.1.5 Solid Waste**

GTA personnel did not observe obvious indications of landfilling or buried waste on the subject property.

### **3.1.6 Utilities**

Underground electrical and telephone lines extend north from Lewes Georgetown Highway to the structure on the southern portion of the site. A standpipe for an apparent water supply well was observed approximately 20 feet south of the garage structure. An access port for an apparent septic system was observed approximately 5 feet east of the garage structure. An electrical transformer was observed to the south of the garage structure. No other indications of utility services were observed on the subject property.

### **3.1.7 Other Site Information**

Various areas of minor nuisance dumping were observed on the subject property, primarily within wooded areas on and immediately adjacent to the eastern portion of the site. The majority of the debris included scrap wood, scrap metal, a hot-water tank and household refuse. Several hunting blinds and tree stands were observed throughout the subject property. GTA personnel did not observe indications of stained soil, stressed vegetation, monitoring wells, pits, ponds, or lagoons on the subject property.

## **3.2 Surrounding Land Uses**

The subject property is bordered to the north by wooded land and open agricultural fields followed by woods and residential development and additional agricultural fields; to the east by undeveloped wooded land, open agricultural fields, private residences and a farm complex followed by Gravel Hill Road; to the west by Shingle Point Road followed by single-family residential development and wooded land; and to the south by undeveloped wooded land, followed by commercial development, including Harbeson's Cycle and Service (24215 Lewes Georgetown Highway), Lancelot & Co. Used Cars (24199 Georgetown Highway), A.P. Croll & Son, Inc. (22997 Lewes Georgetown Highway), J&J Auto Glass and Mechanic (23129 Lewes Georgetown Highway), and Besche Furniture (24451 Lewes Georgetown Highway).

In general, land uses in the site vicinity consist of residential development, open fields, undeveloped woods, and scattered commercial developments. The former Durnam Property leaking underground storage tank (LUST) site (5908 Ritchie Highway), which was identified as a former gasoline station on reviewed DNREC documents, was located approximately 2,000 feet southwest and topographically downgradient of the subject property. GTA personnel did not observe indications of dry cleaners, landfills, industrial areas, or similar sites of known environmental concern within an approximate ¼-mile radius of the subject property.

Locally, surficial drainage on the western portion of the site is collected by road-side swales located along Shingle Point Road, and the surficial drainage on the eastern portion of the site is collected by the northeasterly flowing Round Pole Branch, which has an upstream tributary located adjacently south and east of the southeastern portion of the site. The subject property appears to receive some surficial drainage from wooded areas located north of the subject property. Accordingly, surficial drainage from upgradient sources is unlikely to have adversely affected the environmental condition of the subject property.

### **3.3 Interviews**

On March 19, 2018, GTA personnel interviewed Mr. Keith Coffin, a representative of Delaware Elevator, the current owner of the site. According to Mr. Coffin, he has owned the subject property for approximately three months. Mr. Coffin indicated that the subject property contains mostly undeveloped wooded land with a portion of the southern site containing a former contractor/truck yard that was operated by M.E. Brittingham and Sons until recently. Mr. Coffin was not aware of spills or ASTs or USTs associated with the subject property. Mr. Coffin understood that the majority of the subject property was historically used as a tree farm, and significant timber harvesting had occurred on the subject property over the years. He was not aware of former orchards associated with the subject property, or of areas of buried debris or waste on the subject property. Mr. Coffin was not aware of environmental concerns related to the site or the surrounding vicinity. He was not aware of prior Phase I ESAs conducted on the subject property. Mr. Coffin provided GTA with contact information for Mr. Michael Brittingham, the prior owner of the southernmost parcel of the subject property. He indicated that contact information for other prior owners was not immediately available.

On March 19, 2018, GTA personnel interviewed Mr. Brittingham, who indicated that he utilized the property as storage and staging yard for his hauling and waste disposal business since 2002. He indicated that no waste or debris was disposed of on the property. He indicated that he used the property to park business trucks and trailers when not in use. Mr. Brittingham indicated that he built the garage building on the southern portion of the site in 2016, and that the building is serviced by a well and septic system, and heated by kerosene space heaters in the winter. He indicated that the kerosene was stored in portable containers and brought to the property as needed. He indicated that the pole barns were built in 2018. He indicated that the garage and sheds contained maintenance equipment and spare parts for his business's trucks. Mr. Brittingham indicated that the empty AST observed near his structures was being temporarily stored on-site until it could be hauled to a recycling center. He indicated that the observed soil stock piles and mulch piles were left over from the clearing of the property in 2016. He indicated that engine maintenance was not performed on-site. Mr. Brittingham was not aware of environmental concerns related to the site or the surrounding vicinity. He was not aware of prior Phase I ESAs conducted on the subject property.

GTA provided the Client with a User questionnaire regarding Natelli Communities' knowledge of environmental concerns associated with the subject property. The Client has indicated that Natelli Communities is unaware of:

- environmental cleanup liens against the subject property (filed under Federal, Tribal, State, or local law);
- activities and land use limitations (AULs), such as engineering controls, land use restrictions, institutional controls that are in place at the subject property;
- specialized knowledge or experience related to the environmental condition of the site or nearby properties;
- lowering of the purchase price of the site because contamination is known or believed to be present;
- information about the site that would help identify conditions indicative of releases or threatened releases; or
- obvious indicators that point to the presence or likely presence of contamination at the subject property.

A copy of the completed User questionnaire is included in *Appendix C*.

## 4.0 SITE HISTORY

### 4.1 Aerial Photographs

In an effort to assess historical land use practices on the site and in the vicinity, GTA reviewed aerial photographs dated 1937, 1954, 1961, 1968, 1977, 1981, 1992, 1997, 2002, 2006, 2007, 2009, 2011, 2012, 2013, 2015 and 2017 maintained by the Delaware Environmental Monitoring and Analysis Center website <[http:// demac.udel.edu/](http://demac.udel.edu/)>, Nationwide Environmental Title Search and Google Earth Software <[www.earth.google.com](http://www.earth.google.com)>. Copies of the 1961, 1968, 1992, 1997 and 2017 aerial photographs are included as *Figures 4, 5, 6, 7 and 8*, respectively. A summary of GTA's interpretation of the aerial photographs follows. The aerials were reviewed chronologically, and significant land use changes that were observed are described below.

The 1937 aerial photograph indicates that the majority of the subject property consisted of undeveloped wooded land. A small area on the eastern portion of the site appeared to be open agricultural field and an apparent farm complex that included at least two structures. The site vicinity contained open land, undeveloped woods, farms, and scattered residences. No indications of large-scale industrial or commercial land uses were observed near the subject property.

The 1954 aerial photographs indicate that the open agricultural field on the eastern portion of the site had become vegetated. The DELDOT Area 20 – Gravel Hill Maintenance Yard site was observed approximately 1,300 feet southeast of the subject property, and encompassed the northern and southern adjacent properties along Lewes Georgetown Highway. An apparent farm complex was constructed approximately 1,000 feet east of the subject property and included at least two apparent chicken houses. The remaining land uses on the site and in the site vicinity appeared to be generally consistent with those observed on the 1937 aerial photograph.

The 1961 aerial photograph (*Figure 4*) indicates that the structures formerly located on the eastern portion of the site appeared to have been razed. A portion of the eastern revegetated area observed on the 1954 aerial photograph appeared to have been cleared, while the portion of

the revegetated area located proximate to Gravel Hill Road had become more vegetated. Additionally, an apparent roadway was observed in the eastern revegetated area originating from Gravel Hill Road and extending west into the subject property. The remaining land uses on the site and in the site vicinity appeared generally consistent with those observed on the 1954 aerial photograph.

The 1968 aerial photograph (*Figure 5*) indicates that the majority of the central portion of the subject property appeared to have been clear-cut, and several apparent logging roads were observed throughout the site. The remaining land uses on the subject property and in the site vicinity appeared generally consistent with those observed on the 1961 aerial photograph.

The 1977 aerial photograph indicates that the previously clear-cut areas on the central portion of the site had become mostly revegetated. The remaining land uses on the subject property appeared generally consistent with those observed on the 1968 aerial photograph. Increased commercial development was observed to the south of the site along Lewes Georgetown Highway, including to the Dumam Property LUST site (Facility ID: 05-00813, Status: closed) referenced in *Section 5.1*, which was identified as a former gasoline station located approximately 2,000 feet southwest of the subject property. Increased residential development was observed to the west of the site, along Briarwood Lane and McDonald Drive. A farm complex located approximately 1,000 feet east of the site and contained two apparent chicken houses and at least two other structures.

The 1981 aerial photograph indicates that the land uses on the subject property and in the site vicinity appeared generally consistent with those observed on the 1977 aerial photograph.

The 1992 aerial photograph (*Figure 6*) indicates that the land uses on the subject property appeared generally consistent with those observed on the 1981 aerial photograph. Increased residential development was observed to the west of the subject property, along Deer Run Lane. The DELDOT Area 20 – Gravel Hill Maintenance Yard site appeared to no longer occupy the property located adjacently north of Lewes Georgetown Highway, and apparent residential development was observed in this area along the western side of Gravel Hill Road.

The 1997 aerial photograph (*Figure 7*) indicates that the entirety of the subject property except for the eastern most portion located adjacent to Gravel Hill Road, was clear-cut. The former logging roads observed on the 1968 aerial photographs were again noted on the 1997 aerial photograph. Apparent drainage channels were observed throughout the clear-cut areas on the subject property.

The 2002 aerial photograph indicates that the land uses on the subject property appeared generally consistent with those observed on the 1997 aerial photograph, and the clear-cut areas observed on the 1997 aerial photograph appeared slightly revegetated. The area of wooded land located south of Deer Run Lane, and west of the subject property appeared to be partially cleared of vegetation. The remaining land uses in the site vicinity appeared generally consistent with those observed on the 1997 aerial photograph.

The 2006, 2007, 2009, 2011, and 2012 aerial photographs indicate that the land uses on the subject property and in the site vicinity appeared generally consistent with those observed on the 2002 aerial photograph.

The 2013, 2015 and 2017 (*Figure 8*) aerial photographs indicate that the area on the eastern portion of the site that contained undeveloped wooded land appeared to have been clear-cut prior to 2013. Disturbed land was observed within the clear-cut area and was located adjacently west of Gravel Hill Road. A portion of the southern subject property located adjacently north of Lewes Georgetown Highway was clear-cut by 2015, and contained disturbed land on the 2015 aerial photograph. The clear-cut area was further disturbed by the time of the 2017 aerial photograph, and included a rough-cut roadway and several apparent sheds or similar structures. The remaining land uses on the subject property appeared generally consistent with those observed on the 2012 aerial photograph. Disturbed land was observed on the adjacent western property on the 2013, 2015 and 2017 aerial photographs.

#### **4.2 Historical Maps**

On GTA's behalf, Environmental Data Resources, Inc. (EDR) conducted a search for *Sanborn Fire Insurance Maps* for the site and vicinity. According to EDR, no *Sanborn Fire*



*Insurance Maps* were found in its collection that provided coverage for the subject property or vicinity. A copy of the EDR “Sanborn Map Report” page is included in *Appendix C*.

GTA reviewed previous editions of the USGS Topographic Quadrangle Maps, dated 1917, 1938, 1944, 1945, 1956, 1969, 1985 and 1992 maintained by Nationwide Environmental Title Research. The 1938 and 1945 USGS Maps did not identify the ground cover on the subject property or in the site vicinity. The remaining USGS Maps identified the ground cover on the subject property as wooded land, with scattered farms and residences in the site vicinity. The DELDOT Area 20 – Gravel Hill Maintenance Yard site was first depicted on the 1956 USGS Topographic Map. An on-site structure was identified on the eastern portion of the site, near Gravel Hill Road on the 1917 – 1985 USGS Maps. Land uses in the site vicinity included a gradual increase in apparent residential and commercial development, especially to the south, and west. Remaining land uses on the subject property and in the site vicinity appeared generally consistent with those observed on the aerial photographs.

#### **4.3 Other Sources**

GTA was not supplied with chain of title documentation concerning the subject property. Based on the availability of other historical resources summarized herein, no city directories were reviewed as part of this ESA.

#### **4.4 Previous Reports**

GTA requested copies of previous ESAs or other environmental investigations from the Client and Mr. Keith Coffin (a representative of the current property owner). The Client and Mr. Coffin indicated that they were not aware of ESAs or other environmental investigations of the site.

#### **4.5 Historical Summary**

Based on a review of historical information, the subject property has consisted of wooded land since at least 1917. The majority of the subject property was harvested for timber during the mid-1960s, and again during the mid-1990s. Land uses in the site vicinity have historically

included open land, woods, farms, and scattered residences. Commercial development has occurred to the south of the site in recent years, along Lewes Georgetown Highway.

## **5.0 REGULATORY INFORMATION**

### **5.1 Local Regulatory Review**

GTA submitted written inquiries, dated February 26, 2018, to the Delaware Department of Natural Resources and Environmental Control (DNREC) concerning potential environmental issues associated with the subject property. Responses from the Air Quality Management Branch, the Environmental Crimes Unit, the Emergency Prevention and Response Branch, the Solid and Hazardous Waste Management Branch, and the Site Investigation and Remediation Branch were received indicating that no files were found pertaining to the subject property. A response from the Tank Management Branch was received and indicated that three Leaking Underground Storage Tank (LUST) cases are located to the south of the site, along Lewes-Georgetown Highway. These sites were consistent with the regulatory sites summarized below in *Section 5.2*, with the exception of the Durnam Property LUST site (Facility ID: 05-00813, Status: closed), which was identified as a former gasoline station located approximately 2,000 feet southwest of the subject property. *Copies* of GTA's written inquiries and DNREC responses are included in *Appendix C*.

In addition to submitting a written inquiry to DNREC, GTA reviewed the DNREC Delaware Environmental Navigator <<http://www.nav.dnrec.delaware.gov/dnreceis/>> on February 26, 2018. The subject property was not identified on the Environmental Navigator. The Environmental Navigator identified regulatory sites consistent with the Durnam LUST site and the additional sites summarized below.

### **5.2 Federal and State Agency Database Review**

GTA retained EDR to perform an ASTM Standard search of Federal and State environmental regulatory agency databases for the subject property and vicinity. The EDR Radius Map™ Report, dated February 26, 2018, is included as *Appendix D*. In some cases, GTA may have requested that EDR increase the ASTM Standard search distances due to the size or shape of the subject property. The EDR Report also includes a list of "Non-Geocoded" sites,

which EDR indicates could not be plotted on its part due to insufficient address and/or geographic coordinate information.

GTA attempted to field-verify the locations of the EDR-identified regulatory sites. GTA also reviewed the list of Non-Geocoded sites and based on the descriptions provided, attempted to verify if any are located within the specified search radii. Therefore, the sites discussed in this section may be a subset of those contained in the EDR Report. The two tables below summarize the regulatory databases that were searched, followed by GTA's summary of the results.

<b>FEDERAL DATABASES SEARCHED BY EDR</b>		
<b>Database</b>	<b>Description</b>	<b>ASTM Search Distance</b>
NPL	National Priority List. Subset of CERCLIS. Sites for priority cleanup under the Superfund program.	1-mile
Delisted NPL	Delisted National Priority List sites	½-mile
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System. Sites that are proposed for or on the NPL, or in the screening or assessment phase for possible inclusion on the NPL.	½-mile
CERCLIS-NFRAP	Archived CERCLIS sites with a status of No Further Remedial Action Planned (NFRAP), denoting sites where, following an initial investigation, either no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. The NFRAP status does not necessarily indicate that no environmental concerns are present.	½-mile
RCRA COR	Hazardous waste handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity.	1-mile
RCRA TSD	Resource Conservation and Recovery Information System, hazardous waste Treatment, Storage, and Disposal Facilities.	½-mile
RCRIS LQG	RCRIS sites that are hazardous waste large-quantity generators.	Subject property and adjoining properties
RCRIS SQG	RCRIS sites that are hazardous waste small-quantity generators.	Subject property and adjoining properties
IC/EC	Institutional Controls or Engineering Controls maintained for the purpose of tracking sites that may contain residual contamination and activity and use limitations.	Subject property
ERNS	Emergency Response Notification System. Information on releases of oil and hazardous substances.	Subject property

STATE & TRIBAL DATABASES SEARCHED BY EDR		
Database	Description	ASTM Search Distance
NPL	Equivalent of Federal NPL sites.	1-mile
STATE SITES	State Hazardous Waste Sites, which is the state equivalent to CERCLIS.	½-mile
SWL	Solid Waste Acceptance Facilities/Landfills, which may include active or inactive facilities, landfills, or open dumps.	½-mile
UST/AST	Registered underground and above-ground storage tank sites.	Subject property and adjoining properties
LUST	Cases monitored by the DNREC Tank Management Branch, which can be leaking underground storage tanks (LUSTs), other below ground releases, leaking above-ground storage tanks (LASTs), spills, and inspections.	½-mile
Brownfields	DNREC/EPA Voluntary Cleanup Program	½-mile
IC/EC	Equivalent to Federal IC/EC Registries.	Subject property

The EDR Report did not identify sites that appear to correspond to the subject property. The EDR Report identified the following regulatory sites located within the previously identified search distances.

EDR RESULTS SUMMARY			
Site Description	Database	Details	Approximate Distance/Direction from Subject Property
B&S Development 24427 Lewes Georgetown Highway Georgetown, DE	UST	500-gal heating oil UST, closed in place	800 feet / Southeast
	LUST	Facility ID: 05-001168 Status: Closed, 5/18/2016	
Besche Furniture 24481 Lewes Georgetown Highway Georgetown, DE	LUST	Facility ID: 05-001004 Status: Closed, 1/24/2006	1,100 feet / Southeast
A.P. Croll and Son Route 9 East Georgetown, DE	LUST	Facility ID: 05-000640 Status: Closed, 1/11/1993	1,200 feet / Southwest
DELDOT Area 20 – Gravel Hill Maintenance Yard 2445 Lewes-Georgetown Highway Georgetown, DE	LUST	Facility ID: 05-000414 Status: Closed, 3/23/2007	1,300 feet / Southeast
I.A. Construction Route 30 Georgetown, DE	LUST	Facility ID: 05-000033 Status: Closed, 10/21/1991	2,600 feet / Southeast

Two additional regulatory sites were also identified beyond the above referenced searched distances and are not displayed above. Based on the distances from the surrounding

regulatory sites to the subject property, the assumed direction of groundwater flow, and/or their regulatory statuses, it is unlikely that the EDR-identified regulatory sites have adversely impacted the subject property. Additionally, the regulatory records and surrounding land uses do not indicate that a vapor migration concern at the subject property is likely. This information is available within *Appendix D*.

## **6.0 SUBSURFACE EXPLORATION**

GTA recently performed seven Standard Penetration Test (SPT) borings, designated as B-1 through B-6 and B-8, and eight hand auger borings designated as B-7 and B-9 through B-15, throughout the subject property for the purpose of geotechnical engineering design. The borings were advanced to depths of seven to 15 feet below the ground surface (bgs). No buried debris, stained soil, or petroleum odors were observed during the soil borings, although borings were performed for geotechnical purposes and an environmental assessment was not performed at the time. GTA's March 2018 *Report of Subsurface Investigation* was provided to the Client under separate cover.

## **7.0 FINDINGS**

### **7.1 Summary**

The subject property comprises approximately 294 acres of land located east of Shingle Point Road and west of Gravel Hill Road, in the Georgetown area of Sussex County, Delaware. The majority of the subject property contains undeveloped wooded land. A portion of the southern subject property contains a garage structure, two pole barns, three sheds and a partially constructed storage pavilion. Historically, the subject property has consisted of wooded land since at least 1917. The majority of the subject property was harvested for timber during the mid-1960s, and again during the mid-1990s. Land uses in the site vicinity have historically included open land, woods, farms, and scattered residences. One garage structure was built on the southern portion of the site in 2016, and two open-sided pole-barns were built on the southern portion of the site in 2018. The garage is reportedly heated with portable kerosene space heaters. GTA personnel did not observe ASTs, USTs, groundwater monitoring wells, or similar environmental concerns in association with the subject property. The subject property

was not identified as a site of known environmental concern or regulation in an environmental regulatory database report.

The surrounding vicinity currently contains open land, undeveloped woods, and scattered residential and commercial developments. Historically, the surrounding vicinity contained open land, undeveloped woods, farms, and scattered residential development. A Federal and State environmental regulatory database report identified seven sites of environmental concern or regulation in the surrounding vicinity. Based on their locations relative to the subject property, the anticipated direction of groundwater flow, and/or their regulatory statuses, the identified regulatory sites are unlikely to have adversely impacted the environmental quality of the subject property.

## **7.2 Conclusions**

GTA has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E1527-13 of the subject property (Wilson / Moore Property), as described herein. Any exceptions to, or deletions from, this practice are described in *Section 1.3* of this Report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the subject property.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***

## Important Information about This

# Geoenvironmental Report

Geoenvironmental studies are commissioned to gain information about environmental conditions on and beneath the surface of a site. The more comprehensive the study, the more reliable the assessment is likely to be. But remember: Any such assessment is to a greater or lesser extent based on professional opinions about conditions that cannot be seen or tested. Accordingly, no matter how many data are developed, risks created by unanticipated conditions will always remain. *Have realistic expectations.* Work with your geoenvironmental consultant to manage known and unknown risks. Part of that process should already have been accomplished, through the risk allocation provisions you and your geoenvironmental professional discussed and included in your contract's general terms and conditions. This document is intended to explain some of the concepts that may be included in your agreement, and to pass along information and suggestions to help you manage your risk.

### **Beware of Change; Keep Your Geoenvironmental Professional Advised**

The design of a geoenvironmental study considers a variety of factors that are subject to change. Changes can undermine the applicability of a report's findings, conclusions, and recommendations. *Advise your geoenvironmental professional about any changes you become aware of.* Geoenvironmental professionals cannot accept responsibility or liability for problems that occur because a report fails to consider conditions that did not exist when the study was designed. Ask your geoenvironmental professional about the types of changes you should be particularly alert to. Some of the most common include:

- modification of the proposed development or ownership group,
- sale or other property transfer,
- replacement of or additions to the financing entity,

- amendment of existing regulations or introduction of new ones, or
- changes in the use or condition of adjacent property.

Should you become aware of any change, *do not rely on a geoenvironmental report.* Advise your geoenvironmental professional immediately; follow the professional's advice.

### **Recognize the Impact of Time**

A geoenvironmental professional's findings, recommendations, and conclusions cannot remain valid indefinitely. The more time that passes, the more likely it is that important latent changes will occur. *Do not rely on a geoenvironmental report if too much time has elapsed since it was completed.* Ask your environmental professional to define "too much time." In the case of Phase I Environmental Site Assessments (ESAs), for example, more than 180 days after submission is generally considered "too much."

### **Prepare To Deal with Unanticipated Conditions**

The findings, recommendations, and conclusions of a Phase I ESA report typically are based on a review of historical information, interviews, a site "walkover," and other forms of noninvasive research. When site subsurface conditions are not sampled in any way, the risk of unanticipated conditions is higher than it would otherwise be.

While borings, installation of monitoring wells, and similar invasive test methods can help reduce the risk of unanticipated conditions, *do not overvalue the effectiveness of testing.* Testing provides information about actual conditions only at the precise locations where samples are taken, and only when they are taken. Your geoenvironmental

professional has applied that specific information to develop a general opinion about environmental conditions. *Actual conditions in areas not sampled may differ (sometimes sharply) from those predicted in a report.* For example, a site may contain an unregistered underground storage tank that shows no surface trace of its existence. *Even conditions in areas that were tested can change, sometimes suddenly, due to any number of events, not the least of which include occurrences at adjacent sites.* Recognize, too, that *even some conditions in tested areas may go undiscovered,* because the tests or analytical methods used were designed to detect only those conditions assumed to exist.

Manage your risks by retaining your geoenvironmental professional to work with you as the project proceeds. Establish a contingency fund or other means to enable your geoenvironmental professional to respond rapidly, in order to limit the impact of unforeseen conditions. And to help prevent any misunderstanding, identify those empowered to authorize changes and the administrative procedures that should be followed.

### **Do Not Permit Any Other Party To Rely on the Report**

Geoenvironmental professionals design their studies and prepare their reports to meet the specific needs of the clients who retain them, in light of the risk management methods that the client and geoenvironmental professional agree to, and the statutory, regulatory, or other requirements that apply. The study designed for a developer may differ sharply from one designed for a lender, insurer, public agency...or even another developer. *Unless the report specifically states otherwise, it was developed for you and only you.* Do not unilaterally permit any other party to rely on it. The report and the study underlying it may not be adequate for another party's needs, and you could be held liable for shortcomings your geoenvironmental professional was powerless to prevent or anticipate. Inform your geoenvironmental professional when you know or expect that someone else—a third-party—will want to use or rely on the report. *Do not permit third-party use or reliance until you first confer with the geoenvironmental professional who prepared the report.* Additional testing, analysis, or study may be required and, in any event, appropriate terms and conditions should be agreed to so both you and your geoenvironmental professional are protected from third-party risks. *Any party who relies on a geoenvironmental report without the express written permission of the professional who prepared it and the client for whom it was prepared may be solely liable for any problems that arise.*

### **Avoid Misinterpretation of the Report**

Design professionals and other parties may want to rely on the report in developing plans and specifications. They need to be advised, in writing, that their needs may not have been considered when the study's scope was developed, and, even if their needs were considered, they might misinterpret geoenvironmental findings, conclusions, and recommendations. *Commission your geoenvironmental professional to explain pertinent elements of the report to others who are permitted to rely on it, and to review any plans, specifications or other instruments of professional service that incorporate any of the report's findings, conclusions, or recommendations.* Your geoenvironmental professional has the best understanding of the issues involved, including the fundamental assumptions that underpinned the study's scope.

### **Give Contractors Access to the Report**

Reduce the risk of delays, claims, and disputes by giving contractors access to the full report, *providing that it is accompanied by a letter of transmittal that can protect you* by making it unquestionably clear that: 1) the study was not conducted and the report was not prepared for purposes of bid development, and 2) the findings, conclusions, and recommendations included in the report are based on a variety of opinions, inferences, and assumptions and are subject to interpretation. Use the letter to also advise contractors to consult with your geoenvironmental professional to obtain clarifications, interpretations, and guidance (a fee may be required for this service), and that—in any event—they should conduct additional studies to obtain the specific type and extent of information each prefers for preparing a bid or cost estimate. Providing access to the full report, with the appropriate caveats, helps prevent formation of adversarial attitudes and claims of concealed or differing conditions. If a contractor elects to ignore the warnings and advice in the letter of transmittal, it would do so at its own risk. Your geoenvironmental professional should be able to help you prepare an effective letter.



### **Do Not Separate Documentation from the Report**

Geoenvironmental reports often include supplemental documentation, such as maps and copies of regulatory files, permits, registrations, citations, and correspondence with regulatory agencies. If subsurface explorations were performed, the report may contain final boring logs and copies of laboratory data. If remediation activities occurred on site, the report may include: copies of daily field reports; waste manifests; and information about the disturbance of subsurface materials, the type and thickness of any fill placed on site, and fill placement practices, among other types of documentation. *Do not separate supplemental documentation from the report. Do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.*

### **Understand the Role of Standards**

Unless they are incorporated into statutes or regulations, standard practices and standard guides developed by the American Society for Testing and Materials (ASTM) and other recognized standards-developing organizations (SDOs) are little more than aspirational methods agreed to by a consensus of a committee. The committees that develop standards may not comprise those best-qualified to establish methods and, no matter what, no standard method can possibly consider the infinite client- and project-specific variables that fly in the face of the theoretical "standard conditions" to which standard practices and standard guides apply. In fact, these variables can be so pronounced that geoenvironmental professionals who comply with every directive of an ASTM or other standard procedure could run afoul of local custom and practice, thus violating the standard of care. Accordingly, when geoenvironmental professionals indicate in their reports that they have performed a service "in general compliance" with one standard or another, it means they have applied professional judgement in creating and implementing a scope of service designed for the specific client and project involved, and which follows some of the general precepts laid out in the referenced standard. To the extent that a report indicates "general compliance" with a standard, you may wish to speak with your geoenvironmental professional to learn more about what was and was not done. *Do not assume a given standard was followed to the letter.* Research indicates that that seldom is the case.

### **Realize That Recommendations May Not Be Final**

The technical recommendations included in a geoenvironmental report are based on assumptions about actual conditions, and so are preliminary or tentative. Final recommendations can be prepared only by observing actual conditions as they are exposed. For that reason, you should retain the geoenvironmental professional of record to observe construction and/or remediation activities on site, to permit rapid response to unanticipated conditions. *The geoenvironmental professional who prepared the report cannot assume responsibility or liability for the report's recommendations if that professional is not retained to observe relevant site operations.*

### **Understand That Geotechnical Issues Have Not Been Addressed**

Unless geotechnical engineering was specifically included in the scope of professional service, a report is not likely to relate any findings, conclusions, or recommendations about the suitability of subsurface materials for construction purposes, especially when site remediation has been accomplished through the removal, replacement, encapsulation, or chemical treatment of on-site soils. The equipment, techniques, and testing used by geotechnical engineers differ markedly from those used by geoenvironmental professionals; their education, training, and experience are also significantly different. If you plan to build on the subject site, but have not yet had a geotechnical engineering study conducted, your geoenvironmental professional should be able to provide guidance about the next steps you should take. The same firm may provide the services you need.

### Read Responsibility Provisions Closely

Geoenvironmental studies cannot be exact; they are based on professional judgement and opinion. Nonetheless, some clients, contractors, and others assume geoenvironmental reports are or certainly should be unerringly precise. Such assumptions have created unrealistic expectations that have led to wholly unwarranted claims and disputes. To help prevent such problems, geoenvironmental professionals have developed a number of report provisions and contract terms that explain who is responsible for what, and how risks are to be allocated. Some people mistake these for "exculpatory clauses," that is, provisions whose purpose is to transfer one party's rightful responsibilities and liabilities to someone else. Read the responsibility provisions included in a report and in the contract you and your geoenvironmental professional agreed to. *Responsibility provisions are not "boilerplate."* They are important.

### Rely on Your Geoenvironmental Professional for Additional Assistance

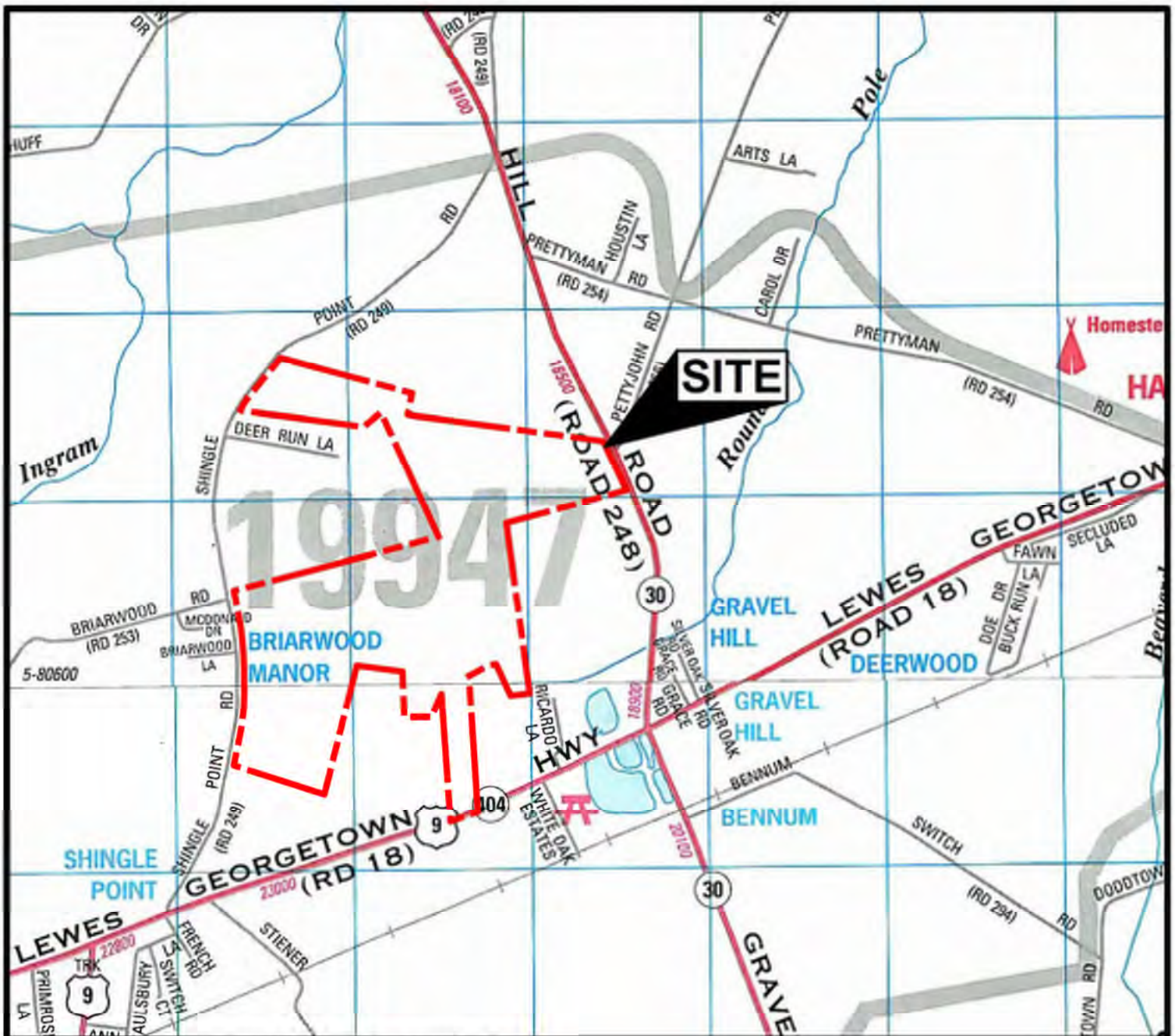
Membership in the Geoprofessional Business Association exposes geoenvironmental professionals to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a geoenvironmental project. Confer with your GBA-member geoenvironmental professional for more information.



8811 Colesville Road/Suite G106, Silver Spring, MD 20910  
Telephone: 301/565-2733 Facsimile: 301/589-2017  
e-mail: [info@geoprofessional.org](mailto:info@geoprofessional.org) [www.geoprofessional.org](http://www.geoprofessional.org)

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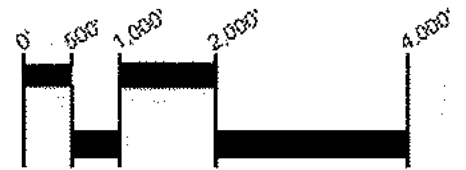
**APPENDIX A**  
**FIGURES**



SOURCE: PLAN ADAPTED FROM A STREET MAP OF SUSSEX COUNTY, DELAWARE PRODUCED AND MAINTAINED BY ADC MAPS, COPYRIGHT ADC THE MAP PEOPLE, BY PERMISSION PERMITTED USE NUMBER 21006238

**LEGEND**

 SUBJECT PROPERTY



**SCALE: 1"=2,000'**



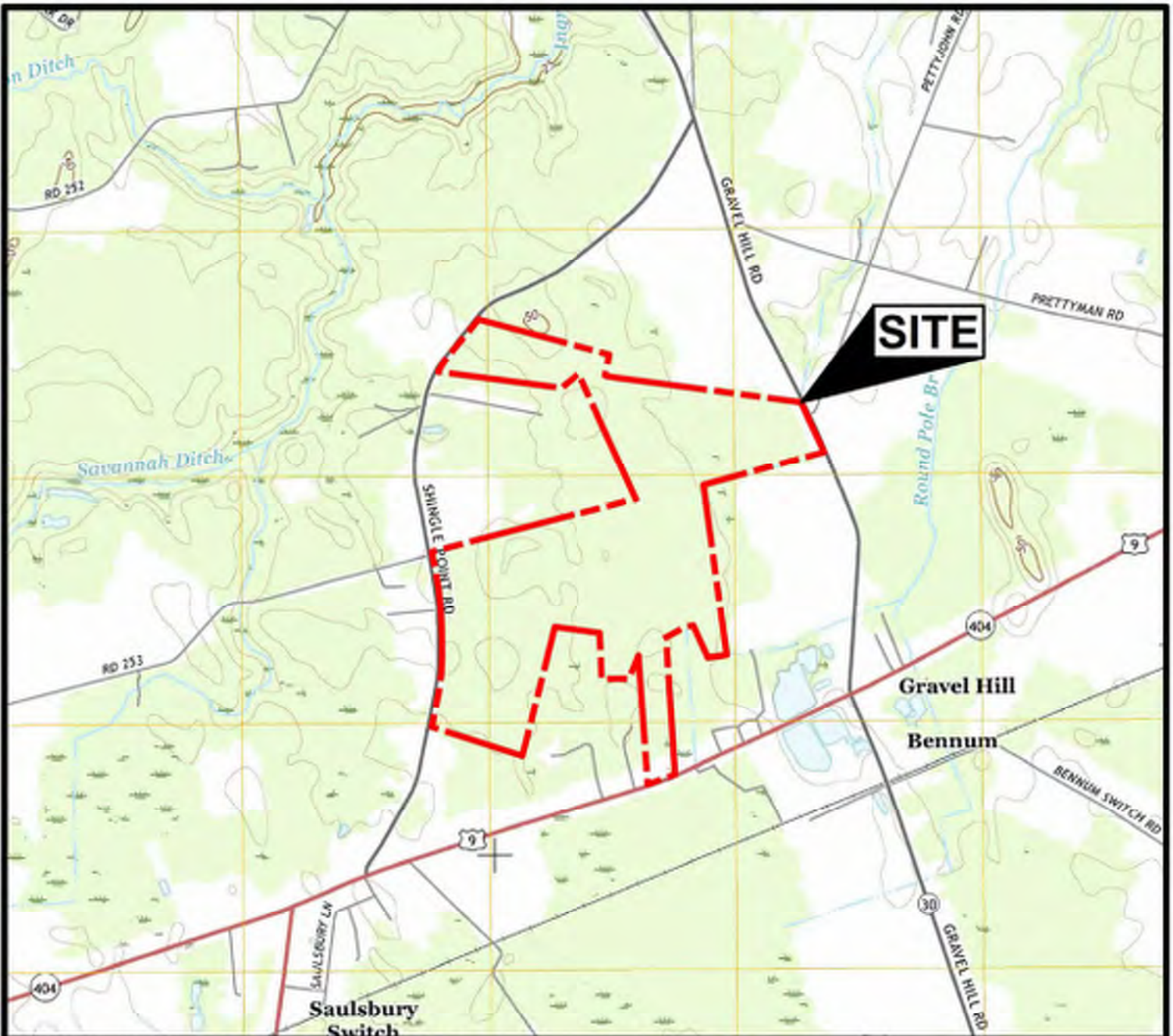
**GEO-TECHNOLOGY ASSOCIATES, INC.**  
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
 3445-A BOX HILL CORPORATE CENTER DRIVE  
 ABINGDON, MARYLAND 21009  
 410-515-9446  
 FAX: 410-515-4895  
 WWW.GTAENG.COM

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**SITE LOCATION MAP  
 WILSON / MOORE PROPERTY**

SUSSEX COUNTY, DELAWARE

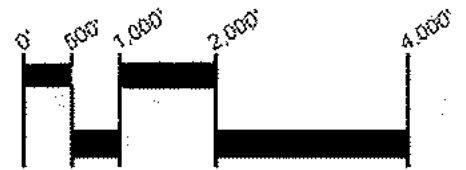
JOB NO. 31180247	SCALE: 1"=2,000'	DATE: MARCH 2018	DRAWN BY: NBG	REVIEW BY: MDR	FIGURE: 1
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SOURCE: PLAN ADAPTED FROM THE 2017 USGS TOPOGRAPHIC QUADRANGLE OF HARBESON, DELAWARE

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 SUBJECT PROPERTY



**SCALE: 1"=2,000'**



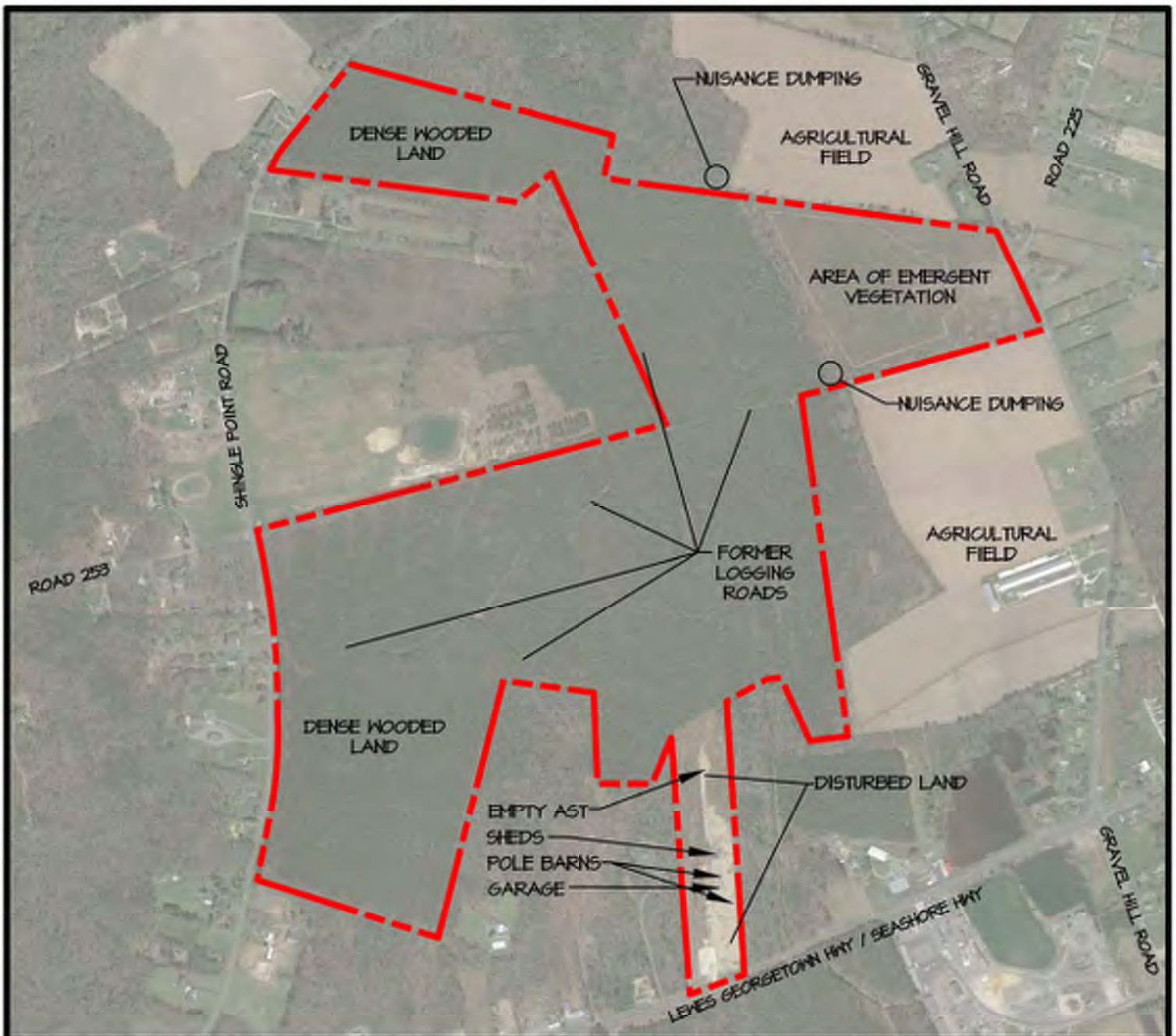
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 ABINGDON, MARYLAND 21009  
 410-515-9446  
 FAX: 410-515-4896  
 WWW.GTAENG.COM

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**TOPOGRAPHIC MAP  
 WILSON / MOORE PROPERTY**

SUSSEX COUNTY, DELAWARE

JOB NO.	31180247	SCALE:	1"=2,000'	DATE:	MARCH 2018	DRAWN BY:	NBG	REVIEW BY:	MDR	FIGURE:	2
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SOURCE: PLAN ADAPTED FROM A 2017 AERIAL PHOTOGRAPH OF SUSSEX COUNTY, DE MAINTAINED BY GOOGLE EARTH <WWW.EARTH.GOOGLE.COM>

**LEGEND**

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**SCALE: 1"=1,000'**



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**SITE SKETCH  
 WILSON / MOORE PROPERTY**

SUSSEX COUNTY, DELAWARE

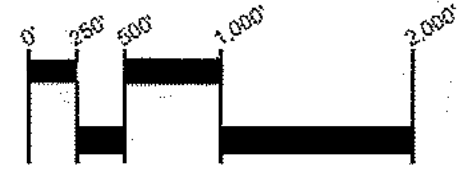
JOB NO.	31180247	SCALE:	1"=1,000'	DATE:	MARCH 2018	DRAWN BY:	NBG	REVIEW BY:	MDR	FIGURE:	3
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SOURCE: PLAN ADAPTED FROM A 1961 AERIAL PHOTOGRAPH OF SUSSEX COUNTY, DE MAINTAINED BY THE DELAWARE ENVIRONMENTAL MONITORING AND ANALYSIS CENTER WEBSITE <<http://maps.demac.udel.edu>>

**LEGEND**

 SUBJECT PROPERTY



**SCALE: 1"=1,000'**



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1961 AERIAL PHOTOGRAPH  
**WILSON / MOORE PROPERTY**  
 SUSSEX COUNTY, DELAWARE

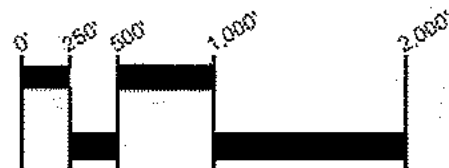
JOB NO.	31180247	SCALE:	1"=1,000'	DATE:	MARCH 2018	DRAWN BY:	NBG	REVIEW BY:	MDR	FIGURE:	4
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SOURCE: PLAN ADAPTED FROM A 1968 AERIAL PHOTOGRAPH OF SUSSEX COUNTY, DE MAINTAINED BY THE DELAWARE ENVIRONMENTAL MONITORING AND ANALYSIS CENTER WEBSITE <<http://maps.demac.udel.edu>>

**LEGEND**

 SUBJECT PROPERTY



**SCALE: 1"=1,000'**



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1968 AERIAL PHOTOGRAPH  
**WILSON / MOORE PROPERTY**

SUSSEX COUNTY, DELAWARE

JOB NO.	31180247	SCALE:	1"=1,000'	DATE:	MARCH 2018	DRAWN BY:	NBG	REVIEW BY:	MDR	FIGURE:	5
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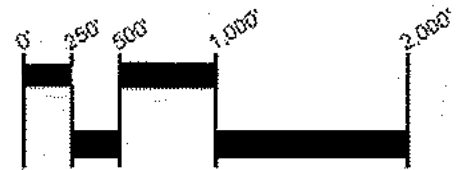




SOURCE: PLAN ADAPTED FROM A 1992 AERIAL PHOTOGRAPH OF SUSSEX COUNTY, DE MAINTAINED BY THE DELAWARE ENVIRONMENTAL MONITORING AND ANALYSIS CENTER WEBSITE <<http://maps.demac.udel.edu>>

**LEGEND**

----- SUBJECT PROPERTY



**SCALE: 1"=1,000'**



**GEO-TECHNOLOGY ASSOCIATES, INC.**  
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1992 AERIAL PHOTOGRAPH  
**WILSON / MOORE PROPERTY**

SUSSEX COUNTY, DELAWARE

JOB NO.	31180247	SCALE:	1"=1,000'	DATE:	MARCH 2018	DRAWN BY:	NBG	REVIEW BY:	MDR	FIGURE:	6
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SOURCE: PLAN ADAPTED FROM A 1997 AERIAL PHOTOGRAPH OF SUSSEX COUNTY, DE MAINTAINED BY THE DELAWARE ENVIRONMENTAL MONITORING AND ANALYSIS CENTER WEBSITE <<http://maps.demac.udel.edu>>

**LEGEND**

 SUBJECT PROPERTY



**SCALE: 1"=1,000'**



**GEO-TECHNOLOGY ASSOCIATES, INC.**

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

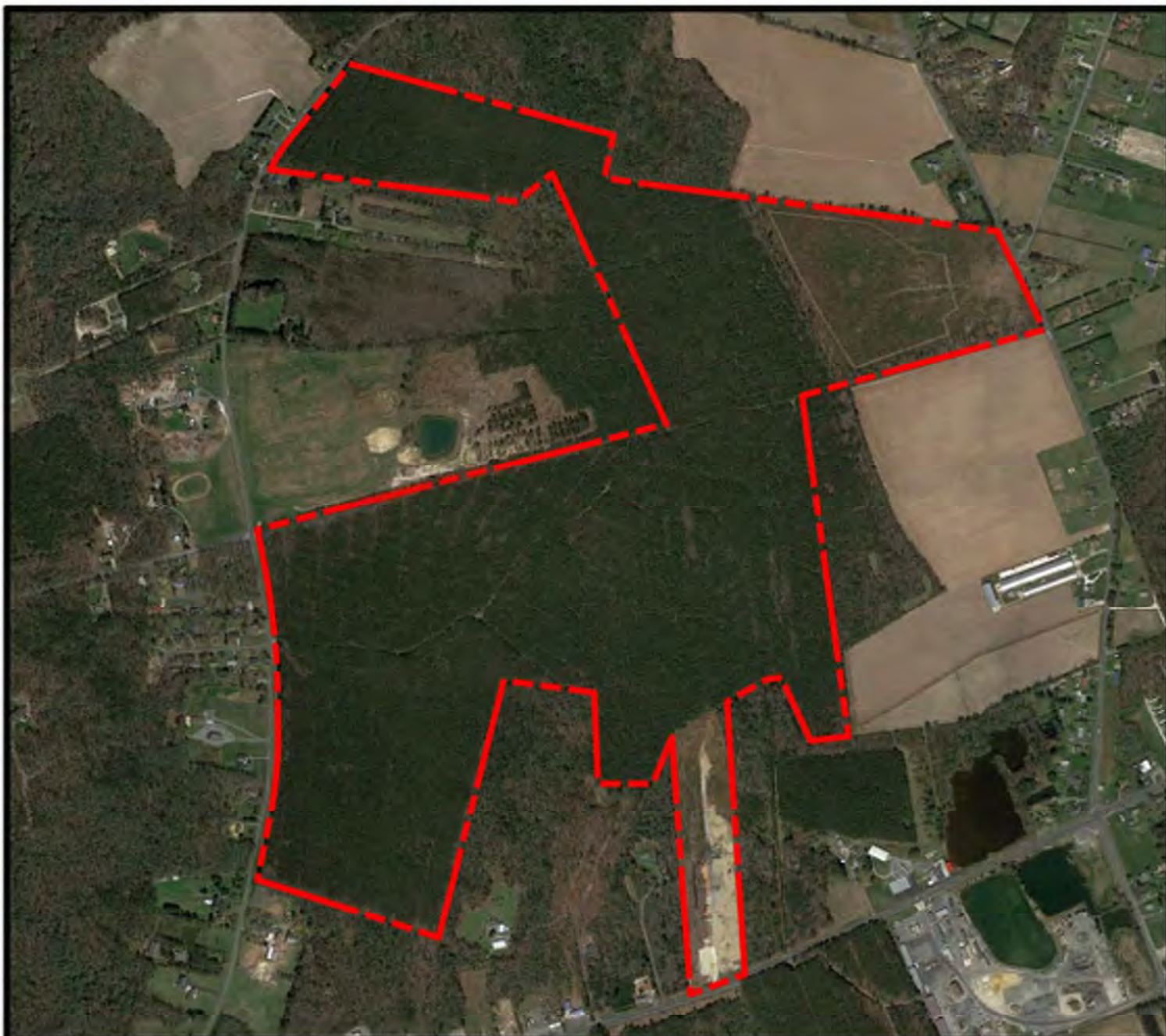
3445-A BOX HILL CORPORATE CENTER DRIVE  
 ABINGDON, MARYLAND 21009  
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1997 AERIAL PHOTOGRAPH  
**WILSON / MOORE PROPERTY**

SUSSEX COUNTY, DELAWARE

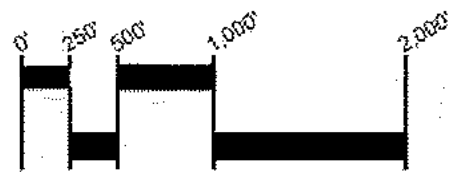
JOB NO.	31180247	SCALE:	1"=1,000'	DATE:	MARCH 2018	DRAWN BY:	NBG	REVIEW BY:	MDR	FIGURE:	7
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SOURCE: PLAN ADAPTED FROM A 2017 AERIAL PHOTOGRAPH OF SUSSEX COUNTY, DE MAINTAINED BY GOOGLE EARTH <WWW.EARTH.GOOGLE.COM>

**LEGEND**

 SUBJECT PROPERTY



**SCALE: 1"=1,000'**



**GEO-TECHNOLOGY ASSOCIATES, INC.**  
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
 3445-A BOX HILL CORPORATE CENTER DRIVE  
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2017 AERIAL PHOTOGRAPH  
**WILSON / MOORE PROPERTY**

SUSSEX COUNTY, DELAWARE

JOB NO.	31180247	SCALE:	1"=1,000'	DATE:	MARCH 2018	DRAWN BY:	NBG	REVIEW BY:	MDR	FIGURE:	8
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**APPENDIX B**  
**SITE PHOTOGRAPHS**

**PROJECT NAME:** Wilson / Moore Property  
**DATE PHOTOGRAPHED:** March 12, 2018  
**GTA PROJECT NUMBER:** 31180247



**PHOTOGRAPH 1:** Dense emergent vegetation on the eastern portion of the site.



**PHOTOGRAPH 2:** Empty AST on the southern portion of the site.



**PHOTOGRAPH 3:** Garage structure on the southern portion of the site.



**PHOTOGRAPH 4:** Logging trail on the central portion of the site.

**PROJECT NAME:** Wilson / Moore Property  
**DATE PHOTOGRAPHED:** March 12, 2018  
**GTA PROJECT NUMBER:** 31180247



**PHOTOGRAPH 5:** Nuisance dumping area on the eastern portion of the site.



**PHOTOGRAPH 6:** Pole barn 1 - southern portion of the site.



**PHOTOGRAPH 7:** Pole barn 2 - southern portion of the site.



**PHOTOGRAPH 8:** Shed and pavilion on the southern portion of the site.

**PROJECT NAME:** Wilson / Moore Property  
**DATE PHOTOGRAPHED:** March 12, 2018  
**GTA PROJECT NUMBER:** 31180247



**PHOTOGRAPH 9:** Sheds on the southern portion of the site.



**PHOTOGRAPH 10:** Southern portion of the site.



**PHOTOGRAPH 11:** Wooded area on the northern portion of the site.



**PHOTOGRAPH 12:** Wooded area on the southeastern portion of the site.

**APPENDIX C**  
**CORRESPONDENCE**



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## Request For Public Records

Pursuant to the Delaware Freedom of Information Act 29 Del. C. ch. 100  
(http://delcode.delaware.gov/title29/c100/index.shtml)

## FOIA Request Form

**Request Date:** Monday, February 26, 2018

### Public Body

Waste and Hazardous Substances (DNREC) ▼

### Name

Nick Guns

### Mailing Address

3445 Box Hill Corp. Ctr. Drive

### Mailing Address (optional)

Suite A

### Mailing Address (optional)

Abingdon

### City

Abingdon

### State

MD

**Zip**

21009

**Phone**

4105159446

**E-mail**

nguns@gtaeng.com

**Records Requested**

**Be as specific as you can**, describing types of records, dates, parties to correspondence, subject matter, etc. The public body will make every reasonable effort to assist you in identifying the records being sought.

**Note:** Requests for voluminous records may be delayed.

Please search your records for files pertaining to the GLATFELTER HOLDINGS LLC property in the Georgetown area of Sussex County. The property is located north of Route 9, west of Route 20 and east of Route 249. The There may be costs involved in responding to your request. The public body can require you to examine the records at the office of the public body. Refer to the public body's policy or regulation for information about costs and access to records.

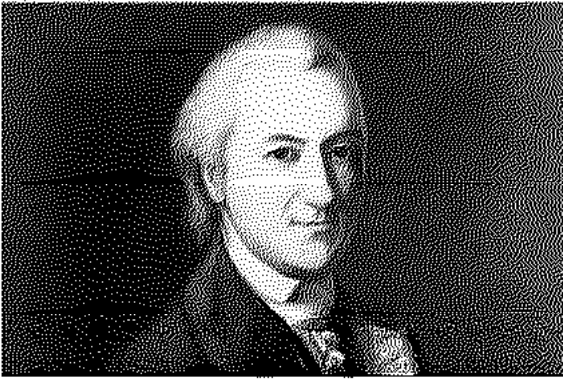
**Please contact me if costs will be greater than**

1

\* Within 15 business days from receipt of your request the public body must either provide you with access to the records, deny your request, or state that additional time is needed.\*

**NOTICE** : Under Delaware's Freedom of Information Act, 29 Del. C. §§10001-10006 (<http://delcode.delaware.gov/title29/c100/>) ("FOIA"), a FOIA request or petition, along with any information contained therein or any documents attached thereto, submitted to any "public body" subject to FOIA, including, without limitation, any board, bureau, commission, department, agency or committee of the State, may itself be deemed a "public record" subject to disclosure under FOIA. More information on FOIA is available at [foia.delaware.gov](http://foia.delaware.gov) (<http://foia.delaware.gov>).

Did You Know? 



John Dickinson was called the Penman of the Revolution for his writings on independence. His boyhood home is preserved in Dover.

## What's Trending

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State Treasurer (<http://treasurer.delaware.gov/>)

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Labor (<http://dol.delaware.gov/>)

Corporations (<http://corp.delaware.gov/>)

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Governor (<http://governor.delaware.gov/>)

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Transparency (</topics/transparency>)  
Delaware Marketplace (<http://www.choosehealthde.com/>)  
Tax Center (</topics/TaxCenter>)  
Personal Income Tax ([http://revenue.delaware.gov/pit\\_onlinefiling.shtml](http://revenue.delaware.gov/pit_onlinefiling.shtml))  
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Gross Receipts Tax (<https://grossreceiptstax.delaware.gov/grtpublic/>)  
Withholding Tax (<https://dorweb.revenue.delaware.gov/EDIOnline/EDIOnline.dll>)  
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## Request For Public Records

Pursuant to the Delaware Freedom of Information Act 29 Del. C. ch. 100

(<http://delcode.delaware.gov/title29/c100/index.shtml>)

---

## FOIA Request Form - **Success**

Thank you.

Your request has been emailed to the agency's FOIA contact as required under the Delaware FOIA law (29 Del. C. ch. 100 (<http://delcode.delaware.gov/title29/c100/index.shtml>)).

Within 15 business days from receipt of your request the public body must either provide you with access to the records, deny your request, or state that additional time is needed.

For more details about the procedures for filling FOIA requests, please see the policy of the department to which you submitted your request. Under Executive Order No. 31

([http://governor.delaware.gov/orders/exec\\_order\\_31.shtml](http://governor.delaware.gov/orders/exec_order_31.shtml)), each executive branch agency will adopt new, standardized FOIA policies on or before February 1, 2012 and those policies will be available here.

If we can answer any other questions, please contact us at [GIC@delaware.gov](mailto:GIC@delaware.gov) (<mailto:GIC@delaware.gov>).

Did You Know? 



Twelve concrete observation towers along the coast were constructed during World War II to protect the state's coastal towns from German U-boat attacks.

What's Trending 

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[Labor \(http://dol.delaware.gov/\)](http://dol.delaware.gov/)  
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[Delaware Courts \(http://courts.delaware.gov\)](http://courts.delaware.gov)  
[State Employees \(http://hrm.omb.delaware.gov/information/employee\\_resources.shtml\)](http://hrm.omb.delaware.gov/information/employee_resources.shtml)  
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[State Regulations \(http://regulations.delaware.gov/default.shtml\)](http://regulations.delaware.gov/default.shtml)  
[Business First Steps \(http://firststeps.delaware.gov\)](http://firststeps.delaware.gov)  
  
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[Tax Center \(/topics/TaxCenter\)](/topics/TaxCenter)  
[Personal Income Tax \(http://revenue.delaware.gov/pit\\_onlinefiling.shtml\)](http://revenue.delaware.gov/pit_onlinefiling.shtml)  
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[Contact Us \(/help/degov-contact.shtml\)](/help/degov-contact.shtml)  
[Corporations \(http://corp.delaware.gov\)](http://corp.delaware.gov)  
[Franchise Tax \(http://corp.delaware.gov/paytaxes.shtml\)](http://corp.delaware.gov/paytaxes.shtml)  
[Gross Receipts Tax \(https://grossreceiptstax.delaware.gov/grtpublic/\)](https://grossreceiptstax.delaware.gov/grtpublic/)

Withholding Tax (<https://dorweb.revenue.delaware.gov/EDIOnline/EDIOnline.dll>)

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**Guns, Nicholas**

---

**From:** FOIATrac <intranet.dnrec@state.de.us>  
**Sent:** Tuesday, February 27, 2018 7:39 AM  
**To:** Guns, Nicholas  
**Subject:** FOIA Request Info

DELAWARE DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
INTERNET ADDRESS: [www.awm.delaware.gov](http://www.awm.delaware.gov)

FREEDOM OF INFORMATION ACT RESPONSE FORM

Date:  
From:

Air Quality Management

Blue Hen Corporate Center  
100 West Water Street, Suite 6 A

Dover, DE 19904

302-739-9402

[Tracy.Mattson@state.de.us](mailto:Tracy.Mattson@state.de.us)

To:

Nick Guns

GTA Eng

, Maryland



Facility/Site(s): GLATFELTER HOLDINGS LLC property in the Georgetown area of Sussex County

Request Disposition:

No records have been found in this branch pursuant to the above referenced request.

Comments:

Should you have any questions, please do not hesitate to call the contact person for the branch.

**PLEASE NOTE THE FOLLOWING:**

Your request may have been distributed to other Branches applicable. Those Branches will respond individually to your request.

The Division of Waste & Hazardous Substances (DWHS) files records according to site/facility/ owner name, whichever may be applicable. The DWHS can not search files based upon tax parcel number or street address.

## Guns, Nicholas

---

**From:** FOIATrac <intranet.dnrec@state.de.us>  
**Sent:** Friday, March 09, 2018 11:23 AM  
**To:** Guns, Nicholas  
**Subject:** FOIA Request Info

DELAWARE DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
INTERNET ADDRESS: [www.awm.delaware.gov](http://www.awm.delaware.gov)

### FREEDOM OF INFORMATION ACT RESPONSE FORM

Date:  
From:

Environmental Crimes Unit

89 Kings Highway

Dover, DE 19901

302-739-9401

[Donna.Alderucci@state.de.us](mailto:Donna.Alderucci@state.de.us)

To:

Nick Guns

GTA Eng

, Maryland

Facility/Site(s): GLATFELTER HOLDINGS LLC property in the Georgetown area of Sussex County

**Request Disposition:**

No records have been found in this branch pursuant to the above referenced request.

**Comments:**

Should you have any questions, please do not hesitate to call the contact person for the branch.

**PLEASE NOTE THE FOLLOWING:**

Your request may have been distributed to other Branches applicable. Those Branches will respond individually to your request.

The Division of Waste & Hazardous Substances (DWHS) files records according to site/facility/ owner name, whichever may be applicable. The DWHS can not search files based upon tax parcel number or street address.

**Guns, Nicholas**

---

**From:** FOIATrac <intranet.dnrec@state.de.us>  
**Sent:** Thursday, March 08, 2018 2:26 PM  
**To:** Guns, Nicholas  
**Subject:** FOIA Request Info

DELAWARE DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
INTERNET ADDRESS: [www.awm.delaware.gov](http://www.awm.delaware.gov)

FREEDOM OF INFORMATION ACT RESPONSE FORM

Date:  
From:

Emergency Prevention and Response

89 Kings Highway

Dover, DE 19901

302-739-9404

[tara.chamber@state.de.us](mailto:tara.chamber@state.de.us)

To:  
Nick Guns  
GTA Eng

, Maryland

Facility/Site(s): GLATFELTER HOLDINGS LLC property in the Georgetown area of Sussex County

**Request Disposition:**

No records have been found in this branch pursuant to the above referenced request.

**Comments:**

Should you have any questions, please do not hesitate to call the contact person for the branch.

**PLEASE NOTE THE FOLLOWING:**

Your request may have been distributed to other Branches applicable. Those Branches will respond individually to your request.

The Division of Waste & Hazardous Substances (DWHS) files records according to site/facility/ owner name, whichever may be applicable. The DWHS can not search files based upon tax parcel number or street address.

**Guns, Nicholas**

---

**From:** FOIATrac <intranet.dnrec@state.de.us>  
**Sent:** Monday, February 26, 2018 3:24 PM  
**To:** Guns, Nicholas  
**Subject:** FOIA Request Info

DELAWARE DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
INTERNET ADDRESS: [www.awm.delaware.gov](http://www.awm.delaware.gov)

FREEDOM OF INFORMATION ACT RESPONSE FORM

Date:  
From:

Solid & Hazardous Waste Management Branch

89 Kings Highway

Dover, DE 19901

302-739-9403

[Carl.Richardson@state.de.us](mailto:Carl.Richardson@state.de.us)

To:

Nick Guns

GTA Eng

, Maryland

Facility/Site(s): GLATFELTER HOLDINGS LLC property in the Georgetown area of Sussex County

**Request Disposition:**

No records have been found in this branch pursuant to the above referenced request.

**Comments:**

Should you have any questions, please do not hesitate to call the contact person for the branch.

**PLEASE NOTE THE FOLLOWING:**

Your request may have been distributed to other Branches applicable. Those Branches will respond individually to your request.

The Division of Waste & Hazardous Substances (DWHS) files records according to site/facility/ owner name, whichever may be applicable. The DWHS can not search files based upon tax parcel number or street address.

**Guns, Nicholas**

---

**From:** FOIATrac <intranet.dnrec@state.de.us>  
**Sent:** Wednesday, February 28, 2018 11:38 AM  
**To:** Guns, Nicholas  
**Subject:** FOIA Request Info

DELAWARE DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
INTERNET ADDRESS: [www.awm.delaware.gov](http://www.awm.delaware.gov)

FREEDOM OF INFORMATION ACT RESPONSE FORM

Date:  
From:

Site Investigation and Restoration Branch

391 Lukens Drive

New Castle , DE 19720

302-395-2600

[Elizabeth.LaSorte@state.de.us](mailto:Elizabeth.LaSorte@state.de.us)

To:

Nick Guns

GTA Eng

, Maryland

Facility/Site(s): GLATFELTER HOLDINGS LLC property in the Georgetown area of Sussex County



**Request Disposition:**

No records have been found in this branch pursuant to the above referenced request.

**Comments:**

Should you have any questions, please do not hesitate to call the contact person for the branch.

**PLEASE NOTE THE FOLLOWING:**

Your request may have been distributed to other Branches applicable. Those Branches will respond individually to your request.

The Division of Waste & Hazardous Substances (DWHS) files records according to site/facility/ owner name, whichever may be applicable. The DWHS can not search files based upon tax parcel number or street address.

## Guns, Nicholas

---

**From:** FOIATrac <intranet.dnrec@state.de.us>  
**Sent:** Thursday, March 01, 2018 1:48 PM  
**To:** Guns, Nicholas  
**Subject:** FOIA Request Info

DELAWARE DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL  
DIVISION OF WASTE AND HAZARDOUS SUBSTANCES  
INTERNET ADDRESS: [www.awm.delaware.gov](http://www.awm.delaware.gov)

### FREEDOM OF INFORMATION ACT RESPONSE FORM

Date:  
From:

Tank Management Branch

391 Lukens Drive

New Castle, DE 19720

302-395-2500

[melina.lounsbury@state.de.us](mailto:melina.lounsbury@state.de.us)

To:

Nick Guns

GTA Eng

, Maryland

Facility/Site(s): GLATFELTER HOLDINGS LLC property in the Georgetown area of Sussex County

Request Disposition:

Attached is the information you have requested.

Comments:

Tank Management Section has underground storage site facility records for your requested site:

Lewis-Georgetown Highway (Route 9), Georgetown, Delaware

UST#5-000813 (Durnam property) located Road 4 Box 196

UST#5-001004 (Besche Furniture) located 24481 Lewis Georgetown Highway.

UST#5-000640 (AP Croll & Son) located 22997 Lewis Georgetown Highway.

All records will be sent electronically via email to [nguns@taeng.com](mailto:nguns@taeng.com). If you have any questions, please contact DNREC- Melina Lounsbury 302-395-2500.

Should you have any questions, please do not hesitate to call the contact person for the branch.

PLEASE NOTE THE FOLLOWING:

Your request may have been distributed to other Branches applicable. Those Branches will respond individually to your request.

The Division of Waste & Hazardous Substances (DWHS) files records according to site/facility/ owner name, whichever may be applicable. The DWHS can not search files based upon tax parcel number or street address.

# PHASE I ENVIRONMENTAL SITE ASSESSMENT CLIENT INTERVIEW QUESTIONNAIRE

To: Mr. Bob Leggieri, Natelli Communities

From: Nick Guns, GTA

Date: March 19, 2018



At your request, Geo-Technology Associates, Inc. (GTA) has started a Phase I Environmental Site Assessment (ESA) of the **Wilson/Moore Property**, in Sussex County, Delaware. We use the Phase I ESA to evaluate the likelihood that the site may have been impacted with petroleum or hazardous substances (i.e., we identify Recognized Environmental Conditions [RECs]).

Based on the new ASTM Standard (E1527-13), we need to ask you (as our client) several questions about the property. We've been asked to develop a professional opinion about the site's environmental condition. But in order to prepare an ASTM-compliant Phase I ESA, we also need to use any relevant knowledge that you may have.

Please review the questions below and provide your responses (to the best of your knowledge), explaining any "yes" answers at the bottom of the page. Please either return the completed form, or call me to discuss with verbal responses.

1.	Do you know of any environmental cleanup liens against the site (filed under federal, tribal, state, or local law)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2.	Are you aware of any "activity and use limitations" (AULs), such as engineering controls, land use restrictions, institutional controls, that are in place at the site? (e.g., deed notice, capped soil, groundwater use restrictions, residential prohibition, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3.	Do you have any specialized knowledge or experience related to the environmental condition of the site or nearby properties? (e.g., familiarity with a particular business activity or land use on or near the site)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4.	Do you have reason to believe that the purchase price of the site has been lowered because contamination is known or believed to be present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5.	Are you aware of information about the site that would help identify conditions indicative of releases or threatened releases? (e.g., past uses, above or underground storage tanks, chemical storage, spills, cleanups, etc.)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6.	Do you know of any obvious indicators that point to the presence or likely presence of contamination at the site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Please explain any "yes" answers:

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Name Bob Leggieri

Company Natelli Communities

Signature Bob Leggieri

Date 3/19/18



Wilson Moore Property  
Seashore Highway  
Georgetown, DE 19947

Inquiry Number: 5199680.5  
February 26, 2018

## Certified Sanborn® Map Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edmet.com](http://www.edmet.com)

# Certified Sanborn® Map Report

02/26/18

**Site Name:**

Wilson Moore Property  
Seashore Highway  
Georgetown, DE 19947  
EDR Inquiry # 5199680.5

**Client Name:**

Geo-Technology Associates Inc.  
3445-A Box Hill Corporate  
Abingdon, MD 21009  
Contact: Nick Guns



The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Geo-Technology Associates Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting [www.edrnet.com/sanborn](http://www.edrnet.com/sanborn).

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

**Certified Sanborn Results:**

**Certification #** 1763-40CE-8BA2  
**PO #** 31180247  
**Project** 31180247

**UNMAPPED PROPERTY**

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.



Sanborn® Library search results

Certification #: 1763-40CE-8BA2

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

The Sanborn Library LLC Since 1866™

**Limited Permission To Make Copies**

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**APPENDIX D**  
**EDR RADIUS MAP™ REPORT**



**Wilson Moore Property**  
Seashore Highway  
Georgetown, DE 19947

Inquiry Number: 5199680.2s  
February 26, 2018

## The EDR Radius Map™ Report



6 Armstrong Road, 4th floor  
Shelton, CT 06484  
Toll Free: 800.352.0050  
[www.edrnet.com](http://www.edrnet.com)

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## GEOCHECK ADDENDUM

GeoCheck - Not Requested

*Thank you for your business.*  
Please contact EDR at 1-800-352-0050  
with any questions or comments.

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## EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

### TARGET PROPERTY INFORMATION

#### ADDRESS

SEASHORE HIGHWAY  
GEORGETOWN, DE 19947

#### COORDINATES

Latitude (North): 38.7194780 - 38° 43' 10.12"  
Longitude (West): 75.3295080 - 75° 19' 46.22"  
Universal Transverse Mercator: Zone 18  
UTM X (Meters): 471354.2  
UTM Y (Meters): 4285491.5  
Elevation: 45 ft. above sea level

### USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 6050531 HARBESON, DE  
Version Date: 2014

### AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20150629  
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:  
SEASHORE HIGHWAY  
GEORGETOWN, DE 19947

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
<a href="#">A1</a>	B & S DEVELOPMENT	24427 LEWES GEORGETO	UST	Lower	772, 0.146, SE
<a href="#">A2</a>	B & S DEVELOPMENT	24427 LEWES GEORGETO	LUST	Lower	772, 0.146, SE
<a href="#">A3</a>	DELDOT AREA 20- GRAV	24450 LEWES-GEORGETO	AST	Lower	915, 0.173, SE
<a href="#">B4</a>	BESCHE FURNITURE	24481 LEWES GEORGETO	UST	Lower	1123, 0.213, SE
<a href="#">B5</a>	BESCHE FURNITURE	24481 LEWES GEORGETO	LUST, NPDES	Lower	1123, 0.213, SE
<a href="#">6</a>	DOT - GRAVEL HILL MA	ROUTE 9	LUST	Lower	1162, 0.224, SE
<a href="#">7</a>	A.P. CROLL AND SON	ROUTE 9 EAST	LUST	Lower	1307, 0.248, SSW
<a href="#">8</a>	I.A. CONSTRUCTION	ROUTE 30	LUST	Lower	2590, 0.491, SE
<a href="#">9</a>	HARBESON DEAD SWAN S		SHWS	Lower	4084, 0.773, East
<a href="#">10</a>	HOMESTEAD CAMPGROUND	25165 PRETTYMAN ROAD	SHWS	Lower	4263, 0.807, ENE

## EXECUTIVE SUMMARY

### TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

### DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

### STANDARD ENVIRONMENTAL RECORDS

#### *Federal NPL site list*

NPL..... National Priority List  
Proposed NPL..... Proposed National Priority List Sites  
NPL LIENS..... Federal Superfund Liens

#### *Federal Delisted NPL site list*

Delisted NPL..... National Priority List Deletions

#### *Federal CERCLIS list*

FEDERAL FACILITY..... Federal Facility Site Information listing  
SEMS..... Superfund Enterprise Management System

#### *Federal CERCLIS NFRAP site list*

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

#### *Federal RCRA CORRACTS facilities list*

CORRACTS..... Corrective Action Report

#### *Federal RCRA non-CORRACTS TSD facilities list*

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

#### *Federal RCRA generators list*

RCRA-LQG..... RCRA - Large Quantity Generators  
RCRA-SQG..... RCRA - Small Quantity Generators  
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

#### *Federal institutional controls / engineering controls registries*

LUCIS..... Land Use Control Information System  
US ENG CONTROLS..... Engineering Controls Sites List

## EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

### **Federal ERNS list**

ERNS..... Emergency Response Notification System

### **State and tribal landfill and/or solid waste disposal site lists**

SWF/LF..... Solid Waste Facilities

### **State and tribal leaking storage tank lists**

LAST..... Leaking Aboveground Storage Tank Sites

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

### **State and tribal registered storage tank lists**

FEMA UST..... Underground Storage Tank Listing

INDIAN UST..... Underground Storage Tanks on Indian Land

### **State and tribal institutional control / engineering control registries**

INST CONTROL..... All Sites with Deed Restrictions

### **State and tribal voluntary cleanup sites**

INDIAN VCP..... Voluntary Cleanup Priority Listing

VCP..... Voluntary Cleanup Program Sites

### **State and tribal Brownfields sites**

BROWNFIELDS..... Certified Brownfields

## **ADDITIONAL ENVIRONMENTAL RECORDS**

### **Local Brownfield lists**

US BROWNFIELDS..... A Listing of Brownfields Sites

### **Local Lists of Landfill / Solid Waste Disposal Sites**

SWRCY..... Recyclers Directory

INDIAN ODL..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODL..... Open Dump Inventory

IHS OPEN DUMPS..... Open Dumps on Indian Land

### **Local Lists of Hazardous waste / Contaminated Sites**

US HIST CDL..... Delisted National Clandestine Laboratory Register

US CDL..... National Clandestine Laboratory Register

### **Local Land Records**

LIENS 2..... CERCLA Lien Information

## EXECUTIVE SUMMARY

### **Records of Emergency Release Reports**

HMIRS..... Hazardous Materials Information Reporting System  
SPILLS..... Environmental Release Notification System

### **Other Ascertainable Records**

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated  
FUDS..... Formerly Used Defense Sites  
DOD..... Department of Defense Sites  
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing  
US FIN ASSUR..... Financial Assurance Information  
EPA WATCH LIST..... EPA WATCH LIST  
2020 COR ACTION..... 2020 Corrective Action Program List  
TSCA..... Toxic Substances Control Act  
TRIS..... Toxic Chemical Release Inventory System  
SSTS..... Section 7 Tracking Systems  
ROD..... Records Of Decision  
RMP..... Risk Management Plans  
RAATS..... RCRA Administrative Action Tracking System  
PRP..... Potentially Responsible Parties  
PADS..... PCB Activity Database System  
ICIS..... Integrated Compliance Information System  
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)  
MLTS..... Material Licensing Tracking System  
COAL ASH DOE..... Steam-Electric Plant Operation Data  
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List  
PCB TRANSFORMER..... PCB Transformer Registration Database  
RADINFO..... Radiation Information Database  
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing  
DOT OPS..... Incident and Accident Data  
CONSENT..... Superfund (CERCLA) Consent Decrees  
INDIAN RESERV..... Indian Reservations  
FUSRAP..... Formerly Utilized Sites Remedial Action Program  
UMTRA..... Uranium Mill Tailings Sites  
LEAD SMELTERS..... Lead Smelter Sites  
US AIRS..... Aerometric Information Retrieval System Facility Subsystem  
US MINES..... Mines Master Index File  
ABANDONED MINES..... Abandoned Mines  
FINDS..... Facility Index System/Facility Registry System  
ECHO..... Enforcement & Compliance History Information  
DOCKET HWC..... Hazardous Waste Compliance Docket Listing  
UXO..... Unexploded Ordnance Sites  
FUELS PROGRAM..... EPA Fuels Program Registered Listing  
AIRS..... Air Emissions Listing  
DRYCLEANERS..... Drycleaner Facility Listing  
ENF..... Notice of Violations  
Financial Assurance..... Financial Assurance Information Listing  
NPDES..... Wastewater Permit Listing  
TIER 2..... Tier 2 Facility Listing  
UIC..... Underground Injection Wells Inventory Listing

### **EDR HIGH RISK HISTORICAL RECORDS**

#### ***EDR Exclusive Records***

EDR MGP..... EDR Proprietary Manufactured Gas Plants

## EXECUTIVE SUMMARY

EDR Hist Auto..... EDR Exclusive Historical Auto Stations  
EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

### EDR RECOVERED GOVERNMENT ARCHIVES

#### *Exclusive Recovered Govt. Archives*

RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List  
RGA LF..... Recovered Government Archive Solid Waste Facilities List

### SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

### STANDARD ENVIRONMENTAL RECORDS

#### *State- and tribal - equivalent CERCLIS*

SHWS: Hazardous Substance Release Sites.

A review of the SHWS list, as provided by EDR, and dated 02/12/2018 has revealed that there are 2 SHWS sites within approximately 1 mile of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
HARBESON DEAD SWAN S Facility Id: 10056528 Prog ID: DE-0291		E 1/2 - 1 (0.773 mi.)	9	15
HOMESTEAD CAMPGROUND Facility Id: 10060504 Prog ID: DE-1351	25165 PRETTYMAN ROAD	ENE 1/2 - 1 (0.807 mi.)	10	17

#### *State and tribal leaking storage tank lists*

LUST: Leaking Underground Storage Tanks - Active/Inactivated Sites.

A review of the LUST list, as provided by EDR, and dated 01/17/2018 has revealed that there are 5 LUST sites within approximately 0.5 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
B & S DEVELOPMENT	24427 LEWES GEORGETO	SE 1/8 - 1/4 (0.146 mi.)	A2	9



## EXECUTIVE SUMMARY

Closure: 05/18/2016  
 Facility Id: 10730271  
 Prog ID: 5-001168  
 Status: Inactive

<b>BESCHE FURNITURE</b> Closure: 01/24/2006 Facility Id: 10062068 Prog ID: 5-001004 Status: Inactive	<b>24481 LEWES GEORGETO</b>	<b>SE 1/8 - 1/4 (0.213 mi.)</b>	<b>B5</b>	<b>11</b>
<b>DOT - GRAVEL HILL MA</b> Closure: 03/23/2007 Facility Id: 10025716 Prog ID: 5-000414 Status: Inactive	<b>ROUTE 9</b>	<b>SE 1/8 - 1/4 (0.224 mi.)</b>	<b>6</b>	<b>13</b>
<b>A.P. CROLL AND SON</b> Closure: 01/11/1993 Facility Id: 10051416 Prog ID: 5-000640 Status: Inactive	<b>ROUTE 9 EAST</b>	<b>SSW 1/8 - 1/4 (0.248 mi.)</b>	<b>7</b>	<b>14</b>
<b>I.A. CONSTRUCTION</b> Closure: 10/21/1991 Facility Id: 10025355 Prog ID: 5-000033 Status: Inactive	<b>ROUTE 30</b>	<b>SE 1/4 - 1/2 (0.491 mi.)</b>	<b>8</b>	<b>15</b>

### State and tribal registered storage tank lists

UST: State of Delaware UST List.

A review of the UST list, as provided by EDR, and dated 01/17/2018 has revealed that there are 2 UST sites within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>B &amp; S DEVELOPMENT</b> Tank Status: Closed in Place Prog Id: 5-001168	<b>24427 LEWES GEORGETO</b>	<b>SE 1/8 - 1/4 (0.146 mi.)</b>	<b>A1</b>	<b>8</b>
<b>BESCHE FURNITURE</b> Tank Status: Removed Prog Id: 5-001004	<b>24481 LEWES GEORGETO</b>	<b>SE 1/8 - 1/4 (0.213 mi.)</b>	<b>B4</b>	<b>10</b>

AST: Facilities with aboveground storage tanks.

A review of the AST list, as provided by EDR, and dated 01/02/2018 has revealed that there is 1 AST site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<b>DELDOT AREA 20- GRAV</b> Prog Id: 8-000357	<b>24450 LEWES-GEORGETO</b>	<b>SE 1/8 - 1/4 (0.173 mi.)</b>	<b>A3</b>	<b>9</b>

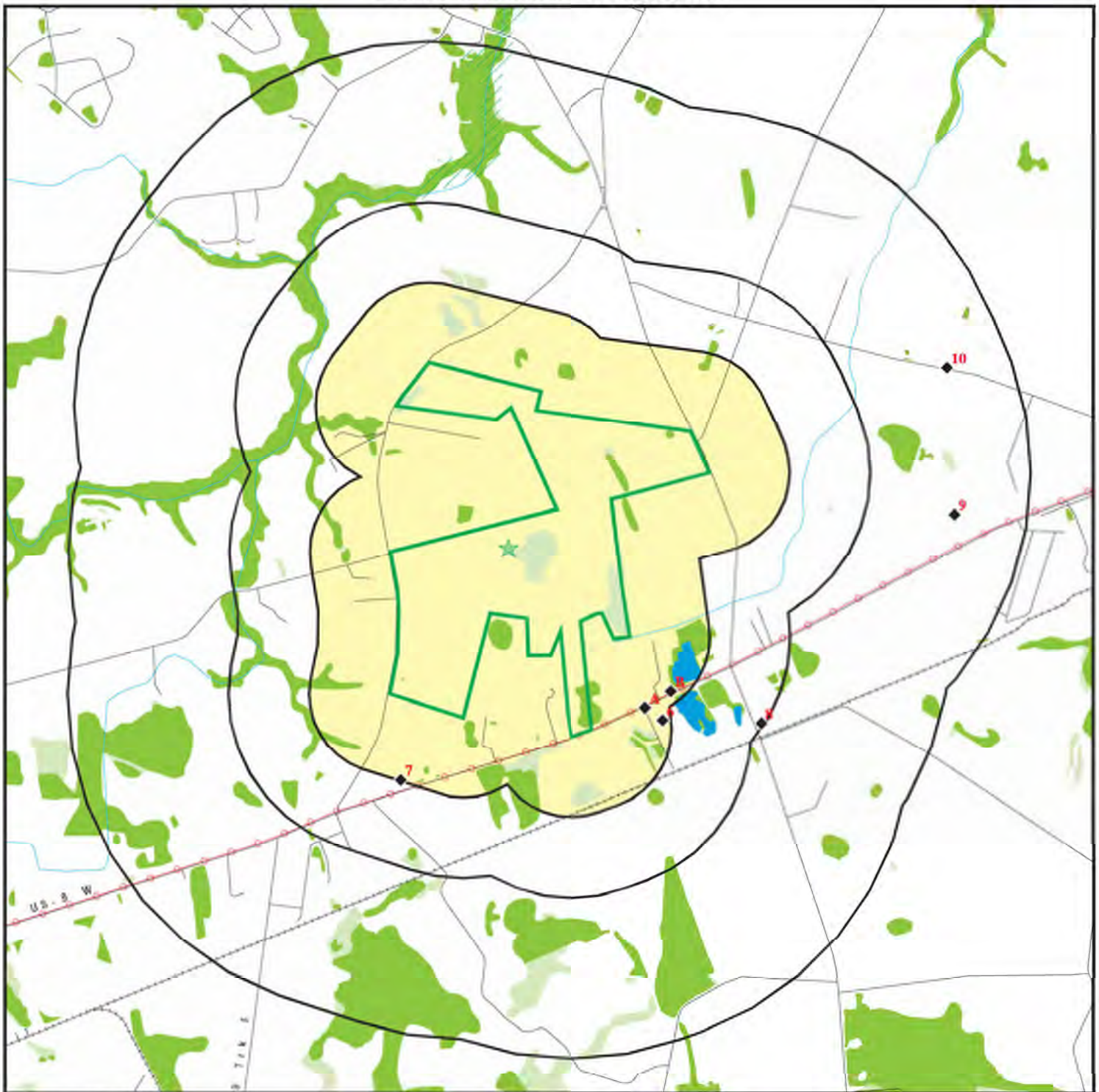
## EXECUTIVE SUMMARY

Facility id: 10720432

## EXECUTIVE SUMMARY

There were no unmapped sites in this report.

# OVERVIEW MAP - 5199680.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Wilson Moore Property  
 ADDRESS: Seashore Highway  
 Georgetown DE 19947  
 LAT/LONG: 38.719478 / 75.329508

CLIENT: Geo-Technology Associates Inc.  
 CONTACT: Nick Guns  
 INQUIRY #: 5199680.2s  
 DATE: February 26, 2018 12:03 pm

# DETAIL MAP - 5199680.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- 0 1/8 1/4 1/2 Miles
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Wilson Moore Property  
 ADDRESS: Seashore Highway  
 Georgetown DE 19947  
 LAT/LONG: 38.719478 / 75.329508

CLIENT: Geo-Technology Associates Inc.  
 CONTACT: Nick Guns  
 INQUIRY #: 5199680.2s  
 DATE: February 26, 2018 12:04 pm

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<b>STANDARD ENVIRONMENTAL RECORDS</b>								
<b><i>Federal NPL site list</i></b>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<b><i>Federal Delisted NPL site list</i></b>								
Delisted NPL	1.000		0	0	0	0	NR	0
<b><i>Federal CERCLIS list</i></b>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<b><i>Federal CERCLIS NFRAP site list</i></b>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<b><i>Federal RCRA CORRACTS facilities list</i></b>								
CORRACTS	1.000		0	0	0	0	NR	0
<b><i>Federal RCRA non-CORRACTS TSD facilities list</i></b>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<b><i>Federal RCRA generators list</i></b>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<b><i>Federal institutional controls / engineering controls registries</i></b>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<b><i>Federal ERNS list</i></b>								
ERNS	TP		NR	NR	NR	NR	NR	0
<b><i>State- and tribal - equivalent CERCLIS</i></b>								
SHWS	1.000		0	0	0	2	NR	2
<b><i>State and tribal landfill and/or solid waste disposal site lists</i></b>								
SWF/LF	0.500		0	0	0	NR	NR	0
<b><i>State and tribal leaking storage tank lists</i></b>								
LAST	0.500		0	0	0	NR	NR	0
LUST	0.500		0	4	1	NR	NR	5
INDIAN LUST	0.500		0	0	0	NR	NR	0
<b><i>State and tribal registered storage tank lists</i></b>								
FEMA UST	0.250		0	0	NR	NR	NR	0

## MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	2	NR	NR	NR	2
AST	0.250		0	1	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
<b>State and tribal institutional control / engineering control registries</b>								
INST CONTROL	0.500		0	0	0	NR	NR	0
<b>State and tribal voluntary cleanup sites</b>								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
<b>State and tribal Brownfields sites</b>								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b>ADDITIONAL ENVIRONMENTAL RECORDS</b>								
<b>Local Brownfield lists</b>								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Landfill / Solid Waste Disposal Sites</b>								
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
<b>Local Lists of Hazardous waste / Contaminated Sites</b>								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
<b>Local Land Records</b>								
LIENS 2	TP		NR	NR	NR	NR	NR	0
<b>Records of Emergency Release Reports</b>								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
<b>Other Ascertainable Records</b>								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0





## MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>&lt; 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>&gt; 1</u>	<u>Total Plotted</u>
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NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Database(s)  
EDR ID Number  
EPA ID Number

A1 B & S DEVELOPMENT  
SE 24427 LEWES GEORGETOWN HIGHWAY  
1/8-1/4 GEORGETOWN, DE 19947  
0.146 mi.  
772 ft. Site 1 of 3 in cluster A

UST U004249390  
N/A

Relative:  
Lower  
Actual:  
42 ft.

UST:  
Facility Id: 10730271  
PI Id: 565504  
Prog Id: 5-001168  
Tax Id: Not reported  
Additional Info: Not reported  
Care Of: Not reported  
PO Name: Georgetown  
Sewer District: Not reported  
Flood Plain Zone Code: X  
Flood Plain Zone: Located within area of minimal flood risk.  
Water District: Not reported  
Basin: Delaware Bay  
Watershed: Broadkill River  
DRBC Basin: Not reported  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton  
School District: Indian River  
GMZ Name: Not reported  
AG Pres District: Not reported  
Mod Grid: 158-110  
Reference Pt: Facility/Interest Center  
Horizontal Method: Satellite Photo Interpolation-Other  
X Coordinate Na D83 Meters: 208339.6  
Y Coordinate Na D83 Meters: 79153.03  
Latitude Dec: 38.71303  
Longitude Dec: -75.3207  
Latitude Degrees: 38  
Latitude Minutes: 42  
Latitude Seconds: 46.9224  
Longitude Degrees: -75  
Longitude Minutes: 19  
Longitude Seconds: 14.8116  
Owner: Besche, Sara  
Owner Address: 24427 Lewes Georgetown Highway, Georgetown, DE 19947 US

Tank Info:  
Tank Id: 1  
Alt Tank Id: Not reported  
Tank Status: Closed in Place  
Capacity: 500  
Tank Substance: Heating Oil  
Compartment: N  
Close Date: 03/31/2016  
Install Date: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Database(s) EDR ID Number  
EPA ID Number

A2 B & S DEVELOPMENT  
SE 24427 LEWES GEORGETOWN HIGHWAY  
1/8-1/4 GEORGETOWN, DE 19947  
0.146 mi.  
772 ft. Site 2 of 3 in cluster A

LUST S119691780  
N/A

Relative: LUST:  
Lower Facility ID: 10730271  
Status: Inactive  
Actual: Date Closed: 05/18/2016  
42 ft. Project Number: S1605081  
Watershed: Broadkill River  
Basin: Delaware Bay  
Latitude: 38.71303  
Longitude: -75.3207  
Country Abv: US  
PI ID: 565504  
Prog ID: 5-001168  
Additional Info: Not reported  
Care Of: Not reported  
Reference Pt: Facility/Interest Center  
Horizontal Method: Satellite Photo Interpolation-Other  
Loc Type: P  
PO Name: Georgetown  
Tax ID: Not reported  
Sewer District: Not reported  
Floodplain Zone Code: X  
Flood Plain Zone: Located within area of minimal flood risk.  
DRBC Basin: Not reported  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton  
School District: Indian River  
GMZ Name: Not reported  
Ag Pres District: Not reported  
Water District: Not reported  
Mod Grid: 158-110

A3 DELDOT AREA 20- GRAVEL HILL  
SE 24450 LEWES-GEORGETOWN HIGHWAY  
1/8-1/4 GEORGETOWN, DE 19947  
0.173 mi.  
915 ft. Site 3 of 3 in cluster A

AST A100392624  
N/A

Relative: AST:  
Lower Facility Id: 10720432  
PI Id: 550977  
Actual: Prog Id: 8-000357  
42 ft. Additional Info: Not reported  
Country Abv: US  
Careof: Not reported  
Loc Type: P  
County: Sussex  
Town: Not reported  
PO Name: Georgetown  
Tax Id: Not reported  
Sewer District: Not reported  
DRBC Basin: Not reported

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

DELDOT AREA 20- GRAVEL HILL (Continued)

A100392624

Quad: HARBESON  
Watershed: Broadkill River  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 37  
Representative: Representative Ruth Briggs King  
School District: Indian River  
GMZ Name: Not reported  
AG Pres District: Not reported  
Water District: Not reported  
MOD Grid: 158-108  
Latitude: 38.711907  
Longitude: -75.320332  
Latitude Degrees: 38  
Latitude Minutes: 42  
Latitude Seconds: 42.8652  
Longitude Degrees: -75  
Longitude Minutes: 19  
Longitude Seconds: 13.1952  
Reference Point: Facility/Interest Center  
Horizontal Method: Satellite Photo Interpolation-Other  
XCoord: 208378.8  
Horizontal Method: Satellite Photo Interpolation-Other

B4  
SE  
1/8-1/4  
0.213 mi.  
1123 ft.

BESCHE FURNITURE  
24481 LEWES GEORGETOWN HIGHWAY  
GEORGETOWN, DE 19947

UST U004014185  
N/A

Site 1 of 2 in cluster B

Relative:  
Lower  
Actual:  
37 ft.

UST:  
Facility Id: 10062068  
PI Id: 126989  
Prog Id: 5-001004  
Tax Id: Not reported  
Additional Info: Not reported  
Care Of: Not reported  
PO Name: Georgetown  
Sewer District: Not reported  
Flood Plain Zone Code: X  
Flood Plain Zone: Located within area of minimal flood risk.  
Water District: Not reported  
Basin: Delaware Bay  
Watershed: Broadkill River  
DRBC Basin: Not reported  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton  
School District: Indian River  
GMZ Name: Not reported  
AG Pres District: Not reported  
Mod Grid: 158-110  
Reference Pt: Facility Entrance(General)  
Horizontal Method: Unknown  
X Coordinate Na D83 Meters: 206889.7  
Y Coordinate Na D83 Meters: 78619.41

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

BESCHE FURNITURE (Continued)

U004014185

Latitude Dec: 38.70823  
Longitude Dec: -75.3374  
Latitude Degrees: 38  
Latitude Minutes: 42  
Latitude Seconds: 29.6604  
Longitude Degrees: -75  
Longitude Minutes: 20  
Longitude Seconds: 14.8416  
Owner: Besche Furniture  
Owner Address: 24481 Lewes Georgetown Highway, Georgetown, DE 19947 US

Tank Info:

Tank Id: 1  
Alt Tank Id: Not reported  
Tank Status: Removed  
Capacity: 500  
Tank Substance: Gasoline  
Compartment: N  
Close Date: 10/05/2005  
Install Date: Not reported

B5  
SE  
1/8-1/4  
0.213 mi.  
1123 ft.

BESCHE FURNITURE  
24481 LEWES GEORGETOWN HIGHWAY  
GEORGETOWN, DE 19947

LUST S113408590  
NPDES N/A

Site 2 of 2 in cluster B

Relative:  
Lower

LUST:

Facility ID: 10062068  
Status: Inactive  
Date Closed: 01/24/2006  
Project Number: S0601009  
Watershed: Broadkill River  
Basin: Delaware Bay  
Latitude: 38.70823  
Longitude: -75.3374  
Country Abv: US  
PI ID: 126969  
Prog ID: 5-001004  
Additional Info: Not reported  
Care Of: Not reported  
Reference Pt: Facility Entrance(General)  
Horizontal Method: Unknown  
Loc Type: P  
PO Name: Georgetown  
Tax ID: Not reported  
Sewer District: Not reported  
Floodplain Zone Code: X  
Flood Plain Zone: Located within area of minimal flood risk.  
DRBC Basin: Not reported  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton  
School District: Indian River  
GMZ Name: Not reported

Actual:  
37 ft.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

BESCHE FURNITURE (Continued)

S113408590

Ag Pres District: Not reported  
Water District: Not reported  
Mod Grid: 158-110

NPDES:

Facility Id: 10062068  
PI Id: 448230  
PI Name: BESCHE BROTHERS WAREHOUSE ADDITION  
Prog Id: 97  
Additional Info: Not reported  
Careof: Not reported  
Reference Pt: Not reported  
Horizontal Method: Not reported  
Loc Type: Not reported  
XCoordinate Nad83 meters: Not reported  
YCoordinate Nad83 meters: Not reported  
Latitude Dec: Not reported  
Longitude Dec: Not reported  
Latitude Degrees: Not reported  
Latitude Minutes: Not reported  
Latitude Seconds: Not reported  
Longitude Degrees: Not reported  
Longitude Minutes: Not reported  
Longitude Seconds: Not reported  
County: Not reported  
State: Not reported  
Town: Not reported  
Po Name: Not reported  
Zip5: Not reported  
Tax Id: Not reported  
Sewer District: Not reported  
Flood Plain Zone Code: Not reported  
Flood Plain Zone: Not reported  
Basin: Not reported  
Watershed: Not reported  
Drbc Basin: Not reported  
Quad: Not reported  
Senate District: Not reported  
Senator: Not reported  
House District: Not reported  
Representative: Not reported  
School District: Not reported  
GMZ Name: Not reported  
AG Pres District: Not reported  
Water District: Not reported  
Mod Grid: Not reported

Facility Id: 10062068  
PI Id: 448231  
PI Name: BESCHE FURNITURE, INC.  
Prog Id: 701  
Additional Info: Not reported  
Careof: Not reported  
Reference Pt: Not reported  
Horizontal Method: Not reported  
Loc Type: Not reported  
XCoordinate Nad83 meters: Not reported

Map ID  
 Direction  
 Distance  
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
 EPA ID Number

**BESCHE FURNITURE (Continued)**

**S113408590**

YCoordinate Nad83 meters: Not reported  
 Latitude Dec: Not reported  
 Longitude Dec: Not reported  
 Latitude Degrees: Not reported  
 Latitude Minutes: Not reported  
 Latitude Seconds: Not reported  
 Longitude Degrees: Not reported  
 Longitude Minutes: Not reported  
 Longitude Seconds: Not reported  
 County: Not reported  
 State: Not reported  
 Town: Not reported  
 Po Name: Not reported  
 Zip5: Not reported  
 Tax Id: Not reported  
 Sewer District: Not reported  
 Flood Plain Zone Code: Not reported  
 Flood Plain Zone: Not reported  
 Basin: Not reported  
 Watershed: Not reported  
 Drbc Basin: Not reported  
 Quad: Not reported  
 Senate District: Not reported  
 Senator: Not reported  
 House District: Not reported  
 Representative: Not reported  
 School District: Not reported  
 GMZ Name: Not reported  
 AG Pres District: Not reported  
 Water District: Not reported  
 Mod Grid: Not reported

6  
 SE  
 1/8-1/4  
 0.224 mi.  
 1182 ft.

**DOT - GRAVEL HILL MAINTENANCE YARD  
 ROUTE 9  
 GEORGETOWN, DE 19947**

**LUST S110839110  
 N/A**

Relative:  
 Lower

**LUST:**

Facility ID: 10025716  
 Status: Inactive  
 Date Closed: 03/23/2007  
 Project Number: S9908158  
 Watershed: Broadkill River  
 Basin: Delaware Bay  
 Latitude: 38.71179  
 Longitude: -75.3206  
 Country Abv: US  
 PI ID: 18471  
 Prog ID: 5-000414  
 Additional Info: Not reported  
 Care Of: Not reported  
 Reference Pt: Unknown  
 Horizontal Method: GPS-Differentially Corrected  
 Loc Type: P  
 PO Name: Georgetown  
 Tax ID: Not reported  
 Sewer District: Not reported

Actual:  
 40 ft.

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

DOT - GRAVEL HILL MAINTENANCE YARD (Continued)

S110839110

Floodplain Zone Code: Not reported  
Flood Plain Zone: Not reported  
DRBC Basin: Y  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 37  
Representative: Representative Ruth Briggs King  
School District: Indian River  
GMZ Name: Not reported  
Ag Pres District: Not reported  
Water District: Not reported  
Mod Grid: Not reported

7  
SSW  
1/8-1/4  
0.248 mi.  
1307 ft.

A.P. CROLL AND SON  
ROUTE 9 EAST  
GEORGETOWN, DE 19947

LUST S109897127  
N/A

Relative:  
Lower

LUST:

Actual:  
42 ft.

Facility ID: 10051416  
Status: Inactive  
Date Closed: 01/11/1993  
Project Number: S9208214  
Watershed: Broadkill River  
Basin: Delaware Bay  
Latitude: 38.70907  
Longitude: -75.3357  
Country Abv: US  
PI ID: 17648  
Prog ID: 5-000640  
Additional Info: Not reported  
Care Of: Not reported  
Reference Pt: Unknown  
Horizontal Method: GPS-Differentialy Corrected  
Loc Type: P  
PO Name: Georgetown  
Tax ID: Not reported  
Sewer District: Not reported  
Floodplain Zone Code: Not reported  
Flood Plain Zone: Not reported  
DRBC Basin: Y  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton  
School District: Indian River  
GMZ Name: Not reported  
Ag Pres District: Not reported  
Water District: Not reported  
Mod Grid: Not reported



Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

8 I.A. CONSTRUCTION  
SE ROUTE 30  
1/4-1/2 GEORGETOWN, DE 19947  
0.491 mi.  
2590 ft.

LUST S110838974  
N/A

Relative:  
Lower

LUST:

Actual:  
40 ft.

Facility ID: 10025355  
Status: Inactive  
Date Closed: 10/21/1991  
Project Number: S9110250  
Watershed: Broadkill River  
Basin: Delaware Bay  
Latitude: 38.71165  
Longitude: -75.3149  
Country Abv: US  
PI ID: 19349  
Prog ID: 5-000033  
Additional Info: Not reported  
Care Of: Not reported  
Reference Pt: Unknown  
Horizontal Method: GPS-Differentially Corrected  
Loc Type: P  
PO Name: Georgetown  
Tax ID: Not reported  
Sewer District: Not reported  
Floodplain Zone Code: Not reported  
Flood Plain Zone: Not reported  
DRBC Basin: Y  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Peltzjohn  
House District: 37  
Representative: Representative Ruth Briggs King  
School District: Indian River  
GMZ Name: Not reported  
Ag Pres District: Not reported  
Water District: Not reported  
Mod Grid: Not reported

9 HARBESON DEAD SWAN SITE  
East  
1/2-1 HARBESON, DE 19947  
0.773 mi.  
4084 ft.

SHWS S109484954  
N/A

Relative:  
Lower

SHWS:

Actual:  
38 ft.

Facility ID: 10056528  
Site Type: Other  
Care Of: Not reported  
PI ID: 27323  
Prog ID: DE-0291  
Additional Info: EPA Removal Action Site  
Reference Pt: Facility Entrance(General)  
Horizontal Method: Classical Surveying Techniques  
Loc Type: P  
XCoordinate NAD83 Meters: 209816.62  
YCoordinate NAD83 Meters: 80046.01  
Latitude Dec: 38.721063  
Longitude Dec: -75.303787

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

HARBESON DEAD SWAN SITE (Continued)

S109484954

Latitude Degrees: 38  
Latitude Minutes: 43  
Latitude Seconds: 15.8268  
Longitude Degrees: -75  
Longitude Minutes: 18  
Longitude Seconds: 13.6332  
PO Name: Georgetown  
Tax ID: Not reported  
Sewer District: Not reported  
Floodplain Zone Code: X  
Flood Plain Zone: Located within area of minimal flood risk.  
Basin: Delaware Bay  
Watershed: Broadkill River  
DRBC\_Basin: Y  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton  
School District: Milford  
GMZ Name: Homestead Campground Pseudo GMZ - 1 Zone  
AG Pres District: Not reported  
Water District: Not reported  
Mod Grid: 164-112

Facility ID: 10056528  
Site Type: Other  
Care Of: Not reported  
PI ID: 27323  
Prog ID: DE-0291  
Additional Info: HSCA  
Reference Pt: Facility Entrance(General)  
Horizontal Method: Classical Surveying Techniques  
Loc Type: P  
XCoordinate NAD83 Meters: 209816.62  
YCoordinate NAD83 Meters: 80046.01  
Latitude Dec: 38.721063  
Longitude Dec: -75.303787  
Latitude Degrees: 38  
Latitude Minutes: 43  
Latitude Seconds: 15.8268  
Longitude Degrees: -75  
Longitude Minutes: 18  
Longitude Seconds: 13.6332  
PO Name: Georgetown  
Tax ID: Not reported  
Sewer District: Not reported  
Floodplain Zone Code: X  
Flood Plain Zone: Located within area of minimal flood risk.  
Basin: Delaware Bay  
Watershed: Broadkill River  
DRBC\_Basin: Y  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

HARBESON DEAD SWAN SITE (Continued)

S109484964

School District: Milford  
GMZ Name: Homestead Campground Pseudo GMZ - 1 Zone  
AG Pres District: Not reported  
Water District: Not reported  
Mod Grid: 164-112

10  
ENE  
1/2-1  
0.807 mi.  
4263 ft.

HOMESTEAD CAMPGROUND  
25165 PRETTYMAN ROAD  
GEORGETOWN, DE 19968

SHWS S106901445  
N/A

Relative:  
Lower

SHWS:

Facility ID: 10060504  
Site Type: Other  
Care Of: Not reported  
PI ID: 125142  
Prog ID: DE-1351  
Additional Info: HSCA  
Reference Pt: Facility/Interest Center  
Horizontal Method: Photo Interpolation-2002 Orthophoto  
Loc Type: P  
XCoordinate NAD83 Meters: 209766.37  
YCoordinate NAD83 Meters: 80950.93  
Latitude Dec: 38.729215  
Longitude Dec: -75.304352  
Latitude Degrees: 38  
Latitude Minutes: 43  
Latitude Seconds: 45.174  
Longitude Degrees: -75  
Longitude Minutes: 18  
Longitude Seconds: 15.6672  
PO Name: Milton  
Tax ID: Not reported  
Sewer District: Not reported  
Floodplain Zone Code: Not reported  
Flood Plain Zone: Not reported  
Basin: Delaware Bay  
Watershed: Broadkill River  
DRBC\_Basin: Y  
Quad: HARBESON  
Senate District: 19  
Senator: Senator Brian Pettyjohn  
House District: 36  
Representative: Representative Harvey R Kenton  
School District: Milford  
GMZ Name: Not reported  
AG Pres District: Not reported  
Water District: Not reported  
Mod Grid: Not reported

Actual:  
39 ft.

Facility ID: 10060504  
Site Type: Other  
Care Of: Not reported  
PI ID: 125142  
Prog ID: DE-1351  
Additional Info: Pre Remedial (PA/SI)  
Reference Pt: Facility/Interest Center

Map ID  
Direction  
Distance  
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number  
EPA ID Number

HOMESTEAD CAMPGROUND (Continued)

S106901445

Horizontal Method:	Photo Interpolation-2002 Orthophoto
Loc Type:	P
XCoordinate NAD83 Meters:	209766.37
YCoordinate NAD83 Meters:	80950.93
Latitude Dec:	38.729215
Longitude Dec:	-75.304352
Latitude Degrees:	38
Latitude Minutes:	43
Latitude Seconds:	45.174
Longitude Degrees:	-75
Longitude Minutes:	18
Longitude Seconds:	15.6572
PO Name:	Milton
Tax ID:	Not reported
Sewer District:	Not reported
Floodplain Zone Code:	Not reported
Flood Plain Zone:	Not reported
Basin:	Delaware Bay
Watershed:	Broadkill River
DRBC_Basin:	Y
Quad:	HARBESON
Senate District:	19
Senator:	Senator Brian Pettyjohn
House District:	36
Representative:	Representative Harvey R Kenton
School District:	Milford
GMZ Name:	Not reported
AG Pres District:	Not reported
Water District:	Not reported
Mod Grid:	Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
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NO SITES FOUND

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

**Number of Days to Update:** Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

## STANDARD ENVIRONMENTAL RECORDS

### **Federal NPL site list**

#### **NPL: National Priority List**

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: N/A
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 02/06/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/16/2018
	Data Release Frequency: Quarterly

#### **NPL Site Boundaries**

##### **Sources:**

EPA's Environmental Photographic Interpretation Center (EPIC)  
Telephone: 202-564-7333

EPA Region 1  
Telephone 617-918-1143

EPA Region 6  
Telephone: 214-655-6659

EPA Region 3  
Telephone 215-814-5418

EPA Region 7  
Telephone: 913-551-7247

EPA Region 4  
Telephone 404-562-8033

EPA Region 8  
Telephone: 303-312-6774

EPA Region 5  
Telephone 312-886-8686

EPA Region 9  
Telephone: 415-947-4246

EPA Region 10  
Telephone 206-553-8665

#### **Proposed NPL: Proposed National Priority List Sites**

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: N/A
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 02/06/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 05/21/2018
	Data Release Frequency: Quarterly

#### **NPL LIENS: Federal Superfund Liens**

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/29/2011
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **Federal Delisted NPL site list**

### **Delisted NPL: National Priority List Deletions**

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425 (e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: N/A
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 02/06/2018
Number of Days to Update: 14	Next Scheduled EDR Contact: 04/16/2018
	Data Release Frequency: Quarterly

## **Federal CERCLIS list**

### **FEDERAL FACILITY: Federal Facility Site Information listing**

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/05/2017	Telephone: 703-603-8704
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 01/05/2018
Number of Days to Update: 92	Next Scheduled EDR Contact: 04/16/2018
	Data Release Frequency: Varies

### **SEMS: Superfund Enterprise Management System**

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: 800-424-6343
Date Made Active in Reports: 01/12/2018	Last EDR Contact: 02/06/2018
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/30/2018
	Data Release Frequency: Quarterly

## **Federal CERCLIS NFRAP site list**

### **SEMS-ARCHIVE: Superfund Enterprise Management System Archive**

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/22/2017	Telephone: 800-424-9346
Date Made Active in Reports: 01/12/2018	Last EDR Contact: 02/06/2018
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/30/2018
	Data Release Frequency: Quarterly

### **Federal RCRA CORRACTS facilities list**

#### **CORRACTS: Corrective Action Report**

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/11/2017	Source: EPA
Date Data Arrived at EDR: 12/26/2017	Telephone: 800-424-9346
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/09/2018
	Data Release Frequency: Quarterly

### **Federal RCRA non-CORRACTS TSD facilities list**

#### **RCRA-TSDF: RCRA - Treatment, Storage and Disposal**

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: 800-438-2474
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/09/2018
	Data Release Frequency: Quarterly

### **Federal RCRA generators list**

#### **RCRA-LQG: RCRA - Large Quantity Generators**

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: 800-438-2474
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/09/2018
	Data Release Frequency: Quarterly



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: 800-438-2474
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/09/2018
	Data Release Frequency: Quarterly

### RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/26/2017	Telephone: 800-438-2474
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 04/09/2018
	Data Release Frequency: Quarterly

### Federal institutional controls / engineering controls registries

#### LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/22/2017	Source: Department of the Navy
Date Data Arrived at EDR: 06/13/2017	Telephone: 843-820-7326
Date Made Active in Reports: 09/15/2017	Last EDR Contact: 02/09/2018
Number of Days to Update: 94	Next Scheduled EDR Contact: 05/28/2018
	Data Release Frequency: Varies

#### US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/27/2017	Telephone: 703-603-0695
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 74	Next Scheduled EDR Contact: 03/12/2018
	Data Release Frequency: Varies

#### US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/27/2017	Telephone: 703-603-0695
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 74	Next Scheduled EDR Contact: 03/12/2018
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## **Federal ERNS list**

### **ERNS: Emergency Response Notification System**

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/18/2017  
Date Data Arrived at EDR: 09/21/2017  
Date Made Active in Reports: 10/13/2017  
Number of Days to Update: 22

Source: National Response Center, United States Coast Guard  
Telephone: 202-267-2180  
Last EDR Contact: 01/19/2018  
Next Scheduled EDR Contact: 04/09/2018  
Data Release Frequency: Quarterly

## **State- and tribal - equivalent CERCLIS**

### **SHWS: Hazardous Substance Release Sites**

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 02/12/2018  
Date Data Arrived at EDR: 02/14/2018  
Date Made Active in Reports: 02/21/2018  
Number of Days to Update: 7

Source: Department of Natural Resources and Environmental Control  
Telephone: 302-395-2800  
Last EDR Contact: 02/14/2018  
Next Scheduled EDR Contact: 05/28/2018  
Data Release Frequency: Annually

## **State and tribal landfill and/or solid waste disposal site lists**

### **SWF/LF: Solid Waste Facilities**

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 01/02/2018  
Date Data Arrived at EDR: 01/03/2018  
Date Made Active in Reports: 01/19/2018  
Number of Days to Update: 16

Source: Department of Natural Resources and Environmental Control  
Telephone: 302-739-3820  
Last EDR Contact: 01/03/2018  
Next Scheduled EDR Contact: 04/16/2018  
Data Release Frequency: Quarterly

## **State and tribal leaking storage tank lists**

### **LUST: Leaking Underground Storage Tank Project Listing**

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/17/2018  
Date Data Arrived at EDR: 01/17/2018  
Date Made Active in Reports: 02/22/2018  
Number of Days to Update: 36

Source: Department of Natural Resources and Environmental Control  
Telephone: 302-395-2500  
Last EDR Contact: 01/17/2018  
Next Scheduled EDR Contact: 04/30/2018  
Data Release Frequency: Quarterly

### **LAST: Leaking Aboveground Storage Tank Sites**

Leaking aboveground storage tank site locations.

Date of Government Version: 01/17/2018  
Date Data Arrived at EDR: 01/17/2018  
Date Made Active in Reports: 02/22/2018  
Number of Days to Update: 36

Source: Department of Natural Resources & Control  
Telephone: 302-395-2500  
Last EDR Contact: 01/17/2018  
Next Scheduled EDR Contact: 04/30/2018  
Data Release Frequency: Quarterly

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/25/2017	Source: EPA Region 10
Date Data Arrived at EDR: 11/07/2017	Telephone: 206-553-2857
Date Made Active in Reports: 12/08/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 31	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

### INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/13/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/27/2017	Telephone: 415-972-3372
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

### INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/14/2017	Source: EPA Region 7
Date Data Arrived at EDR: 07/27/2017	Telephone: 913-551-7003
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 71	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

### INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/24/2017	Source: EPA Region 6
Date Data Arrived at EDR: 07/27/2017	Telephone: 214-665-6597
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 71	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

### INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016	Source: EPA Region 4
Date Data Arrived at EDR: 01/27/2017	Telephone: 404-582-8677
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 01/19/2018
Number of Days to Update: 98	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Semi-Annually

### INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/14/2017	Source: EPA Region 1
Date Data Arrived at EDR: 07/27/2017	Telephone: 617-918-1313
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 71	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

### INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/26/2017	Source: EPA, Region 5
Date Data Arrived at EDR: 07/27/2017	Telephone: 312-886-7439
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/01/2017  
Date Data Arrived at EDR: 07/27/2017  
Date Made Active in Reports: 10/13/2017  
Number of Days to Update: 78

Source: EPA Region 8  
Telephone: 303-312-6271  
Last EDR Contact: 01/23/2018  
Next Scheduled EDR Contact: 05/07/2018  
Data Release Frequency: Varies

## State and tribal registered storage tank lists

### FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017  
Date Data Arrived at EDR: 05/30/2017  
Date Made Active in Reports: 10/13/2017  
Number of Days to Update: 136

Source: FEMA  
Telephone: 202-646-5797  
Last EDR Contact: 01/09/2018  
Next Scheduled EDR Contact: 04/23/2018  
Data Release Frequency: Varies

### UST: Underground Storage Tank Database

Registered Underground Storage Tanks. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 01/17/2018  
Date Data Arrived at EDR: 01/17/2018  
Date Made Active in Reports: 02/21/2018  
Number of Days to Update: 35

Source: Department of Natural Resources and Environmental Control  
Telephone: 302-395-2500  
Last EDR Contact: 01/17/2018  
Next Scheduled EDR Contact: 04/30/2018  
Data Release Frequency: Quarterly

### AST: Aboveground Storage Tank Sites

Facilities with aboveground storage tanks.

Date of Government Version: 01/02/2018  
Date Data Arrived at EDR: 01/03/2018  
Date Made Active in Reports: 01/19/2018  
Number of Days to Update: 16

Source: Department of Natural Resources and Environmental Control  
Telephone: 302-739-4764  
Last EDR Contact: 01/03/2018  
Next Scheduled EDR Contact: 04/16/2018  
Data Release Frequency: Quarterly

### INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/01/2017  
Date Data Arrived at EDR: 07/27/2017  
Date Made Active in Reports: 10/13/2017  
Number of Days to Update: 78

Source: EPA Region 8  
Telephone: 303-312-6137  
Last EDR Contact: 01/23/2018  
Next Scheduled EDR Contact: 05/07/2018  
Data Release Frequency: Varies

### INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/14/2017  
Date Data Arrived at EDR: 07/27/2017  
Date Made Active in Reports: 10/06/2017  
Number of Days to Update: 71

Source: EPA, Region 1  
Telephone: 617-918-1313  
Last EDR Contact: 01/23/2018  
Next Scheduled EDR Contact: 05/07/2018  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/26/2017	Source: EPA Region 5
Date Data Arrived at EDR: 07/27/2017	Telephone: 312-886-6136
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 71	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

## INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/13/2017	Source: EPA Region 9
Date Data Arrived at EDR: 07/27/2017	Telephone: 415-972-3368
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

## INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/25/2017	Source: EPA Region 10
Date Data Arrived at EDR: 07/27/2017	Telephone: 206-553-2857
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 78	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

## INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/24/2017	Source: EPA Region 6
Date Data Arrived at EDR: 07/27/2017	Telephone: 214-665-7591
Date Made Active in Reports: 12/08/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 134	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

## INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations).

Date of Government Version: 10/14/2016	Source: EPA Region 4
Date Data Arrived at EDR: 01/27/2017	Telephone: 404-562-9424
Date Made Active in Reports: 05/05/2017	Last EDR Contact: 01/19/2018
Number of Days to Update: 98	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Semi-Annually

## INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2017	Source: EPA Region 7
Date Data Arrived at EDR: 07/27/2017	Telephone: 913-551-7003
Date Made Active in Reports: 10/06/2017	Last EDR Contact: 01/23/2018
Number of Days to Update: 71	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## State and tribal institutional control / engineering control registries

### Inst Control: All Sites with Deed Restrictions

Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/13/2017	Source: Department of Natural Resources & Environmental Control
Date Data Arrived at EDR: 11/14/2017	Telephone: 302-395-2600
Date Made Active in Reports: 11/21/2017	Last EDR Contact: 02/14/2018
Number of Days to Update: 7	Next Scheduled EDR Contact: 05/28/2018
	Data Release Frequency: Quarterly

## State and tribal voluntary cleanup sites

### INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

### VCP: Voluntary Cleanup Program Sites

When a property is contaminated with hazardous substances there are liabilities associated with the cleanup of the site under Federal and State Superfund laws, regardless of who caused the contamination and when it was caused. Because of this liability, old industrial sites (with contamination) located close to well developed infrastructure do not attract developers or buyers. These individuals prefer to purchase pristine property without contamination known as "greenfield." Under the Voluntary Cleanup Program (VCP) developers and buyers performing the cleanup of contaminated properties would be provided the much needed protection from potential liabilities for past contamination. Thus, they can proceed with the purchase or development of the property with the assurance that they will not be held liable for environmental problems that were a result of past practices at the site.

Date of Government Version: 11/13/2017	Source: Department of Natural Resources & Environmental Control
Date Data Arrived at EDR: 11/14/2017	Telephone: 302-395-2600
Date Made Active in Reports: 11/27/2017	Last EDR Contact: 02/14/2018
Number of Days to Update: 13	Next Scheduled EDR Contact: 05/28/2018
	Data Release Frequency: Annually

### INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 12/20/2017
Number of Days to Update: 142	Next Scheduled EDR Contact: 04/09/2018
	Data Release Frequency: Varies

## State and tribal Brownfields sites

### BROWNFIELDS: Certified Brownfields

Sites that have requested brownfields certification from the Secretary of DNREC.

Date of Government Version: 02/05/2018	Source: Dept. of Natural Resources & Environmental Control
Date Data Arrived at EDR: 02/09/2018	Telephone: 302-739-4764
Date Made Active in Reports: 02/22/2018	Last EDR Contact: 02/05/2018
Number of Days to Update: 13	Next Scheduled EDR Contact: 05/21/2018
	Data Release Frequency: Semi-Annually

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## ADDITIONAL ENVIRONMENTAL RECORDS

### *Local Brownfield lists*

#### US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 01/19/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/19/2018	Telephone: 202-566-2777
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 21	Next Scheduled EDR Contact: 04/02/2018
	Data Release Frequency: Semi-Annually

### *Local Lists of Landfill / Solid Waste Disposal Sites*

#### SWRCY: Recyclers Directory

A listing of recycling facilities.

Date of Government Version: 02/10/2018	Source: Delaware Economic Development Office
Date Data Arrived at EDR: 02/13/2018	Telephone: 302-739-4271
Date Made Active in Reports: 02/21/2018	Last EDR Contact: 01/29/2018
Number of Days to Update: 8	Next Scheduled EDR Contact: 04/16/2018
	Data Release Frequency: Varies

#### INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 01/30/2018
Number of Days to Update: 52	Next Scheduled EDR Contact: 05/14/2018
	Data Release Frequency: Varies

#### DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009	Source: EPA, Region 9
Date Data Arrived at EDR: 05/07/2009	Telephone: 415-947-4219
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 01/22/2018
Number of Days to Update: 137	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: No Update Planned

#### ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014	Source: Department of Health & Human Services, Indian Health Service
Date Data Arrived at EDR: 08/06/2014	Telephone: 301-443-1452
Date Made Active in Reports: 01/29/2015	Last EDR Contact: 02/02/2018
Number of Days to Update: 176	Next Scheduled EDR Contact: 05/14/2018
	Data Release Frequency: Varies

## Local Lists of Hazardous waste / Contaminated Sites

### US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 01/19/2018	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 01/24/2018	Telephone: 202-307-1000
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 16	Next Scheduled EDR Contact: 03/12/2018
	Data Release Frequency: No Update Planned

### US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 01/09/2018	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 01/24/2018	Telephone: 202-307-1000
Date Made Active in Reports: 02/09/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 16	Next Scheduled EDR Contact: 03/12/2018
	Data Release Frequency: Quarterly

## Local Land Records

### LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 12/11/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/22/2017	Telephone: 202-564-6023
Date Made Active in Reports: 01/12/2018	Last EDR Contact: 02/06/2018
Number of Days to Update: 21	Next Scheduled EDR Contact: 05/21/2018
	Data Release Frequency: Semi-Annually

## Records of Emergency Release Reports

### HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/21/2017	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 09/21/2017	Telephone: 202-366-4555
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/19/2018
Number of Days to Update: 22	Next Scheduled EDR Contact: 04/09/2018
	Data Release Frequency: Quarterly



## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### SPILLS: Environmental Release Notification System

The Department of Natural Resources and Environmental Control (DNREC) developed this system to allow Delawareans to learn promptly of releases or discharges of contaminants or pollutants that meet or exceed certain thresholds in their neighborhoods or throughout the state.

Date of Government Version: 08/17/2017  
Date Data Arrived at EDR: 08/22/2017  
Date Made Active in Reports: 10/03/2017  
Number of Days to Update: 42

Source: Department of Natural Resources & Environmental Control  
Telephone: 302-739-9902  
Last EDR Contact: 01/22/2018  
Next Scheduled EDR Contact: 05/07/2018  
Data Release Frequency: Semi-Annually

### Other Ascertainable Records

#### RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/11/2017  
Date Data Arrived at EDR: 12/26/2017  
Date Made Active in Reports: 02/09/2018  
Number of Days to Update: 45

Source: Environmental Protection Agency  
Telephone: 800-438-2474  
Last EDR Contact: 01/19/2018  
Next Scheduled EDR Contact: 04/09/2018  
Data Release Frequency: Quarterly

#### FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015  
Date Data Arrived at EDR: 07/08/2015  
Date Made Active in Reports: 10/13/2015  
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers  
Telephone: 202-528-4265  
Last EDR Contact: 02/21/2018  
Next Scheduled EDR Contact: 06/04/2018  
Data Release Frequency: Varies

#### DOO: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 11/10/2006  
Date Made Active in Reports: 01/11/2007  
Number of Days to Update: 62

Source: USGS  
Telephone: 888-275-8747  
Last EDR Contact: 10/13/2017  
Next Scheduled EDR Contact: 01/22/2018  
Data Release Frequency: Semi-Annually

#### FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005  
Date Data Arrived at EDR: 02/06/2006  
Date Made Active in Reports: 01/11/2007  
Number of Days to Update: 339

Source: U.S. Geological Survey  
Telephone: 888-275-8747  
Last EDR Contact: 10/11/2017  
Next Scheduled EDR Contact: 01/22/2018  
Data Release Frequency: N/A

#### SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017  
Date Data Arrived at EDR: 02/03/2017  
Date Made Active in Reports: 04/07/2017  
Number of Days to Update: 63

Source: Environmental Protection Agency  
Telephone: 615-532-8599  
Last EDR Contact: 02/16/2018  
Next Scheduled EDR Contact: 05/28/2018  
Data Release Frequency: Varies

## US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/17/2017  
Date Data Arrived at EDR: 11/01/2017  
Date Made Active in Reports: 12/08/2017  
Number of Days to Update: 37

Source: Environmental Protection Agency  
Telephone: 202-566-1917  
Last EDR Contact: 01/19/2018  
Next Scheduled EDR Contact: 04/09/2018  
Data Release Frequency: Quarterly

## EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013  
Date Data Arrived at EDR: 03/21/2014  
Date Made Active in Reports: 06/17/2014  
Number of Days to Update: 88

Source: Environmental Protection Agency  
Telephone: 617-520-3000  
Last EDR Contact: 01/31/2018  
Next Scheduled EDR Contact: 05/21/2018  
Data Release Frequency: Quarterly

## 2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013  
Date Data Arrived at EDR: 03/03/2015  
Date Made Active in Reports: 03/09/2015  
Number of Days to Update: 6

Source: Environmental Protection Agency  
Telephone: 703-308-4044  
Last EDR Contact: 02/08/2018  
Next Scheduled EDR Contact: 05/21/2018  
Data Release Frequency: Varies

## TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 06/21/2017  
Date Made Active in Reports: 01/05/2018  
Number of Days to Update: 198

Source: EPA  
Telephone: 202-260-5521  
Last EDR Contact: 12/22/2017  
Next Scheduled EDR Contact: 04/02/2018  
Data Release Frequency: Every 4 Years

## TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 01/10/2018  
Date Made Active in Reports: 01/12/2018  
Number of Days to Update: 2

Source: EPA  
Telephone: 202-566-0250  
Last EDR Contact: 02/23/2018  
Next Scheduled EDR Contact: 06/04/2018  
Data Release Frequency: Annually

## SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009  
Date Data Arrived at EDR: 12/10/2010  
Date Made Active in Reports: 02/25/2011  
Number of Days to Update: 77

Source: EPA  
Telephone: 202-564-4203  
Last EDR Contact: 01/25/2018  
Next Scheduled EDR Contact: 05/07/2018  
Data Release Frequency: Annually

## ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 12/11/2017  
Date Data Arrived at EDR: 12/22/2017  
Date Made Active in Reports: 01/12/2018  
Number of Days to Update: 21

Source: EPA  
Telephone: 703-416-0223  
Last EDR Contact: 02/06/2018  
Next Scheduled EDR Contact: 03/19/2018  
Data Release Frequency: Annually

## RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017  
Date Data Arrived at EDR: 11/17/2017  
Date Made Active in Reports: 12/08/2017  
Number of Days to Update: 21

Source: Environmental Protection Agency  
Telephone: 202-564-8600  
Last EDR Contact: 01/19/2018  
Next Scheduled EDR Contact: 05/07/2018  
Data Release Frequency: Varies

## RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995  
Date Data Arrived at EDR: 07/03/1995  
Date Made Active in Reports: 08/07/1995  
Number of Days to Update: 35

Source: EPA  
Telephone: 202-564-4104  
Last EDR Contact: 06/02/2008  
Next Scheduled EDR Contact: 06/01/2008  
Data Release Frequency: No Update Planned

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 10/17/2014	Telephone: 202-564-6023
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 02/06/2018
Number of Days to Update: 3	Next Scheduled EDR Contact: 05/21/2018
	Data Release Frequency: Quarterly

## PADS: PCB Activity Database System

PCB Activity Database. PADS identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017	Source: EPA
Date Data Arrived at EDR: 06/09/2017	Telephone: 202-566-0500
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/12/2018
Number of Days to Update: 126	Next Scheduled EDR Contact: 04/23/2018
	Data Release Frequency: Annually

## ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/09/2018
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/23/2018
	Data Release Frequency: Quarterly

## FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

## FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009	Source: EPA
Date Data Arrived at EDR: 04/16/2009	Telephone: 202-566-1667
Date Made Active in Reports: 05/11/2009	Last EDR Contact: 08/18/2017
Number of Days to Update: 25	Next Scheduled EDR Contact: 12/04/2017
	Data Release Frequency: Quarterly

## MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 09/08/2016	Telephone: 301-415-7169
Date Made Active in Reports: 10/21/2016	Last EDR Contact: 01/19/2018
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/21/2018
	Data Release Frequency: Quarterly

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 08/07/2009	Telephone: 202-586-8719
Date Made Active in Reports: 10/22/2009	Last EDR Contact: 12/05/2017
Number of Days to Update: 76	Next Scheduled EDR Contact: 03/19/2018
	Data Release Frequency: Varies

### COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/10/2014	Telephone: N/A
Date Made Active in Reports: 10/20/2014	Last EDR Contact: 12/08/2017
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/19/2018
	Data Release Frequency: Varies

### PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/30/2017	Telephone: 202-566-0517
Date Made Active in Reports: 12/15/2017	Last EDR Contact: 01/26/2018
Number of Days to Update: 15	Next Scheduled EDR Contact: 05/07/2018
	Data Release Frequency: Varies

### RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/02/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/05/2017	Telephone: 202-343-9775
Date Made Active in Reports: 10/13/2017	Last EDR Contact: 01/04/2018
Number of Days to Update: 8	Next Scheduled EDR Contact: 04/16/2018
	Data Release Frequency: Quarterly

### HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 12/17/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 03/17/2008
	Data Release Frequency: No Update Planned

### HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006  
Date Data Arrived at EDR: 03/01/2007  
Date Made Active in Reports: 04/10/2007  
Number of Days to Update: 40

Source: Environmental Protection Agency  
Telephone: 202-564-2501  
Last EDR Contact: 12/17/2008  
Next Scheduled EDR Contact: 03/17/2008  
Data Release Frequency: No Update Planned

## DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012  
Date Data Arrived at EDR: 08/07/2012  
Date Made Active in Reports: 09/18/2012  
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety  
Telephone: 202-366-4595  
Last EDR Contact: 01/19/2018  
Next Scheduled EDR Contact: 05/14/2018  
Data Release Frequency: Varies

## CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2017  
Date Data Arrived at EDR: 11/10/2017  
Date Made Active in Reports: 01/12/2018  
Number of Days to Update: 63

Source: Department of Justice, Consent Decree Library  
Telephone: Varies  
Last EDR Contact: 01/04/2018  
Next Scheduled EDR Contact: 04/02/2018  
Data Release Frequency: Varies

## BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015  
Date Data Arrived at EDR: 02/22/2017  
Date Made Active in Reports: 09/28/2017  
Number of Days to Update: 218

Source: EPA/NTIS  
Telephone: 800-424-9346  
Last EDR Contact: 02/23/2018  
Next Scheduled EDR Contact: 06/04/2018  
Data Release Frequency: Biennially

## INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014  
Date Data Arrived at EDR: 07/14/2015  
Date Made Active in Reports: 01/10/2017  
Number of Days to Update: 546

Source: USGS  
Telephone: 202-206-3710  
Last EDR Contact: 01/09/2018  
Next Scheduled EDR Contact: 04/23/2018  
Data Release Frequency: Semi-Annually

## FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016  
Date Data Arrived at EDR: 12/27/2016  
Date Made Active in Reports: 02/17/2017  
Number of Days to Update: 52

Source: Department of Energy  
Telephone: 202-586-3559  
Last EDR Contact: 01/19/2018  
Next Scheduled EDR Contact: 05/21/2018  
Data Release Frequency: Varies

## UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/23/2017  
Date Data Arrived at EDR: 10/11/2017  
Date Made Active in Reports: 11/03/2017  
Number of Days to Update: 23

Source: Department of Energy  
Telephone: 505-845-0011  
Last EDR Contact: 02/23/2018  
Next Scheduled EDR Contact: 06/04/2018  
Data Release Frequency: Varies

## LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/10/2017  
Date Data Arrived at EDR: 11/03/2017  
Date Made Active in Reports: 12/15/2017  
Number of Days to Update: 42

Source: Environmental Protection Agency  
Telephone: 703-603-8787  
Last EDR Contact: 02/08/2018  
Next Scheduled EDR Contact: 05/21/2018  
Data Release Frequency: Varies

## LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust.

Date of Government Version: 04/05/2001  
Date Data Arrived at EDR: 10/27/2010  
Date Made Active in Reports: 12/02/2010  
Number of Days to Update: 35

Source: American Journal of Public Health  
Telephone: 703-305-6451  
Last EDR Contact: 12/02/2009  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

## US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016  
Date Data Arrived at EDR: 10/26/2016  
Date Made Active in Reports: 02/03/2017  
Number of Days to Update: 100

Source: EPA  
Telephone: 202-564-2496  
Last EDR Contact: 09/26/2017  
Next Scheduled EDR Contact: 01/08/2018  
Data Release Frequency: Annually

## US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 10/29/2017  
Date Data Arrived at EDR: 11/28/2017  
Date Made Active in Reports: 01/12/2018  
Number of Days to Update: 45

Source: Department of Labor, Mine Safety and Health Administration  
Telephone: 303-231-5959  
Last EDR Contact: 11/28/2017  
Next Scheduled EDR Contact: 03/12/2018  
Data Release Frequency: Semi-Annually

## US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/05/2005  
Date Data Arrived at EDR: 02/29/2008  
Date Made Active in Reports: 04/18/2008  
Number of Days to Update: 49

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 12/01/2017  
Next Scheduled EDR Contact: 03/12/2018  
Data Release Frequency: Varies

## US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011  
Date Data Arrived at EDR: 06/08/2011  
Date Made Active in Reports: 09/13/2011  
Number of Days to Update: 97

Source: USGS  
Telephone: 703-648-7709  
Last EDR Contact: 12/01/2017  
Next Scheduled EDR Contact: 03/12/2018  
Data Release Frequency: Varies

## ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/25/2017  
Date Data Arrived at EDR: 09/26/2017  
Date Made Active in Reports: 10/20/2017  
Number of Days to Update: 24

Source: Department of Interior  
Telephone: 202-208-2609  
Last EDR Contact: 12/19/2017  
Next Scheduled EDR Contact: 03/26/2018  
Data Release Frequency: Quarterly

## FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Auxometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/23/2017  
Date Data Arrived at EDR: 09/06/2017  
Date Made Active in Reports: 09/15/2017  
Number of Days to Update: 9

Source: EPA  
Telephone: (215) 814-5000  
Last EDR Contact: 02/23/2018  
Next Scheduled EDR Contact: 03/19/2018  
Data Release Frequency: Quarterly

## UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016  
Date Data Arrived at EDR: 10/31/2017  
Date Made Active in Reports: 01/12/2018  
Number of Days to Update: 73

Source: Department of Defense  
Telephone: 703-704-1564  
Last EDR Contact: 01/02/2018  
Next Scheduled EDR Contact: 04/30/2018  
Data Release Frequency: Varies

## ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/02/2017  
Date Data Arrived at EDR: 09/06/2017  
Date Made Active in Reports: 10/20/2017  
Number of Days to Update: 44

Source: Environmental Protection Agency  
Telephone: 202-564-2280  
Last EDR Contact: 01/19/2018  
Next Scheduled EDR Contact: 03/19/2018  
Data Release Frequency: Quarterly



# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/27/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/21/2017	Telephone: 202-564-0527
Date Made Active in Reports: 01/12/2018	Last EDR Contact: 01/19/2018
Number of Days to Update: 52	Next Scheduled EDR Contact: 03/12/2018
	Data Release Frequency: Varies

## FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/20/2017	Source: EPA
Date Data Arrived at EDR: 11/20/2017	Telephone: 800-368-6164
Date Made Active in Reports: 01/12/2018	Last EDR Contact: 02/21/2018
Number of Days to Update: 53	Next Scheduled EDR Contact: 06/04/2018
	Data Release Frequency: Quarterly

## AIRS: Air Emissions Listing

A listing of facilities with air emissions.

Date of Government Version: 01/02/2018	Source: Department of Natural Resources & Environmental Control
Date Data Arrived at EDR: 01/03/2018	Telephone: 302-323-4542
Date Made Active in Reports: 01/19/2018	Last EDR Contact: 01/03/2018
Number of Days to Update: 16	Next Scheduled EDR Contact: 04/16/2018
	Data Release Frequency: Quarterly

## DRYCLEANERS: DRYCLEANERS

A listing of drycleaner facility locations.

Date of Government Version: 12/01/2017	Source: Department of Natural Resources & Environmental Control
Date Data Arrived at EDR: 12/08/2017	Telephone: 302-739-9400
Date Made Active in Reports: 01/22/2018	Last EDR Contact: 02/22/2018
Number of Days to Update: 45	Next Scheduled EDR Contact: 06/11/2018
	Data Release Frequency: Varies

## ENFORCEMENT: Notice of Violations

Notice of violations are based on the observations of, and information submitted to, DNREC personnel. They only represent preliminary findings of the Department and are subject to further technical and legal review. These notices may or may not result in an enforcement action. Divisions included are Water Resources Air & Waste Management

Date of Government Version: 08/17/2017	Source: Department of Natural Resources & Conservation
Date Data Arrived at EDR: 08/22/2017	Telephone: 302-738-9401
Date Made Active in Reports: 10/23/2017	Last EDR Contact: 01/29/2018
Number of Days to Update: 62	Next Scheduled EDR Contact: 05/14/2018
	Data Release Frequency: Semi-Annually

## Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 01/10/2018	Source: Department of Natural Resources & Environmental Control
Date Data Arrived at EDR: 01/11/2018	Telephone: 302-739-9403
Date Made Active in Reports: 01/16/2018	Last EDR Contact: 01/04/2018
Number of Days to Update: 5	Next Scheduled EDR Contact: 04/23/2018
	Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## Financial Assurance 2: Financial Assurance Information Listing

Financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 01/10/2018  
Date Data Arrived at EDR: 01/11/2018  
Date Made Active in Reports: 02/21/2018  
Number of Days to Update: 41

Source: Department of Natural Resources & Environmental Control  
Telephone: 302-739-9403  
Last EDR Contact: 01/04/2018  
Next Scheduled EDR Contact: 04/23/2018  
Data Release Frequency: Varies

## Financial Assurance 3: Financial Assurance Information Listing

Underground storage tank financial assurance information.

Date of Government Version: 01/17/2018  
Date Data Arrived at EDR: 01/17/2018  
Date Made Active in Reports: 02/21/2018  
Number of Days to Update: 35

Source: Department of Natural Resources & Environmental Control  
Telephone: 302-395-2500  
Last EDR Contact: 01/17/2018  
Next Scheduled EDR Contact: 04/30/2018  
Data Release Frequency: Quarterly

## NPDES: Wastewater Permit Listing

A listing of wastewater permits.

Date of Government Version: 01/02/2018  
Date Data Arrived at EDR: 01/03/2018  
Date Made Active in Reports: 01/19/2018  
Number of Days to Update: 16

Source: Department of Natural Resources & Environmental Control  
Telephone: 302-739-9948  
Last EDR Contact: 01/03/2018  
Next Scheduled EDR Contact: 04/16/2018  
Data Release Frequency: Quarterly

## TIER 2: Tier 2 Facility Listing

A listing of facilities which store or manufacture hazardous materials that submit a chemical inventory report.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 11/27/2017  
Date Made Active in Reports: 01/19/2018  
Number of Days to Update: 53

Source: Department of Natural Resources & Environmental Control  
Telephone: 302-739-9405  
Last EDR Contact: 01/26/2018  
Next Scheduled EDR Contact: 05/14/2018  
Data Release Frequency: Annually

## UIC: Underground Injection Wells Inventory Listing

A listing of underground injection well locations.

Date of Government Version: 01/23/2018  
Date Data Arrived at EDR: 01/26/2018  
Date Made Active in Reports: 02/22/2018  
Number of Days to Update: 27

Source: DNREC  
Telephone: 302-739-9948  
Last EDR Contact: 01/22/2018  
Next Scheduled EDR Contact: 05/07/2018  
Data Release Frequency: Semi-Annually

## EDR HIGH RISK HISTORICAL RECORDS

### **EDR Exclusive Records**

#### EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: No Update Planned

## EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A  
Date Data Arrived at EDR: N/A  
Date Made Active in Reports: N/A  
Number of Days to Update: N/A

Source: EDR, Inc.  
Telephone: N/A  
Last EDR Contact: N/A  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

## EDR RECOVERED GOVERNMENT ARCHIVES

### *Exclusive Recovered Govt. Archives*

#### RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Natural Resources and Environmental Control in Delaware.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/15/2014  
Number of Days to Update: 198

Source: Department of Natural Resources and Environmental Control  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

#### RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Natural Resources and Environmental Control in Delaware.

Date of Government Version: N/A  
Date Data Arrived at EDR: 07/01/2013  
Date Made Active in Reports: 01/17/2014  
Number of Days to Update: 200

Source: Department of Natural Resources and Environmental Control  
Telephone: N/A  
Last EDR Contact: 06/01/2012  
Next Scheduled EDR Contact: N/A  
Data Release Frequency: Varies

# GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

## OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

### CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 11/11/2017  
Date Data Arrived at EDR: 11/14/2017  
Date Made Active in Reports: 12/18/2017  
Number of Days to Update: 34

Source: Department of Energy & Environmental Protection  
Telephone: 860-424-3375  
Last EDR Contact: 02/14/2018  
Next Scheduled EDR Contact: 05/28/2018  
Data Release Frequency: No Update Planned

### NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 04/11/2017  
Date Made Active in Reports: 07/27/2017  
Number of Days to Update: 107

Source: Department of Environmental Protection  
Telephone: N/A  
Last EDR Contact: 01/05/2018  
Next Scheduled EDR Contact: 04/23/2018  
Data Release Frequency: Annually

### NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/01/2017  
Date Data Arrived at EDR: 11/01/2017  
Date Made Active in Reports: 11/13/2017  
Number of Days to Update: 12

Source: Department of Environmental Conservation  
Telephone: 518-402-8651  
Last EDR Contact: 01/31/2018  
Next Scheduled EDR Contact: 05/14/2018  
Data Release Frequency: Quarterly

### PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 07/25/2017  
Date Made Active in Reports: 09/25/2017  
Number of Days to Update: 62

Source: Department of Environmental Protection  
Telephone: 717-783-8990  
Last EDR Contact: 01/16/2018  
Next Scheduled EDR Contact: 04/30/2018  
Data Release Frequency: Annually

### RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013  
Date Data Arrived at EDR: 06/19/2015  
Date Made Active in Reports: 07/15/2015  
Number of Days to Update: 26

Source: Department of Environmental Management  
Telephone: 401-222-2797  
Last EDR Contact: 02/21/2018  
Next Scheduled EDR Contact: 06/04/2018  
Data Release Frequency: Annually

### WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016  
Date Data Arrived at EDR: 04/13/2017  
Date Made Active in Reports: 07/14/2017  
Number of Days to Update: 92

Source: Department of Natural Resources  
Telephone: N/A  
Last EDR Contact: 12/11/2017  
Next Scheduled EDR Contact: 03/26/2018  
Data Release Frequency: Annually

### Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

## GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

### Electric Power Transmission Line Data

Source: PennWell Corporation

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**Sensitive Receptors:** There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

### AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

### Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

### Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

### Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

### Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

### Daycare Centers: Child Care Facility List

Source: Department of Services for Children

Telephone: 302-633-2500

**Flood Zone Data:** This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

**NWI: National Wetlands Inventory.** This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

### State Wetlands Data: Statewide Wetlands Mapping Project

Source: Dept. of Natural Resources & Environmental Conservation

Telephone: 302-739-4691

### Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

**STREET AND ADDRESS INFORMATION**

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## **Jason Palkewicz, Professional Engineer**

### **CEO**

#### **EDUCATION**

BE, Environmental Eng., 1995  
Hofstra University

MS, Civil Eng., 1999  
University of Toledo

#### **REGISTRATIONS**

- Professional Engineer  
MD # 25088
- Professional Engineer  
DE # 12083
- Professional Engineer  
VA # 035417

#### **MEMBERSHIPS**

- LEED, AP

#### **PROFESSIONAL SUMMARY**

Mr. Palkewicz is a Professional Engineer and Project Manager with licenses in Maryland, Virginia and Delaware, with over 20 years of experience successfully overseeing all phases of planning, engineering and survey projects for government and private-sector clients. He is a highly skilled team leader, detail oriented with the ability to solve problems with limited resources while never losing sight of the big picture.

#### **SPECIAL PROJECT EXPERIENCE**

- **Pot-Nets Bayside, Sussex County, DE** – Provided design and permitting drawings for the rehabilitation and replacement of approximately 10,000 lf of vinyl marina bulkhead including dozens of piers, hundreds of piles and two boat launching facilities.
- **Pelican Point, Sussex County, DE** – Prepared construction drawings and plats for a 379 unit residential along Rte 5 outside of Long Neck. Plans included roadway, grading, sediment and erosion control, potable water, gravity sanitary sewer and sanitary pump station
- **Seagull Square, University of Salisbury, MD** – The civil engineer project manager for this mixed use public/private development consisting of approximately 600 student beds and 23,000 s.f. of Main Street style retail. Worked with the developer, State and City to acquire City sewer and water services to the site. Negotiated with MDSHA to gain access from Business Route 13, including easement abandonment, right-of-way plats and intersection improvements. LEED responsibilities included the Sustainable Site portion of the accreditation.
- **Headwater Cove, Sussex County, DE** – Prepared construction drawings and plats for a 163 unit residential subdivision on Dorman Road. Plans included roadway, grading, sediment and erosion control, potable water, gravity sanitary sewer and sanitary pump station.

**PLANNING & ZONING COMMISSION**

ROBERT C. WHEATLEY, CHAIRMAN  
KIM HOEY STEVENSON, VICE-CHAIRMAN  
R. KELLER HOPKINS  
J. BRUCE MEARS  
HOLLY J. WINGATE



**Sussex County**

DELAWARE  
sussexcountyde.gov  
302-855-7878 T  
302-854-5079 F  
JANELLE CORNWELL, AICP  
DIRECTOR

**PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET**  
Planning Commission Public Hearing Date November 21, 2019

Application: (2019-21) Lands of Nancy Marshall, Gideon Sisk III, David Bartee

Applicant: Don Miller  
1560 Middleford Road  
Seaford, DE 19973

Owner: Nancy L. Marshall, Gideon Sisk III & David Bartee  
31369 E. Trap Pond Road  
Laurel, DE 19956

Site Location: On the east side of East Trap Pond Road (S.C.R. 62) and the south side of Phillips Hill Road (S.C.R. 472).

Current Zoning: Agricultural Residential (AR-1)

Proposed Use: 3 Single-Family Lots (plus residual lands)

Comprehensive Land Use Plan Reference: Low Density Areas

Councilmatic District: Mr. Vincent

School District: Laurel School District

Fire District: Gumboro Fire District

Sewer: Private (Individual)

Water: Private (Individual)

Site Area: 10.855 +/- acres

Tax Map ID.: 232-20.00-20.22





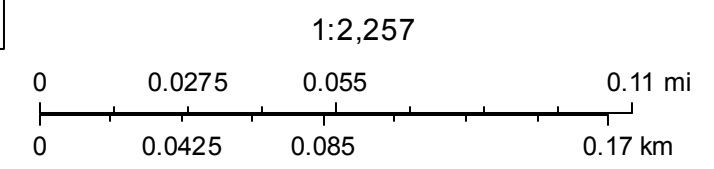


# Sussex County



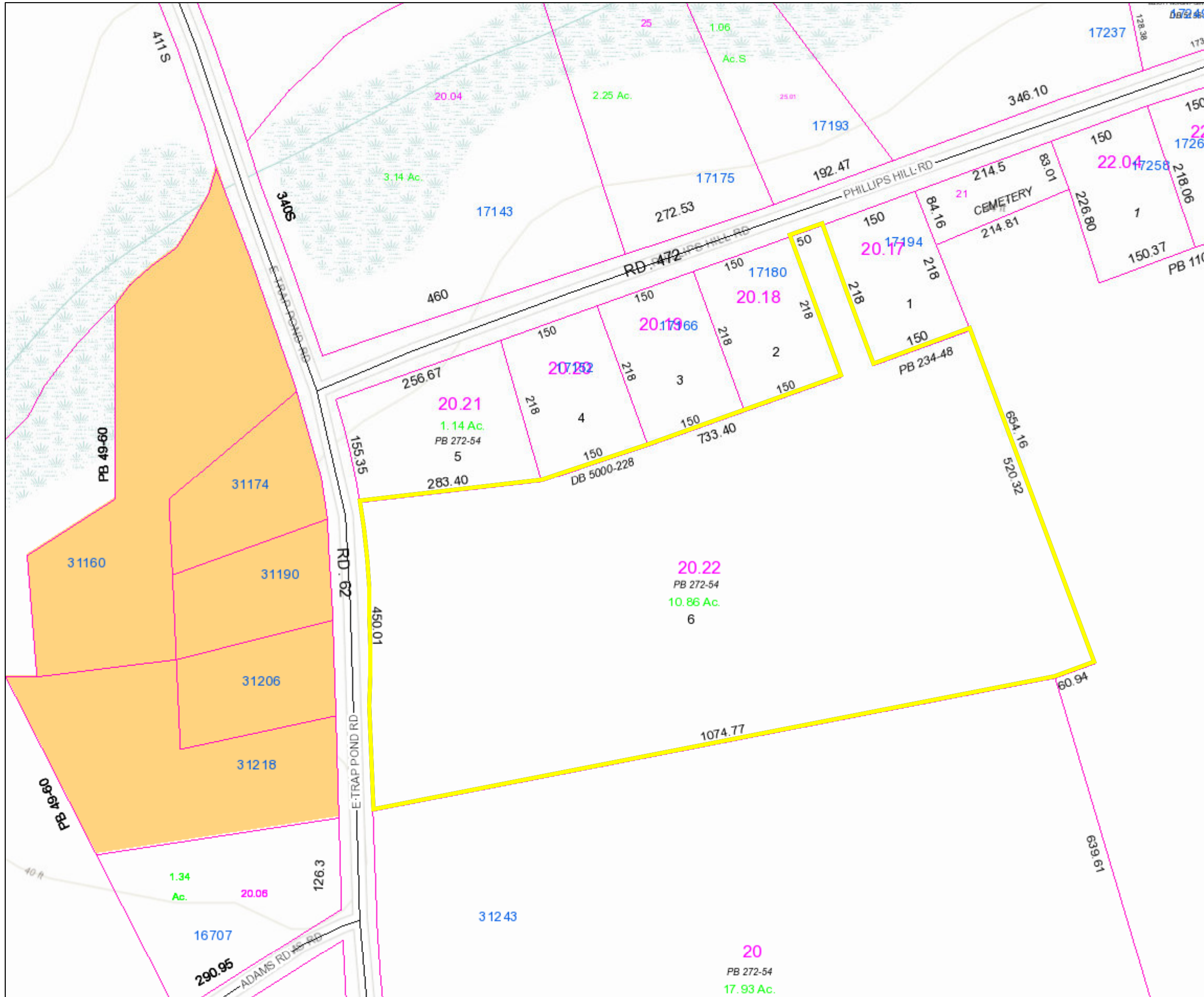
<b>PIN:</b>	232-20.00-20.22
<b>Owner Name</b>	MARSHALL NANCY L
<b>Book</b>	4975
<b>Mailing Address</b>	31369 EAST TRAP POND RD
<b>City</b>	LAUREL
<b>State</b>	DE
<b>Description</b>	E/E TRAP POND RD
<b>Description 2</b>	155.53 S/ PHILLIPS HILL RD
<b>Description 3</b>	LOT 6
<b>Land Code</b>	

- polygonLayer**
  - Override 1
- polygonLayer**
  - Override 1
- Tax Parcels
- 911 Address
- Streets
- County Boundaries
- DOE School Districts



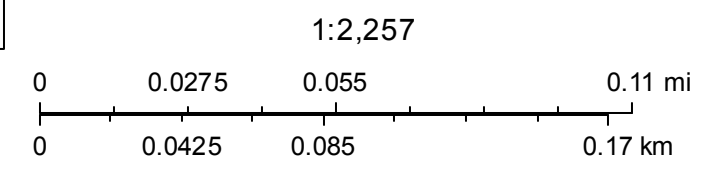


# Sussex County



<b>PIN:</b>	232-20.00-20.22
<b>Owner Name</b>	MARSHALL NANCY L
<b>Book</b>	4975
<b>Mailing Address</b>	31369 EAST TRAP POND RD
<b>City</b>	LAUREL
<b>State</b>	DE
<b>Description</b>	E/E TRAP POND RD
<b>Description 2</b>	155.53 S/ PHILLIPS HILL RD
<b>Description 3</b>	LOT 6
<b>Land Code</b>	

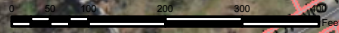
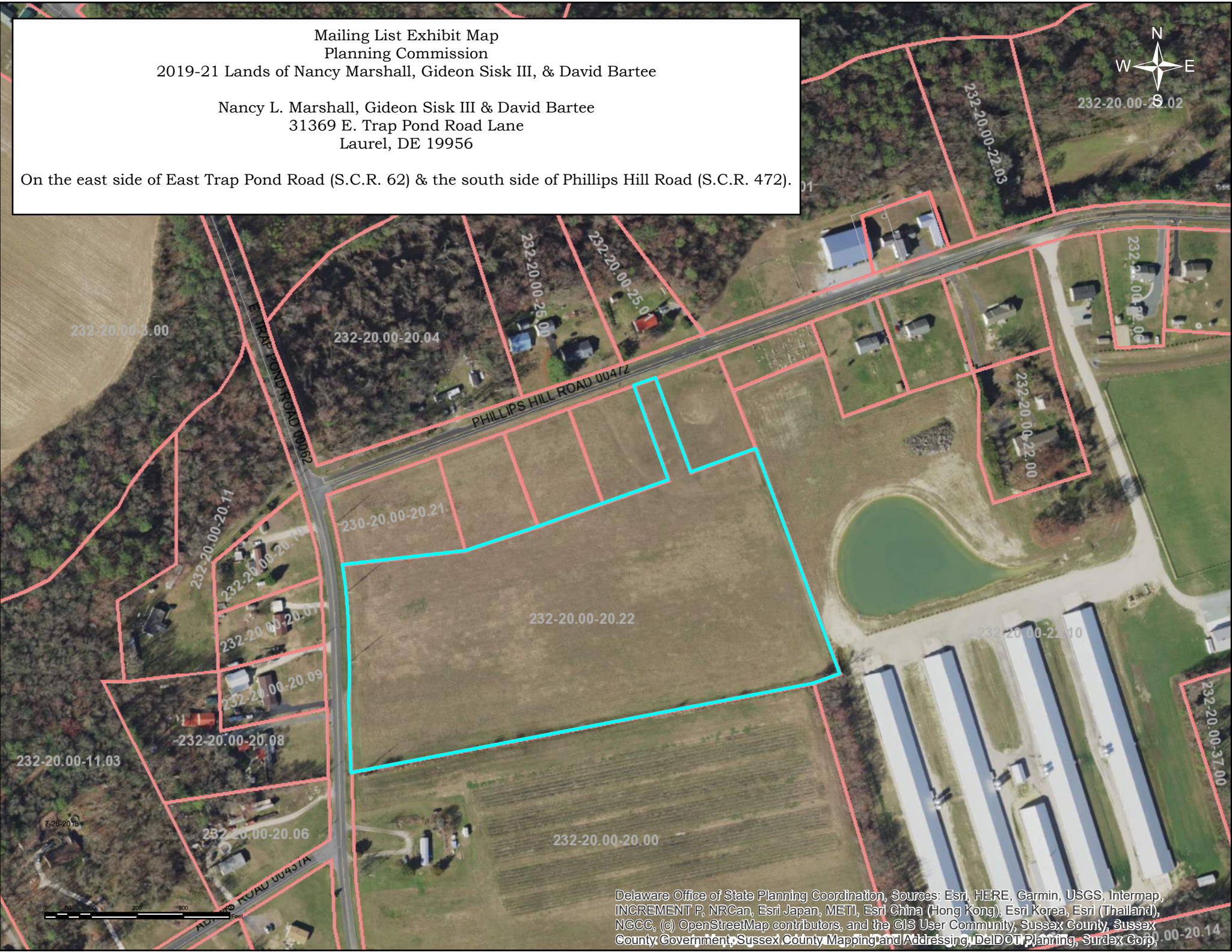
- polygonLayer**  
Override 1
- polygonLayer**  
Override 1
- Tax Parcels
- 911 Address
- Streets



Mailing List Exhibit Map  
Planning Commission  
2019-21 Lands of Nancy Marshall, Gideon Sisk III, & David Bartee

Nancy L. Marshall, Gideon Sisk III & David Bartee  
31369 E. Trap Pond Road Lane  
Laurel, DE 19956

On the east side of East Trap Pond Road (S.C.R. 62) & the south side of Phillips Hill Road (S.C.R. 472).



Delaware Office of State Planning Coordination, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community, Sussex County, Sussex County Government, Sussex County Mapping and Addressing, DelDOT Planning, Surdex Corp, 00-20.14

File #: 201909753  
2019-21

## Sussex County Major Subdivision Application

### Sussex County, Delaware

Sussex County Planning & Zoning Department  
2 The Circle (P.O. Box 417) Georgetown, DE 19947  
302-855-7878 ph. 302-854-5079 fax

**Type of Application: (please check applicable)**

Standard:

Cluster:

ESDDOZ:

**Location of Subdivision:**

EAST SIDE EAST TRAP POND ROAD & S. SIDE PHILLIPS HILL ROAD

**Proposed Name of Subdivision:**

NANCY L. MARSHALL, SIDEDON SISK, III, & DAVID BARTEE

Tax Map #: 232-20.00-20.22 Total Acreage: 10.855

Zoning: AR-1 Density: 0.37 Minimum Lot Size: 3/4 Ac Number of Lots: 3

Open Space Acres: NONE

Water Provider: INDIV. Sewer Provider: INDIV.

**Applicant Information**

Applicant Name: DON MILLER

Applicant Address: 1560 MIDDLEFORD RD

City: SEAFORD State: DE Zip Code: 19973

Phone #: 629-9895 E-mail: donmiller@millerlewisinc.com

**Owner Information**

Owner Name: NANCY L. MARSHALL, SIDEDON SISK, III & DAVID BARTEE

Owner Address: 31369 E. TRAP POND ROAD, LA

City: LAUREL State: DE Zip Code: 19956

Phone #: 302-875-4374 E-mail: NONE

**Agent/Attorney/Engineer Information**

Agent/Attorney/Engineer Name: MILLER LEWIS

Agent/Attorney/Engineer Address: 1560 MIDDLEFORD RD

City: SEAFORD State: DE Zip Code: 19973

Phone #: 629-9895 E-mail: donmiller@millerlewisinc.com

RECEIVED

AUG 26 2019

SUSSEX COUNTY  
PLANNING & ZONING



# Check List for Sussex County Major Subdivision Applications

The following shall be submitted with the application

\_\_\_ **Completed Application**

\_\_\_ **Provide fifteen (15) copies of the Site Plan or Survey of the property and a PDF (via e-mail)**

- Plan shall show the existing conditions, setbacks, roads, floodplain, wetlands, topography, proposed lots, landscape plan, etc. **Per Subdivision Code 99-22, 99-23 & 99-24**
- Provide compliance with Section 99-9.
- Deed or Legal description, copy of proposed deed restrictions, soil feasibility study

\_\_\_ **Provide Fee \$500.00**

\_\_\_ **Optional - Additional information for the Commission to consider** (ex. photos, exhibit books, etc.) If provided submit seven (7) copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

\_\_\_ **Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.**

\_\_\_ **PLUS Response Letter** (if required)

\_\_\_ **51% of property owners consent if applicable**

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

**Signature of Applicant/Agent/Attorney**



Date: 8/19/19

**Signature of Owner**



Date: 8-23-19

**For office use only:**

Date Submitted: 8/26/19

Fee: \$500.00 Check #: \_\_\_\_\_

Staff accepting application: JP

Application & Case #: 201909233

Location of property: \_\_\_\_\_

Date of PC Hearing: \_\_\_\_\_

Recommendation of PC Commission: \_\_\_\_\_

**SUSSEX COUNTY ENGINEERING DEPARTMENT**  
**UTILITY PLANNING DIVISION**  
**C/U & C/Z COMMENTS**

TO: **Janelle Cornwell**

REVIEWER: **Chris Calio**

DATE: **11/5/2019**

APPLICATION: **2019-21 Lands of Nancy Marshall, Gideon Sisk III, David Bartee**

APPLICANT: **Don Miller**

FILE NO: **WSPA-5.02**

TAX MAP &  
PARCEL(S): **232-20.00-20.22**

LOCATION: **On the east side of East Trap Pond Road (SCR 62) and the  
south side of Phillips Hill Road (SCR 472)**

NO. OF UNITS: **3 single-family lots**

GROSS  
ACREAGE: **10.855**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

**SEWER:**

- (1). Is the project in a County operated and maintained sanitary sewer and/or water district?  
Yes  No
- a. If yes, see question (2).  
b. If no, see question (7).
- (2). Which County Tier Area is project in? **Tier 4**
- (3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.
- (4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **N/A** If yes, the current System Connection Charge Rate is **Click or tap to enter a fee** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

- (6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **No**
- Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.
- (7). Is project adjacent to the Unified Sewer District? **No**
- (8). Comments: **The proposed subdivision is not in an area where the Sussex County Engineering Department has a schedule to provide sanitary sewer service.**
- (9). Is a Sewer System Concept Evaluation required? **No**
- (10). Is a Use of Existing Infrastructure Agreement Required? **No**

UTILITY PLANNING APPROVAL:

  
\_\_\_\_\_  
John J. Ashman  
Director of Utility Planning

Xc: Hans M. Medlarz, P.E.  
Jayne Dickerson  
No Permit Tech Assigned



**OFFICE OF THE STATE FIRE MARSHAL  
Technical Services**

22705 Park Avenue  
Georgetown, DE 19947



**SFMO PERMIT**

**Plan Review Number:** 2019-04-201901-MIS-01

**Tax Parcel Number:** 232-20.00-20.00

**Status:** Approved as Submitted

**Date:** 10/09/2019

**Project**

Marshall Subdivision (MIS)  
, Unit #: 9 lots  
Marshall Property

East Trap Pond Road  
Laurel DE 19956

**Scope of Project**

**Number of Stories:**  
**Square Footage:**  
**Construction Class:**  
**Fire District:** 79 - Gumboro Volunteer Fire Co

**Occupant Load Inside:**  
**Occupancy Code:**

**Applicant**

Donald Miller

This office has reviewed the plans and specifications of the above described project for compliance with the Delaware State Fire Prevention Regulations, in effect as of the date of this review.

The owner understands that this construction start approval is limited to preliminary site construction and foundation work only. No other construction of any kind shall be permitted until the required building plan review is completed.

A Review Status of "Approved as Submitted" or "Not Approved as Submitted" must comply with the provisions of the attached Plan Review Comments.

Any Conditional Approval does not relieve the Applicant, Owner, Engineer, Contractor, nor their representatives from their responsibility to comply with the plan review comments and the applicable provisions of the Delaware State Fire Prevention Regulations in the construction, installation and/or completion of the project as reviewed by this Agency.

This Plan Review Project was prepared by:

Desiree McCall

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NOV 12 2019

SUSSEX COUNTY  
PLANNING & ZONING



## FIRE PROTECTION PLAN REVIEW COMMENTS

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**Plan Review Number:** 2019-04-201901-MIS-01

**Tax Parcel Number:** 232-20.00-20.00

**Status:** Approved as Submitted

**Date:** 10/09/2019

### PROJECT COMMENTS

**1002 A** This project has been reviewed under the provisions of the Delaware State Fire Prevention Regulations (DSFPR) UPDATED March 11, 2016. The current Delaware State Fire Prevention Regulations are available on our website at [www.statefiremarshal.delaware.gov](http://www.statefiremarshal.delaware.gov). These plans were not reviewed for compliance with the Americans with Disabilities Act (ADA). These plans were not reviewed for compliance with any Local, Municipal, nor County Building Codes.

**1010 A** The following water for fire protection requirements apply: NONE. On-Site Wells Proposed. this site meets Water Flow Table 1. therefore the provisions of NFPA 1142 shall apply to this site (DSFPR Regulation 702, Chapter 6, Section 3). Since wells are proposed for this site, no additional requirements will be made by this Agency for water for fire protection.

**1180 A** This report reflects site review only. It is the responsibility of the applicant and owner to forward copies of this review to any other agency as required by those agencies.

**1501 A** If there are any questions about the above referenced comments please feel free to contact the Fire Protection Specialist who reviewed this project. Please have the plan review number available when calling about a specific project. When changes or revisions to the plans occur, plans are required to be submitted, reviewed, and approved.

561169



25092 Oak Road  
Seaford, DE 19973

Phone & Text: (302) 629-2989  
Email: jayduke@comcast.net



**SITE EVALUATION APPROVAL PAGE**

*The soils on this site are approved when the following is completed in full and signed by the approving authority. Isolation distance requirements, limited area of suitable soils, placement of fill, removal of soil, or compaction of the evaluated area may preclude construction permit approval or modify the type of system that may be permitted. An approved report must accompany any permit application. This is not a construction permit. All references to the Regulations refer to The Regulations Governing the Design, Installation and Operation of On-Site Wastewater Treatment and Disposal Systems Amended 1/11/2014.*

**Owner(s) Name:** Nancy L. Marshall, et al. **Tax Map #:** 2-32-20-20.22  
**Lot #:** 6B  
**Address:** 31369 East Trap Pond Road **Phone:** N/A  
Laurel, DE 19956

**Initial System Type:** Low-pressure pipe (LPP) on-site wastewater treatment and disposal system (OWTDS). See Exhibit O in the Regulations. Other OWTDS options include any conventional/alternative technologies approved by DNREC.

**Location of Drain Field:** In the vicinity of soil borings (SB) #1 & #2 (hatched area on the plot plan).

**Depth to Limiting Zone:** 36" to redox depletions & concentrations.

**Replacement System Type:** Same as above if space permits. Otherwise, the replacement system may be sand-lined in the vicinity of the initial system.

**Location of Drain Field:** In the immediate vicinity of soil borings referred to above.

**Depth to Limiting Zone:** Same as above.

**Design Comments**

- Maintain all isolation distances specified in Exhibit C of the Regulations.
- Maintain a 100' isolation distance from all domestic wells and 150' from all public wells.
- If the 100' isolation distance to the existing domestic well cannot be maintained, it can be reduced to a minimum isolation distance of 50', in accordance with Exhibit C of the Regulations.
- To avoid soil compaction, the area in the vicinity of the proposed drainfield should be identified and protected from any vehicular traffic or stockpiling of any material. In addition, any tree removal in this vicinity should be conducted according to DNREC strict guidelines.

**Instructions to the Property Owner**

- Contact a Class C System Designer.
- A permeability rate of 50 minutes per inch (mpi) has been estimated for the soils on this site. These estimated rates are used to determine the required size of the disposal area. They are based on soil texture and are derived from tables developed by the DNREC. You may elect to use the estimated rate to size the disposal system or have the appropriate tests conducted. Contact the Site Evaluator at (302) 629-2989 or DNREC [(302) 856-4561 in Sussex or (302) 739-9947 in Kent] for testing information.
- Read the attached Site Evaluation Report for additional information.

**Report prepared by:** Joseph C. Duke, Jr., CPSS **Date of report:** August 20, 2019  
**Class "D" License #:** 4048

**For Official Use Only**

**Field checked:** \_\_\_\_\_ **Expiration Date:** 8/21/24  
**DNREC Reviewing Soil Scientist:** \_\_\_\_\_ **Approval Date:** 8/21/19

*Disclaimer: Approval of a site evaluation indicates only that the site evaluation was conducted in compliance with the regulations. It is not an indication of the quality or correctness of the site evaluation.*



25092 Oak Road  
Seaford, DE 19973

Phone & Text: (302) 629-2989  
Email: jayduke@comcast.net

**SITE EVALUATION REPORT PAGE**

<b>Owner(s) Name:</b>	Nancy L. Marshall, et al.	<b>Tax Map #:</b>	2-32-20-20.22
		<b>Lot #:</b>	6B
<b>Address:</b>	31369 East Trap Pond Road Laurel, DE 19956	<b>Phone:</b>	N/A
<b>Property Location:</b>	East side of East Trap Pond Road		
<b>Acreege:</b>	0.750 acres±		
<b>Date of Evaluation:</b>	6/21/19		
<b>Central Water Available:</b>	No		
<b>Wooded:</b>	No		
<b>2007 SWMP:</b>	None per DNREC Navigator		
<b>FEMA V zone:</b>	None per DNREC Navigator		
<b>HUC 12:</b>	20801090401		
<b>Soil Profile #:</b>	<b>Limiting Zone Depth:</b>	<b>Limiting Zone Inferred From:</b>	<b>Subgroup Taxonomic Classification:</b>
SB #1	40"	redox concentrations & depletions	Arenic Paleudult
SB #2	36"	redox concentrations & depletions	Oxyaquic Hapludult
SB #3	<20"	redox concentrations & depletions	discontinued

**Summary of Evaluation:** This site evaluation was conducted to assess the soil's suitability for siting an OWTDS. The evaluated portion of this parcel occupies a nearly level to gently sloping landscape position of a broad interstream divide that was part of an agricultural field at the time of this evaluation. The evaluated soils in the vicinity of SBs #1 & #2 (hatched area) are moderately well drained and moderately permeable. The soils in this vicinity meet the current regulatory requirements for an LPP OWTDS. Soil borings were located in reference to the found iron pipes (FIP) that are depicted as reference points on the plot plan.

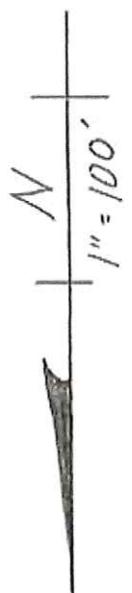
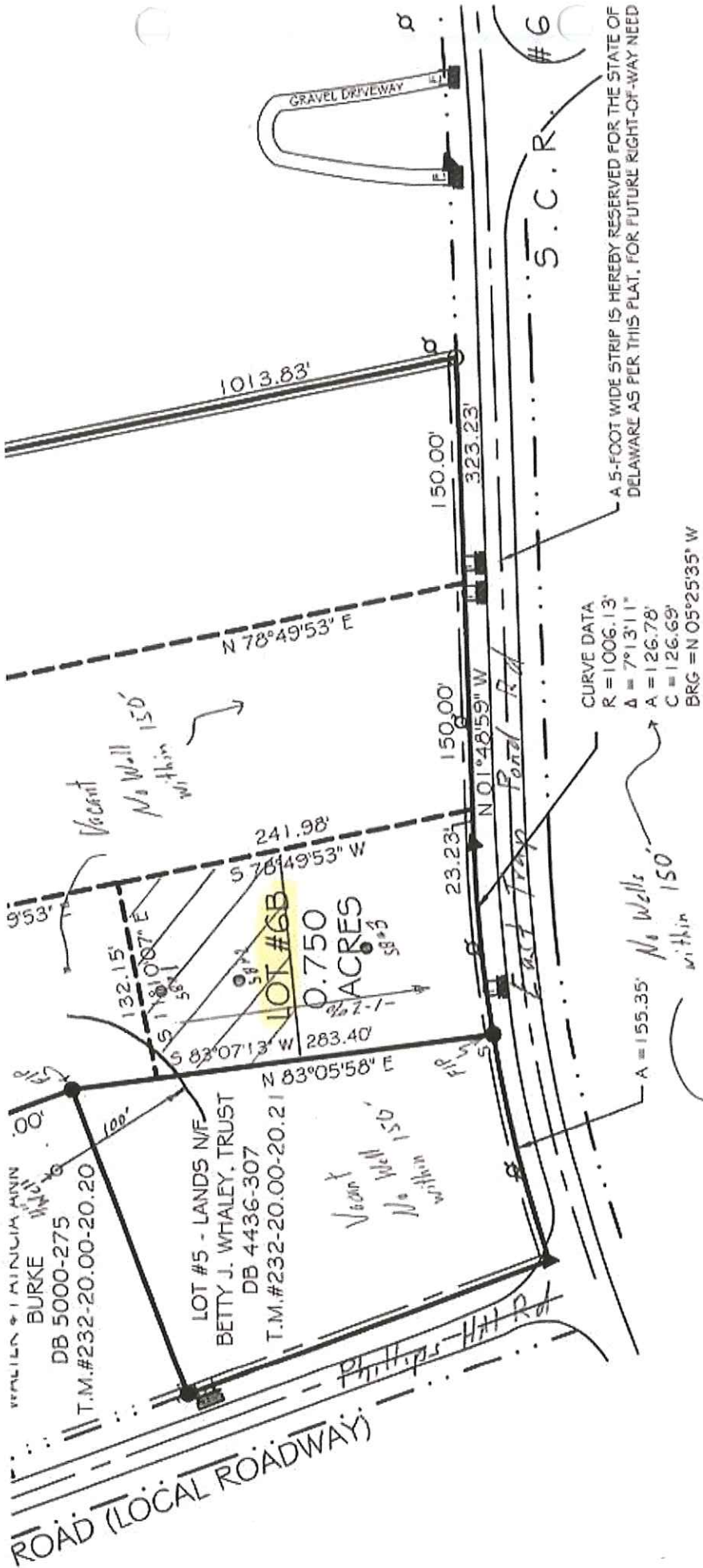
Report prepared by:

*J.C. Duke, Jr.*  
Joseph C. Duke, Jr., CPSS

Date of report: August 20, 2019

Class "D" License #: 4048

*Note: Information contained in this Site Evaluation Approval & Report and shown on the accompanying plot plan reflects current Delaware Department of Natural Resources and Environmental Control (DNREC) policies and procedures at the time of evaluation. Changes made to the property or to adjacent properties after the evaluation was conducted may preclude or modify wastewater disposal regardless of site evaluation approval. Data contained in this report may include information obtained from property owners, their agents, residents, adjacent residents, and departmental permits, when readily available. While this information is believed to be accurate, it does not guarantee a wastewater disposal permit and should not be construed as a survey. All information should be verified by interested parties prior to design and installation of the wastewater disposal system. Interpretations made in this evaluation are intended for siting and design of an on-site wastewater disposal system only and are not suitable for other uses. Unless this report has been reviewed and approved by DNREC, it constitutes only a technical opinion rendered and does not constitute an approval for siting or design of any wastewater disposal system on this site.*





561169



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Report prepared by: J.C. Duke, Jr. Date of report: August 20, 2019  
 Joseph C. Duke, Jr., CPSS Class "D" License #: 4048

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Field checked: \_\_\_\_\_ Expiration Date: 8/21/24  
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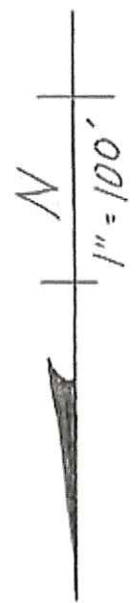
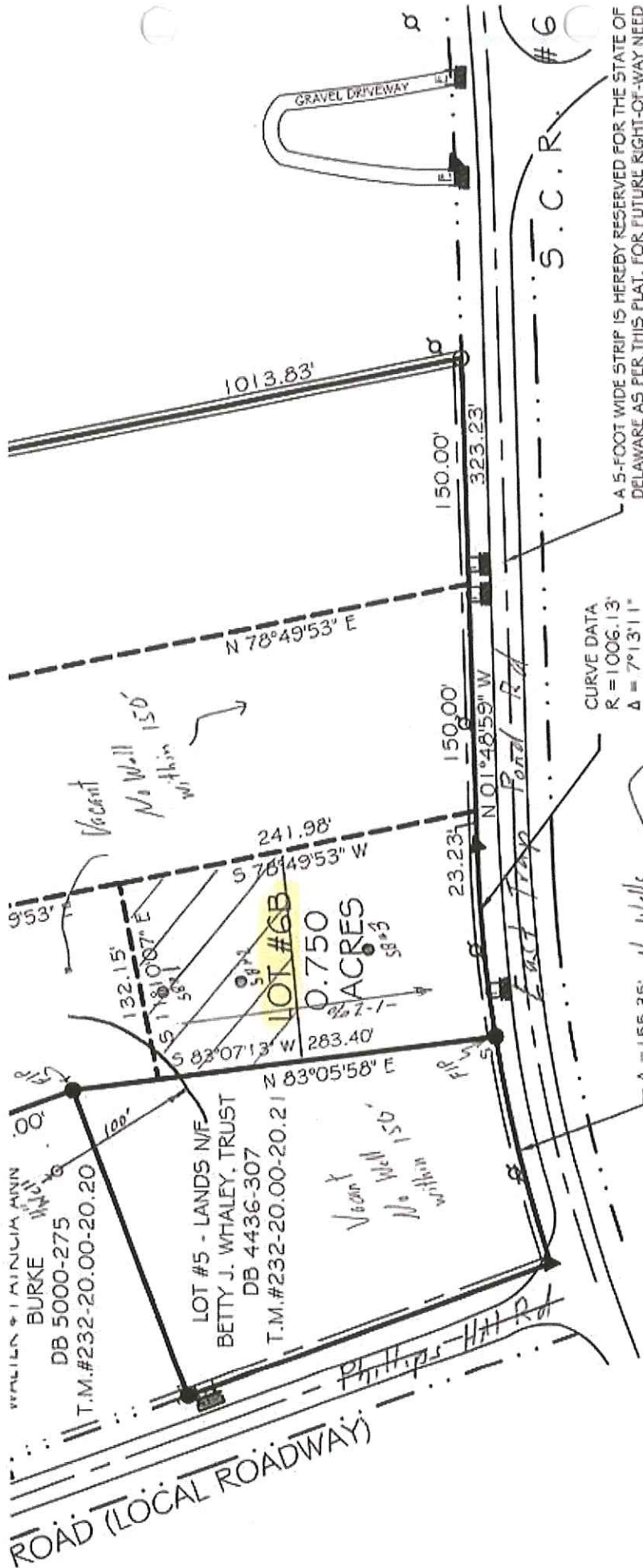
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SB #3	<20"	redox concentrations & depletions	discontinued
<b>Free Water:</b>	>60"		

**Summary of Evaluation:** This site evaluation was conducted to assess the soil's suitability for siting an OWTDS. The evaluated portion of this parcel occupies a nearly level to gently sloping landscape position of a broad interstream divide that was part of an agricultural field at the time of this evaluation. The evaluated soils in the vicinity of SBs #1 & #2 (hatched area) are moderately well drained and moderately permeable. The soils in this vicinity meet the current regulatory requirements for an LPP OWTDS. Soil borings were located in reference to the found iron pipes (FIP) that are depicted as reference points on the plot plan.

Report prepared by: Joseph C. Duke, Jr., CPSS

Date of report: August 20, 2019  
Class "D" License #: 4048

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A 5-FOOT WIDE STRIP IS HEREBY RESERVED FOR THE STATE OF DELAWARE AS PER THIS PLAT, FOR FUTURE RIGHT-OF-WAY NEED

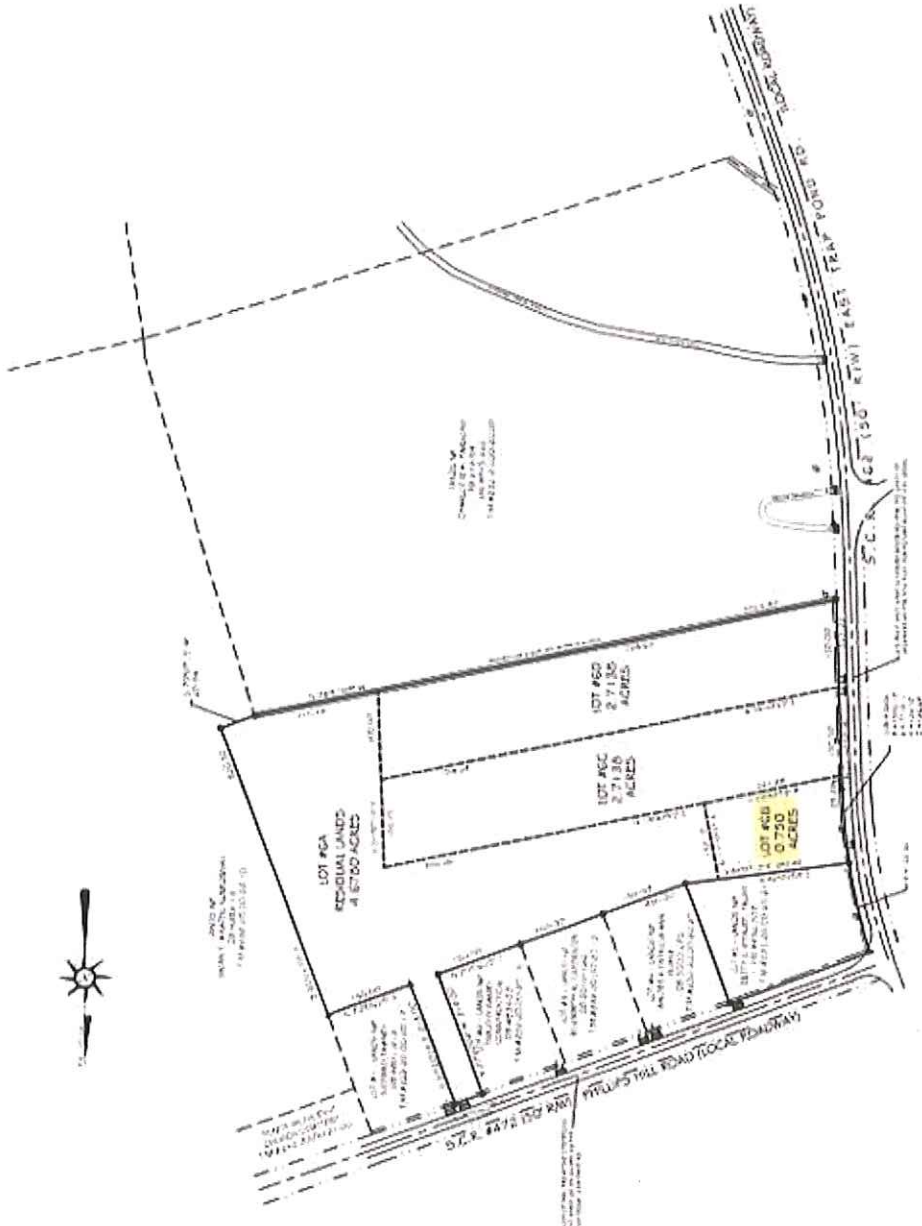


T.M. #232-115 00-20-22



**GENERAL NOTES:**

1. ALL LOTS ARE TO BE CONVEYED TO THE BUYER BY DEED.
2. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
3. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY UTILITIES AND SERVICES.
4. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE.
5. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY TITLE INSURANCE.
6. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING FEES.
7. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING TAXES.
8. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING COSTS.
9. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING CHARGES.
10. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING EXPENSES.



- LEGEND:**
- 1. ADJACENT PROPERTY
  - 2. EXISTING ROAD
  - 3. EXISTING UTILITY
  - 4. EXISTING EASEMENT
  - 5. EXISTING ENCUMBRANCE
  - 6. EXISTING CURB
  - 7. EXISTING SIDEWALK
  - 8. EXISTING DRIVE
  - 9. EXISTING FENCE
  - 10. EXISTING WALL
  - 11. EXISTING STRUCTURE
  - 12. EXISTING TREE
  - 13. EXISTING SHrub
  - 14. EXISTING SAND
  - 15. EXISTING GRAVEL
  - 16. EXISTING ASPHALT
  - 17. EXISTING CONCRETE
  - 18. EXISTING BRICK
  - 19. EXISTING STONE
  - 20. EXISTING MASONRY
  - 21. EXISTING METAL
  - 22. EXISTING WOOD
  - 23. EXISTING PLASTER
  - 24. EXISTING GYPSUM
  - 25. EXISTING LIME
  - 26. EXISTING CEMENT
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  - 28. EXISTING GRAVEL
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**SCALE:**

1" = 100'

1" = 200'

1" = 300'

1" = 400'

1" = 500'

1" = 600'

1" = 700'

1" = 800'

1" = 900'

1" = 1000'

1" = 1100'

1" = 1200'

1" = 1300'

1" = 1400'

1" = 1500'

1" = 1600'

1" = 1700'

1" = 1800'

1" = 1900'

1" = 2000'

1" = 2100'

1" = 2200'

1" = 2300'

1" = 2400'

1" = 2500'

1" = 2600'

1" = 2700'

1" = 2800'

1" = 2900'

1" = 3000'

1" = 3100'

1" = 3200'

1" = 3300'

1" = 3400'

1" = 3500'

1" = 3600'

1" = 3700'

1" = 3800'

1" = 3900'

1" = 4000'

1" = 4100'

1" = 4200'

1" = 4300'

1" = 4400'

1" = 4500'

1" = 4600'

1" = 4700'

1" = 4800'

1" = 4900'

1" = 5000'

**NOTES:**

1. ALL LOTS ARE TO BE CONVEYED TO THE BUYER BY DEED.

2. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

3. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY UTILITIES AND SERVICES.

4. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY INSURANCE.

5. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY TITLE INSURANCE.

6. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING FEES.

7. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING TAXES.

8. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING COSTS.

9. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING CHARGES.

10. THE BUYER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RECORDING EXPENSES.



Layers Search Basemaps Select Area

Print Help

Hide search results >>

### Search results

Clear Selected

Selected Features:

Parcels (1)

1) 232-20.00-20.22 Zoom

Book	4975
Page	269
Owner Name	MARSHALL NANCY L
Second Owner Name	GIDEON SISK III DAVID BARTEE
Mailing Address	31369 EAST TRAP POND RD
City	LAUREL
State	DE
Description	E/E TRAP POND RD

Selected Features (1)



PARID: 232-20.00-20.22  
MARSHALL NANCY L

ROLL: RP  
31243 E TRAP POND RD

### Property Information

Property Location:	31243 E TRAP POND RD
Unit:	
City:	LAUREL
State:	DE
Zip:	19956
Class:	AGR-Agriculture
Use Code (LUC):	AH-AG W/ HOMESITE
Town:	00-None
Tax District:	232 - BROAD CREEK
School District:	2 - LAUREL
Council District:	1-Vincent
Fire District:	79-Gumboro
Deeded Acres:	10.8600
Frontage:	0
Depth:	.000
Irr Lot:	
Zoning 1:	AR-1-AGRICULTURAL/RESIDEINTIAL
Zoning 2:	-
Plot Book Page:	272 54/PB
100% Land Value:	\$3,000
100% Improvement Value:	\$0
100% Total Value:	\$3,000

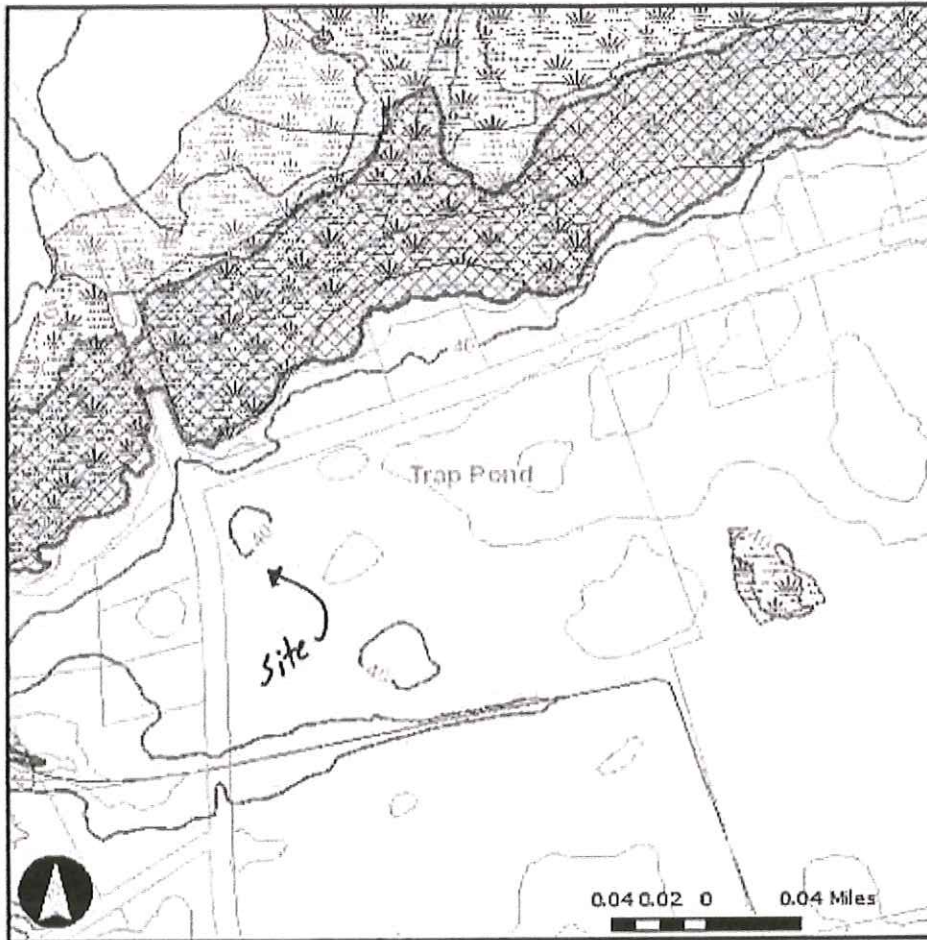
### Legal

Legal Description	E/E TRAP POND RD 155.53 S/ PHILLIPS HILL RD LOT 6
-------------------	---

### Owners

Owner	Co-owner	Address	City	State	Zip
MARSHALL NANCY L	GIDEON SISK III DAVID BARTEE	31369 EAST TRAP POND RD	LAUREL	DE	19956

# Map



**Watersheds**

- Elevation Sussex
- INDEX
- INDEX-DEPRESSION
- INTER
- INTER-DEPRESSION
- Tax Ditch Maximum ROWs
- Extent of Right-of-Way
- FEMA Flood Maps
- X 500
- A
- AE
- AO
- VE

**State Wetlands 2007**

- Agriculture
- Estuarine Non-Vegetated
- Estuarine Vegetated
- Lacustrine
- Marine Non-vegetated
- Palustrine Emergent
- Palustrine Forested
- Palustrine Forested Deciduous
- Palustrine Forested Evergreen
- Palustrine Open Water/ Flats
- Palustrine Open Water/Flats

**State Wetlands 2007 (continued)**

- Palustrine Scrub/Shrub
- Palustrine Scrub/shrub
- Palustrine Tidal Emergent
- Palustrine Tidal Forested
- Palustrine Tidal Forested
- Palustrine Tidal Scrub/Shrub
- Riverine Non-vegetated
- Riverine Vegetated

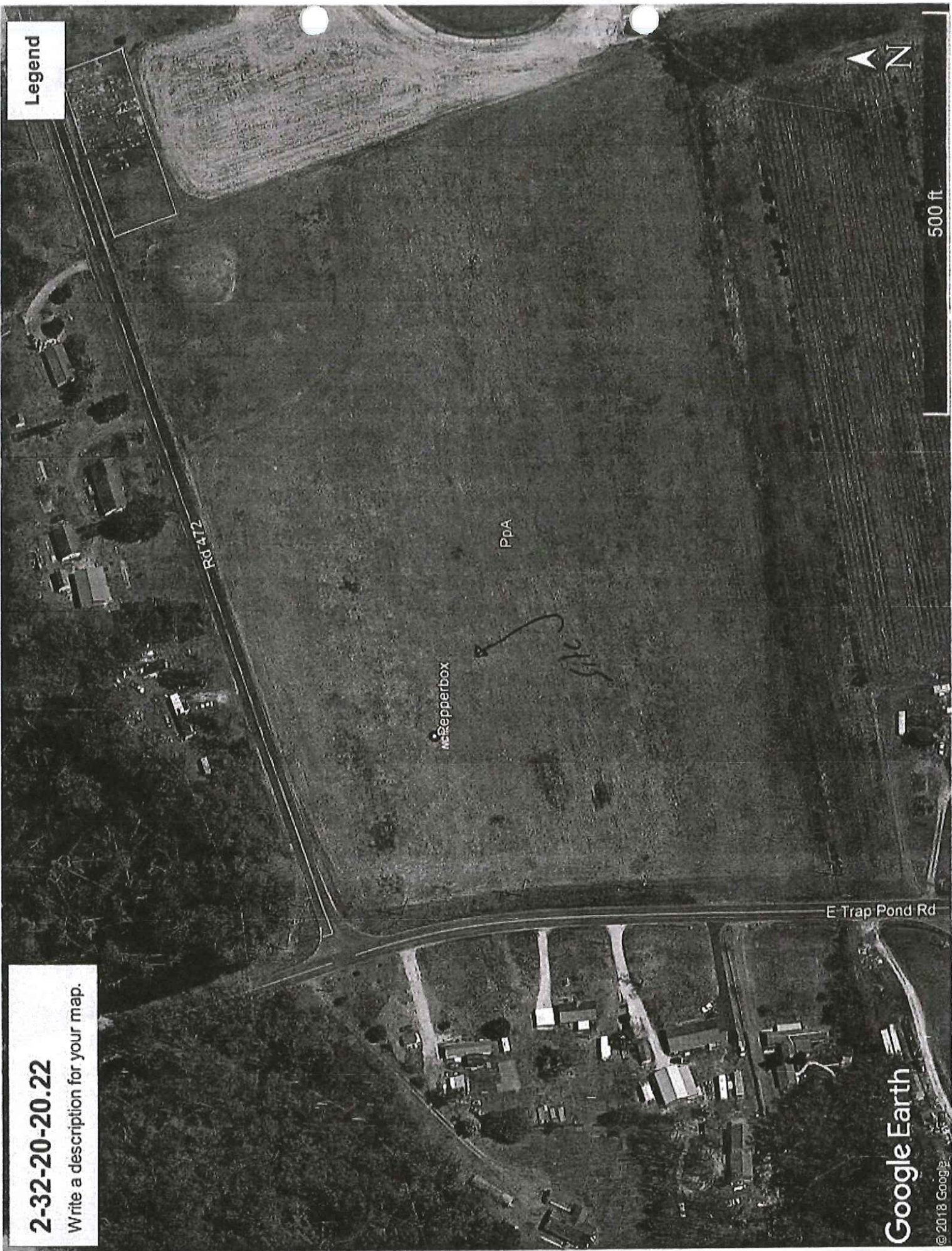
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Write a description for your map.

Legend

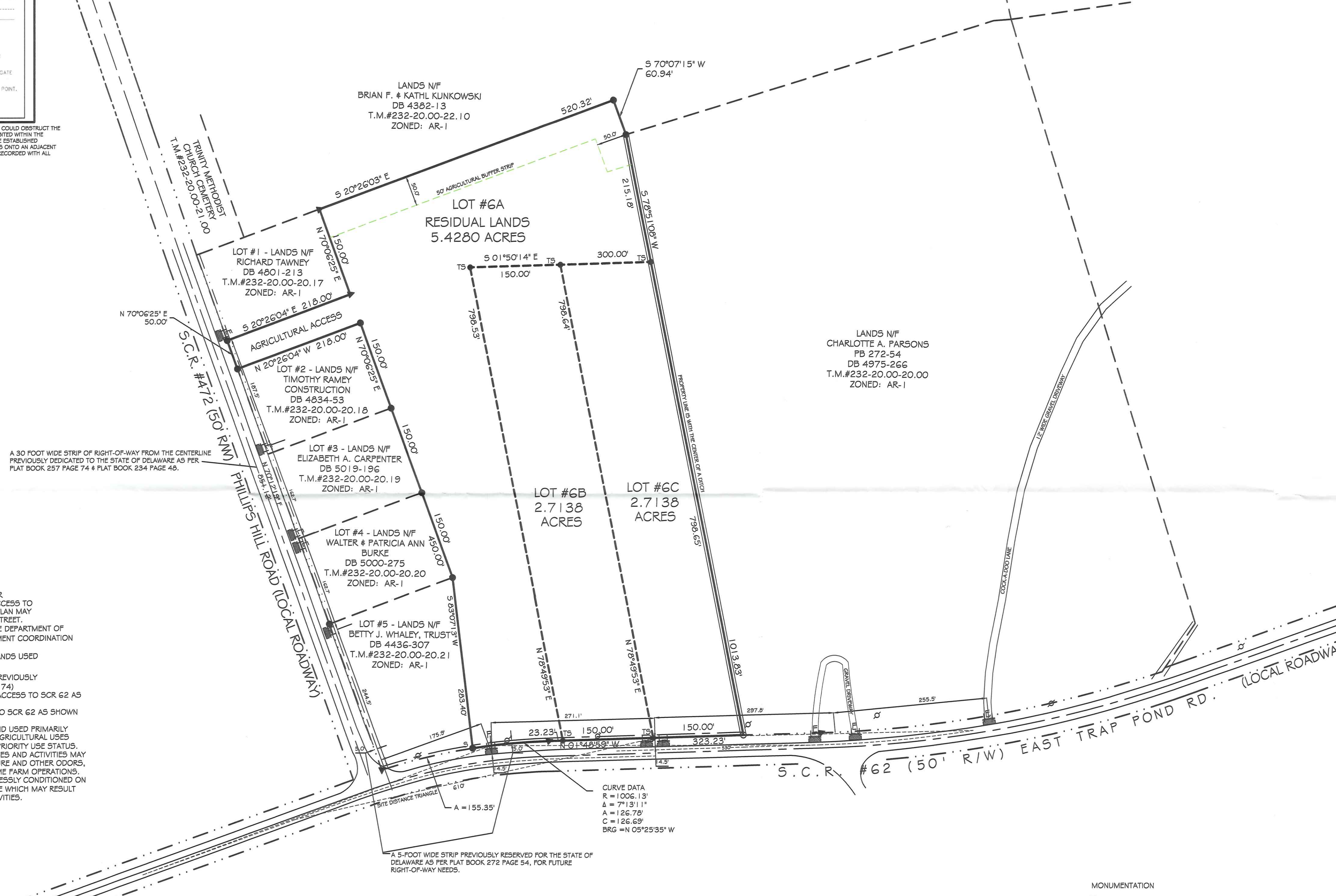
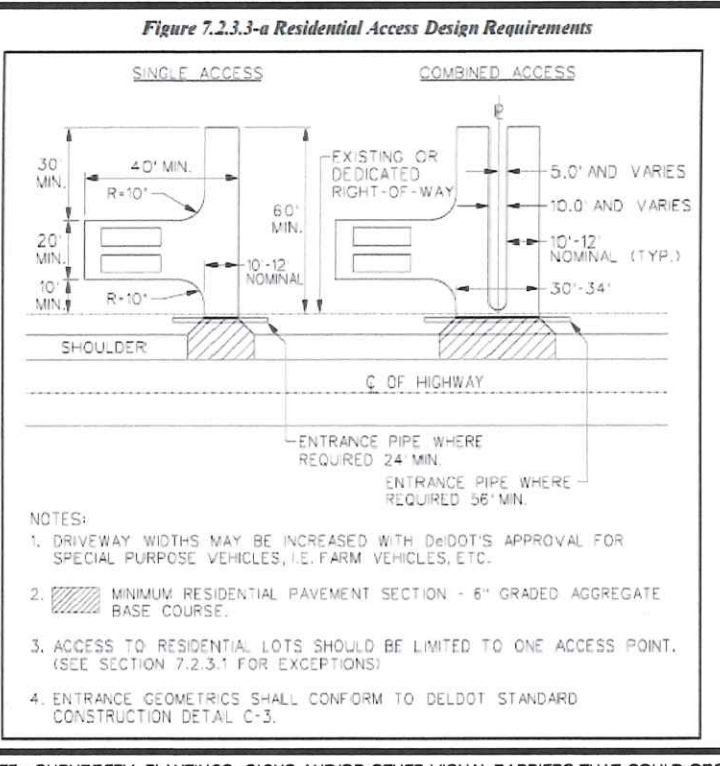
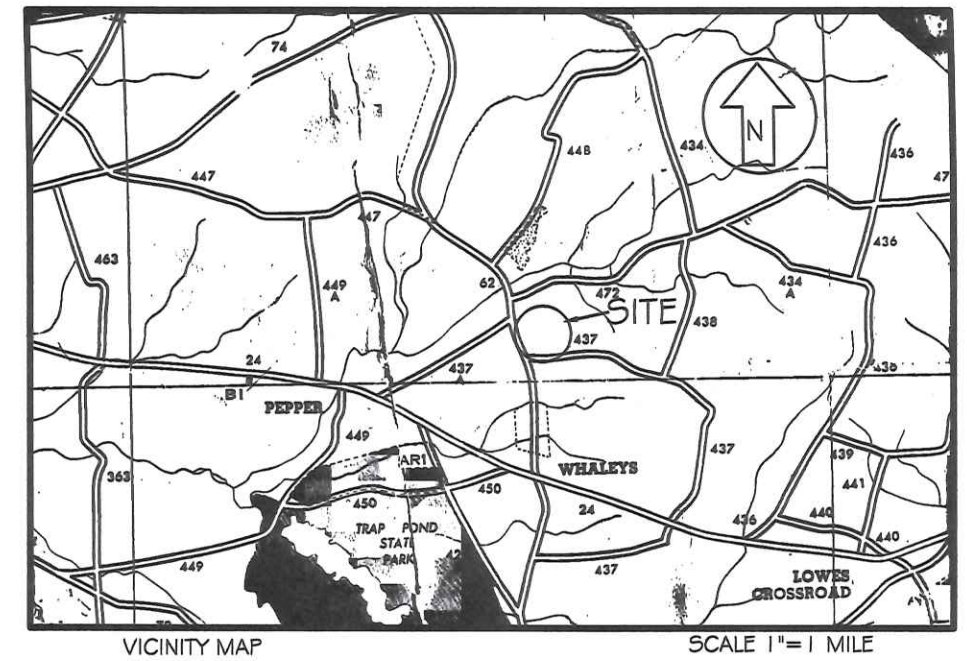


Google Earth

© 2018 Google

500 ft



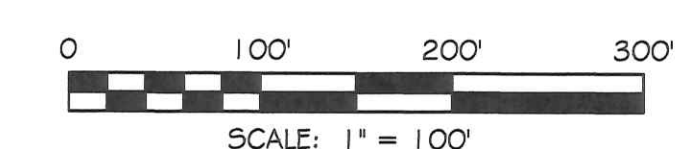
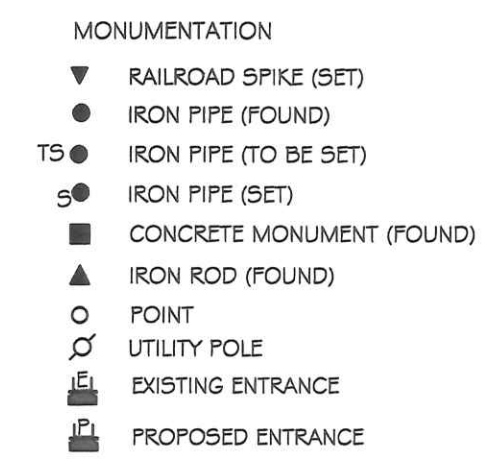
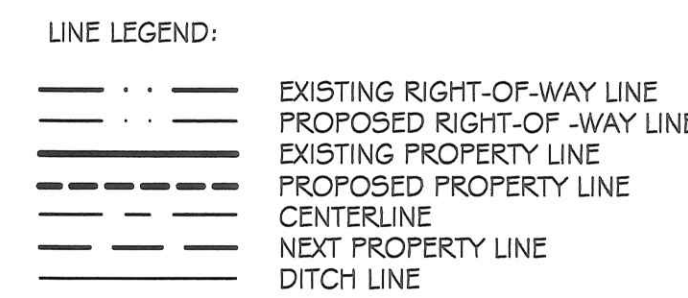


NOTE: SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNERS LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.

A 30 FOOT WIDE STRIP OF RIGHT-OF-WAY FROM THE CENTERLINE PREVIOUSLY DEDICATED TO THE STATE OF DELAWARE AS PER PLAT BOOK 257 PAGE 74 & PLAT BOOK 234 PAGE 48.

NOTES:  
 1. IF THE RESIDUAL LANDS OF THE APPLICANT ARE EVER DEVELOPED INTO A MAJOR SUBDIVISION, THEN THE ACCESS TO THE PARCELS CREATED BY THIS MINOR SUBDIVISION PLAN MAY BE REVISED TO BE FROM AN INTERNAL SUBDIVISION STREET.  
 2. ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DEL.D.O.T.'S) CURRENT DEVELOPMENT COORDINATION MANUAL AND SHALL BE SUBJECT TO ITS APPROVAL.  
 3. THERE IS A FIFTY FOOT BUILDING SETBACK FROM LANDS USED FOR AGRICULTURAL PURPOSES.  
 4. THE ENTRANCES SHOWN ON LOTS 2, 3 & 4 WERE PREVIOUSLY APPROVED BY DEL. D.O.T. (SEE PLAT BOOK 257 PAGE 74)  
 5. LOT 6A (RESIDUAL LANDS) SHALL HAVE A SINGLE ACCESS TO SCR 62 AS SHOWN ON THIS PLAT.  
 6. LOTS 6B & 6C SHALL HAVE A COMBINED ACCESS TO SCR 62 AS SHOWN ON THIS PLAT.  
 7. THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES ON WHICH NORMAL AGRICULTURAL USES AND ACTIVITIES HAVE BEEN AFFORDED THE HIGHEST PRIORITY USE STATUS. IT CAN BE ANTICIPATED THAT SUCH AGRICULTURAL USES AND ACTIVITIES MAY NOW OR IN THE FUTURE INVOLVE NOISE, DUST, MANURE AND OTHER ODOORS, THE USE OF AGRICULTURAL CHEMICALS AND NIGHTTIME FARM OPERATIONS. THE USE AND ENJOYMENT OF THIS PROPERTY IS EXPRESSLY CONDITIONED ON ACCEPTANCE OF ANY ANNOYANCE OR INCONVENIENCE WHICH MAY RESULT FROM SUCH NORMAL AGRICULTURAL USES AND ACTIVITIES.

A 5-FOOT WIDE STRIP PREVIOUSLY RESERVED FOR THE STATE OF DELAWARE AS PER PLAT BOOK 272 PAGE 54, FOR FUTURE RIGHT-OF-WAY NEEDS.



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

SURVEY CLASS: SUBURBAN

DATA COLUMN:

T.M.#232-20.00-20.22  
 ZONING: AR-1  
 TRACT AREA: 10.855 ACRES (INCLUDING RESIDUAL AREA)  
 EXISTING LOTS: 1  
 PROPOSED LOTS: 3 TOTAL INCLUDING RESIDUAL LANDS  
 PRESENT USE: AGRICULTURAL  
 PROPOSED USE: AGRICULTURAL/RESIDENTIAL  
 ACCESS: S.C.R. 472 (PHILLIPS HILL RD.)  
 ACCESS: S.C.R. 62 (EAST TRAP POND RD.)  
 ROADWAY CLASSIFICATION: LOCAL ROADWAYS  
 WATER AND SEWER: INDIVIDUAL ON-SITE  
 100 YEAR FLOODPLAIN: SITE IS NOT IMPACTED  
 AS PER FIRM #10005C0440K DATED 3/16/15  
 THIS PROJECT IS NOT IN THE PROXIMITY OF A TID  
 SPEED LIMIT ON PHILLIPS HILL RD. IS 50MPH (UNPOSTED)  
 SPEED LIMIT ON EAST TRAP POND RD. IS 50MPH (UNPOSTED)

FIRE MARSHAL NOTES:

1. ALL FIRE LANES, FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTION SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS.
2. MAXIMUM HEIGHT: 3 STORIES NOT TO EXCEED 42'
3. A SINGLE FAMILY DWELLING IS PROPOSED.
4. BUILDING CONSTRUCTION TYPE: NFFA TYPE V WOOD FRAME.
5. AUTOMATIC FIRE SPRINKLERS ARE NOT PROPOSED FOR THIS STRUCTURE.

WE, THE UNDERSIGNED, HEREBY CERTIFY TO THE OWNERSHIP OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT OUR DIRECTION, AND THAT WE ACKNOWLEDGE THE SAME TO BE OUR ACT AND THAT WE DESIRE THE PLAN TO BE RECORDED ACCORDING TO LAW.  
 WE CERTIFY THAT TITLE 17, SECTION 530 IS APPLICABLE TO THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN FOR VIRTUE OF: (CHECK APPLICABLE SECTION)  
 THE PARCEL IS SUBDIVIDED INTO NO MORE THAN 2 PARCELS WHICH WILL BE CONTINUED TO BE USED AS A FARM OR FARMLAND, OR  
 THE SUBDIVIDED PARCEL OR PARCELS WILL BE TRANSFERRED TO A FAMILY MEMBER OR MEMBERS FOR PURPOSES OF USE AS A FAMILY MEMBER OR MEMBERS' PRINCIPAL RESIDENCE OR FARMLAND.

OWNER SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
 OWNER SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
 OWNER SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

SUSSEX COUNTY APPROVALS  
 SUSSEX COUNTY COUNCIL  
 TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
 PLANNING AND ZONING  
 TITLE \_\_\_\_\_ DATE \_\_\_\_\_

THIS PLAT SUPERSEDES IN PART THE PLAT RECORDED IN PLOT BOOK 272 PAGE 54. MAJOR SUBDIVISION PLAN FOR

**NANCY L. MARSHALL, GIDEON SISK, III & DAVID BARTEE**

AGENT: NANCY L. MARSHALL  
 31369 E. TRAP POND ROAD  
 LAUREL, DE. 19956

**MILNER LEWIS, INC.**  
 LAND SURVEYING  
 1560 MIDDLEFORD RD.  
 SEAFORD, DELAWARE 19973  
 PH: 302-629-9895 FAX: 302-629-2391

HUNDRED	COUNTY
BROAD CREEK	SUSSEX
STATE	DRAWN BY
DELAWARE	D. A. MORRIS
REF.	FILE
DB 4436-307	BARTEE 3-32-20-20.dwg

DATE	REVISION
11/08/2019	S.C.P.#Z. COMMENTS ADDRESSED

I, DONALD K. MILLER 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.  
 DONALD K. MILLER, PLS 407 \_\_\_\_\_ DATE \_\_\_\_\_

**PLANNING & ZONING COMMISSION**

ROBERT C. WHEATLEY, CHAIRMAN  
KIM HOEY STEVENSON, VICE-CHAIRMAN  
R. KELLER HOPKINS  
J. BRUCE MEARS  
HOLLY J. WINGATE



**Sussex County**

DELAWARE  
sussexcountyde.gov  
302-855-7878 T  
302-854-5079 F  
JANELLE CORNWELL, AICP  
DIRECTOR

**PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET**  
Planning Commission Public Hearing Date November 21, 2019

Application: (2019-22) Lands of Elmer T. Adkins, Sr. Trustee

Applicant: Brandon Speake  
14932 Josephs Road  
Seaford, DE 19973

Owner: Elmer T. Adkins, Sr.  
15022 Josephs Road  
Seaford, DE 19973

Site Location: On the south side of Josephs Road (S.C.R. 473), north of Concord Road (Route 20).

Current Zoning: Agricultural Residential (AR-1)

Proposed Use: 1 Single-Family Lot (plus residual lands)

Comprehensive Land Use Plan Reference: Low Density Areas

Councilmatic District: Mr. Vincent

School District: Seaford School District

Fire District: Blades Fire District

Sewer: Private (Individual)

Water: Private (Individual)

Site Area: 9.00 +/- acres

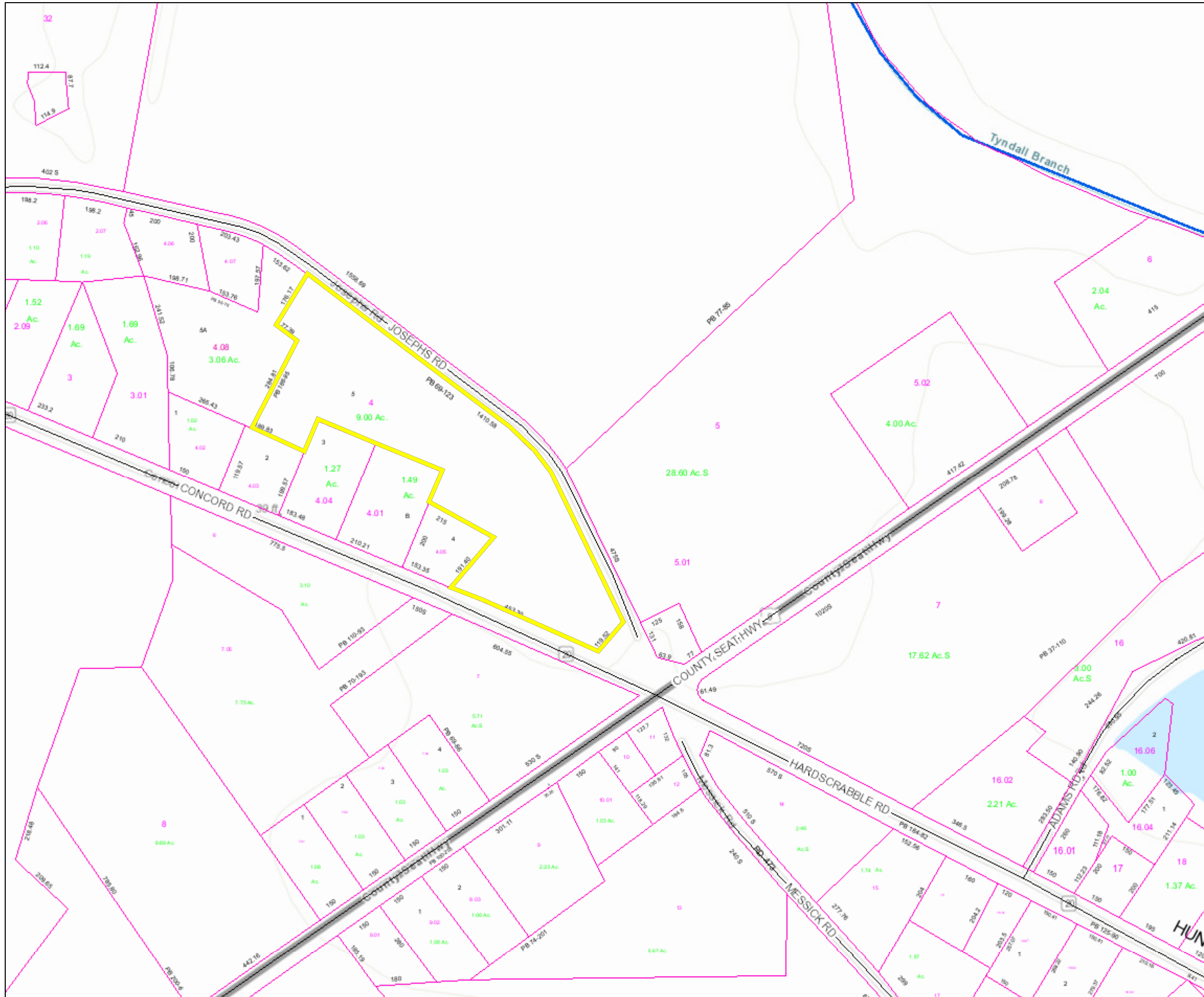
Tax Map ID.: 231-21.00-4.00 (a portion of)







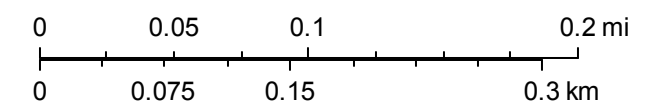
# Sussex County



<b>PIN:</b>	231-21.00-4.00
<b>Owner Name</b>	ATKINS ELMER T SR TRUSTEE
<b>Book</b>	2699
<b>Mailing Address</b>	15022 JOSEPHS RD
<b>City</b>	SEAFORD
<b>State</b>	DE
<b>Description</b>	SW/RD 473 APPROX
<b>Description 2</b>	1849'E/RT 20
<b>Description 3</b>	LOT 5
<b>Land Code</b>	

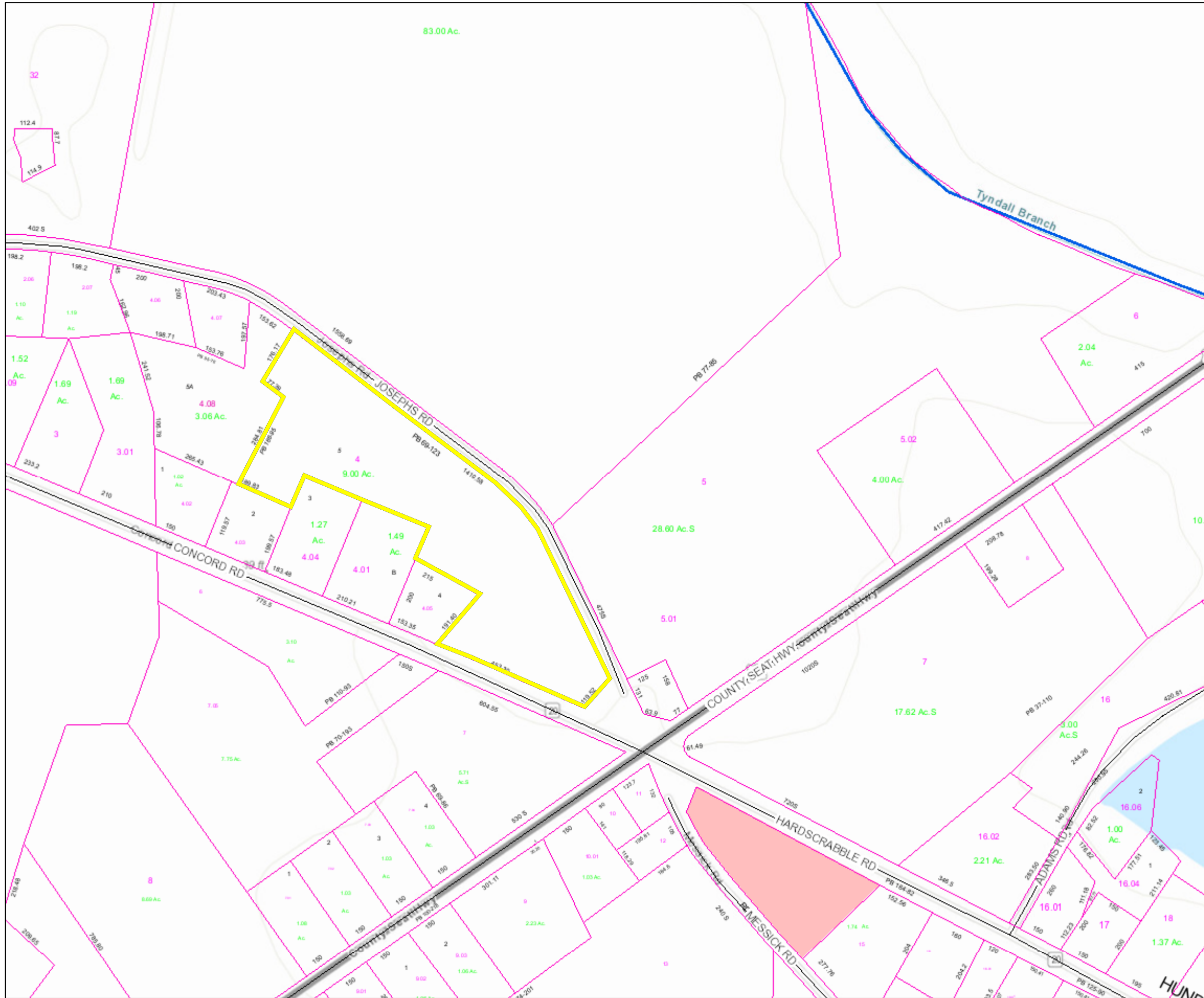
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Override 1
- polygonLayer**  
Override 1
- Tax Parcels
- Streets
- County Boundaries
- DOE School Districts

1:4,514







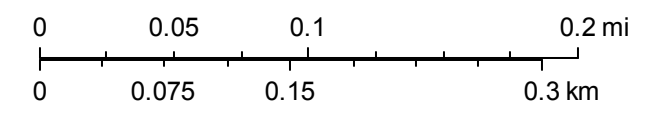
# Sussex County



<b>PIN:</b>	231-21.00-4.00
<b>Owner Name</b>	ATKINS ELMER T SR TRUSTEE
<b>Book</b>	2699
<b>Mailing Address</b>	15022 JOSEPHS RD
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<b>Description</b>	SW/RD 473 APPROX
<b>Description 2</b>	1849'E/RT 20
<b>Description 3</b>	LOT 5
<b>Land Code</b>	

- polygonLayer**
- Override 1
- polygonLayer**
- Override 1
-  Tax Parcels
-  Streets

1:4,514





File #: 2019-22  
201910085

### Sussex Coutny Major Subdivision Application

#### Sussex County, Delaware

Sussex County Planning & Zoning Department  
2 The Circle (P.O. Box 417) Georgetown, DE 19947  
302-855-7878 ph. 302-854-5079 fax

**Type of Application: (please check applicable)**

Standard:   
Cluster:   
ESDDOZ:

**Location of Subdivision:**

Josephs Rd., Seaford, DE. 19973

**Proposed Name of Subdivision:**

Elmer T. Adkins, Sr., Trustee

Tax Map #: 2-31-21-4 part Total Acreage: 9.000 acres

Zoning: AR-1 Density: 1222/ Minimum Lot Size: 2.63ac Number of Lots: 2  
lots/acre

Open Space Acres: n/a

Water Provider: private Sewer Provider: private

**Applicant Information**

Applicant Name: Brandon Speake  
Applicant Address: 14932 Josephs Rd  
City: Seaford State: DE Zip Code: 19973  
Phone #: 443-521-0476 E-mail: bspeake89@icloud.com

**Owner Information**

Owner Name: Elmer T. Adkins, Sr.  
Owner Address: 15022 Josephs Rd  
City: Seaford State: DE Zip Code: 19973  
Phone #: 443-521-0476 E-mail: bspeake89@icloud.com  
(Brandon)

**Agent/Attorney/Engineer Information**

Agent/Attorney/Engineer Name: Donald K. Miller  
Agent/Attorney/Engineer Address: 1560 Middleford Rd  
City: Seaford State: DE Zip Code: 19973  
Phone #: 302-629-9895 E-mail: donmiller@millerlewisinc.com



# Check List for Sussex County Major Subdivision Applications

The following shall be submitted with the application

- Completed Application
- Provide fifteen (15) copies of the Site Plan or Survey of the property and a PDF (via e-mail)
  - o Plan shall show the existing conditions, setbacks, roads, floodplain, wetlands, topography, proposed lots, landscape plan, etc. Per Subdivision Code 99-22, 99-23 & 99-24
  - o Provide compliance with Section 99-9.
  - o Deed or Legal description, copy of proposed deed restrictions, soil feasibility study
- Provide Fee \$500.00
- Optional - Additional information for the Commission to consider (ex. photos, exhibit books, etc.) if provided submit seven (7) copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.
- Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.
- N/A PLUS Response Letter (if required)
- N/A 51% of property owners consent if applicable

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

### Signature of Applicant/Agent/Attorney

\_\_\_\_\_ Date: \_\_\_\_\_

### X Signature of Owner

Elmer Y Atkins Date: 8/30/19

### For office use only:

Date Submitted: 9/3/19 Fee: \$500.00 Check #: 1112  
Staff accepting application: CFH Application & Case #: 201910095  
Location of property: \_\_\_\_\_

Date of PC Hearing: \_\_\_\_\_ Recommendation of PC Commission: \_\_\_\_\_

**SUSSEX COUNTY ENGINEERING DEPARTMENT**  
**UTILITY PLANNING DIVISION**  
**C/U & C/Z COMMENTS**

TO: **Janelle Cornwell**

REVIEWER: **Chris Calio**

DATE: **11/5/2019**

APPLICATION: **2019-22 Lands of Elmer T. Adkins, Sr. Trustee**

APPLICANT: **Brandon Speake**

FILE NO: **WSPA-5.02**

TAX MAP &  
PARCEL(S): **231-21.00-4.00 (a portion of)**

LOCATION: **On the south side of Joseph's Road (SCR 473), north of  
Concord Road (Route 20)**

NO. OF UNITS: **1 single-family lot plus residual lands**

GROSS  
ACREAGE: **9.00+/-**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

**SEWER:**

- (1). Is the project in a County operated and maintained sanitary sewer and/or water district?  
Yes  No
- a. If yes, see question (2).  
b. If no, see question (7).
- (2). Which County Tier Area is project in? **Tier 4**
- (3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.
- (4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **N/A** If yes, the current System Connection Charge Rate is **Click or tap to enter a fee** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

- (6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **No**
- Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.
- (7). Is project adjacent to the Unified Sewer District? **No**
- (8). Comments: **The proposed subdivision is not in an area where the Sussex County Engineering Department has a schedule to provide sanitary sewer service.**
- (9). Is a Sewer System Concept Evaluation required? **No**
- (10). Is a Use of Existing Infrastructure Agreement Required? **No**

UTILITY PLANNING APPROVAL:



John J. Ashman  
Director of Utility Planning

Xc: Hans M. Medlarz, P.E.  
Jayne Dickerson  
No Permit Tech Assigned

MILLER  
LEWIS, INC. LAND SURVEYING

1560 MIDDLEFORD RD.  
PH: 302-629-9895

• SEAFORD, DE. 19973  
FAX: 302-629-2391

August 27, 2019

Ms. Janelle Cornwell, Director  
Sussex County Dept. of Planning & Zoning  
P. O. Box 589  
Georgetown, DE. 19947

RE: Elmer T. Adkins, Sr., Trustee  
T.M.#2-31-21.00-4.00 part

Dear Ms. Cornwell,

We hereby request a waiver for the 30' buffer requirement for the major subdivision application attached.

If you have any questions or concerns please contact me at (302) 629-9895 or [dottiemorris@millerlewisinc.com](mailto:dottiemorris@millerlewisinc.com).

Sincerely,

*Dottie A. Morris, CST III*

Dottie A. Morris, CST III

enclosure



**MILNER**  
**LEWIS, INC. LAND SURVEYING**

1560 MIDDLEFORD RD.

• SEAFORD, DE. 19973

August 27, 2019

Sussex County Planning and Zoning Commission  
2 The Circle  
P. O. Box 589  
Georgetown, DE. 19947

RE: ELMER T. ADKINS, SR., MINOR SUBDIVISION  
T.M.#231-21.00-4.00PART

Dear Janelle,

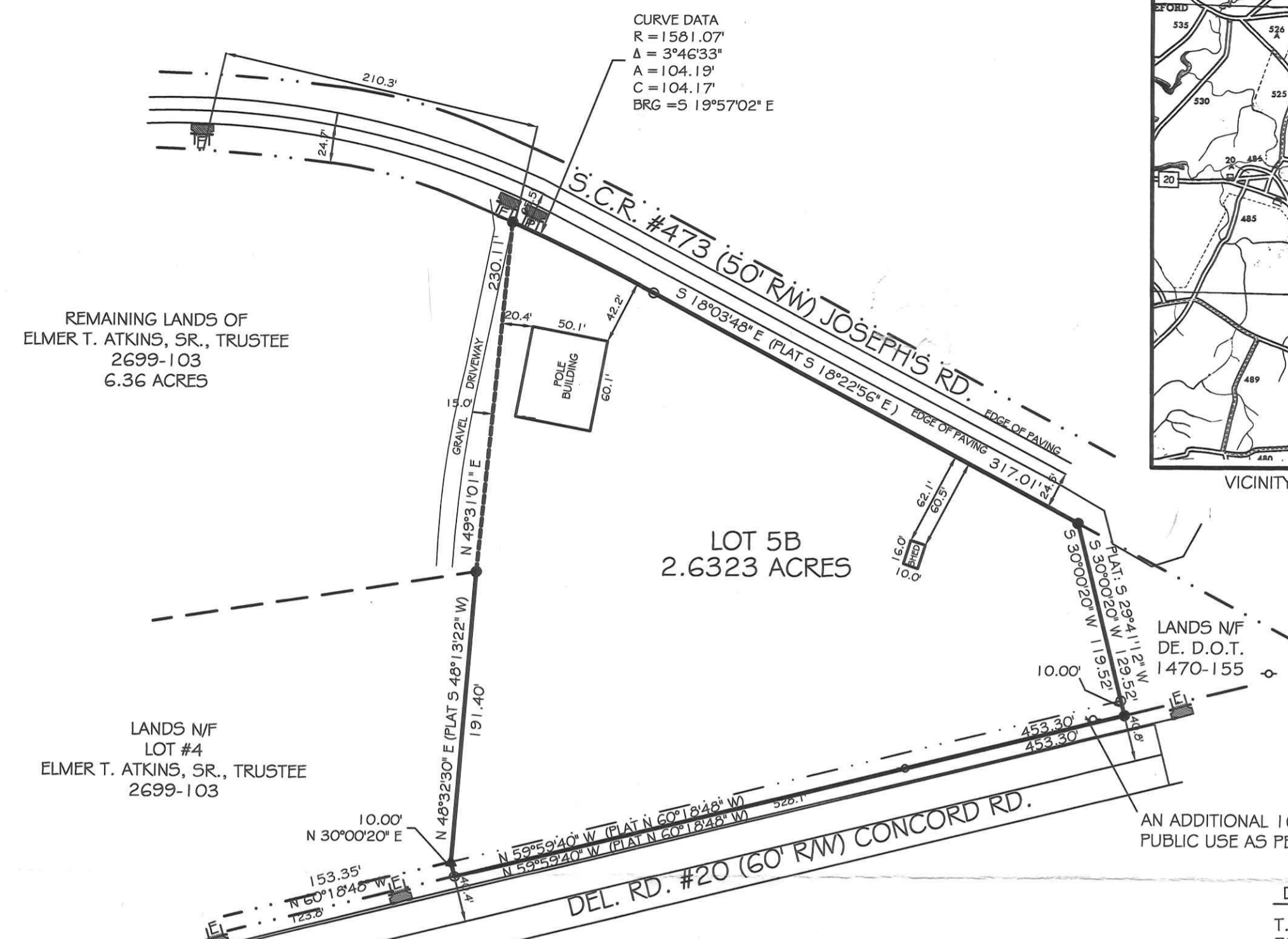
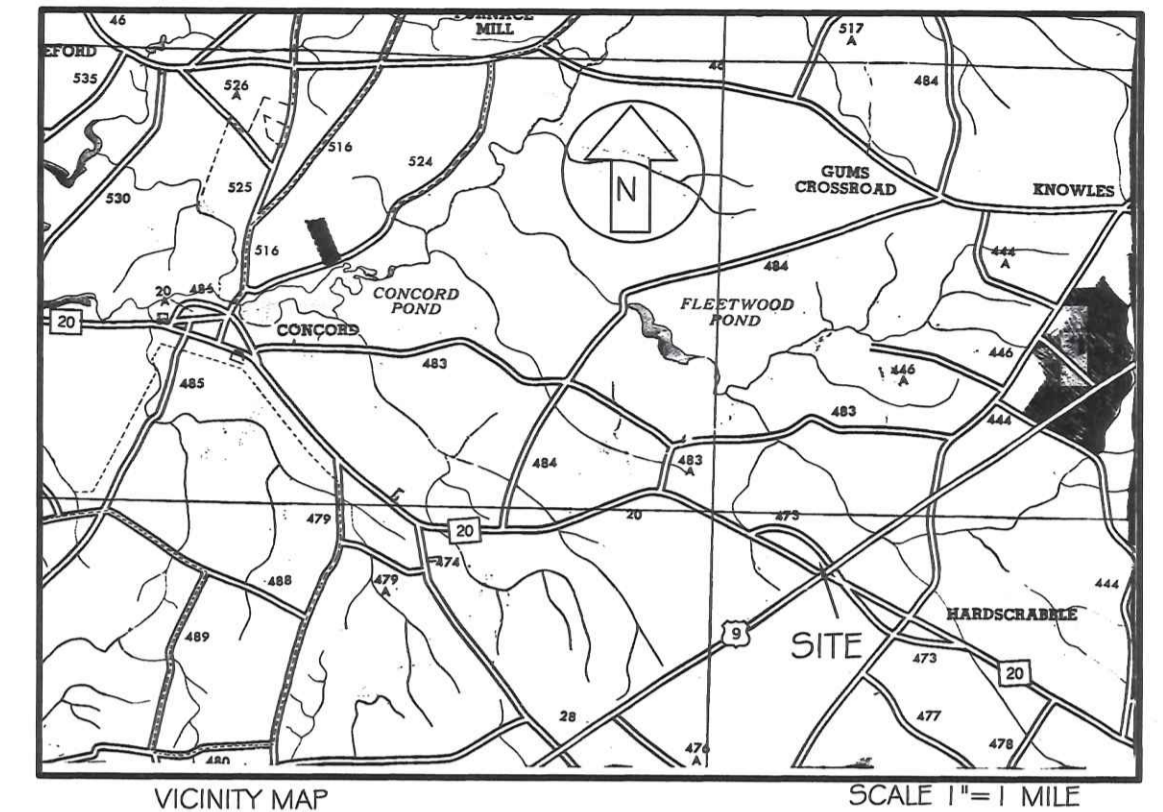
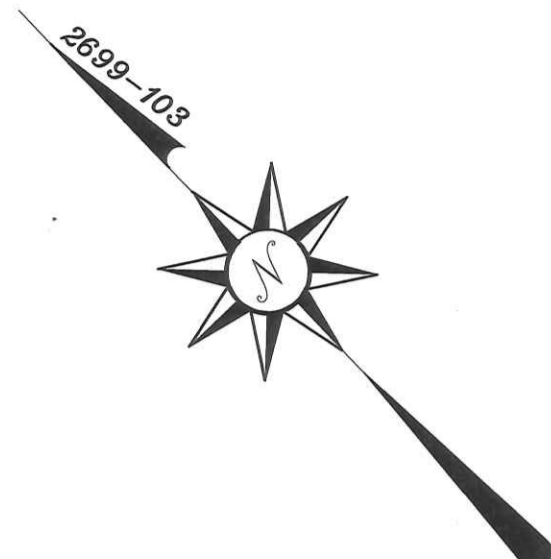
The subject minor subdivision will be submitted for public hearing application soon. On behalf of the applicant we respectfully request a waiver of the topographic survey requirement due to the minimal number and size of the lots.

Please feel free to call or email with any questions you may have.

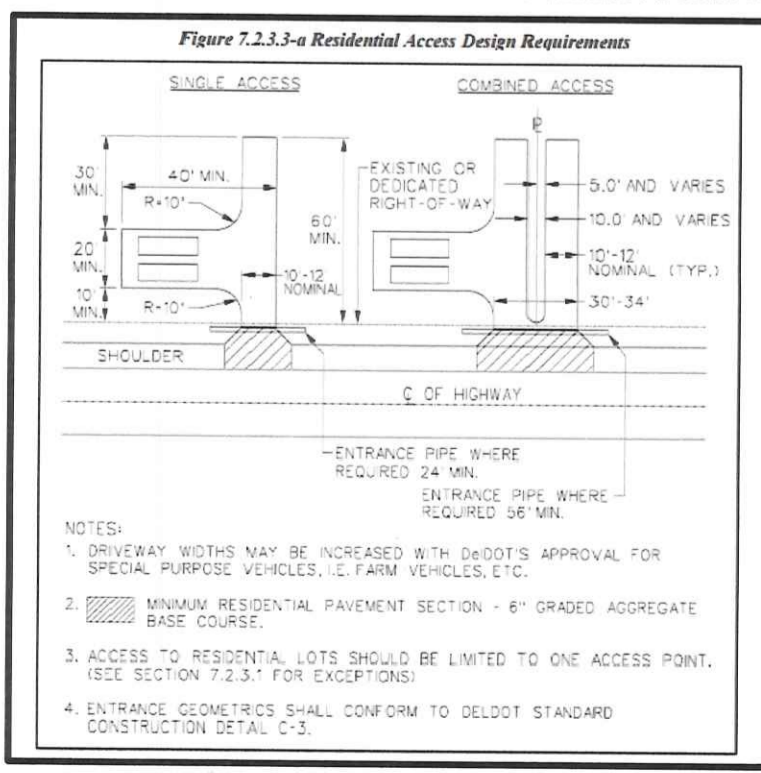
Sincerely,

*Dottie A. Morris, CST III*

Dottie A. Morris, CST III



- NOTES:**
- IF THE RESIDUAL LANDS OF THE APPLICANT ARE EVER DEVELOPED INTO A MAJOR SUBDIVISION, THEN THE ACCESS TO THE PARCELS CREATED BY THIS MINOR SUBDIVISION PLAN MAY BE REQUIRED TO BE FROM AN INTERNAL SUBDIVISION STREET.
  - ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DEL.D.O.T.'S) CURRENT DEVELOPMENT COORDINATION MANUAL AND SHALL BE SUBJECT TO ITS APPROVAL.
  - THERE IS A FIFTY FOOT BUILDING SETBACK FROM LANDS USED FOR AGRICULTURAL PURPOSES.
  - LOT 5B SHALL HAVE A COMBINED ACCESS TO SCR 473 AS SHOWN ON THIS PLAT.
  - THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES ON WHICH NORMAL AGRICULTURAL USES AND ACTIVITIES HAVE BEEN AFFORDED THE HIGHEST PRIORITY USE STATUS. IT CAN BE ANTICIPATED THAT SUCH AGRICULTURAL USES AND ACTIVITIES MAY NOW OR IN THE FUTURE INVOLVE NOISE, DUST, MANURE AND OTHER ODORS, THE USE AND ENJOYMENT OF THIS PROPERTY IS EXPRESSLY CONDITIONED ON ACCEPTANCE OF ANY ANNOYANCE OR INCONVENIENCE WHICH MAY RESULT FROM SUCH NORMAL AGRICULTURAL USES AND ACTIVITIES.



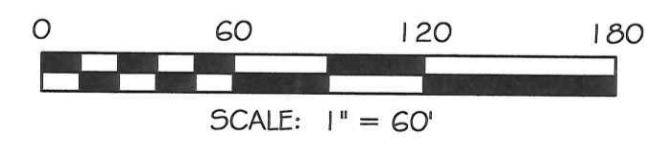
I, DONALD K. MILLER REGISTERED AS A PROFESSIONAL LAND SURVEYOR IN THE STATE OF DELAWARE, HEREBY STATE THAT THE INFORMATION SHOWN ON THIS PLAN HAS BEEN PREPARED UNDER MY SUPERVISION AND MEETS THE STANDARDS OF PRACTICE AS ESTABLISHED BY THE STATE OF DELAWARE BOARD OF PROFESSIONAL LAND SURVEYORS. ANY CHANGES 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.

\_\_\_\_\_  
DONALD K. MILLER, PLS 407

\_\_\_\_\_  
DATE

- LEGEND:**
- ▲ IRON ROD (FOUND)
  - IRON PIPE (FOUND)
  - IRON PIPE (TO BE SET)
  - POINT
  - ⌋ EXISTING ENTRANCE
  - ⌋ PROPOSED ENTRANCE

- EXISTING RIGHT-OF-WAY LINE
- - - PROPOSED RIGHT-OF-WAY LINE
- PROPERTY LINE
- CENTERLINE
- NEXT PROPERTY LINE
- PROPOSED PROPERTY LINE



DATE	REVISION

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

**DATA COLUMN:**

T.M.#231-21.00-4.00part  
 ZONING: AR-1  
 TRACT AREA: 9.000 ACRES± (INCLUDING RESIDUAL AREA)  
 EXISTING LOTS: 1  
 PROPOSED LOTS: 1 NEW (2 TOTAL INCLUDING RESIDUAL LANDS)  
 PRESENT USE: RESIDENTIAL  
 PROPOSED USE: RESIDENTIAL  
 ACCESS: S.C.R. 473 (JOSEPHS RD.)  
 ROADWAY CLASSIFICATION: LOCAL ROADWAY  
 WATER AND SEWER: INDIVIDUAL ON-SITE  
 100 YEAR FLOODPLAIN: SITE IS NOT IMPACTED  
 AS PER FIRM #10005C04501 DATED 06/20/2019  
 THIS PROJECT IS NOT IN THE PROXIMITY OF A TID  
 SPEED LIMIT ON JOSEPHS RD. IS 50MPH (UNPOSTED)  
 SPEED LIMIT ON CONCORD RD. IS 50MPH (POSTED)

I, THE UNDERSIGNED, HEREBY CERTIFY TO THE OWNERSHIP OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT MY DIRECTION AND DESIRE THE PLAN TO BE RECORDED ACCORDING TO LAW.

OWNER NAME \_\_\_\_\_ DATE \_\_\_\_\_

MINOR SUBDIVISION PLAN FOR

**ELMER T. ADKINS, SR., TRUSTEE**

OWNER: ELMER T. ADKINS, SR., TRUSTEE  
 15022 JOSEPHS ROAD  
 SEAFORD, DE. 19973

**MILNER LEWIS, INC.**  
 LAND SURVEYING

1560 MIDDLEFORD RD.  
 SEAFORD, DELAWARE 19973  
 PH: 302-629-9895 FAX: 302-629-2391

SURVEY CLASS: SUBURBAN	
HUNDRED	COUNTY
NANTICOKE	SUSSEX
STATE	DRAWN BY
DELAWARE	D. A. MORRIS
REF.	FILE
2699-103	SPEAK 2-31-21-4.dwg

**FILE COPY**

**PLANNING & ZONING COMMISSION**

ROBERT C. WHEATLEY, CHAIRMAN  
KIM HOEY STEVENSON, VICE-CHAIRMAN  
R. KELLER HOPKINS  
J. BRUCE MEARS  
HOLLY J. WINGATE



**Sussex County**

DELAWARE  
sussexcountyde.gov  
302-855-7878 T  
302-854-5079 F  
JANELLE CORNWELL, AICP  
DIRECTOR

**PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET**  
Planning Commission Public Hearing Date November 21, 2019

Application: (2019-23) Lands of John J. Hamstead

Applicant: John J. Hamstead  
10909 Beach Highway  
Greenwood, DE 19963

Owner: John J. Hamstead  
10909 Beach Highway  
Greenwood, DE 19963

Site Location: On Chaser Lane, on the west side of Calhoun Road (S.C.R. 621).

Current Zoning: General Residential (GR)

Proposed Use: 3 Single-Family Lots (plus residual lands)

Comprehensive Land  
Use Plan Reference: Developing Areas

Councilmatic  
District: Mr. Wilson

School District: Milford School District

Fire District: Milford (Carlisle) Fire District

Sewer: Private (On-Site)

Water: Private (On-Site)

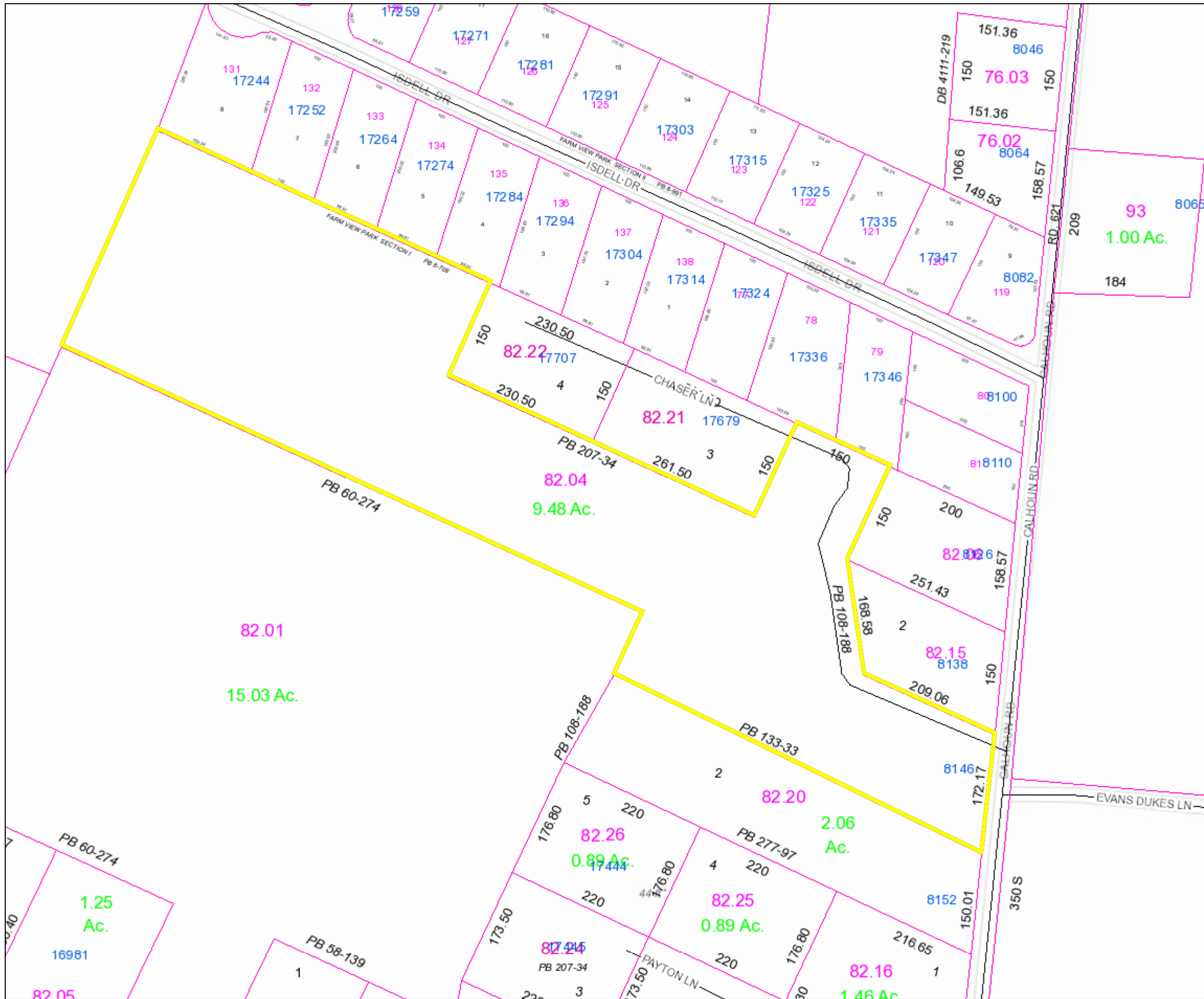
Site Area: 9.48 +/- acres

Tax Map ID.: 130-6.00-82.04 (part of)





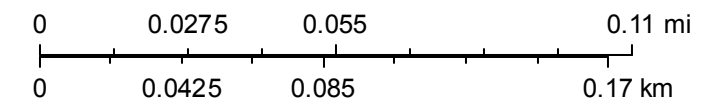
# Sussex County



<b>PIN:</b>	130-6.00-82.04
<b>Owner Name</b>	HAMSTEAD JOHN J
<b>Book</b>	2965
<b>Mailing Address</b>	10909 BEACH HWY
<b>City</b>	GREENWOOD
<b>State</b>	DE
<b>Description</b>	NW/RD 621 888'
<b>Description 2</b>	NE/RD 635 RESIDUAL
<b>Description 3</b>	LANDS CT#54576
<b>Land Code</b>	

- polygonLayer**
  - Override 1
- polygonLayer**
  - Override 1
- Tax Parcels
- 911 Address
- Streets
- County Boundaries

1:2,257

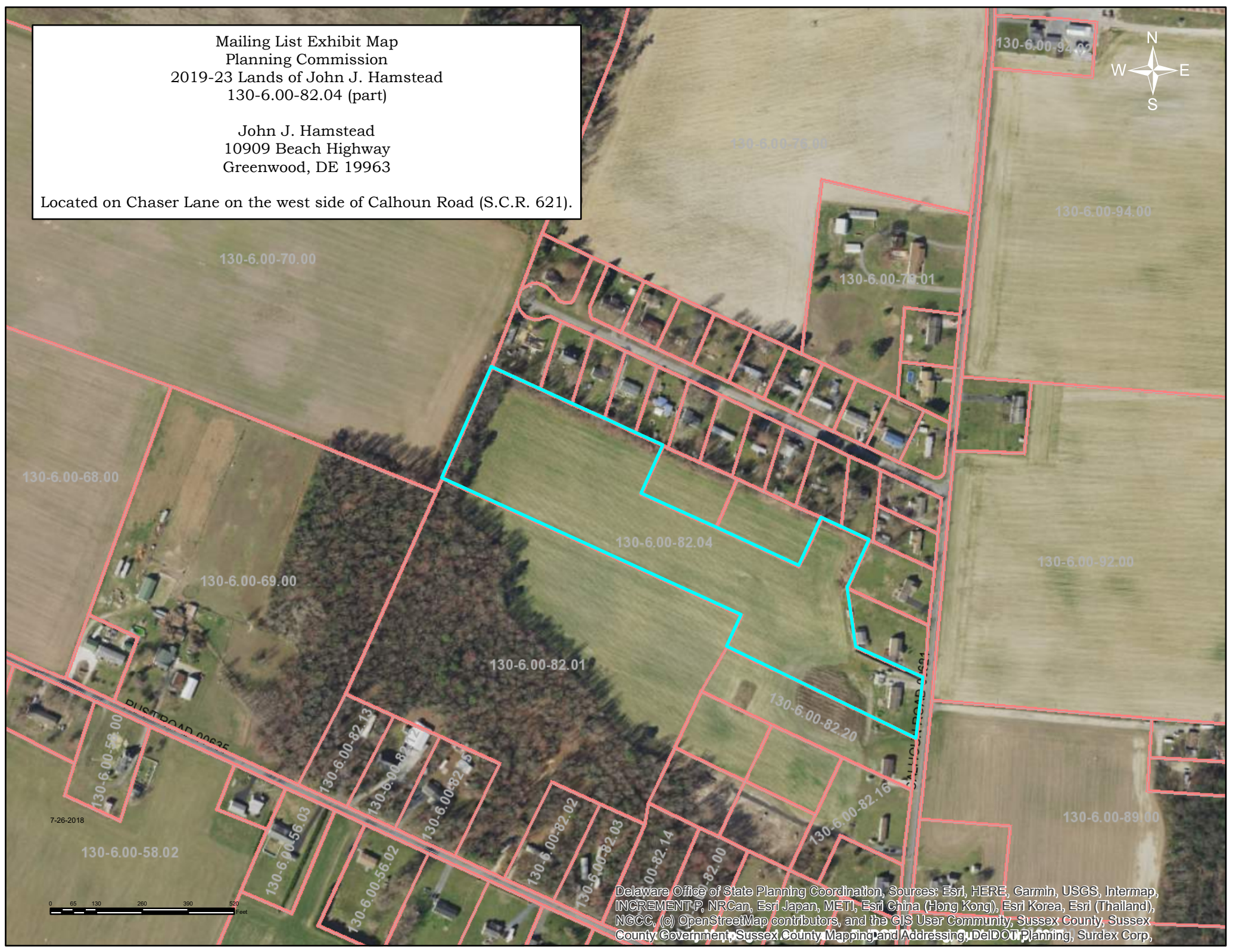




Mailing List Exhibit Map  
Planning Commission  
2019-23 Lands of John J. Hamstead  
130-6.00-82.04 (part)

John J. Hamstead  
10909 Beach Highway  
Greenwood, DE 19963

Located on Chaser Lane on the west side of Calhoun Road (S.C.R. 621).



File #: 2019-23  
201910114

## Sussex County Major Subdivision Application

### Sussex County, Delaware

Sussex County Planning & Zoning Department  
2 The Circle (P.O. Box 417) Georgetown, DE 19947  
302-855-7878 ph. 302-854-5079 fax

**Type of Application: (please check applicable)**

Standard:   
Cluster:   
ESDDOZ:

**Location of Subdivision:**

Chaser Lane off Calhoun Road, Milford, de. 19963

**Proposed Name of Subdivision:**

John J. Hamstead

Tax Map #: 130-6.00-82.04 part Total Acreage: 9.48 acres

Zoning: ar-1 Density: 0.32 Minimum Lot Size: 1.056 Number of Lots: 3

Open Space Acres: N/A

Water Provider: on site Sewer Provider: on site

**Applicant Information**

Applicant Name: John J Hamstead  
Applicant Address: 10909 Beach Hwy.  
City: Greenwood State: DE Zip Code: 19963  
Phone #: 302-349-0805 E-mail: huntercreekhomes@aol.com

**Owner Information**

Owner Name: SAME  
Owner Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone #: \_\_\_\_\_ E-mail: \_\_\_\_\_

**Agent/Attorney/Engineer Information**

Agent/Attorney/Engineer Name: Miller-Lewis, Inc.  
Agent/Attorney/Engineer Address: 1560 Middleford Road  
City: Seaford State: DE Zip Code: 19973  
Phone #: 602-629-9895 E-mail: stevesellers@millerlewisinc.com



# Check List for Sussex County Major Subdivision Applications

The following shall be submitted with the application

- Completed Application
  - Provide fifteen (15) copies of the Site Plan or Survey of the property and a PDF (via e-mail)
    - o Plan shall show the existing conditions, setbacks, roads, floodplain, wetlands, topography, proposed lots, landscape plan, etc. Per Subdivision Code 99-22, 99-23 & 99-24
    - o Provide compliance with Section 99-9.
    - o Deed or Legal description, copy of proposed deed restrictions, soil feasibility study
- Provide Fee \$500.00
- Optional - Additional information for the Commission to consider (ex. photos, exhibit books, etc.) If provided submit seven (7) copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.
- Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.
- PLUS Response Letter (if required)
- 51% of property owners consent if applicable

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

  
\_\_\_\_\_

Date: 8/29/19

Signature of Owner

  
\_\_\_\_\_

Date: 8/29/19

For office use only:

Date Submitted: 9/3/19

Staff accepting application: CEH

Location of property: \_\_\_\_\_

Fee: \$500.00 Check #: 4068

Application & Case #: 201910114

Date of PC Hearing: \_\_\_\_\_

Recommendation of PC Commission: \_\_\_\_\_



**SUSSEX COUNTY ENGINEERING DEPARTMENT**  
**UTILITY PLANNING DIVISION**  
**C/U & C/Z COMMENTS**

TO: **Janelle Cornwell**

REVIEWER: **Chris Calio**

DATE: **11/5/2019**

APPLICATION: **2019-23 Lands of John J. Hamstead**

APPLICANT: **John J. Hamstead**

FILE NO: **WSPA-5.02**

TAX MAP &  
PARCEL(S): **130-6.00-82.04 (part of)**

LOCATION: **On Chaser Lane, on the west side of Calhoun Road (SCR 621)**

NO. OF UNITS: **3 single-family lots**

GROSS  
ACREAGE: **9.48 +/-**

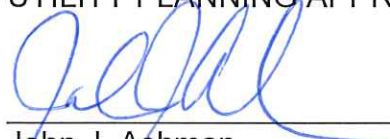
SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

**SEWER:**

- (1). Is the project in a County operated and maintained sanitary sewer and/or water district?  
Yes  No
- a. If yes, see question (2).  
b. If no, see question (7).
- (2). Which County Tier Area is project in? **Tier 3**
- (3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.
- (4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **N/A** If yes, the current System Connection Charge Rate is **Click or tap to enter a fee** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

- (6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **N/A**
- Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.
- (7). Is project adjacent to the Unified Sewer District? **No**
- (8). Comments: **The proposed subdivision is not in an area where the Sussex County Engineering Department has a schedule to provide sanitary sewer service.**
- (9). Is a Sewer System Concept Evaluation required? **No**
- (10). Is a Use of Existing Infrastructure Agreement Required? **No**

UTILITY PLANNING APPROVAL:



---

John J. Ashman  
Director of Utility Planning

Xc: Hans M. Medlarz, P.E.  
Jayne Dickerson  
No Permit Tech Assigned

MILNER  
LEWIS, INC. LAND SURVEYING

1560 MIDDLEFORD RD.

• SEAFORD, DE. 19973

August 30, 2019

Sussex County Planning and Zoning Commission  
2 The Circle  
P. O. Box 417  
Georgetown, DE. 19947

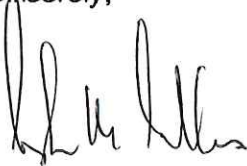
RE: John J. Hamstead, T.M.#130-6.00-82.04 PART  
MAJOR SUBDIVISION

Dear Jannelle,

The subject major subdivision is being submitted to Planning and Zoning Commission. On behalf of the applicant we respectfully request a waiver of the topographic, 30 buffer zone and county street construction requirement due to the minimal number and size of the lots.

Please feel free to call or email with any questions you may have.

Sincerely,



Stephen M. Sellers, PLS

enclosure

**Private Road Maintenance Agreement**

An Agreement made this original date of August 29, 2019, applicable to the undersigned parcel owner.

**RECITALS**

**WHEREAS**, Chaser Lane Road is a private road situated in Milford De, Sussex County.

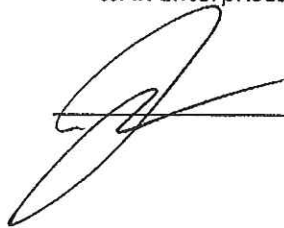
**WHEREAS**, the undersigned parcel owners of the Roadway Property situated in Sussex County commonly known as Chaser Lane Road, and described as follows:

(Roadway Property Addresses Description)

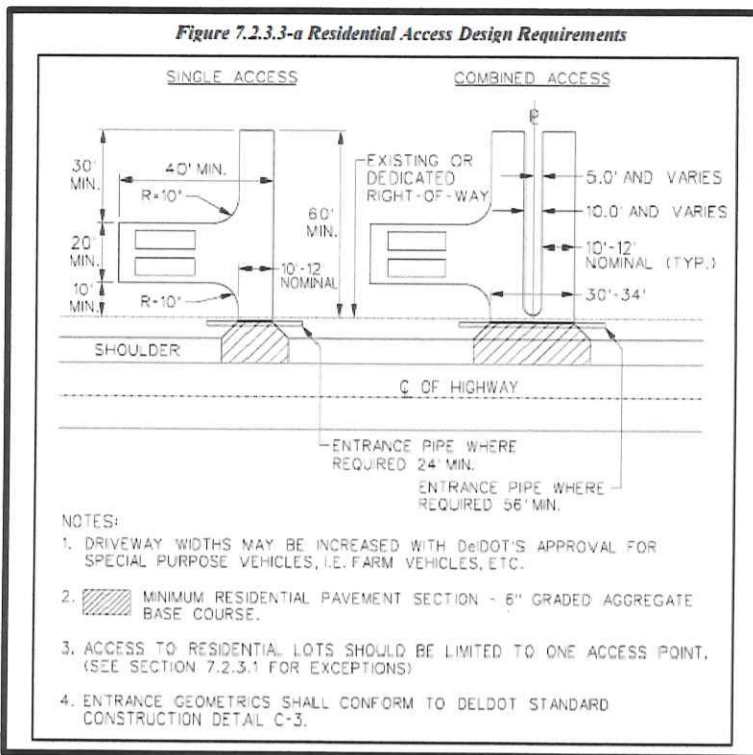
17679, 17707 Chaser Lanes; Proposed Subdivision Lots 6,7,8; Parcel 130-6.00-82.04

**WHEREAS**, the party desires to enter into an Agreement regarding the costs of maintenance and improvements to Chaser Lane Road.

**Road Maintenance:** Road maintenance and road improvements will be undertaken and made whenever necessary to maintain the road in good operating condition at all times and to insure the provision of safe access by emergency vehicles. This will be done at the expense of Property owner JJAK Enterprises LLC/ John Hamstead.

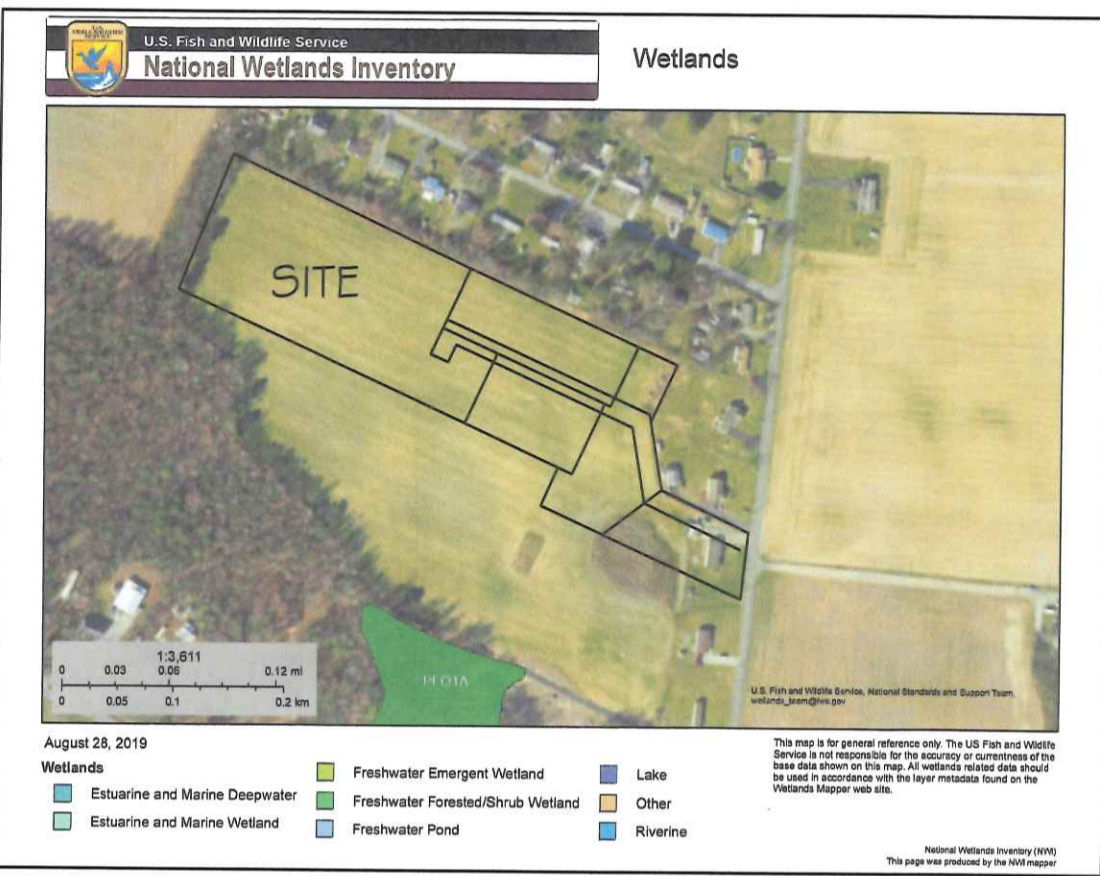


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NOTE: SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS INTO AN ADJACENT PROPERTY OWNERS LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.

N/F DOROTHY E. WRIGHT  
DB 2048-98  
T.M.# 130-6-00-70.00  
ZONED: GR  
(ACTIVE AGRICULTURE USE)



WETLANDS MAP

N.T.S.

- DELDOT NOTES:**
- IF THE RESIDUAL LANDS OF THE APPLICANT ARE EVER DEVELOPED INTO A MAJOR SUBDIVISION, THEN THE ACCESS TO THE PARCELS CREATED BY THIS MINOR SUBDIVISION PLAN MAY BE REQUIRED TO BE FROM AN INTERNAL SUBDIVISION STREET.
  - ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DELDOT) CURRENT DEVELOPMENT COORDINATION MANUAL (DCM) AND SHALL BE SUBJECT TO ITS APPROVAL.
  - THERE IS A FIFTY FOOT BUILDING SETBACK FROM LANDS USED FOR AGRICULTURAL PURPOSES FOR BUILDINGS REQUIRING AN OCCUPANCY APPROVAL FOR A RESIDENTIAL TYPE USE.
  - LOTS 5, 6 AND 7 SHALL HAVE ACCESS TO SCR 621 VIA THE 50-FOOT WIDE INGRESS/EGRESS EASEMENT (CHASER LANE).
  - THE MAINTENANCE OF THE 50' WIDE ACCESS EASEMENT SHOWN ON THIS PLAN SHALL BE SHARED EQUALLY BY THE OWNERS OF LOT #3, LOT #4, LOT #5, LOT #6 & LOT #7 THEIR HEIRS AND OR ASSIGNS.

- FIRE MARSHAL NOTES:**
- ALL FIRE LANES, FIRE HYDRANTS AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS.
  - MAXIMUM HEIGHT: 3 STORIES, NOT TO EXCEED 42'.
  - BUILDING CONSTRUCTION TYPE: NFPA TYPE V WOOD FRAME.
  - AUTOMATIC FIRE SPRINKLERS ARE NOT PROPOSED FOR ANY STRUCTURES.

**DATA COLUMN:**  
T.M.# 130-6-00-82.04  
ZONING: GR  
BUILDING SETBACKS: FRONT: 30' (FROM CHASER LANE)  
SIDE: 10'  
REAR: 10'

TRACT AREA: 9.48 ACRES ±  
EXISTING LOTS: 1  
PROPOSED LOTS: 4 (INCLUDING RESIDUE)  
PRESENT USE: AGRICULTURAL  
PROPOSED USE: RESIDENTIAL  
ACCESS: S.C.R. 621 (CALHOUN ROAD)  
ROADWAY CLASSIFICATION: LOCAL ROADWAY  
WATER AND SEWER: INDIVIDUAL ON-SITE  
100-YEAR FLOODPLAIN: SITE IS NOT IMPACTED  
AS PER FIRM # 100500035J DATED 3/16/15  
THIS PROJECT IS NOT IN THE PROXIMITY OF A TID  
SPEED LIMIT ON CALHOUN RD. IS 50MPH (UNPOSTED)

**MONUMENTS:**

- IRON PIPE (FOUND)
- IRON PIPE (TO BE SET)
- ▲ IRON ROD (FOUND)
- POINT

**SYMBOLS:**

- ⚡ UTILITY POLE
- ☐ MAILBOX
- ▨ EXISTING ENTRANCE
- EXISTING WELL
- ⬮ SOIL BORING

**LEGEND:**

- — — — — EXISTING RIGHT-OF-WAY LINE
- - - - - PROPOSED RIGHT-OF-WAY LINE
- — — — — PROPERTY LINE
- — — — — PROPERTY LINE
- — — — — CENTERLINE
- - - - - NEXT PROPERTY LINE
- - - - - EASEMENT LINE
- - - - - EDGE OF PAVING
- ▨ APPROVED SEPTIC AREA

APPROVED BY:	
CHAIRMAN OR SECRETARY OF PLANNING COMM.	DATE
PRESIDENT OF COUNTY COUNCIL	DATE

THIS SURVEY AND PLAT DOES NOT VERIFY THE EXISTENCE OR NON-EXISTENCE OF RIGHT-OF-WAYS OR EASEMENTS CROSSING THIS PROPERTY. NO TITLE SEARCH PROVIDED OR STIPULATED.

SURVEY CLASS: SUBURBAN	
DATE	REVISION

**MILLER LEWIS, INC.**  
LAND SURVEYING  
1560 MIDDLEFORD RD.  
SEAFORD, DELAWARE 19973  
PH: 302-629-9095 FAX: 302-629-2991  
E-MAIL: BOB@GLER@MILLERLEWIS.COM

HUNDRED	CEDAR CREEK	COUNTY	SUSSEX
STATE	DELAWARE	DRAWN BY	SMS
REF.	DB 2965-257	DWG. FILE	HAMSTEAD 1-30-6-82.04#
	AUGUST 30, 2019		

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.

STEPHEN M. SELLERS, PLS 566 \_\_\_\_\_ DATE \_\_\_\_\_

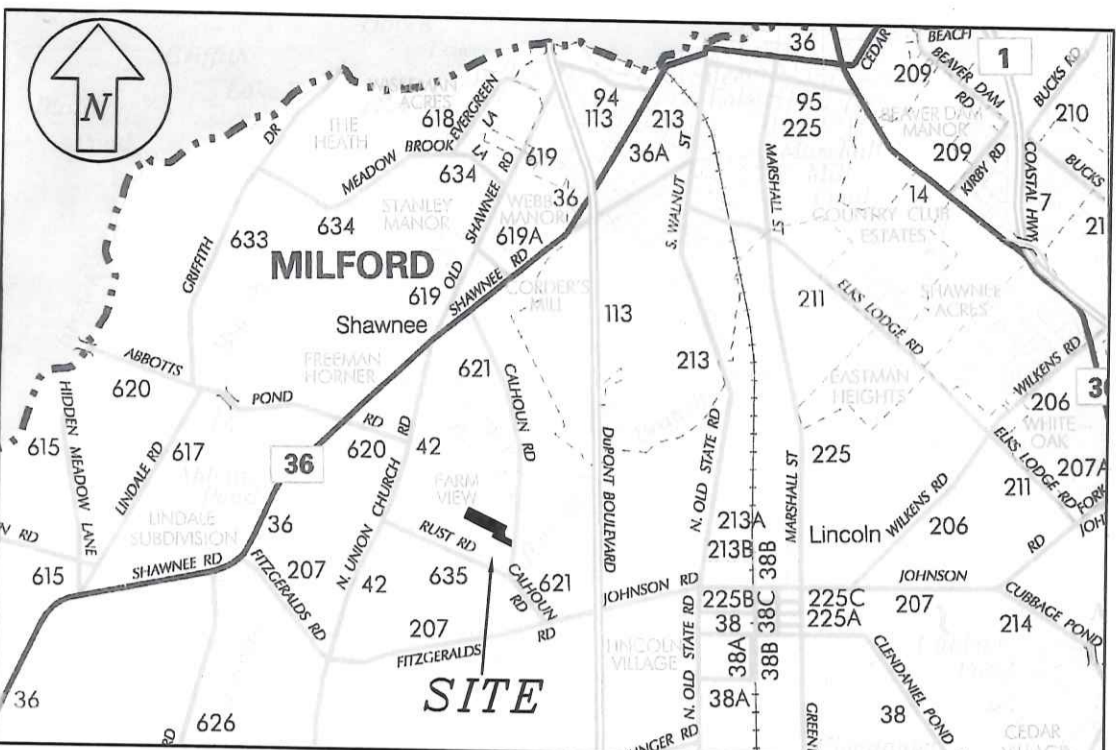
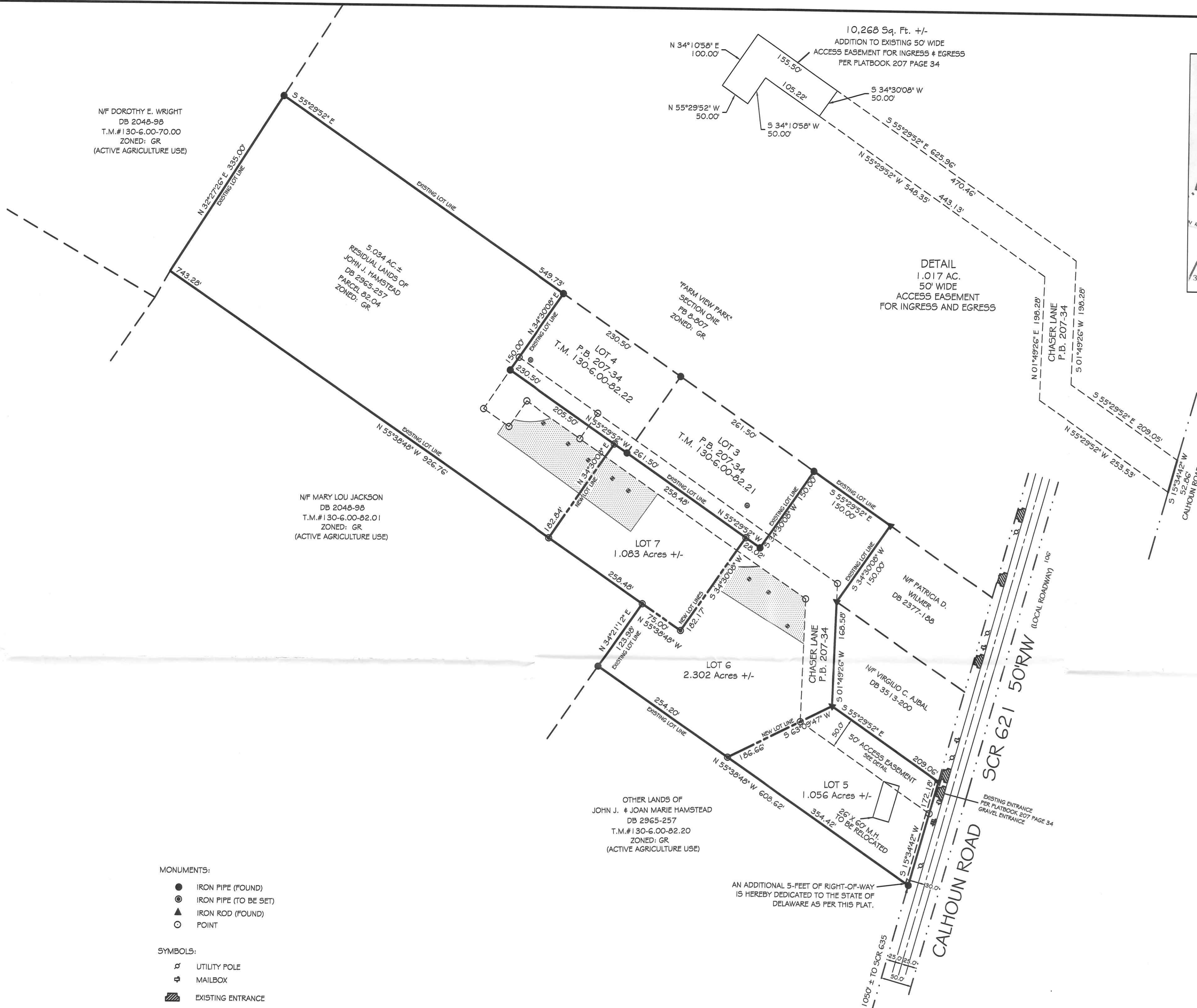
WE, THE UNDERSIGNED, HEREBY CERTIFY TO THE OWNERSHIP OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT OUR DIRECTION, AND WE ACKNOWLEDGE THE SAME TO BE OUR ACT AND THAT WE DESIRE THE PLAN TO BE RECORDED ACCORDING TO LAW.

JOHN J. HAMSTEAD \_\_\_\_\_ DATE \_\_\_\_\_

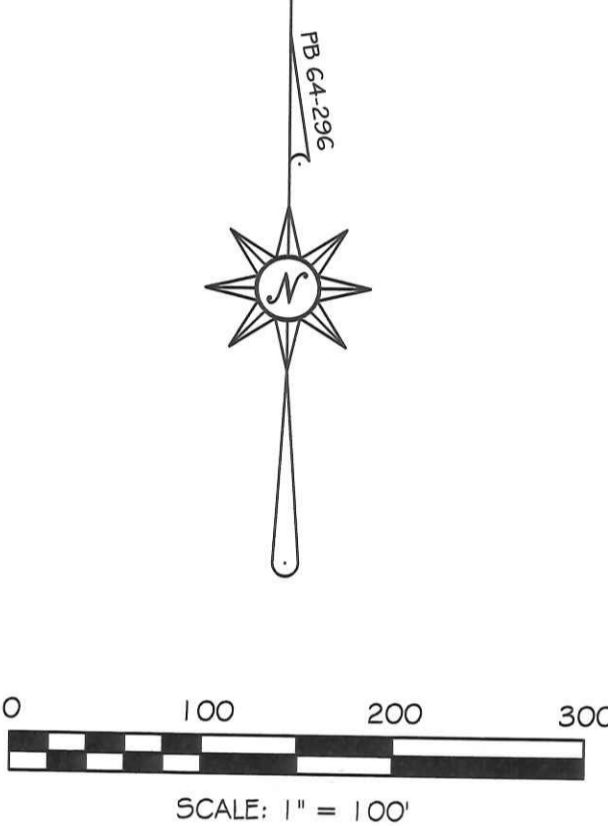
JOAN MARIE HAMSTEAD \_\_\_\_\_ DATE \_\_\_\_\_

**SUBDIVISIONS OF LANDS OF JOHN J. HAMSTEAD**

OWNER'S ADDRESS: 10909 BEACH HWY.  
GREENWOOD, DE 19950.  
PHONE: (302) 349-0805  
E-MAIL: HUNTERCREEKHOMES@AOL.COM



VICINITY MAP  
SCALE 1" = 1 MILE



**PLANNING & ZONING COMMISSION**

ROBERT C. WHEATLEY, CHAIRMAN  
KIM HOEY STEVENSON, VICE-CHAIRMAN  
R. KELLER HOPKINS  
J. BRUCE MEARS  
HOLLY J. WINGATE



**Sussex County**

DELAWARE  
sussexcountyde.gov  
302-855-7878 T  
302-854-5079 F  
JANELLE CORNWELL, AICP  
DIRECTOR

**PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET**  
Planning Commission Public Hearing Date November 21, 2019

Application: CU 2198 Jeffrey Myer

Applicant/Owner: Jeffrey N. Douglas Myer  
10573 Seashore Hwy  
Bridgeville, DE 19933

Site Location: 10595 & 10609 Seashore Hwy. Northwest corner of Seashore Hwy and Oak Rd.

Current Zoning: AR-1

Proposed Use: Indoor and Outdoor Retail Sales

Comprehensive Land Use Plan Reference: Low Density Area

Councilmatic District: Mr. Vincent

School District: Woodbridge School District

Fire District: Bridgeville Fire District

Sewer: Private, On-Site

Water: Private, On-Site

Site Area: 0.8474 ac. +/-

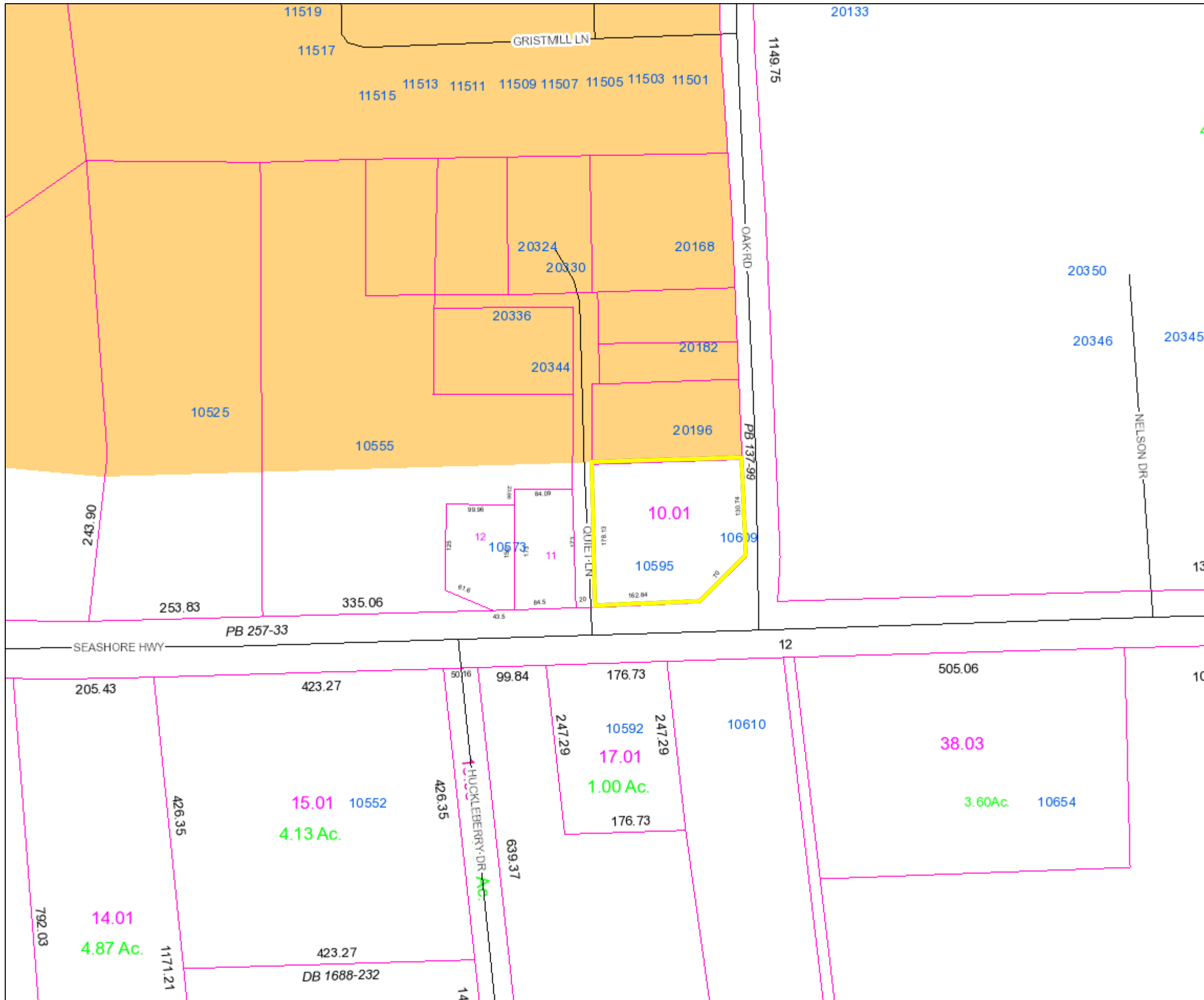
Tax Map ID.: 430-22.00-10.01







# Sussex County



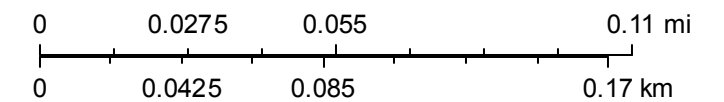
<b>PIN:</b>	430-22.00-10.01
<b>Owner Name</b>	MYER JEFFREY ALAN & DOUGLAS
<b>Book</b>	3745
<b>Mailing Address</b>	10573 SEASHORE HWY
<b>City</b>	BRIDGEVILLE
<b>State</b>	DE
<b>Description</b>	CRN/RT 18 RD 594
<b>Description 2</b>	LOT 1
<b>Description 3</b>	N/A
<b>Land Code</b>	

- polygonLayer**

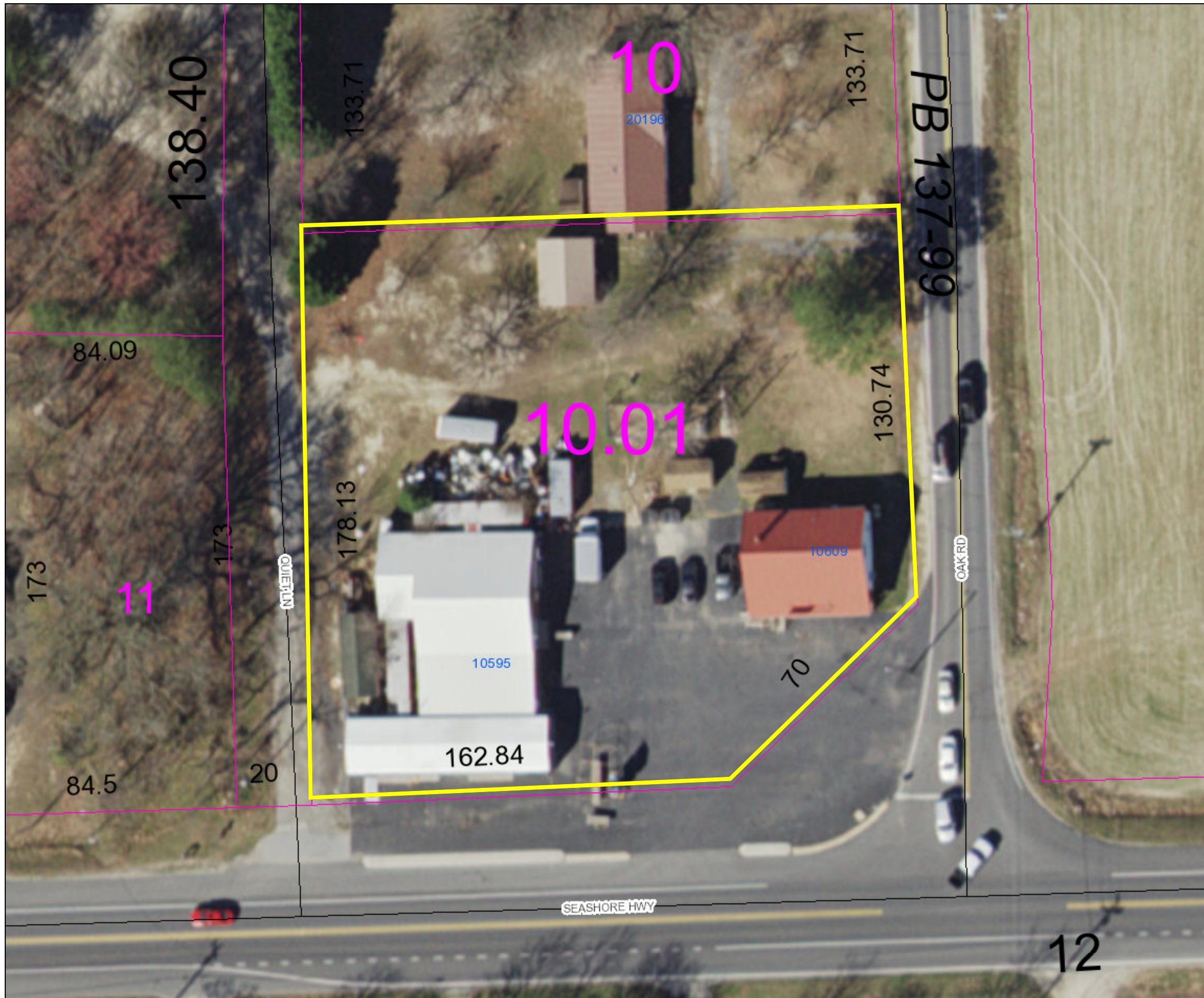
Override 1
- polygonLayer**

Override 1
- Tax Parcels
- 911 Address
- Streets

1:2,257







<b>PIN:</b>	430-22.00-10.01
<b>Owner Name</b>	MYER JEFFREY ALAN & DOUGLAS
<b>Book</b>	3745
<b>Mailing Address</b>	10573 SEASHORE HWY
<b>City</b>	BRIDGEVILLE
<b>State</b>	DE
<b>Description</b>	CRN/RT 18 RD 594
<b>Description 2</b>	LOT 1
<b>Description 3</b>	N/A
<b>Land Code</b>	

**polygonLayer**

Override 1

**polygonLayer**

Override 1

Tax Parcels

911 Address

Streets

County Boundaries

Extent of Right-of-Way

**Ag Preservation Districts**

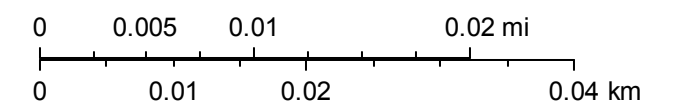
Agricultural Easement

Agricultural District

Agricultural Expansion

Municipal Boundaries

1:564



## PLANNING & ZONING

JANELLE M. CORNWELL, AICP  
DIRECTOR

(302) 855-7878 T  
(302) 854-5079 F



# Sussex County

DELAWARE  
sussexcountyde.gov

## Memorandum

To: Sussex County Planning Commission Members

From: Jennifer Norwood, Planner I

CC: Vince Robertson, Assistant County Attorney and applicant

Date: November 14, 2019

RE: Staff Analysis for CU 2198 Jeffrey Myer

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This memo is to provide background and analysis for the Planning Commission to consider as part of application CU 2198 Jeffrey Myer to be reviewed during the November 21, 2019 Planning Commission Meeting. This analysis should be included in the record of this application and is subject to comments and information that may be presented during the public hearing.

The request is for a Conditional Use for parcel 430-22.00-10.01 to allow for indoor and outdoor retail sales to be located at 10595 & 10609 Seashore Hwy. The size of the property to be used as the Conditional Use is 0.8474 ac. +/-.

The 2018 Sussex County Comprehensive Plan Update (Comprehensive Plan) provides a framework of how land is to be developed. As part of the Comprehensive Plan a Future Land Use Map is included to help determine how land should be zoned to ensure responsible development. The Future Land Use map indicates that the property has the land use designation of Low Density.

The surrounding land use to the north and west is Existing Development Area. The land use to the south and east is Low Density Area. The Low Density Area land use designation recognizes that the primary uses are agriculture and single family detached homes and that a business development should be largely confined to businesses that address the needs of single family residences and agriculture. It should also permit industrial uses that support or depend on agricultural uses. The focus of retail and office should provide convenience goods and services to nearby residents and should be limited in their location, size and hours of operation. The use as auto repair and gasoline sales, should be avoided in these areas.

The property is zoned AR-1 (Agricultural Residential District). The properties to the north are zoned GR (General Residential District). The properties to the west, south, and east are zoned AR-1 (Agricultural Residential District). There are no known Conditional Uses in the area.

Based on the analysis of the land use, surrounding zoning and uses, the Conditional Use to allow an indoor and outdoor retail sales could be considered consistent with the land use, area zoning and uses.



File #: CU2198  
201908501

## Planning & Zoning Commission Application Sussex County, Delaware

Sussex County Planning & Zoning Department  
2 The Circle (P.O. Box 417) Georgetown, DE 19947  
302-855-7878 ph. 302-854-5079 fax

Type of Application: (please check applicable)

Conditional Use   
Zoning Map Amendment

Site Address of Conditional Use/Zoning Map Amendment

10595 & 10609 Seashore Hwy

Type of Conditional Use Requested:

Continuing uses (outdoor sales, convenience store, etc.)

Tax Map #: 430-22.00-10.01 Size of Parcel(s): 0.8474 ac.

Current Zoning: AR-1 Proposed Zoning: CU Size of Building: \_\_\_\_\_

Land Use Classification: \_\_\_\_\_

Water Provider: Well Sewer Provider: septic

### Applicant Information

Applicant Name: JEFFREY MYER  
Applicant Address: 10573 Seashore Hwy  
City: BRIDGEVILLE State: DE Zip Code: 19933  
Phone #: 302 396 2075 E-mail: \_\_\_\_\_

### Owner Information

Owner Name: JEFFREY N DOUGLAS MYER  
Owner Address: 10573  
City: BRIDGEVILLE State: DE Zip Code: 19933  
Phone #: 302 396 2075 E-mail: \_\_\_\_\_

### Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: \_\_\_\_\_  
Agent/Attorney/Engineer Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Phone #: \_\_\_\_\_ E-mail: \_\_\_\_\_



# Check List for Sussex County Planning & Zoning Applications

The following shall be submitted with the application

\_\_\_ Completed Application

\_\_\_ Provide eight (8) copies of the Site Plan or Survey of the property

- o Survey shall show the location of existing or proposed building(s), building setbacks, parking area, proposed entrance location, etc.
- o Provide a PDF of Plans (may be e-mailed to a staff member)
- o Deed or Legal description

\_\_\_ Provide Fee \$500.00

\_\_\_ Optional - Additional information for the Commission/Council to consider (ex. architectural elevations, photos, exhibit books, etc.) If provided submit 8 copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

\_\_\_ Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.

\_\_\_ DeIDOT Service Level Evaluation Request Response

PLUS Response Letter (if required)

The undersigned hereby certifies that the forms, exhibits, and statements contained in any papers or plans submitted as a part of this application are true and correct.

I also certify that I or an agent on my behalf shall attend all public hearing before the Planning and Zoning Commission and the Sussex County Council and any other hearing necessary for this application and that I will answer any questions to the best of my ability to respond to the present and future needs, the health, safety, morals, convenience, order, prosperity, and general welfare of the inhabitants of Sussex County, Delaware.

Signature of Applicant/Agent/Attorney

\_\_\_\_\_

Date: \_\_\_\_\_

Signature of Owner

Jeffrey A. Dixon  
\_\_\_\_\_

Date: July 23 2019

For office use only:

Date Submitted: 7/23/19

Fee: \$500.00 Check #: 4573

Staff accepting application: ceh

Application & Case #: 201908501

Location of property: \_\_\_\_\_

Subdivision: \_\_\_\_\_

Date of PC Hearing: \_\_\_\_\_

Recommendation of PC Commission: \_\_\_\_\_

Date of CC Hearing: \_\_\_\_\_

Decision of CC: \_\_\_\_\_



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

JENNIFER COHAN  
SECRETARY

June 11, 2019

Ms. Janelle Cornwell, Director  
Sussex County Planning & Zoning  
P.O. Box 417  
Georgetown, DE 19947

Dear Ms. Cornwell:

The Department has completed its review of a Service Level Evaluation Request for the **Jeffrey A. Myer** conditional use application, which we received on June 10, 2019. This application is for an approximately 0.66-acre parcel (Tax Parcel: 430-22.00-10.01). The subject land is located on the northwest corner of the intersection of Delaware Route 18 and Oak Road (Sussex Road 594), southeast of Bridgeville. The subject land is currently zoned as AR-1 (Agricultural Residential) and the applicant is seeking a conditional use approval to continue operating an outdoor market with an accessory structure.

Per the 2018 Delaware Vehicle Volume Summary, the annual average and summer average daily traffic volumes along the segment of Delaware Route 18 where the subject land is located, which is from Delaware Route 404 to Chaplains Chapel Road (Sussex Road 42), are 12,274 and 15,797 vehicles per days, respectively. As the subject land also has frontage along Oak Road, the annual average daily traffic volume along that road segment, which is from Delaware Route 18 to Haven Road (Sussex Road 596), is 1,392 vehicles per day.

Based on our review, we estimate that the above land use will generate fewer than 50 vehicle trips in any hour and fewer than 500 vehicle trips per day. These numbers of trips are DelDOT's minimum warrants for determining that a Traffic Impact Study (TIS) should be required for a particular development. Because the proposed land use would not meet these warrants, we consider the development's traffic impact to be negligible in the context of our agreement with the County regarding land development coordination and we do not recommend that the applicant be required to perform a TIS for the subject application. DelDOT's description of this application as negligible with regard to warranting a TIS does not mean that it is negligible in other respects. We recommend that the applicant not be required to perform a TIS for the subject application.

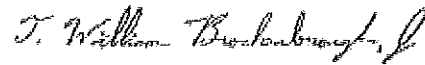


Ms. Janelle M. Cornwell  
Page 2 of 2  
June 11, 2019

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Mr. Claudy Joinville, at (302) 760-2124, if you have questions concerning this correspondence.

Sincerely,

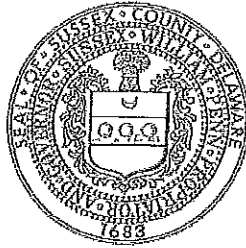


T. William Brockenbrough, Jr.  
County Coordinator  
Development Coordination

TWB:cjm

cc: Constance C. Holland, Coordinator, Cabinet Committee on State Planning Issues  
Jeffrey A. Myer, Applicant  
J. Marc Coté, Assistant Director, Development Coordination  
Gemez Norwood, South District Public Works Manager, Maintenance & Operations  
Susanne Laws, Sussex County Subdivision Coordinator, Development Coordination  
Derek Sapp, Subdivision Manager, Development Coordination  
Kevin Hickman, Subdivision Manager, Development Coordination  
Brian Yates, Subdivision Manager, Development Coordination  
John Andrescavage, Subdivision Manager, Development Coordination  
Troy Brestel, Project Engineer, Development Coordination  
Claudy Joinville, Project Engineer, Development Coordination

PLANNING & ZONING  
JANELLE M. CORNWELL, AICP  
DIRECTOR  
(302) 855-7878 T  
(302) 854-5079 F



Sussex County  
DELAWARE  
sussexcountyde.gov

## Service Level Evaluation Request Form

This form shall be submitted to the Planning and Zoning Office and a response shall be received back from DelDOT prior to the applicant being able to submit an application to the Planning and Zoning Office.

Date: 6/10/2019

### Site Information:

Site Address/Location: Seashore Hwy <sup>10609</sup> ~~7033~~ BRIDGEVILLE DE

Tax Parcel Number: 430 - 22.00 - 10.01

Current Zoning: AR-1

Proposed Zoning: AR-1

Land Use Classification: OUTDOOR MARKET

Proposed Use(s):

OUTDOOR MARKET

Applicant wishes to  
continue outdoor market  
with Accessory structure.

Square footage of any proposed buildings or number of units: \_\_\_\_\_

SEE ATTACHED PLAN.

### Applicant Information:

Applicant's Name: Jeffrey A Myer

Applicant's Address: 10573 Seashore Hwy  
City: BRIDGEVILLE State: DE Zip Code: 19933

Applicant's Phone Number: 302 369-2075

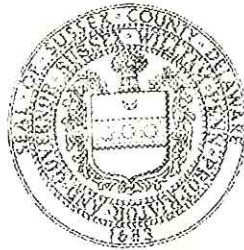
Applicant's e-mail address: \_\_\_\_\_



**PLANNING & ZONING**

JANELLE M. CORNWELL, AICP  
DIRECTOR

(302) 855-7878 T  
(302) 854-5079 F



**Sussex County**

DELAWARE  
sussexcountype.gov

**SUSSEX COUNTY NOTICE OF VIOLATION**

June 6, 2019

MYER JEFFREY ALAN & DOUGLAS  
10573 SEASHORE HWY  
BRIDGEVILLE, DE 19933

REFERENCE NUMBER: 2865  
PARCEL: 430-22.00-10.01  
PARCEL DESCRIPTION: CRN/RT 18 RD 594 LOT 1  
LOCATION: 10609 SEASHORE HIGHWAY BRIDGEVILLE

Code Violation:	IV	Chapter 115	22
-----------------	----	-------------	----

It has come to the attention of the Sussex County Planning and Zoning Department that the property described above is in violation of Sussex County Code.

The County Code does not allow for the property to be used as a business. Based on a site visit conducted on June 6, 2019, there property is in violation as a business is located on the premises.

You are hereby directed to cease the activity described above and conform to Chapter 115 of the County Code immediately upon receipt of this Notice unless otherwise directed. Failure to comply by the date specified will result in referral to the Sussex County Constable for enforcement action. Subsequently, the violation will be forwarded to the Justice of the Peace Court where you will be notified to appear. At which time, you may request a hearing on the matter.

Within ten calendar (10) days of the date of this letter the violation shall be corrected. If you have questions regarding the violation please contact me to discuss the violation. If you have evidence, e.g., surveys, plats, or other documents that address this preliminary finding, please provide copies for our review.

The office is located in the County Administration Building, at #2 The Circle in Georgetown, Delaware. The office hours are 8:30 AM – 4:30 PM, Monday through Friday.

Sincerely,  
Bob Roth  
302-448-9450





**SUSSEX COUNTY ENGINEERING DEPARTMENT**  
**UTILITY PLANNING DIVISION**  
**C/U & C/Z COMMENTS**

TO: **Janelle Cornwell**

REVIEWER: **Chris Calio**

DATE: **11/5/2019**

APPLICATION: **CU 2198 Jeffrey Myer**

APPLICANT: **Jeffrey & Douglas Myer**

FILE NO: **WSPA-5.02**

TAX MAP &  
PARCEL(S): **430-22.00-10.01**

LOCATION: **10595 & 10609 Seashore Hwy. Northwest corner of Seashore Highway and Oak Road.**

NO. OF UNITS: **Indoor and outdoor retail sales**

GROSS  
ACREAGE: **0.8474**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **2**

**SEWER:**

- (1). Is the project in a County operated and maintained sanitary sewer and/or water district?  
Yes  No
- a. If yes, see question (2).  
b. If no, see question (7).
- (2). Which County Tier Area is project in? **Tier 3**
- (3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.
- (4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **N/A** If yes, the current System Connection Charge Rate is **Click or tap to enter a fee** per EDU. Please contact **N/A** at **302-855-7719** for additional information on charges.

- (6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **N/A**
- Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.
- (7). Is project adjacent to the Unified Sewer District? **No**
- (8). Comments: **The proposed Conditional Use is not in an area where the Sussex County Engineering Department has a schedule to provide sanitary sewer service.**
- (9). Is a Sewer System Concept Evaluation required? **No**
- (10). Is a Use of Existing Infrastructure Agreement Required? **No**

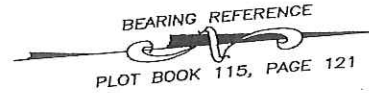
UTILITY PLANNING APPROVAL:



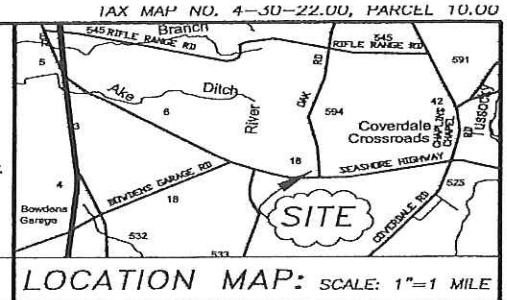
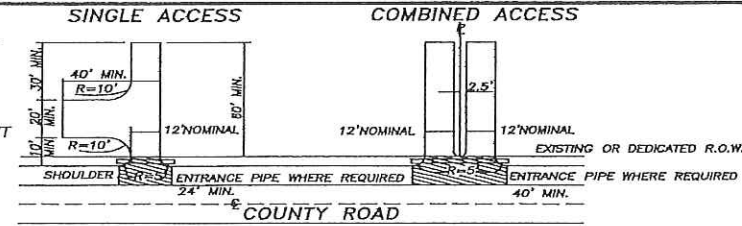
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John J. Ashman  
Director of Utility Planning

Xc: Hans M. Medlarz, P.E.  
Jayne Dickerson  
No Permit Tech Assigned



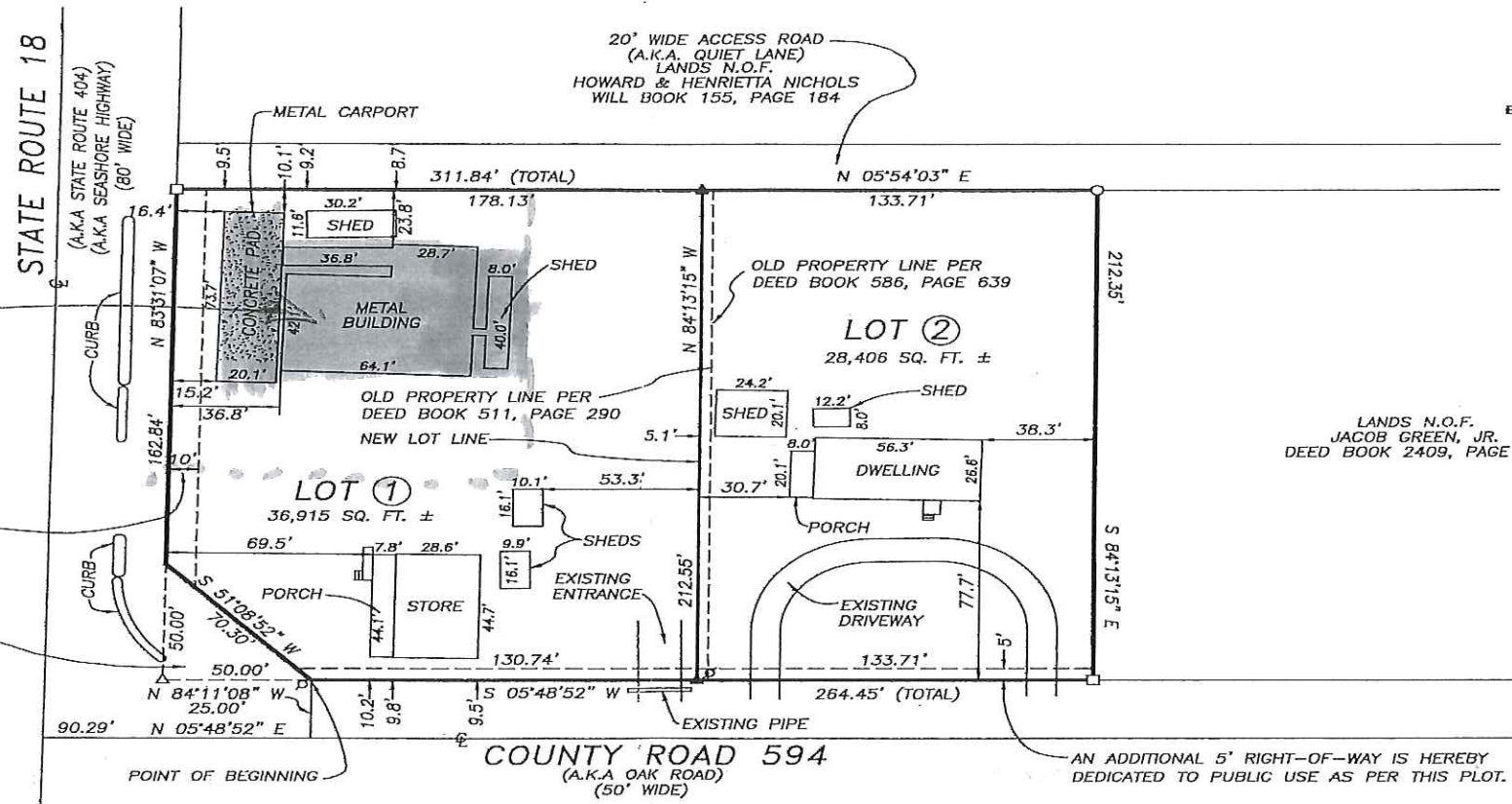
- 1) WHERE DRIVEWAY SERVES TWO ADJACENT RESIDENCES (COMBINED DRIVEWAY ACCESS), THE DRIVEWAY WIDTH AT THE RIGHT OF WAY WILL BE 29 FEET.
- 2) DRIVEWAY WIDTHS MAY BE INCREASED WITH DIVISION OF HIGHWAYS APPROVAL FOR SPECIAL PURPOSE VEHICLES (i.e. FARM VEHICLES, ETC.).
- 3) ENTRANCE PIPE FURNISHED BY THE PROPERTY OWNER WILL BE INSTALLED BY THE DIVISION OF HIGHWAYS ON REQUEST.
- 4) MINIMUM RESIDENTIAL PAVEMENT SECTION - BITUMINOUS SURFACE TREATMENT ON 6" SELECT BORROW BASE COURSE.
- 5) ACCESS TO RESIDENTIAL LOTS SHALL BE LIMITED TO ONE ACCESS POINT.



TYPICAL RESIDENTIAL ACCESS:

OUTDOOR MARKET IS SEPARATE TO NON-CONFORMING RETAIL STORE

SEE DEED BOOK 556, PAGE 100 FOR CONVEYANCE TO STATE OF DELAWARE  
AN ADDITIONAL 10' RIGHT-OF-WAY IS HEREBY DEDICATED TO PUBLIC USE AS PER THIS PLOT.



39449  
BK = 137 PG = 99

LANDS N.O.F. JACOB GREEN, JR. DEED BOOK 2409, PAGE 57

AN ADDITIONAL 5' RIGHT-OF-WAY IS HEREBY DEDICATED TO PUBLIC USE AS PER THIS PLOT.

Recorder of Deeds  
John F. Brady  
Oct 19-2009 02:43P  
Sussex County  
Doc. Surcharge Paid

- DATA COLUMN:**
- 1) CLASS "B", SUBURBAN SURVEY
  - 2) TOTAL NUMBER OF LOTS - 2
  - 3) RESIDUAL FRONTAGE - NONE
  - 5) GROSS ACREAGE - 1.528 ACRES ±
  - 4) RESIDUAL AREA - NONE
  - 6) ZONING - AR (CONDITIONAL USE #1558)
  - 7) PRESENT USE - RESIDENTIAL/COMMERCIAL
  - 8) PROPOSED USE -  
LOT 1 - RESIDENTIAL  
LOT 2 - COMMERCIAL (CONDITIONAL USE #1558)
  - 9) WATER - PRIVATE/ON-SITE
  - 10) SEPTIC - PRIVATE/ON-SITE

- NOTES:**
- 1) OWNER: RACHEL M. MYER, TRUSTEE  
20196 OAK ROAD  
BRIDGEVILLE, DE 19933
  - 2) IF THE RESIDUAL LANDS OF RACHEL M. MYER, TRUSTEE ARE EVER DEVELOPED INTO A MAJOR SUBDIVISION, THEN THE ACCESS TO THESE PARCELS SHALL BE FROM AN INTERNAL SUBDIVISION STREET.
  - 3) ALL ENTRANCES SHALL CONFORM TO DELDOT'S STANDARDS AND REGULATIONS FOR SUBDIVISION STREETS AND ACCESS AND SHALL BE SUBJECT TO ITS APPROVAL.
  - 4) SUBDIVISION AS REVISED AND REASSEMBLED  
PRIOR DEED REFERENCES:  
DEED BOOK 511, PAGE 290  
DEED BOOK 586, PAGE 639
  - 5) LOT 1 SHALL HAVE ACCESS FROM EXISTING ENTRANCE ALONG ROUTE 18, AS SHOWN HEREON. LOT 2 SHALL HAVE ACCESS FROM THE EXISTING ENTRANCE ALONG SCR 594, AS SHOWN HEREON.

- LEGEND:**
- ▲ FOUND RAIL ROAD SPIKE
  - FOUND CONCRETE MONUMENT
  - FOUND IRON PIPE
  - ⊠ EXISTING UTILITY POLE
  - ▲ SET IRON BAR

PREPARED BY  
ADAMS-KEMP ASSOCIATES, INC.  
PROFESSIONAL LAND SURVEYORS  
AND PLANNERS  
217 SOUTH RACE STREET  
GEORGETOWN, DELAWARE 19947

R.B. KEMP, S.S. 541

**SUBDIVISION SURVEY PLAN**

PREPARED FOR  
**RACHEL M. MEYER (TRUSTEE)**  
SITUATED IN  
NANTICOKE HUNDRED, SUSSEX COUNTY  
STATE OF DELAWARE  
AREA: 1.500 ACRES ± (TOTAL)  
SCALE: 1" = 40'  
DATE: SEPTEMBER 11, 2009  
REVISED: OCTOBER 8, 2009

APPROVED  
FEL DOT 10-6-09  
10-12-09  
SUSSEX COUNTY  
PLANNING & ZONING COMMISSION

PLAN NO. 090803-G

## PLANNING & ZONING

JAMIE WHITEHOUSE  
PLANNING & ZONING MANAGER

(302) 855-7878 T  
(302) 854-5079 F



# Sussex County

DELAWARE  
sussexcountyde.gov

## Memorandum

To: Sussex County Planning Commission Members  
From: Jamie Whitehouse, Planning and Zoning Manager; Lauren DeVore, Planner III; Samantha Bulkilvish, Planner I and Jenny Norwood, Planner I  
CC: Vince Robertson, Assistant County Attorney  
Date: November 13, 2019  
RE: Other Business for November 21, 2019 Planning Commission Meeting

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This memo is to provide background for the Planning Commission to consider as a part of the Other Business to be reviewed during the November 21, 2019 Planning Commission meeting.

### **2019-3 Lands of Betty Staats**

KH

#### Final Subdivision Plan

This is a Final Subdivision Plan for the creation of two (2) single family lots and a residual parcel, located on the south side of Godwin School Road (S.C.R. 410). The Preliminary Subdivision Plan was approved by the Planning and Zoning Commission at their meeting of April 25, 2019. The Final Subdivision complies with the Sussex County Zoning and Subdivision Code. Tax Parcel: 133-16.00-77.01. Zoning: (AR-1) Agricultural Residential Zoning District. Staff are in receipt of all agency approvals.

### **S-17-31 Weston Willows (F.K.A. Besche Apartment Complex)**

KS

#### Final Site & Landscape Plan

This is a Final Site Plan for the construction of 287 apartments within 12 buildings including recreational amenities and site improvements to be located off Lewes-Georgetown Highway (Route 9) on 26.96-acres. The Preliminary Site Plan was approved by the Planning and Zoning Commission at their meeting of June 22, 2017. The Final Site Plan complies with the Sussex County Zoning Code. Tax Parcel: 135-11.00-33.00. Zoning: (C-1) General Commercial Zoning District. Staff are in receipt of all agency approvals.

### **S-19-45 Big Oyster Brewery**

KS

#### Revised Site Plan

This is a Revised Site Plan for an addition to an existing building and an addition to an existing patio with adequate parking. A second phase is proposed to add an additional 6,600 sf. storage building at which time the parking configuration will be finalized and interconnectivity to the neighboring parcel to the south. The Revised Site Plan complies with the Sussex County Zoning Code. Tax Parcel: 335-8.00-39.00. Zoning: C-1 (General Commercial District) and C-3 (Heavy Commercial District). Staff are awaiting agency approvals.

### **2016-1 Middle Creek Preserve Subdivision**

BM

#### Preliminary Amenities Plan

This is a Preliminary Amenities Plan for the construction of a clubhouse, swimming pool, and other site improvements. The clubhouse is set back a total of 17 feet from the front property line. The Commission may determine the setback per 115-20A(10) of the Sussex County Code. The Preliminary



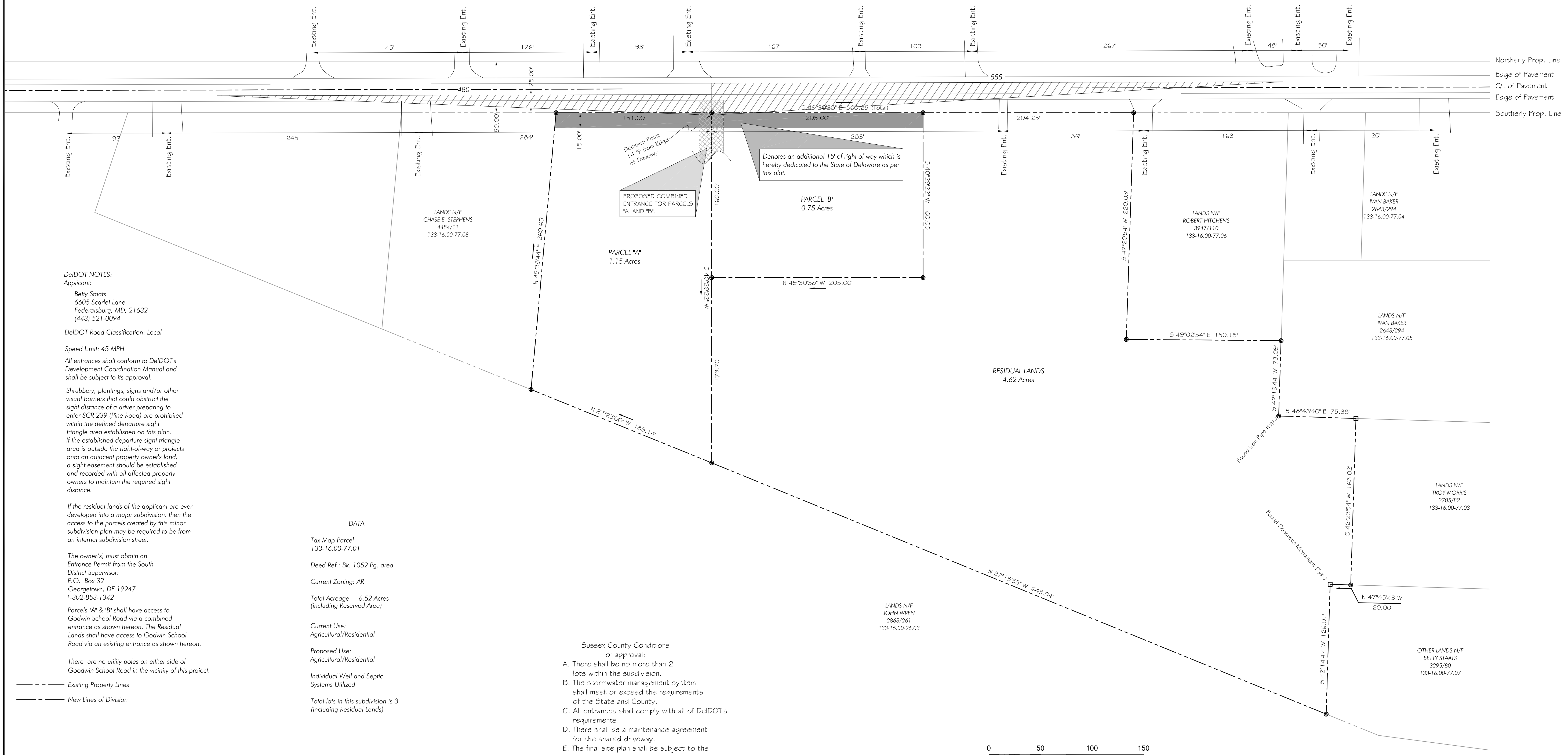
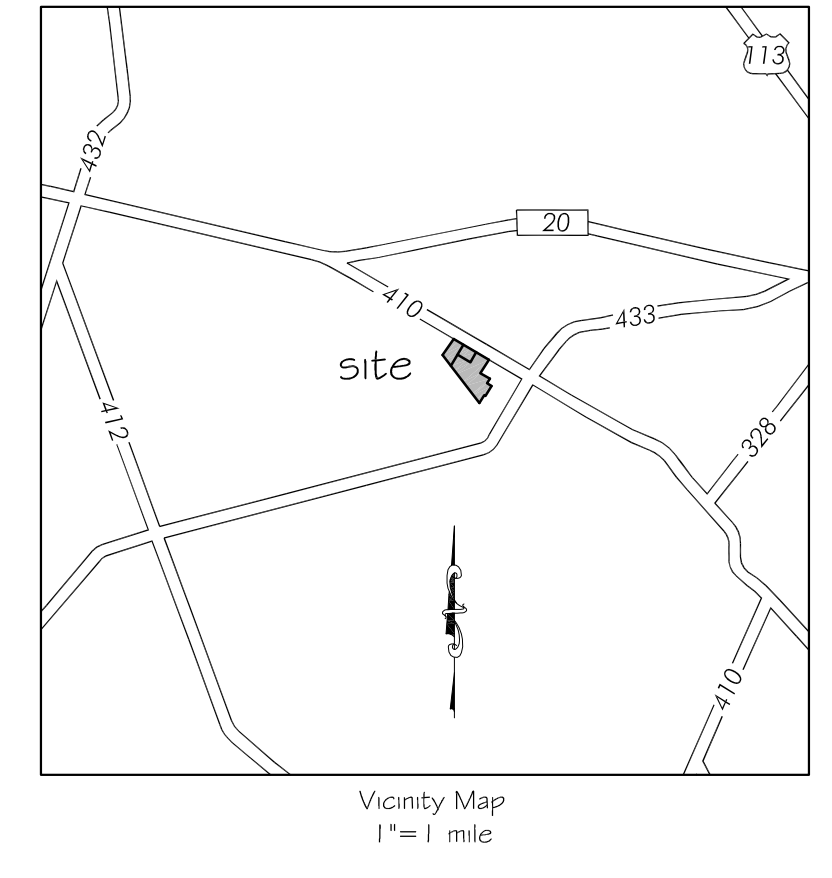
Amenities Plan complies with the Zoning Code and all conditions of approval for the subdivision. Tax Parcel: 234-11.00-51.00. Zoning: AR-1 (Agricultural Residential Zoning District). Staff are in receipt of all agency approvals and therefore the plan is eligible for consideration as a Final Amenities Plan.

**SURVEYOR'S CERTIFICATION**  
 I hereby certify that this plan and survey has been made under my supervision and that it complies with the laws of Sussex County and the State of Delaware.

*Peter E. Loewenstein*  
 Peter E. Loewenstein, Delaware PLS 389  
 P.O. Box 247, Harbeson, DE 19951

**OWNERS APPROVAL**  
 I, the undersigned, hereby certify to the ownership of the property described and shown on this plan, that the plan was made at my direction, and that I desire the plan to be recorded according to law.

*Betty B. Staats* 12-17-18  
 Betty Staats date  
 6605 Scarlet Lane  
 Federalsburg MD 21632  
 (443) 521-0094



**DeIDOT NOTES:**  
 Applicant:  
 Betty Staats  
 6605 Scarlet Lane  
 Federalsburg, MD, 21632  
 (443) 521-0094

DeIDOT Road Classification: Local

Speed Limit: 45 MPH  
 All entrances shall conform to DeIDOT's Development Coordination Manual and shall be subject to its approval.

Shrubbery, plantings, signs and/or other visual barriers that could obstruct the sight distance of a driver preparing to enter SCR 239 (Pine Road) are prohibited within the defined departure sight triangle area established on this plan. If the established departure sight triangle area is outside the right-of-way or projects onto an adjacent property owner's land, a sight easement should be established and recorded with all affected property owners to maintain the required sight distance.

If the residual lands of the applicant are ever developed into a major subdivision, then the access to the parcels created by this minor subdivision plan may be required to be from an internal subdivision street.

The owner(s) must obtain an Entrance Permit from the South District Supervisor:  
 P.O. Box 32  
 Georgetown, DE 19947  
 1-302-853-1342

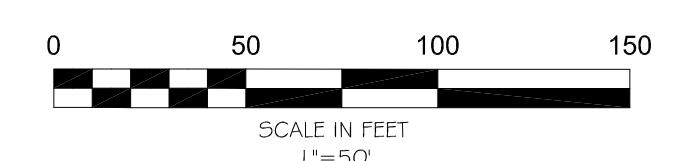
Parcels A & B shall have access to Godwin School Road via a combined entrance as shown hereon. The Residual Lands shall have access to Godwin School Road via an existing entrance as shown hereon.

There are no utility poles on either side of Goodwin School Road in the vicinity of this project.

--- Existing Property Lines  
 --- New Lines of Division

**DATA**  
 Tax Map Parcel  
 133-16.00-77.01  
 Deed Ref.: Bk. 1052 Pg. area  
 Current Zoning: AR  
 Total Acreage = 6.52 Acres  
 (including Reserved Area)  
 Current Use:  
 Agricultural/Residential  
 Proposed Use:  
 Agricultural/Residential  
 Individual Well and Septic  
 Systems Utilized  
 Total lots in this subdivision is 3  
 (including Residual Lands)

- Sussex County Conditions of approval:
- There shall be no more than 2 lots within the subdivision.
  - The stormwater management system shall meet or exceed the requirements of the State and County.
  - All entrances shall comply with all of DeIDOT's requirements.
  - There shall be a maintenance agreement for the shared driveway.
  - The final site plan shall be subject to the review and approval of Sussex County.



**COMPASS POINT ASSOCIATES**  
 SURVEYING  
 LAND PLANNING  
 P.O. Box 246  
 Harbeson, DE 19951  
 (302) 684-2980  
 fax (302) 684-2983  
 cpall@comcast.net

professional seal

**SUBDIVISION PLAN: LANDS OF BETTY STAATS**  
 DAGSBORO HUNDRED, SUSSEX COUNTY, DELAWARE  
 Deed Ref: 1052/113  
 TM: 133-16.00-77.01

Project:

Revisions
12/17/2018 - to revise owner's certification
1/11/2019 - Address DeIDOT Comments

Surveyed By: v. Walch, PLS  
 Prepared By: P.E.L.  
 Checked By: H.F.J.  
 Project #: 180710  
 Client: Betty Staats

No recorded or non-recorded rights-of-way, easements or other encumbrances affecting these lands have been provided to Compass Point Associates by the Client. No warranty as to title to any lands depicted hereon is explicitly or implicitly provided.

Date: 10/26/2018

Scale: As Shown

Sheet 1 of 1

# WESTON WILLOWS

## CONSTRUCTION PLANS

### BROADKILL RIVER WATERSHED, GEORGETOWN HUNDRED, SUSSEX COUNTY, DELAWARE

DBF PROJECT NO. 0818C017 AUGUST, 2017  
REVISED MARCH 13, 2019  
COUNTY PROJECT # SL-17-31

#### DATA COLUMN

TAX MAP NUMBERS: 1-35-11.00-33.00  
EX. ZONING: C-1 (COMMERCIAL DISTRICT)  
PROP. ZONING: C-1 (COMMERCIAL DISTRICT)  
EX. USE: FORESTED AREAS AND WETLAND AREAS  
PROP. USE: 287 APARTMENT UNITS WITH CLUBHOUSE

TOTAL OPEN SPACE: 13.145± ACRES OR 756,017.51 SQ.FT. (48.76%)  
ACTIVE OPEN SPACE AREA "A": 0.976± ACRES OR 42,539.81 SQ.FT. (3.62%)  
STORMWATER MANAGEMENT: 1.290± ACRES OR 56,195.20 SQ.FT. (4.78%)  
EXISTING WETLANDS: 0.468± ACRES OR 20,399.88 SQ.FT. (17.36%)  
PRIVATE ROADS & PARKING LOTS: 4.198± ACRES OR 182,882.29 SQ.FT. (15.57%)  
BUILDING AREA: 2.672± ACRES OR 116,403.89 SQ.FT. (9.91%)

TOTAL SITE AREA: 26.9614 ACRES  
FLOOD HAZARD MAP: THIS PROPERTY IS NOT IMPACTED BY THE 100 YEAR FLOODPLAIN AS DETERMINED BY FEMA MAP 10005C0325K, DATED MARCH 16, 2015

MAXIMUM DENSITY: 12 UNITS PER ACRE  
PROPOSED DENSITY: 10.65 UNITS PER ACRE  
IMPERVIOUS COVERAGE: 8.0163 ACRES (IMPERVIOUS SURFACE) / 26.7371 ACRES (TOTAL SITE) = 29.98%

PROPOSED LAND USE:  
PARCEL "B" & "C" COMMON SPACE 25.9945 ACRES(96.41%)  
PARCEL "A" ACTIVE OPEN SPACE 0.6853 ACRES (2.54%)  
PARCEL "D" PUMP STATION 0.0574 ACRES (0.21%)  
RIGHT-OF-WAY DEDICATION 0.2242 ACRES (0.83%)  
TOTAL 26.9614 ACRES

NET DEVELOPMENT AREA: 26.2682 ACRES  
WETLANDS: 0.4690 ACRES

UNIT BREAKDOWN:  
24 UNIT BUILDING (11 BUILDINGS)  
6-ONE BEDROOM UNITS  
12-TWO BEDROOM UNITS  
6-THREE BEDROOM UNITS  
23 UNIT BUILDING (1 BUILDING)  
5-ONE BEDROOM UNITS  
12-TWO BEDROOM UNITS  
6-THREE BEDROOM UNITS

TOTAL UNITS:  
71-ONE BEDROOM UNITS  
144-TWO BEDROOM UNITS  
72-THREE BEDROOM UNITS

PARKING:  
REQUIRED: 216 UNITS x 2/UNIT = 432 SPACES  
71 UNITS x 1.5/UNIT = 107 SPACES  
TOTAL REQUIRED SPACES = 539 BEFORE REDUCTION

PARKING REDUCTION:  
1-50 UNITS 75 REDUCED TO 75 SPACES  
51-200 UNITS 290 REDUCED @ 15% TO 247 SPACES  
201-320 UNITS 174 REDUCED @ 20% TO 140 SPACES  
462 SPACES REQUIRED

PROVIDED: 471 SPACES INCLUDING 26 HANDICAPPED ACCESSIBLE

LOADING:  
REQUIRED: 1 LOADING SPACE PER 5,000-25,000 S.F.  
12 BUILDINGS @ 23,138± S.F. EACH = 12 TOTAL REQUIRED

PROVIDED: 1 PER BUILDING @ 12 TOTAL PROVIDED

UTILITIES:  
SEWER: PUBLIC (ARTESIAN WASTEWATER MANAGEMENT, INC.)  
WATER: PUBLIC (ARTESIAN WATER CO., INC.)

SETBACK REQUIREMENTS:  
FRONT SETBACK: 40'  
SIDE SETBACK: 10'  
REAR SETBACK: 10'

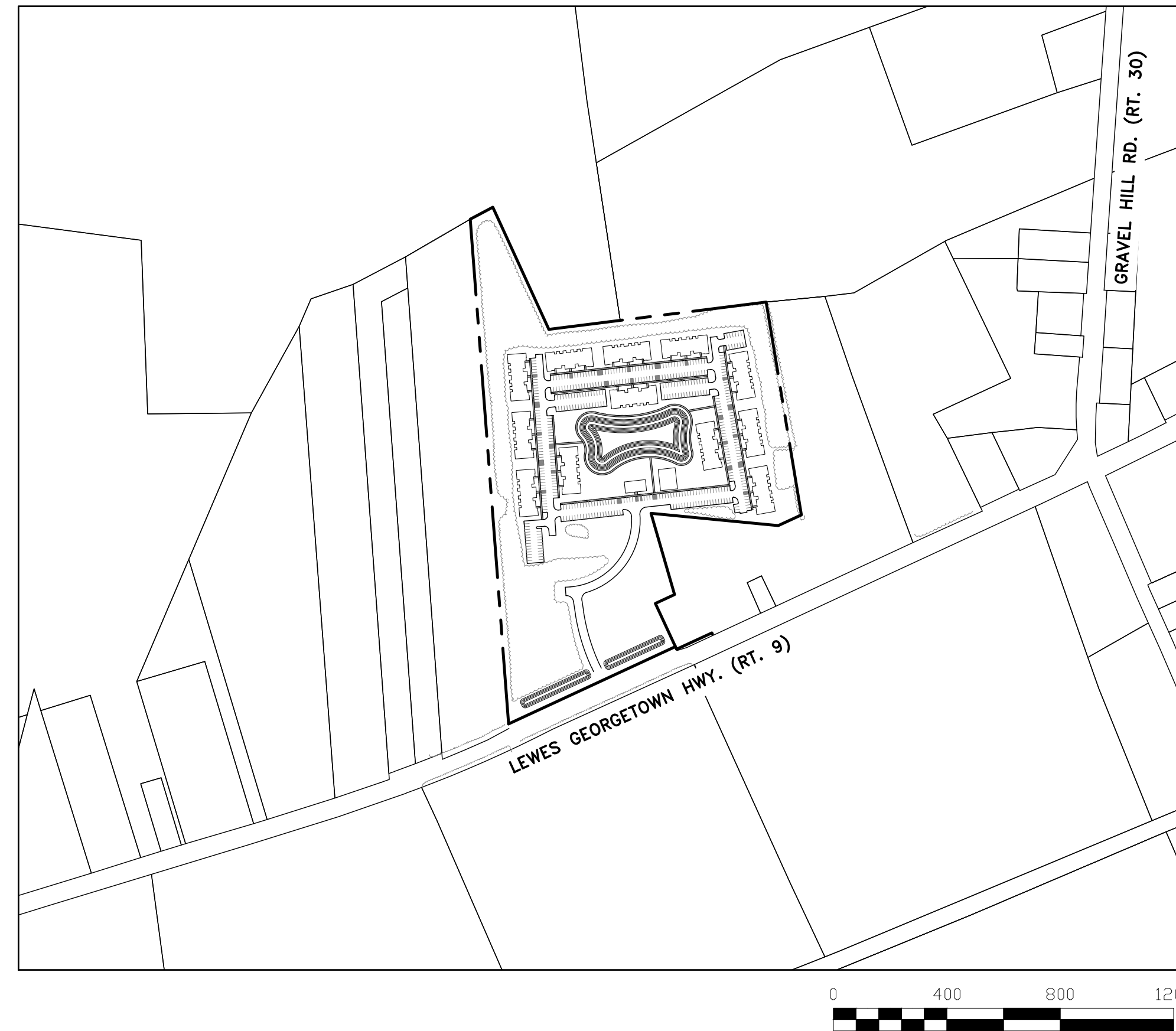
MAXIMUM PERMITTED BUILDING HEIGHT: 42'  
MINIMUM BUILDING SEPARATION: 40'

PROPOSED BUILDING CONSTRUCTION: WOOD CONSTRUCTION

OWNER: WESTON WILLOWS, LLC  
18949 COASTAL HIGHWAY  
REHOBOTH BEACH, DE 19971  
(302) 227-3573

PREPARED BY: DAVIS, BOWEN & FRIEDEL, INC.  
1 PARK AVENUE  
MILFORD, DE 19963  
(302) 424-1441

INDEX OF SHEETS	
1	TITLE
GN-1	GENERAL NOTES
SP-01 - SP-02	SITE PLAN
GR-01 - GR-06	GRADING PLANS
GR-07 - GR-09	ROAD PROFILES
DT-01	SITE CONSTRUCTION DETAILS
SS-01	UTILITY PLAN
SS-02	SEWER PROFILES
SS-03	WATER CROSSINGS
SS-04 - SS-05	SEWER DETAILS
W-01	WATER DISTRIBUTION PLANS
W-02	WATER DISTRIBUTION DETAILS
PS-1	PUMPSTATION SITE PLAN
PS-2	PUMPSTATION SECTION & DETAILS
PS-3 - PS-4	PUMPSTATION DETAILS
E-1	ELECTRICAL: SINGLE-LINE, DIAGRAMS & SCHEDULES
E-2	ELECTRICAL: SITE PLAN, DETAILS, & SCHEDULES
FM-01	FORCE MAIN PLAN & PROFILE
FP-1	FIRE PROTECTION PLAN
LS-1 - LS-2	LANDSCAPE PLAN
R-1	RECORD TITLE
R-2	RECORD PLAN
R-3	TRAFFIC GENERATION DIAGRAM
FW-01 - FW-04	FORCE MAIN & WATER MAIN EXTENSION
S-01 - S-13	EROSION & SEDIMENT CONTROL PLAN SET



BENCHMARKS		
DESCRIPTION	LOCATION	ELEVATION
PK NAIL SET IN ASPHALT	N:259496.6330 E:683339.2095	42.46' (NAVD 88)
PK NAIL SET IN ASPHALT	N:259177.2906 E:682646.4050	43.43' (NAVD 88)

SOILS DATA		
LABEL	SOIL NAME	TYPE
FoA	FALLSINGTON SANDY LOAMS, 0-2% SLOPES	B/D
HmA	HAMMONTON LOAMY SAND, 0-2% SLOPES	B
HnA	HAMMONTON SANDY LOAM, 0-2% SLOPES	B
LfA	LENNI SANDY LOAM, 0-2% SLOPES	B
PpA	PEPPERBOX LOAMY SAND, 0-2% SLOPES	A
WdA	WOODSTOWN SANDY LOAM, 0-2% SLOPES	C

#### WETLANDS CERTIFICATION

WE, THE UNDERSIGNED, HEREBY STATE THAT THE STATE AND/OR FEDERAL WETLANDS BOUNDARIES DELINEATED UPON THIS PLAN ARE ACCURATELY SHOWN AND THAT THE DELINEATION WAS PERFORMED UNDER OUR SUPERVISION AND IN ACCORDANCE WITH THE APPROPRIATE STATE OR FEDERAL STANDARD FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.

KYLE LAMPRON, P.E., TEN BEARS ENVIRONMENTAL DATE  
806 FEDERAL STREET  
MILFORD, DELAWARE 19968

#### OWNER'S STATEMENT

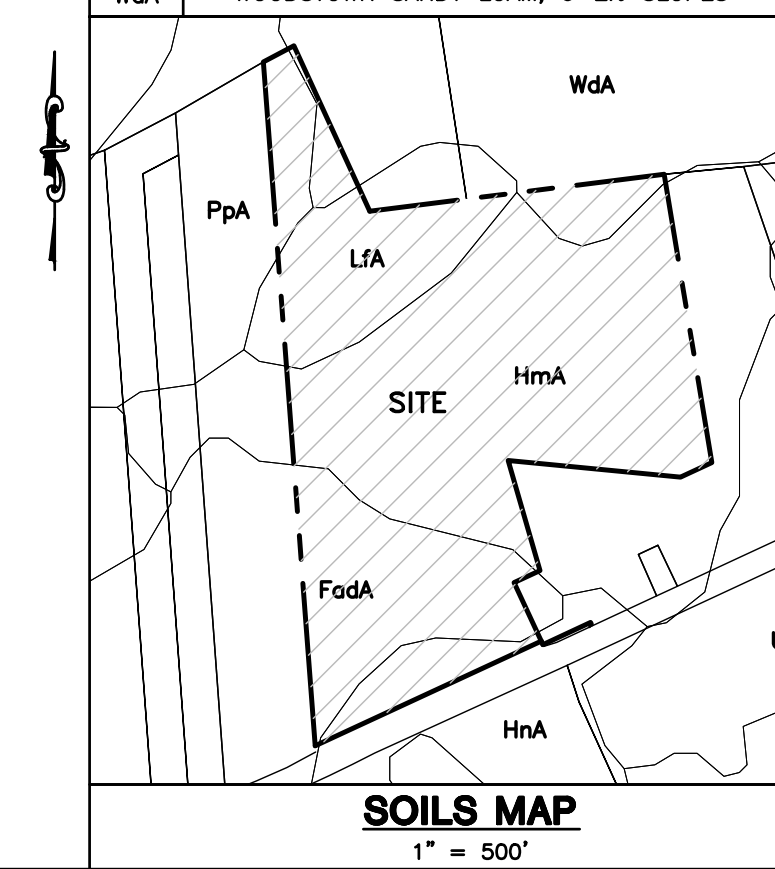
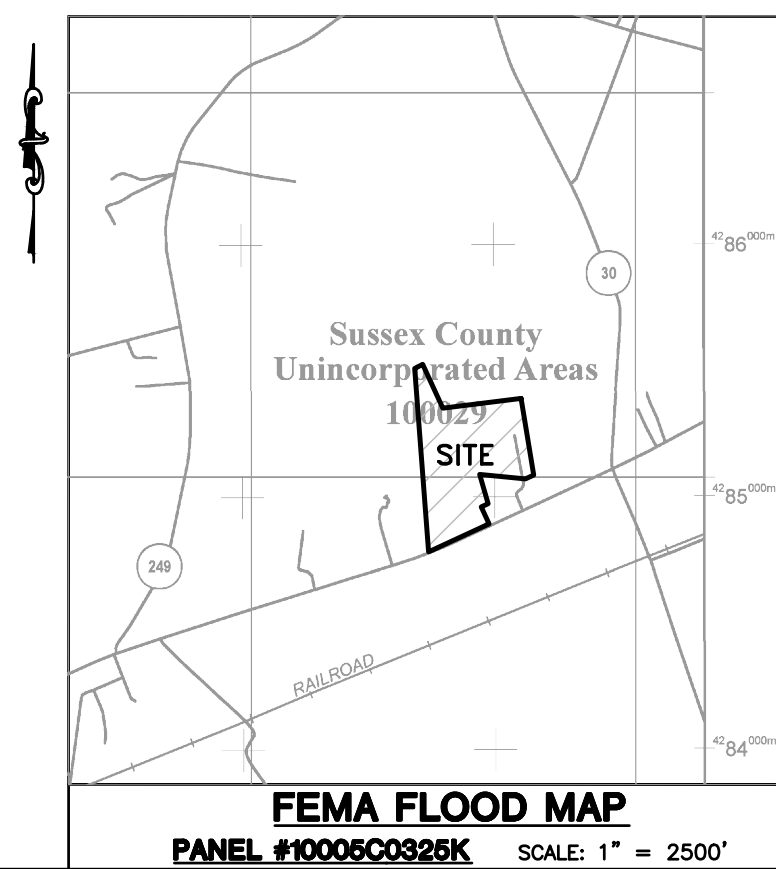
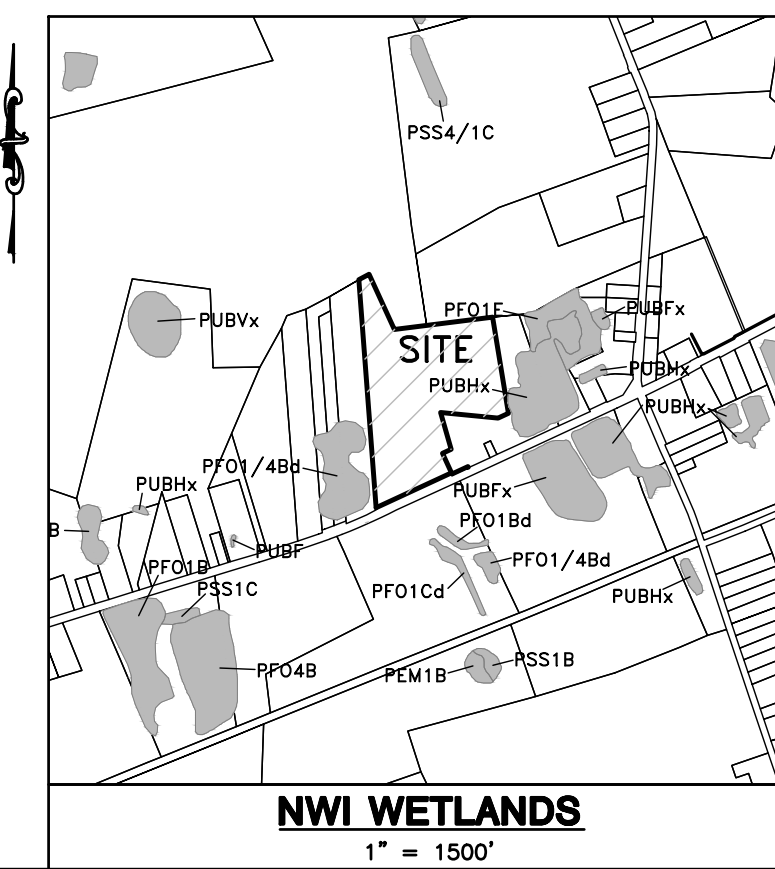
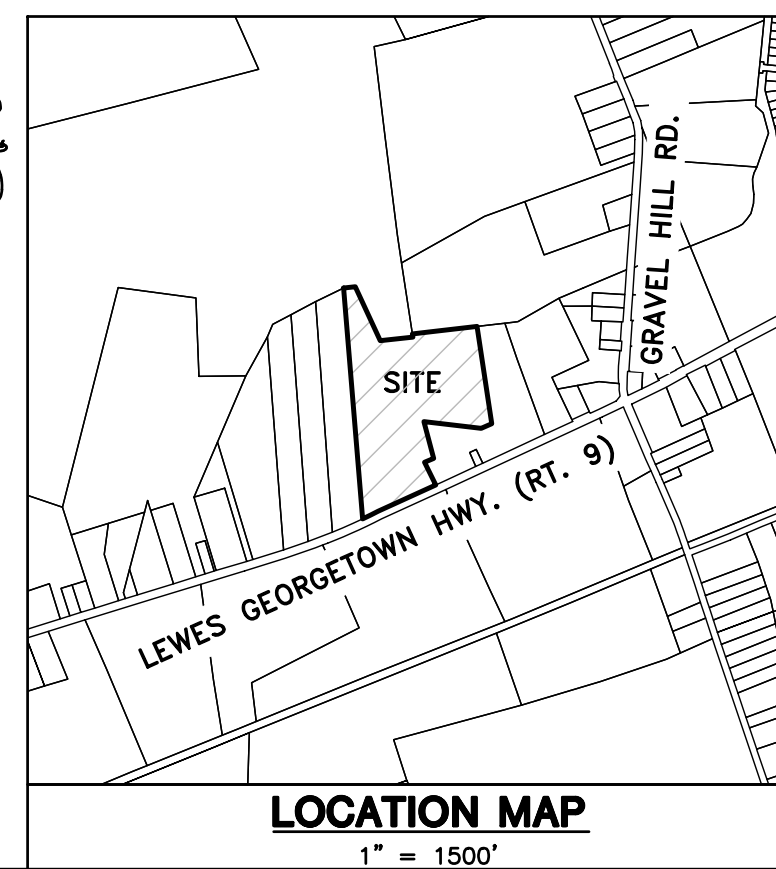
I, THE UNDERSIGNED, HEREBY STATE THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THE PLAN WAS MADE AT MY DIRECTION, I ACKNOWLEDGE THE SAME TO BE MY ACT AND DESIRE THE PLAN BE RECORDED ACCORDING TO LAW.

WESTON WILLOWS, LLC. DATE  
18949 COASTAL HWY. UNIT 301  
REHOBOTH BEACH, DE 19971

#### ENGINEER'S STATEMENT

I, JAMIE L. SECHLER, P.E., HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

JAMIE L. SECHLER, P.E. DATE  
DAVIS, BOWEN & FRIEDEL, INC.  
1 PARK AVENUE  
MILFORD, DELAWARE, 19963



## CIVIL PLAN GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:  
SUSSEX COUNTY ENGINEERING DEPARTMENT 302-855-7718  
DAVIS, BOWEN & FRIEDEL, INC. 302-424-1441  
SUSSEX CONSERVATION DISTRICT 302-856-2105  
DEPARTMENT OF TRANSPORTATION, SOUTH DISTRICT PERMITS SUPERVISOR 302-853-1342  
ARTESIAN WATER COMPANY, INC. & ARTESIAN WASTEWATER MANAGEMENT, INC. 302-453-7158
- ORIGINAL BOUNDARY AND TOPOGRAPHIC SURVEY WAS PERFORMED BY DAVIS, BOWEN & FRIEDEL INC. JANUARY, 2016
- CONTRACTOR SHALL PROVIDE STAKEOUT NECESSARY FOR THE INSTALLATION OF UTILITIES, STORM DRAINS, PAVING AND ALL OTHER SITE WORK INCLUDED IN THESE PLANS. ALL STAKEOUT WORK IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE.
- THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS UNLESS WRITTEN APPROVAL HAS BEEN PROVIDED BY THE ENGINEER.
- ACCORDING TO FEMA FLOOD INVENTORY MAP #10005C0325K, DATED MARCH 16, 2015. THE SITE IS NOT IMPACTED BY THE 100 YEAR FLOODPLAIN.

## DRAINAGE, GRADING AND SEDIMENT CONTROL GENERAL NOTES

- ALL STORM DRAIN PIPING, INLET, MANHOLE, AND END SECTION INSTALLATION SHALL BE IN ACCORDANCE WITH SUSSEX COUNTY CONSTRUCTION STANDARDS.
- ALL STORM DRAIN DESIGNATED AS RCP IS TO BE REINFORCED CONCRETE PIPE, MEETING AASHTO M 170 SPECIFICATIONS, STORM DRAIN SEE PIPE SCHEDULE FOR PIPE CLASSIFICATION.
- PIPE SPAN LENGTHS ARE MEASURED FROM C/L OF STRUCTURE TO C/L OF STRUCTURE, WHERE APPLICABLE ARE ROUNDED TO THE NEAREST FOOT.
- ALL SEALS MUST BE WATERTIGHT WITH NON SHRINK GROUT OR RUBBER GASKETS AND CONCRETE STRUCTURES MUST BE PRECAST OR POURED IN PLACE.
- CONTRACTOR SHALL GRADE, TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS OF CONSTRUCTION, INCLUDING PIPE INSTALLATION OR DITCH CONSTRUCTION. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL SLOPES GREATER THAN 3:1.
- THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL MEASURES TO PROTECT STOCKPILE AREAS AND STORAGE AREAS. ALL AREAS USED BY THE CONTRACTOR FOR STAGING OPERATIONS SHALL BE FULLY RESTORED BY THE CONTRACTOR UPON COMPLETION OF THE PROJECT. IF THE STAGING AREA IS PAVED, IT SHALL BE RESTORED TO ITS ORIGINAL CONDITION. IF THE STAGING AREA IS UNPAVED, IT SHALL BE RE-GRADED, TOPSOILED, SEEDED AND MULCHED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH RESTORATION OF THE STAGING AREA SHALL BE AT THE CONTRACTOR'S EXPENSE. IF THE ENGINEER DETERMINES THAT A SATISFACTORY STAND OF GRASS DOES NOT EXIST AT THE TIME OF FINAL INSPECTION, ALL COSTS ASSOCIATED WITH RE-ESTABLISHING A SATISFACTORY STAND OF GRASS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- EQUIPMENT AND/OR STOCKPILE MATERIAL SHALL NOT BE STORED IN THE DRIPLINE AREA OF ANY TREE.
- IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE SUSSEX CONSERVATION DISTRICT.
- CORRUGATED POLYETHYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH DELDOT SPECIAL PROVISIONS 6125XX.
- ADDITIONAL EROSION AND SEDIMENT CONTROL NOTES CAN BE FOUND ON THE EROSION AND SEDIMENT CONTROL PLANS.
- THE OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AND REPAIR OF ALL EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT PRACTICES DURING AND AFTER CONSTRUCTION.

## DEMOLITION AND SAFETY GENERAL NOTES

- MISS UTILITY OF DELMARVA SHALL BE NOTIFIED THREE CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-8555.
- EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION AND ELEVATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BEGIN WITHOUT NOTIFYING THEIR OWNERS AT LEAST 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE DONE TO THEM DUE TO HIS/HER NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA.
- THE CONTRACTOR SHALL REMOVE AND IMMEDIATELY REPLACE, RELOCATE, RESET OR RECONSTRUCT ALL OBSTRUCTIONS IN THE ROAD WAY, INCLUDING, BUT NOT LIMITED TO, MAILBOXES, SIGNS, LANDSCAPING, LIGHTING, PLANTERS, CULVERTS, DRIVEWAYS, PARKING AREAS, CURBS, GUTTERS, FENCES, OR OTHER NATURAL OR MAN-MADE OBSTRUCTIONS. TRAFFIC CONTROL, REGULATORY, WARNING AND INFORMATIONAL SIGNS SHALL REMAIN FUNCTIONAL AND VISIBLE TO THE APPROPRIATE LANES OF TRAFFIC AT ALL TIMES, WITH THEIR RELOCATION KEPT TO A MINIMUM DISTANCE. THE COST SHALL BE INCLUDED IN THE COST OF ITEMS BID.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION. THE CONTRACTOR SHALL ERCT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY AND PROTECTION.
- DELAWARE REGULATIONS PROHIBIT THE BURIAL OF CONSTRUCTION DEMOLITION DEBRIS, INCLUDING TREES AND STUMPS ON CONSTRUCTION SITES. ANY SOLID WASTE FOUND DURING THE EXCAVATION FOR STRUCTURES AND UTILITY LINES ON AND OFF SITE MUST BE REMOVED AND PROPERLY DISCARDED. ANY REMEDIAL ACTION REQUIRED IS THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM. ADDITIONAL COSTS WILL BE NEGOTIATED WITH THE OWNER.
- DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL WORK MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.

## INTERNAL PAVING / CONCRETE NOTES

- BITUMINOUS CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH THE 2001 DELDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION INCLUDING SPECIAL PROVISIONS:
  - SECTION 401 FOR PLACEMENT OF TACK COAT AND BITUMINOUS CONCRETE.
  - BITUMINOUS CONCRETE SHALL BE FROM A DELDOT APPROVED PLANT.
  - BITUMINOUS CONCRETE SHALL NOT BE APPLIED WHEN THE TEMPERATURE IS BELOW 40° F OR ON ANY WET OR FROZEN SURFACE.
- ALL DISTURBED AREAS NOT COVERED WITH IMPERVIOUS MATERIAL, SHALL BE TOPSOILED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED.
- ALL SIGNING AND MAINTENANCE OF TRAFFIC IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL FOLLOW THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
- DESIGN, FABRICATION, AND INSTALLATION OF ALL PERMANENT SIGNING SHALL BE AS OUTLINED IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
- FOR FINAL PERMANENT PAVEMENT MARKINGS, EPOXY RESIN PAINT SHALL BE REQUIRED FOR LONG LINE STRIPING AND THERMO WILL BE REQUIRED FOR SHORT LINE STRIPING, I.E. SYMBOLS/LEGENDS.
- ALL TRAFFIC CONTROL DEVICES SHALL BE IN NEW OR REFURBISHED CONDITION, SHALL COMPLY WITH THE 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION), AND SHALL BE NCHRP - 350 APPROVED AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION FOR DURATION OF USE.
- BREAKAWAY POSTS SHALL BE USED WHEN INSTALLING ALL SIGNS. DETAIL CAN BE FOUND IN DELDOT'S STANDARD CONSTRUCTION DETAILS.
- PLAN LOCATION AND DIMENSIONS SHALL BE STRICTLY ADHERED TO UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT PAVING IS INSTALLED TO THE ELEVATIONS SHOWN AND THAT NO PONDING OF WATER EXISTS AFTER PAVING IS COMPLETE. PONDING IS DEFINED AS WATER STANDING IN AN AREA MORE THAN 1 HOUR AFTER A RAINFALL EVENT THAT PRODUCES RUNOFF. ELIMINATION OF PONDING WILL BE COMPLETED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- OPEN-CUT TRENCHES AND PROVIDE PAVEMENT RESTORATION IN ACCORDANCE WITH DELDOT STANDARDS AND SPECIFICATIONS.
- CONCRETE SHALL BE PLACED IN ACCORDANCE WITH DELDOT STANDARD SPECIFICATIONS.

## POTABLE WATER DISTRIBUTION GENERAL NOTES

- CONTRACTORS APPROVED AND CONTRACTED BY ARTESIAN WATER COMPANY, INC. ARE ONLY PERMITTED TO PERFORM INSTALLATION OF THE WATER DISTRIBUTION SYSTEM.
- ARTESIAN WATER, INC. OR ITS CONTRACTOR IS RESPONSIBLE FOR ALL WATER INSTALLATION UP TO AND INCLUDING THE CURB STOP.
- THE DEVELOPER SHALL PURCHASE THE METER PIT FROM ARTESIAN AND INSTALL IT IN ACCORDANCE WITH ARTESIAN WATER STANDARDS AND SPECIFICATIONS.
- ALL WORK MUST BE IN CONFORMANCE WITH ARTESIAN WATER, INC. STANDARDS AND SPECIFICATIONS.
- ALL WORK MUST BE HYDROSTATICALLY TESTED AND THEN DISINFECTED. CONTRACTOR SHALL SUPPLY ALL MATERIALS TO TEST AND DISINFECT THE SYSTEM. CONTRACTOR IS REQUIRED TO OBTAIN A CERTIFICATE TO OPERATED FROM DHSS OFFICE OF DRINKING WATER.
- ALL AREAS DISTURBED SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. IF ADDITIONAL WORK IS REQUIRED IN THE FUTURE THEN THE AREA SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
- WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM SEWER MAINS. WATER CROSSING SEWER MAINS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 18" TO OUTSIDE OF PIPES. IF AN 18" CLEARANCE CANNOT BE OBTAINED, A 10 LINEAR FOOT CONCRETE ENCASEMENT SHALL BE USED ON THE SEWER MAIN.
- WHEN IT IS IMPOSSIBLE TO OBTAIN THE MINIMAL 10 FOOT HORIZONTAL AND/OR 18" SEPARATION BETWEEN WATER MAINS AND SANITARY SEWER, THE OFFICE OF ENGINEERING MUST SPECIFICALLY APPROVE ANY VARIANCE SUPPORTED BY DATA FROM THE DESIGN ENGINEER.
- THE ARTESIAN STANDARDS AND SPECIFICATIONS ARE THE AWC STANDARDS/SPECS/PROCEDURES LAST UPDATED ON 10/16/07. COPIES CAN BE OBTAINED FROM ARTESIAN WATER, INC.
- THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF CONTRACT DRAWINGS ON WHICH HE SHALL NOTE, IN RED, THE ALIGNMENTS AND INVERTS OF ALL UNDERGROUND UTILITIES INSTALLED OR ENCOUNTERED DURING THE PROSECUTION OF THE WORK. ALL DISCREPANCIES BETWEEN THE PLAN LOCATIONS AND ELEVATIONS OF BOTH THE EXISTING AND PROPOSED UTILITIES SHALL BE SHOWN ON THE AS-BUILT DRAWINGS TO BE MAINTAINED BY THE CONTRACTOR IN THE FIELD.
- PLAN LOCATIONS AND DIMENSIONS SHALL BE STRICTLY ADHERED TO UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. THE CONTRACTOR SHALL ADJUST WATERLINE LOCATIONS AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES.
- WATER SERVICE STUBS SHALL NOT BE INSTALLED BY THE CONTRACTOR PRIOR TO THE SUCCESSFUL PRESSURE TESTING OF THE WATER MAINS.
- ALL WATER MAINS SHALL HAVE A 42" MINIMUM BURIAL DEPTH.

## SANITARY SEWER GENERAL NOTES

- CONTRACTOR SHALL PROVIDE STAKEOUT SURVEY NECESSARY FOR THE INSTALLATION OF UTILITY WORK AND APPURTENANCES.
- SANITARY SEWER CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH ARTESIAN WASTEWATER MANAGEMENT, INC. ENGINEERING STANDARDS AND SPECIFICATIONS AND DETAILS LATEST EDITION.
- USE ONLY SUITABLE GRANULAR MATERIAL APPROVED BY ARTESIAN WASTEWATER MANAGEMENT, INC. FOR BACKFILLING TRENCHES.
- SANITARY SEWER LATERAL SHALL BE 6" PVC SDR-26. SEWER LATERAL SHALL INCLUDE A 6" CLEANOUT, WYE, AND CAP JUST BEHIND THE EDGE OF SIDEWALK. CLEANOUT, FRAME & COVERS SHALL BE INSTALLED AT TIME OF HOUSE TIE-IN TO SYSTEM.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
- TOP OF MANHOLE ELEVATIONS ARE TOP OF MANHOLE FRAME AND COVER.
- PIPE SPAN LENGTHS ARE MEASURED FROM C/L OF STRUCTURE TO C/L OF STRUCTURE, WHERE APPLICABLE ARE ROUNDED TO THE NEAREST FOOT.
- THE CONTRACTOR SHALL FIELD VERIFY INVERTS AND LOCATION OF EXISTING SANITARY SEWER MAINS OR MANHOLES TO WHICH NEW CONSTRUCTION WILL CONNECT.
- THE SEWER LATERAL SHALL HAVE A MINIMUM COVER OF 3.0 FEET FROM PROPOSED GRADE, AS MEASURED FROM THE TOP OF PIPE.
- THE CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH OR ACCESS PITS WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY. TRENCHES MAY NOT BE LEFT OPEN WITHOUT PERMISSION FROM ARTESIAN WASTEWATER MANAGEMENT, INC..
- FINAL APPROVED SET OF PLANS AND SPECIFICATIONS SHALL BE MAINTAINED ON THE JOB SITE. FAILURE TO COMPLY WITH THIS PROVISION SHALL BE CONSIDERED CAUSE TO STOP THE WORK.
- THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF CONTRACT DRAWINGS ON WHICH THE CONTRACTOR SHALL NOTE, IN RED, THE ALIGNMENTS AND INVERTS OF ALL UNDERGROUND UTILITIES INSTALLED OR ENCOUNTERED DURING THE PROSECUTION OF THE WORK. ALL DISCREPANCIES BETWEEN THE PLAN LOCATIONS AND ELEVATIONS OF BOTH THE EXISTING AND PROPOSED UTILITIES SHALL BE SHOWN ON THE AS-BUILT DRAWINGS TO BE MAINTAINED BY THE CONTRACTOR IN THE FIELD.
- ARTESIAN WASTEWATER MANAGEMENT, INC. WILL PROVIDE FULL TIME INSPECTIONS DURING ALL SANITARY SEWER CONSTRUCTION. THESE INSPECTIONS DO NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATION AND RESPONSIBILITY FOR CONSTRUCTING A SANITARY SEWER SYSTEM IN STRICT ACCORDANCE WITH ARTESIAN WASTEWATER MANAGEMENT, INC. STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS TO LOCATE PROPERTY LINES, EASEMENTS, AND RIGHT-OF-WAY LINES PRIOR TO CONSTRUCTION AND AVOID CONSTRUCTION ACTIVITIES ON PRIVATE PROPERTY AND/OR RIGHTS OF WAYS WHERE SAID CONSTRUCTION IS PROHIBITED. THE CONTRACTOR MAY CONDUCT CONSTRUCTION ACTIVITIES ON PRIVATE PROPERTY PROVIDED HE HAS OBTAINED PRIOR WRITTEN PERMISSION FROM THE PROPERTY OWNER AND HAS SUBMITTED A COPY OF SAID WRITTEN PERMISSION TO ARTESIAN. ANY DISTURBED AREAS BEYOND THE RIGHT-OF-WAY OR EASEMENT LINES SHALL BE RESTORED IMMEDIATELY TO THEIR ORIGINAL CONDITION. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE COST OF ITEMS BID.
- DIFFERING SITE CONDITIONS AND/OR DIFFERING MATERIAL PROPERTIES SHALL REQUIRE ARTESIAN WASTEWATER MANAGEMENT, INC. APPROVAL OF SPECIAL DESIGN DETAILS PREPARED BY THE DESIGN ENGINEER PRIOR TO INITIATING OR RESUMING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOLLOWING EXCAVATIONS FOR INSPECTION AND EVALUATION OF EXISTING SOIL SUBGRADE CONDITIONS. ARTESIAN WASTEWATER MANAGEMENT, INC. SHALL INSPECT ALL SUBGRADES FOLLOWING EXCAVATION AND PRIOR TO CONSTRUCTION OF NEW WORK TO CONFIRM DESIGN CONDITIONS ARE MET AND SUBGRADE CONDITIONS ARE SUITABLE FOR CONSTRUCTION. IN THE EVENT THE SOIL BEARING CAPACITY IS LESS THAN THE MINIMUM DESIGN VALUE, ARTESIAN WASTEWATER MANAGEMENT, INC. SHALL CAUSE AFFECTED CONSTRUCTION TO CEASE AND SHALL NOTIFY THE DESIGN ENGINEER FOR RE-DESIGN TO ACCOMMODATE THE REDUCED SOIL BEARING CAPACITY.
- IN THE EVENT THE SUBGRADE CONDITION IS UNSTABLE, DUE TO UNSUITABLE MATERIALS AND/OR GROUNDWATER INFILTRATION/INTRUSION INTO THE SURROUNDING SOILS, REMOVE THE UNSUITABLE MATERIAL AND FILL WITH SUITABLE APPROVED GRANULAR FILL MATERIAL.
- SEWER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM WATER MAINS. SEWER CROSSING WATER MAINS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 18" TO OUTSIDE OF PIPES. IF AN 18" CLEARANCE CANNOT BE OBTAINED, A 10 LINEAR FOOT CONCRETE ENCASEMENT SHALL BE USED. WATER MAINS MAY NEED TO BE DEFLECTED TO MEET THE SEPARATION REQUIREMENTS.
- SEWER MAINS SHALL BE LAID AT LEAST 5 FEET HORIZONTALLY FROM GAS MAINS.

DAVIS, BOWEN & FRIEDEL, INC.  
ARCHITECTS, ENGINEERS & SURVEYORS



SALISBURY, MARYLAND (410) 543-9691  
MILFORD, DELAWARE (302) 424-1441

GENERAL NOTES

WESTON WILLOWS  
APARTMENT COMMUNITY  
SUSSEX COUNTY, DELAWARE

REVISIONS:  
2-22-2018 ARTESIAN  
3-13-2019 SCJ  
07-08-2019 ARTESIAN

Date: AUGUST, 2017

Scale: NOT TO SCALE

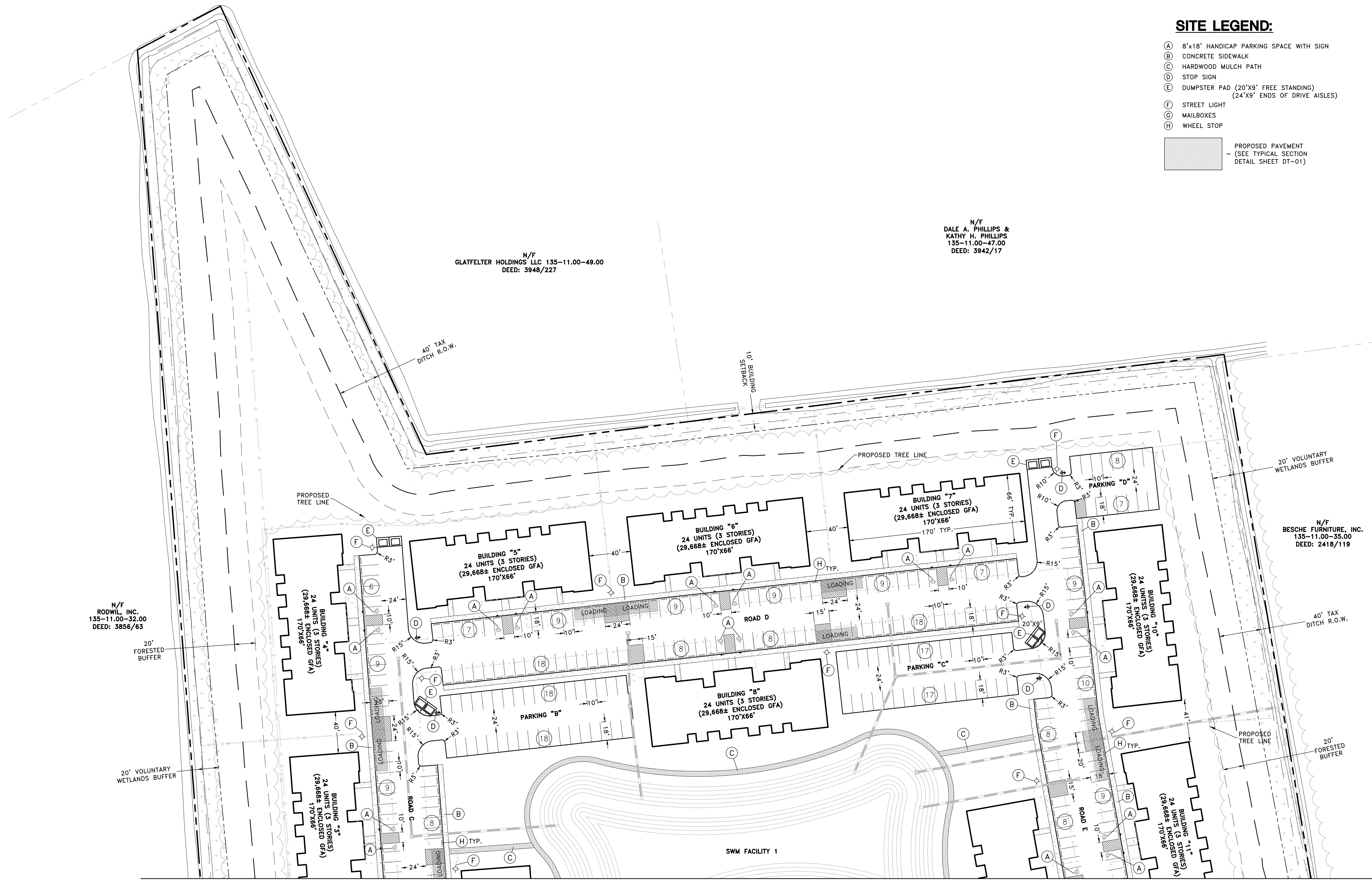
Dwn.By: DJR

Proj.No.: 0818C017.M01

Dwg.No.:

GN-01





- SITE LEGEND:**
- (A) 8'x18' HANDICAP PARKING SPACE WITH SIGN
  - (B) CONCRETE SIDEWALK
  - (C) HARDWOOD MULCH PATH
  - (D) STOP SIGN
  - (E) DUMPSTER PAD (20'X9' FREE STANDING) (24'X9' ENDS OF DRIVE AISLES)
  - (F) STREET LIGHT
  - (G) MAILBOXES
  - (H) WHEEL STOP
- PROPOSED PAVEMENT  
 (SEE TYPICAL SECTION  
 DETAIL SHEET DT-01)

**WESTON WILLOWS  
 APARTMENT COMMUNITY  
 SUSSEX COUNTY, DELAWARE**

REVISED:  
 2018-02-19 SCD  
 COMMENTS  
 2019-03-13 SCD  
 COMMENTS

Date: **DECEMBER, 2017**  
 Scale: **1" = 50'**  
 Dwn.By: **DJR**  
 Proj.No.: **0818C017.M01**  
 Dwg.No.:

**SP-01**



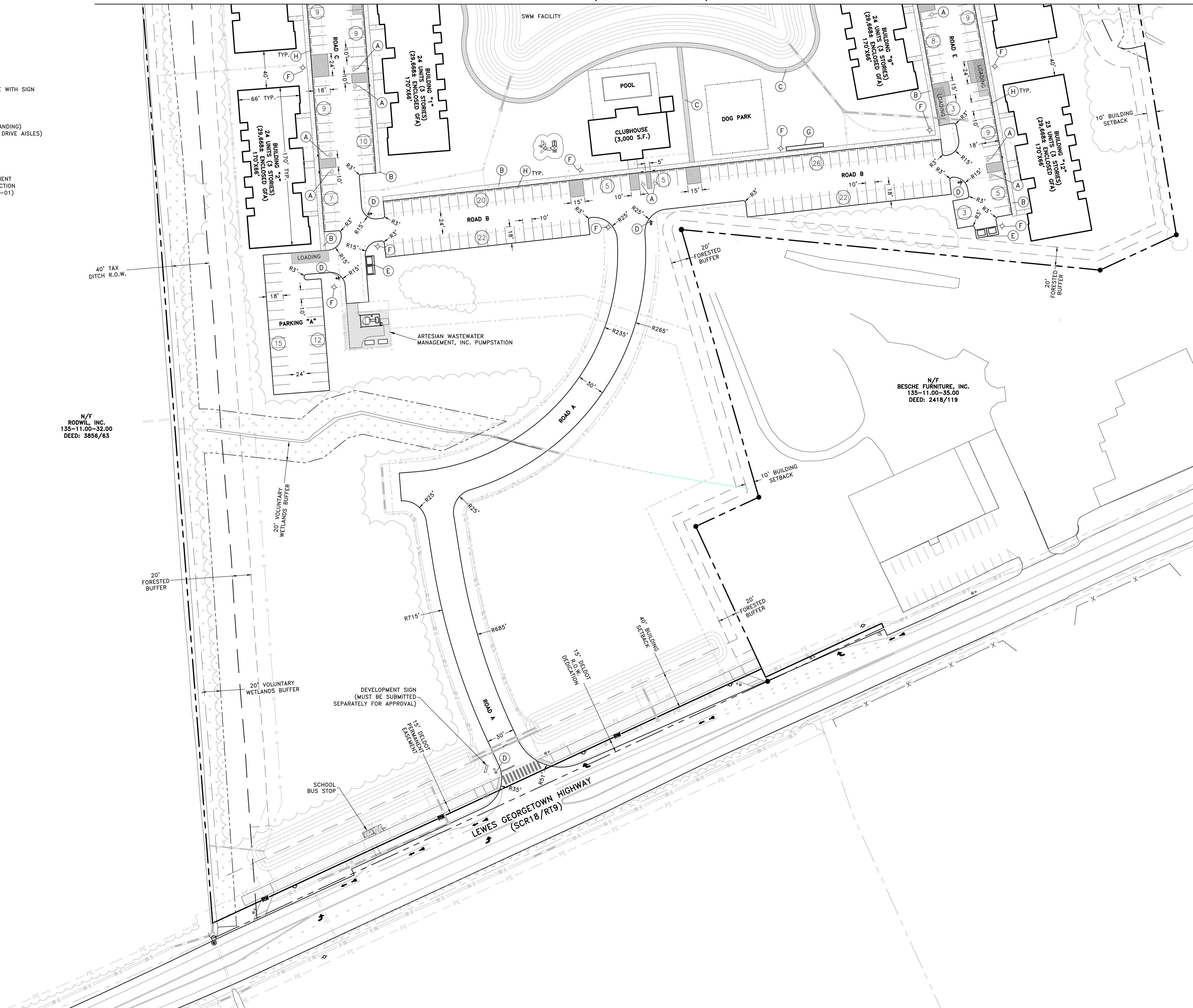
MATCHLINE (SEE SHEET SP-02)

MATCHLINE (SEE SHEET SP-01)

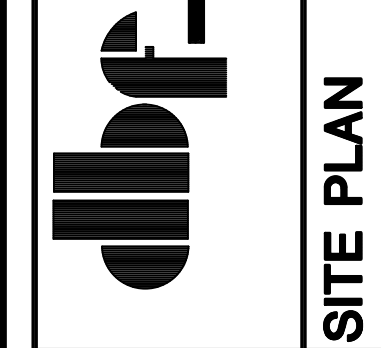
**SITE LEGEND:**

- (A) 8'x18' HANDICAP PARKING SPACE WITH SIGN
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- (H) WHEEL STOP

PROPOSED PAVEMENT  
(SEE TYPICAL SECTION  
DETAIL SHEET DT-01)



DAVIS, BOWEN & FRIEDEL, INC.  
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SITE PLAN

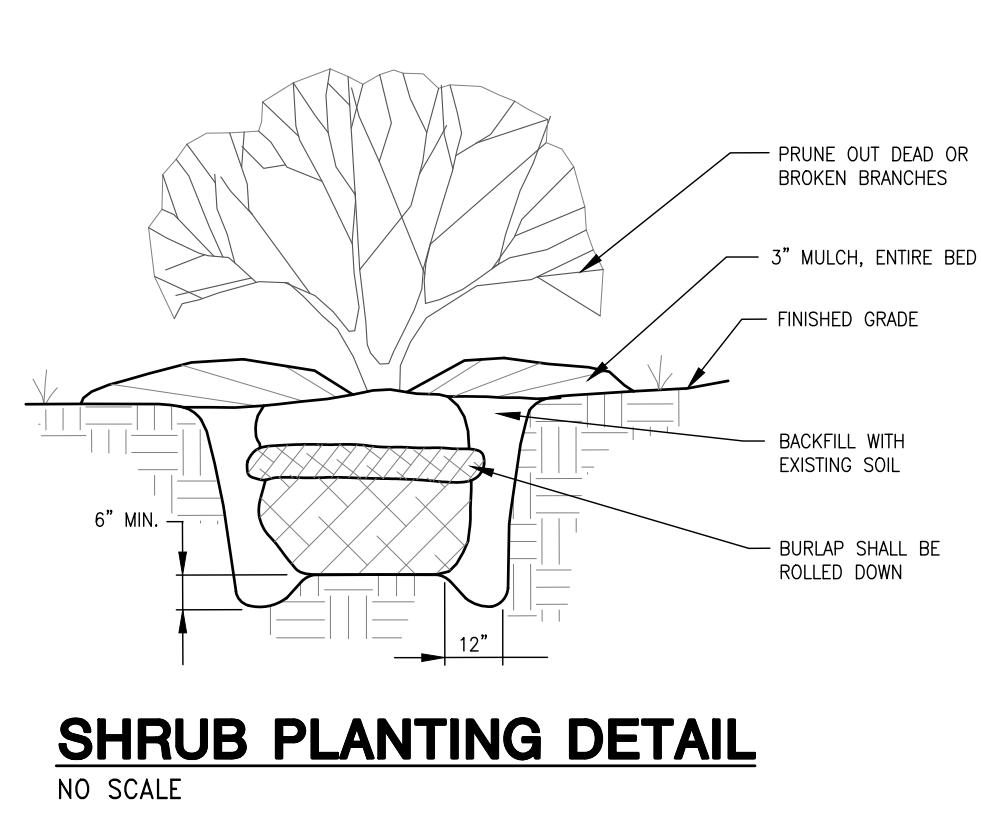
**WESTON WILLOWS  
APARTMENT COMMUNITY  
SUSSEX COUNTY, DELAWARE**

REVISED:  
2018-02-19 SCD  
COMMENTS  
2019-03-13 SCD  
COMMENTS

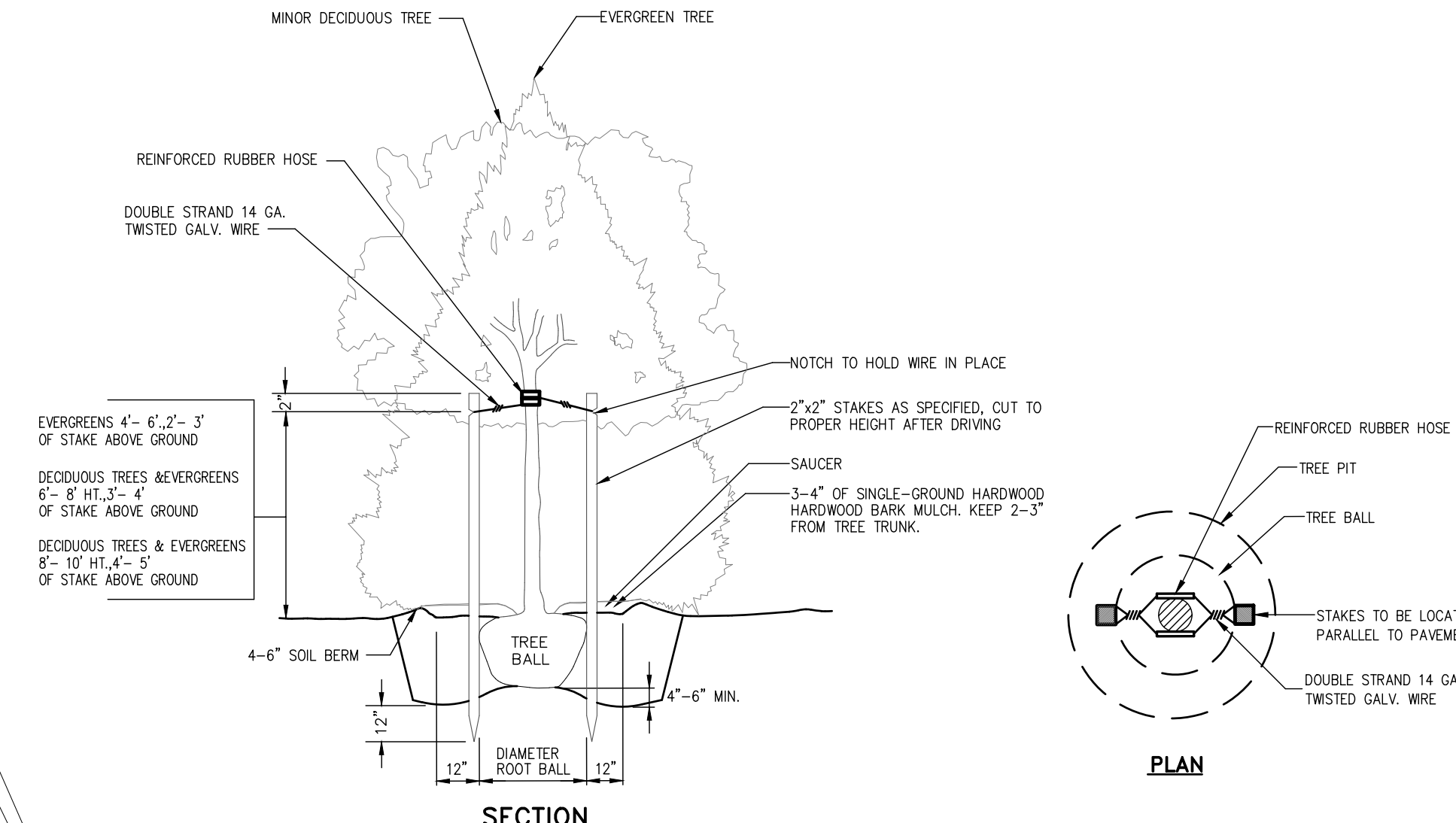
Date: **AUGUST, 2017**  
Scale: **1" = 50'**  
Dwn.By: **DJR**  
Proj.No.: **0818C017.M01**  
Dwg.No.:

**SP-02**

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**SHRUB PLANTING DETAIL**  
NO SCALE



**STAKING DETAIL**  
NO SCALE

LANDSCAPE PLANT SCHEDULE					
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
<b>DECIDUOUS TREE</b>					
	CC	CERCIS canadensis	EASTERN REDBUD	1 - 1 1/2" Cal., B&B	14
	QP	QUERCUS phellos	WILLOW OAK	1 1/2 - 2" Cal., B&B	12
	TC	TILIA cordata	LITTLELEAF LINDEN	1 1/2 - 2" Cal., B&B	11
<b>EVERGREEN TREE</b>					
	MG	MAGNOLIA grandiflora	SOUTHERN MAGNOLIA	5'6" HT., B&B	9
	PS	PINUS strobus	EASTERN WHITE PINE	5'6" HT., B&B	5
<b>EVERGREEN SHRUB</b>					
	TH	TAXUS x media 'HICKSII'	HICKS YEW	2-3' HT., B&B	44

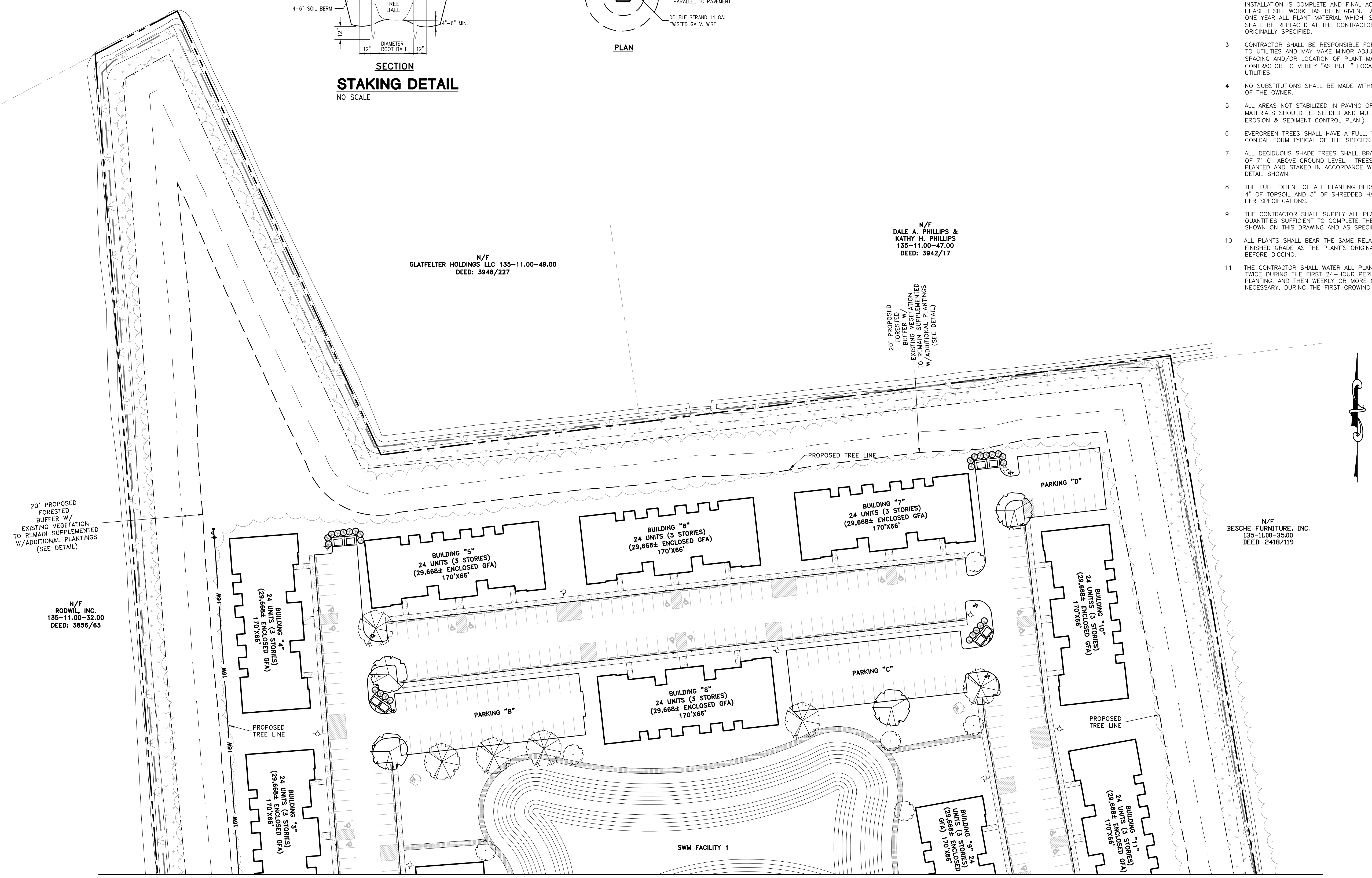
**LANDSCAPE ARCHITECT'S STATEMENT**

I, TIMOTHY M. METZNER, HEREBY STATE THAT I AM A REGISTERED LANDSCAPE ARCHITECT IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

by **TIMOTHY M. METZNER,** DATE \_\_\_\_\_  
**DAVIS, BOWEN & FRIEDEL, INC.**  
 1 PARK AVENUE  
 MILFORD, DELAWARE, 19963

**GENERAL LANDSCAPE NOTES**

1. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF ROOT BALLS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARDS FOR NURSERY STOCK"
2. CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR AFTER INSTALLATION IS COMPLETE AND FINAL ACCEPTANCE OF PHASE I SITE WORK HAS BEEN GIVEN. AT THE END OF ONE YEAR ALL PLANT MATERIAL WHICH IS DEAD OR DYING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AS ORIGINALLY SPECIFIED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND/OR LOCATION OF PLANT MATERIALS. CONTRACTOR TO VERIFY "AS BUILT" LOCATION OF ALL UTILITIES.
4. NO SUBSTITUTIONS SHALL BE MADE WITHOUT APPROVAL OF THE OWNER.
5. ALL AREAS NOT STABILIZED IN PAVING OR PLANT MATERIALS SHOULD BE SEEDED AND MULCHED. (SEE EROSION & SEDIMENT CONTROL PLAN.)
6. EVERGREEN TREES SHALL HAVE A FULL, WELL-BRANCHED, CONICAL FORM TYPICAL OF THE SPECIES.
7. ALL DECIDUOUS SHADE TREES SHALL BRANCH A MINIMUM OF 7'-0" ABOVE GROUND LEVEL. TREES SHALL BE PLANTED AND STAKED IN ACCORDANCE WITH THE STAKING DETAIL SHOWN.
8. THE FULL EXTENT OF ALL PLANTING BEDS SHALL RECEIVE 4" OF TOPSOIL AND 3" OF SHREDDED HARDWOOD MULCH PER SPECIFICATIONS.
9. THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THIS DRAWING AND AS SPECIFIED.
10. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING.
11. THE CONTRACTOR SHALL WATER ALL PLANTS THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING, AND THEN WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON.



MATCHLINE (SEE SHEET LS-2)



**DAVIS, BOWEN & FRIEDEL, INC.**  
 ARCHITECTS, ENGINEERS & SURVEYORS  
 SALISBURY, MARYLAND (410) 543-9091  
 MILFORD, DELAWARE (302) 424-1441

**WESTON WILLOWS**  
**APARTMENT COMMUNITY**  
 SUSSEX COUNTY, DELAWARE

Date: DECEMBER, 2017  
 Scale: 1" = 50'  
 Dwn.By: DJR  
 Proj.No.: 0818C017.M01  
 Dwg.No.:

**LS-1**

MATCHLINE (SEE SHEET LS-1)

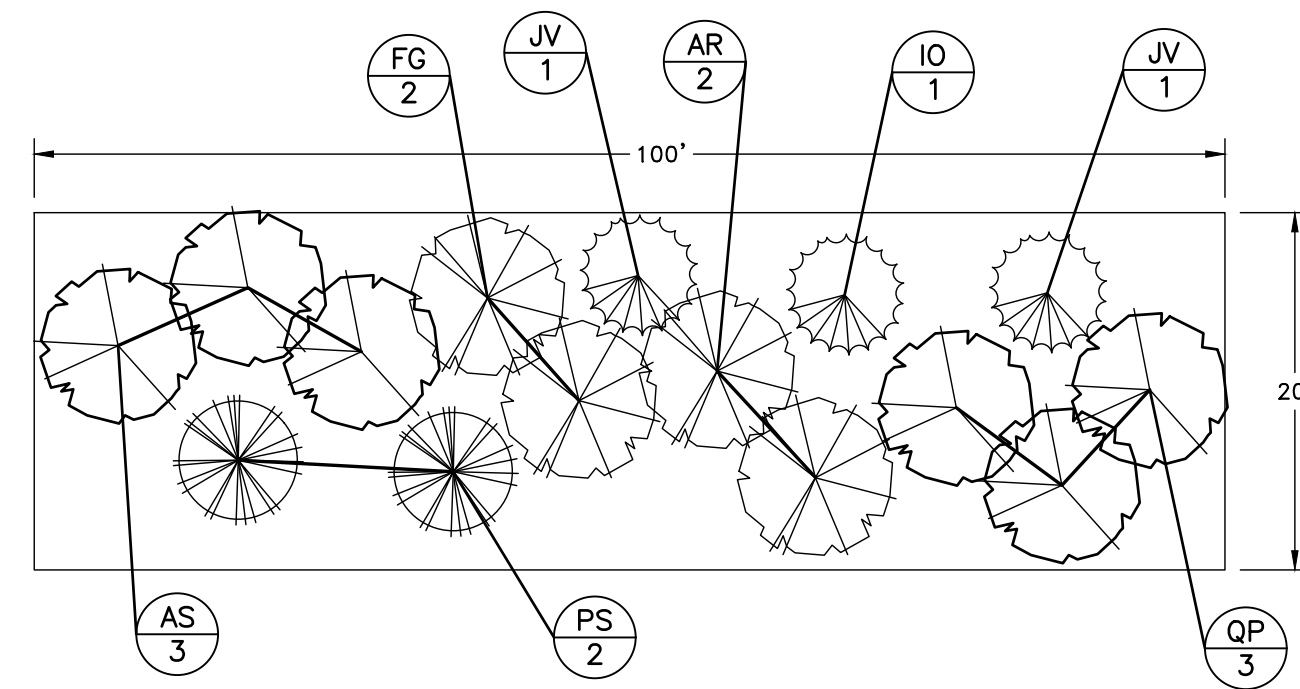
**LANDSCAPE REQUIREMENTS**

FORESTED AND/OR LANDSCAPED BUFFER 1:  
 REQUIRED: 175 TREES (1,162 LF/100) X 15 TREES = 174.3  
 PROVIDED: 53 EVERGREEN (30.29%)  
 122 DECIDUOUS (69.71%)  
 175 TOTAL BUFFER TREES

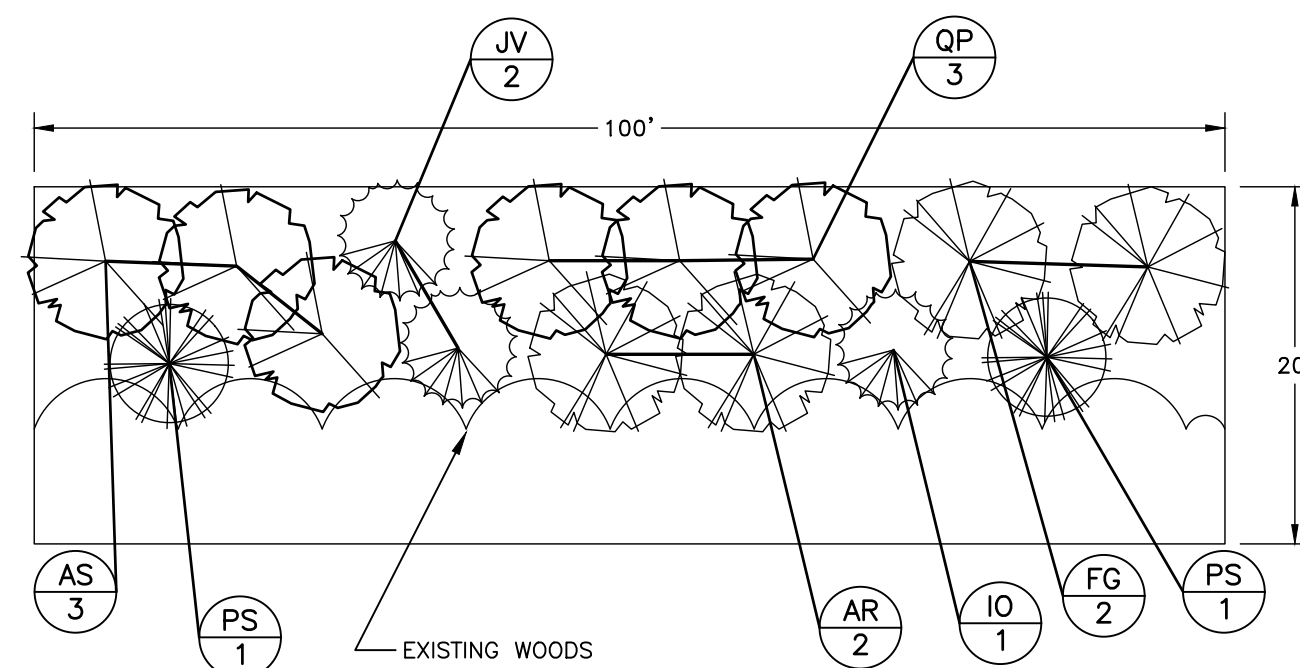
FORESTED AND/OR LANDSCAPED BUFFER 2:  
 REQUIRED: 10 TREES (66 LF/100) X 15 TREES = 9.9  
 PROVIDED: 3 EVERGREEN (30%)  
 7 DECIDUOUS (70%)  
 10 TOTAL BUFFER TREES

**FORESTED BUFFER PLANT SCHEDULE**

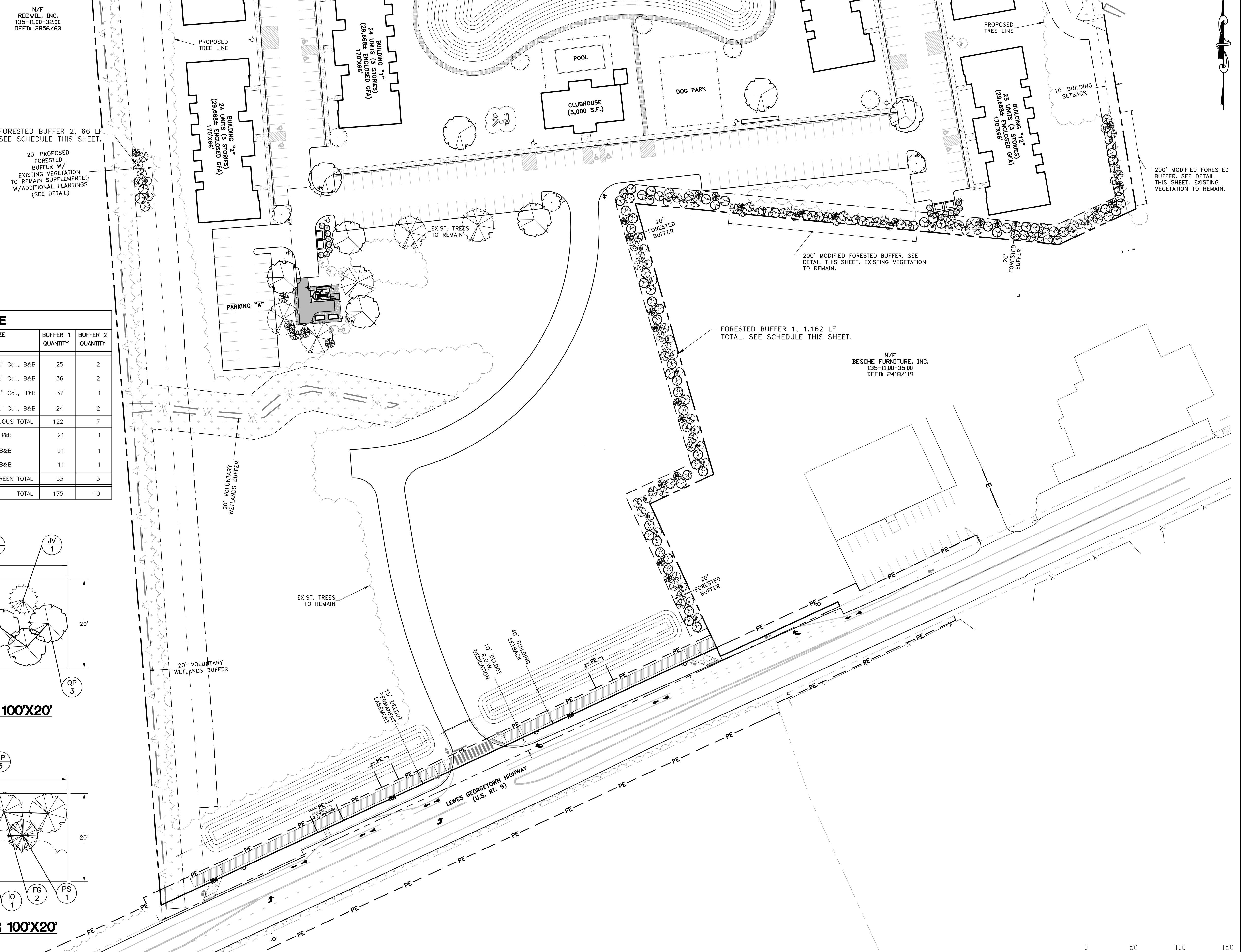
SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	BUFFER 1 QUANTITY	BUFFER 2 QUANTITY
<b>DECIDUOUS TREE</b>						
AR		ACER rubrum	RED MAPLE	1 3/4 - 2" Cal., B&B	25	2
AS		ACER saccharum 'GREEN MOUNTAIN	SUGAR MAPLE	1 3/4 - 2" Cal., B&B	36	2
QP		QUERCUS phellos	WILLOW OAK	1 3/4 - 2" Cal., B&B	37	1
FG		FAGUS grandifolia	AMERICAN BEECH	1 3/4 - 2" Cal., B&B	24	2
<b>DECIDUOUS TOTAL</b>					122	7
<b>EVERGREEN TREE</b>						
PS		PINUS strobus	EASTERN WHITE PINE	5'-6" Ht., B&B	21	1
JV		JUNIPERUS virginiana	EASTERN RED CEDAR	5'-6" Ht., B&B	21	1
IO		ILEX opaca	AMERICAN HOLLY	5'-6" Ht., B&B	11	1
<b>EVERGREEN TOTAL</b>					53	3
<b>TOTAL</b>					175	10



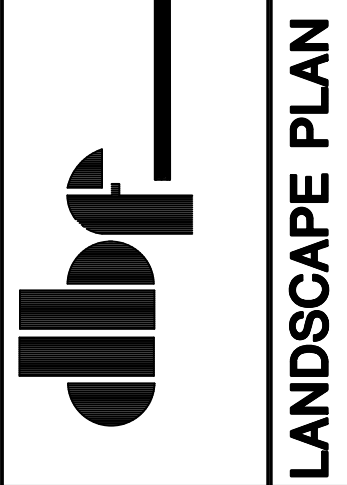
**TYPICAL FORESTED BUFFER 100'X20'**  
NO SCALE



**MODIFIED FORESTED BUFFER 100'X20'**  
NO SCALE



DAVIS, BOWEN & FRIEDEL, INC.  
 ARCHITECTS, ENGINEERS & SURVEYORS  
 SALISBURY, MARYLAND (410) 543-9691  
 MILFORD, DELAWARE (302) 424-1441



LANDSCAPE PLAN

**WESTON WILLOWS**  
**APARTMENT COMMUNITY**  
 SUSSEX COUNTY, DELAWARE

Date: SEPTEMBER, 2016  
 Scale: 1" = 50'  
 Dwn.By: DJR  
 Proj.No.: 0818C017.M01  
 Dwg.No.:

**LS-2**



P:\Ocean Atlantic\Beech\0818C017-LANDSCAPE PLAN.dwg, Oct. 24, 2019 - 10:17am

# WESTON WILLOWS

## RECORD PLANS

### BROADKILL RIVER WATERSHED, GEORGETOWN HUNDRED, SUSSEX COUNTY, DELAWARE

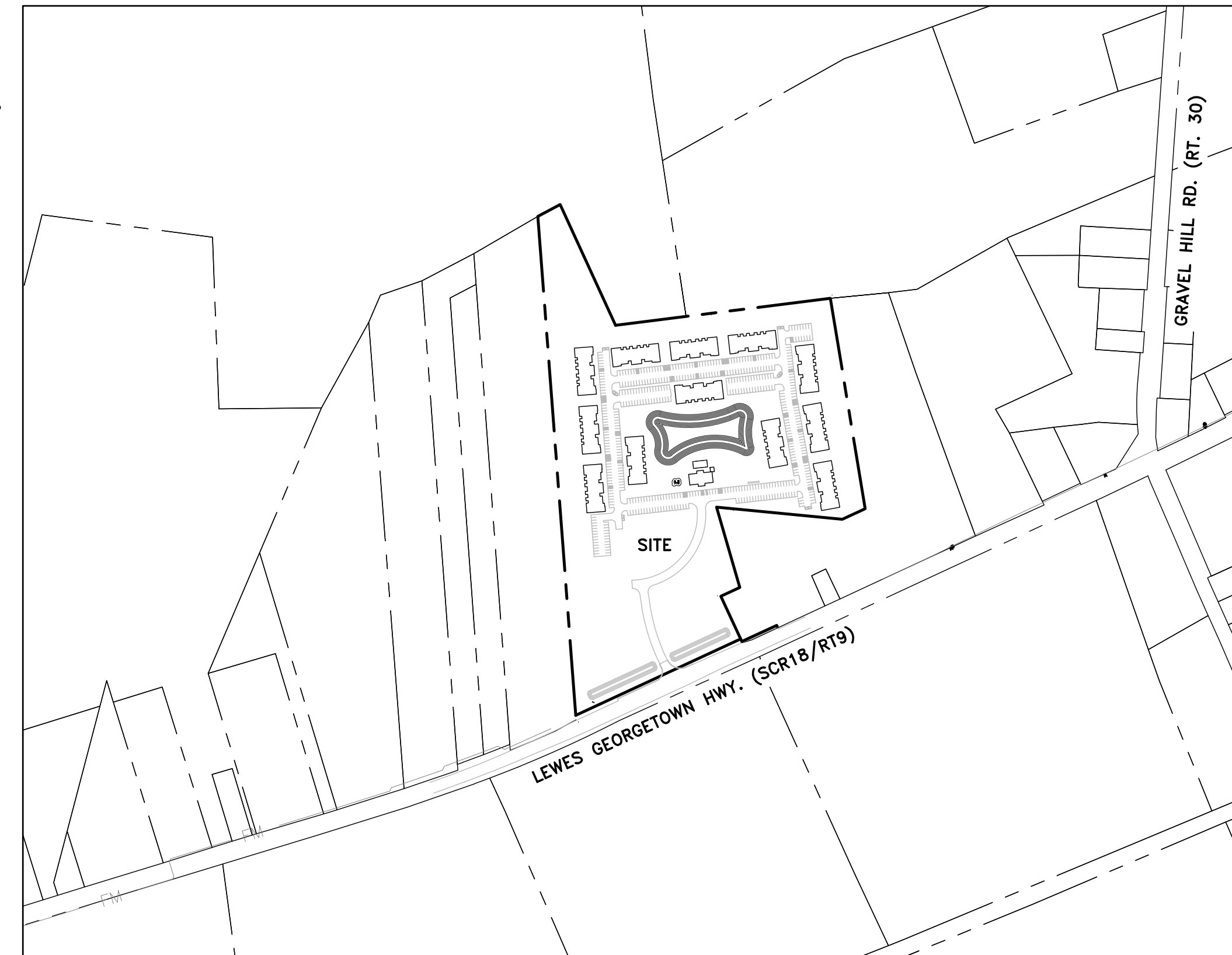
DBF PROJECT NO. 0818C017 DECEMBER, 2017  
REVISED 2019-03-13

#### GENERAL NOTES:

- NO LANDSCAPING SHALL BE ALLOWED WITHIN R/W UNLESS THE PLANS ARE COMPLIANT WITH SECTION 3.7 OF THE DEVELOPMENT COORDINATION MANUAL (DCM).
- ALL ENTRANCES SHALL CONFORM TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S (DELDOT'S) CURRENT DEVELOPMENT COORDINATION MANUAL (DCM) AND SHALL BE SUBJECT TO ITS APPROVAL.
- SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT EASEMENT SHOULD BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
- UPON COMPLETION OF THE CONSTRUCTION OF THE SIDEWALK OR SHARED-USE PATH ACROSS THIS PROJECT'S FRONTAGE AND PHYSICAL CONNECTION TO ADJACENT EXISTING FACILITIES, THE DEVELOPER, THE PROPERTY OWNERS OR BOTH ASSOCIATED WITH THIS PROJECT, SHALL BE RESPONSIBLE TO REMOVE ANY EXISTING ROAD TIE-IN CONNECTIONS LOCATED ALONG ADJACENT PROPERTIES, AND RESTORE THE AREA TO GRASS. SUCH ACTIONS SHALL BE COMPLETED AT DELDOT'S DISCRETION, AND IN CONFORMANCE WITH DELDOT'S SHARED-USE PATH AND/OR SIDEWALK TERMINATION POLICY.
- SUBDIVISION STREETS CONSTRUCTED WITHIN THE LIMITS OF THE RIGHT-OF-WAY ARE PRIVATE AS SHOWN ON THIS PLAN AND ARE TO BE MAINTAINED BY THE DEVELOPER, PROPERTY OWNERS OR BOTH. THE STATE OF DELAWARE ASSUMES NO MAINTENANCE RESPONSIBILITIES FOR THE FUTURE MAINTENANCE OF THESE STREETS.
- THE SHARED-USE PATH SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, THE PROPERTY OWNERS OR BOTH WITHIN THIS SUBDIVISION. THE STATE OF DELAWARE ASSUMES NO RESPONSIBILITY FOR THE FUTURE MAINTENANCE OF THE SHARED-USE PATH.
- TO MINIMIZE RUTTING AND EROSION OF THE ROADSIDE DUE TO ON-STREET PARKING, DRIVEWAY AND BUILDING LAYOUTS MUST BE CONFIGURED TO ALLOW FOR VEHICLES TO BE STORED IN THE DRIVEWAY BEYOND THE RIGHT-OF-WAY, WITHOUT INTERFERING WITH SIDEWALK ACCESS AND CLEARANCE.
- THE DEVELOPER SHALL BE REQUIRED TO FURNISH AND PLACE RIGHT-OF-WAY MARKERS TO PROVIDE A PERMANENT REFERENCE FOR RE-ESTABLISHING THE RIGHT-OF-WAY AND PROPERTY CORNERS ON LOCAL AND HIGHER ORDER FRONTAGE ROADS. RIGHT-OF-WAY MARKERS SHALL BE SET AND/OR PLACED ALONG THE FRONTAGE ROAD RIGHT-OF-WAY AT PROPERTY CORNERS AND AT EACH CHANGE IN RIGHT-OF-WAY ALIGNMENT IN ACCORDANCE WITH SECTION 3.2.4.2 OF THE DEVELOPMENT COORDINATION MANUAL.
- A PERPETUAL CROSS ACCESS INGRESS/EGRESS EASEMENT IS HEREBY ESTABLISHED AS SHOWN ON THIS PLAT.
- THE SUSSEX CONSERVATION DISTRICT RESERVES THE RIGHT TO ADD, MODIFY OR DELETE ANY EROSION AND SEDIMENT CONTROL MEASURES AS THEY DEEM NECESSARY.
- THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES ON WHICH NORMAL AGRICULTURAL USES AND ACTIVITIES HAVE BEEN AFFORDED THE HIGHEST PRIORITY USE STATUS. IT CAN BE ANTICIPATED THAT SUCH AGRICULTURAL USES AND ACTIVITIES MAY NOW OR IN THE FUTURE INVOLVE NOISE, DUST, MANURE AND OTHER ODORS, THE USE OF AGRICULTURAL CHEMICALS, AND NIGHTTIME FARMING OPERATIONS. THE USE AND ENJOYMENT OF THIS PROPERTY IS EXPRESSLY CONDITIONED ON ACCEPTANCE OF ANY ANNOYANCE OR INCONVENIENCE WHICH MAY RESULT FROM SUCH NORMAL AGRICULTURAL USES AND ACTIVITIES.
- THIS COMMERCIAL PARCEL HAS DIRECT FRONTAGE ALONG LEWES/GEORGETOWN HWY. (SCR18/RT9), WHICH HAS A FUNCTIONAL CLASSIFICATION OF PRINCIPLE ARTERIAL/FREEWAY/INTERSTATE AS DEFINED BY THE STATE OF DELAWARE'S DEPARTMENT OF TRANSPORTATION. PER SECTION 3.6.1 OF THE DELDOT DEVELOPMENT COORDINATION MANUAL (DCM); IT IS THE DEVELOPER'S RESPONSIBILITY TO EVALUATE NOISE LEVELS AND THEIR IMPACTS ON PROPOSED DEVELOPMENT. FOR PROJECTS ADJACENT TO EXISTING TRANSPORTATION FACILITIES WITH THIS FUNCTIONAL CLASSIFICATION, ROADWAYS WITH THIS CLASSIFICATION CAN BE EXPECTED TO GENERATE ELEVATED LEVELS OF ROAD AND TRAFFIC RELATED NOISE, SIMILAR TO WHAT CAN BE EXPECTED IN URBAN AREAS. A DETAILED NOISE ANALYSIS PER DCM 3.6 IS TYPICALLY RECOMMENDED TO HELP GAUGE THE ACTUAL IMPACTS THAT ROADWAY RELATED NOISE MAY HAVE ON VARIOUS POTENTIAL LAND-USES (SUCH AS THOSE DESCRIBED IN DCM FIGURE 3.6.3-A: NOISE ABATEMENT CRITERIA). WITH THE INCLUSION OF THIS NOTE, THE DEVELOPER IS ACKNOWLEDGING THAT THE PROPOSED SITE AND/OR BUILDING LOCATION CAN BE EXPECTED TO EXCEED THE SPECIFIC MAXIMUM NOISE LEVELS FOR CERTAIN COMMERCIAL AND NON-RESIDENTIAL USES AS SHOWN IN DCM FIGURE 3.6.3-A. THE DEVELOPER'S WAIVER OF THE NOISE ANALYSIS AND REVIEW OF POTENTIAL NOISE MITIGATION MEASURES ARE SUPPORTED BY THE INFEASIBILITY OF APPLYING NOISE MITIGATION MEASURES, BASED ON ENGINEERING CONSIDERATIONS AND FACTORS THAT WOULD LIMIT THE ABILITY TO ACHIEVE SUBSTANTIAL NOISE REDUCTION, RELATED TO THE COMMERCIAL USE OF THE SITE AND/OR BUILDINGS. THIS WAIVER ACKNOWLEDGES THAT THE DECIBEL LEVEL FOR THIS PARCEL MAY EXCEED THE APPLICABLE LIMITS FOR SOME CURRENT OR FUTURE PROPOSED USES. THE USE OF THIS NOTE SIGNIFIES THE SUBDIVISION ENGINEER'S CONCURRENCE WITH WAIVING THE DEVELOPER'S COMPLETION OF A DETAILED NOISE STUDY AND SUBSEQUENT REVIEW OF RESULTING NOISE ABATEMENT FINDINGS OR MITIGATION MEASURES. ANY FUTURE COMPLAINTS RELATING TO EXISTING OR FUTURE NOISE LEVELS IMPACTING PROPOSED USES ON THIS SITE AND ALONG THIS EXISTING TRANSPORTATION FACILITY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER OR LAND OWNER OR BOTH.

#### LEGEND

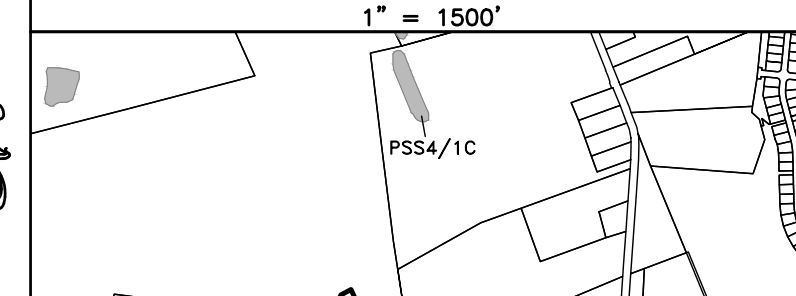
---	PROPERTY BOUNDARY LINE
- - - -	EXISTING PROPERTY LINE
- + - + -	PROPOSED PERMANENT EASEMENT
- - - -	PROPOSED BUILDING SETBACK LINE
~~~~~	WOODSLINE
---	WETLANDS BUFFER LINE
---	EXISTING WETLANDS AREA



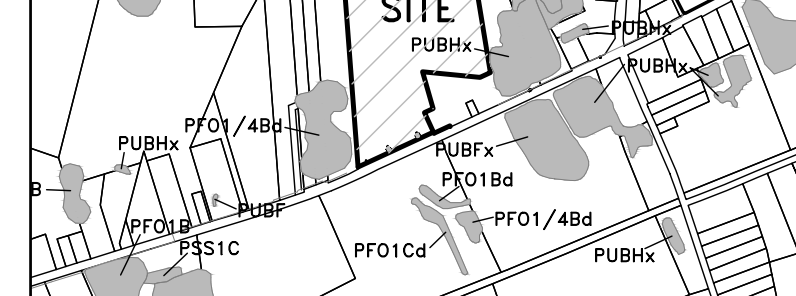
#### DATA COLUMN

TAX MAP NUMBERS:	1-35-11.00-33.00
EX. ZONING:	C-1 (COMMERCIAL DISTRICT)
PROP. ZONING:	C-1 (COMMERCIAL DISTRICT)
EX. USE:	FORESTED AREAS AND WETLAND AREAS
PROP. USE:	287 APARTMENT UNITS WITH CLUBHOUSE
TOTAL OPEN SPACE:	13.145± ACRES OR 756,017.51 SQ.FT. (48.76%)
ACTIVE OPEN SPACE AREA 'A':	0.976± ACRES OR 423,539.81 SQ.FT. (3.52%)
STORMWATER MANAGEMENT:	1.290± ACRES OR 56,195.20 SQ.FT. (4.78%)
EXISTING WETLANDS:	0.468± ACRES OR 20,399.88 SQ.FT. (1.736%)
PRIVATE ROADS & PARKING LOTS:	4.198± ACRES OR 182,882.29 SQ.FT. (15.57%)
BUILDING AREA:	2.672± ACRES OR 116,403.89 SQ.FT. (9.91%)
TOTAL SITE AREA:	26.9614 ACRES
FLOOD HAZARD MAP:	THIS PROPERTY IS NOT IMPACTED BY THE 100 YEAR FLOODPLAIN AS DETERMINED BY FEMA MAP 10005C0325K, DATED MARCH 16, 2015
MAXIMUM DENSITY:	12 UNITS PER ACRE
PROPOSED DENSITY:	10.65 UNITS PER ACRE
IMPERVIOUS COVERAGE:	8.0163 ACRES (IMPERVIOUS SURFACE) / 26.7371 ACRES (TOTAL SITE) = 29.98%
PROPOSED LAND USE:	
PARCEL "B" & "C":	COMMON SPACE 25.9945 ACRES(96.41%)
PARCEL "A":	ACTIVE OPEN SPACE 0.6853 ACRES (2.54%)
PARCEL "D":	PUMP STATION 0.0574 ACRES (0.21%)
	RIGHT-OF-WAY DEDICATION 0.2242 ACRES (0.83%)
	TOTAL 26.9614 ACRES
NET DEVELOPMENT AREA:	26.2682 ACRES
WETLANDS:	0.4690 ACRES
UNIT BREAKDOWN:	
	24 UNIT BUILDING (11 BUILDINGS)
	6-ONE BEDROOM UNITS
	12-TWO BEDROOM UNITS
	6-THREE BEDROOM UNITS
	23 UNIT BUILDING (1 BUILDING)
	5-ONE BEDROOM UNITS
	12-TWO BEDROOM UNITS
	6-THREE BEDROOM UNITS
TOTAL UNITS:	71-ONE BEDROOM UNITS
	144-TWO BEDROOM UNITS
	72-THREE BEDROOM UNITS
PARKING:	
REQUIRED:	216 UNITS x 2/UNIT = 432 SPACES
	71 UNITS x 1.5/UNIT = 107 SPACES
	TOTAL REQUIRED SPACES = 539 BEFORE REDUCTION
PARKING REDUCTION:	1-50 UNITS 75 REDUCED TO 75 SPACES
	51-200 UNITS 290 REDUCED @ 15% TO 247 SPACES
	201-320 UNITS 174 REDUCED @ 20% TO 140 SPACES
	462 SPACES REQUIRED
PROVIDED:	471 SPACES INCLUDING 26 HANDICAPPED ACCESSIBLE
LOADING:	
REQUIRED:	1 LOADING SPACE PER 5,000-25,000 S.F.
	12 BUILDINGS @ 23,138± S.F. EACH = 12 TOTAL REQUIRED
PROVIDED:	1 PER BUILDING = 12 TOTAL PROVIDED
UTILITIES:	
SEWER:	PUBLIC (ARTESIAN WASTEWATER MANAGEMENT, INC.)
WATER:	PUBLIC (ARTESIAN WATER CO., INC.)
SETBACK REQUIREMENTS:	
FRONT SETBACK:	40'
SIDE SETBACK:	10'
REAR SETBACK:	10'
MAXIMUM PERMITTED BUILDING HEIGHT:	42'
MINIMUM BUILDING SEPARATION:	40'
PROPOSED BUILDING CONSTRUCTION:	WOOD CONSTRUCTION
50 M.P.H SPEED LIMIT ALONG LEWES-GEORGETOWN HWY. (SCR18/RT.9)	
OWNER/DEVELOPER:	WESTON WILLOWS, LLC, 18949 COASTAL HIGHWAY REHOBOTH BEACH, DE 19971 (302) 227-3573
PREPARED BY:	DAVIS, BOWEN & FRIEDEL, INC. 1 PARK AVENUE MILFORD, DE 19963 (302) 424-1441

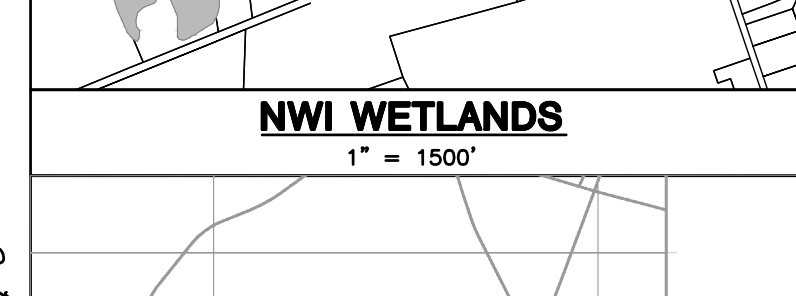
#### LOCATION MAP



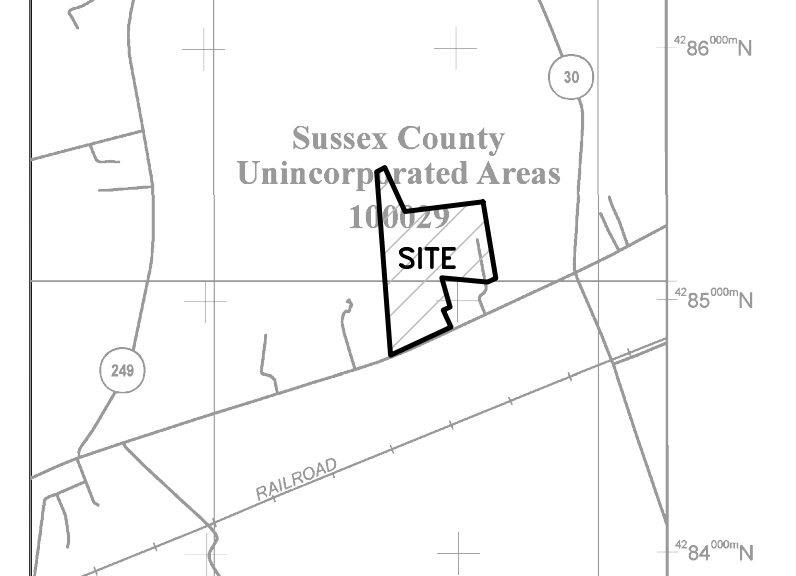
#### NW1 WETLANDS



#### FEMA FLOOD MAP

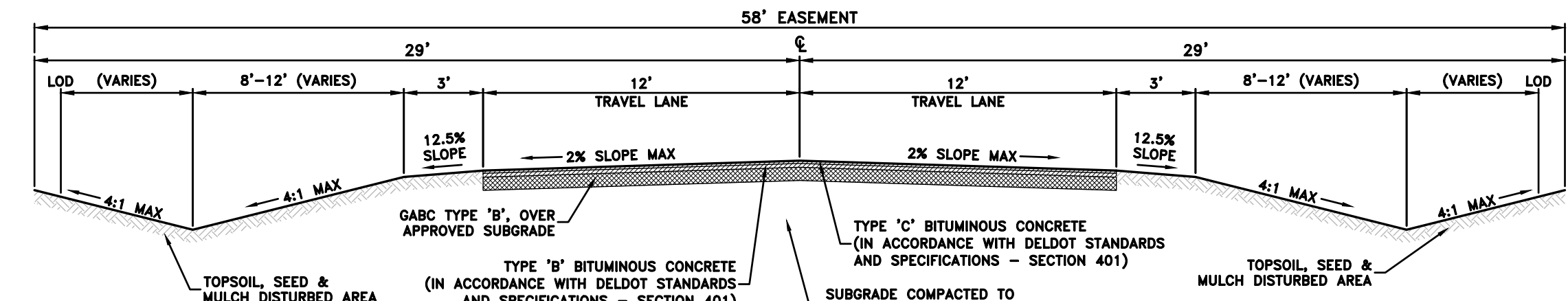


#### SOILS MAP

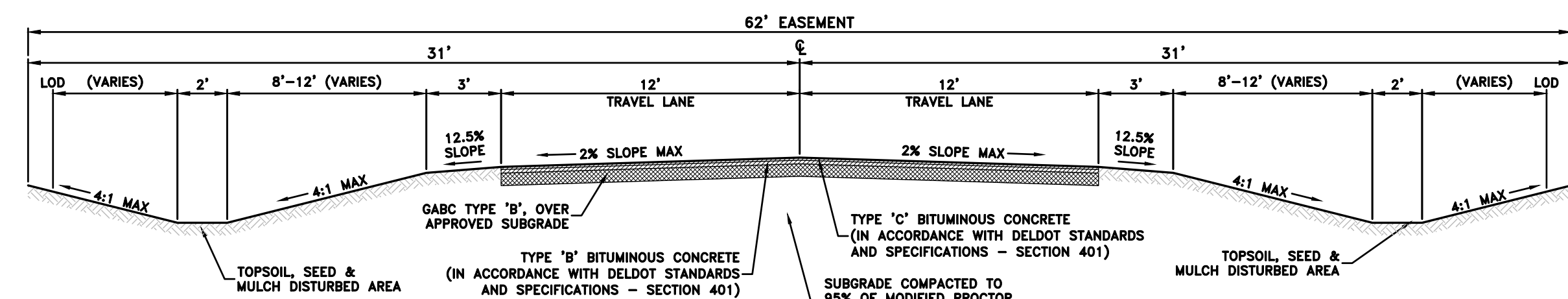


#### INDEX OF SHEETS

R-01	RECORD TITLE
R-02	RECORD PLAN
R-03	RECORD PLAN DETAILS



ROAD A TYPICAL STREET SECTION (PRIVATE STEET)  
NOT TO SCALE



ROAD F TYPICAL STREET SECTION (PRIVATE STEET)  
NOT TO SCALE

#### WETLANDS CERTIFICATION

WE, THE UNDERSIGNED, HEREBY STATE THAT THE STATE AND/OR FEDERAL WETLANDS BOUNDARIES DELINEATED UPON THIS PLAN ARE ACCURATELY SHOWN AND THAT THE DELINEATION WAS PERFORMED UNDER OUR SUPERVISION AND IN ACCORDANCE WITH THE APPROPRIATE STATE OR FEDERAL STANDARDS FOR IDENTIFYING AND DELINEATING JURISDICTIONAL WETLANDS.

KYLE LAMPRON, P.E., TEN BEARS ENVIRONMENTAL  
606 FEDERAL STREET  
MILTON, DELAWARE 19968

#### OWNER'S STATEMENT

I, THE UNDERSIGNED, HEREBY STATE THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN. THE PLAN WAS MADE AT MY DIRECTION, I ACKNOWLEDGE THE SAME TO BE MY ACT AND DESIRE THE PLAN BE RECORDED ACCORDING TO LAW.

WESTON WILLOWS, LLC,  
18949 COASTAL HIGHWAY  
REHOBOTH BEACH, DE 19971

#### ENGINEER'S STATEMENT

I, JAMIE L. SECHLER, P.E., HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

JAMIE L. SECHLER, P.E.,  
DAVIS, BOWEN & FRIEDEL, INC.  
1 PARK AVENUE  
MILFORD, DELAWARE, 19963

LINE	BEARING	DISTANCE
L1	S 83°38'37" W	261.23
L2	S 05°01'41" E	59.27
L3	N 85°39'11" E	24.61
L4	S 04°20'49" E	128.97
L5	S 85°39'11" W	29.00
L6	S 04°20'49" W	41.00
L7	S 85°39'11" W	30.00
L8	N 04°20'49" W	168.92
L9	S 85°39'11" W	30.00
L10	S 04°20'49" E	41.00
L11	S 85°39'11" W	30.00
L12	N 04°20'49" W	122.17
L13	N 85°39'11" E	30.00
L14	S 04°20'49" E	94.54
L15	S 43°10'02" E	61.90
L16	S 83°38'37" W	92.42
L17	S 06°21'23" E	30.00
L18	S 83°38'37" W	41.00
L19	N 06°21'23" W	30.00
L20	S 83°38'37" W	168.92
L21	S 06°21'23" E	30.00
L22	S 83°38'37" W	41.00
L23	S 06°21'23" E	30.00
L24	S 83°38'37" W	168.92
L25	S 06°21'23" E	30.00
L26	S 83°38'37" W	41.00
L27	S 06°21'23" E	30.00
L28	S 83°38'37" W	101.40
L29	S 07°16'43" E	31.56
L30	N 83°38'37" E	29.92
L31	N 06°21'23" W	41.00
L32	N 33°24'33" E	44.86
L33	S 10°11'16" E	137.15
L34	S 79°46'03" W	29.79
L35	N 10°13'57" W	38.51
L36	S 79°48'44" W	29.82
L37	N 10°11'21" W	171.43
L38	N 79°46'03" E	29.95
L39	S 10°13'57" E	34.04
L40	N 83°38'37" E	392.25
L41	N 83°38'37" E	221.24
L42	S 04°20'49" E	129.91
L43	N 85°39'11" E	30.00
L44	S 04°20'49" E	41.00
L45	N 85°39'11" E	30.00
L46	S 04°20'49" E	46.25
L47	N 85°39'11" E	26.97
L48	N 04°20'49" W	10.00
L49	N 85°39'11" E	26.97
L50	S 04°20'49" E	198.39
L51	S 83°38'37" W	213.97
L52	S 06°21'23" E	27.61
L53	N 83°38'37" E	10.00
L54	N 06°21'23" W	27.61
L55	S 83°38'37" W	60.28
L56	S 06°21'23" E	30.00
L57	S 83°38'37" W	41.00
L58	S 06°21'23" E	30.00
L59	S 83°38'37" W	267.97
L60	N 10°13'57" W	14.93
L61	N 79°46'03" E	27.48
L62	N 10°13'57" W	10.00
L63	N 79°46'03" E	27.48
L64	N 10°13'57" W	85.32
L65	S 79°45'53" W	30.00
L66	N 10°13'57" W	41.00
L67	N 79°46'03" E	30.00
L68	N 10°13'57" W	135.02
L69	S 83°38'37" E	286.39
L70	S 06°21'23" E	29.00
L71	N 83°38'37" E	129.33
L72	S 06°21'23" E	29.00
L73	S 06°21'23" E	11.00
L76	S 08°55'52" E	44.47
L78	S 24°53'30" E	56.18
L79	N 65°08'15" E	58.00
L80	S 24°53'30" E	56.15
L83	N 85°39'13" E	10.00
L84	S 04°20'47" E	58.00
L85	S 85°39'13" W	26.87
L87	S 06°21'23" E	11.00

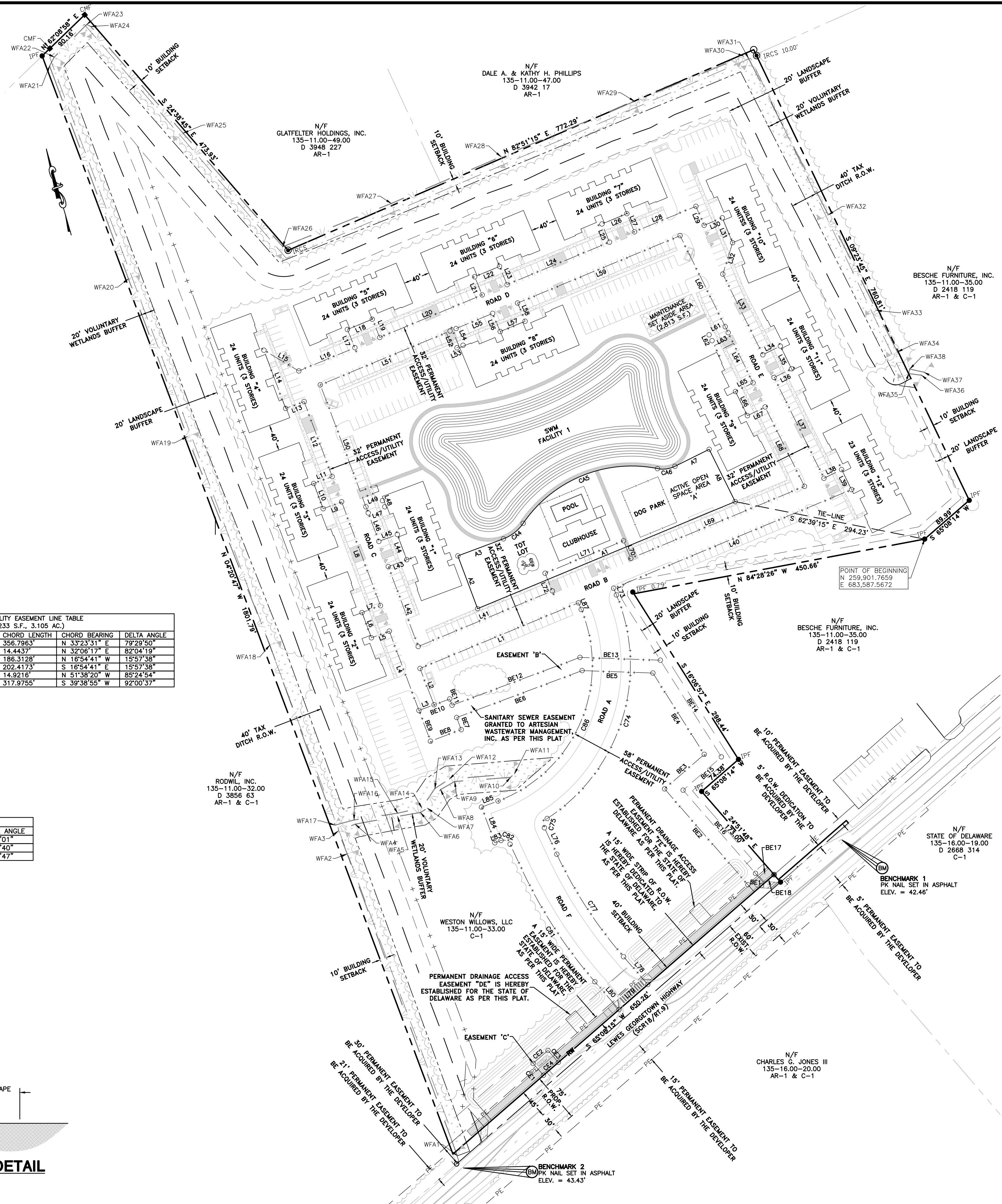
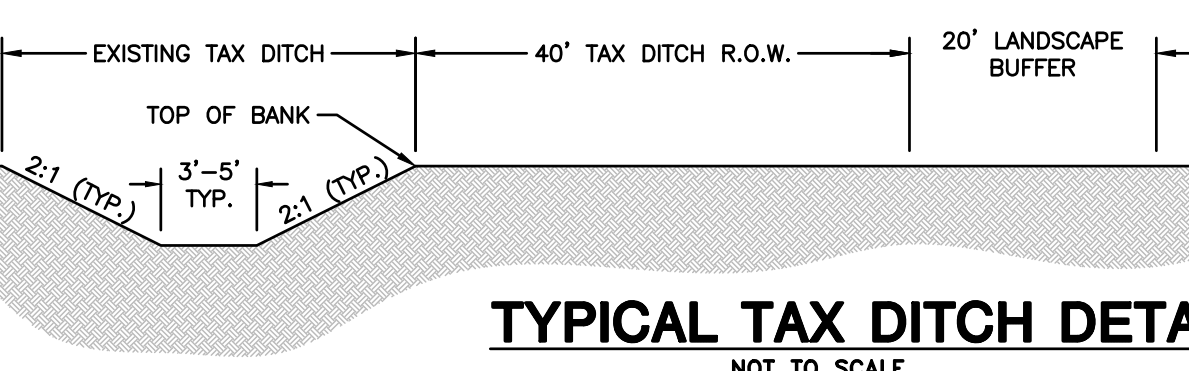
CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C74	279.0000	387.1089	356.7963	N 33°23'31" E	79°29'50"
C75	11.0000	15.7567	14.4437	N 32°06'17" E	82°04'19"
C77	671.0000	186.9165	186.3128	N 16°54'41" W	15°57'38"
C81	729.0000	203.0733	202.4173	S 16°54'41" E	15°57'38"
C82	11.0000	16.3985	14.9216	N 51°38'20" W	85°24'54"
C86	221.0000	354.8996	317.9755	S 39°38'55" W	92°00'37"

LINE	BEARING	DISTANCE
A7	N 79°46'03" E	58.17
A8	N 10°13'57" W	88.97
A1	N 83°38'15" E	424.79
A2	S 04°20'49" E	85.79
A3	S 85°39'11" W	74.13

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
CA4	63.3388	38.8762	38.2688	N 68°04'10" E	35°10'01"
CA5	200.0000	233.9711	220.8556	N 83°59'59" E	67°01'40"
CA6	41.4988	27.3393	26.8475	N 81°21'34" W	37°44'47"

LINE	BEARING	DISTANCE
BE1	N 69°51'48" W	60.71
BE2	N 24°51'48" W	193.36
BE3	N 65°08'14" E	80.06
BE4	N 16°06'57" W	146.49
BE5	N 71°50'49" W	107.87
BE6	S 85°39'11" W	204.02
BE7	S 04°20'49" E	157.79
BE8	S 85°39'11" W	50.00
BE9	N 04°20'49" W	50.00
BE10	N 85°39'11" E	50.00
BE11	S 04°20'49" E	10.21
BE12	N 85°39'11" E	208.00
BE13	N 71°50'49" E	122.43
BE14	N 16°06'57" E	174.22
BE15	S 65°08'14" W	77.22
BE16	S 24°51'48" E	168.00
BE17	N 69°51'48" E	28.28
BE18	S 65°08'15" W	25.39

LINE	BEARING	DISTANCE
CE1	N 24°51'45" W	24.00
CE2	S 65°08'15" W	30.00
CE3	N 24°51'45" W	24.00
CE4	S 65°08'15" W	30.00



LINE	LENGTH	BEARING
WF-A1 - A2	489.39	N03°52'56" W
WF-A2 - A3	37.68	N04°48'59" W
WF-A3 - A4	27.86	N84°40'48" E
WF-A4 - A5	65.59	S84°15'00" E
WF-A5 - A6	35.56	S83°26'46" E
WF-A6 - A7	12.34	N74°21'18" E
WF-A7 - A8	34.75	N51°13'16" E
WF-A8 - A9	24.75	N76°33'25" E
WF-A9 - A10	85.02	S78°04'20" E
WF-A10 - A11	8.35	N85°05'45" E
WF-A11 - A12	99.39	N78°25'45" W
WF-A12 - A13	26.35	S73°04'04" W
WF-A13 - A14	35.71	S50°17'51" W
WF-A14 - A15	37.78	N86°14'01" W
WF-A15 - A16	67.04	N82°39'13" W
WF-A16 - A17	30.16	N88°56'21" W
WF-A17 - A18	291.60	N03°43'47" W
WF-A18 - A19	341.62	N05°27'29" W
WF-A19 - A20	256.27	N04°18'25" W
WF-A20 - A21	345.93	N04°09'17" W
WF-A21 - A22	15.21	N44°21'46" E
WF-A22 - A23	70.07	N61°02'39" E
WF-A23 - A24	6.98	S47°08'23" E
WF-A24 - A25	214.89	S24°40'41" E
WF-A25 - A26	229.95	S25°08'18" E
WF-A26 - A27	177.92	N84°26'14" E
WF-A27 - A28	181.52	N83°07'36" E
WF-A28 - A29	220.42	N83°36'48" E
WF-A29 - A30	179.85	N83°44'24" E
WF-A30 - A31	8.01	S50°03'30" E
WF-A31 - A32	267.62	S10°49'12" E
WF-A32 - A33	162.76	S10°36'03" E
WF-A33 - A34	70.92	S10°38'05" E
WF-A35 - A36	19.78	S66°30'34" E
WF-A36 - A37	6.03	N80°05'10" E
WF-A37 - A38	22.61	N61°12'25" W
WF-A38 - A39	7.08	S29°05'26" W

- LEGEND**
- PROPERTY BOUNDARY LINE
  - - - PROPOSED RIGHT-OF-WAY LINE
  - + - PROPOSED PERMANENT EASEMENT
  - PE - PROPOSED SHARED-USE PATH EASEMENT
  - - - PROPOSED BUILDING SETBACK LINE
  - ~~~~~ WOODSLINE

- BOUNDARY MONUMENT LEGEND**
- POINT (2 SHOWN)
  - CMF: CONCRETE MONUMENT FOUND (2 EXISTING)
  - IPF: IRON PIPE FOUND (7 EXISTING)
  - IRCS: IRON ROD W/CAP SET (3 NEW)

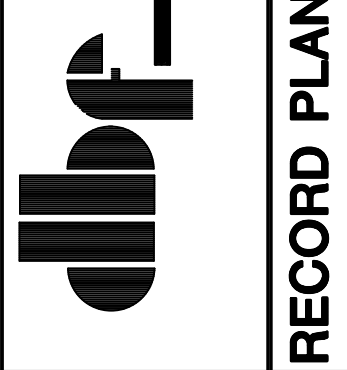
- EASEMENT LEGEND**
- POINT (101 SHOWN)

NOTE: THE CONSTRUCTION AND MAJOR MAINTENANCE RIGHT-OF-WAY WIDTH FOR PROPERTY NO. 61 (TAX MAP #1-35-11.00-33.00) OF THE KOEPEL-ROBINSON TAX DITCH FOR PRONG 3 (STATIONS 21+30 - 52+00) AND SUB 1 OF PRONG 3 (STATIONS 0+00 - 6+00) WAS REDUCED TO 40' FROM TOP OF BANK, FROM THE PREVIOUSLY RECORDED 80' FROM TOP OF BANK PER COURT ORDER CHANGE REQUEST #S 2018-423

DESCRIPTION	LOCATION	ELEVATION
PK NAIL SET IN ASPHALT	N:259496.6330 E:683339.2095	42.46' (NAVD 88)
PK NAIL SET IN ASPHALT	N:259177.2906 E:682646.4050	43.43' (NAVD 88)



DAVIS, BOWEN & FRIEDEL, INC.  
ARCHITECTS, ENGINEERS & SURVEYORS  
SALISBURY, MARYLAND (410) 543-9091  
MILFORD, DELAWARE (302) 424-1141



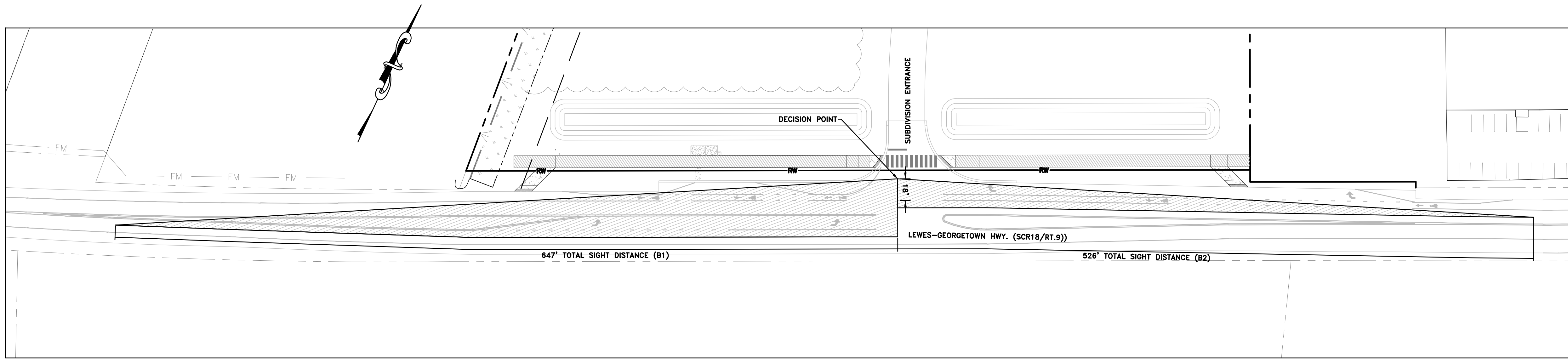
RECORD PLAN

**WESTON WILLOWS APARTMENT COMMUNITY**  
SUSSEX COUNTY, DELAWARE

REVISED:  
11-13-18 DELDOT  
1-8-19 DELDOT  
3-14-19 DELDOT  
4-16-19 DELDOT  
8-26-19 DELDOT

Date: DECEMBER, 2017  
Scale: 1"=80'  
Dwn.By: DJR  
Proj.No.: 0818C017.M01  
Dwg.No.:

**R-02**



LEWES-GEORGETOWN HWY. (SCR18/RT.9) SIGHT DISTANCE ANALYSIS  
SCALE: 1"=50'

Lewes-Georgetown Hwy. (SCR 9) Entrance Intersection Sight Distance	
Total Number of Travel Lanes	2
Number of Near Travel Lanes Crossed (Left Turn)*	1
Number of Travel Lanes Crossed (Right Turn)**	0
Median +/-or Turning Lane Width	8'-12'
Posted Speed Limit	50
Design Speed	55
Highway Grade (Moving Left to Right)	1.0%
Minor Road Approach Grade	1.0%

Left Turn from Minor Road (Case B1)	
From Chart	610
ISD = 1.47 x Vmajor x Tg	646.8
Multi Lane Adjustment for Tg	0.50
Minor Road Approach Adjustment	0
Adjustment Factor	1.00
Time Gap	8.0
ISD With Adjustments	647

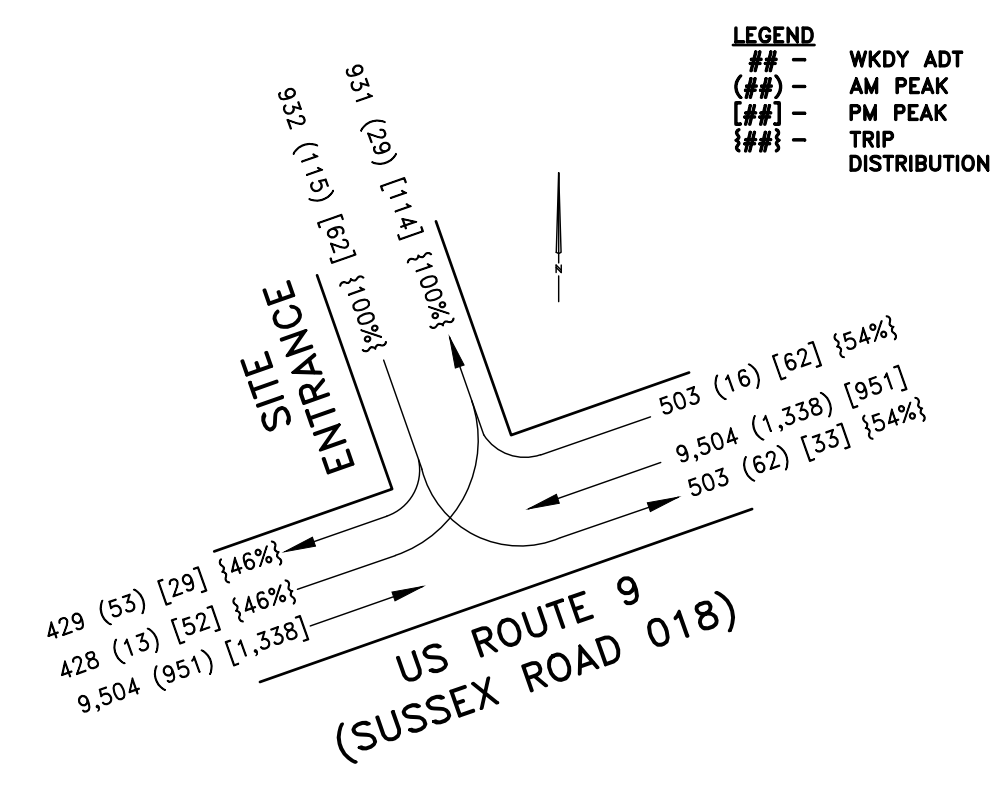
Right Turn from Minor Road (Case B2)	
From Chart	530
ISD = 1.47 x Vmajor x Tg	525.53
Multi Lane Adjustment for Tg	0.00
Minor Road Approach Adjustment	0
Adjustment Factor	1.00
Time Gap	6.5
ISD With Adjustments	526

**ROAD**  
US ROUTE 9 (SUSSEX COUNTY ROAD 018)  
FUNCTIONAL CLASSIFICATION - PRINCIPLE ARTERIAL  
AADT (2016 DELAWARE VEHICLE VOLUME SUMMARY) = 16,386  
10 YR PROJECTED AADT = 1.16 X 16,386 = 19,008  
10 YR PROJECTED AADT + SITE ADT (1,863) = 20,871  
PEAK HOUR = 19,008 X 12.04% = 2,289  
DIRECTIONAL SPLIT = 58.44% / 41.56% = 1,338/951  
6.42% TRUCK % X 2,289 = 147  
SPEED - POSTED = 50  
TRAFFIC PATTERN GROUP - 8

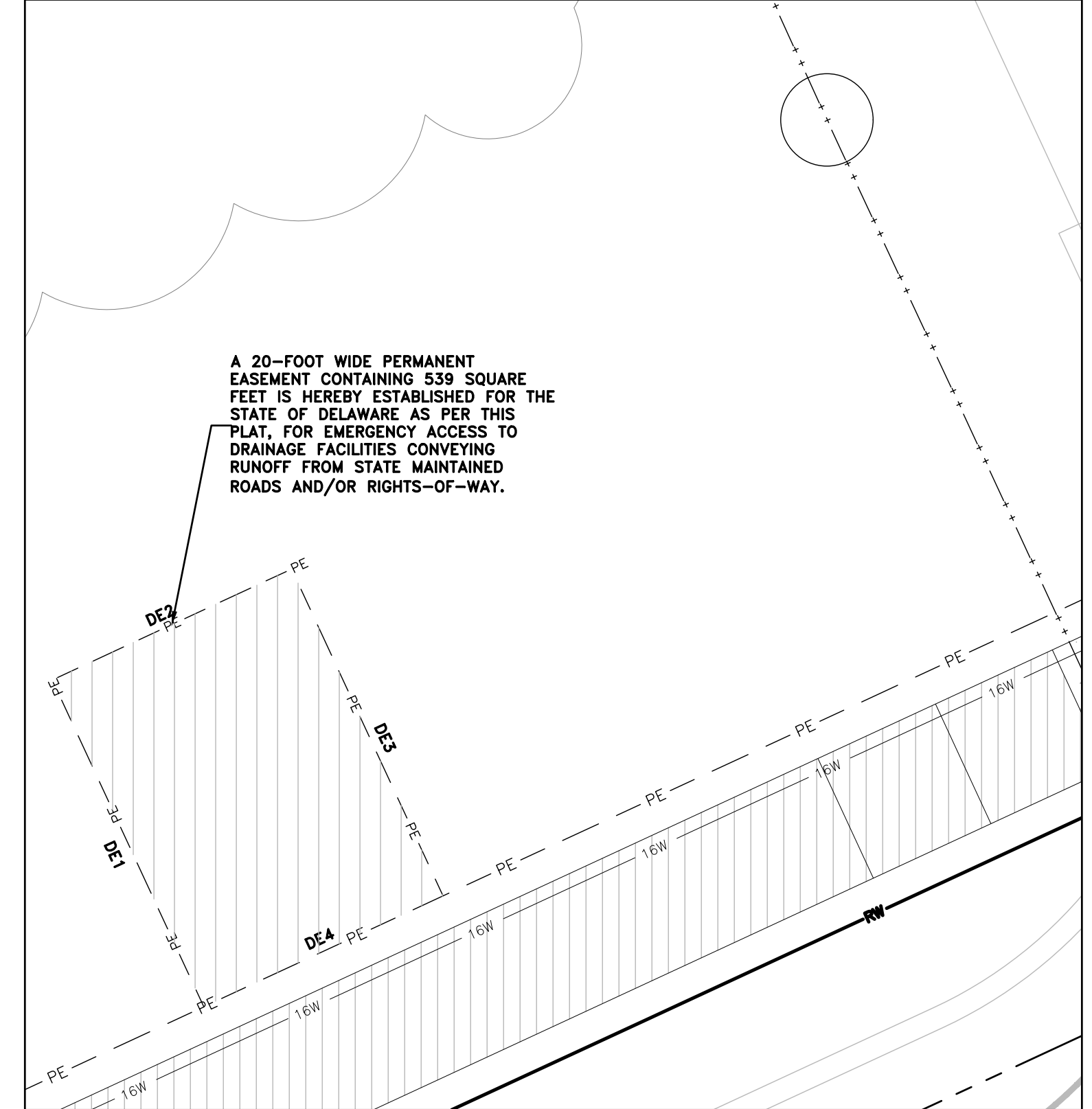
**SITE TRIPS GENERATED - PROPOSED**

TYPE OF DEV.	ITE	CODE	# UNITS	WKDY		ADT
				AM	PM	
APARTMENTS	220	287	144	176		1,863

NOTES:  
TRIP GENERATION IS BASED ON ITE TRIP GENERATION MANUAL, 10TH EDITION.  
DESIGN VEHICLE: WB-40.



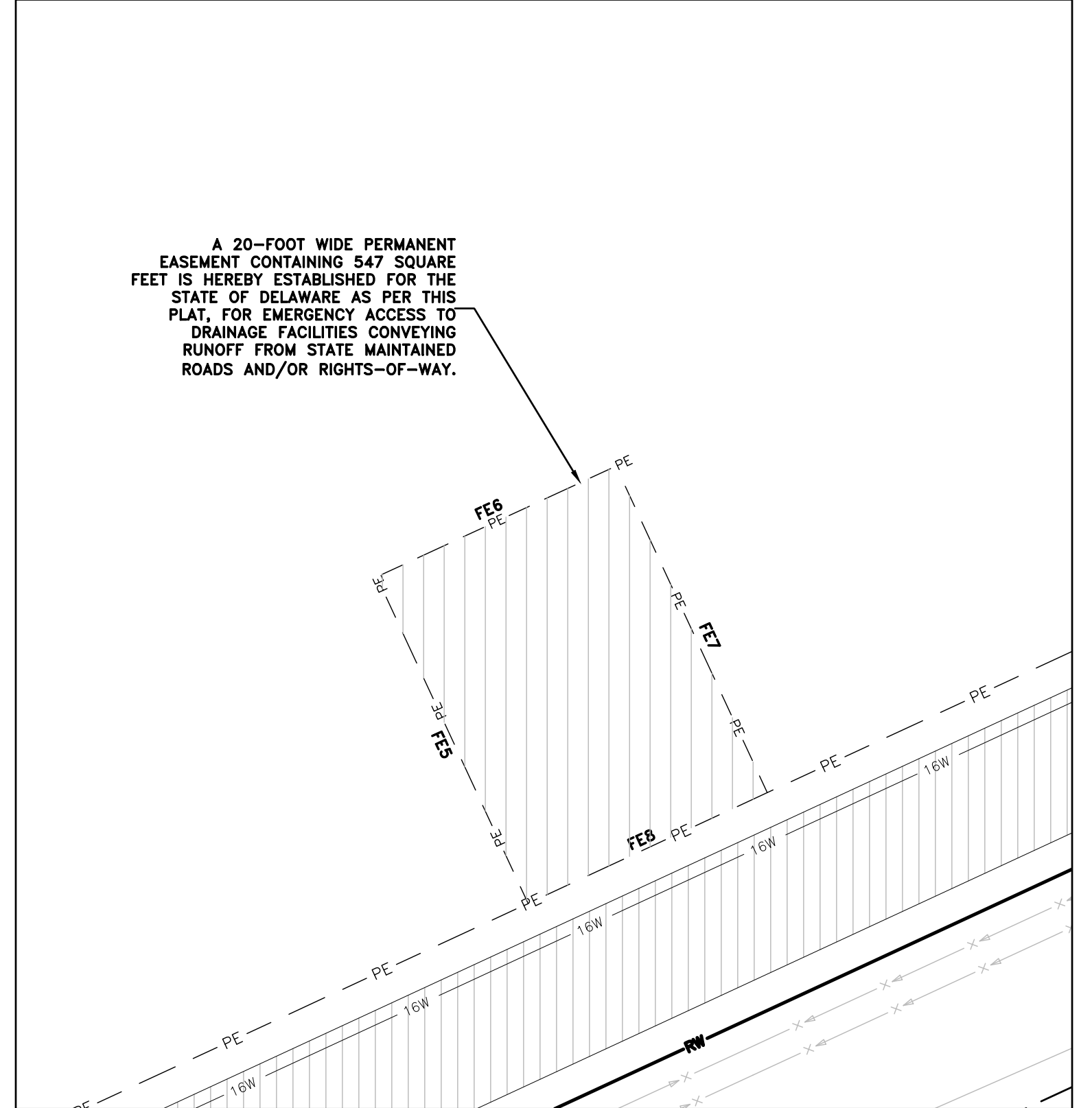
**LEGEND**  
W KDY ADT  
## - AM PEAK  
[##] - PM PEAK  
{##} - TRIP DISTRIBUTION



PERMANENT DRAINAGE EASEMENT DE  
SCALE: 1"=10'

**547 SF PERMANENT EASEMENT DE (DEDICATED TO THE STATE OF DELAWARE)**

LINE	BEARING	DISTANCE
DE1	N 24°51'45" W	27.32'
DE2	N 65°08'15" E	20.00'
DE3	S 24°51'45" E	27.32'
DE4	S 65°08'15" W	20.00'

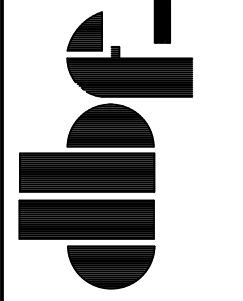


PERMANENT DRAINAGE EASEMENT FE  
SCALE: 1"=10'

**547 SF PERMANENT EASEMENT FE (DEDICATED TO THE STATE OF DELAWARE)**

LINE	BEARING	DISTANCE
FE5	N 24°51'45" W	27.32'
FE6	N 65°08'15" E	20.00'
FE7	S 24°51'45" E	27.32'
FE8	S 65°08'15" W	20.00'

DAVIS, BOWEN & FRIEDEL, INC.  
ARCHITECTS, ENGINEERS & SURVEYORS



RECORD DETAILS

WESTON WILLOWS  
APARTMENT COMMUNITY  
SUSSEX COUNTY, DELAWARE

REVISED:  
11-13-18 DELDOT  
1-8-19 DELDOT  
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4-16-19 DELDOT

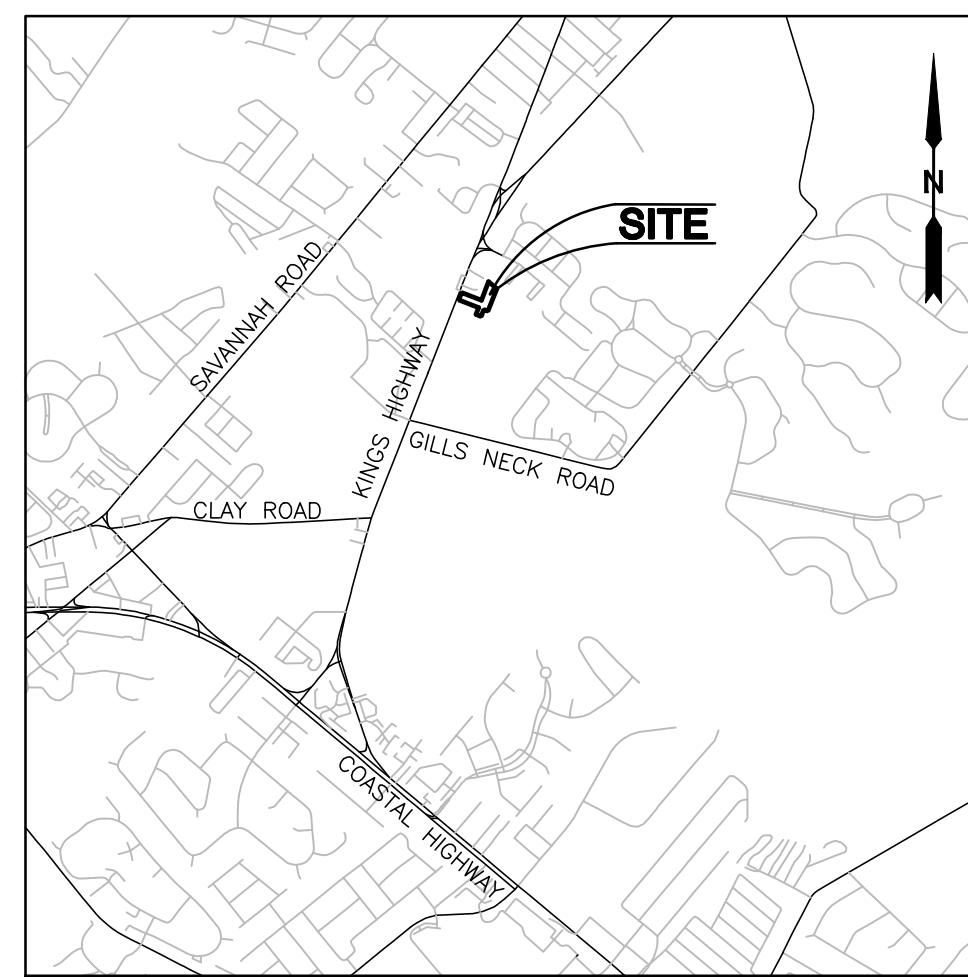
Date: DECEMBER, 2017  
Scale: AS SHOWN  
Dwn.By: DJR  
Proj.No.: 0818C017.M01  
Dwg.No.:

R-03

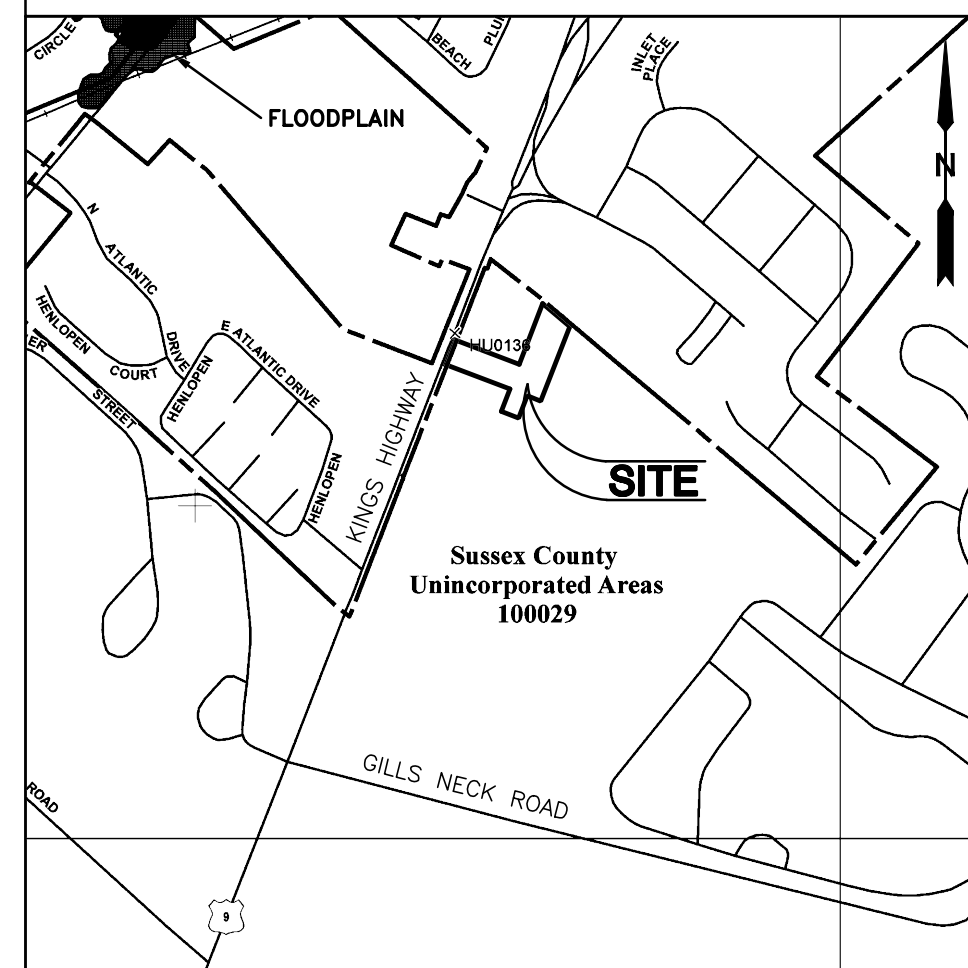
# BIG OYSTER BREWERY EXPANSION

LEWES AND REHOBOTH HUNDRED  
SUSSEX COUNTY, DELAWARE

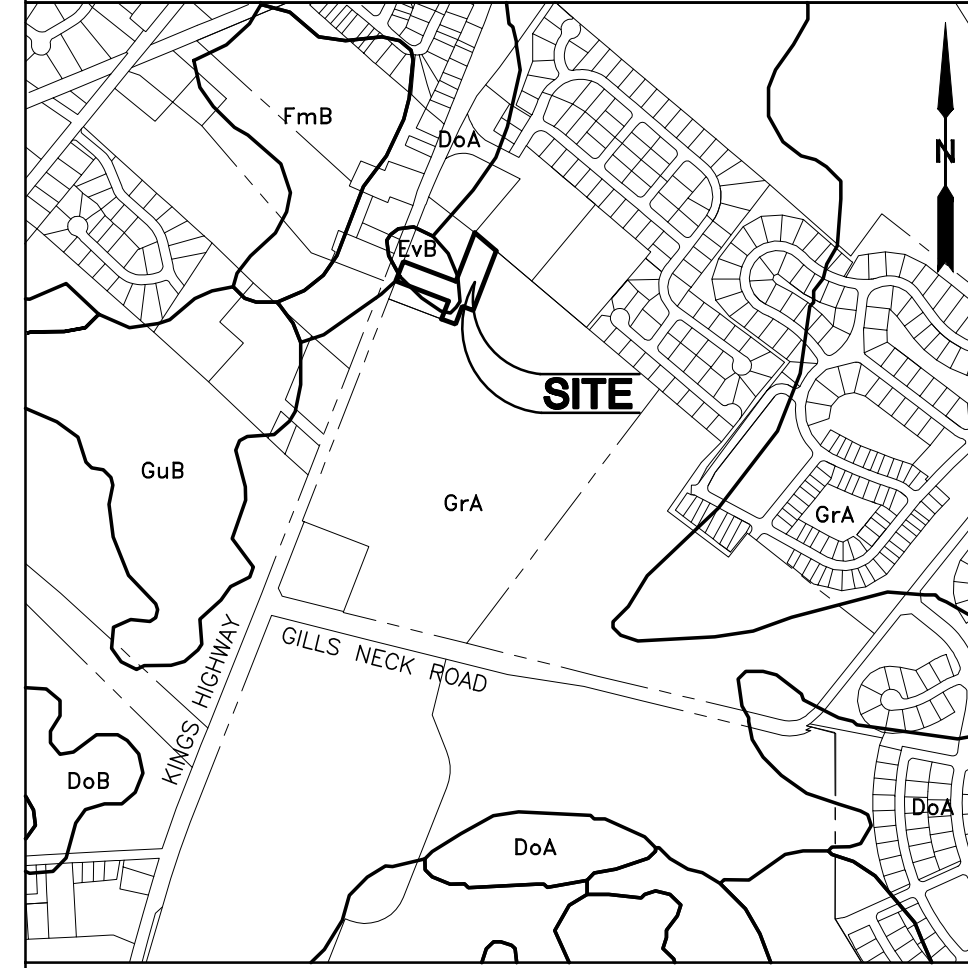
DBF #  
PRELIMINARY PLAN  
SEPTEMBER, 2019



LOCATION MAP SCALE: 1" = 1/2-MILE



FLOODPLAIN MAP SCALE: 1" = 800'  
FEMA PANEL 10005C0194K DATED: MARCH 16, 2015

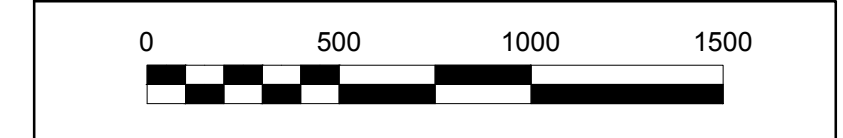
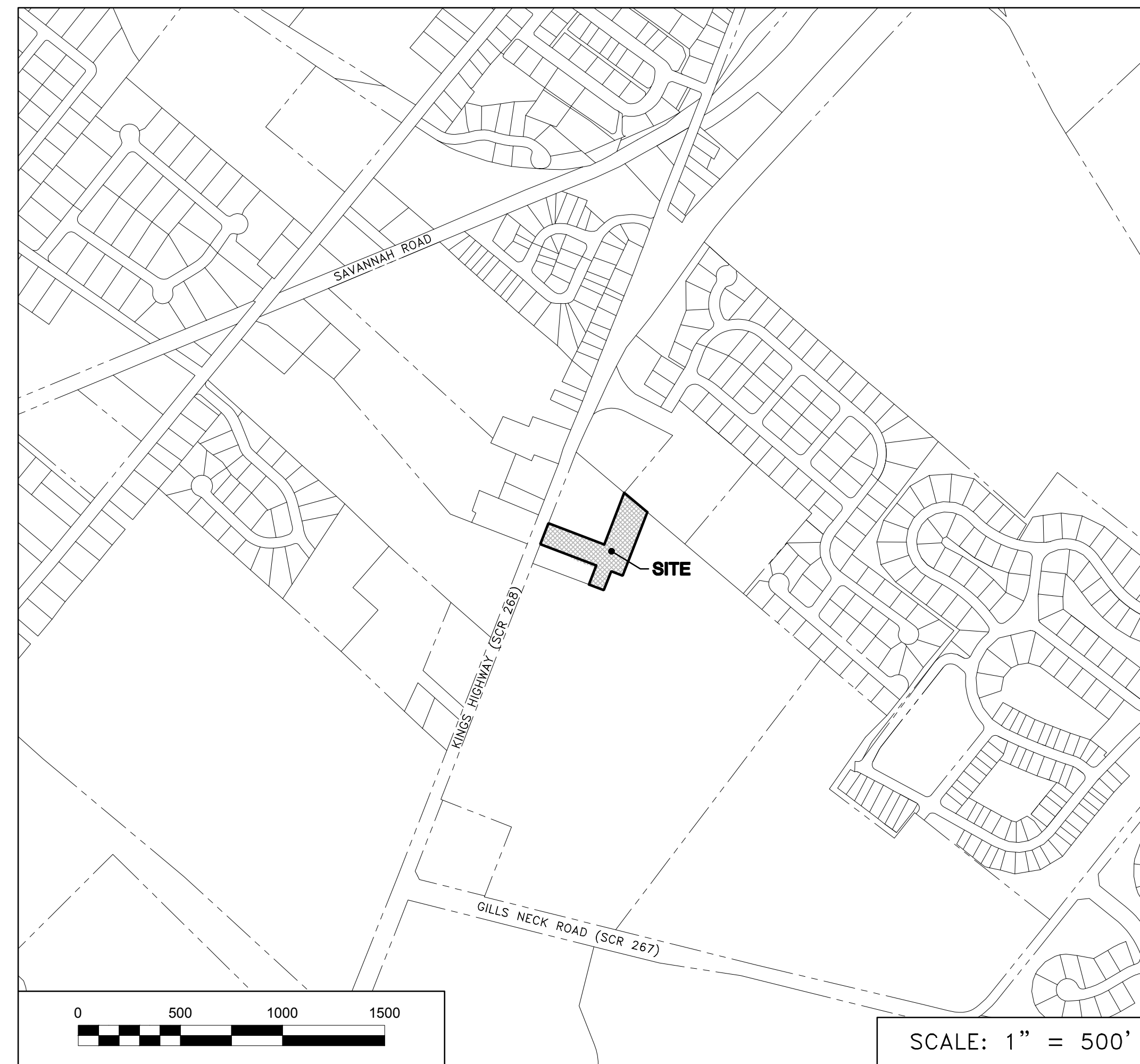


SOILS MAP SCALE: 1" = 1000'

DoA: DOWNER SANDY LOAM, 0 TO 2 PERCENT SLOPES (B)  
DoB: EVESBORO LOAMY SAND, 0 TO 5 PERCENT SLOPES (A)  
GrA: GREENWICH LOAM, 0 TO 2 PERCENT SLOPES (B)

## DATA COLUMN

TAX MAP ID: 335-8.00-39.00  
DEED REFERENCE: DEED BOOK 511, PAGE 73  
DATUM:  
VERTICAL: NAVD 88  
HORIZONTAL: NAD 83 (DE STATE PLANE)  
LAND USE  
EXISTING: BREWERY  
PROPOSED: BREWERY & STORAGE  
ZONING  
EXISTING: C-1 (GENERAL COMMERCIAL DISTRICT)  
C-3 (HEAVY COMMERCIAL DISTRICT)  
MINIMUM REQUIREMENTS  
FRONT SETBACK: C-1 60 FT. C-3 60 FT.  
SIDE SETBACK: 5 FT. 5 FT. (20 FT.)\*  
REAR SETBACK: 5 FT. 5 FT. (30 FT.)\*  
(\*SETBACK APPLIES IF BOUNDARY LINE IS ADJACENT TO A RESIDENTIAL DISTRICT)  
MAXIMUM REQUIREMENTS  
BUILDING HEIGHT: 42 FT.  
AREAS  
EXISTING:  
GROUND FLOOR FOOTPRINT: 5,454 SQ.FT. (INCLUDES STAIRWELL)  
2ND FLOOR EMPLOYEE/STORAGE: 1,250 SQ.FT. (INCLUDES STAIRWELL)  
TOTAL FLOOR AREA: 6,704 SQ.FT.  
TOTAL SITE AREA: 2.056± AC.  
PROPOSED SITE:  
IMPERVIOUS AREA: 0.886± AC. (43%)  
PARKING  
EXISTING PARKING RATIONALE:  
1,158 SQ.FT. OF PATRON SPACE @ 1 SPACE PER 50 SQ.FT.: 24 SPACES  
479 SQ.FT. OF RETAIL SPACE @ 1 SPACE PER 200 SQ.FT.: 3 SPACES  
10 EMPLOYEES @ 1 SPACE PER EVERY 2 EMPLOYEES: 5 SPACES  
293 SQ.FT. OF PAVER PATIO @ 1 SPACE PER 50 SQ.FT.: 6 SPACES  
49.5 SQ.FT. OF EXTERIOR VESTIBULE @ 1 SPACE PER 50 SQ.FT.: 1 SPACE  
TOTAL SPACES REQUIRED: 39 SPACES  
TOTAL SPACES PROVIDED (INCLUDES 2 HANDICAP): 41 SPACES  
LOADING SPACE RATIONALE: 1 SPACE REQUIRED/PROVIDED  
PROPOSED PARKING RATIONALE (IN ADDITION TO EXISTING):  
903 SQ.FT. OF PATRON SPACE @ 1 SPACE PER 50 SQ.FT.: 19 SPACES  
10 EMPLOYEES @ 1 SPACE FOR EVERY 2 EMPLOYEES: 5 SPACES  
TOTAL SPACES REQUIRED: 24 SPACES  
TOTAL SPACES PROVIDED (PHASE 1): 25 SPACES  
TOTAL SPACES PROVIDED (PHASE 2): 50 SPACES  
UTILITIES  
SEWER PROVIDER: SUSSEX COUNTY UNIFIED SANITARY SEWER DISTRICT  
WATER PROVIDER: CITY OF LEWES  
PROPOSED CONSTRUCTION: WOOD/CONCRETE BLOCK  
FLOODPLAIN - THE PROPERTY IS NOT IMPACTED BY THE 100 YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0194K.  
THE PROPERTY IS NOT LOCATED IN A SOURCE WATER PROTECTION AREA.  
OWNER/DEVELOPER  
JEFF-KATT, LLC.  
55 BAY REACH  
REHOBOTH BEACH, DE 19971  
ENGINEER:  
DAVIS, BOWEN, & FRIEDEL, INC.  
RING W. LARDNER, P.E.  
1 PARK AVE.  
MILFORD, DE 19963  
PHONE: 302-424-1441  
FAX: 302-424-0430



SCALE: 1" = 500'

SHEET INDEX	
TITLE SHEET	PRE-01
PRELIMINARY PLAN - EXISTING CONDITIONS	PRE-02
PRELIMINARY PLAN - PHASE 1	PRE-03
PRELIMINARY PLAN - PHASE 2	PRE-04

## GENERAL NOTES:

- STREETS CONSTRUCTED WITHIN THE LIMITS OF THE RIGHT-OF-WAY ARE PRIVATE AS SHOWN ON THIS PLAN AND ARE TO BE MAINTAINED BY THE DEVELOPER, PROPERTY OWNERS OR BOTH. THE STATE OF DELAWARE ASSUMES NO MAINTENANCE RESPONSIBILITIES FOR THE FUTURE MAINTENANCE OF THESE STREETS.
- ALL ENTRANCES SHALL CONFORM TO DELDOT'S DEVELOPMENT COORDINATION MANUAL (DCM) AND SHALL BE SUBJECT TO ITS APPROVAL.
- SHRUBBERY, PLANTINGS, SIGNS AND/OR OTHER VISUAL BARRIERS THAT COULD OBSTRUCT THE SIGHT DISTANCE OF A DRIVER PREPARING TO ENTER THE ROADWAY ARE PROHIBITED WITHIN THE DEFINED DEPARTURE SIGHT TRIANGLE AREA ESTABLISHED ON THIS PLAN. IF THE ESTABLISHED DEPARTURE SIGHT TRIANGLE AREA IS OUTSIDE OF THE RIGHT-OF-WAY OR PROJECTS ONTO AN ADJACENT PROPERTY OWNER'S LAND, A SIGHT EASEMENT SHALL BE ESTABLISHED AND RECORDED WITH ALL AFFECTED PROPERTY OWNERS TO MAINTAIN THE REQUIRED SIGHT DISTANCE.
- ALL FIRE LANES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS. BUILDING CONSTRUCTION TO BE MASONRY AND WOOD.
- ACCORDING TO DNREC WETLANDS MAPPING NO WETLANDS EXIST ON SITE.
- BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN IS THE RESULT OF A FIELD RUN SURVEY PERFORMED BY COMPASS POINT ASSOCIATES IN FEBRUARY 2017 AND DAVIS, BOWEN, & FRIEDEL, INC. IN SEPTEMBER 2019.
- THIS SITE IS NOT IMPACTED BY THE 100-YEAR FLOODPLAIN AS DETERMINED BY FEMA PANEL 10005C0194K, DATED MARCH 16, 2015.
- THIS PLAN DOES NOT VERIFY THE LOCATION, EXISTENCE, OR NON-EXISTENCE OF EASEMENTS OR RIGHT-OF-WAYS CROSSING THE SUBJECT PROPERTY AS NO TITLE SEARCH WAS PERFORMED OR PROVIDED.

## LEGEND

EXISTING	PROPOSED		
RIGHT-OF-WAY	EX-RW	BOUNDARY LINE	---
ADJACENT PROPERTY OWNER	---	RIGHT-OF-WAY	RW RW
EASEMENT	++	EASEMENT	++
CONTOUR	33	BUFFER	---
CATCH BASIN, STORM PIPE	☐	SANITARY SEWER IDENTIFICATION, MANHOLE, PIPE, FLOW ARROW, PIPE SIZE	8SS
SANITARY SEWER MANHOLE, PIPE	● EX-SS	WATER MAIN, TEE W/ VALVES, PIPE SIZE	8W
WATER MAIN	EX-W	FIRE HYDRANT ASSEMBLY	☐
FIRE HYDRANT ASSEMBLY	☐	CATCH BASIN, STORM PIPE, STORM MANHOLE, LABELS	☐
SIGN	☐	TREE LINE	~ ~ ~
UTILITY POLE	☐	PHASE 1 GRAVEL	☐
TREE FENCE	X X X	PHASE 2 FULL DEPTH PAVEMENT	☐
TREE LINE	~ ~ ~	SIDEWALK	☐
WETLANDS	☐		
PAVEMENT	☐		

## ENGINEER'S STATEMENT

I, RING W. LARDNER, P.E., HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

DAVIS, BOWEN & FRIEDEL, INC. DATE  
by RING W. LARDNER, P.E.

## OWNER'S CERTIFICATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE BY MY DIRECTION AND THAT I ACKNOWLEDGE THE SAME TO BE MY ACT AND DESIRE THE PLAN BE DEVELOPED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

JEFF-KATT, LLC. DATE  
55 BAY REACH  
REHOBOTH BEACH, DE 19971



DAVIS, BOWEN & FRIEDEL, INC.  
ARCHITECTS, ENGINEERS & SURVEYORS

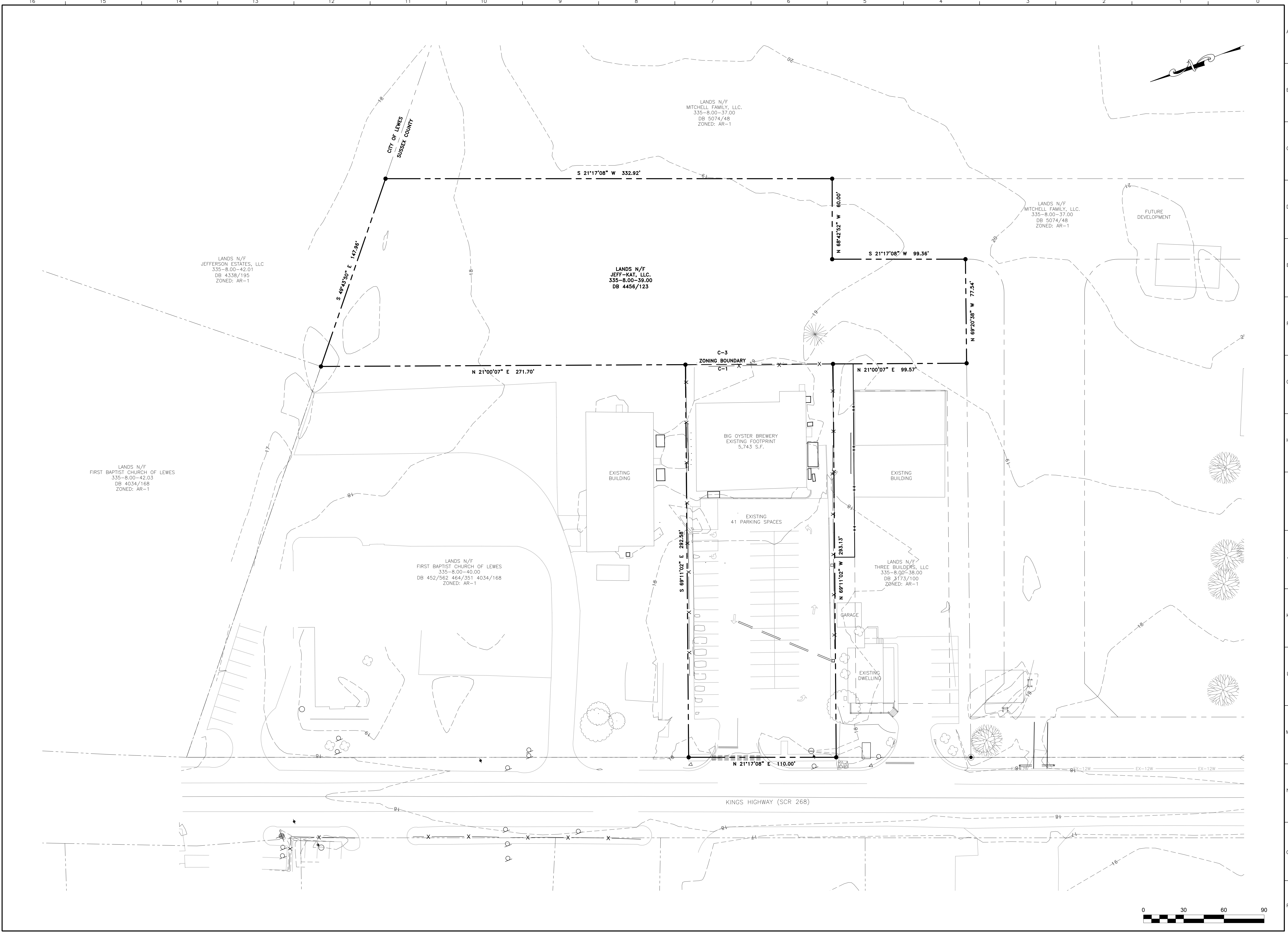
SALISBURY, MARYLAND (410) 543-9091  
MILFORD, DELAWARE (302) 424-1441  
EASTON, MARYLAND (410) 770-4744

REVISIONS:  
2019-11-07: P&Z

PRE-01



P:\Jeff Kat\ZKing's Highway Site Expansion\Design\_Plan\PRELIMINARY SITE PLAN.dwg Nov 07, 2019 - 10:46am jevt



**DAVIS, BOWEN & FRIEDEL, INC.**  
 ARCHITECTS, ENGINEERS, SURVEYORS  
 1000 MARKET STREET, SUITE 200  
 EASTON, MARYLAND 21829  
 (410) 770-7744

**BIG OYSTER BREWERY EXPANSION  
 LEWES & REHOBOTH HUNDRED  
 SUSSEX COUNTY, DELAWARE**

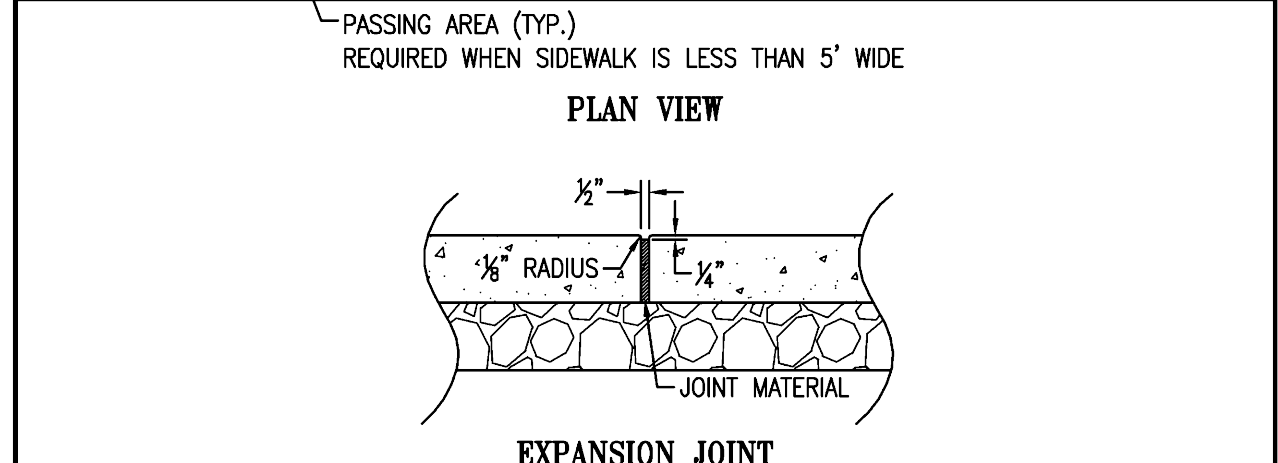
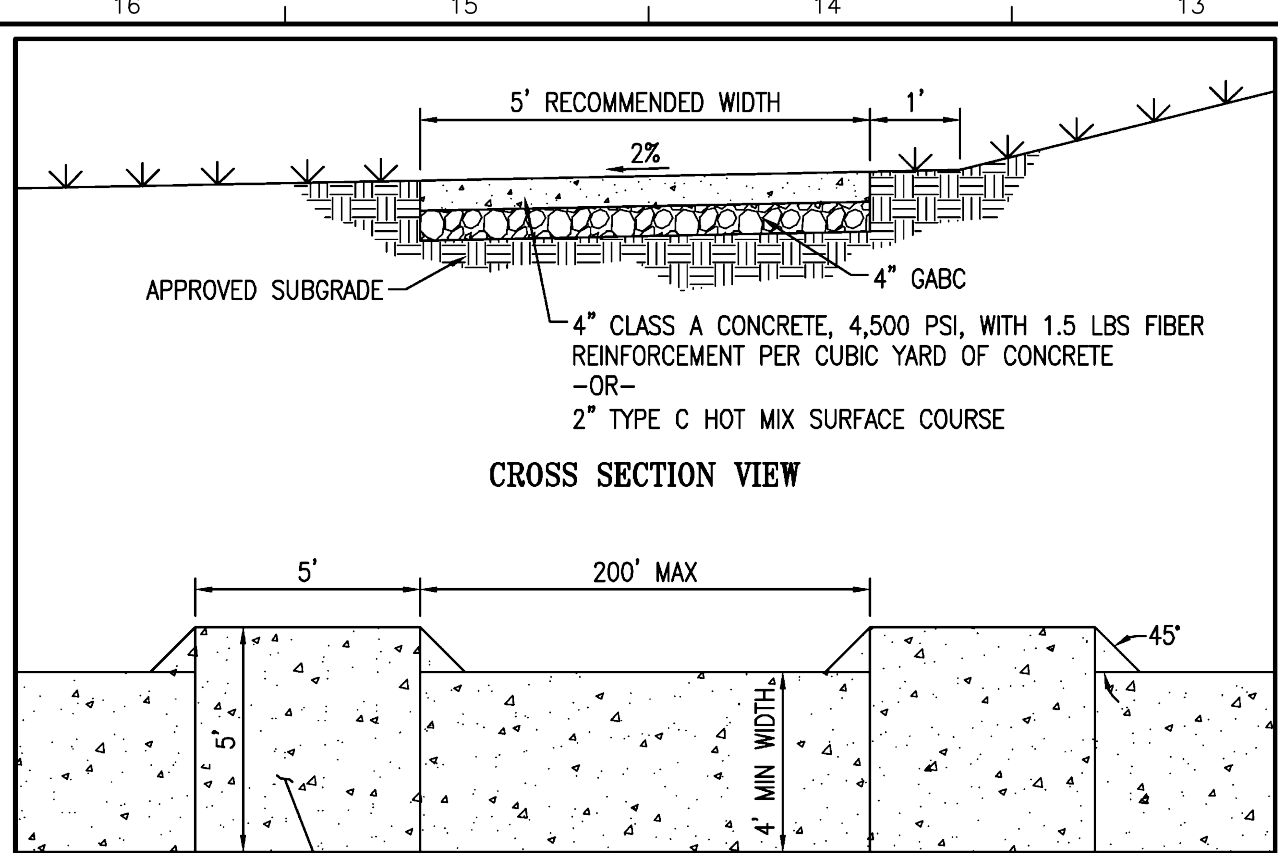
Revisions:  
 2019-11-07: P&Z

Date: **SEPTEMBER, 2019**  
 Scale: **1" = 30'**  
 Dwn. By: **TAJ**  
 Proj. No.: **-**  
 Dwg. No.: **PRE-02**

**PRE-02**

PRELIMINARY PLAN - EXISTING CONDITIONS





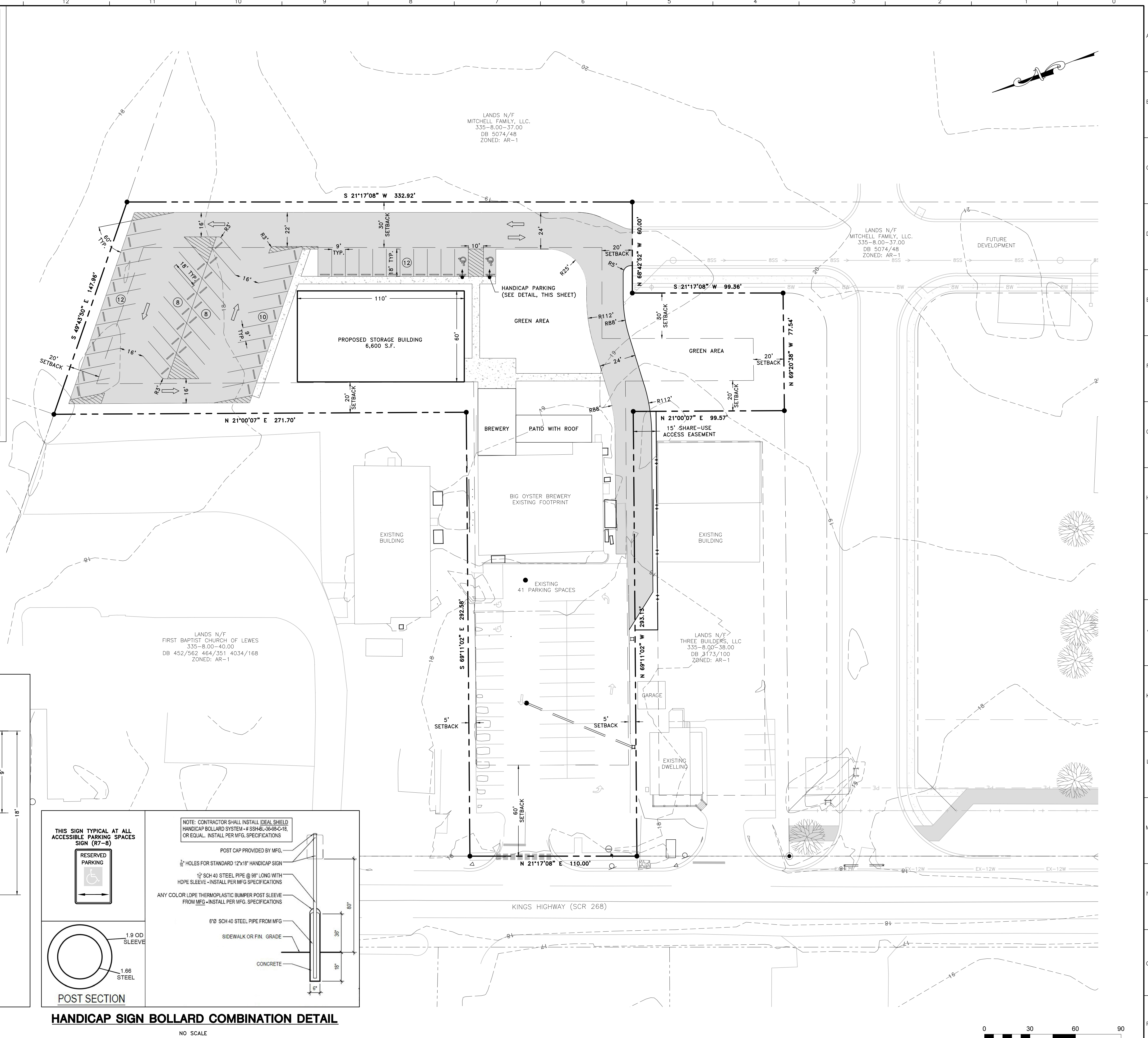
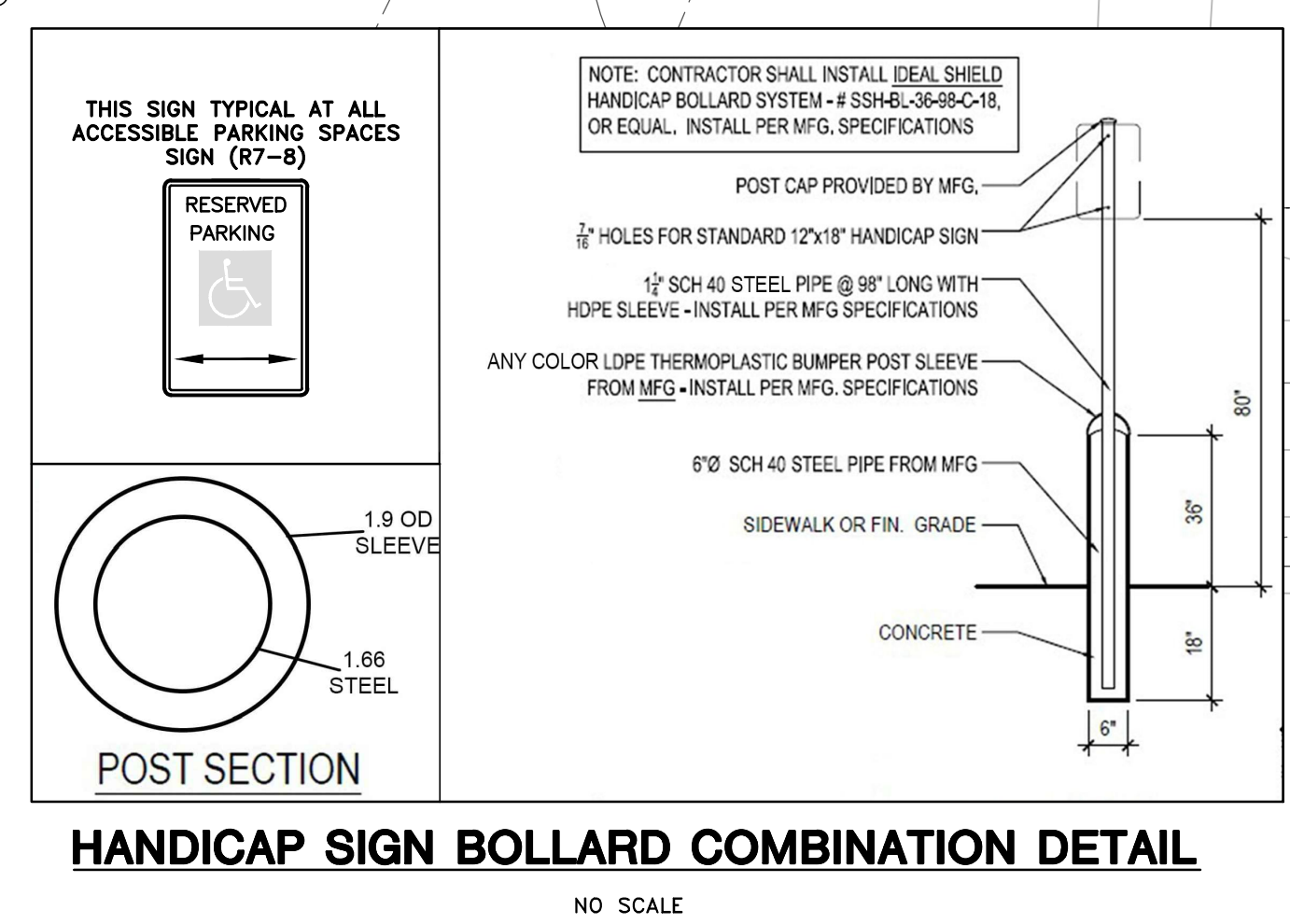
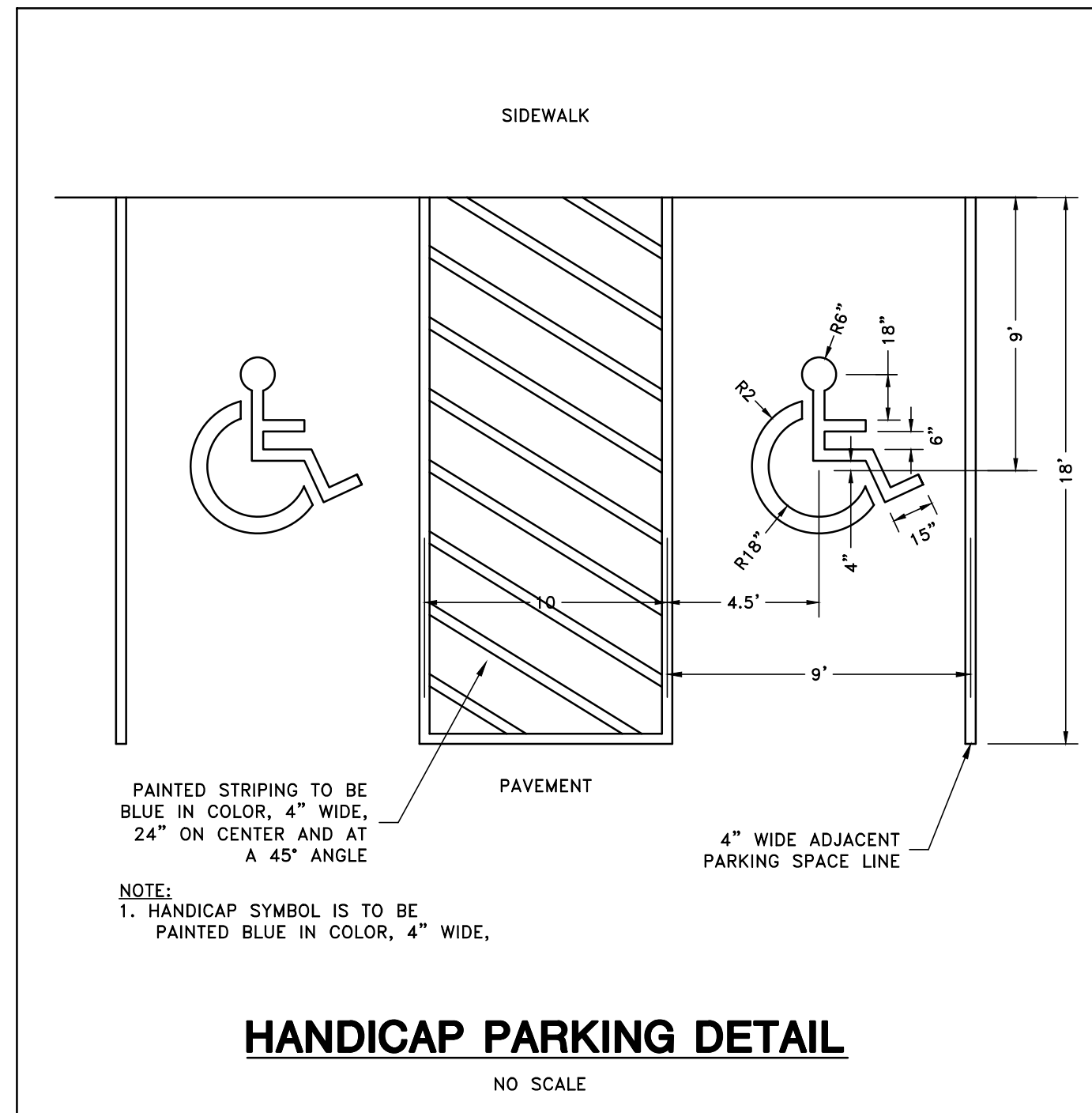
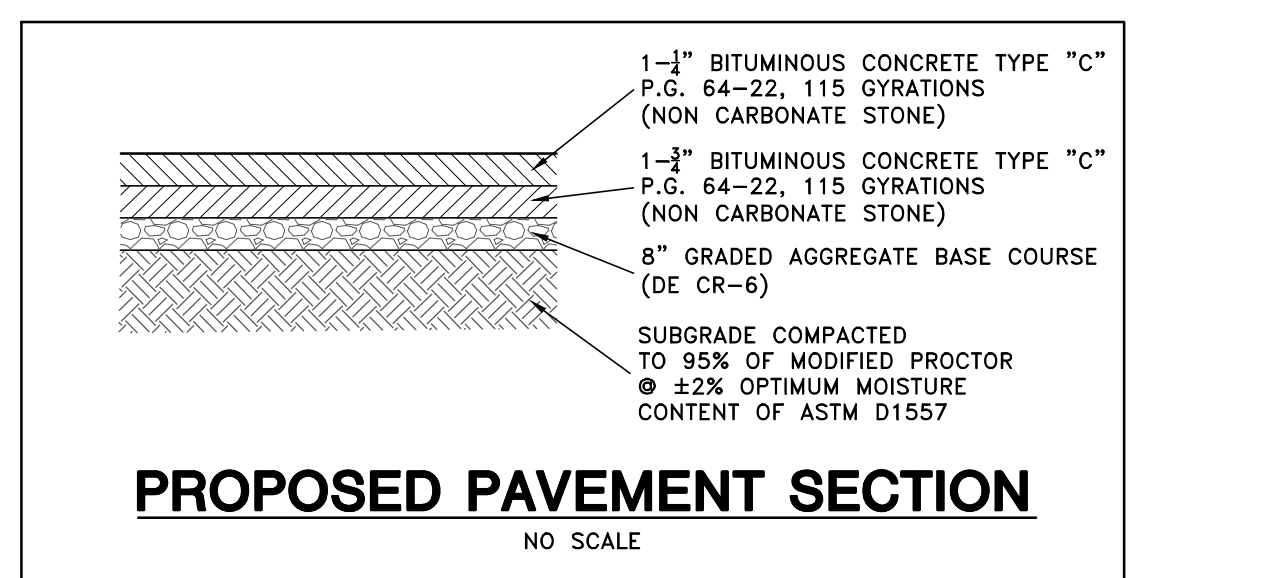
**NOTES:**

- CONCRETE SIDEWALKS SHALL BE CONTINUOUS AND SHALL NOT BREAK OR STOP AT DRIVEWAY CROSSINGS.
- CONCRETE SIDEWALKS SHALL BE MARKED INTO RECTANGULAR SLABS 5' LONG BY SCORING WITH APPROVED EDGING TOOLS.
- EXPANSION JOINTS SHALL BE PLACED ACROSS CONCRETE SIDEWALKS NOT MORE THAN 20' APART.
- WHEN A 5' WIDE SIDEWALK IS NOT POSSIBLE DUE TO SITE CONSTRAINTS, A 4' WIDE SIDEWALK MAY BE USED WITH 5'x5' PASSING AREAS SPACED AT 200' OR CLOSER INTERVALS. REFER TO THE LATEST ADA AND ABA ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES.

Sussex County, Delaware  
Engineering Department  
Concrete Sidewalk  
Detail  
R-5.01

**NOTES:**

- SIDEWALK MUST BE INSTALLED PER THE APPROVED PLAN IN CONJUNCTION WITH THE PRIVATE STREET.
- THE CROSS SLOPE IS DESIGNED AT 1.5% TO ALLOW FOR A MINIMUM SLOPE OF 1% AND MAXIMUM SLOPE OF 2%.



DAVIS, BOWEN & FRIEDEL, INC.  
ARCHITECTS, ENGINEERS, SURVEYORS  
1100 W. MARKET STREET  
MILFORD, DELAWARE 19966  
(302) 444-1491  
EASTON, MARYLAND (410) 770-4744

**BIG OYSTER BREWERY EXPANSION  
LEWES & REHOBOTH HUNDRED  
SUSSEX COUNTY, DELAWARE**

Revisions:  
2019-11-07: P&Z

Date: **SEPTEMBER, 2019**

Scale: **1" = 30'**

Dwn.By: **TAJ**

Proj.No.: **-**

Dwg.No.:

**PRE-04**

P:\Jeff\K&J\Kings Highway Site Expansion\Design\_Preliminary\Plan\PRELIMINARY SITE PLAN.dwg Nov 07, 2019 - 10:45am jeff

**SITE DATA:**

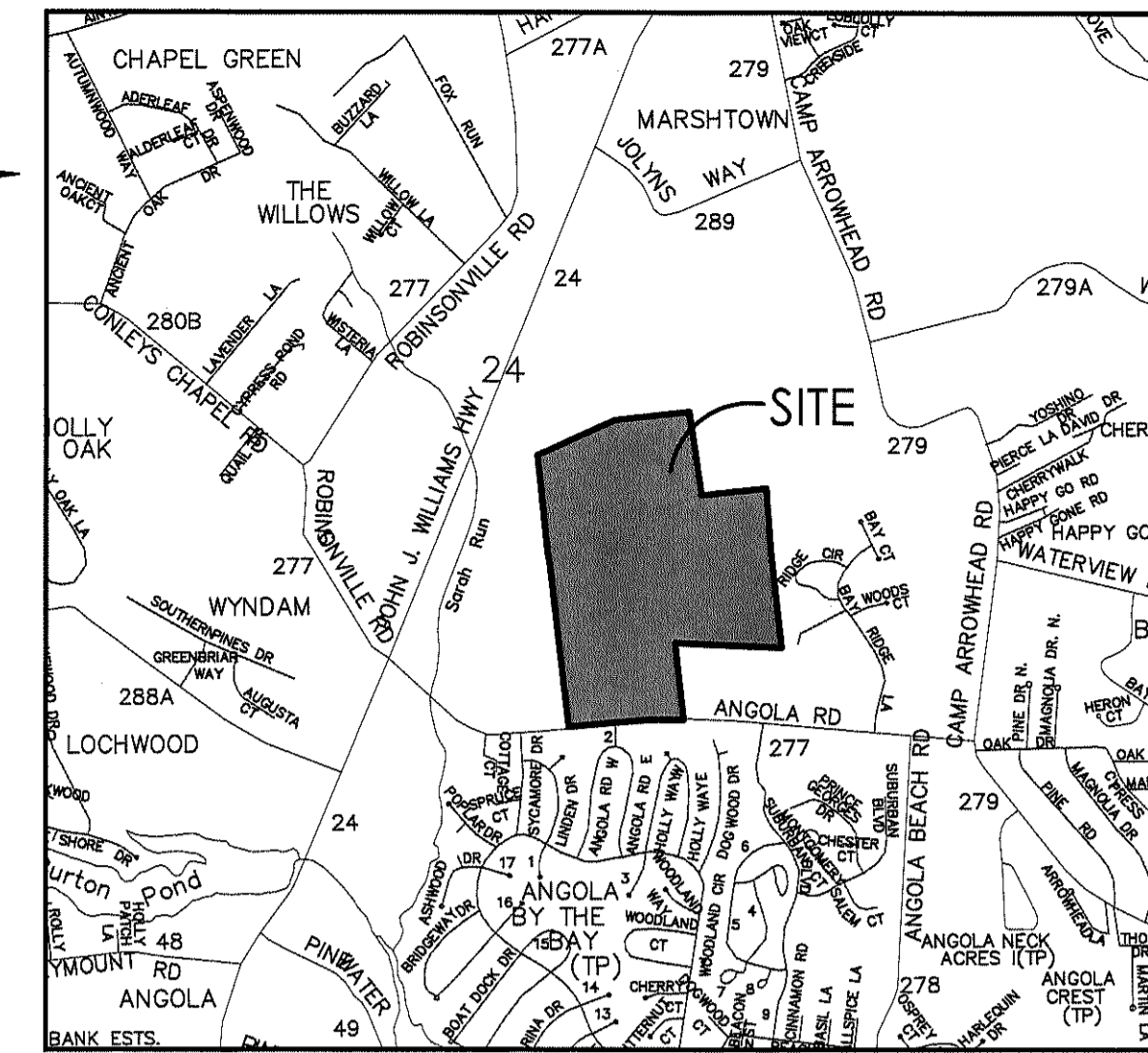
OWNER/DEVELOPER: MIDDLE CREEK PRESERVE LLC  
 5950 SYMPHONY WOODS ROAD  
 SUITE 408  
 COLUMBIA, MD 21044  
 (234-11-00-54.00, 54.01, 54.02, 54.03)  
 CONTACT: MEGAN CONNER  
 PHONE: 410-861-7159

ENGINEER: SOLUTIONS IPEM, LLC  
 303 NORTH BEDFORD STREET  
 GEORGETOWN, DE 19947  
 PHONE: 302.297.9215  
 CONTACT: JIM ERIKSEN, PE

- TAX MAP: 234-11.00-51.00  
 DEED REFERENCE: 4784/151  
 RECREATION AREA = 2.70 AC.±
- EXISTING ZONING: AR-1 (ES-1)
- PROPOSED USE: RECREATION FACILITY AND PARKING
- MAXIMUM BUILDING HEIGHT = 42'
- FLOOD ZONE: THE PROPERTY IS LOCATED WITHIN FLOOD ZONE X, (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) PER FIRM MAP NUMBER 10005CO PANEL 0341K, REVISED MARCH 16, 2015.
- WATER SUPPLY: TIDEWATER UTILITIES, INC
- SANITARY SEWER: SUSSEX COUNTY - ANGOLA SANITARY SEWER DISTRICT
- AUTOMATIC SPRINKLERS ARE NOT PROPOSED FOR THIS STRUCTURE.
- TYPE OF CONSTRUCTION: NFPA TYPE V (000)
- ALL FIRE LANES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE STATE FIRE PREVENTION REGULATIONS AND AS SHOWN ON THESE PLANS.
- A LOCK BOX CONTAINING KEYS FOR FIRE DEPARTMENT ACCESS TO THE CLUBHOUSE IS REQUIRED. CONTACT THE LOCAL FIRE CHIEF FOR ORDERING INFORMATION AND LOCATION OF THE BOX ON THE BUILDING.
- PROPOSED BUILDINGS: CLUBHOUSE BUILDING = 4,072 SF ±
- PARKING REQUIRED: N/A  
 PARKING PROVIDED: 34 TOTAL (2 HANDICAP SPACES)
- THE RECREATION AREA AND FACILITIES ARE FOR THE RESIDENCES OF MIDDLE CREEK PRESERVE SUBJECT TO HOA DOCUMENTS.

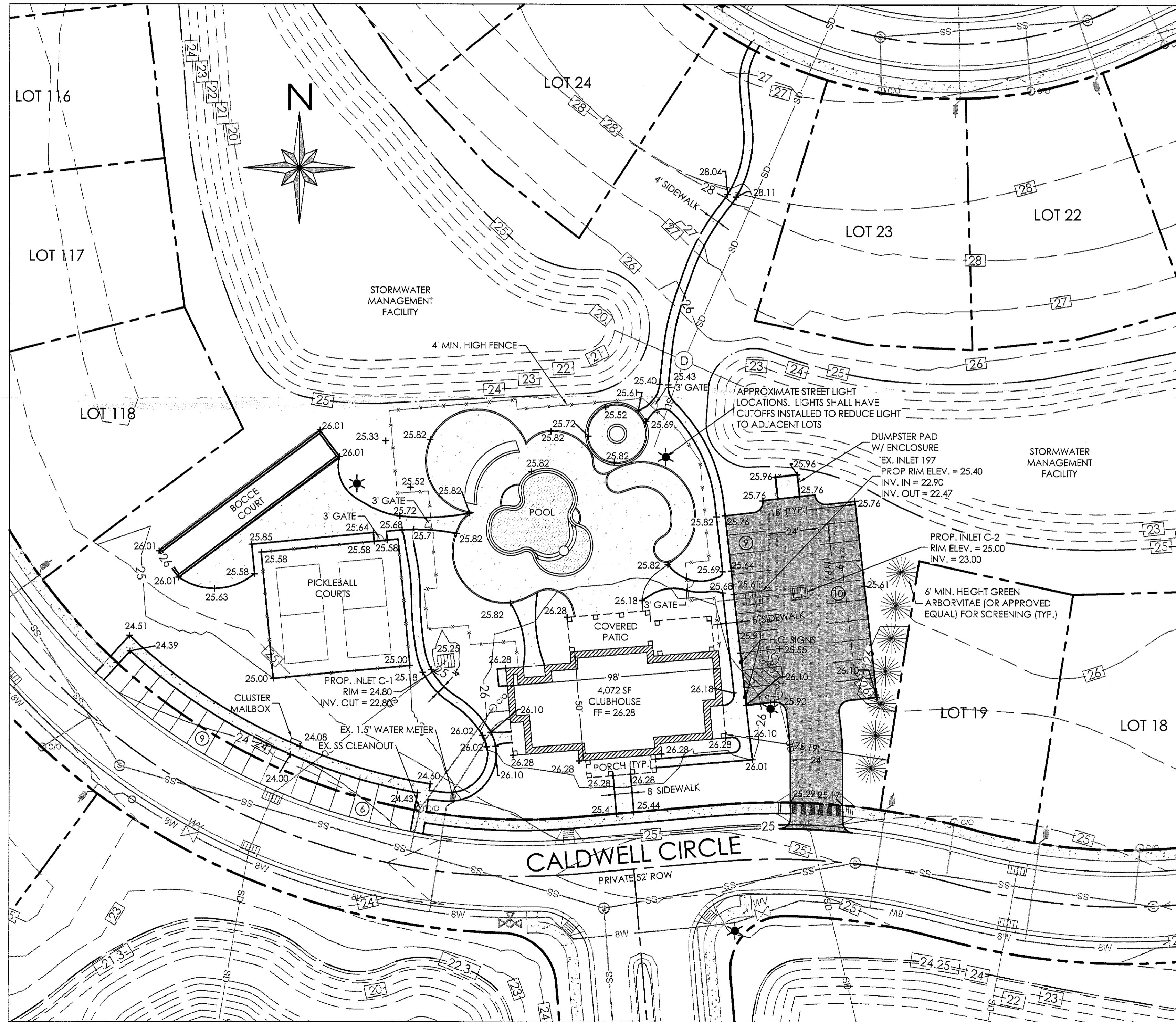
# RECREATIONAL AREA SITE PLAN FOR MIDDLE CREEK PRESERVE

INDIAN RIVER HUNDRED  
 SUSSEX COUNTY, DELAWARE  
 TAX MAP 234-11.00, PARCEL 51.00



VICINITY MAP  
 SCALE: 1" = 2,000'

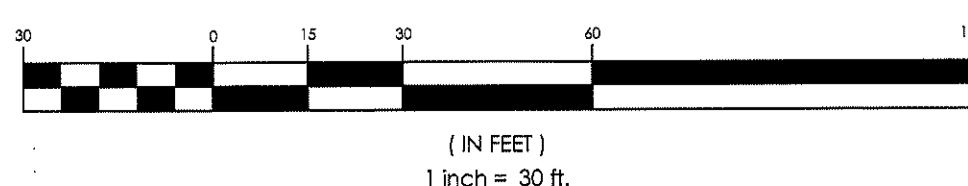
	EXISTING	PROPOSED
PROPERTY LINE	---	---
EASEMENT/BUFFER LINE	---	---
R.O.W. LINE	---	---
SPOT ELEV. LABEL	+ 19.25	N/A
MAJOR CONTOUR	---	---
MINOR CONTOUR	---	---
ROAD CENTERLINE	---	---
EDGE OF CONCRETE	---	---
EDGE OF PAVEMENT	---	---
PAVEMENT HATCH	N/A	▨
BUILDING	N/A	▨
CURB AND GUTTER	---	---
SIDEWALK	---	---
SIDEWALK HATCH	---	---
EDGE OF POND	N/A	---
STORM MANHOLE	⊙	⊙
CURB INLET	⊙	N/A
STORM PIPE	---	SD
SANITARY MANHOLE	⊙	N/A
SANITARY PIPE	SS	SS
SANITARY CLEANOUT	⊙	⊙
WATER PIPE	---	W
FENCE	N/A	x
SIGN	N/A	+
FIRE HYDRANT	⊙	N/A



**NOTES:**

- PER THE CONDITIONS OF APPROVAL (CONDITION M), THE AMENITIES SHALL BE CONSTRUCTED ON OR BEFORE ISSUANCE OF THE 100TH BUILDING PERMIT.
- THE FENCE AROUND THE POOL SHALL BE A MINIMUM OF HEIGHT OF FOUR (4) FEET AND CONSTRUCTED OF APPROVED MATERIALS.
- LIGHTING FOR THE RECREATIONAL FACILITIES AND PARKING SHALL BE COORDINATED BETWEEN DE COOP AND THE DEVELOPER.
- THE SITE AMENITIES SHALL BE FOR RESIDENTS/MEMBERS OF THE HOMEOWNERS ASSOCIATION AND AUTHORIZED GUESTS ONLY.
- FINAL/DETAILED DRAINAGE OF THE POOL DECK AND BOCCIE BALL COURT IS TO BE DONE BY OTHERS.
- EXISTING GRADING SHOWN IS BASED ON DESIGN GRADES FOR THE COMMUNITY, WITH THE EXPECTATION THAT THE BULK GRADING HAS BEEN COMPLETED PRIOR TO BEGINNING CONSTRUCTION ON THE CLUBHOUSE.
- FINAL LANDSCAPING AND AESTHETIC HARDSCAPING IMPROVEMENTS SHALL BE DONE BY OTHERS.

GRAPHIC SCALE



**solutions**  
 Integrated Planning  
 Engineering & Management, LLC

303 North Bedford Street  
 Georgetown, DE 19947  
 T. 302.297.9215  
 3003 Market Hill Road  
 Salisbury, MD 21804  
 T. 410.572.8833  
 www.solutionsipem.com Copyright © 2018

Seal  
 Date

NO.	DATE	DESCRIPTION

**WETLAND STATEMENT**  
 I, Edward M. Launay, PWS, STATES THAT THE BOUNDARIES OF WATERS OF THE UNITED STATES INCLUDING WETLANDS SUBJECT TO THE CORPS OF ENGINEERS REGULATORY PROGRAM DELINEATED UPON THIS PLAN HAVE BEEN DETERMINED USING MY PROFESSIONAL JUDGMENT IN ACCORDANCE WITH THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, ATLANTIC GULF COAST REGIONAL SUPPLEMENT, REGULATIONS AND SUPPLEMENTAL GUIDANCE (33 CFR 328.3(a)(8), Waters of the U.S. Definition/CECW-OR, 10-7-1991, Questions and Answers on the 1987 CDE Manual/CECW-OR, 9-26-1990, RGL 90-7/CECW-OR, 3-6-1992, Clarification and Interpretation of the 1987 Manual). THIS DELINEATION HAS NOT BEEN CONDUCTED FOR USDA PROGRAM OR AGRICULTURAL PURPOSES.

EDWARD M. LAUNAY, PWS No. 875 Date  
 SOCIETY OF WETLANDS SCIENTISTS  
 CORPS OF ENGINEERS  
 CERTIFIED WETLAND DELINEATOR WDPC93MD05100368)

**DEVELOPER'S CERTIFICATION**  
 THE DEVELOPER, MIDDLE CREEK PRESERVE, LLC, HEREBY CERTIFIES THAT THESE DRAWINGS HAVE BEEN APPROVED.

MEGAN CONNER DATE

RECREATION FACILITY SITE PLAN  
 for  
**MIDDLE CREEK PRESERVE**  
 SUSSEX COUNTY, DELAWARE  
 PREPARED FOR: MIDDLE CREEK PRESERVE, LLC

Date:	10/05/2019
Job Number:	G16028
Scale:	1"=30'
Drawn By:	JPR
Designed By:	JRE
Approved By:	JRE

Sheet No.: 1  
 File Name: G16028-ClubhouseSitePlan