JAMIE WHITEHOUSE, AICP DIRECTOR OF PLANNING & ZONING (302) 855-7878 T (302) 854-5079 F jamie.whitehouse@sussexcountyde.gov





PLEASE NOTE

This paperless packet is published on the County's website for convenience purposes, and only includes information received up to the close of business on the day before a public hearing. Documents received after this, or documents submitted during the public hearing are not uploaded to the Paperless Packet. The legal record is the paper record maintained in the Offices of the Planning & Zoning Department.



PLANNING & ZONING COMMISSION

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





DELAWARE sussexcountyde.gov 302-855-7878 T 302-854-5079 F JAMIE WHITEHOUSE, AICP, MRTPI DIRECTOR

PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET Planning Commission Public Hearing Date: January 13th, 2022

Application: 2021-12 Miralon (F.K.A. Cool Spring)

Applicant: Schell Brothers, LLC

20184 Phillips Street

Rehoboth Beach, DE 19971

Owner: Elsie Otto Walls, Trustee

122 S. Michigan Ave, Suite 1220

Chicago, IL 60603

Site Location: The property is lying on the northeast side of Cool Spring Road (S.C.R.

290), approximately 1.1 mile south of Fisher Road (S.C.R. 262).

Current Zoning: Agricultural Residential (AR-1) Zoning District

Proposed Use: 144 Single-Family Lots as a Cluster Subdivision

Comprehensive Land

Use Plan Reference: Low Density

Councilmanic

District: Mr. Schaeffer

School District: Cape Henlopen School District

Fire District: Lewes Fire Company

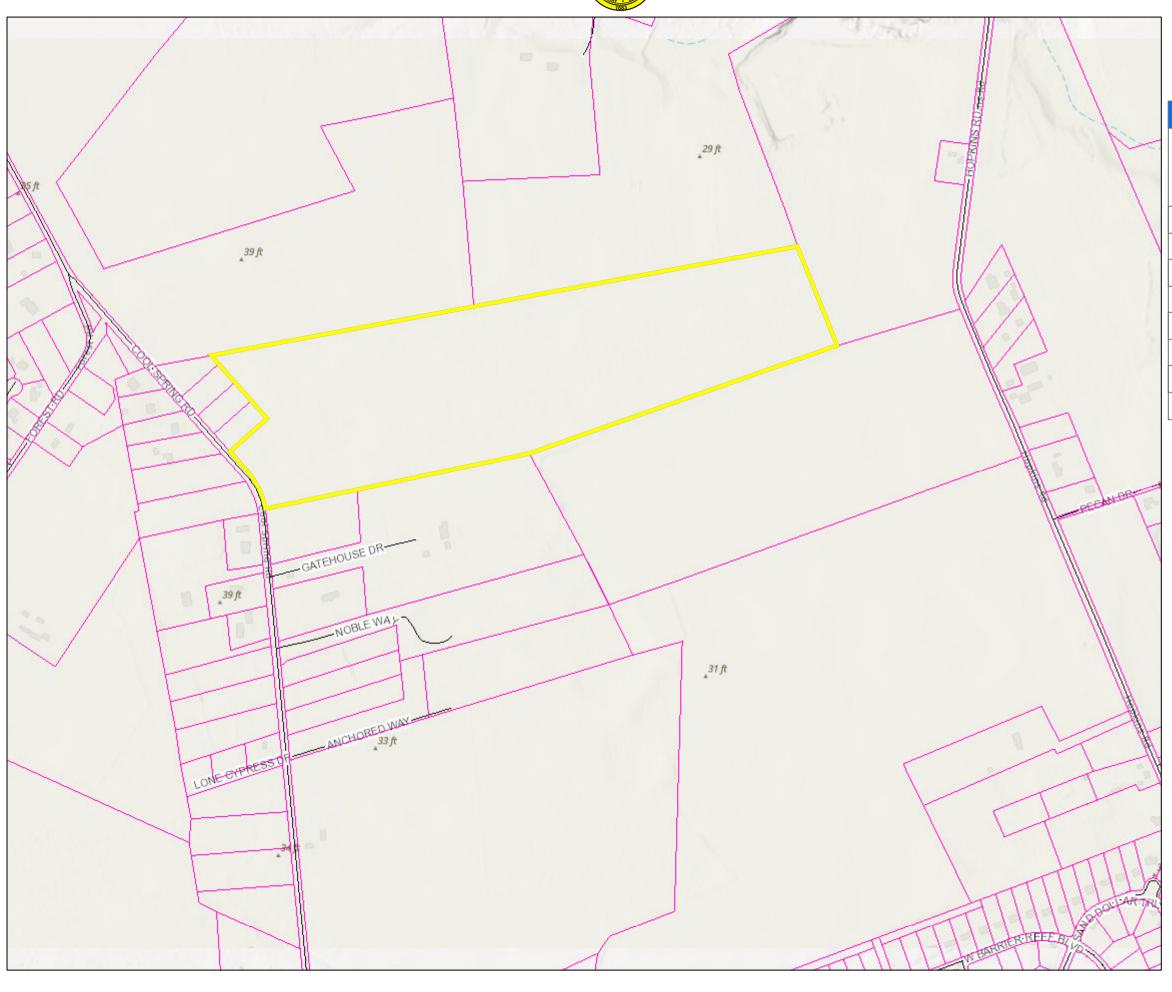
Sewer: Artesian Water Company

Water: Artesian Wastewater Management, Inc.

Site Area: 72.20 +/- acres

Tax Map ID: 234-5.00-37.00





| PIN: | 234-5.00-37.00 |
|-----------------|-----------------------------|
| Owner Name | OTTO ELSIE WALLS TRUSTEE |
| Book | 2958 |
| Mailing Address | 122 S MICHIGAN AVE SUIT |
| City | CHICAGO |
| State | IL |
| Description | NE/RD 290 APPR 1420' |
| Description 2 | SE/RD 292 |
| Description 3 | N/A |
| Land Code | |

polygonLayer

Override 1

polygonLayer

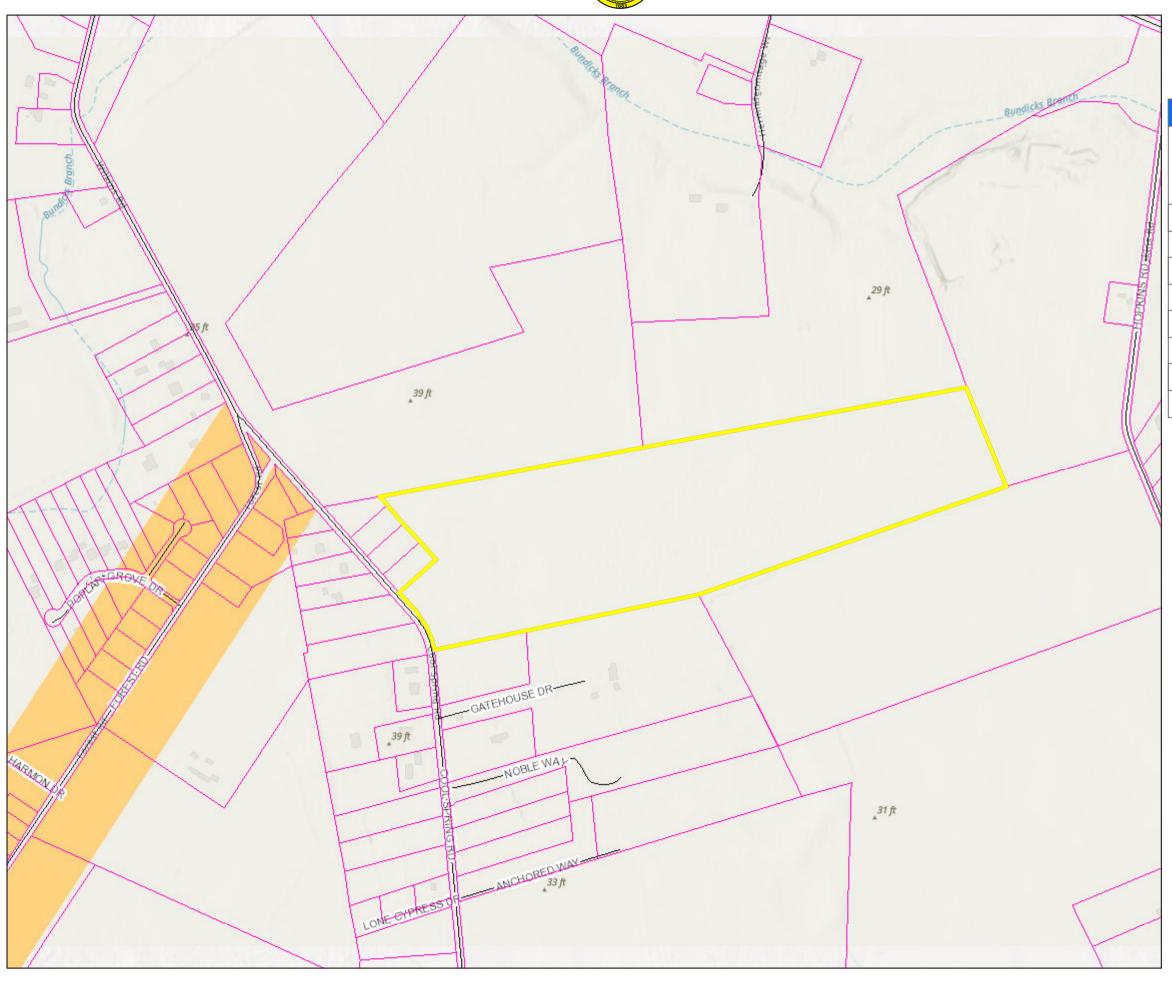
Override 1

Tax Parcels

Streets

County Boundaries

1:9,028 0.4 mi



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polygonLayer

Override 1

polygonLayer

Override 1

Tax Parcels

— Streets

1:9,028 0 0.1 0.2 0.4 mi 0 0.175 0.35 0.7 km



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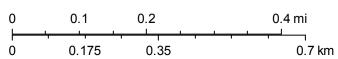
Override 1

Tax Parcels

Streets

County Boundaries

1:9,028



File #: 2021-12
Pre-App Date:____

Sussex County Major Subdivision Application 20200568 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 applic Standard: | able) | |
|--|-----------------------------|--|
| | | |
| Cluster: <u>✓</u> Coastal Area: | | |
| Coastal Alea. | | |
| Location of Subdivision: | | |
| East side of Cool Spring Road, South of Forest Ro | oad. | , |
| Proposed Name of Subdivision: | dlan pa sen p. | |
| Cool Spring | | |
| | | |
| Гах Мар #: <u>2</u> 34-5-37 | Total | Acreage: 72.2 |
| Zoning: AR-1 Density: 1.994 | Minimum Lot Size: 7,500 | Number of Lots: 144 |
| 30 | | Liste, and the particular particu |
| Open Space Acres: 38 | | |
| Water Provider: Artesian | Sewer Provid | ler: Artesian |
| Applicant Information | | |
| | | * |
| Applicant Name: Schell Brothers, LLC | | 110 |
| Applicant Address: 20184 Phillips Street | | |
| City: Rehoboth Beach | State: <u>DE</u> | _ ZipCode: <u>19971</u> |
| Phone #: <u>(302)</u> 226-1994 | E-mail: greg@oacompa | nies.com |
| Owner Information | | |
| | | |
| Owner Name: Elsie Otto Walls, Trustee | | |
| Owner Address: 122 S Michigan Ave, Suite 12 | 20 | |
| City: Chicago | State: IL | Zip Code: |
| Phone #: | E-mail: | |
| Agent/Attorney/Engineer Information | | |
| agenty Attorney/ Engineer information | | |
| Agent/Attorney/Engineer Name: Baird M | fandalas Brockstedt, LLC (A | Attn: Mackenzie Peet, Esq). |
| Agent/Attorney/Engineer Address: 1413 S | Savannah Road, Suite 1 | 3 = 1 |
| City: Lewes | State: DE | Zip Code: <u>19958</u> |
| Phone #: (302) 645-2262 | E-mail: mackenzie@bm | bde.com |







2320 SOUTH DUPONT HIGHWAY Dover, Delaware 19901 AGRICULTURE.DELAWARE.GOV

TELEPHONE: (302) 698-4500 TOLL FREE: (800) 282-8685

Fax: (302) 697-6287

April 14, 2021

Chase Phillips, Planner I Planning & Zoning Commission P.O. Box 417 Georgetown, Delaware 19947

Subject:

Preliminary Plans for Cool Spring

Dear Mr. Phillips,

Thank you for providing preliminary plans for Cool Spring submitted by Solutions Integrated Planning Engineering & Management, LLC. The plans submitted to our section dated January 5th, 2021 are sufficient to meet the Sussex County Planning and Zoning Forested Buffer Ordinance.

The Delaware Forest Service recommends the plans reflect tree planting specifications and that the ISA ANSI A300 best management practices are followed for newly installed trees. DFS recommends planting a 70/30 mix of hardwood and evergreen tree species. There are several tree species that are not recommended for planting in the state due to their invasive nature or the susceptibility to pests and diseases. These species are listed on our department website.

The Delaware Forest Service has no further comment to Cool Spring preliminary subdivision plans dated January 5th, 2021 at this time.

If you have any questions please feel free to contact me at taryn.davidson@delaware.gov.

Sincerely,

Taryn Davidson

Urban Forestry Program

Jaya Davidson

Delaware Forest Service

Transmittal Letter

Solutions, IPEM

Jason Palkewicz, PE 303 North Bedford Street Georgetown, DE 19947

p: 302.297.9215

e: ideas@solutionsipem.com



| May | 13, | 202 |
|-----|-----|-----|
| To: | | |

Sussex County, Planning and Zoning

2 The Circle

Georgetown, DE 19947

Attention:

Lauren DeVore

Re:

Cool Spring

| | | | Jo | ob Number: | G20060 |
|-------------|------------------|------------|------------------|-------------------|----------------------------------|
| We are ser | iding you: | | | | |
| □ Enclose | ed | | Under Separate C | over | |
| | | | | | |
| Delivery vi | | | | | |
| ☐ UPS ☐ |] US Mail 🔲 | Fed Ex | ☑ Hand Carried | ☐ Picked up | ☐ Other |
| | | | | | |
| Quantity | Description | | | | |
| 2 | Full Size Prelim | inary Plat | | | |
| 7 | 11" x 17" Preli | minary Pla | tc | | |
| N II | | | | | |
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| Comments | | | | | |
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| Copy to: | | | | | |
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| | | | | Signature | |

RECEIVED

MAY 17 2021

SUSSEX COUNTY
PLANNING & ZONING

Christin Scott

From:

Anthony, Mindy (DNREC) < Mindy. Anthony@delaware.gov>

Sent:

Thursday, March 11, 2021 11:56 AM

To:

Planning and Zoning

Subject:

RE: TAC Review 2021-11 Fisher Rd & 2021-12 Cool Spring

Categories:

Christin

CAUTION: This email originated from outside of the organization. Do not click links, open attachments, or reply unless you recognize the sender and know the content is safe. Contact the IT Helpdesk if you need assistance.

Good morning,

DNREC's Division of Waste and Hazardous Substances has no comments on either of the referenced projects.

Mindy Anthony Planner IV DNREC-Div. of Waste & Hazardous Substances 89 Kings Hwy Dover, DE 19901 Phone: 302-739-9466

Fax: 302-739-5060

Mindy.Anthony@delaware.gov

Integrity. Respect. Openness. Customer Focus. Quality.



https://de.gov/recycling www.facebook.com/delawarerecycles

From: Christin Headley <christin.headley@sussexcountyde.gov>

Sent: Tuesday, February 09, 2021 8:09 AM

To: Beth Krumrine <Beth.Krumrine@delaware.gov)>; Brad Hawkes <bhawkes@sussexcountyde.gov>; C. Daniel Parsons <dparsons@sussexcountyde.gov>; Dean Holden - Chesapeake Electric <dholden@chpk.com>; Butler, Eileen M. (DNREC) <Eileen.Butler@delaware.gov>; Fox, Duane T. (FireMarshal) <Duane.Fox@delaware.gov>; Cinelli, Jennifer (DelDOT) <iennifer.cinelli@delaware.gov>; Jessica Watson – Sussex Conservation <Jessica.watson@state.de.us>; John J. Ashman <jashman@sussexcountyde.gov>; John Martin <jmartin@chpk.com>; john.hayes@delaware.gov; john.kennel@delaware.gov; John.Martin@delaware.gov; kate.fleming@delaware.gov; Kelley Gabbard <kgabbard@chpk.com>; Laws, Susanne K (DelDOT) <Susanne.Laws@delaware.gov>; Crystall, Meghan (DNREC)

<Meghan.Crystall@delaware.gov>; Mike Brady <MBRADY@sussexcountyde.gov>; Melendez, Milton (DDA)

<milton.melendez@delaware.gov>; Anthony, Mindy (DNREC) <Mindy.Anthony@delaware.gov>; Rob Davis - Planning Tech Utility Planning <rdavis@sussexcountyde.gov>; Subdivision (MailBox Resources) <Subdivision@delaware.gov>; Susan Isaacs <sisaacs@sussexcountyde.gov>; Terri Dukes <tdukes@sussexcountyde.gov>; Tholstrup, Michael S. (DNREC)

<Michael.Tholstrup@delaware.gov>; Tiffany Giroux <tgiroux@chpk.com>; Troy Dickerson <TDickerson@decoop.com>;

Cc: Chase Phillips <chase.phillips@sussexcountyde.gov>

Subject: TAC Review 2021-11 Fisher Rd & 2021-12 Cool Spring

All,

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

Please provide comments on or before April 6th, 2021.

Please feel free to contact me with any questions.

Thanks,

Christin Scott

Christin Scott, Planner I
Planning & Zoning Department
2 The Circle
PO Box 417
Georgetown, DE 19947
302-855-7878
christin.headley@sussexcountyde.gov

Much of the County's Planning and Zoning Information can be found online at: https://sussexcountyde.gov/sussex-county-mapping-applications

Information on the 2018 Sussex County Comprehensive Plan can be found at: https://sussexcountyde.gov/2018-comp-plan-documents

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

HANS M. MEDLARZ, P.E. COUNTY ENGINEER

MICHAEL E. BRADY DIRECTOR OF PUBLIC WORKS

Date

February 17, 2021

REF:

T. A. C. COMMENTS COOL SPRING

SEWER TIER 3

SUSSEX COUNTY ENGINEERING DEPARTMENT

SUSSEX COUNTY TAX MAP NUMBER

234-5.00 PARCEL 37.00 PROJECT CLASS-3 AGREEMENT NO. 1167

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

DESIGN REVIEW COMMENTS

- Proposed developments with private roads or projects required to meet or exceed the County street design requirements shall be regulated by and conform to Sussex County Code and the comments here listed.
- 2. 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.
- 3. 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.
- 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.
- 5. Topographic contours at one-foot intervals shall be shown and referenced to United States Geological Survey Mean Sea Level Datum NAVD 1988 Datum.
- 6. 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:

7. 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.

- 8. Plans shall show the seal and signature of a registered Delaware land surveyor or registered Delaware professional engineer.
- 9. The plan requires a Certification Signature and/or a Certification Block for the Delaware Professional Engineer or Delaware Land Surveyor.
- 10. The plan requires a Certification Signature and/or a Certification Block for the Owner or Representative of the Owner.
- 11. The plan requires a Certification Signature and/or a Certification Block for the Professional Wetlands Delineator.
- 12. 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.
- 13. Indicate the location of all wetlands, both state and federal, in order to facilitate compliance with County, State and Federal requirements.
- 14. 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 benchmarks, preferably at property perimeter corners, georeferenced 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.
- 15. 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.
- 16. 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.
- 17. When on site individual septic tank systems are to be used and the lot topography is to be modified by cuts and fills it is required that the Design Engineer contact the Delaware Department of Natural Resources and Environmental Control, Division of Groundwater Water Discharge Section, 20653 DuPont Boulevard, Unit 5,

Georgetown, DE 19947 phone number 302-856-4561 subject to mass grading operations for documented approval.

- 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 of the base flood.
- 19. The pavement radius for all cul-de-sacs shall be no less than 38 feet in diameter or as otherwise required by the State Fire Marshall's office or the County Engineering Department.
- 20. False berms shall not be utilized to create roadside drainage swale back slopes.
- 21. 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.
- 22. Provide and show the locations and details of all ADA compliant accessible walks and ramp features.
- 23. 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.
- 24. 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.
- 25. 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.
- 26. Provide statements concerning any proposed deed restrictions to be imposed by the owner.
- 27. 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.
- 28. 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.
- 29. 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 COMMENTS

REVIEWER:

Chris Calio

APPLICATION:

Cool Spring 2021-12

APPLICANT:

Schell Brothers, LLC

FILE NO:

NCPA-5.03

TAX MAP &

PARCEL(S):

234-5.00-37.00

LOCATION:

East side of Cool Spring Road (SCR 290), approximately 1.0

mile north of Stockley Road (SCR 280)

NO. OF UNITS:

144 single-family lots

GROSS

ACREAGE:

72.2

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? N/A 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? **No**

If yes, the current System Connection Charge Rate is **Choose an item.** 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 located 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

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.



Office of Engineering Phone: (302) 741-8640

Fax: (302) 741-8641

February 5, 2021

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

Re: Sussex County Technical Advisory Committee

Dear Ms. Scott:

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

1. Applications: 2021-11 Fisher Road 2021-12 Cool Spring

These applications indicate central water will be supplied by Artesian Water Company, Inc. These projects require 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 these projects, 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,

William J. Milliken, Jr.

Engineer III

Office of Engineering

SITE DATA:

OWNER: ELSIE WALLS OTTO (TRUSTEE) 122 S MICHIGAN AVE

CHICAGO, IL 60603

MR. CHRIS SCHELL

SCHELL BROTHERS, LLC DEVELOPER: 20184 PHILLIPS STREET REHOBOTH BEACH, DE 19971

ENGINEER/ SOLUTIONS IPEM, LLC 303 NORTH BEDFORD STREET LAND PLANNER: GEORGETOWN, DE 19947

PHONE: 302.297.9215 CONTACT: JASON PALKEWICZ, PE

 TAX MAP 234-5.00-37.00 DEED REFERENCE: 2968/248 PLAT REFERENCE: 207/32

EXISTING ZONING:

PROPOSED USE: AR-1 CLUSTER

SINGLE FAMILY LOTS = 119 LOTS MIN. LOT AREA = 7,500 S.F. MIN. LOT WIDTH = 60'

MAXIMUM BUILDING HEIGHT: 42'

FRONT YARD = 25' (15' ON CORNER) SIDE YARD = 10' REAR YARD = 10'

 BOUNDARY AND TOPOGRAPHY AS SHOWN HEREON ARE AS PROVIDED BY SOLUTIONS IPEM LLC

FLOOD ZONE:

PROPERTY IS LOCATED IN ZONE X (AREAS DETERMINED TO OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), PER FIRM MAP NUMBER 10005C0330J, MAP REVISED JANUARY 6, 2005

 WATER SUPPLY: ARTESIAN WATER COMPANY

SANITARY SEWER:

ARTESIAN WATER COMPANY SOIL CLASSIFICATIONS:

DoA & DodB- DOWNER SANDY LOAM - HYDROLOGIC SOIL GROUP: A FhA - FORT MOTT HENLOPEN COMPLEX - HYDROLOGIC SOIL GROUP: A IeA - INGLESIDE LOAMY SAND - HYDROLOGIC SOIL GROUP: A

BOUNDARY SHOWN HEREIN ARE AS PROVIDED BY SOLUTIONS IPEM LLC.

GROSS AREA = 72.2 AC.±

ALLOWABLE UNITS = 2 DU/AC * 72.2 AC.± = 144.4 PROPOSED UNITS = 119 (1.648 DU/AC.)

OPEN SPACE AREA = $36.42 \text{ AC} \pm (50\% \pm)$ NON-TIDAL WETLANDS AREA = 0.0 AC ±

 EXISTING WOODLANDS = 72.3 AC.± WOODLANDS TO REMAIN = 5.0 AC.± (6.9%) WOODLANDS TO BE REMOVED = 67.3 AC.± (93.1%) SUBJECT TO FINAL ENGINEERING.

• SITE IS LOCATED IN THE FAIR GROUNDWATER RECHARGE AREA.

SITE IS NOT LOCATED IN WELLHEAD PROTECTION AREA.

 PROPERTY IS LOCATED IN A LOW DENSITY AREA ACCORDING TO THE FUTURE LAND USE MAP.

THE PROPERTY DOES NOT CONTAIN TIDAL OR NON-TIDAL WETLANDS.

ALL PROPOSED LOTS SHALL HAVE ACCESS TO INTERNAL SUBDIVISION

 THIS PROJECT IS NOT LOCATED WITHIN ANY TRANSPORTATION IMPROVEMENT DISTRICT.

SOME ADJACENT PARCELS ARE PRIMARILY USED FOR AGRICULTURAL

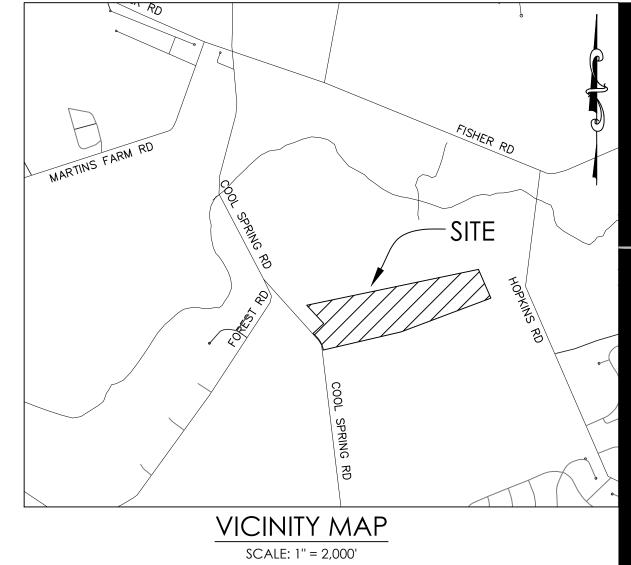
PURPOSES. SEE PLANS FOR LOCATIONS.

PRELIMINARY PLAT

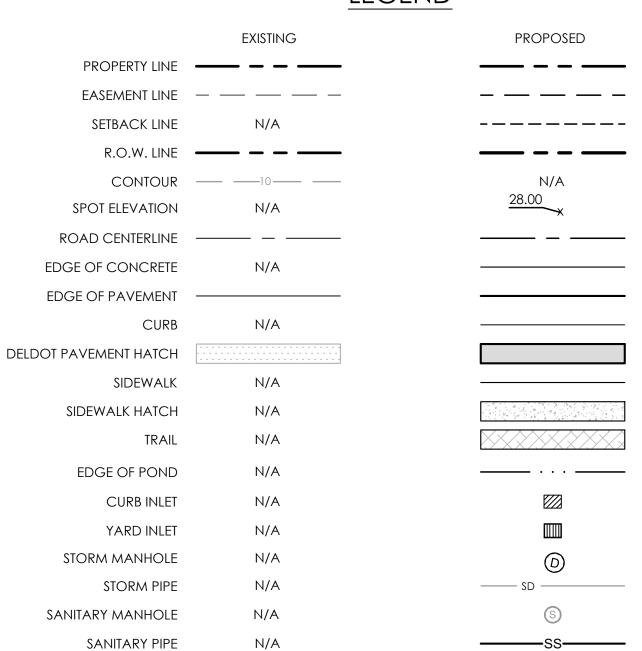
MIRALON

AKA COOL SPRING

LEWES & REHOBOTH HUNDRED SUSSEX COUNTY, DELAWARE SUSSEX COUNTY PROJECT #2021-12



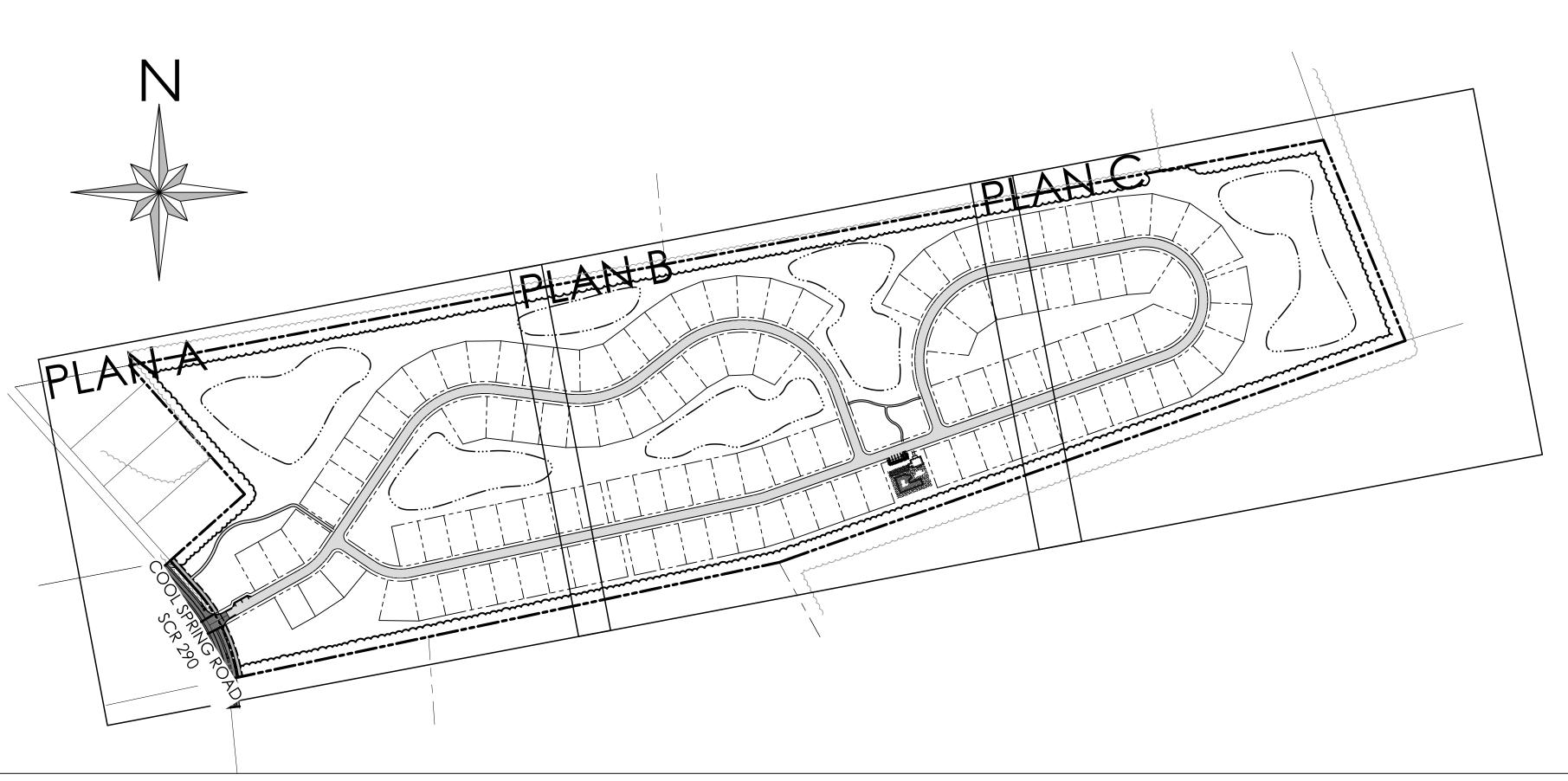
LEGEND



WATER PIPE

N/A

TREE LINE



KEY PLAN

NOTES:

1. 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.

2. 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.

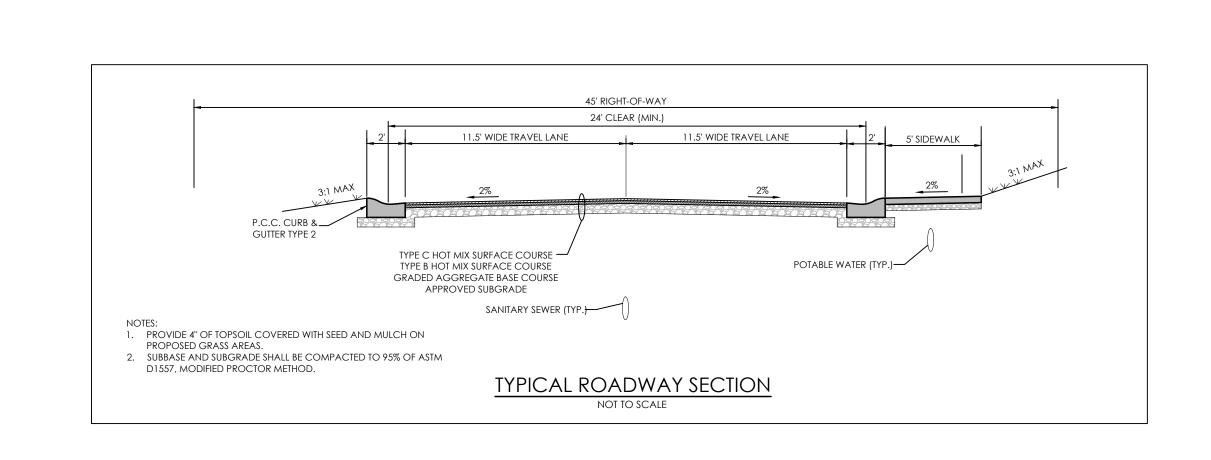
3. ALL OPEN SPACE, INCLUDING BUFFERS AND FOREST STRIPS, SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.

4. 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.

5. POTABLE WATER, SANITARY SEWER, STORM DRAINAGE, STREET PAVEMENT SHALL BE CONSTRUCTED BY DEVELOPER. PHASING OF IMPROVEMENTS SHALL BE PER COUNTY AND CONSERVATION DISTRICT REQUIREMENTS.

PRELIMINARY PLAT

- 1 PRELIMINARY PLAT COVER SHEET
- 2 EXISTING CONDITIONS PLAN
- 3 PRELIMINARY PLAT PLAN A
- 4 PRELIMINARY PLAT PLAN B 5 PRELIMINARY PLAT - PLAN C



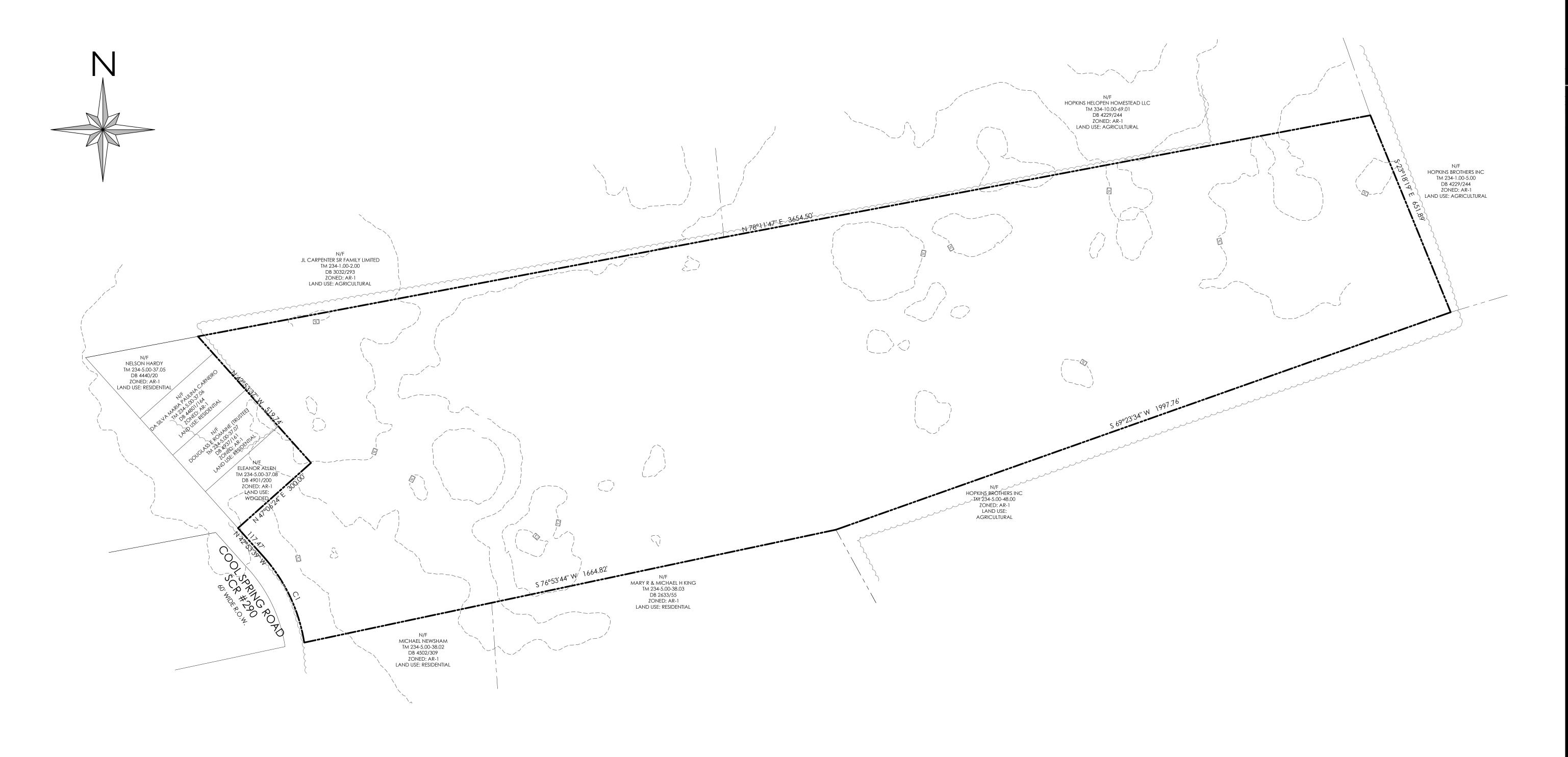


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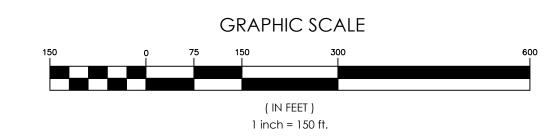
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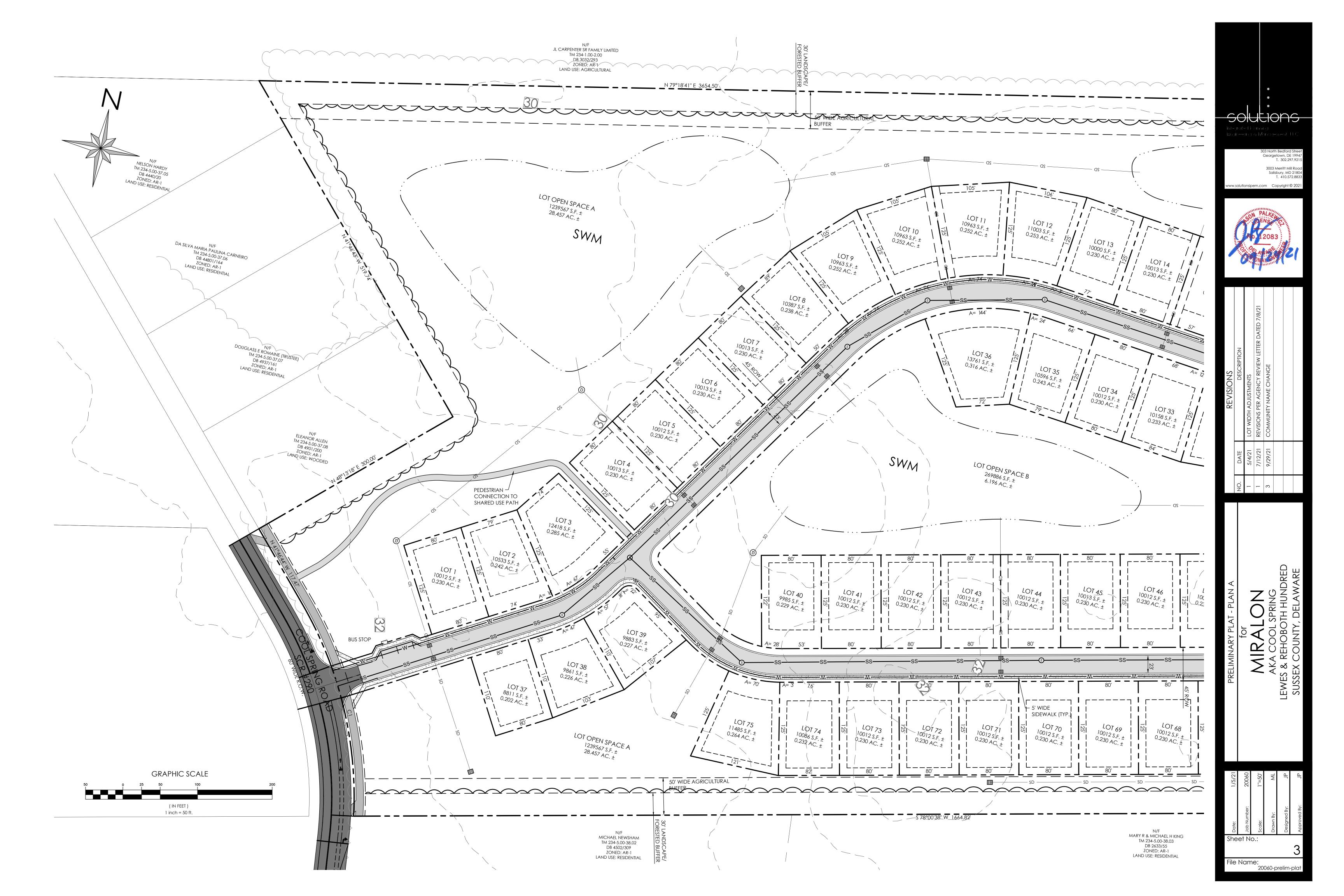
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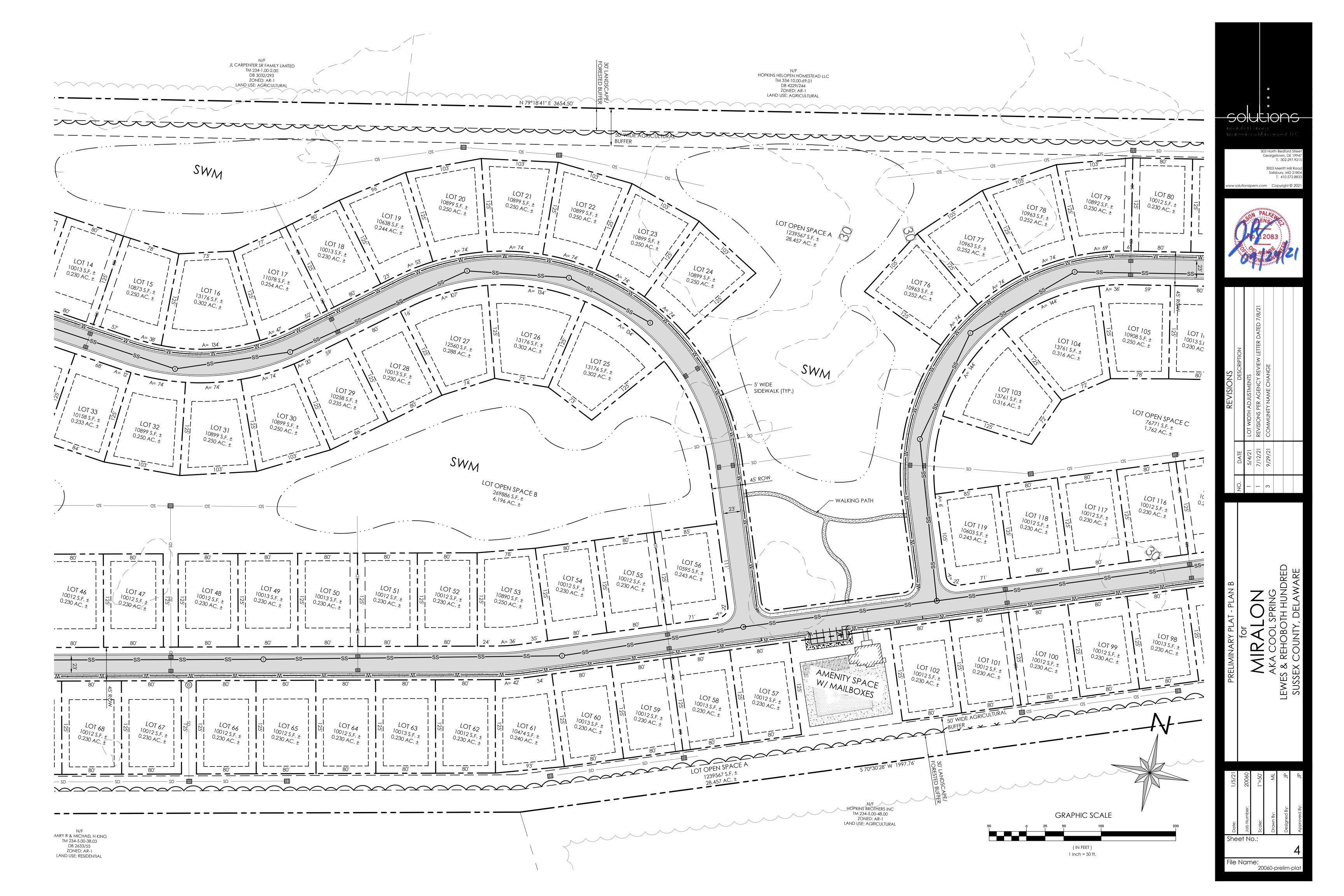
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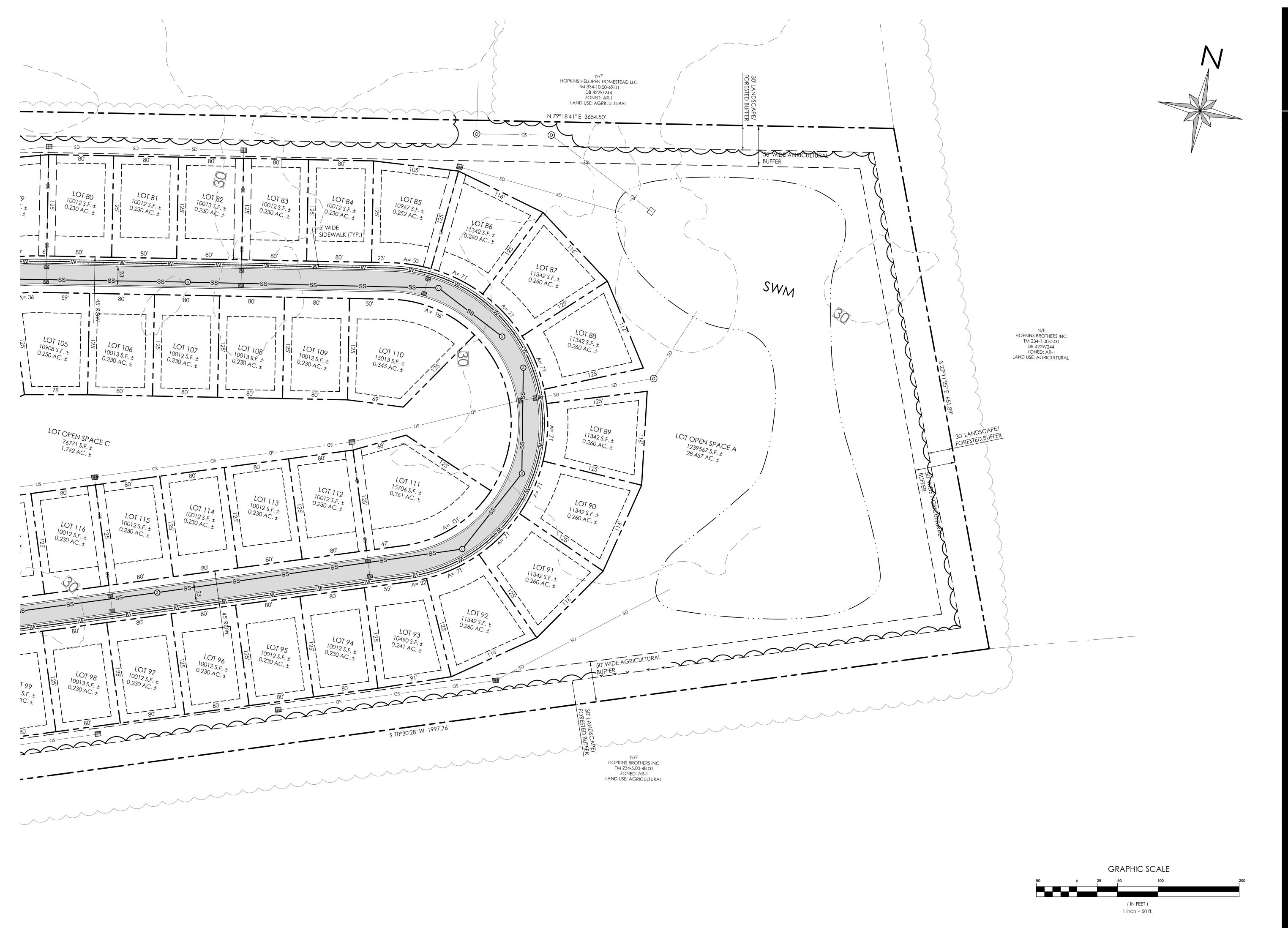


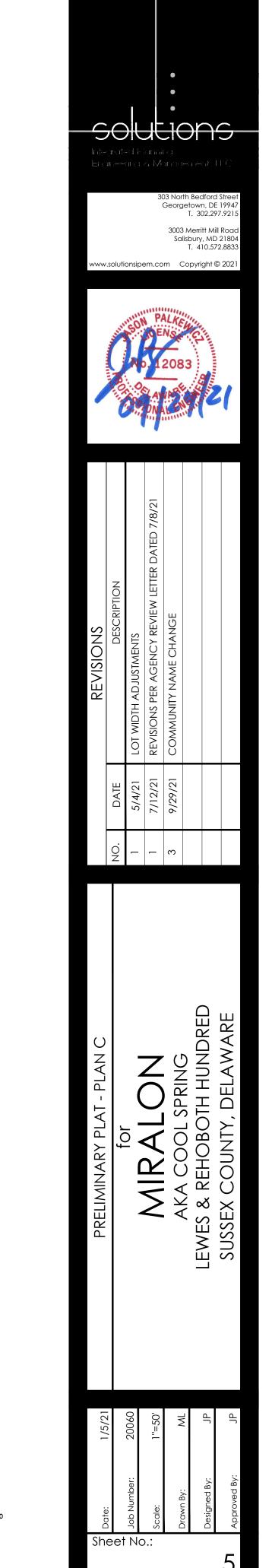
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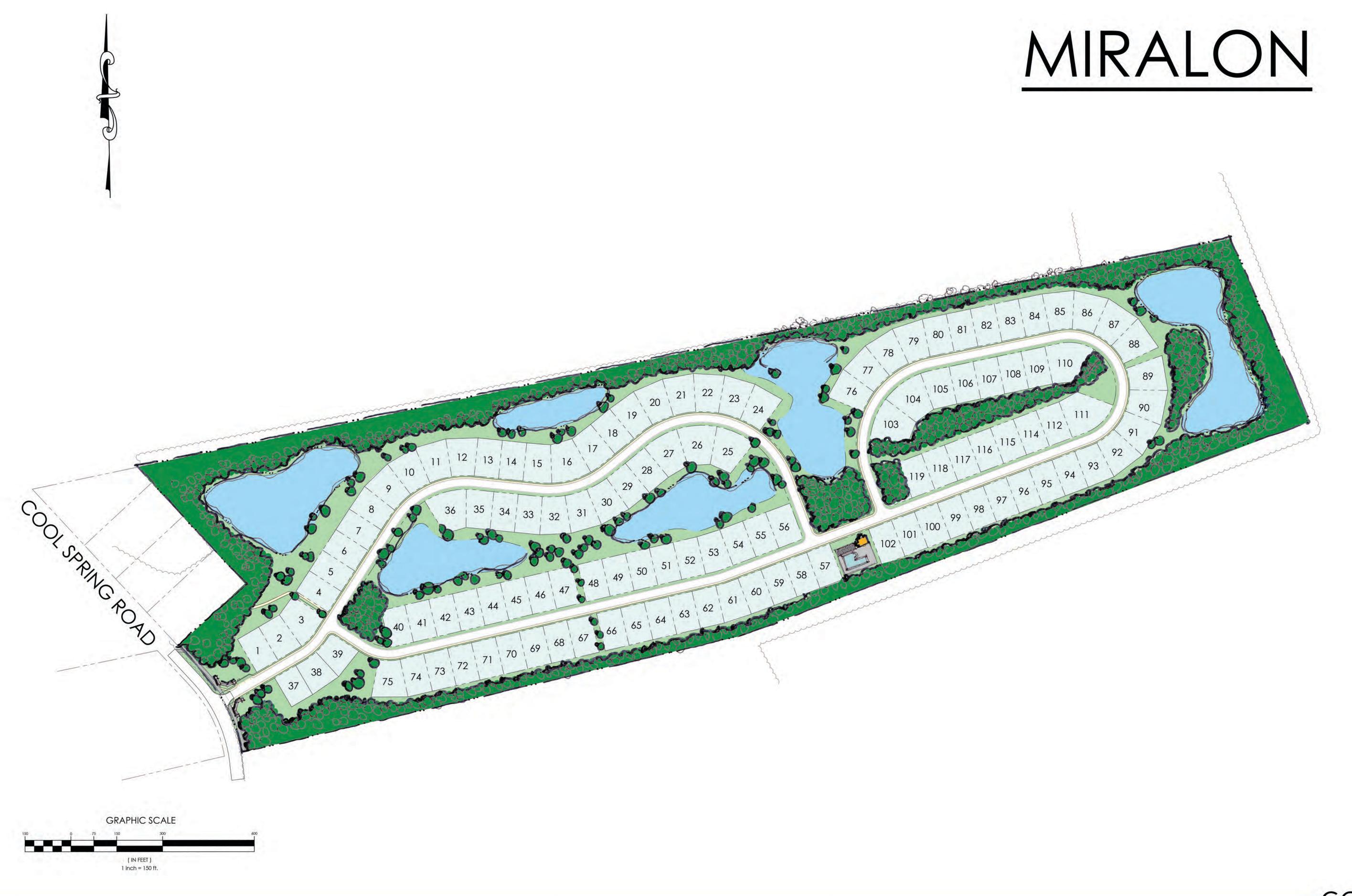






File Name:

20060-prelim-plat



Integrated Planning
Engineering & Management, LLC
303 North Bedford Street
Georgetown, DE 19947

Tel: 302.297.9215 www.solutionsipem.com

# Miralon

# **Project Reference Material AR-1 Cluster**







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#### **Resumes:**

Jason Palkewicz, PE



#### I. Executive Summary

Miralon is a proposed 72.2 acre Cluster Subdivision composed of 119 single-family detached homes on individual lots. The site is located on the East side of Cool Spring Road adjacent to the existing Spring Town Farms residential community. The land is currently zoned AR-1.

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

The proposed community provides 119 homes on roads within private rights-of-way with curb and gutter with sidewalk on one side, streetlights and preserved wooded areas. The project contains a total of 36.42 +/- acres (50%) of interconnected open space.

A centrally located recreation facility is provided which includes a pool and bathhouse. A trail connects the sidewalks to the proposed DelDOT multi-modal path. A school bus stop and central mail facility will also be provided.

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

Project Area 72.2 acres

Allowable Homes Calculation (AR-1 Cluster): 2.0 homes/acre 72.2 x 2.0 = 144 homes

**Proposed Homes:** 

119 Homes

**Actual Density:** 

119 / 72.2 = 1.65 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 topographic survey for the property was prepared by Solutions IPEM, LLC. The total area of the property is 72.2 +/- acres. No wetlands exist on the site.

#### **B.** Overview of Current Site Conditions

The property for the proposed Miralon community is located East of Cool Spring Road, adjacent to the Spring Town Farms community. The proposed development is in the vicinity of the residential communities of Spring Town Farms, Ridings at Rehoboth, Ocean Meadows, Coolspring Farm, and Spring Haven.

The property is located within flood Zone X, (areas determined to be outside the 0.2% annual chance floodplain), per map number 10005C Panel 0330J, map revised January 6, 2005. The site is located within areas of good and fair groundwater recharge potential.

A soils report was prepared by GTA. The project contains Class A soils. The site is suitable for development including infrastructure, home construction and stormwater management.

#### C. Land Plan and Amenities

The land plan takes into account:

- Existing site conditions
  - Forest Land
  - Existing Grades
- Stormwater outfalls
- Adjacent communities
- Existing roadways
- Current housing trends
- Recreational needs

#### The resultant plan has:

- A 30' landscaped buffer (partially existing woods).
- Proposed lots are more than 50' from the perimeter of the site.
- Sidewalks one side of the road along with an anticipated trail connecting to the proposed DelDOT multi-modal path.
- Main recreation facility including:
  - Pool
  - Bathhouse
- Streetlights.
- Community mailbox cluster.
- School bus stop.
- An efficient stormwater management system that acts as an amenity.
- Large tracks of open space
  - Open Space Required (30%) = 21.66 acres
  - Open Space Provided = 36.4 acres
  - Contiguous Open Space Required (30% of Required Open Space)
     = 6.5 acres

#### Contiguous Open Space Provided = 33 acres

#### D. DelDOT Improvements

A series of discussions were held with DelDOT officials concerning area roadway improvements related to Cool Spring Road specifically with regard to off-site transportation improvements and frontage improvements. Entrance improvements are anticipated to include turn lanes into the development.

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

A concept plan for Miralon was presented to PLUS on December 16, 2020. A response letter was provided to PLUS which addressed their comments point by point.

#### F. Sanitary Sewer Planning Area

The Miralon community is anticipated to be served by Artesian. The site is located within the Sussex County Tier 3 – Coordinated CPCN Area.

#### III. Compliance with Applicable Regulations

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

The project is located within the AR-1 zone. The site is being developed with residential lots lines 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.

<u>Purpose</u>: Miralon 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:

- Recreation facilities such as pool and bathhouse 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.

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

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

Conditional Uses: Miralon is not applying for any conditional uses.

<u>Special Use Exceptions:</u> Miralon is not applying for any special use exceptions.

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

<u>Height, Area and Bulk Requirements:</u> The height, area and bulk requirements are set forth in the AR-1 zoning article. The following is a summary of the lot dimensions and setbacks for Miralon, 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 115-25, E. Design Requirements for Cluster Development

- (1) All development shall be in accordance with the latest amendment to the community design standards. The proposed cluster subdivision is in compliance with the Community Design section of the County's comprehensive plan.
- (2) Housing types in the low-density area, as shown on the Sussex County Comprehensive Plan, are limited to single-family detached dwellings and manufactured homes where permitted by ordinance. Only single-family detached home types are proposed within the cluster subdivision.
- (3) A forested buffer area with a minimum width of 30 feet shall be provided for lots abutting an agricultural area. A 30' buffer is provided to the adjacent properties.
- (4) Dwellings located within 50 feet of an existing residential development shall provide adequate transition in density or shall provide a thirty-foot buffer meeting the standards below and maintained by a designated entity. A 30' buffer is provided.
- (5) No lots shall have direct access to any state-maintained roads. No proposed lots have access to state-maintained roads.
- (6) All lots shall be configured to be contained completely outside of all wetlands. The proposed lots are not located within wetlands.
- (7) Any development using the option in Subsection B(2) shall have central water and wastewater systems operated and maintained by companies authorized by the State of Delaware to perform such services. Wastewater collection and treatment systems must be designed in accordance with the requirements of Sussex County ordinances and conform to the requirements for a central sewer system as defined in § 115-194A of the Sussex County Zoning Ordinance. The proposed community will be served by both central water and wastewater systems.

#### C. Statement of Compliance with Chapter 115-25, F. (3) Planning and Zoning Requirements

- (a) [1] The proposed lots and amenities are located within the environmentally suitable portions of the site. Specifically, wetlands and waterways are avoided. Clearing of the woods are limited to the amount required to develop the project.
- (a) [3] The open space meets the requirements of the County Code. The required open space (30% of site) is 21.66 acres, 36.4 acres have been provided. Of the required open space (21.66 acres), 30% (6.5 acres) is required to be on one contiguous tract of land (separated by water and up to one street). The project provided 33 acres of contiguous open space. The sidewalk system is proposed to be connect to the DelDOT multi-modal system.
- (a) [4] No wetlands exist on-site.
- (a) [5] Stormwater management shall be provided per DNREC and Sussex Conservation District. Recharge or structurally equivalent BMPs shall be provided. Soils testing and reports have been prepared by GTA showing the existing is suitable for development.

- (a) [6] Tree removal shall be limited to necessary to construct the project.
- (a) [7] Scenic views are preserved for the homeowners and passersby by limiting back-to-back lots and providing gaps between lots.
- (a) [8] The land plan preserved natural facilities (woods) and includes sidewalks and connections to DelDOT's multi-modal path. Open space adjacent to natural features has been prioritized. Existing grades and drainage area are considered in the lot layout.
- (a) [9] Sidewalks are provided on one side of each street.
- (b) Natural and historic features are preserved as part of the land plan.
- (c) Section 99-9C items are addressed herein.
- (d) The cluster subdivision is not located within a designated growth area.

#### D. 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:

#### "Integration of the proposed subdivision into existing terrain and surrounding landscape."

- a. The Developer has taken great effort to utilize the additional land as open space. The proposed location of storm water management facilities was also based on extensive soils borings and a soil report.
- b. A 50' setback is provided to adjacent agricultural uses.
- c. A minimum 30' landscaped buffer 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. No wetlands exist on site.
- b. 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. There are no known historic sites.
- b. 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. Large tracts of open space are being persevered including wooded areas, buffers and flood zone.

### 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 community wastewater service is intended to 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 Miralon.

# 10. "Prevention of surface and groundwater pollution."

a. All runoff from the Miralon 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.

# 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 one side 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 Miralon 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 that separate the community from farmland.

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

a. Miralon will have little to no adverse effect on schools, public buildings and community.

b. Community amenities will include a pool and bathhouse. In addition, Miralon includes several open space areas for other active and passive uses.

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

a. A series of discussions were held with DelDOT officials concerning area roadway improvements related to Miralon specifically with regard to off-site transportation improvements and frontage improvements. Entrance improvements are anticipated to include turn lanes into the property.

# 17. "Compatibility with Other Land Uses."

a. The project is relatively adjacent to other residential communities of Spring Town Farms, Ridings at Rehoboth, Ocean Meadows, Coolspring Farm and Spring Haven, 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.

# E. 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 20% of the site is set aside as open space.
  - o 30' perimeter landscape buffer.
- Single-family homes are permitted.
- The proposed density of 1.65 du/ac is incompliance 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.
- No wetlands are located on-site.
- The proposed lots are not located within flood zones.
- 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
- Walking/jogging paths (multi-modal)
- Bike paths (multi-modal)
- In addition, the community provides:
  - Sidewalks

# **Chapter 7 Utilities:**

The proposed community complies with the Utilities section as follows:

- Water will be provided by Artesian who has the CPCN for the project.
- The Miralon 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 West of the Lewes / Rehoboth Beach region 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:
  - o Construction
  - o Professional, Business and IT Services
  - o Finance, Insurance and Real Estate
  - o Utilities
- The development will also indirectly provide job opportunities in:
  - Leisure and Hospitality
  - o 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.
- Street lighting will be provided.
- Sidewalks are proposed on one 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 DelDOT'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:**

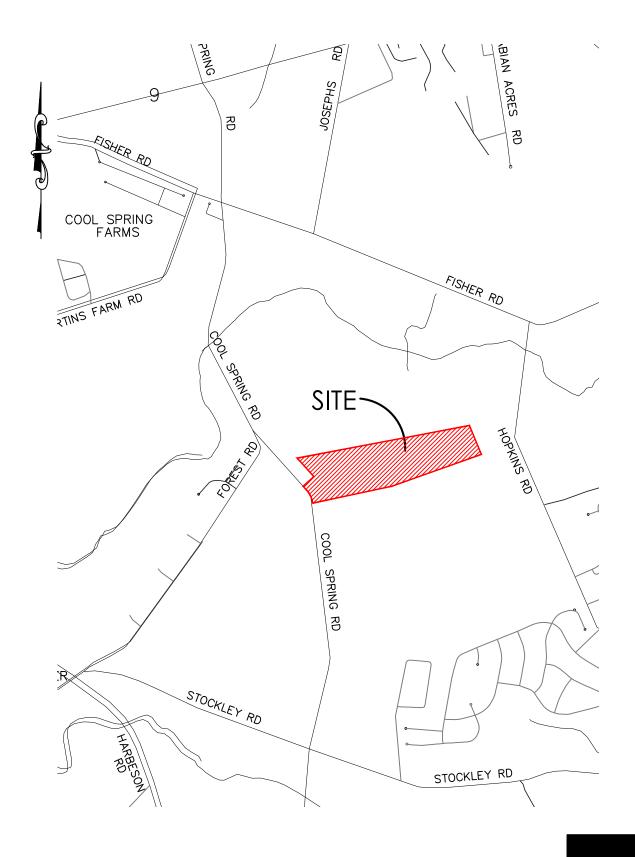
The proposed community complies with the Mobility Element section as follows:

- Entrance, roadway and off-site improvements necessitated by DelDOT will be designed and constructed per DelDOT standards.

# IV. Conclusion

The proposed community of Miralon 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. Active amenities include pool, and bathhouse as well as dedicated open spaces for other activities. The design also preserves and enhances existing views through non-disturbance and accentuates certain features of the existing terrain.

The proposed Community of Miralon 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.



solutions



January 19, 2021

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

RE: PLUS review 2020-12-03; Cool Spring Road

Dear Mrs. Holland;

Please allow this letter to serve as our response to the PLUS review of the Cool Spring Road 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 December 16, 2020 to discuss the Cool Spring project. According to the information received you are seeking review of a proposed 144 unit subdivision on 72.2 acres along Cool Spring 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 a residential development within a Level 4 area according to the 2020 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 residential development activities 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 a new residential development to an

transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 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 cost of maintaining infrastructure and providing services mcreases.

Because the development is inconsistent with the 2020 Strategies for State Policies and Spending, the State does not support the development of this parcel.

With that said, the comments in this letter are technical, and are not intended to suggest that the State supports this development. 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.

Response: Understood.

# Department of Transportation - Contact Bill Brockenbrough 760-2109

- The site access on Cool Spring Road (Sussex Road 290) must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <a href="http://www.deldot.gov/Bu">http://www.deldot.gov/Bu</a> iness/subdivisions/index.s <a href="http://www.deldot.gov/Bu">http://www.deldot.gov/Bu</a> iness/
- Pursuant to Section 1.3 of the Manual, a Pre-Submittal Meeting is required before plans
  are submitted for review. The form needed to request the meeting and guidance on what
  will be covered there and how to prepare for it is located at
  <a href="https://www.deldot.gov/Business/subdivisions/pdfs/Meeting Request Form.pdf?080220">https://www.deldot.gov/Business/subdivisions/pdfs/Meeting Request Form.pdf?080220</a>
- Section 1.7 of the <u>Manual</u> 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.
- Per Section 2.2.2.1 of the 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. From the PLUS application, the total daily trips are estimated at 1,396 vehicle trip ends per day. Using the 10<sup>1</sup>h edition of the Institute of Transportation Engineers' Trip Generation Manual, DelDOT calculates this number as 1,454 and estimates the weekday morning and evening peak hour trip ends at 107 and 144, respectively.

Section 2.2.2.2 of the <u>Development Coordination Manual provides</u> that for developments generating less than 2,000 vehicle trip ends per day and less than 200 vehicle trip ends per hour in any hour of the day, DelDOT may accept an Area Wide Study (AWS) Fee in lieu of the TIS if the local government does not require a TIS. The AWS Fee is

calculated as \$10 per daily trip or, in this case, \$14,540. AWS Fees are used to fund traffic studies, not to build improvements.

Presently, there is a TIS under review for a larger development located nearby on Fisher Road and DelDOT anticipates identifying off-site improvements applicable to the subject development through their review of that study. Also relevant are a 2006 TIS for Cool Spring Meadows, planned south of this project at Stockley Road, and a DelDOT project at the intersection of Cool Spring Road and Delaware Route 5.

In addition to whatever other offsite improvements are identified, DelDOT anticipates requiring the developer to improve Cool Spring Road, within the limits of their frontage, to meet DelDOT's Local Road standards. Local Road standards include 11-foot lanes and 5-foot shoulders. Frontage, as defined in Section 1.8 of the Manual, includes the length of roadway perpendicular to lines created by the projection of the outside parcel comers to the roadway. In this instance, it would include the frontage of Tax Parcel Nos. 234-5.00-37.05 through 37.08.

- 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 Cool Spring
  Road. By this regulation, this dedication is to provide a minimum of 30 feet from the
  physical centerline of Cool Spring Road. 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 3.2.5.1.2 of the Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Cool Spring Road. The location of the easement 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."
- Referring to Section 3.4.2.1 of the <u>Manual</u>, the following items, among other things, are required on the Record Plan:
  - o A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
  - Depiction of all existing entrances within 600 feet of the entrance on Cool Spring Road.
  - o Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

- Section 3.5 of the <u>Manual provides DelDOT's requirements</u> 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.
  - O Consistent with the notes on the plan creating four lots (Tax Parcel Nos. 234-5.00-37.05 through 37.08) on Cool Spring Road north of the proposed site entrance, DelDOT anticipates requiring that a subdivision street or a common driveway and easement be provided, possibly in the area of proposed Lot 4, to connect the four lots to the development's street system.
  - o Referencing the lot numbers shown on the plan accompanying the PLUS application, DelDOT recommends that the developer provide stub streets to adjacent parcels as follows for improved connections to the surrounding area and better circulation within the development:
  - o Tax Parcel No. 234-1.00-2.00, possibly in the area of proposed Lots 13 and 14;
  - o Tax Parcel No. 334-10.00-69.01, possibly in the area of proposed Lots 36 and 37;
  - o Tax Parcel No. 234-1.00-5.00, possibly in the area of proposed Lots 45 and 46; and
  - o Tax Parcel No. 234-5.00-48.00, possibly along the west side of proposed Lot 62.
- Section 3.5.4.2 of the <u>Manual</u> addresses requirements for Shared Use Path and sidewalks. For projects in Level 1 and 2 Investment Areas, installation of paths or sidewalks along the frontage on State-maintained roads is mandatory. For Level 3 and 4 Investment Areas, the requirement is at DelDOT's discretion but given the developing nature of the area, DelDOT anticipates requiring a Shared Use Path along the site frontage.
- 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 rightof-way along Cool Spring Road.
- 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 entrance on Fisher Road and how long those lanes should be. The worksheet can be found at <a href="http://www.deldot.gov/Bu">http://www.deldot.gov/Bu</a> ines /subdivisions/index.shtml.
- In accordance with Section 5.4 of the <u>Manual</u>, 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 <a href="http://www.deldot.gov/B">http://www.deldot.gov/B</a> usiness/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.
- The applicant should expect a requirement that any substation and/or wastewater facilities will be required to have access from an internal driveway with no direct access to Cool Spring Road.
- The applicant should expect a requirement that all PLUS and Technical Advisory Committee (TAC) comments be addressed prior to submitting plans for review.
- Please be advised that the Standard General Notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision dates of March 21, 2019 and March 25, 2019. The notes can be found at <a href="https://www.deldot.gov/B usiness/subdivisions/">https://www.deldot.gov/B usiness/subdivisions/</a>

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 - Beth Krumrine 735-3480

# Concerns Identified Within the Development Footprint

#### **Old Growth Forest**

This 72.2-acre site, located in Delaware State Strategies level 4 lands, proposes a cluster subdivision with 144 units. The project application indicates that 60 of 72.2 acres of forest is proposed to be eliminated from the site. An analysis of historical data indicates that the entire site has likely maintained some degree of forest cover since 1937. In the PLUS meeting, clarification was provided that the design is a cluster development under Sussex County Section 115-25F. To be considered a superior design, the removal of mature/healthy trees will be limited.

- Consolidate housing to set aside intact and untouched areas of mature forest, which should be
  designated as community open space. Removing forested areas for development, especially
  mature forests, should be avoided to the greatest extent possible. Mature forests possess the
  potential for rare, threatened, or endangered species that rely on this type of habitat. These
  areas provide habitat for wildlife, uptake nutrients, infiltrate stormwater, and improve water
  quality. Forests also provide shading and cooling, which reduces carbon that contributes to
  climate change.
- A forest assessment should be conducted to determine if mature forest resources exist on the
  property and to delineate their boundaries. Additionally, a forest assessment would include the
  identification of specimen trees and forest-dependent wildlife. Ifmature forests are found,
  these areas should be conserved to the maximum extent practicable.

- To reduce impacts to nesting birds and other wildlife species that utilize forests for breeding, it is recommended that tree clearing not occur from April 1st to July 31st. Likewise, avoid mowing open space areas and grass filter strips during the same timeframe, as various species of birds utilize these areas for nesting sites.
- Contact: DNREC Wildlife Species Conservation & Research Program at (302) 735-3600. Website: https://dnrec.alpha.delaware.gov/:fish-wildlife/contact-information/

# **Delaware Ecological Network**

The entire site is located within lands of the Delaware Ecological Network. This network is made up of interconnecting natural areas of significant ecological value. Forest disturbances on this site could jeopardize habitat beyond the parcel boundary.

- Removing forested areas within the Delaware Ecological Network should be avoided to the
  greatest extent possible. These areas provide wildlife habitat, uptake nutrients, infiltrate
  stormwater, and improve water quality. Forests also provide shading and cooling, while
  reduce carbon that contributes to climate change.
- Contact: DNREC Wildlife Species Conservation and Research Program at (302) 735-3600.
   Website: <a href="https://dnrec.alpha.delaware.gov/fisb-wildlife/contact-information/">https://dnrec.alpha.delaware.gov/fisb-wildlife/contact-information/</a>

# Stormwater Management

This project/site has met the minimum threshold of 5000 square feet of land disturbing activity under the DNREC Sediment and Stormwater Program.

- A Sediment and Stormwater Plan must be developed, then approved by the appropriate plan review agency, the Sussex Conservation District, prior to any land disturbing activity taking place on the site.
- Additionally, construction activities that exceed 1.0 acre ofland disturbance
  require Construction General Permit coverage through submittal of an electronic Notice
  of Intent for Stormwater Discharges Associated with Construction Activity. This form
  must be submitted electronically (<a href="http://apps.dnrec.state.de.u/eN\_I/default.a-px">http://apps.dnrec.state.de.u/eN\_I/default.a-px</a>) to
  the DNREC Division of Watershed Stewardship, along with the \$195 fee.
- Schedule a project application meeting with the Sussex Conservation District prior to
  moving forward with the stormwater and site design. As part of this process, you must
  submit a Stormwater Assessment Study.
- Contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219.
   Website: <a href="http://www.us exconservation.org/">http://www.us exconservation.org/</a>

- General stormwater contact: DNREC Sediment and Stormwater Program at (302) 739-9921. -mail: DNREC.Stormwater@delaware.gov.
   Website: http://www.dnrec.delaware.gov/swc/Pages/SedimentStormwater.a spx.
- Where the site and soil conditions allow, integrate runoff reduction techniques including infiltration basins, bioretention (rain gardens), filter strips, and pavers to encourage onsite stormwater infiltration and reduce runoff.
- For improved stormwater management, preserve existing trees, wetlands, and passive open space.

# Water Quality (Pollution Control Strategies)

Pollution Control Strategies have been developed for the following watersheds in Delaware: Appoquinimink, Broadkill, Christina Basin, Inland Bays, Mispillion and Cedar, Murderkill, Nanticoke, St. Jones, and Upper Chesapeake. Such strategies were created because surface water failed to meet water quality standards for nutrients and sediment.

- This site lies within the Rehoboth Bay Watershed. Consult with the appropriate plan
  review agency to determine if stricter stormwater management standards may apply for
  development projects in this area.
- Contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219.
   Website: <a href="https://www.ussexcon ervation.org/">https://www.ussexcon ervation.org/</a>

# General Drainage Recommendations

- All existing ditches on the property should be evaluated for function and cleaned, if
  needed, prior to the construction of the project. Environmental permits or exemptions
  may be required by the County Conservation District, U.S. Army Corp of Engineers, or
  the DNREC Sediment and Stormwater Program prior to clearing and/or excavating ditch
  channels.
- All precautions should be taken to ensure the project does not hinder any off-site drainage upstream of the project or create any off-site drainage problems downstream by the release of on-site storm water.
- Any area designated as a drainage/utility easement should be open space and not owned by the individual landowners.
- Any drainage/utility easement owned by an individual landowner should not possess structures such as decks, buildings, sheds, kennels, or fences within the drainage easement to allow for future drainage maintenance. Trees and shrubs planted within a drainage/utility easement should be spaced to allow for drainage maintenance at maturity.

Contact: DNREC Drainage Program at (302) 855-1930.
 Website: http://www.dnrec.delaware.gov/swc/Pages/DrainageTaxDitch WaterMgt.aspx

# Wastewater permits - Large Systems

Artesian (permittee) holds existing permit(s) with the DNREC Groundwater Discharges Section's Large Systems Branch.

# Requirements:

- It is the responsibility of Artesian to complete the permit application and notify the Large Systems Branch, if the capacity of the rate of wastewater disposal is to be updated.
- Contact: DNREC Groundwater Discharges Section at (302) 739-9948. Website: https://dnrec.alpha.delaware.gov/water/groundwater/

### Nutrient Management Plan

This project proposes open space of 38 acres, exceeding the threshold of 10 acres for nutrient management.

- A nutrient management plan is required for all persons or entities who apply nutrients to lands or areas of open space of 10 acres or more.
- Contact: Delaware Department of Agriculture's Nutrient Management Program at (302) 698-4558. Website: https://agricultme.delaware.gov/nutrient-management/

# Additional Sustainable Practices

- Use efficient Energy Star rated products and materials in construction and redevelopment to lessen the power source emissions of the project and costs. Every percentage of energy efficiency translates into a percent reduction in pollution.
- For the "Amenity Space" indicated in the preliminary plans, consider using renewable energy infrastructure such as solar or geothermal to reduce energy costs and further reduce pollution created from offsite generation. Energy efficiency upgrades for your project may be eligible for funding through the Division of Climate, Coastal, & Energy. Website: <a href="https://www.de.gov/greenenergy">www.de.gov/greenenergy</a>, www.de.gov/eei f.
- Incorporate nonmotorized connectivity and install bicycle racks where feasible to help facilitate non-vehicular travel modes.
- Air pollution from new construction is generated through the use of maintenance equipment, paints, and consumer products like roof coatings and primers. Use of

structural paint coatings that are low in Volatile Organic Compounds will help protect air quality.

# Concerns Identified Outside the Development Footprint

### Natural Areas

The project lies immediately south of the Love Creek Natural Area. Natural Areas contain lands of statewide significance identified by the Natural Areas Advisory Council as the highest quality and most important natural lands remaining in Delaware.

- Reduce environmental impacts near Natural Areas by avoiding sensitive areas such as wetlands and forest habitat. Where possible, design site features to avoid the removal of contiguous tracts of forests.
- For forest lands adjacent to natural areas, the developer could also investigate dedicating
  forested areas as a Nature Preserve through a conservation easement or donation of land.
  For more information, please contact the DNREC Planning Preservation and
  Development Section.
- Contact: DNREC Planning Preservation and Development Section at (302) 739-9235. Website: https://dnrec.alpha.delaware.gov/parks/natural-areas/

# **Drainage Concerns Documented**

There was one reported drainage concern near the proposed site location (on the opposite side of Cool Springs Rd.) from 2013. The concern was regarding flooding of a new paved driveway. DelDOT was to install a pipe below the driveway to resolve the issue.

Response: The developer will comply with all County and State requirements regarding wetlands, open space, flood zone, etc.

# Delaware State Fire Marshall's Office - Contact Duane Fox 259-7037

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 mams.

#### Accessibility:

 All premises, which the fire department may be called upon to protect in case of fire shall be accessible to fire apparatus. This means that the access road to the subdivision must be constructed so fire department apparatus may negotiate it in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into 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.
- 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.

# Gas Piping and System Information:

Provide type of fuel proposed and show locations of bulk containers on 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
- Although not a requirement of the State Fire Prevention Regulations, the Office of the
  State Fire Marshal encourages home builders to consider the benefits of home sprinkler
  protection in dwellings. The Office of the State Fire Marshal also reminds home builders
  that they are obligated to comply with requirements of Subchapter III of Chapter 36 of
  Title 6 of the Delaware Code which can be found at the following website:
  http://delcode.delaware.gov/titl.e6/c036/sc03/index.shtml
- 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: <a href="www.statefiremarshal.delaware.gov">www.statefiremarshal.delaware.gov</a>, technical services link, plan review, applications or brochures.

Response: The developer will comply with Delaware State Fire Prevention Regulations.

# Department of Agriculture - Contact: Milton Melendez 698-4534

• The proposed project is adjacent to a property protected through the State's Agricultural Lands Preservation Program (DSWA District S-07-11-250 Parcel 234-10.00-15.00, 234-16.00-12.00). Therefore, the activities conducted on this preserved property are protected by the agricultural use protections outlined in Title 3, Del. C., Chapter 9. These protections effect adjoining developing properties. The 300-foot notification requirement

affects all new deeds in a subdivision located in whole or part within 300 feet of an Agricultural District/Easement. Please take 'note of these restrictions as follows:

- § 910. Agricultural use protections.
- (a) Normal agricultural uses and activities conducted in a lawful manner are preferred and priority uses and activities in Agricultural Preservation Districts. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land use adjacent to Agricultural Preservation Districts shall be subject to the following restrictions:
  - (1) For any new subdivision development located in whole or in part within 300 feet of the boundary of an Agricultural Preservation District, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

This property is located in the vicinity of an established Agricultural Preservation District in 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."

- (2) For any new subdivision development located in whole or in part within 50 feet of the boundary of an Agricultural Preservation District, no improvement requiring an occupancy approval shall be constructed within 50 feet of the boundary of the Agricultural Preservation District.
- (b) Normal agricultural uses and activities conducted in accordance with good husbandry and best management practices in Agricultural Preservation Districts shall be deemed protected actions and not subject to any claim or complaint of nuisance, including any such claims under any existing or future county or municipal code or ordinance. In the event a formal complaint alleging nuisance related to normal agricultural uses and activities is filed against an owner of lands located in an Agricultural Preservation District, such owner, upon prevailing in any such action, shall be entitled to recover reasonably incurred costs and expenses related to the defense of any such action, including reasonable attorney's fees (68 Del. Laws, c. 118, § 2.).

- In addition, if any wells are to be installed, Section 4.01(A)(2) of the Delaware Regulations Governing the Construction and Use of Wells will apply. This regulation states:
  - (2) For any parcel, lot, or subdivision created or recorded within fifty (50) feet of, or within the boundaries of, an Agricultural Lands Preservation District (as defined in Title 3, Del. C., Chapter 9); all wells constructed on such parcels shall be located a minimum of fifty (50) feet from any boundary of the Agricultural Lands Preservation District. This requirement does not apply to parcels recorded prior to the implementation date of these Regulations. However, it is recommended that all wells be placed the maximum distance possible from lands which are or have been used for the production of crops which have been subjected to the application of land applied federally regulated chemicals.

The Department of Agriculture strongly encourages the developer to work with the Department's Forestry Section during the design and implementation of the project to plant an effective forested buffer between the proposed residential development and existing preserved properties. It is important that suitable tree species be selected and planted to create an effective mitigation barrier between this new development and the existing agricultural operation enrolled in the Agricultural Lands Preservation Program. This farm generates dust, noise and odors that new residents may not be familiar with.

# Response: Noted.

# Sussex County Housing - Contact: Brandy Nauman 855-7779

- Sussex County endeavors to promote non-discrimination and affordable housing
  whenever possible throughout the County. In this regard, the developer and associated
  financial institutions are encouraged to provide and finance affordable housing
  opportunities to Sussex County residents in all new developments, and affirmatively
  market those affordable housing units to diverse populations.
- For questions about opportunities available for affordable housing projects within Sussex County, please consult Sussex County's "Affordable Housing Support Policy". The policy along with other resources are available on the County's Affordable & Fair Housing Resource Center website: www.sussexcountyde.gov/affordable-and-fair-housing-resource-center. The County's Community Development & Housing Department can advise about existing affordable housing opportunities in Sussex County and the appropriate County Department to contact regarding specific development issues concerning future affordable housing projects within Sussex County.
- The Community Development & Housing Department can also explain and assist with any financial support or incentives that may be available to a project from federal, state and county sources, as well as private funding sources that also promote affordable housing in Sussex County.

- Please understand that all residential projects, including Affordable Housing Projects are subject to the applicable provisions of the Sussex County Subdivision and Zoning Codes, and the approval processes set forth in those Codes.
- On behalf of Sussex County, we look forward to cooperating with you and your project as it moves forward.

# Response: Noted.

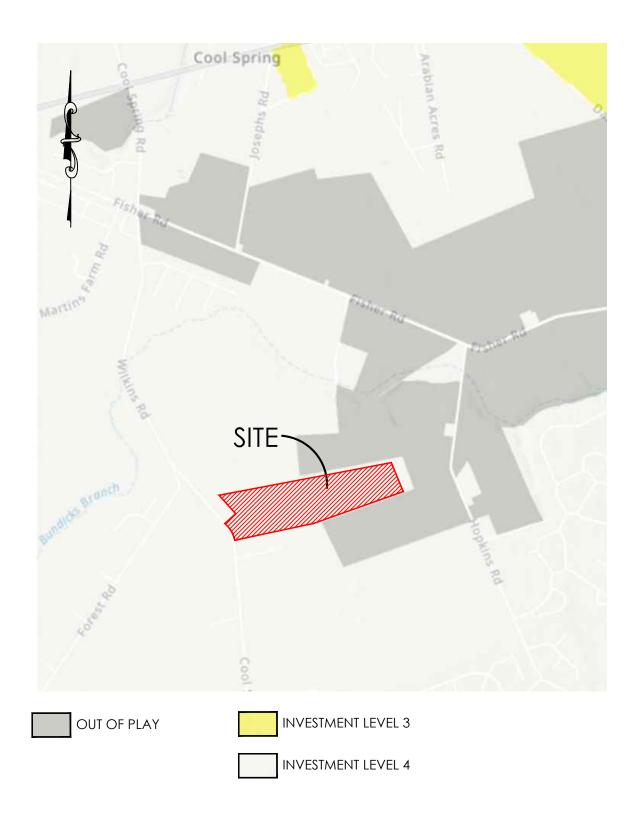
Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments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

This concludes our response. If you have any questions, please contact us at your convenience.

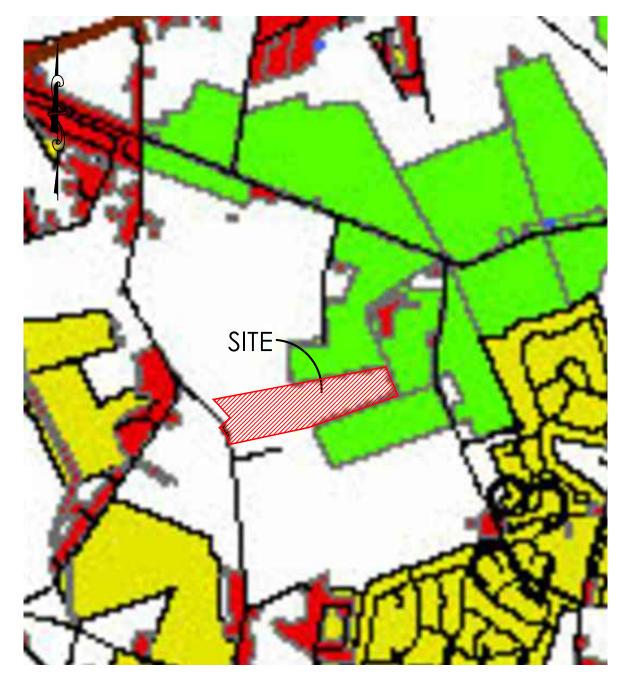
Sincerely,

Solutions, IPEM

Jason Palkewicz, PE





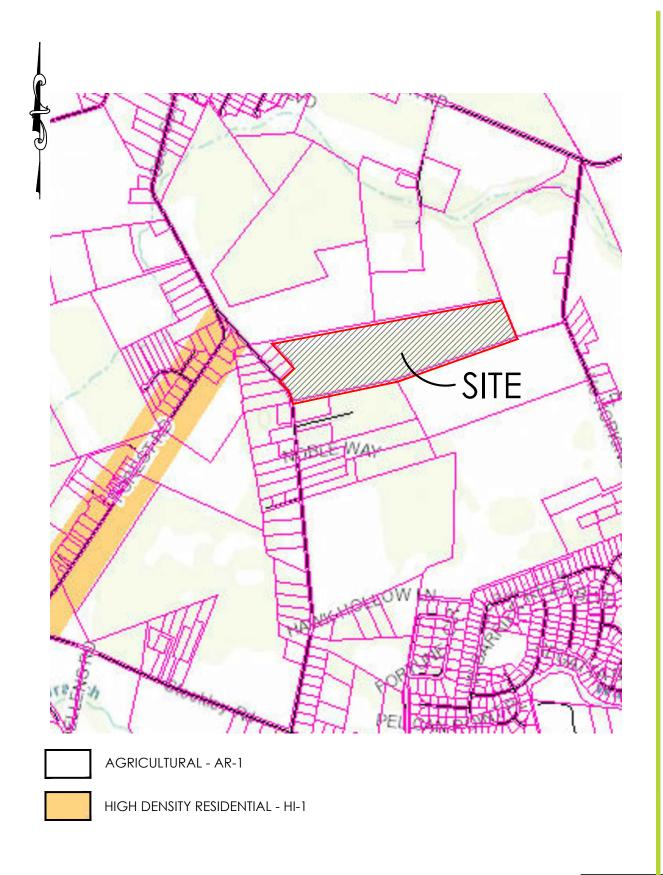




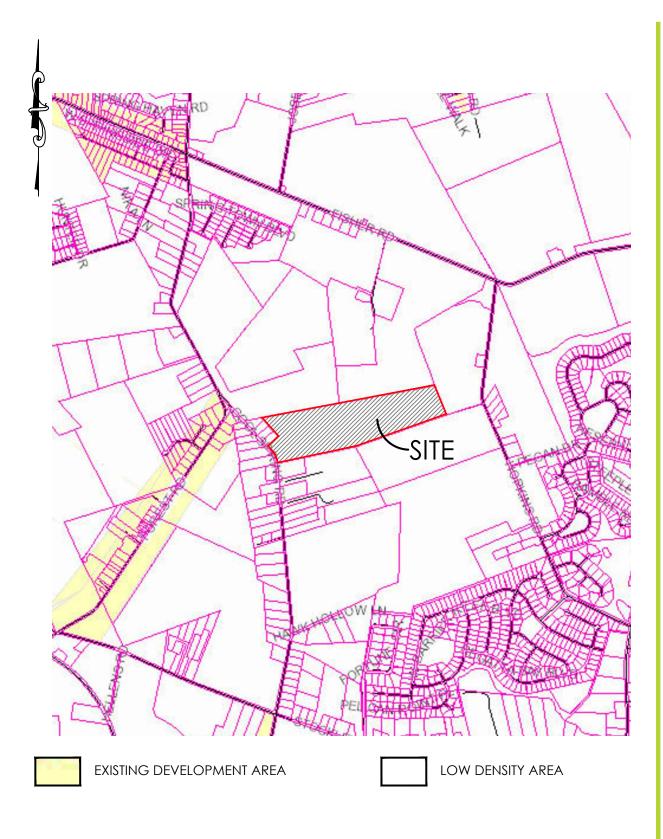
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MAJOR PROPOSED DEVELOPMENTS





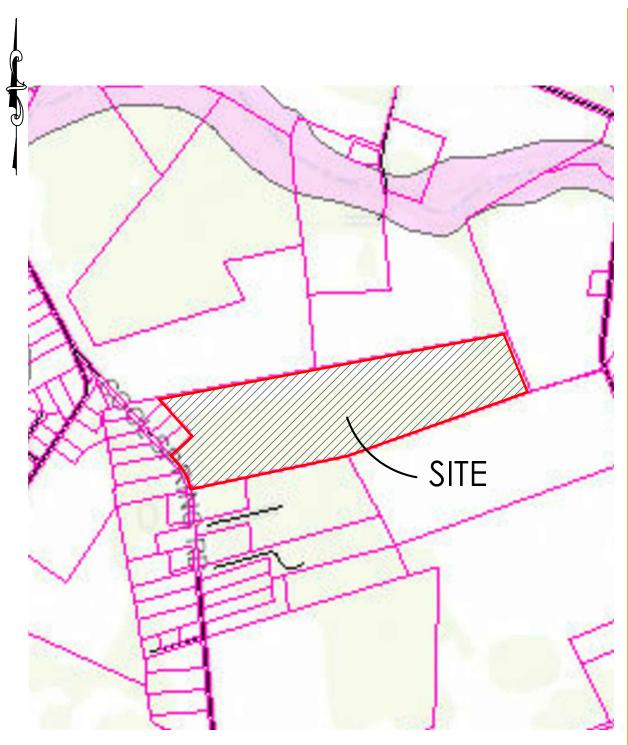
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PROPERTY IS LOCATED IN FLOOD X (UNSHADED) - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, PER FIRM MAP 10005C0326J AND 100005C0330J, MAP REVISED JANUARY 6, 2005.





FAIR GROUNDWATER RECHARGE

POOR GROUNDWATER RECHARGE







Artesian Water Company 🔈 Artesian Wastewater Management 🛕 Artesian Utility Development 🛕 Artesian Water Pennsylvania Artesian Water Maryland A Artesian Wastewater Maryland

July 30, 2021

Mr. Chris Schell Schell Brothers, LLC 20184 Phillips Street Rehoboth Beach, Delaware 19971

RE: Cool Spring Subdivision Ability to Serve Letter

With reference to your request concerning Water and Wastewater Service (collectively, "Service") for Cool Spring Subdivision Project on Cool Spring Road in Lewes-Rehoboth Hundred, Sussex County, Delaware, with tax parcel number 234-5.00-37.00 (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 the wastewater Certificate of Public Convenience and Necessity ("CPCNs") from the Delaware Public Service Commission. The developer will need to petition for the water Certificate of Public Convenience and Necessity ("CPCNs") from the Delaware Public Service Commission after they purchase the Property to be given to Artesian.

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,

Katherine E. Garrison

Katherine E. Garrison Senior Planning Designer

# GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm



March 19, 2021

Schell Brothers, LLC 18949 Coastal Highway, Unit 301 Rehoboth Beach, Delaware 19971

Attn: Mr. Greg Tobias

Re: Report of Subsurface Exploration

Cool Spring

Sussex County, Delaware

Ladies & Gentlemen:

In accordance with our agreement dated January 12, 2021, Geo-Technology Associates, Inc. (GTA) has performed subsurface exploration for stormwater management (SWM). The purpose of the subsurface exploration was to evaluate the estimated normal and seasonal high groundwater elevation; and present our recommendations with respect to SWM pond construction. A plan titled *Cool Spring* prepared by Solutions IPEM dated January 5, 2021 was referenced for this report. The results of our subsurface exploration are summarized below.

Referring to the <u>Site Location Plan</u> and <u>Exploration Location Plan</u> included as Figure Nos. 1 and 2 in Appendix A, the project site consists of a generally rectangularly shaped parcel located in Sussex County, Delaware. The subject property is located at the east side of Cool Spring Road, approximately ¼-mile south of Forest Road. The site consists of mature woods. The site is generally flat, with the ground surface elevation ranging from approximate Elevation 27 to 33 Mean Sea Level (MSL) at the boring locations.

According to the Geologic Map of the Fairmount and Rehoboth Beach Quadrangle, Delaware (2011) published by the Delaware Geological Survey, the site is within the Coastal Plain Physiographic Province. Coastal Plain sediments were generally deposited in commonly estuarine environments of the Quaternary geologic ages. The Pleistocene deposits are designated as the Lynch Heights Formation of the Delaware Bay Group and typically consist of Clean, white to pale-yellow, well-sorted, fine to coarse sand ith scattered very coarse to pebble laminae and silty clay laminae... thin (10 ft and in most areas <3 ft thick) layer of heterogenous deposits ranging from reddish-brown, pale-yellow, and light-gray, silty, clayey, very coarse to fine sand, to pale-yellow to light-gray gravelly sand to sandy gravel." Please refer to the publication for additional information.

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From review of the USDA Soil Survey, the soils predominately conform to Downer sandy loam (0 to 2 percent slopes). Site soils also conform to Downer loamy sand (2 to 5 percent slopes, Northern Tidewater Area), Fort Mott-Henlopen Complex (0 to 2 percent slopes) and ingleside loamy sand (0 to 2 percent slopes). The soils map information is attached.

From review of the attached Monthly Groundwater Depth for Qe44-01, Columbia Aquifer, taken from the Delaware Geological Survey website, the groundwater depth at Well Qe44-01 (east of Laurel, Delaware), was near the normal seasonal high in November 2020. When the borings were performed in February 2021, the groundwater level was above the normal seasonal high. It should be noted that the magnitude of fluctuation between the current groundwater level and the seasonal high groundwater level decreases towards the coast.

GTA performed 40 Standard Penetration Test (SPT) borings, designated as SWM-1 through SWM-40 to depths ranging from 10 to 12 feet below the ground surface. Longer-term water readings were taken 1 to 15 days after completion and the holes were backfilled after the longer-term water readings were taken. The exploration locations were selected and staked with ground surface elevations determined by Solutions IPEM. Relative locations are shown on the attached Exploration Location Plan. The exploration locations indicated on the plan should be considered approximate. The exploration logs are attached.

The soils were visually classified in accordance with the Unified Soil Classification System (USCS) and the United States Department of Agriculture (USDA) classification system. Beneath an approximately 1- to 12-inch-thick surface topsoil layer, the explorations generally encountered native subsoils visually classified as predominately consisting of Clayey SANDs (USCS: SC; USDA: Sandy Clay Loam), Silty SANDs (SM; Sandy Loam), Poorly-graded SANDs with Silt (SP-SM; Loamy Sand), and Poorly-graded SANDs (SP; Sand). The relative densities of the granular soils were very loose to medium dense based on SPT N-values of Weight of Hammer (WOH) to 16 blows per foot (bpf). Intermixed layers of fine-grained soil were encountered, and were visually classified as predominately consisting of Lean CLAYs (CL; Clay Loam). The relative consistencies of the fine-grained soils were medium stiff to stiff based on SPT N-values of 6 to 12 bpf.

GTA's estimate of the seasonal high groundwater level is based upon water levels below seasonal high; and soil coloring, mottling and/or saturation. 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<br>No. | Existing<br>Ground<br>Surface<br>Elevation<br>(MSL) | Depth Below Existing<br>Ground Surface (ft.)/<br>Elevation (MSL) to<br>Groundwater at<br>Completion | Depth Below Existing<br>Ground Surface (ft.)/<br>Elevation (MSL) to<br>Groundwater At One To<br>Fifteen Days After<br>Completion | *Depth Below<br>Existing Ground<br>Surface (ft.)/ Elevation<br>(MSL) to Estimated<br>Seasonal High<br>Groundwater | *Depth Below<br>Existing Ground<br>Surface (ft.)/ Elevation<br>(MSL) to Estimated<br>Normal Groundwater |
|--------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| SWM-1              | EL 32.4                                             | 4.1 / EL 28.3                                                                                       | 3.5 / EL 28.9                                                                                                                    | 3 / EL 29                                                                                                         | 5 / EL 27                                                                                               |
| SWM-2              | EL 32.4                                             | 4.0 / EL 28.4                                                                                       | 3.4 / EL 29.0                                                                                                                    | 3 / EL 29                                                                                                         | 5 / EL 27                                                                                               |

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| Exploration<br>No. | Existing<br>Ground<br>Surface<br>Elevation<br>(MSL) | Depth Below Existing<br>Ground Surface (ft.)/<br>Elevation (MSL) to<br>Groundwater at<br>Completion | Depth Below Existing<br>Ground Surface (ft.)/<br>Elevation (MSL) to<br>Groundwater At One To<br>Fifteen Days After<br>Completion | *Depth Below<br>Existing Ground<br>Surface (ft.)/ Elevation<br>(MSL) to Estimated<br>Seasonal High<br>Groundwater | *Depth Below<br>Existing Ground<br>Surface (ft.)/ Elevation<br>(MSL) to Estimated<br>Normal Groundwater |
|--------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| SWM-3              | EL 30.7                                             | 4.8 / EL 25.9                                                                                       | 4.8 / EL 25.9                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 25                                                                                               |
| SWM-4              | EL 31.2                                             | 3.5 / EL 27.7                                                                                       | 2.8 / EL 28.4                                                                                                                    | 3 / EL 28                                                                                                         | 5 / EL 26                                                                                               |
| SWM-5              | EL 29.9                                             | 4.8 / EL 25.1                                                                                       | 4.8 / EL 25.1                                                                                                                    | 5 / EL 25                                                                                                         | 7 / EL 23                                                                                               |
| SWM-6              | EL 30.1                                             | 5.0 / EL 25.1                                                                                       | 5.1 / EL 25.0                                                                                                                    | 5 / EL 25                                                                                                         | 7 / EL 23                                                                                               |
| SWM-7              | EL 30.3                                             | 7.4 / EL 22.9                                                                                       | 7.5 / EL 22.8                                                                                                                    | 5 / EL 25                                                                                                         | 7 / EL 23                                                                                               |
| SWM-8              | EL 30.4                                             | 6.5 / EL 23.9                                                                                       | 5.0 / EL 25.4                                                                                                                    | 5 / EL 25                                                                                                         | 7 / EL 23                                                                                               |
| SWM-9              | EL 27.3                                             | 1.5 / EL 25.8                                                                                       | 1.0 / EL 26.3                                                                                                                    | 1 / EL 26                                                                                                         | 3 / EL 24                                                                                               |
| SWM-10             | EL 30.1                                             | 5.0 / EL 25.1                                                                                       | 4.9 / EL 25.2                                                                                                                    | 4 / EL 26                                                                                                         | 6 / EL 24                                                                                               |
| SWM-11             | EL 31.4                                             | 6.8 / EL 24.6                                                                                       | 3.5 / EL 27.9                                                                                                                    | 3 / EL 28                                                                                                         | 5 / EL 26                                                                                               |
| SWM-12             | EL 31.3                                             | 5.5 / EL 25.8                                                                                       | 5.6 / EL 25.7                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-13             | EL 30.7                                             | 6.0 / EL 24.7                                                                                       | 5.7 / EL 25.0                                                                                                                    | 5 / EL 26                                                                                                         | 5 / EL 26                                                                                               |
| SWM-14             | EL 31.1                                             | 6.0 / EL 25.1                                                                                       | 3.0 / EL 28.1                                                                                                                    | 3 / EL 28                                                                                                         | 5 / EL 26                                                                                               |
| SWM-15             | EL 30.8                                             | 6.0 / EL 24.8                                                                                       | 4.9 / EL 25.9                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-16             | EL 30.8                                             | 6.0 / EL 24.8                                                                                       | 5.3 / EL 25.5                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-17             | EL 30.5                                             | 5.0 / EL 25.5                                                                                       | 4.8 / EL 25.7                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-18             | EL 30.8                                             | 5.5 / EL 25.3                                                                                       | 4.8 / EL 26.0                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-19             | EL 30.5                                             | 5.6 / EL 24.9                                                                                       | 5.0 / EL 25.5                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-20             | EL 31.2                                             | 7.0 / EL 24.2                                                                                       | 4.4 / EL 26.8                                                                                                                    | 4 / EL 27                                                                                                         | 6 / EL 25                                                                                               |
| SWM-21             | EL 31.3                                             | 7.0 / EL 24.3                                                                                       | 5.0 / EL 26.3                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-22             | EL 31.5                                             | 7.5 / EL 23.8                                                                                       | 5.0 / EL 26.5                                                                                                                    | 5 / EL 27                                                                                                         | 7 / EL 25                                                                                               |
| SWM-23             | EL 31.1                                             | 7.7 / EL 23.4                                                                                       | 6.8 / EL 24.3                                                                                                                    | 6 / EL 25                                                                                                         | 8 / EL 27                                                                                               |
| SWM-24             | EL 30.8                                             | 7.8 / EL 23.0                                                                                       | 4.8 / EL 26.0                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-25             | EL 30.8                                             | 8.0 / EL 22.8                                                                                       | 4.8 / EL 26.0                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-26             | EL 31.1                                             | 7.5 / EL 23.6                                                                                       | 5.5 / EL 25.6                                                                                                                    | 5 / EL 26                                                                                                         | 7 / EL 24                                                                                               |
| SWM-27             | EL 32.8                                             | 8.5 / EL 24.3                                                                                       | 6.8 / EL 26.0                                                                                                                    | 7 / EL 26                                                                                                         | 9 / EL 24                                                                                               |
| SWM-28             | EL 32.4                                             | 7.5 / EL 24.9                                                                                       | 7.1 / EL 25.3                                                                                                                    | 7 / EL 25                                                                                                         | 9 / EL 23                                                                                               |
| SWM-29             | EL 29.1                                             | 6.0 / EL 23.1                                                                                       | 5.7 / EL 23.4                                                                                                                    | 5 / EL 24                                                                                                         | 5 / EL 24                                                                                               |
| SWM-30             | EL 30.3                                             | 6.0 / EL 24.3                                                                                       | 5.8 / EL 24.5                                                                                                                    | 5 / EL 25                                                                                                         | 7 / EL 23                                                                                               |
| SWM-31             | EL 29.9                                             | 6.5 / EL 23.4                                                                                       | 6.2 / EL 23.7                                                                                                                    | 5 / EL 25                                                                                                         | 7 / EL 23                                                                                               |
| SWM-32             | EL 30.2                                             | 7.0 / EL 23.2                                                                                       | 6.3 / EL 23.9                                                                                                                    | 6 / EL 24                                                                                                         | 8 / EL 22                                                                                               |
| SWM-33             | EL 30.3                                             | 7.5 / EL 22.8                                                                                       | 6.8 / EL 23.5                                                                                                                    | 6 / EL 24                                                                                                         | 8 / EL 22                                                                                               |

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| Exploration<br>No. | Existing<br>Ground<br>Surface<br>Elevation<br>(MSL) | Depth Below Existing<br>Ground Surface (ft.)/<br>Elevation (MSL) to<br>Groundwater at<br>Completion | Depth Below Existing<br>Ground Surface (ft.)/<br>Elevation (MSL) to<br>Groundwater At One To<br>Fifteen Days After<br>Completion | *Depth Below<br>Existing Ground<br>Surface (ft.)/ Elevation<br>(MSL) to Estimated<br>Seasonal High<br>Groundwater | *Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Estimated Normal Groundwater |
|--------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| SWM-34             | EL 29.5                                             | 9.0 / EL 20.5                                                                                       | 7.5 / EL 22.0                                                                                                                    | 6 / EL 24                                                                                                         | 8 / EL 22                                                                                   |
| SWM-35             | EL 30.6                                             | 8.0 / EL 22.6                                                                                       | 7.0 / EL 23.6                                                                                                                    | 7 / EL 24                                                                                                         | 5 / EL 26                                                                                   |
| SWM-36             | EL 30.5                                             | Dry to 10 /<br>Dry to EL 20.5                                                                       | 6.7 / EL 23.8                                                                                                                    | 7 / EL 24                                                                                                         | 5 / EL 26                                                                                   |
| SWM-37             | EL 29.9                                             | 7.0 / EL 22.9                                                                                       | 6.2 / EL 23.7                                                                                                                    | 6 / EL 24                                                                                                         | 4 / EL 26                                                                                   |
| SWM-38             | EL 29.7                                             | 8.0 / EL 21.7                                                                                       | 1.7 / EL 28.0 (Perched)                                                                                                          | 2 / EL 28 (Perched)                                                                                               | 4 / EL 26                                                                                   |
| SWM-39             | EL 30.0                                             | 7.0 / EL 23.0                                                                                       | 6.2 / EL 23.8                                                                                                                    | 6 / EL 24                                                                                                         | 8 / EL 22                                                                                   |
| SWM-40             | EL 30.4                                             | 8.0 / EL 22.4                                                                                       | 6.8 / EL 23.6                                                                                                                    | 6 / EL 24                                                                                                         | 8 / EL 22                                                                                   |

<sup>\*</sup>Seasonal high groundwater estimate based upon observed soil mottling, color and/or saturation and should be considered approximate.

The groundwater levels can be expected to fluctuate with seasonal changes, precipitation, and other factors such as development activity. Please refer to the exploration logs provided in the attachments for further information.

Selected samples obtained from the borings was tested for grain-size analysis, Atterberg Limits and natural moisture content. The grain-size analysis and Atterberg Limits testing were performed to determine the Unified Soil Classification System (USCS) designation for the soil. The results of testing are as follows:

# SUMMARY OF LABORATORY TESTING

| EXPLORATION NO. | DEPTH<br>(FT.) | USCS CLASSIFICATION | LL (%) | PI (%) | NMC % |
|-----------------|----------------|---------------------|--------|--------|-------|
| SWM-4           | 1.0 - 4.0      | Silty SAND (SM)     | NP     | NP     | 11.0  |
| SWM-28          | 1.0 – 4.0      | Silty SAND (SM)     | NP     | NP     | 14.5  |

Note: LL=Liquid Limit PI=Plastic Index NP=Non-plastic NMC=Natural Moisture Content NT=Not Tested

Near surface bulk samples were 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 use as fill. Results of these tests are summarized in the following table.

# SUMMARY OF MOISTURE-DENSITY TESTING (ASTM D-698, Standard Proctor)

| EXPLORATION NO. | DEPTH (FT.) | MAXIMUM DRY<br>DENSITY (PCF) | OPTIMUM<br>MOISTURE<br>(%) | NATURAL<br>MOISTURE<br>(%) |
|-----------------|-------------|------------------------------|----------------------------|----------------------------|
| SWM-4           | 1.0 – 4.0   | 117.1                        | 8.6                        | 11.0                       |
| SWM-28          | 1.0 – 4.0   | 126.1                        | 8.5                        | 14.5                       |

Please refer to the attached laboratory test results for additional information.

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Based upon the boring data, it is our opinion that the estimated seasonal high groundwater ranges from approximate Elevation 24 to 29 MSL and normal groundwater levels range from approximate Elevation 22 to 27 MSL at most locations. In general, with the predominant presence of soil and groundwater subsurface conditions with relatively poor infiltration characteristics, wet pond construction appears more suitable for this site.

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. The estimated average seasonal high groundwater elevation and average normal groundwater elevation at each pond are summarized below:

| Pond<br>Number | Pond Boring<br>Range     | Elevation (MSL) of<br>Estimated Average<br>Seasonal High<br>Groundwater | Elevation (MSL) of<br>Estimated Average<br>Normal Groundwater |
|----------------|--------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------|
| 1              | SWM-1 through<br>SWM-8   | EL 27                                                                   | EL 25                                                         |
| 2              | SWM-9 through<br>SWM-14  | EL 27                                                                   | EL 25                                                         |
| 3              | SWM-15 through<br>SWM-19 | EL 26                                                                   | EL 24                                                         |
| 4              | SWM-20 through<br>SWM-25 | EL 26                                                                   | EL 24                                                         |
| 5              | SWM-26 through<br>SWM-31 | EL 25                                                                   | EL 23                                                         |
| 6              | SWM-32 through<br>SWM-40 | EL 24                                                                   | EL 22                                                         |

Once pond bottom elevations have been established, GTA should be consulted to evaluate if a pond liner is necessary. Depending upon conditions observed in the field at the time of construction and to assist in maintaining the wet pond levels during extended dry weather, irrigation wells may be considered to provide a supplemental water source for the ponds due to potential loss of pond water levels mostly due to evaporation and during times of below normal average groundwater conditions. A sufficient quantity of USCS SC and CL materials does not appear to be available on site for a pond liner. If a pond liner is deemed necessary, GTA recommends a Geosynthetic Clay Liner (GCL; Bentonite matrix) or an appropriate PVC liner with relief valves may be used. Both types of liners will need to be provided with a 1-foot-thick granular soil cover. The GCL or PVC liners should be installed in accordance with manufacturer's recommendations. On-site granular soils, similar to the bulk sample tested, are considered suitable for use as a pond liner cover material if they are dried to near optimum. Pond liner cover materials should meet AASHTO classification designation A-2-4 or more granular and be approved by GTA.

If pond fill embankment construction will be required, GTA recommends that prior to construction of pond fill embankment and after stripping the surface topsoil, construct a four-foot deep (below stripped ground surface and stepped below the spillway invert) cutoff trench along the pond embankment length and extending to the 10-year event elevation at each end of the fill embankment alignment. Also, upon completion of the cutoff trench, an embankment core should

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extend to the top elevation of the 10-year event. The side slopes of the cutoff trench and embankment core should be at 1H:1V inclination or flatter. The bottom of the cutoff trench and the top of embankment core should be at least 4 feet wide. The cutoff and embankment core should be formed of USCS CL or SC materials. The balance of embankment may be constructed of onsite materials conforming to USCS SC, SM, SP-SM or SP.

Structural fill should be constructed in maximum 8-inch loose lifts and compacted to 95 percent of the maximum dry density as determined by ASTM D-698 (AASHTO T-99). If practical, GTA recommends reinforced concrete pipe be used as the principal spillway pipe. Also, a concrete cradle and anti-seep collar should be provided for the spillway pipe.

For wet pond construction, water levels will likely be above at least a portion of 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.

# Limitations

This report, including all supporting exploration logs, field data, field notes, estimates, and other documents prepared by GTA in connection with this project, has been prepared for the exclusive use of Schell Brothers, LLC pursuant to the agreement between GTA and Schell Brothers, LLC dated January 12, 2021, and in accordance with generally accepted engineering practice. All terms and conditions set forth in the Agreement are incorporated herein by reference. No warranty, express or implied, is given herein. Use and reproduction of this report by any other person without the expressed written permission of Schell Brothers, LLC is unauthorized and such use is at the sole risk of the user.

The analysis and recommendations contained in this report are based on the data obtained from limited observation and testing of the encountered materials. Explorations indicate soil and groundwater conditions only at specific locations and times and only to the depths penetrated. They do not necessarily reflect strata variations that may exist between the exploration 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 in subsurface conditions from those described 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

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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. 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 constructed by the reader to imply approval by the writer.

We appreciate the opportunity to be of assistance on this project. Should you have any questions or require additional information, please contact our office at (302) 855-9761.

Sincerely,

GEO-TECHNOLOGY ASSOCIATES, INC.

Travis P. Caraway, EIT

Project Geotechnical Professional

Gregory R. Sauter, P.E

Vice President

GRS/TPC/llh 31210094

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Attachments: Site Location Plan (1 page)

Exploration Location Plan (1 page)

Subsurface Profile (8 pages)
USDA Soil Survey Map (3 pages)

Oe44-01 Monthly Groundwater Depth (1 page)

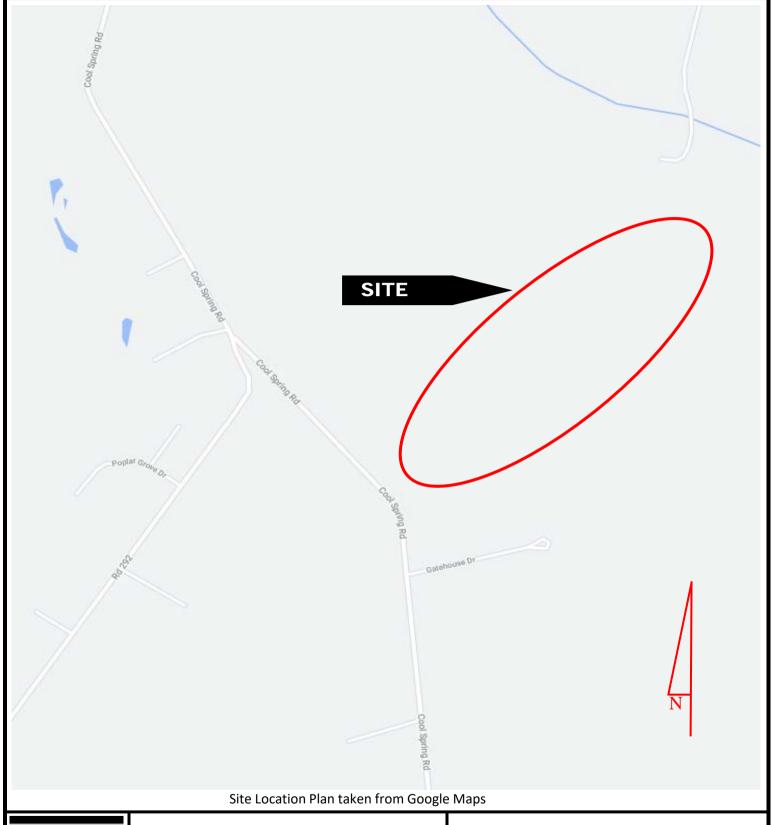
Notes for Exploration Logs (1 page)

Exploration Logs (40 pages)

Particle Size Distribution Report (2 pages)

Moisture Density Relationship Test Report (2 pages)

GBA – Important Information about your Geotechnical Engineering Report (2 pages)



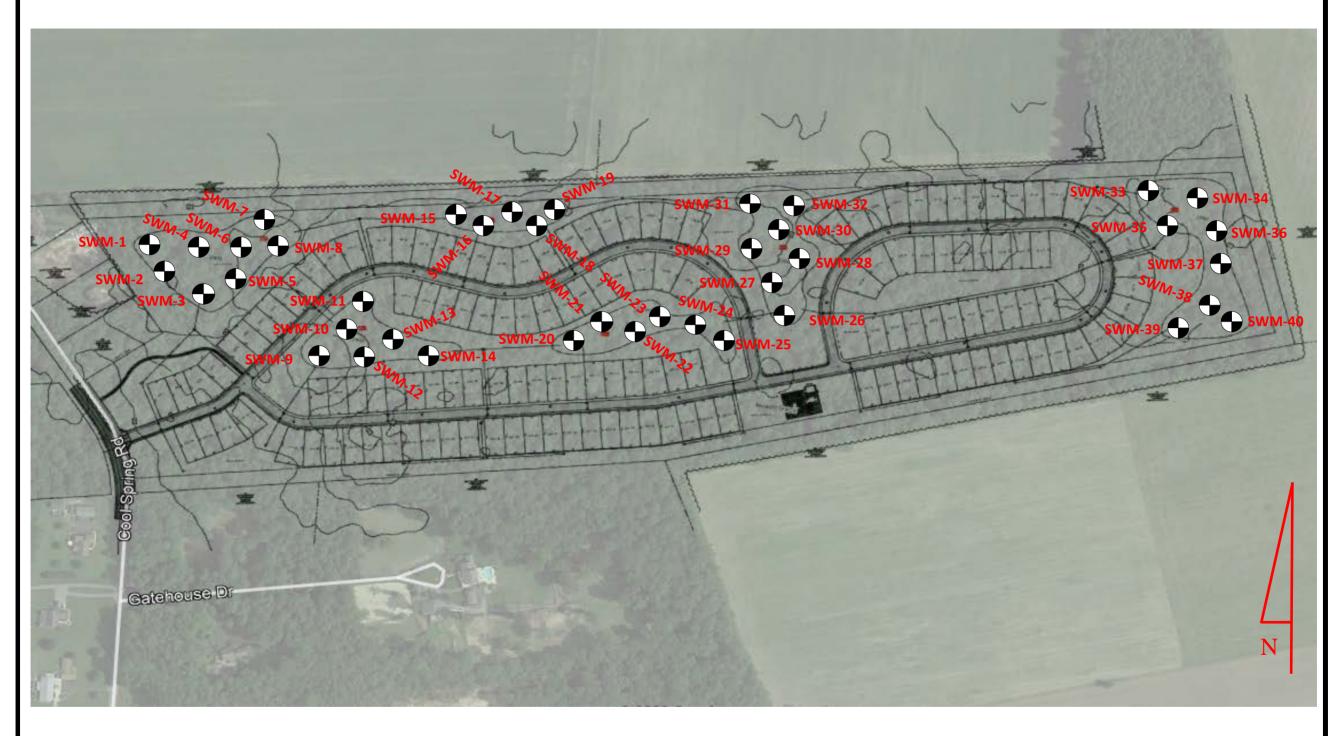


# **GEO-TECHNOLOGY ASSOCIATES, INC.**

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
21133 Sterling Avenue, Suite 7
Georgetown, Delaware 19947
(302) 855-9761 Fax (302) 856-3388

Site Location Plan Cool Spring Sussex County, Delaware

| SCALE | DATE          | DRAWN BY | DESIGN BY   | REVIEW BY | JOB NO.  |
|-------|---------------|----------|-------------|-----------|----------|
| NTS   | February 2021 | GTA      | Google Maps | GRS       | 31210094 |



Exploration Location Plan taken from Google Earth and a Plan titled Cool Spring prepared by Solutions IPEM and dated January 5, 2021.





# **GEO-TECHNOLOGY ASSOCIATES, INC.**

GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
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Georgetown, Delaware 19947
(302) 855-9761 Fax (302) 856-3388

Exploration Location Plan Cool Spring Sussex County, Delaware

| SCALE 11X17 | DATE         | DRAWN BY | DESIGN BY | REVIEW BY | JOB NO. | Figure |
|-------------|--------------|----------|-----------|-----------|---------|--------|
| 1" ~ 305'   | January 2021 | GTA      | Solutions | GRS       | -       | 1      |

# 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 25 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
- Chase Oaks, Sussex County, DE The civil engineer project manager for this 253 unit coastal area cluster subdivision located on Robinsonville Road. The project included planning, entitlement, roadway, grading, stormwater management, sanitary sewer, pump station and DelDOT entrance design.
- 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.