

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



Sussex County

DELAWARE
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.



COUNTY ADMINISTRATIVE OFFICES
2 THE CIRCLE | PO BOX 417
GEORGETOWN, DELAWARE

PLANNING & ZONING COMMISSION

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



Sussex County

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

PLANNING AND ZONING AND COUNTY COUNCIL INFORMATION SHEET
Planning Commission Public Hearing Date: February 10th 2022

Application: 2021-19 East Gate

Applicant: McKee Builders, LLC
c/o Kevin McLaughlin
940 West Sproul Road, Suite 301
Springfield, PA 19064

Owner: Roxanna Preferred Properties, LLC PMP Associates, LLC
1601 Milltown Road, Suite 17 1601 Milltown Road, Suite 19
Wilmington, DE 19808 Wilmington, DE 19808

Site Location: The property is located on the south side of Zion Church Road (Route 20), approximately 0.35 mile northwest of the intersection of Johnson Road (S.C.R. 389) and Bayard Road (S.C.R. 384).

Current Zoning: General Residential (GR) Zoning District

Proposed Use: 88 Single-Family Lots as a Cluster Subdivision

Comprehensive Land Use Plan Reference: Coastal Area

Councilmanic District: Mr. Rieley

School District: Indian River School District

Fire District: Roxana Fire Company

Sewer: Sussex County

Water: Tidewater Utilities

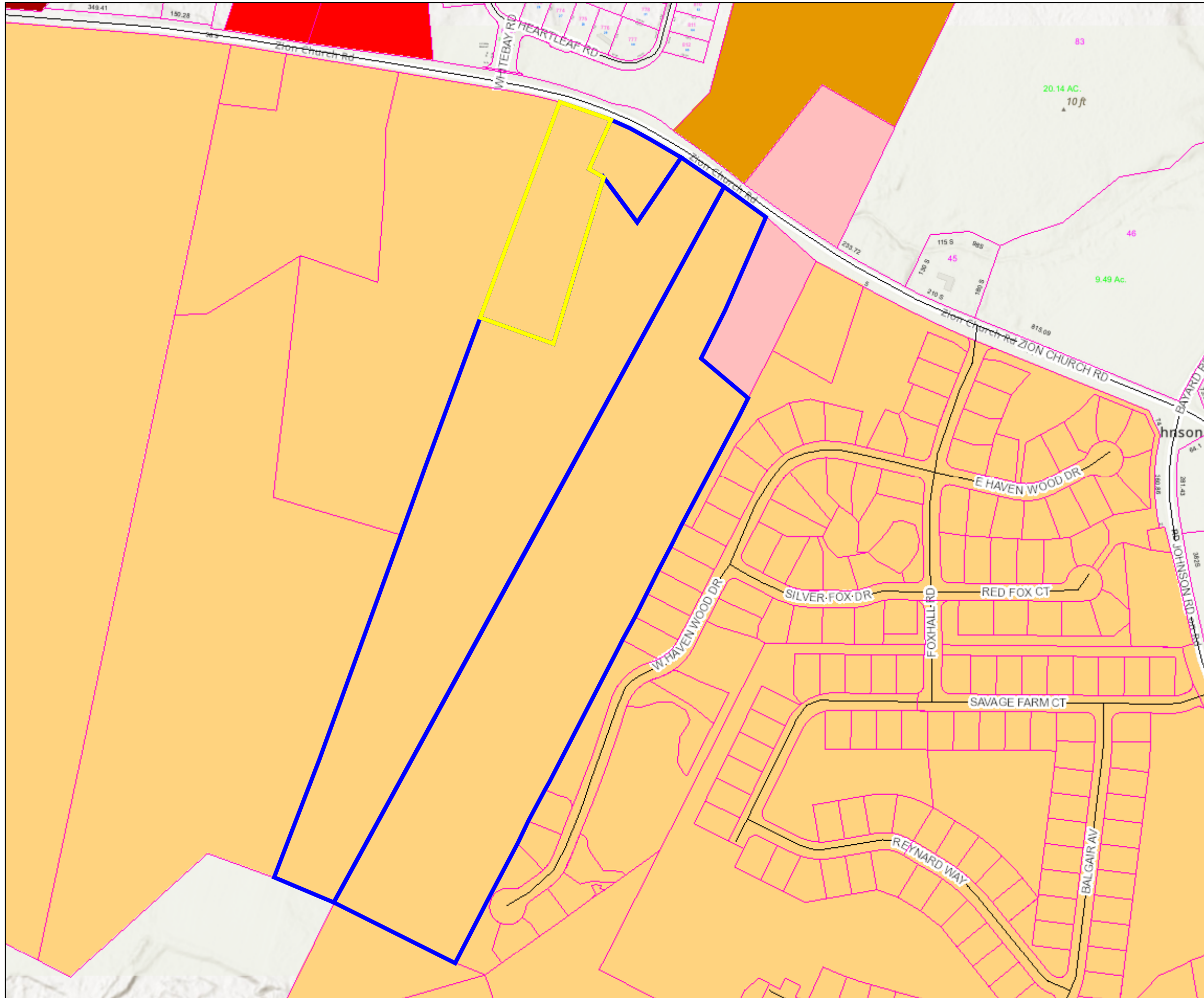
Site Area: 36.71 +/- acres

Tax Map ID: 533-11.00-45.05, 45.06, 45.07 & 45.08





Sussex County



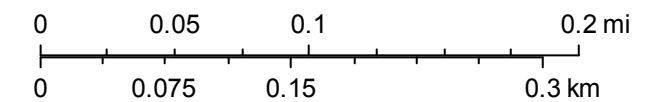
PIN:	533-11.00-45.05
Owner Name	ROXANA PREFERRED PROPERTIES LLC
Book	3522
Mailing Address	1601 MILLTOWN RD STE 17
City	WILMINGTON
State	DE
Description	SW/RD 382
Description 2	LOT 1
Description 3	
Land Code	

- polygonLayer**

 - Override 1
- polygonLayer**

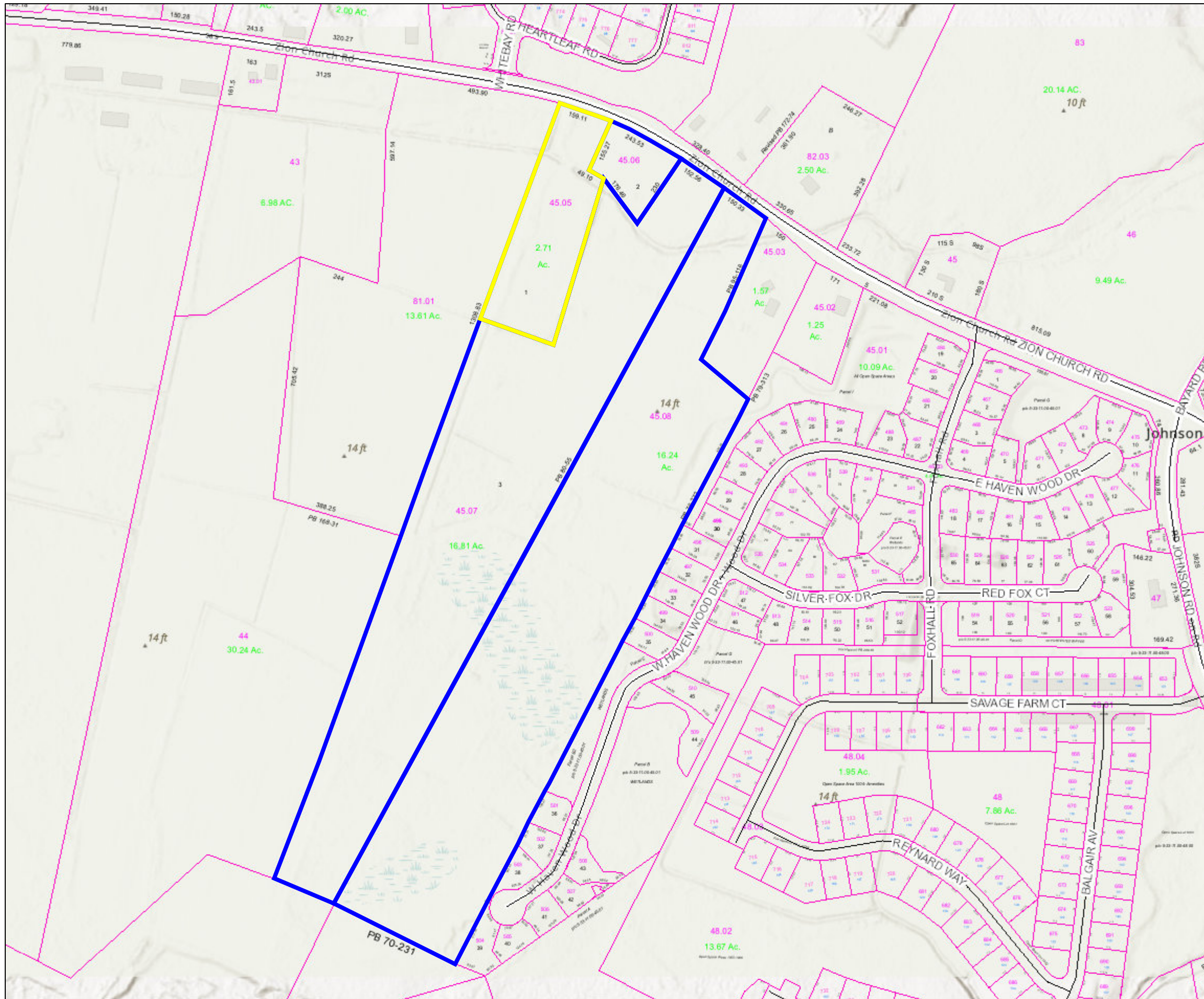
 - Override 1
- Tax Parcels
- Streets

1:4,514





Sussex County



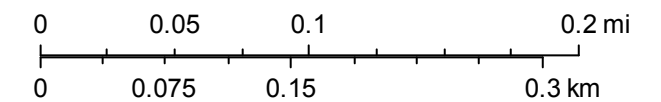
PIN:	533-11.00-45.05
Owner Name	ROXANA PREFERRED PROPERTIES LLC
Book	3522
Mailing Address	1601 MILLTOWN RD STE 17
City	WILMINGTON
State	DE
Description	SW/RD 382
Description 2	LOT 1
Description 3	
Land Code	

- polygonLayer**

 - Override 1
- polygonLayer**

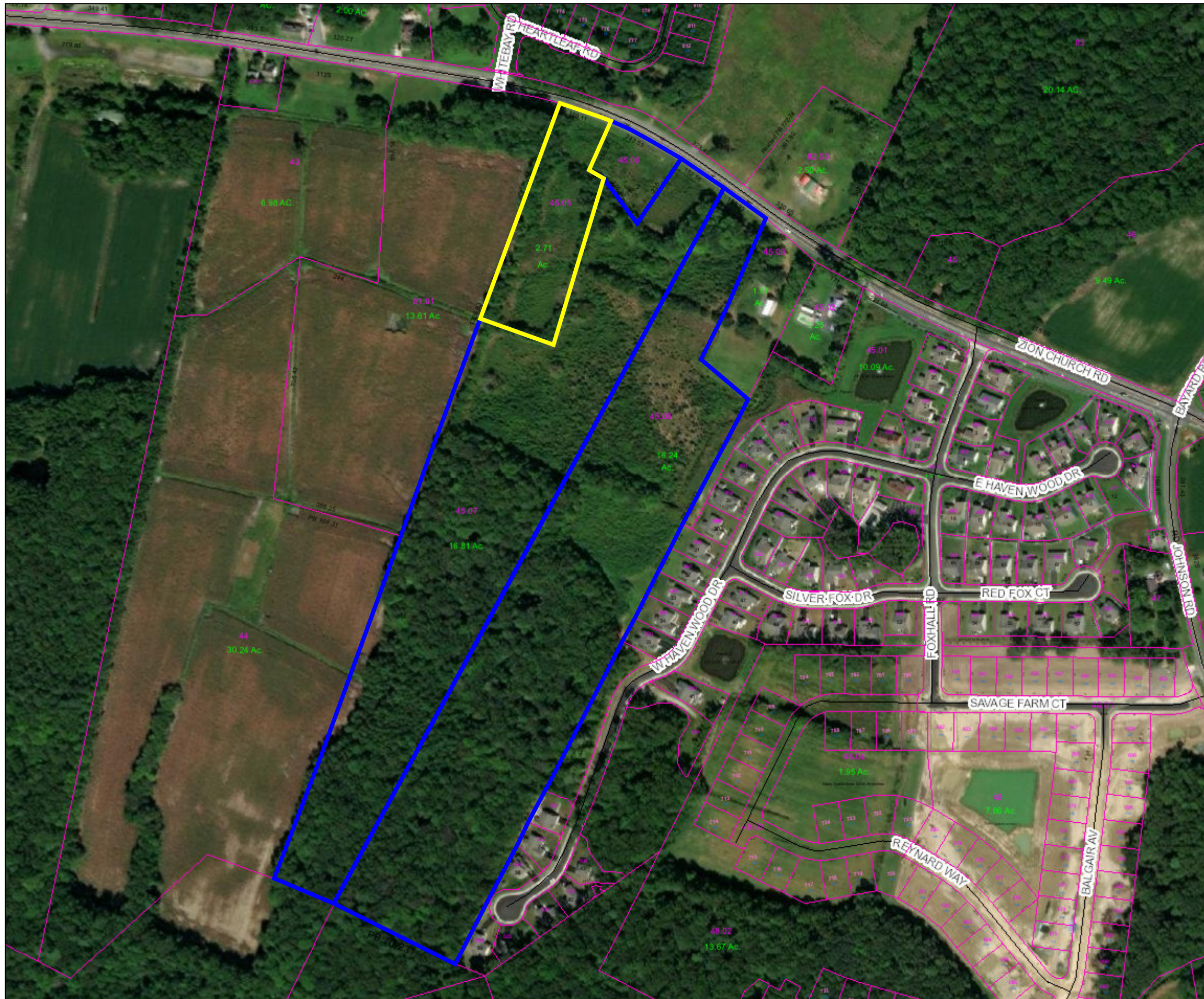
 - Override 1
- ⋯ Tax Parcels
- Streets
- ⋯ County Boundaries
- ⋯ DOE School Districts

1:4,514





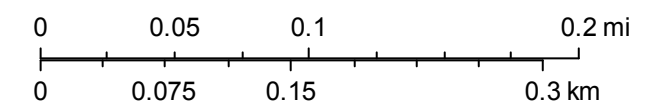
Sussex County



PIN:	533-11.00-45.05
Owner Name	ROXANA PREFERRED PROPERTIES LLC
Book	3522
Mailing Address	1601 MILLTOWN RD STE 17
City	WILMINGTON
State	DE
Description	SW/RD 382
Description 2	LOT 1
Description 3	
Land Code	

- polygonLayer**
- Override 1
- polygonLayer**
- Override 1
- Tax Parcels
- Streets
- County Boundaries
- DOE School Districts

1:4,514



Sussex County Major Subdivision Application 80210985
Sussex County, Delaware

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

Type of Application: (please check applicable)

Standard:
Cluster:
Coastal Area:

Location of Subdivision:

South side of Zion Church Rd. (Rte 20); approx. 1,500' NW of int. with Johnson Oak Rd (Rd 382)

Proposed Name of Subdivision:

East Gate (formerly known as Twin Lakes)

Tax Map #: (1) 533-11.00-45.05, -45.06 (2) 533-11.0045.07, -45.08 **Total Acreage:** 36.71

Zoning: GR **Density:** 3.06 **Minimum Lot Size:** 7,500 SF **Number of Lots:** 88

Open Space Acres: 14.56 +/-

Water Provider: Tidewater Utilities **Sewer Provider:** Sussex County

Applicant Information

Applicant Name: McKee Builders, LLC (c/o Mr. Kevin McLaughlin, Vice-President)
Applicant Address: 940 West Sproul Road, Suite 301
City: Springfield State: PA Zip Code: 19064
Phone #: 484-908-6252 E-mail: kmclaughlin@mckeegroup.net

Owner Information

Owner Name: (1) Roxanna Preferred Properties, LLC (2) PMP Associates, LLC
Owner Address: (1) 1601 Milltown Road, Suite 17 (2) 1601 Milltown Road, Suite 19
City: (1) & (2) Wilmington State: DE Zip Code: 19808
Phone #: _____ E-mail: _____

Agent/Attorney/Engineer Information

Agent/Attorney/Engineer Name: Morris & Ritchie Associates, Inc. (c/o Mr. Christopher J. Flathers, P.E.)
Agent/Attorney/Engineer Address: 18 Boulden Circle, Suite 36
City: New Castle State: DE Zip Code: 19720
Phone #: 302-326-2200 E-mail: cflathers@mragta.com



Check List for Sussex County Major Subdivision Applications

The following shall be submitted with the application

- Completed Application**
- Provide ten (10) copies of the Site Plan or Survey of the property and a PDF (via e-mail)**
 - o Plan shall show the existing conditions, setbacks, roads, floodplain, wetlands, topography, proposed lots, landscape plan, etc. **Per Subdivision Code 99-22, 99-23 & 99-24**
 - o Provide compliance with Section 99-9.
 - o Deed or Legal description, copy of proposed deed restrictions, soil feasibility study

Provide Fee \$500.00

* Project Information Booklets will be provided under separate cover in advance of the PC Meeting

Optional - Additional information for the Commission to consider (ex. photos, exhibit books, etc.) If provided submit seven (7) copies and they shall be submitted a minimum of ten (10) days prior to the Planning Commission meeting.

Please be aware that Public Notice will be sent to property owners within 200 feet of the subject site and County staff will come out to the subject site, take photos and place a sign on the site stating the date and time of the Public Hearings for the application.

* PLUS Response will be provided under separate cover in advance of the PC Meeting

PLUS Response Letter (if required) **Environmental Assessment & Public Facility Evaluation Report** (if within Coastal Area)

51% of property owners consent if applicable

* Coastal Area Report will be provided under separate cover in advance of the PC Meeting

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

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

Signature of Applicant/Agent/Attorney



 Christopher J. Flathers, Morris & Ritchie Associates, Inc.

Date: 6/2/21

Signature of Owner



 Kevin McLaughlin, Vice President, McKee Builders, LLC

Date: 6/2/21

For office use only:

Date Submitted: _____ Fee: \$500.00 Check #: _____

Staff accepting application: _____ Application & Case #: _____

Location of property: _____

Date of PC Hearing: _____ Recommendation of PC Commission: _____

64750

EX 03239 & 350

TAX PARCEL NO. 5-33-11.00-45.07

PREPARED BY:

JAMES P. HALL, ESQUIRE
PHILLIPS, GOLDMAN & SPENCE, P.A.
1200 NORTH BROOM STREET
WILMINGTON, DE 19806

GRANTEE'S ADDRESS:

1601 MILLTOWN ROAD, SUITE 19
WILMINGTON, DE 19808

THIS DEED, delivered and effective this 18th day of November, 2005;

BETWEEN, MARK B. BROWN, PAUL E. BROWN and PETER F. SUBACH, of
Wilmington, Delaware, parties of the first part,

-AND-

PMP ASSOCIATES, LLC, a Delaware limited liability company, party of the second
part, in fee,

WITNESSETH, that the said parties of the first part, for and in consideration of the
sum of TEN and 00/100 DOLLARS (\$10.00), lawful money of the United States of America,
the receipt whereof is hereby acknowledged, hereby grant and convey unto the said party
of the second part, in fee,

ALL that certain lot, piece or parcel of land, lying and being situate in Baltimore
Hundred, Sussex County, State of Delaware, being known as Lot No. 3, and being more
particularly described as follows, to-wit:

BEGINNING at a 3/4" pipe found along the most Southerly right-of-way line of
County Road No. 382 (70' r/w), said pipe being 1,357' +/- in a Northwesterly direction from
the right-of-way line of County Road No. 382A, said pipe also being a common property
corner for these lands and lands now or formerly of Mark B. Brown; thence turning and
running with common property line for these lands and lands of Mark B. Brown, S 38° 07'
34" W- 2,387.74 feet to a 5/8" re-bar found, said re-bar being a common property corner
for these lands and lands of Mark B. Brown, said re-bar also being on line for lands of DJF
Holding, Inc.; thence turning and running partially with lands of DJF Holding, Inc., N 58° 14'
35" W- 183.91 feet to a concrete monument found, said monument being a common
property corner for these lands and lands of DJF Holding, Inc., said monument also being
on line for lands of EH& ME Long Farms Limited; thence turning and running partially with
lands of EH & ME Long Farms Limited, N 29° 25' 03" E- 1,784.00 feet to a point located
in a 15' +/- wide ditch, said point being a common property corner for these lands, lands
of EH & ME Long Farms Limited, lands of Martha M. Long and lands of CFL Enterprises;
thence turning and running with common property line for these lands and lands of CFL
Enterprises and said 15' +/- wide ditch the following courses and distances, (1) S 63° 15'
37" E- 189.19 feet to a point; thence (2) N 29° 58' 52" E- 479.25 feet to a point; thence (3)
S 26° 10' 31" E- 176.46 feet to a point; thence (4) leaving said ditch, N 44° 21' 43" E-
230.00 feet to a 5/8" re-bar set on said Southerly right-of-way line of County Road No. 382,
said re-bar being a common property corner for these lands and lands of CFL Enterprises;
thence turning and running with said Southerly right-of-way line a curve to the right with an
arc distance of 26.56 feet, a radius of 1,397.37 feet, a delta angle of 01° 05' 21" and a
chord bearing and distance of S 45° 03' 40" E- 26.56 feet to a 5/8" re-bar set; thence
continuing along said Southerly right-of-way line, S 44° 32' 56" E- 126.00 feet home to the
point and place of beginning, containing 16.7931 acres of land, be the same, more or less,
as surveyed and shown on a plat prepared by Theodore B. Simpler, P.L.S. 289, dated
January 8, 2004.

Considerations: \$0.00 Exempt Code: A

County	State	Total
0.00	0.00	0.00

counter Date: 12/05/2005

BEING the same lands and premises which C.F.L. Enterprises, Inc., a Delaware corporation and Joanne R. Dorsey, by deed dated January 16, 2004 and recorded January 20, 2004, in the Office of the Recorder of Deeds in Deed Book 02945, Page 041, did grant and convey unto Mark B. Brown, Paul E. Brown and Peter F. Subach.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year aforesaid.

WITNESS J Hall

By: Mark B. Brown (Seal)
MARK B. BROWN

STATE OF DELAWARE :
NEW CASTLE COUNTY :

BE IT REMEMBERED, that on this 15th day of November, 2005, personally came before me the Subscriber, a Notary Public for the State and County aforesaid, Mark B. Brown, a party to this Indenture, known to me personally, and acknowledged this Indenture to be his act and deed.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.
JAMES P. HALL
ATTORNEY AT LAW
Notarial Officer, State of Delaware
Pursuant to 29 Del. C. § 4323(e)(3)
My Commission Has No Expiration Date

J Hall
Notarial Officer

WITNESS J Hall

By: Paul E. Brown (Seal)
PAUL E. BROWN

STATE OF DELAWARE :
NEW CASTLE COUNTY :

BE IT REMEMBERED, that on this 18th day of November, 2005, personally came before me the Subscriber, a Notary Public for the State and County aforesaid, Paul E. Brown, party to this Indenture, known to me personally, and acknowledged this Indenture to be his act and deed.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.
JAMES P. HALL
ATTORNEY AT LAW
Notarial Officer, State of Delaware
Pursuant to 29 Del. C. § 4323(e)(3)
My Commission Has No Expiration Date

J Hall
Notarial Officer

WITNESS J Hall

By: Peter F. Subach (Seal)
PETER F. SUBACH

STATE OF DELAWARE :
NEW CASTLE COUNTY :

RECORDER OF DEEDS
JENNIFER PRADY
05 DEC -5 PM 1:47

BE IT REMEMBERED, that on this 18th day of November, 2005, personally came before me the Subscriber, a Notary Public for the State and County aforesaid, Peter F. Subach, party to this Indenture, known to me personally, and acknowledged this Indenture to be his act and deed.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.
JAMES P. HALL
ATTORNEY AT LAW
Notarial Officer, State of Delaware
Pursuant to 29 Del. C. § 4323(a)(3)
My Commission Has No Expiration Date

J Hall
Notarial Officer

Received
DEC 06 2005

64751

03240 001

TAX PARCEL NO. 5-33-11.00-45.08

PREPARED BY:

JAMES P. HALL, ESQUIRE
PHILLIPS, GOLDMAN & SPENCE, P.A.
1200 NORTH BROOM STREET
WILMINGTON, DE 19806

GRANTEE'S ADDRESS:

1601 MILLTOWN ROAD, SUITE 18
WILMINGTON, DE 19808

THIS DEED, delivered and effective this 11th day of November, 2005;

BETWEEN, MARK B. BROWN, PAUL E. BROWN and PETER F. SUBACH, of
Wilmington, Delaware, parties of the first part,

-AND-

PMP ASSOCIATES, LLC, a Delaware limited liability company, party of the second
part, in fee,

WITNESSETH, that the said parties of the first part, for and in consideration of the
sum of TEN and 00/100 DOLLARS (\$10.00), lawful money of the United States of America,
the receipt whereof is hereby acknowledged, hereby grant and convey unto the said party
of the second part, in fee,

ALL that certain lot, piece or parcel of land, lying and being situate in Baltimore
Hundred, Sussex County, State of Delaware, and being more particularly described as
follows, to-wit:

BEGINNING at a 3/4" pipe found on the Southerly right-of-way line of County Road
No. 382 (70' r/w), said pipe being 1,207' +/- in a Westerly direction from the right-of-way
line of County Road No. 382, said pipe also being a common property corner these lands
and lands of Herbert Schaefer; thence turning and running with common property line for
these lands and Lands of Herbert Schaefer, S 33°-34'-40" W- 299.80 feet to a 3/4" pipe
found, said pipe being a common property corner for these lands and Lands of Herbert
Schaefer, thence turning and running with said common property line for these lands and
Lands of Herbert Schaefer. The following two (2) courses and distances, (1) S 37°-31'-30"
W-1,228.70 feet to a point; thence, (2) S 02°-22'07" W-258.89 feet to a point, said point
being a common property corner for these lands and Lands of Herbert Schaefer, said point
being a common property corner for these lands and Lands of Herbert Schaefer, said point
also being located on a property line for Lands of CFL Enterprises, Inc.; thence turning and
running partially with common property line for these lands and Lands of CFL Enterprises,
Inc., S 37°-31'-30" W-593.16 feet to a 5/8" re-bar set, said re-bar being a common property
corner for these lands and Lands of CFL Enterprises, Inc., said re-bar also being located
on a property line for Lands of Howard Johnson, thence turning and running with common
property line for these lands and Lands of Howard Johnson, N 58°-14'-35" W-345.43 feet
to a 5/8" re-bar set, said re-bar being a common property corner for these lands and Lands
of CFL Enterprises, Inc., said re-bar also being located on a common property line for
Lands of Howard Johnson, thence turning and running partially with common property line
for these lands and Lands of CFL Enterprises, Inc., N 38°-07'-34" E-2,387.74 feet to a 5/8"
re-bar set on said Southerly right-of-way line of County Road No. 382, said re-bar being
a common property corner for these lands and Lands of CFL Enterprises, Inc.; thence
turning and running with Southerly right-of-way line, S 44°-43'-37" E-150.33 feet home to
the point and place of beginning, containing 12.2394 acres of land, be the same, more or
less, as surveyed and shown on a plat prepared by Theodore B. Simpler, P.L.S. 289, dated
August 15, 2002.

Consideration:	60.00	Exempt Code: A
County	State	Total
8.00	8.00	8.00
counter	Date: 12/05/2005	

81

BEING the same lands and premises which Herbert E. Schaefer, Jr., Trustee Under Revocable Trust Agreement of Herbert E. Schaefer, Jr., dated 5/13/98 and Marjorie D. Schaefer, Trustee Under Revocable Trust Agreement of Marjorie D. Schaefer, dated 5/13/98, by deed dated May 30, 2003 and recorded June 3, 2003, in the Office of the Recorder of Deeds in Deed Book 02843, Page 274, did grant and convey unto Mark B. Brown, Paul E. Brown and Peter F. Subach.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year aforesaid.

WITNESS J. Hall

By: Mark B. Brown (Seal)
MARK B. BROWN

STATE OF DELAWARE :
NEW CASTLE COUNTY : SS.

BE IT REMEMBERED, that on this 18th day of November, 2005, personally came before me the Subscriber, a Notary Public for the State and County aforesaid, Mark B. Brown, a party to this Indenture, known to me personally, and acknowledged this Indenture to be his act and deed.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.

JAMES P. HALL
ATTORNEY AT LAW
Notarial Officer, State of Delaware
Pursuant to 29 Del. C. § 4323(a)(3)
My Commission Has No Expiration Date

J. Hall
Notarial Officer

WITNESS J. Hall

By: Paul E. Brown (Seal)
PAUL E. BROWN

STATE OF DELAWARE :
NEW CASTLE COUNTY : SS.

BE IT REMEMBERED, that on this 18th day of November, 2005, personally came before me the Subscriber, a Notary Public for the State and County aforesaid, Paul E. Brown, party to this indenture, known to me personally, and acknowledged this Indenture to be his act and deed.

JAMES P. HALL
ATTORNEY AT LAW
Notarial Officer, State of Delaware
Pursuant to 29 Del. C. § 4323(a)(3)
My Commission Has No Expiration Date

J. Hall
Notarial Officer

WITNESS J. Hall

By: Peter F. Subach (Seal)
PETER F. SUBACH

STATE OF DELAWARE :
NEW CASTLE COUNTY : SS.

BE IT REMEMBERED, that on this 18th day of November, 2005, personally came before me the Subscriber, a Notary Public for the State and County aforesaid, Peter F. Subach, party to this Indenture, known to me personally, and acknowledged this Indenture to be his act and deed.

JAMES P. HALL
ATTORNEY AT LAW
Notarial Officer, State of Delaware
Pursuant to 29 Del. C. § 4323(a)(3)
My Commission Has No Expiration Date

J. Hall
Notarial Officer

WITNESS J. Hall

Received
DEC 06 2005
ASSESSMENT DIVISION
OF SUSSEX CTY
RECORDER OF DEEDS
JIMMY P. BRADY
05 DEC -5 PM 1:48
SUSSEX COUNTY
DOC. SURCHARGE PAID

BK 3522 Pg 9

000053534
5000009

NO TITLE SEARCH OR SURVEY REQUESTED OR PERFORMED

**TAX PARCEL NOS.: 5-33-11.00-45.05 and
5-33-11.-00-45.06**

**PREPARED BY:
JAMES P. HALL, ESQUIRE
PHILLIPS, GOLDMAN & SPENCE, P.A.
1200 NORTH BROOM STREET
WILMINGTON, DE 19806**

*** GRANTEE'S ADDRESS:
1601 MILLTOWN ROAD, SUITE 19
WILMINGTON, DE 19808**

THIS DEED, delivered and effective this *2nd* day of November, 2007;

**BETWEEN, PMP ASSOCIATES, LLC, a Delaware limited liability company, party
of the first part,**

- AND -

*** ROXANA PREFERRED PROPERTIES, LLC, A Delaware limited liability company,
party of the second part, in fee,**

**WITNESSETH, that the said party of the first part, for and in consideration of the
sum of TEN and 00/100 DOLLARS (\$10.00), lawful money of the United States of America,
the receipt whereof is hereby acknowledged, hereby grants and conveys unto the said
party of the second part, in fee,**

**ALL those certain lots, pieces or parcels of land, lying and being situate in Baltimore
Hundred, Sussex County, State of Delaware, as follows, to-wit:**

TRACT 1- LOT NO. 1

**ALL that certain piece, parcel or tract of land lying and being in Baltimore Hundred,
Sussex County, Delaware, and being more particularly bounded and described as follows:**

**BEGINNING at an iron pipe located on the southerly right-of-way of State Rt. 20
(Zion Church Road), said iron pipe being a corner for this lot and Lot 2; thence by and with
Lot NO. 2, South 34 degrees 22 minutes 36 seconds West, thru an iron pipe at 144.40',
a distance of 155.27' to a point; thence by and with the center of a ditch and Lot No. 2,
South 49 degrees 00 minutes 26 seconds East, a distance of 49.10' to a point; thence by
and with Lot No. 3, and the center of a ditch, South 29 degrees 58 minutes 52 seconds
West, a distance of 479.23' to a point; thence North 63 degrees 16 minutes 37 seconds
West, a distance of 189.15' to a point; thence by and with the lands now or formerly of
Martha M. Long, North 29 degrees 25 minutes 03 seconds East, a distance of 657.17' to
an iron pipe, said iron pipe being a point of curve of a non tangent curve to the right, having
a radius of 1.397.39' and having a chord bearing of South 58 degrees 57 minutes 01
seconds East, 159.04'; thence by and with the southerly right of way of State Rt. 20, along
the arc, through a central angle of 6 degrees 31 minutes 28 seconds, a distance of 159.13'
to the point of beginning. Said tract to contain 2.71 acres more or less.**

TRACT 2- LOT NO. 2

**ALL that certain piece, parcel or tract of land lying and being in Baltimore Hundred,
Sussex County, Delaware, and being more particularly bounded and described as follows:**

**BEGINNING at an iron pipe located on the southerly right-of-way of State Rt. 20
(Zion Church Road), said iron pipe being a corner for this lot and Lot No. 3; thence by and**

Jes
mw

BK03522 000053536 PG00010

with Lot No. 3, South 44 degrees 21 minutes 43 seconds West, thru an iron pipe at 210.46', a total distance of 230.00'; thence by and with Lot No. 3 and the center of a ditch, North 26 degrees 10 minutes 22 seconds West, a distance of 176.46'; thence by and with Lot No. 1 and the center of a ditch North 49 degrees 00 minutes 26 seconds West, a distance of 49.10'; thence by and with Lot No. 1, North 34 degrees 22 minutes 36 seconds East, thru an iron pipe at 10.81', a total distance of 155.27' to an iron pipe, said iron pipe being a point of curve of a non tangent curve to the right, having a radius of 1,397.39' and having a chord bearing of South 50 degrees 37 minutes 48 seconds East, 243.24'; thence by and with the southerly right-of-way of State Rt. 20, along the arc, through a central angle of 9 degrees 59 minutes 9 seconds, a distance of 243.55' to the point of beginning. Said tract to contain 42,761 square feet of land more or less.

BEING the same lands and premises which Dennis Wayne Marvel, Trustee Under Dennis Wayne Marvel Trust and Janice Lynn Marvel, Trustee Under Janice Lynn Marvel Trust, by Deed dated January 19, 2006 and recorded January 24, 2006 in the Office of the Recorder of Deeds in Deed Book 3263, Page 185, did grant and convey unto PMP Associates, LLC, a Delaware limited liability company.

IN WITNESS WHEREOF, PMP Associates, LLC, has caused its name and corporate seal to be hereunto set by its duly authorized Managing Member, the day and year first above written.

SEALED and DELIVERED
IN THE PRESENCE OF

PMP ASSOCIATES, LLC

(SEAL) J Hall

By: Paul E. Brown

Managing Member

STATE OF DELAWARE :
 :
NEW CASTLE COUNTY : SS.

THE foregoing instrument was acknowledged before me this 2nd day of November, 2007, by Paul E. Brown, Managing Member of PMP Associates, LLC, a Delaware limited liability company, on behalf of the company.

J Hall
Notarial Officer

JAMES F. HALL
ATTORNEY AT LAW
Notarial Officer, State of Delaware
Pursuant to 29 Del. C. § 4323(e)(3)
My Commission Has No Expiration Date

RECEIVED
NOV 20 2007
ASSESSMENT DIVISION
OF SUSSEX COUNTY

Consideration:	\$0.00	Exempt Code: A
County	State	Total
0.00	0.00	0.00
counter2	Date: 11/19/2007	

RECORDER OF DEEDS
JOHN F. BRADY
11/19/2007 08:54A
SUSSEX COUNTY
DOC. BURCHARGE PAID

50139

03205 281

P/O TAX PARCEL NO. 5-33-11.00-45.03
TO BE COMBINED WITH TAX PARCEL NO.: 5-33-11.00-45.08

PREPARED BY:

JAMES P. HALL, ESQUIRE
PHILLIPS, GOLDMAN & SPENCE, P.A.

1200 NORTH BROOM STREET

WILMINGTON, DE 19806

GRANTEE'S ADDRESS RETURN TO:

1601 MILLTOWN ROAD, SUITE 19

WILMINGTON, DE 19808

THIS DEED, delivered and effective this 14th day of September, 2005;

BETWEEN, HERBERT E. SCHAEFER, JR., Trustee Under Revocable Trust

Agreement of Herbert E. Schaefer, Jr., dated 5/13/98, and MARJORIE D. SCHAEFER,

Trustee Under Revocable Trust Agreement of Marjorie D. Schaefer, dated 5/13/98, parties

of the first part,

- AND -

PMP ASSOCIATES, LLC, A Delaware limited liability company, party of the second part, in fee,

WITNESSETH, that the said parties of the first part, for and in consideration of the sum of TWO HUNDRED THOUSAND and 00/100 DOLLARS (\$200,000.00), lawful money of the United States of America, the receipt whereof is hereby acknowledged, hereby grant and convey unto the said party of the second part, in fee,

ALL that certain lot, piece or parcel of land, lying and being situate in Baltimore Hundred, Sussex County, State of Delaware, being bounded on the East by other lands of these Grantors, on the South by lands now or formerly of Bay Twenty, L.L.C., and on the West and North by lands now or formerly of Mark B. Brown, Paul E. Brown and Peter F. Subach; more particularly described as per Survey Plan No.: 050413-C, dated July 26, 2005, prepared by Adams-Kemp Associates, Inc., Professional Land Surveyors, as recorded in the Office of the Recorder of Deeds in and for Sussex County in the County Administration Building in Georgetown, Delaware, in Plot Book 95, Page 116, as follows, to-wit:

BEGINNING at a set iron bar along the line of lands now or formerly of Bay Twenty, L.L.C., said set iron bar being located the following two (2) courses and distances from a found iron pipe along the southerly right of way line of County Road 392 (at 70 feet wide) at a corner of the lands of these Grantors and for lands now or formerly of Richard D. and Melissa Campbell: (1) South 33 degrees 35 minutes 38 seconds West, 300.09 feet to a found iron bar; and 2) South 37 degrees 31 minutes 30 seconds West, 157.37 feet; thence with lands now or formerly of Bay Twenty, L.L.C., South 37 degrees 31 minutes 30 seconds West, 1266.34 feet to a set iron bar at a corner of this parcel and lands now or formerly of Mark B. Brown, Paul E. Brown and Peter F. Subach; thence with lands now or formerly of Mark B. Brown, Paul E. Brown and Peter F. Subach, the following two (2) courses and distances: 1) North 02 degrees 22 minutes 07 seconds East, 258.89 feet to a set iron bar; and 2) North 37 degrees 31 minutes 30 seconds East, 1071.33 feet to a set iron bar at a corner of this parcel; thence along a new line, South 46 degrees 06 minutes 01 second, East 150.00 feet to the point and place of Beginning. Containing within described metes and bounds 4.000 acres of land be the same more or less.

Consideration: \$200,000.00 Exempt Code: A

County	State	Total
36600.00 county	36600.00	60000.00
Date: 09/22/2005		

SDH

BEING a part of the same lands and premises which Herbert E. Schaefer, Jr. and Marjorie D. Schaefer, by deed dated May 13, 1998 and recorded May 21, 1998 in the Office of the Recorder of Deeds in Deed Book 02289, Page 229, did grant and convey unto Herbert E. Schaefer, Jr., Trustee Under Revocable Trust Agreement of Herbert E. Schaefer, Jr., dated 5/13/98 and Marjorie D. Schaefer, Trustee Under Revocable Trust Agreement of Marjorie D. Schaefer, dated 5/13/98.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year aforesaid.

Linda P. Williams
WITNESS

By: Herbert E. Schaefer, Jr. (Seal)
HERBERT E. SCHAEFER, JR.
Trustee Under Revocable Trust
Agreement dated 5/13/98

Linda P. Williams
WITNESS

By: Marjorie D. Schaefer (Seal)
MARJORIE D. SCHAEFER
Trustee Under Revocable Trust
Agreement dated 5/13/98

STATE OF DELAWARE : :
NEW-CASTLE COUNTY : :
Sussex

BE IT REMEMBERED, that on this 14th day of Sept., 2005, personally came before me the Subscriber, a Notary Public for the State and County aforesaid, Herbert E. Schaefer, Jr., Trustee and Marjorie D. Schaefer, Trustee, parties to this Indenture, known to me personally, and acknowledged this Indenture to be their act and deed.

GIVEN under my Hand and Seal of Office, the day and year aforesaid.

RECORDER OF DEEDS
JOHN F. BRADY
Linda P. Williams
Notarial Officer

05 SEP 22 PM 1:58
SUSSEX COUNTY
DOC. SURCHARGE PAID

Linda P. Williams
Notary Public, State of Delaware
My Commission Expires 7-23-06

Received

SEP 23 2005

ASSESSMENT DIVISION
OF SUSSEX CTY

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

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

RECEIVED

DATE: **1/13/2022**

JAN 19 2022

APPLICATION: **2021-19 East Gate**

SUSSEX COUNTY
PLANNING & ZONING

APPLICANT: **McKee Builders, LLC**

FILE NO: **JCS-5.06**

TAX MAP &
PARCEL(S): **533-11.00-45.05, 45.06, 45.07, 45.08**

LOCATION: **Located on the south side of Zion Church Road (Rt. 20),
approximately 0.35 mile northwest of the intersection of
Johnson Road (SCR 389) and Bayard Road (SCR 384)**

NO. OF UNITS: **88**

GROSS
ACREAGE: **36.71**

SYSTEM DESIGN ASSUMPTION, MAXIMUM NO. OF UNITS/ACRE: **4**

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 1**

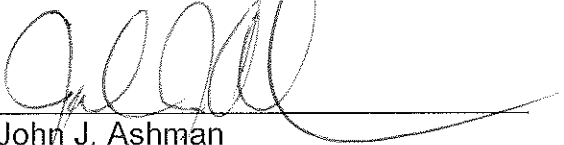
(3). Is wastewater capacity available for the project? **Yes** If not, what capacity is available? **N/A.**

(4). Is a Construction Agreement required? **Yes** 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? **Yes** If yes, the current System Connection Charge Rate is **Unified \$6,600.00** per EDU. Please contact **Noell Warren** at **302-855-7719** for additional information on charges.

- (6). Is the project capable of being annexed into a Sussex County sanitary sewer district? **N/A**
- Attached is a copy of the Policy for Extending District Boundaries in a Sussex County Water and/or Sanitary Sewer District.
- (7). Is project adjacent to the Unified Sewer District? **N/A**
- (8). Comments: **N/A**
- (9). Is a Sewer System Concept Evaluation required? **Yes, Contact Utility Planning at 302-855-7370 to apply**
- (10). Is a Use of Existing Infrastructure Agreement Required? **Yes**
- (11). **All residential roads must meet or exceed Sussex County minimum design standards.**

UTILITY PLANNING & DESIGN REVIEW APPROVAL:



John J. Ashman
Sr. Manager of Utility Planning & Design Review

Xc: Hans M. Medlarz, P.E.
Lisa Walls
Noell Warren

Sussex County, Delaware
Technical Advisory Committee

Comment Sheet



DATE OF REVIEW: June 25, 2021

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

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

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

RE: EAST GATE (2021-19)

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

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

a. **Fire Protection Water Requirements:**

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

b. **Fire Protection Features:**

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

c. **Accessibility**

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

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

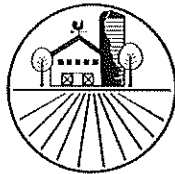
- Provide type of fuel proposed and show locations of bulk containers on plan.

e. **Required Notes:**

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

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.statefiremarshal.delaware.gov, technical services link, plan review, applications or brochures.

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



DELAWARE DEPARTMENT OF
AGRICULTURE

2320 SOUTH DUPONT HIGHWAY
DOVER, DELAWARE 19901
AGRICULTURE.DELAWARE.GOV

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

July 28, 2021

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

Subject: **Preliminary Plans for East Gate**

Dear Mr. Phillips,

Thank you for providing preliminary plans for East Gate submitted by Morris & Ritchie Associates, Inc. The plans submitted to our section dated June 9, 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 East Gate's preliminary subdivision plans dated June 9, 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
Delaware Forest Service



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL
DIVISION OF WATERSHED STEWARDSHIP
21309 BERLIN RD
UNIT #6
GEORGETOWN, DE 19947

PHONE: (302) 855-1930
FAX: (302) 670-7059

DRAINAGE PROGRAM

June 30, 2021

Lauren DeVore
Sussex County
Planning and Zoning Office
2 The Circle
Georgetown, DE 19947

RE: Parcel # 533-11.00-45.05, 45.06, 45.06, & 45.08, East Gate

The Delaware Department of Natural Resources and Environmental Control (DNREC), Drainage Program has reviewed the preliminary plans submitted by Morris & Ritchie Associates, Inc. for the above noted properties within the Batson Branch Tax Ditch watershed.

The Drainage Program has performed a preliminary review and offers the following guidance:

- The proposed project is located within the Batson Branch Tax Ditch watershed. A portion of parcels 533-11.00-45.07 & 45.08 fall within the Bear Hole Tax Ditch watershed. If the drainage area between Batson Branch and Bear Hole Tax Ditch watersheds is to change, a Court Order Change (COC) will need to be processed by the DNREC Drainage Program.
- Prong 1, Sub Prong 2 of Prong 1, Sub Prong 1 of Sub Prong 2 of Prong 1, and Sub Prong 3 of Prong 1 of the Batson Branch Tax Ditch are located within or along the project area. Tax Ditch channels have associated Tax Ditch Rights-of-Way (ROW) that are utilized for access as well as sediment and debris disposal during tax ditch maintenance activities. Tax Ditch ROWs vary by channel size and location. Prong 1 has an 80' from top of bank (TOB) ROW on Parcel 533-11.00-45.05. On the other parcels, Prong 1 has a 25' TOB ROW and a 15' from centerline (CL) ROW. Sub Prong 2 of Prong 1 has a 25' TOB on the right and 80' TOB on the left. Sub Prong 1 of Sub Prong 2 of Prong 1 also has a 25' TOB on the right and 80' TOB on the left. Sub Prong 3 of Prong 1 has an 80' TOB ROW on the right and an 80' CL ROW on the left. Tax Ditch rights-of-way information is available at de.gov/taxditchmap or DE FirstMap.

- Permanent obstructions, including but not limited to; stormwater management facilities, buildings, sheds, streets, wells, and septic systems are not allowed within the Tax Ditch ROW. To reduce the Tax Ditch ROWs, a Court Order Change (COC) will need to be completed by the DNREC Drainage Program. Please note that ROWs that have already been reduced to 25' TOB or lower cannot be reduced further.
- If the site and/or stormwater management features are planned to discharge into Prong 1, Sub Prong 2 of Prong 1, Sub Prong 1 of Sub Prong 2 of Prong 1, or Sub Prong 3 of Prong 1, consideration of existing conditions versus design specifications of each should be considered. Please consult with the DNREC Drainage Program for As-Built design information if necessary.
- Existing tax ditches on the property should be surveyed and compared to tax ditch design specifications for effective function. The channels should be cleared or excavated prior to the construction of the project if needed. If needed, please include this information in the Sediment and Stormwater plans.
- There is one reported drainage concern from 2004 within the project site, involving a request for a pipe crossing to be placed in a Tax Ditch channel.
- 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.

If you have any questions or concerns, please contact the Drainage Program at (302) 855-1930.

Sincerely,

Allison Wheatley

Allison Wheatley
Environmental Planner II

cc: Brittany L. Haywood, Tax Ditch Program Manager I

Tax Ditch Web Map



6/28/2021, 8:30:12 AM

1:4,514

-  Parcels - Sussex
-  DE_Boundaries - Communities
-  Approx. Watershed Boundary
-  Extent of Right-of-Way
-  Tax Ditch Segment
-  Tax Ditch Channel
-  State and County Boundaries

DNREC, Division of Watershed Stewardship, Drainage Program,
 DNREC, Division of Watershed Stewardship, Drainage Program
 These maps do not replace the official documents on file in the Prothonotary Office, and not to be used for engineering purposes



Division of Watershed Stewardship
Drainage Program
21309 Berlin Rd., Unit 6
Georgetown, DE 19947

Tax Ditch Land Development Project Review Request Form

Project Name: _____

Attach Site Plan of proposed request(s) and include all structures, easements, setbacks, etc. that make your proposal as requested necessary. Include and label existing tax ditch channel and rights-of-way for comparison.

Check out de.gov/taxditchmap to view tax ditch channels and rights-of-way from any web browser. To download the tax ditch GIS Feature Service layer to your own application, visit Delaware FirstMap. Don't forget to label all tax ditch features in all your plans!

Project Representative/Consultant Information:

Name(s): _____
Company: _____
Title(s): _____
Phone Number(s): _____
Email(s): _____

Owner(s) Contact Information:

Name: _____
Phone Number: _____
Email: _____

Authorized Signer(s) Contact Information (when applicable):

Name: _____
Title: _____
Phone Number: _____
Email: _____

For Internal Use Only

Date Received: _____
Tracking #: _____



Division of Watershed Stewardship
Drainage Program
21309 Berlin Rd., Unit 6
Georgetown, DE 19947

Property Information:

Tax Parcel(s) Affected: _____
Tax Ditch Organization(s) Affected: _____

Request(s) of / Proposed Impact(s) to Tax Ditch System (Check all that apply):

<input type="checkbox"/>	Outfall/Discharge into Tax Ditch Channel(s)
<input type="checkbox"/>	Pipe Crossing/Entrances in Tax Ditch Channel(s)
<input type="checkbox"/>	Relocate/Eliminate Tax Ditch Channel(s)
<input type="checkbox"/>	Reduce/Increase Tax Ditch Rights-of-Way
<input type="checkbox"/>	Change Tax Ditch Watershed Boundary
<input type="checkbox"/>	Alteration of Existing Tax Ditch Channel(s)
<input type="checkbox"/>	Utility Crossing in Tax Ditch Channel
<input type="checkbox"/>	Other Explain: _____

Based on the options selected above, additional information may be requested.

Please specify Tax Ditch Channel(s) affected, existing and requested tax ditch rights-of-way extents whenever applicable, using the space below. (REQUIRED)

Submit all forms to the DNREC Drainage Program
Via email: DNREC_drainage@delaware.gov
Subject Line: Tax Ditch- Land Development Request

For questions about this form please call the Tax Ditch Program at 302-855-1930.

For Internal Use Only

Date Received: _____
Tracking #: _____



DELAWARE HEALTH AND SOCIAL SERVICES

Division of Public Health

Office of Engineering
Phone: (302) 741-8640
Fax: (302) 741-8641

June 30, 2021

Mr. Chase Phillips
Sussex County Planning & Zoning Commission
PO Box 417
Georgetown, DE 19947

Re: Sussex County Technical Advisory Committee

Dear Mr. Phillips:

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

1. **Application:** **2021-19 East Gate**

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

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

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

Sincerely,

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

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

Nick Torrance

From: Cullen, Kathleen M <kathleen_cullen@fws.gov>
Sent: Monday, August 30, 2021 9:39 AM
To: Planning and Zoning
Subject: FWS review of East Gate

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.

Hello-

This email is regarding the East Gate cluster subdivision. There are no federally listed species at this location, so no further Section 7 consultation is needed. You can fill out the Online Certification Letter if further documentation is needed: <https://www.fws.gov/chesapeakebay/saving-wildlife/project-review/online-certification-letter.html>

Our office is currently teleworking for the foreseeable future, so there may be delays in mail pick up. For future projects, the fastest way to get a response is to submit through IPaC: <https://ecos.fws.gov/ipac/>. Please let me know if you have any questions!

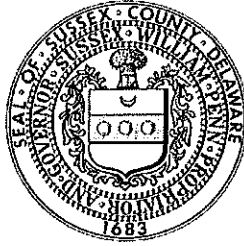
Thank you,
Kathleen

Kathleen Cullen
U.S. Fish & Wildlife Service - Chesapeake Bay Field Office
177 Admiral Cochrane Dr., Annapolis MD, 21401
410-573-4579 - kathleen_cullen@fws.gov

ENGINEERING DEPARTMENT

JOHN J. ASHMAN
SR. MANAGER OF UTILITY PLANNING
& DESIGN REVIEW

(302) 855-7370 T
(302) 854-5391 F
jashman@sussexcountype.gov



Sussex County

DELAWARE
sussexcountype.gov

Date: July 6, 2021

REF: T. A. C. COMMENTS
EAST GATE
SUSSEX COUNTY ENGINEERING DEPARTMENT
SUSSEX COUNTY TAX MAP NUMBER
533-11.00-45.05, 45.06, 45.07 & 45.08
AGREEMENT NO. 1176

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

1. 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.
4. All work shall be geo-referenced to the Delaware State Grid System NAD-83 (HARN) and provided in an AutoCAD 2012 format. North Arrow required to identify northern direction and viewport should be best fit for the project.
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' or less.

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, 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 following:
 - a. Delaware Professional Engineer or Delaware Land Surveyor.
 - b. Owner or Representative of the Owner.
 - c. Professional Wetlands Delineator.
10. 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.
11. Indicate the location of all wetlands, both state and federal, in order to facilitate compliance with County, State and Federal requirements.
12. 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.
13. 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 and shall be recorded prior to being issued a notice to proceed.
14. 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. Sussex County Mapping & Addressing will have final say on proposed street names.
15. 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.

16. Provide the limits and elevations of the 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.
17. False berms shall not be utilized to create roadside drainage swale back slopes.
18. 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.
19. Provide and show the locations and details of all ADA pedestrian connections.
20. 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.
21. 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.
22. 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.
23. Provide statements concerning any proposed deed restrictions to be imposed by the owner.
24. 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.
25. 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.
26. 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.

SEWER SPECIFIC COMMENTS

LOCATION: **1500 feet northwest of Johnson Road (SCR 389)**

NO. OF UNITS:88

GROSS ACREAGE: 36.71

(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 1

(3). Is wastewater capacity available for the project? Yes If not, what capacity is available? N/A.

(4). Is a Construction Agreement required? Yes If yes, contact Utility Engineering at (302) 855-7370 / option 2.

(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? **Yes**

If yes, the current System Connection Charge Rate is \$6,600.00 per EDU. Please contact **Noell Warren** 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: **Click or tap here to enter text.**

(9). Is a Sewer System Concept Evaluation required? **Yes, Contact Utility Planning at 302-855-7370 to apply**

(10). Is a Use of Existing Infrastructure Agreement Required? **Yes**

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.

Chase Phillips

From: Dickerson, Troy <TDickerson@delaware.coop>
Sent: Wednesday, June 23, 2021 3:49 PM
To: Chase Phillips
Subject: RE: Sussex County TAC Submission: Major Cluster Subdivision - East Gate (S.C. 2021-19)

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.

Chase,

The East Gate subdivision is located within DEC's service territory and we have facilities in the area to serve it. We have no objection.

Thanks!

Troy W. Dickerson, P.E.
Assistant V.P. of Engineering
Voice: (302) 349-3125
Cell: (302) 635-9048
Fax: (302) 349-5891
tdickerson@delaware.coop



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From: Chase Phillips <chase.phillips@sussexcountyde.gov>
Sent: Wednesday, June 23, 2021 8:19 AM
To: beth.krumrine@delaware.gov; Brad Hawkes <bhawkes@sussexcountyde.gov>; Chris Calio <ccalio@sussexcountyde.gov>; dholden@chpk.com; C. Daniel Parsons <dparsons@sussexcountyde.gov>; Fox, Duane T. (FireMarshal) <Duane.Fox@delaware.gov>; James.sullivan@delaware.gov; Jennifer.cinelli@delaware.gov; jessica.watson@sussexconservation.org; jmartin@chpk.com; John J. Ashman <jashman@sussexcountyde.gov>; Kgabbard@chpk.com; meghan.crystall@delaware.gov; michael.tholstrup@delaware.gov; Jordan T. Dickerson <jordan.dickerson@sussexcountyde.gov>; Melendez, Milton (DDA <milton.melendez@delaware.gov>); Anthony, Mindy (DNREC) <Mindy.Anthony@delaware.gov>; subdivision@delaware.gov; Susan Isaacs <sisaacs@sussexcountyde.gov>; susanne.laws@delaware.gov; Dickerson, Troy <TDickerson@delaware.coop>; Terri Dukes <tdukes@sussexcountyde.gov>; tgiroux@chpk.com; Vince Robertson <vrobertson@pgslegal.com>
Cc: Jennifer Norwood <jnorwood@sussexcountyde.gov>
Subject: Sussex County TAC Submission: Major Cluster Subdivision - East Gate (S.C. 2021-19)

Hello, All,

The Sussex County Planning and Zoning Department has received an application for a major subdivision that requires review by the Technical Advisory Committee. Attached is the memo alongside the Preliminary Subdivision Plan. Please send all comments to pandz@sussexcountyde.gov. Our office is available for any questions or concerns. Thank you.

Nick Torrance

From: Cullen, Kathleen M <kathleen_cullen@fws.gov>
Sent: Monday, August 30, 2021 9:39 AM
To: Planning and Zoning
Subject: FWS review of East Gate

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.

Hello-

This email is regarding the East Gate cluster subdivision. There are no federally listed species at this location, so no further Section 7 consultation is needed. You can fill out the Online Certification Letter if further documentation is needed: <https://www.fws.gov/chesapeakebay/saving-wildlife/project-review/online-certification-letter.html>

Our office is currently teleworking for the foreseeable future, so there may be delays in mail pick up. For future projects, the fastest way to get a response is to submit through IPaC: <https://ecos.fws.gov/ipac/>. Please let me know if you have any questions!

Thank you,
Kathleen

Kathleen Cullen
U.S. Fish & Wildlife Service - Chesapeake Bay Field Office
177 Admiral Cochrane Dr., Annapolis MD, 21401
410-573-4579 - kathleen_cullen@fws.gov

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

TO: **Jamie Whitehouse**

REVIEWER: **Chris Calio**

DATE: **6/25/2021**

APPLICATION: **2021-16 Lands of Kathy Lingo**

APPLICANT: **Kathy Lingo**

FILE NO: **NCPA-5.03**

TAX MAP &
PARCEL(S): **135-19.00-50.00**

LOCATION: **22888 East Trap Pond Road**

NO. OF UNITS: **1 single-family lot**

GROSS
ACREAGE: **3.59**

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? **Municipal Growth & annexation Area**
- (3). Is wastewater capacity available for the project? **N/A** If not, what capacity is available? **N/A**.
- (4). Is a Construction Agreement required? **No** If yes, contact Utility Engineering at (302) 855-7717.
- (5). Are there any System Connection Charge (SCC) credits for the project? **No** If yes, how many? **N/A**. Is it likely that additional SCCs will be required? **No** If yes, the current System Connection Charge Rate is **Unified \$6,360.00** 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 of land is within the Growth and Annexation of the Town of Georgetown. Contact the Town concerning the availability of sewer and/or water.**
- (9). Is a Sewer System Concept Evaluation required? **No**
- (10). Is a Use of Existing Infrastructure Agreement Required? **No**
- (11). **All residential roads must meet or exceed Sussex County minimum design standards.**

UTILITY PLANNING & DESIGN REVIEW APPROVAL:



John J. Ashman
Sr. Manager of Utility Planning & Design Review

Xc: Hans M. Medlarz, P.E.
Lisa Walls
No Permit Tech Assigned

Sussex County, Delaware
Technical Advisory Committee

Comment Sheet



DATE OF REVIEW: June 25, 2021

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

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

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

RE: EAST GATE (2021-19)

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

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

a. **Fire Protection Water Requirements:**

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

b. **Fire Protection Features:**

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

Lauren DeVore

From: Anthony, Mindy (DNREC) <Mindy.Anthony@delaware.gov>
Sent: Wednesday, June 23, 2021 9:40 AM
To: Planning and Zoning
Subject: FW: Sussex County TAC Submission: Major Cluster Subdivision - East Gate (S.C. 2021-19)
Attachments: TAC Memo East Gate (2021-19) .pdf; 2021-06-11 - EAST GATE - PRELIM.pdf

Categories: Lauren

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Good morning,

DNREC's Division of Waste and Hazardous Substances has no comments on this project.

Thank you,
Mindy



Mindy Anthony

Planner IV

Phone: 302-739-9466 • Mobile: 302-242-9780

Email: mindy.anthony@delaware.gov

89 Kings Highway, Dover, DE 19901

dnrec.delaware.gov



From: Chase Phillips <chase.phillips@sussexcountyde.gov>
Sent: Wednesday, June 23, 2021 8:19 AM
To: Krumrine, Beth (DNREC) <Beth.Krumrine@delaware.gov>; Brad Hawkes <bhawkes@sussexcountyde.gov>; Chris Calio <ccalio@sussexcountyde.gov>; dholden@chpk.com; C. Daniel Parsons <dparsons@sussexcountyde.gov>; Fox, Duane T. (FireMarshal) <Duane.Fox@delaware.gov>; Sullivan, James C. (DNREC) <James.Sullivan@delaware.gov>; Cinelli, Jennifer (DeIDOT) <jennifer.cinelli@delaware.gov>; jessica.watson@sussexconservation.org; jmartin@chpk.com; John J. Ashman <jashman@sussexcountyde.gov>; Kgabbard@chpk.com; Crystall, Meghan (DNREC) <Meghan.Crystall@delaware.gov>; Tholstrup, Michael S. (DNREC) <Michael.Tholstrup@delaware.gov>; Jordan T. Dickerson <jordan.dickerson@sussexcountyde.gov>; Melendez, Milton (DDA) <milton.melendez@delaware.gov>; Anthony, Mindy (DNREC) <Mindy.Anthony@delaware.gov>; Subdivision (MailBox Resources) <Subdivision@delaware.gov>; Susan Isaacs <sisaacs@sussexcountyde.gov>; Laws, Susanne K (DeIDOT) <Susanne.Laws@delaware.gov>; tdickerson@decoop.com; Terri Dukes <tdukes@sussexcountyde.gov>; tgiroux@chpk.com; Vince Robertson <vrobertson@pgslegal.com>
Cc: Jennifer Norwood <jnorwood@sussexcountyde.gov>
Subject: Sussex County TAC Submission: Major Cluster Subdivision - East Gate (S.C. 2021-19)

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Chase,

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Thanks!

Troy W. Dickerson, P.E.
Assistant V.P. of Engineering
Voice: (302) 349-3125
Cell: (302) 535-9048
Fax: (302) 349-5891
tdickerson@delaware.coop



DELAWARE ELECTRIC CO-OP
"We Keep the Lights On"

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Subject: Sussex County TAC Submission: Major Cluster Subdivision - East Gate (S.C. 2021-19)

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EAST GATE

SUSSEX COUNTY, DELAWARE

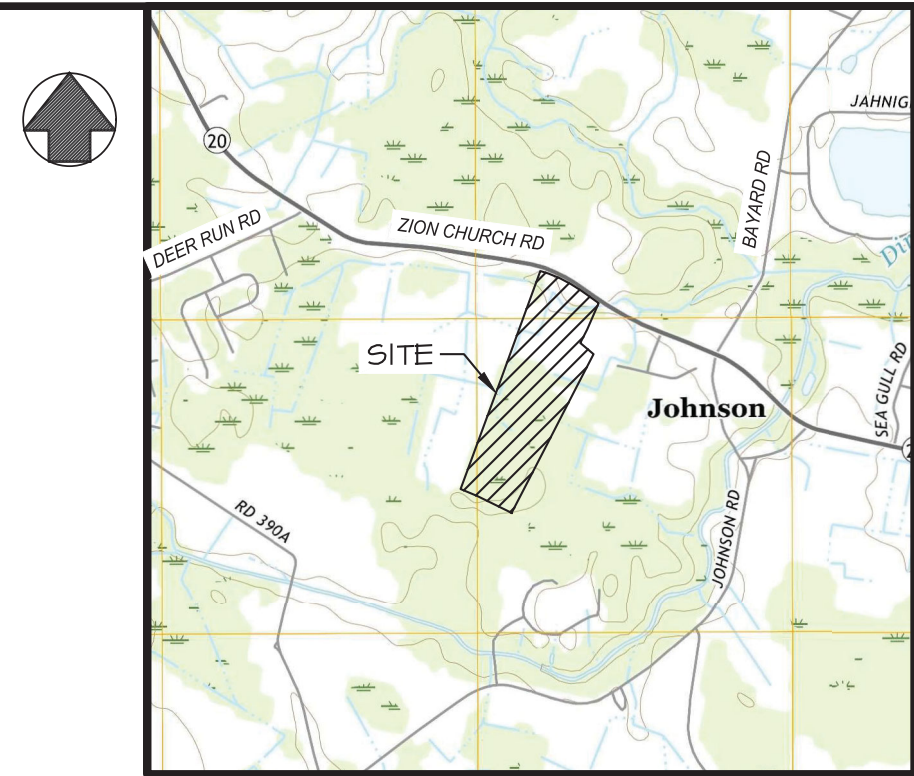
PRELIMINARY PLANS

SUSSEX COUNTY PLANNING # 2021-19

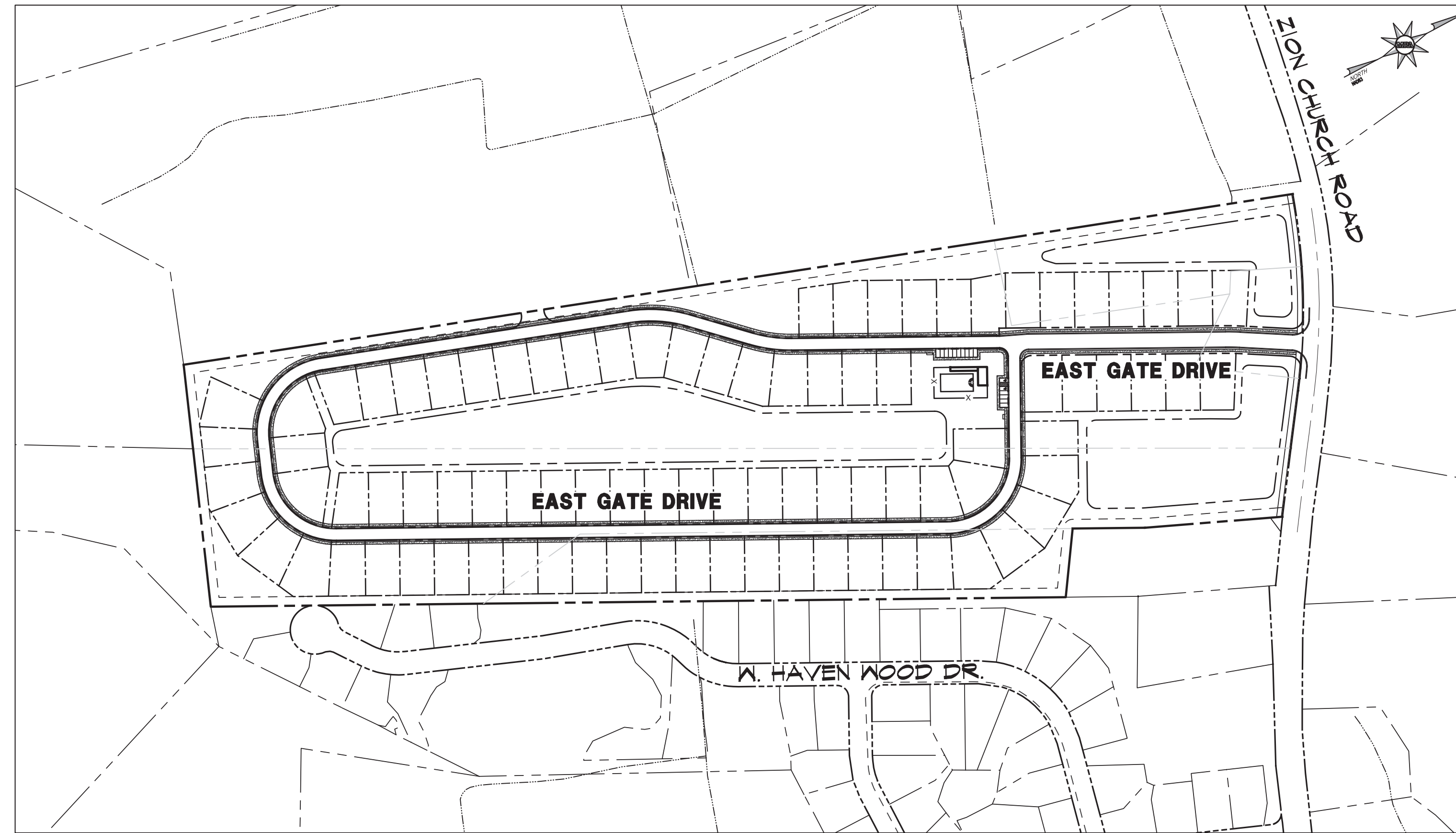
GR - COASTAL AREA CLUSTER

LEGEND

	EXISTING PROPERTY LINE
	PROPOSED R/L LINE
	PROPOSED LOT LINE
	PROPOSED BUILDING SETBACK LINE
	EXISTING CONTOURS
	PROPOSED CONTOURS
	PROPOSED LOT NUMBER
	EXISTING WOODLANDS LINE
	WOODLAND PRESERVATION LINE



VICINITY MAP
SCALE: 1" = 2000'



SITE OVERVIEW
SCALE: 1" = 200'



PROJECT TEAM

DEVELOPER:	McKEE BUILDERS, LLC 940 WEST SPROUL ROAD, SUITE 301 SPRINGFIELD, PA 19064 ATTN: MR. MARK MCGONIGAL
LAND PLANNERS, CIVIL ENGINEER:	MORRIS & RITCHIE ASSOCIATES, INC. 18 BOULDEN CIRCLE, SUITE 36 NEW CASTLE, DE 19720 ATTN: MR. PHILLIP L. TOLLIVER, P.E.
SURVEYOR:	MORRIS & RITCHIE ASSOCIATES, INC. 8 WEST MARKET STREET GEORGETOWN, DE 19341 ATTN: MR. GARY POWERS
ENVIRONMENTAL CONSULTANT:	GEO-TECHNOLOGY ASSOCIATES, INC. 3445 BOX HILL CORPORATE CENTER DRIVE, SUITE A ASBINGDON, MD 21009 ATTN: MR. ANDY STANSFIELD
GEOTECHNICAL ENGINEER:	GEO-TECHNOLOGY ASSOCIATES, INC. 2133 STERLING AVENUE, SUITE 7 GEORGETOWN, DE 19341 ATTN: MR. GREG SAUTER
TRAFFIC CONSULTANT:	THE TRAFFIC GROUP 4900 FRANKLIN SQUARE DR. - SUITE H BALTIMORE, MD 21236 ATTN: MR. JOE CALOGGERO, P.E.
ATTORNEY:	FUQUA, WILLARD, STEVENS & SCHAB, P.A. 20245 BAY VISTA ROAD #203 REHOBOTH BEACH, DE 19371 MR. JAMES A. FUQUA, JR.

INDEX OF DRAWINGS

- 1 - PRELIMINARY TITLE SHEET
- 2 - PRELIMINARY GENERAL NOTES & DETAILS
- 3 - OVERALL PRELIMINARY PLAN
- 4 - PRELIMINARY PLAN
- 5 - PRELIMINARY PLAN
- 6 - PRELIMINARY PLAN

DEVELOPER'S CERTIFICATION

I, UNDERSIGNED, AS DEVELOPER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

McKEE BUILDERS, LLC
940 WEST SPROUL ROAD, SUITE 301
SPRINGFIELD, PA 19064

OWNER'S CERTIFICATION

I, UNDERSIGNED, AS OWNER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

ROXANA PREFERRED PROPERTIES, LLC DATE
1601 MILLTOWN ROAD, SUITE 17
WILMINGTON, DE 19808

PMP ASSOCIATES, LLC DATE
1601 MILLTOWN ROAD, SUITE 19
WILMINGTON, DE 19808

WETLANDS STATEMENT

GEO-TECHNOLOGY ASSOCIATES, INC. (GTA) HAS CONDUCTED A FIELD REVIEW WITHIN THE BOUNDARIES OF THIS PLAN TO EVALUATE THE PRESENCE OR ABSENCE OF POTENTIAL STATE AND FEDERAL JURISDICTIONAL WETLANDS FOR THE PURPOSES OF DELAWARE WETLAND AND SUBAQUEOUS LAND REGULATIONS AND SECTION 404 OF THE CLEAN WATER ACT. GTA'S REVIEW WAS CONDUCTED IN GENERAL ACCORDANCE WITH THE TECHNIQUES AND CRITERIA PROVIDED IN THE 1991 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, ATLANTIC AND GULF COASTAL PLAN REGION (VERSION 2.0), DATED NOVEMBER 2010. THE LIMITS OF THE WETLANDS WERE EVALUATED IN THE FIELD BY GTA PERSONNEL USING BEST PROFESSIONAL JUDGMENT. NO WETLANDS OR WATERWAYS WERE OBSERVED WITHIN THE BOUNDARIES OF THIS PLAN. NO STATE OR FEDERAL JURISDICTIONAL APPROVAL WAS OBTAINED FOR THIS PROPERTY.

ANDY STANSFIELD DATE
GEO-TECHNOLOGY ASSOCIATES, INC.

ENGINEER'S CERTIFICATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE AND THAT THE PLAN SHOWN AND DESCRIBED HEREON, IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED STANDARDS AND PRACTICES AND BY THE SUSSEX COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO THE EXTENT THAT IT DESCRIBES THE PROPOSED MANNER AND LAYOUT OF THE SUBDIVISION.

PHILLIP L. TOLLIVER, P.E. DATE
DE LICENSE NO. #12489

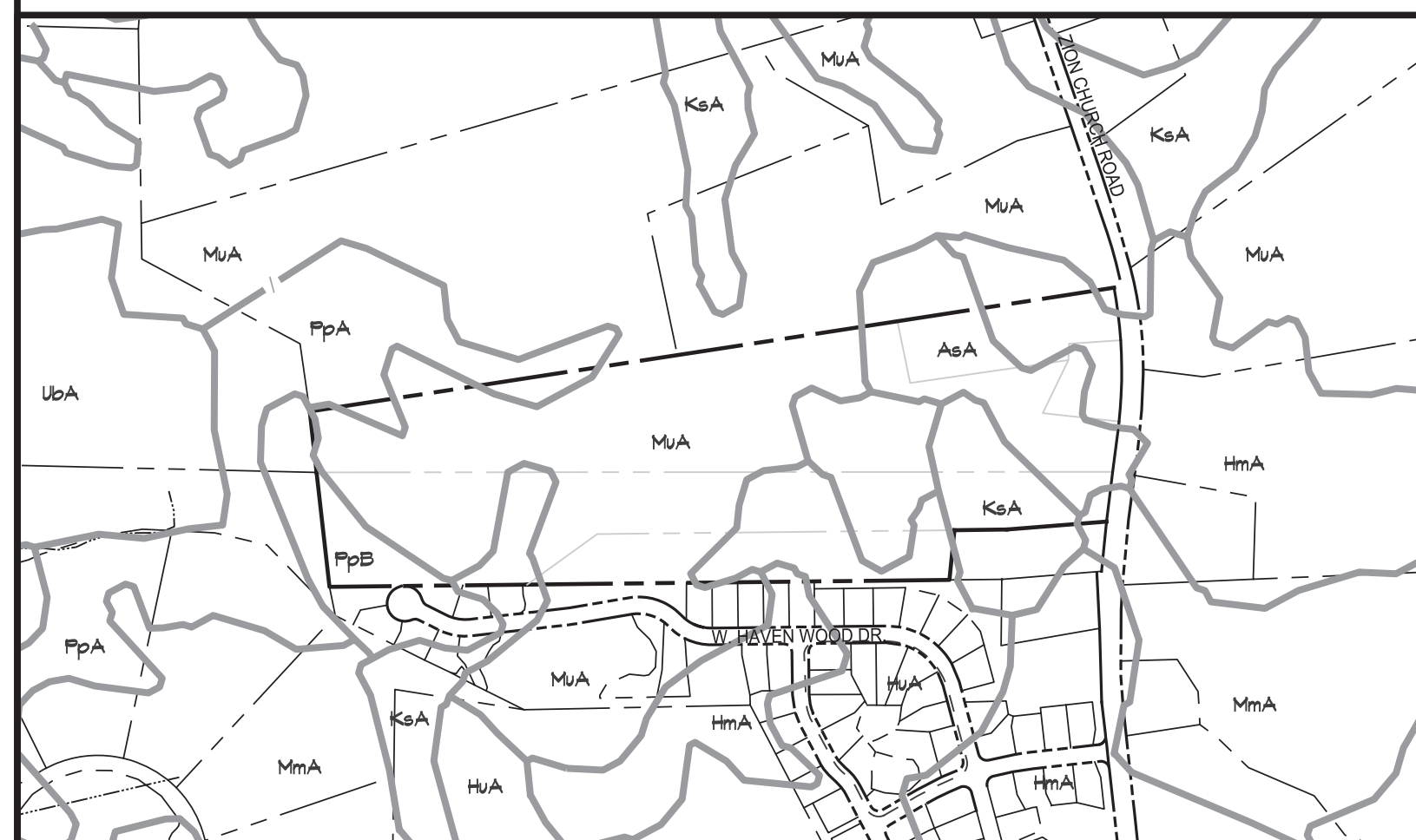
PLAN APPROVALS

SUSSEX COUNTY ENGINEERING DEPARTMENT
2 THE CIRCLE
GEORGETOWN, DE 19341

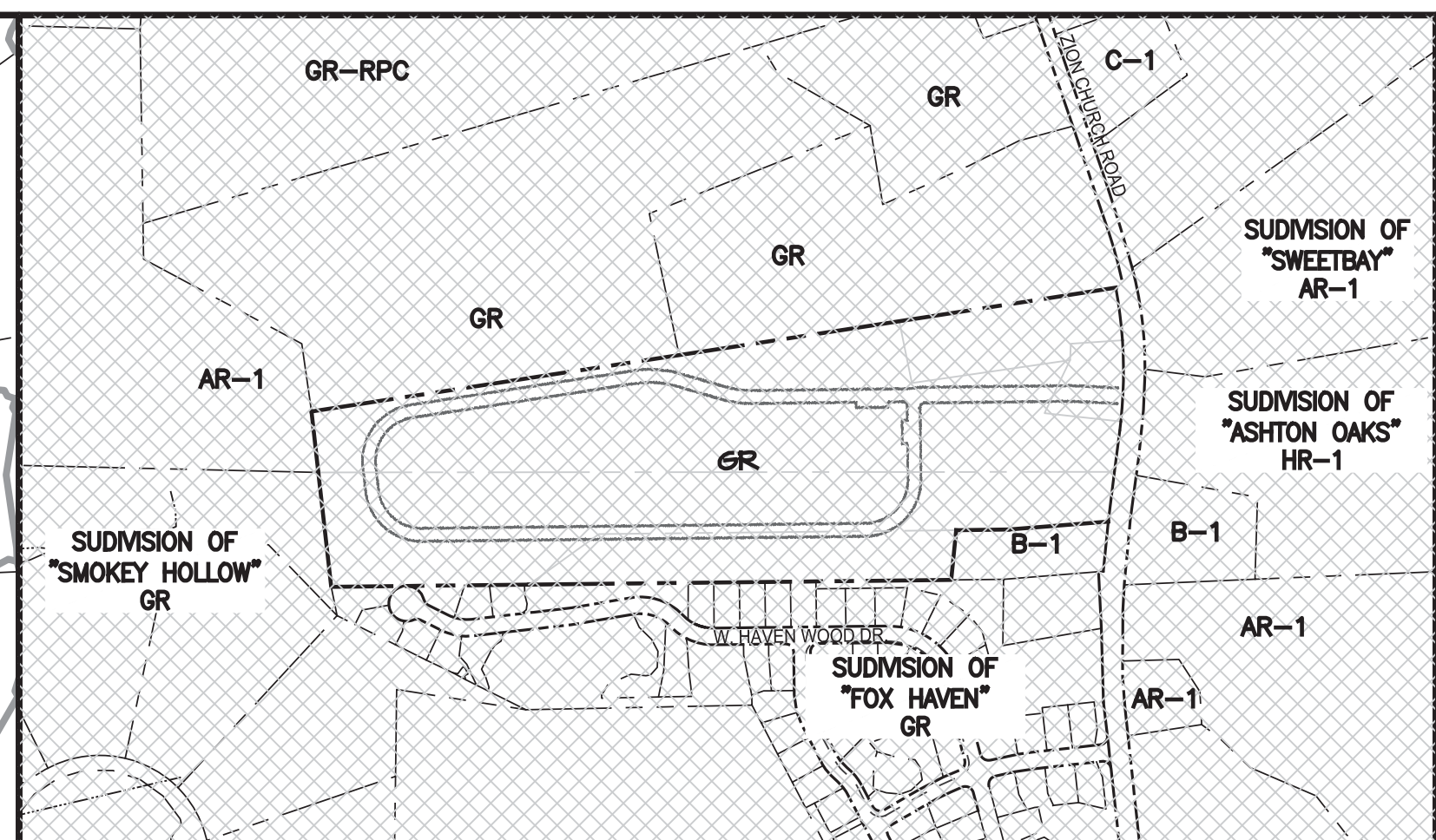
APPROVED DATE

APPROVED BY: CHAIRMAN OR SECRETARY DATE
SUSSEX COUNTY PLANNING AND ZONING COMMISSION

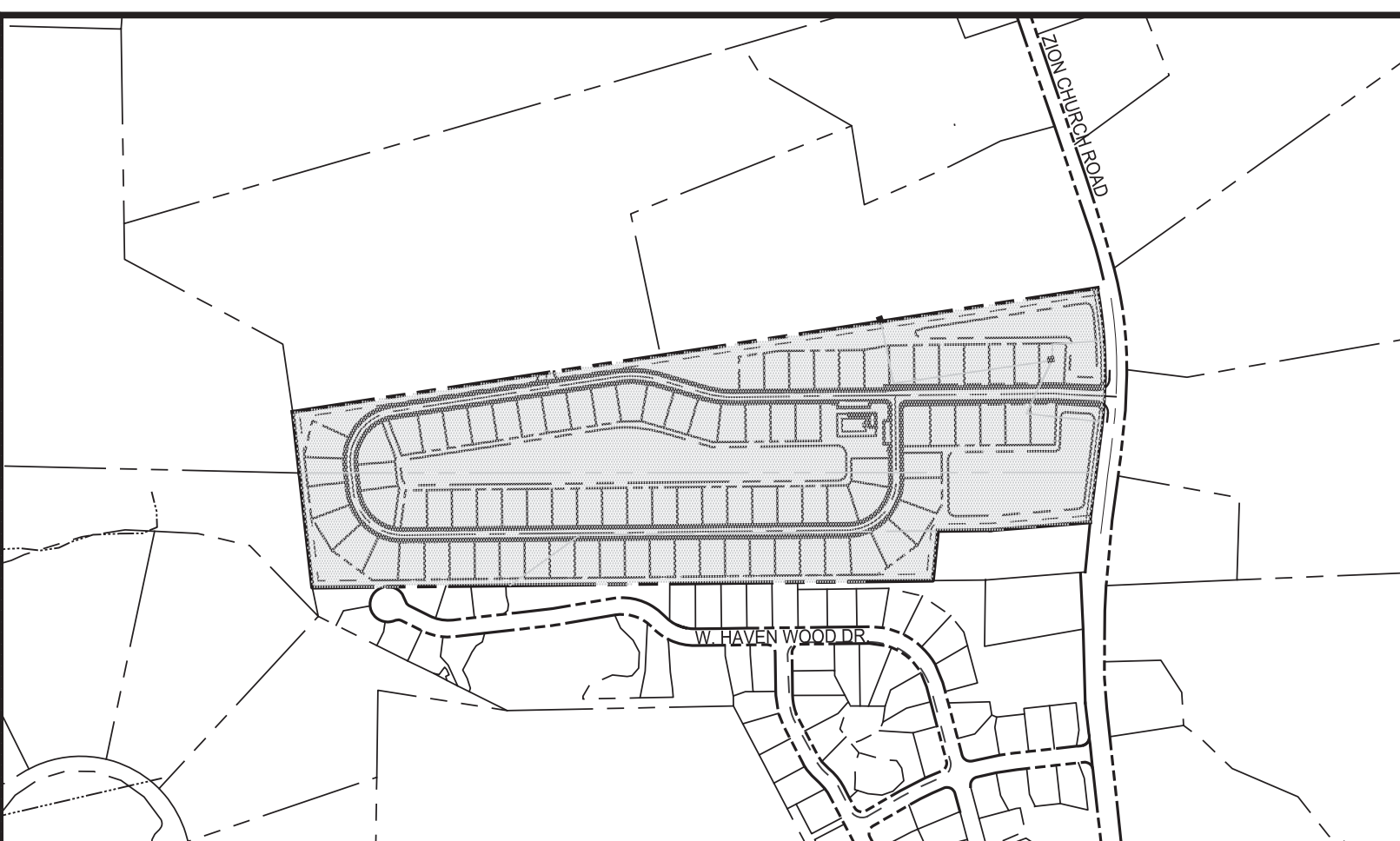
APPROVED BY: PRESIDENT DATE
SUSSEX COUNTY PLANNING



SOILS MAP
SCALE: 1" = 500'



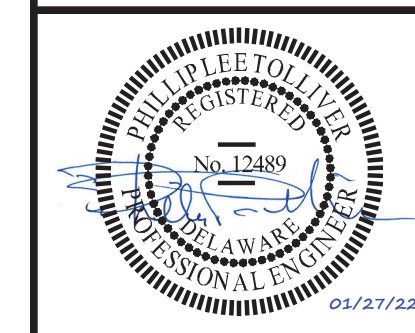
ZONING MAP
SCALE: 1" = 500'



PHASING MAP
SCALE: 1" = 500'



MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
18 BOULDEN CIRCLE, SUITE 36
NEW CASTLE, DELAWARE 19720
(302) 326-2200
FAX: (302) 326-2399
WWW.MRAGTA.COM
© 2022 MORRIS & RITCHIE ASSOCIATES, INC.



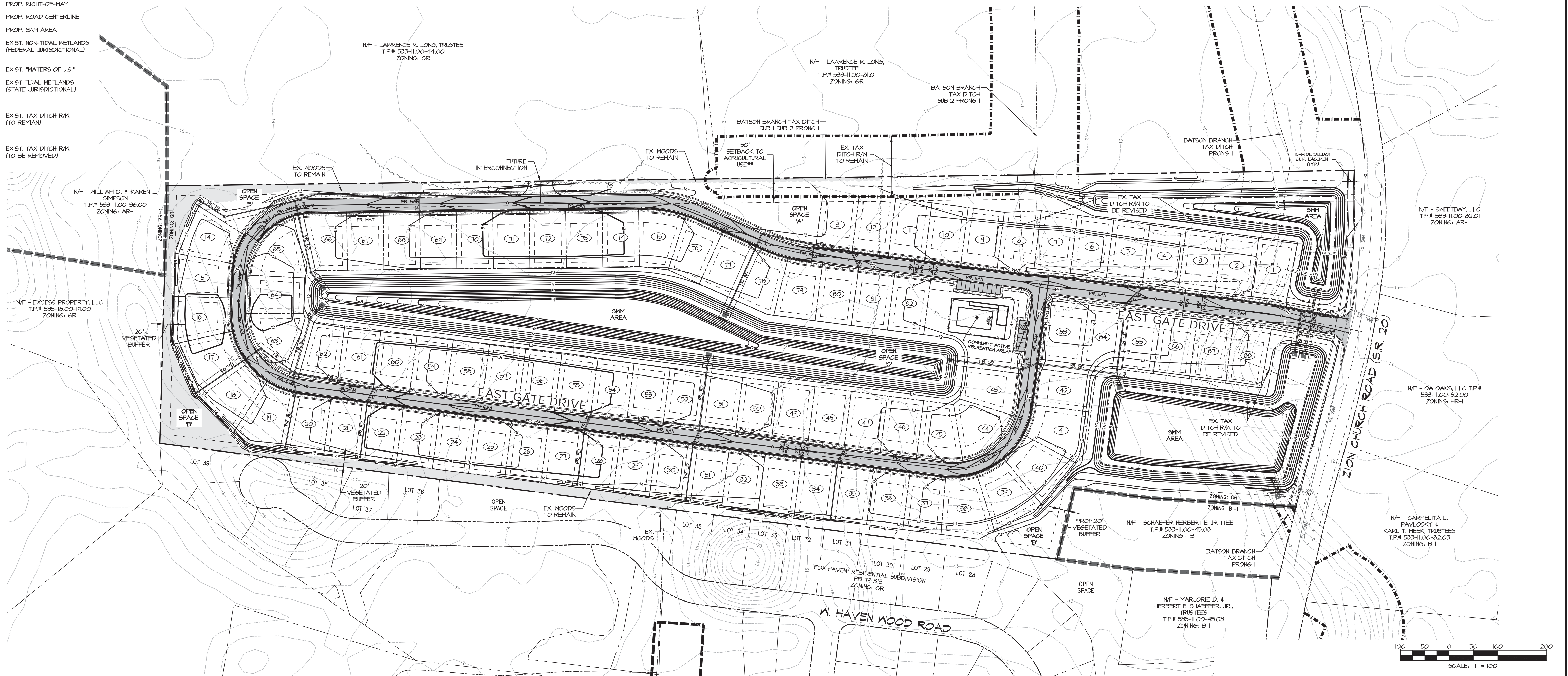
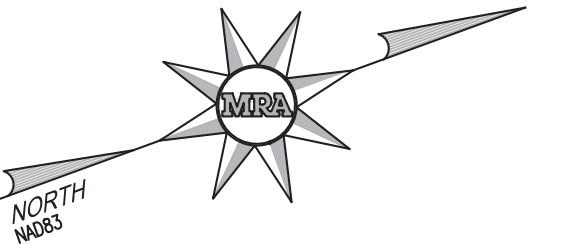
**PRELIMINARY PLAN
TITLE SHEET**
FOR
EAST GATE

DATE	REVISIONS	JOB NO.: 21179
01/10/22	REV. PER TAC / P&Z COMMENTS	SCALE: AS NOTED
		DATE: 06/09/21
		DRAWN BY: CJF
		DESIGN BY: CJF
		REVIEW BY: PLT
		SHEET: 1 OF 6

LEGEND

- EXIST. PARCEL BOUNDARY
- EXIST. RIGHT-OF-WAY
- EXIST. LOT LINE
- ZONING: AR-1
- EXIST. ZONING
- EXIST. WOODS
- PROP. WOODS TO REMAIN
- PROP. CURB
- PROP. SIDEWALK
- PROP. LOT LINE
- PROP. RIGHT-OF-WAY
- PROP. ROAD CENTERLINE
- PROP. SKM AREA
- EXIST. NON-TIDAL WETLANDS (FEDERAL JURISDICTIONAL)
- EXIST. "WATERS OF U.S."
- EXIST. TIDAL WETLANDS (STATE JURISDICTIONAL)
- EXIST. TAX DITCH R/W (TO REMAIN)
- EXIST. TAX DITCH R/W (TO BE REMOVED)

- NOTE: THE EXACT SIZE AND CONFIGURATION OF COMMUNITY ACTIVE RECREATION AREA, INCLUDING THE POOL HOUSE, POOL, AND DECKING, SHALL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.
- NOTE: LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-81.01) ARE UTILIZED FOR AGRICULTURAL PURPOSES; SEE SHEET 2, GENERAL NOTE 6.

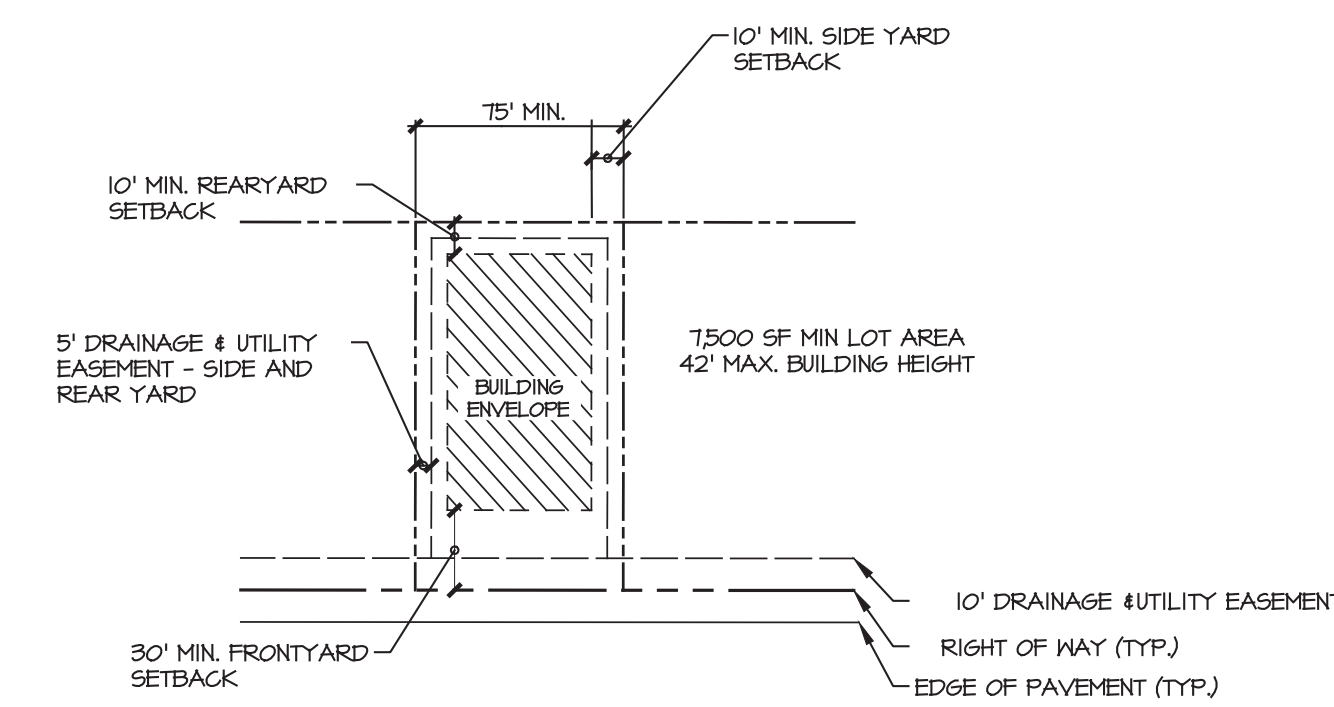


FOX HAVEN OWNER INFORMATION

LOT	PARCEL	OWNER	BOOK / PAGE	ZONING
OS-1	533-11.00-45.01	FOX HAVEN HOMEOWNERS ASSOCIATION, INC.	5140 / 203	GR
31	533-11.00-496.00	DAVID SPALLONE & JOANN SPALLONE	5366 / 94	GR
32	533-11.00-497.00	LINDA M. SANDLOF	4791 / 57	GR
33	533-11.00-498.00	CHRISTIAN E. WEIR & DARLENE H. WEIR	4703 / 144	GR
34	533-11.00-499.00	PATICA A. ASHBURN & ALLEN J. ASHBURN	4719 / 315	GR
35	533-11.00-500.00	KEVIN J. GRIMM & BARBARA J. GRIMM	4718 / 35	GR
36	533-11.00-501.00	WENDY J. SCOTT	4879 / 308	GR
37	533-11.00-502.00	GEORGE H. SCHULTZ & ELIZABETH ANN SCHULTZ, IRR TRUST	5158 / 112	GR
38	533-11.00-503.00	THERESA MOSIER & TODD KURTZ	4922 / 297	GR
39	533-11.00-504.00	KEVIN J. CLARK	5119 / 99	GR

AREA	SKM FACILITY	ACTIVE OPEN SPACE	PASSIVE OPEN SPACE*
A	1.02 AC. ±	-	3.54 AC. ±
B	1.96 AC. ±	-	5.32 AC. ±
C	3.68 AC. ±	0.72 AC. ±	3.48 AC. ±
TOTAL	6.66 AC. ±	0.72 AC. ±	12.84 AC. ±

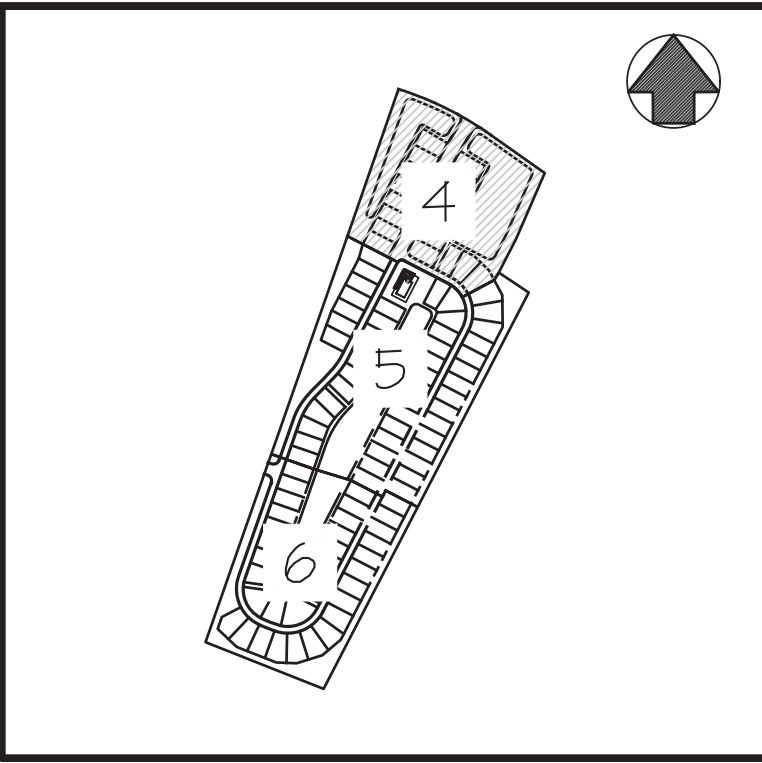
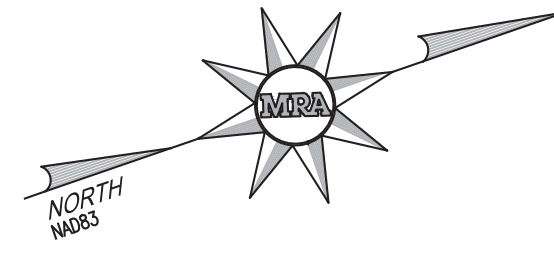
* NOTE: PASSIVE OPEN SPACE AREA IS INCLUSIVE OF SKM FACILITIES LOCATED THEREIN.



TYPICAL LAYOUT SINGLE FAMILY LOT (VARIABLE WIDTHS)

NOT TO SCALE!

		MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 18 BOULDEN CIRCLE, SUITE 36 NEW CASTLE, DELAWARE 19720 (302) 326-2200 FAX: (302) 326-2399 WWW.MRAGTA.COM ©2021 MORRIS & RITCHIE ASSOCIATES, INC.	
		PRELIMINARY PLAN OVERALL PLAN FOR EAST GATE	
		ENGINEER'S SEAL BALTIMORE HUNDRED SUSSEX COUNTY, DELAWARE	
DATE	REVISIONS	JOB NO.: 21179	
01/10/22	REV. PER TAC / P&Z COMMENTS	SCALE: 1" = 100'	
		DATE: 06/09/21	
		DRAWN BY: CJF	
		DESIGN BY: CJF	
		REVIEW BY: PLT	
		SHEET: 3 OF 6	



KEY MAP
SCALE: 1"=800'

LEGEND

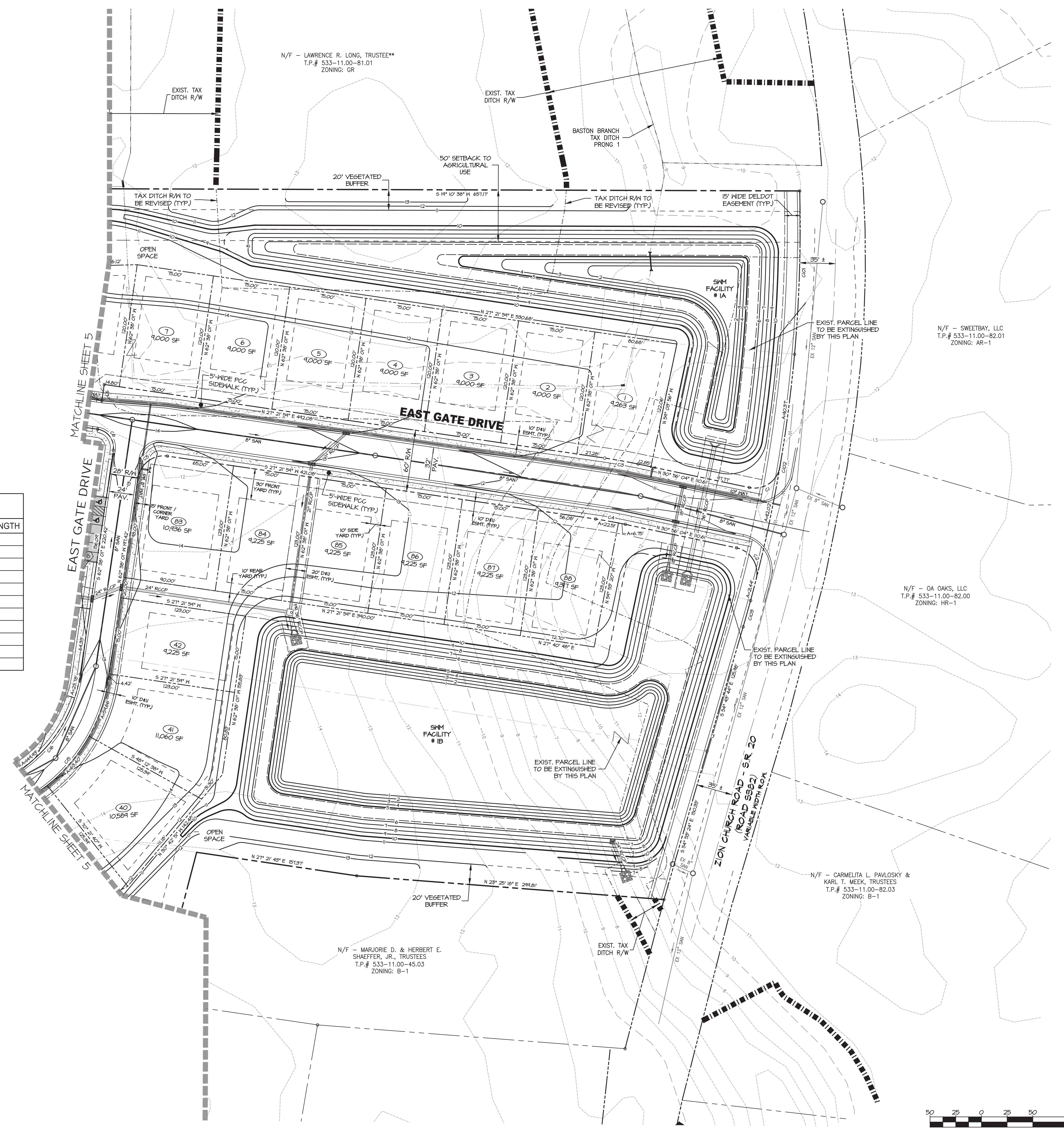
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- EXIST. RIGHT-OF-WAY
- EXIST. LOT LINE
- ZONING: AR-1
- EXIST. WOODS
- PROP. WOODS TO REMAIN
- PROP. CURB
- PROP. SIDEWALK
- PROP. LOT LINE
- PROP. RIGHT-OF-WAY
- PROP. ROAD CENTERLINE
- PROP. SHM AREA
- EXIST. NON-TIDAL WETLANDS (FEDERAL JURISDICTIONAL)
- EXIST. TIDAL WETLANDS (STATE JURISDICTIONAL)
- EXIST. "WATERS OF U.S." (FEDERAL JURISDICTIONAL)
- EXIST. TAX DITCH R/W (TO REMAIN)
- EXIST. TAX DITCH R/W (TO BE REMOVED)
- EXIST. CONTOUR
- PROP. CONTOUR
- SPOT ELEVATION
- EXIST. STORM DRAIN
- PROP. STORM DRAIN
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. WATER LINE
- PROP. WATER LINE

LOT LINE TABLE

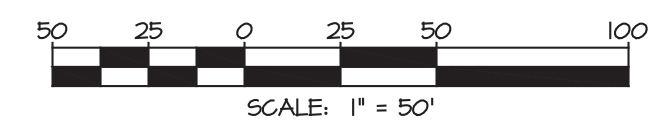
LINE #	LENGTH	DIRECTION
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RIGHT OF WAY CURVE TABLE

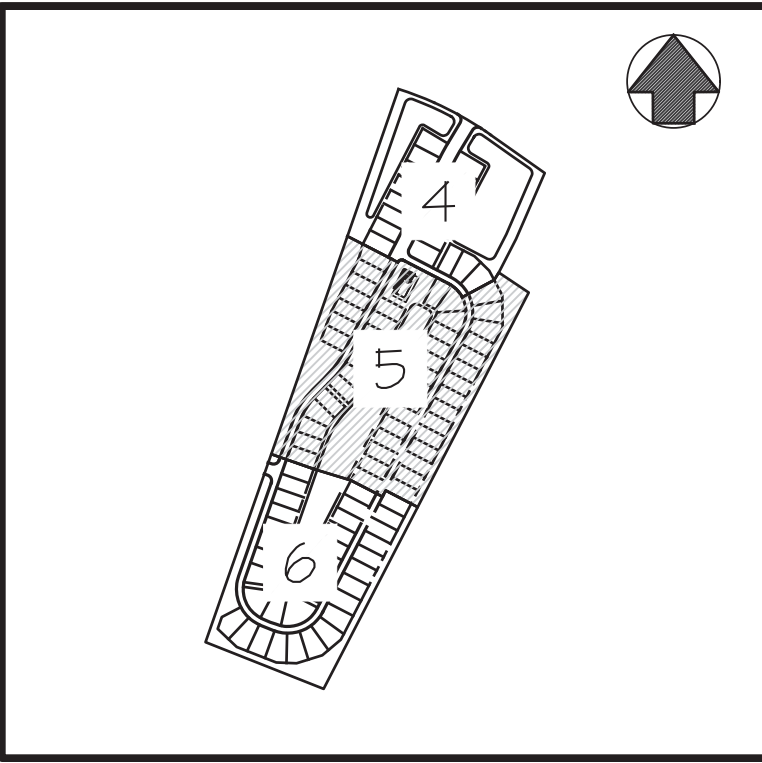
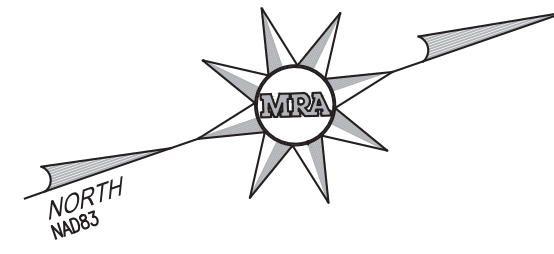
CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	40.21'	25.00'	42.28°	N 15° 12' 21" W	36.05'
C2	40.21'	25.00'	42.28°	N 71° 04' 34" E	36.05'
C3	33.00'	530.00'	3.51°	N 24° 04' 01" E	33.00'
C4	24.21'	470.00'	3.51°	S 24° 04' 01" W	24.21'
C5	34.21'	25.00'	40.00°	S 11° 38' 01" E	35.36'
C6	28.21'	18.00'	40.00°	S 12° 21' 54" W	25.46'
C15	251.60'	164.00'	40.00°	S 11° 38' 04" E	231.42'
C16	213.62'	136.00'	40.00°	S 11° 38' 04" E	142.33'
C101	154.13'	1341.30'	6.52°	S 64° 11' 25" E	154.04'
C102	243.83'	1405.36'	4.44°	S 60° 52' 42" E	243.52'
C103	26.56'	1341.31'	1.04°	S 55° 13' 21" E	26.56'



**NOTE: LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-81.01) ARE UTILIZED FOR AGRICULTURAL PURPOSES; SEE SHEET 2, GENERAL NOTE 6.



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	GR - COASTAL AREA CLUSTER PRELIMINARY PLAN FOR EAST GATE																						
	ENGINEER'S SEAL BALTIMORE HUNDRED SUSSEX COUNTY, DELAWARE	JOB NO.: 21179 SCALE: 1"= 50' DATE: 06/09/21 DRAWN BY: CJF DESIGN BY: CJF REVIEW BY: PLT SHEET: 4 OF 6																					
<table border="1"> <thead> <tr> <th>DATE</th> <th>REVISIONS</th> <th>JOB NO.: 21179</th> </tr> </thead> <tbody> <tr> <td>01/10/22</td> <td>REV. PER TAC / P&Z COMMENTS</td> <td>SCALE: 1"= 50'</td> </tr> <tr> <td></td> <td></td> <td>DATE: 06/09/21</td> </tr> <tr> <td></td> <td></td> <td>DRAWN BY: CJF</td> </tr> <tr> <td></td> <td></td> <td>DESIGN BY: CJF</td> </tr> <tr> <td></td> <td></td> <td>REVIEW BY: PLT</td> </tr> <tr> <td></td> <td></td> <td>SHEET: 4 OF 6</td> </tr> </tbody> </table>	DATE	REVISIONS	JOB NO.: 21179	01/10/22	REV. PER TAC / P&Z COMMENTS	SCALE: 1"= 50'			DATE: 06/09/21			DRAWN BY: CJF			DESIGN BY: CJF			REVIEW BY: PLT			SHEET: 4 OF 6		
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KEY MAP
SCALE: 1"=800'

NOTE: THE EXACT SIZE AND CONFIGURATION OF COMMUNITY ACTIVE RECREATION AREA, INCLUDING THE POOL, HOUSE, POOL, AND DECKING, SHALL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.

****NOTE:** LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-91.01) ARE UTILIZED FOR AGRICULTURAL PURPOSES; SEE SHEET 2, GENERAL NOTE 6.

LEGEND

- EXIST. PARCEL BOUNDARY
- EXIST. RIGHT-OF-WAY
- EXIST. LOT LINE
- ZONING: AR-1 EXIST. ZONING
- EXIST. WOODS
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- PROP. STORM DRAIN
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. WATER LINE
- PROP. WATER LINE

FOX HAVEN OWNER INFORMATION

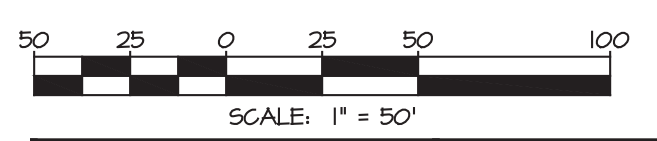
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05-1	533-11.00-45.01	FOX HAVEN HOMEOWNERS ASSOCIATION, INC.	5140 / 203	GR
31	533-11.00-496.00	DAVID SPALLONE & JOANN SPALLONE	5366 / 94	GR
32	533-11.00-497.00	LINDA M. SANDLOF	4791 / 57	GR
33	533-11.00-498.00	CHRISTIAN E. WEIR & DARLENE H. WEIR	4703 / 144	GR
34	533-11.00-499.00	PATRICIA A. ASHBURN & ALLEN J. ASHBURN	4719 / 315	GR
35	533-11.00-500.00	KEVIN J. GRIMM & BARBARA J. GRIMM	4718 / 35	GR

LOT LINE TABLE

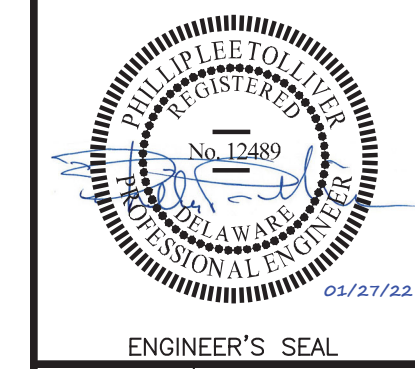
LINE #	LENGTH	DIRECTION
L5	17.21	S 22° 21' 10" E
L6	16.00	N 62° 38' 01" W

RIGHT OF WAY CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C5	34.21'	25.00'	90.00°	S 17° 38' 01" E	35.36'
C6	28.21'	18.00'	90.00°	S 72° 21' 54" W	25.46'
C7	84.22'	286.00'	16.81°	N 35° 48' 04" E	83.42'
C8	42.46'	314.00'	16.81°	N 35° 48' 04" E	42.13'
C4	136.82'	314.00'	24.41°	N 31° 45' 20" E	135.74'
C10	124.62'	286.00'	24.41°	N 31° 45' 20" E	123.64'
C15	257.60'	164.00'	90.00°	S 17° 38' 04" E	231.42'
C16	213.62'	136.00'	90.00°	S 17° 38' 04" E	142.33'

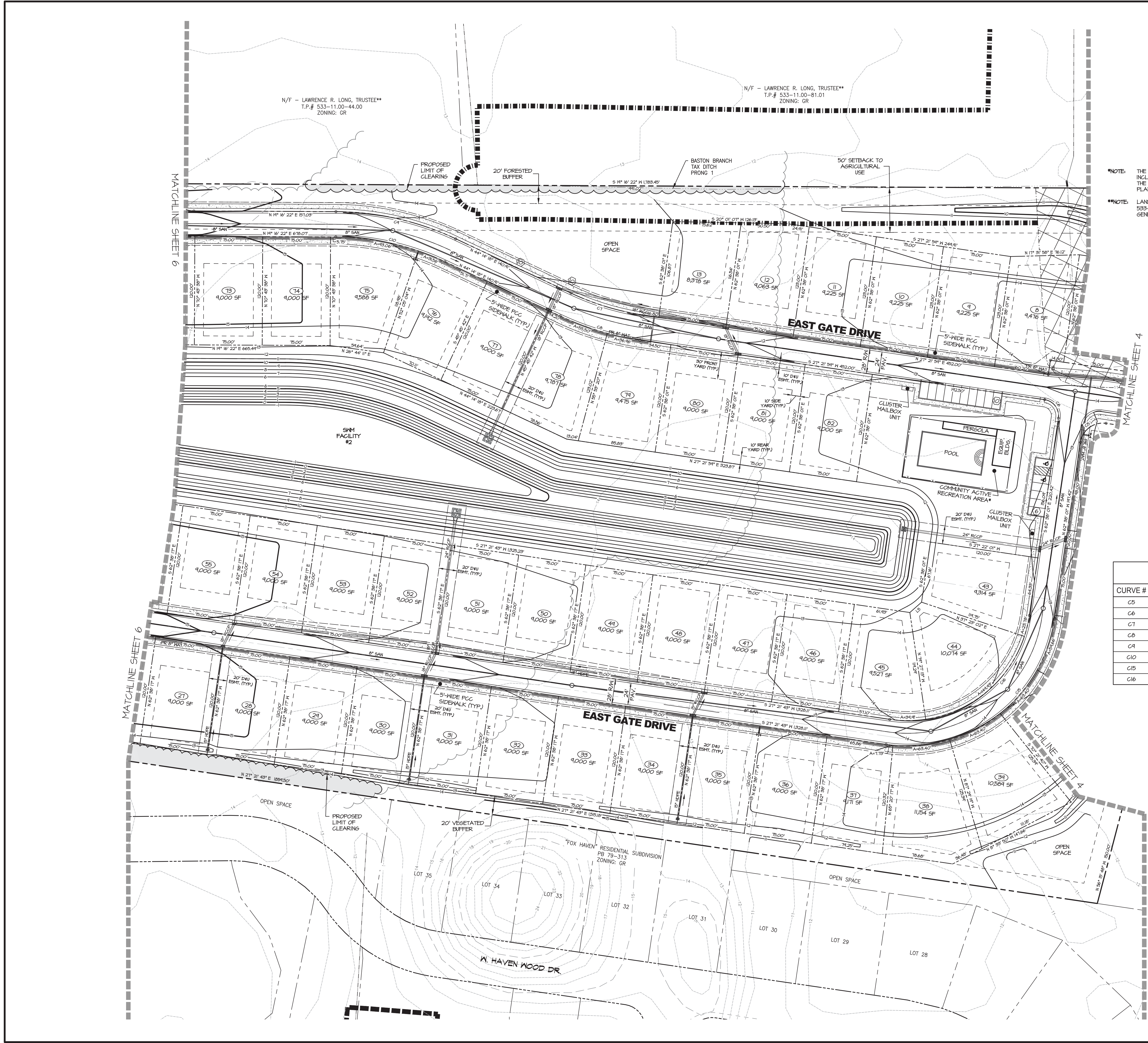


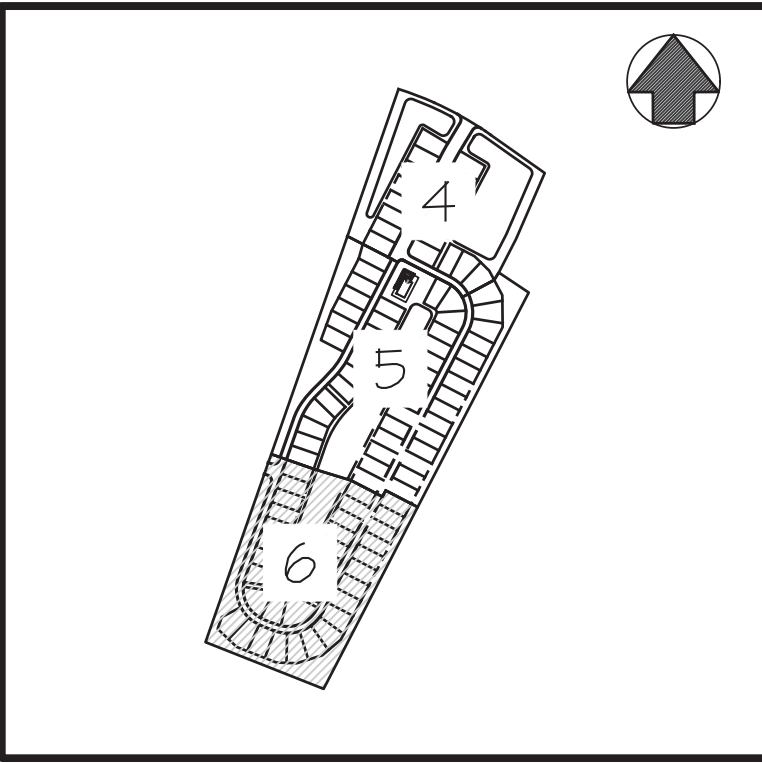
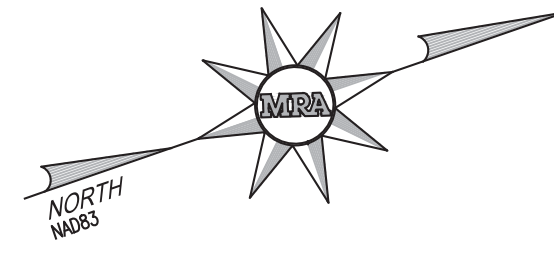
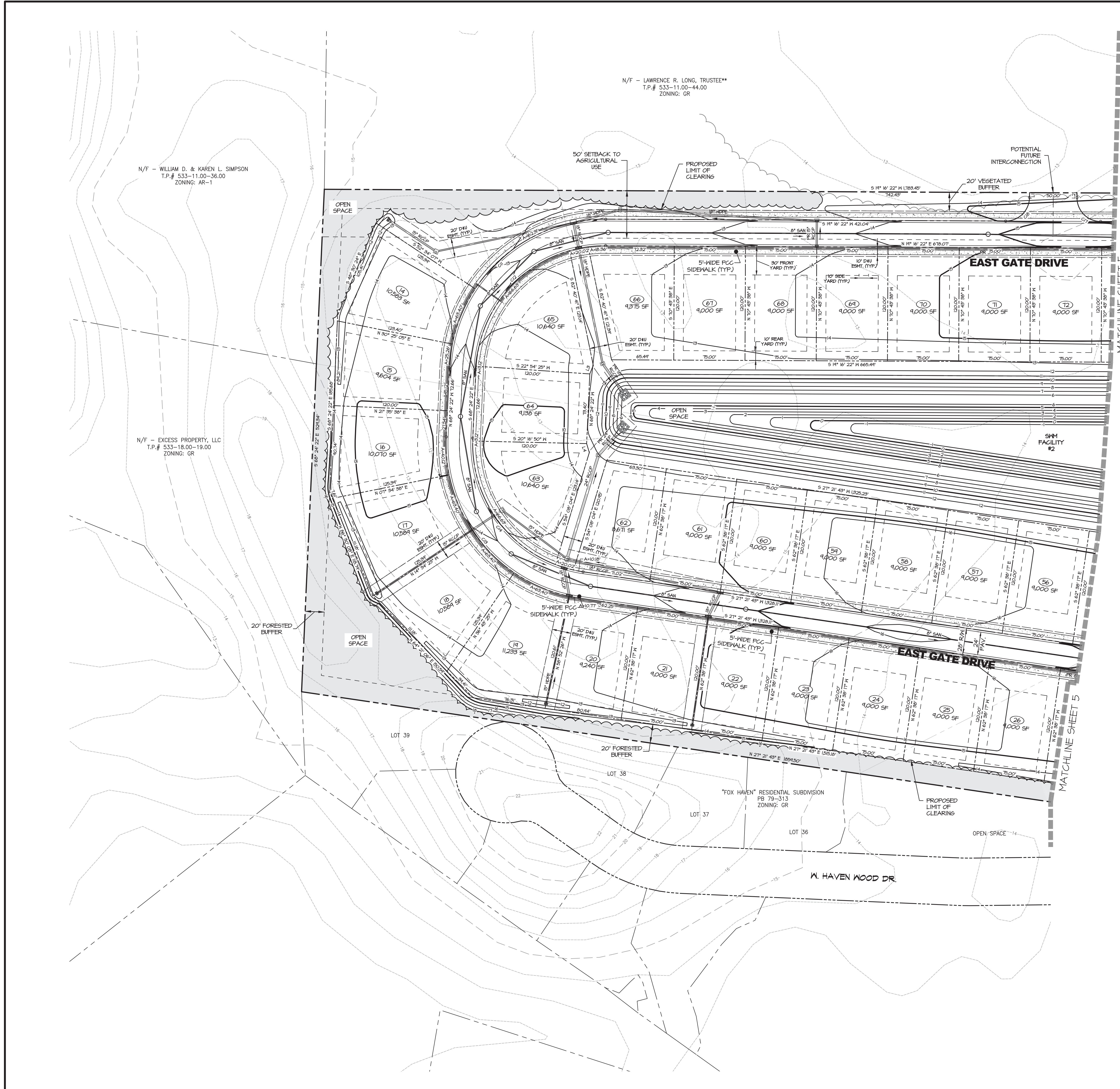
MORRIS & RITCHIE ASSOCIATES, INC.
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GR - COASTAL AREA CLUSTER PRELIMINARY PLAN FOR EAST GATE

DATE	REVISIONS	JOB NO.:
01/10/22	REV. PER TAC / P&Z COMMENTS	21179
		SCALE: 1"= 50'
		DATE: 06/09/21
		DRAWN BY: CJF
		DESIGN BY: CJF
		REVIEW BY: PLT
		SHEET: 5 OF 6





KEY MAP
SCALE: 1"=800'

****NOTE:** LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-49.00) ARE UTILIZED FOR AGRICULTURAL PURPOSES; SEE SHEET 2, GENERAL NOTE 6.

LEGEND

- EXIST. PARCEL BOUNDARY
- - - EXIST. RIGHT-OF-WAY
- - - EXIST. LOT LINE
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- EXIST. WOODS
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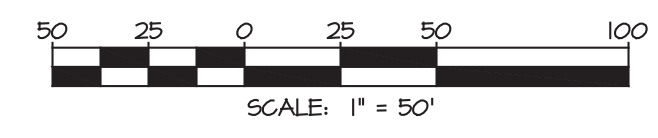
LOT	PARCEL	OWNER	BOOK / PAGE	ZONING
36	533-11.00-501.00	WENDY J. SCOTT	4879 / 308	GR
37	533-11.00-502.00	GEORGE H. SCHULTZ & ELIZABETH ANN SCHULTZ, IRR TRUST	5158 / 112	GR
38	533-11.00-503.00	THERESA MOSIER & TODD KURTZ	4922 / 297	GR
39	533-11.00-504.00	KEVIN J. CLARK	5119 / 99	GR

RIGHT OF WAY CURVE TABLE

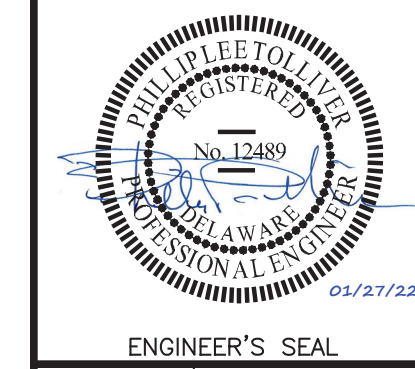
CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C11	250.41'	164.00'	81.68°	N 24° 34' 00" W	227.14'
C12	208.12'	136.00'	81.68°	N 24° 34' 00" W	188.40'
C13	241.10'	164.00'	84.23°	S 64° 28' 40" W	214.47'
C14	144.44'	136.00'	84.23°	S 64° 28' 40" W	182.41'
C17	34.21'	25.00'	90.00°	S 64° 16' 22" W	35.36'
C18	34.21'	25.00'	90.00°	N 25° 43' 38" W	35.36'

LOT LINE TABLE

LINE #	LENGTH	DIRECTION
L1	5.00	N 10° 43' 38" W
L2	5.00	N 10° 43' 38" W
L3	4.82	N 44° 12' 12" W
L4	4.82	N 81° 36' 33" W



MORRIS & RITCHIE ASSOCIATES, INC.
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GR - COASTAL AREA CLUSTER PRELIMINARY PLAN
FOR
EAST GATE

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		DRAWN BY: CJF
		DESIGN BY: CJF
		REVIEW BY: PLT
		SHEET: 6 OF 6



ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS, AND
LANDSCAPE ARCHITECTS

EAST GATE

A Residential Coastal Area Cluster Community

Baltimore Hundred
Sussex County, Delaware

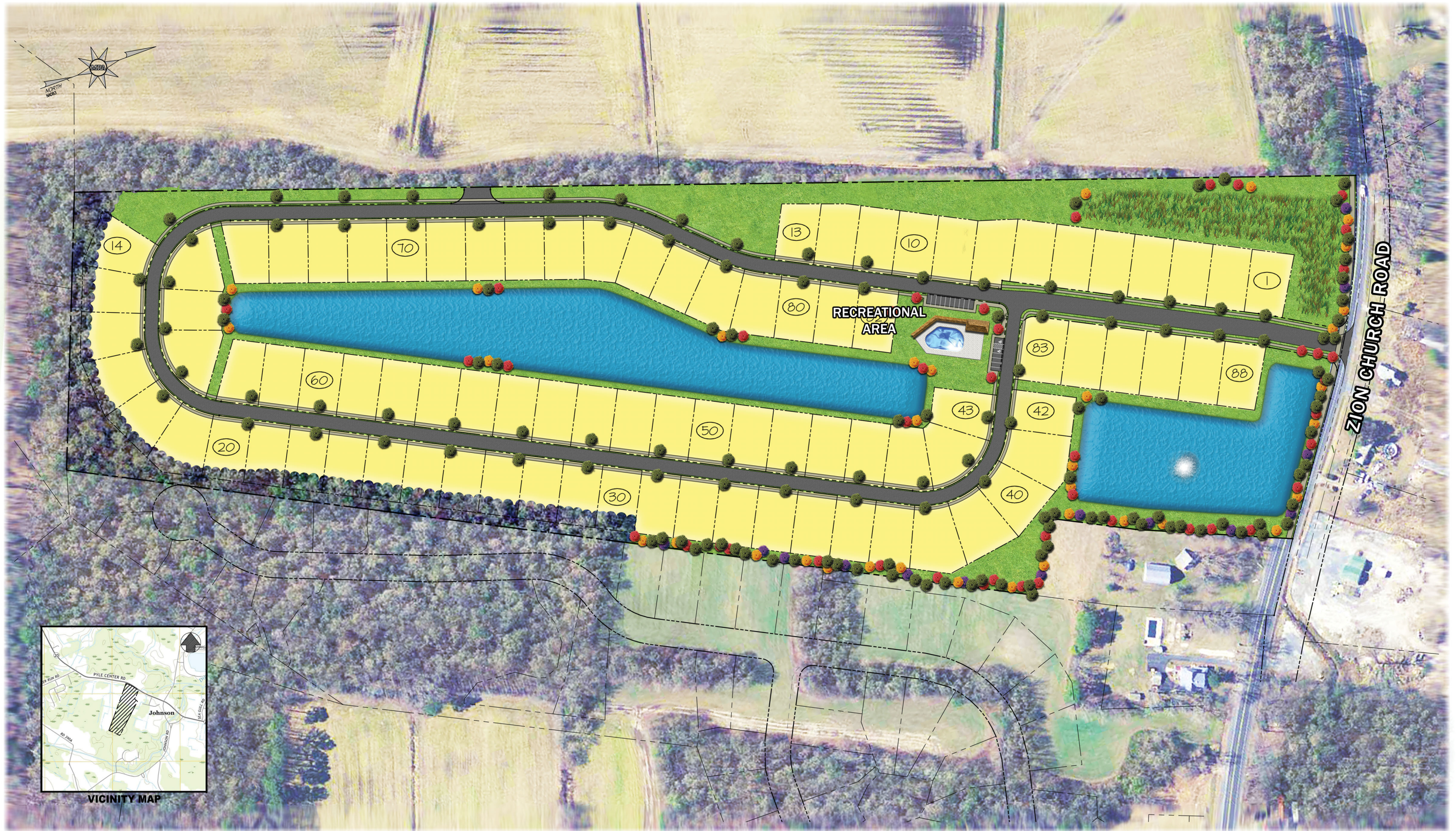
Developed By:

McKee Builders, LLC



Prepared By:
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Suite 36
New Castle, DE 19720
Phone: (302) 326-2200
Attn: Christopher J. Flathers, P.E.

January 2022



EASTGATE
SUSSEX COUNTY DELAWARE

NOTE: The blue shading of the SWM facilities shown hereon is for presentational / graphical purposes only. The design and determination of the type of SWM facilities (wet, dry, infiltration, etc) shall be made during the final engineering process. Via this color rendering, MRA makes no representations either explicitly or implicitly that the SWM facilities will be wet ponds.



302.326.2200
 18 BOULDEN CIRCLE, SUITE 36
 WILMINGTON, DELAWARE
 WWW.MRAGTA.COM

E A S T G A T E

COASTAL AREA CLUSTER COMMUNITY INFORMATION BOOKLET

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P R O J E C T T E A M

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SPRINGFIELD, PA 19064
MR. MARK MCGONIGAL

LAND PLANNER & CIVIL ENGINEER

MORRIS & RITCHIE ASSOCIATES, INC.
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MR. PHILLIP L. TOLLIVER, P.E.

ENVIORONMENTAL CONSULTANTS

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MR. ANDY STANSFIELD

GEOTECHNICAL CONSULTANTS

GEO-TECHNOLOGY ASSOCIATES, INC.
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TRAFFIC CONSULTANTS

THE TRAFFIC GROUP, INC.
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MR. JOE CALOGGERO, P.E.

ATTORNEY

FUQUA, WILLARD, STEVENS & SCHAB, P.A.
20245 BAY VISTA ROAD #203
REHOBOTH BEACH, DE 19971
MR. JAMES A. FUQUA, ESQ.

LAND USE DATA

Site Data:

Location: South side of Zion Church Rd. (Rte. 20)
Approx. 1,500' NW of intersection with Johnson Oak Road (Rd 382)
Lewes, DE

Owner: (1) Roaxanna Preferred Properties, LLC
(2) PMP Associates, LLC

Tax Map Parcel Number: (1) 533-11.00-45.06, -45.06
(2) 533-11.45.04, -45.08

Gross Acreage: 36.71 ± ac.

Current Zoning: GR

Proposed Zoning: GR – Coastal Area Cluster

Floodplain: No portions of the project site area located within the delineation FEMA floodplain areas as shown by FEMA FIRM 10005C0635K, effective date 3/16/15.

Land Use Breakdown

Residential Lot Areas: 18.83 ± ac.
88 Detached Single Family Lots

Right-of-Way:

Public R.O.W. (DelDOT Dedication) 0 ac.
Private R.O.W. 3.40 ± ac.

Open Space: 14.48 ± ac.
14.48 / 136.71 = 39.4%

Lot Compilation

GR Coastal Area Cluster

Single Family

Min. Lot Area: 7,500 sf
Lot Width: 75 ft.
Front Yard Setback: 30 ft.
Side Yard Setback: 10 ft
Rear Yard Setback 10 ft.

Project Density

Gross Site Area 36.71± ac. – 3.40± ac. R.O.W. = 33.31± ac.
88 d.u / 33.31± ac. = 2.64 d.u./ac.

E X E C U T I V E S U M M A R Y

East Gate is a proposed Coastal Area Cluster residential subdivision located on Zion Church Road, approximately 1,500 feet northwest of the intersection with Johnson Oak Road (Road 382) in an unincorporated portion of Sussex County, Delaware. The 36.71-acre site is located entirely within the Coastal Area, formerly referred to as the Environmentally Sensitive Development District Overlay Zone, as shown on the Sussex County Comprehensive Plan dated March 2019. Design and development concepts for East Gate focused on creating a pedestrian friendly community of single-family detached dwellings with a community recreation area. The project site includes more than 14 acres of open space, with each of the residential lots connecting directly to open space.

The community recreation area is anticipated to include a community pool with an associated pool building and patio area. Sidewalks will be provided throughout the community along both sides of the vehicular thoroughfares to connect the residences to the community amenity area.

Stormwater management for the developed site will be provided in accordance with the requirements of Sussex Conservation District, DNREC, and the Delaware Sediment and Stormwater Regulations. Due to high groundwater conditions anticipated on site, extended detention stormwater practices including wet ponds and/or created wetlands will be implemented to provide runoff management. Utilization of these facilities will provide a reduction in both runoff and nutrients (i.e. nitrogen, phosphorus) from the developed site.

The East Gate site is currently located with the Johnsons Corner Sanitary Sewer District. The proposed on-site sewer system is anticipated to be able to connect directly to the existing County sewer main located along the site frontage on Zion Church Road without the need for a proposed sanitary sewer pump station. The site is also located within an existing Certificate of Public Convenience and Necessity (CPCN) service area designated to Artesian Water Company, Inc. Similarly, the on-site water distribution will be connected to the existing Artesian mains located along the site frontage without the need for extension of existing service.

Forested and/or landscaped buffer areas will be provided around the perimeter of the community in accordance with Section 99-5 of the Sussex County Code. The internal subdivision street system will be designed and constructed in accordance with Sussex County standards and will be privately owned and maintained upon completion. Consideration for pedestrian safety and convenience through traffic calming design techniques, sidewalks; unified street signage and lighting standards will be incorporated into the final design of the project.

East Gate is anticipated to provide a vibrant community, with social and recreational benefits to the residents, economic benefits to the County and surrounding areas, utilizing the existing infrastructure located within the designated grown zone while minimizing impacts to the neighboring properties.

A P P E N D I C E S

Appendix 1 – 99-9C Compliance



ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS

Sussex County Code Chapter 99-9C Compliance

for

East Gate

Baltimore Hundred
Sussex County, Delaware

Prepared By:
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Suite 36
New Castle, DE 19720
Phone: (302) 326-2200
Attn: Christopher J. Flathers, P.E.

January 2022

S U S S E X C O U N T Y C O D E
C H A P T E R 9 9 - 9 C C O M P L I A N C E

It is the intent of this submittal to demonstrate how the proposed East Gate project complies with regulatory requirements and follows the County growth objectives with regard to the Sussex County Code and Ordinances.

Located within the GR Zoning District, the proposed residential Coastal Area Cluster community will be comprised of 88 single-family detached dwelling units. Based upon an overall site area of 36.71± acres, the resulting gross density of the proposed project will be 2.40 dwelling units per acre. The project is located entirely within the designated Coastal Area growth zone as shown by the 2018 Sussex County Comprehensive Plan.

All infrastructure for the development (both on-site and off-site), will be designed and constructed at the developer's expense. The infrastructure will include roads, sidewalks, lighting within the project, off-site road improvements along road frontage, stormwater management, on-site sewer collection and transmission, on-site water distribution, and on-site community recreation facilities.

The East Gate community will be served by both centralized public water and sanitary sewer systems. The project is located within the existing CPCN service area of Artesian Water Company, Inc. (AWC). Water service for the community will be provided through connection to the existing AWC main located along the site frontage on Zion Church Road. All water distribution will be designed to requirements of the State Fire Marshal's Office and the Office of Drinking Water, and constructed in accordance with AWC standards. The project is located within the Sussex County Johnsons Corner Sanitary Sewer District. Public sewer service for the community will be provided by Sussex County through direct connection of the on-site gravity system to the existing County infrastructure located along the site frontage on Zion church Road. All sanitary sewer systems will be designed in accordance with State and County requirements and constructed in accordance with Sussex County standards.

The East Gate subdivision will be developed as community of market rate single-family dwelling units. A centrally located community active recreation area will be provided for the use and benefit of the community residents.

The information below is provided to address the requirements of Chapter 99-9C of the Sussex County Code:

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

The East Gate site is located along the Zion Church Road corridor in close proximity to other projects approved for development within the Coastal Area growth zone. The proposed development area is located immediately adjacent to the existing Fox Haven subdivision, opposite of approved Sweetbay subdivision, and two parcels east of the recently approved Twin Cedars RPC site. A 20'-wide landscape buffer has been proposed around the perimeter of the site adjacent to

the neighboring parcels. Proposed site grading is anticipated to maintain overall drainage patterns of the existing condition.

2. *Minimal use of wetlands and floodplains.*

A Wetlands Delineation Plan was prepared by Geo-Technology Associates, Inc. (GTA) for the project site in December 2020. Based upon this investigation, it was determined that no jurisdictional wetlands or “Waters of the U.S” were identified within the limits of the subject project area in the professional opinion of GTA. A Jurisdictional Determination was issued by the U.S. Army Corps of Engineers, confirming the GTA delineation that no federally regulated wetlands are located within the project area. Additionally, no State regulated wetlands, including tidal-wetlands, are located within the project. Based upon this information, no impact to regulated wetlands are anticipated as a result of this project.

Review of the FEMA floodplain maps indicate that the entirety of the parcel is located within the limits of Zone X, identified as “areas determined to be outside the 0.2% annual chance floodplain.” Therefore, no impacts to the floodplain are anticipated as a result of the proposed East Gate project.

3. *Preservation of natural and historical features.*

The front portion of the site is currently covered in mixture of meadow and scrub brush, but had until recently been utilized for agricultural purposes. The remaining back half is primarily wooded. As noted above, there are no regulated wetland areas on the site. The presence of rare and endangered plants, animals, and natural communities will be investigated during the course of design in accordance with current State and County regulatory requirements.

There are no known archaeological sites or known National register listed or eligible properties on the parcel. As noted in the comments from the State Historic Preservation Office (SHPO) received during the PLUS review, “prehistoric archaeological potential is low” and “historic archaeological potential is low” for the project site area. Therefore, no impacts to historical features are anticipated as a result of the proposed East Gate project.

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

The implementation of Coastal Area Cluster Design option in the creation of the proposed East Gate layout is anticipated to result in more than 14 acres (39% of project area) to be utilized for passive and active open space purposes. Open space area has been distributed throughout the entirety of the community such that each residential lot will have a direct connection to open space area. Non-wooded areas of the perimeter buffers the open space will be enhanced through the planting of native plant materials. A centralized community amenity area will be provided for the enjoyment and active recreation of the community residents.

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

As noted above, the northerly portion of the site was historically utilized for agricultural purposes. In order to minimize tree clearing throughout the wooded portions of the site, only those areas required to be disturbed for the construction of the proposed site improvements (lots, roadways, utilities, SWM features, site amenities) will be proposed to be cleared. Forested buffers are anticipated to remain within the existing wooded portions of the site.

The site design will attempt to maintain the existing drainage patterns of the existing site conditions. As noted above, only those areas that are proposed for development are planned to be disturbed. Erosion and Sediment control BMPs will be employed in accordance with Sussex Conservation District (SCD) and Delaware Department of Natural Resources and Environmental Control (DNREC) guidelines in order to minimize erosion and loss of soil throughout the construction process. Through detailed design and analysis of the proposed site development, on-site grading will be designed to minimize the import, or export, of excess soil from the project site area.

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

A 20'-wide landscaped buffer strip will be provided around the perimeter of the site adjacent to the neighboring parcels in accordance with Section 99-6 of the County Subdivision Code. A site landscape plan will be incorporated into the design documents with consideration given to the utilization of native Delaware plants and trees where practicable.

No objectionable features such as sanitary sewer pump stations, water towers, propane tank fields, or electric substation facilities, are anticipated to be installed as a result of this project. In the event these facilities are required (i.e. sanitary sewer pumping station), they will be screened with landscaping so that they are congruent with the surrounding areas.

7. *Provision for water supply.*

Artesian Water Company, Inc. (a certified PUC utility company) will provide central water service for the project. Plans will be submitted concurrently to both Sussex County and the State Department of Health and Human Services in order to obtain an Approval to Construct and an Approval to Operate with regard to all of the proposed water facilities. Artesian Water Company, Inc. has issued a "Willing & Able" letter indicating ability to provide service to the subject project in accordance with State standards.

As part of the water supply design, Fire Marshal requirements will be adhered to with regard to the water distribution system.

Based on preliminary discussions with Artesian Water, a large water main is located directly in front of the subject parcels along Zion Church Road that is anticipated to have available capacity to service the proposed East Gate project. It is anticipated a direct connection will be made to this transmission main to serve the on-site distribution system.

8. Provision for sewage disposal.

Sussex County will provide central sewer service for the project. Plans will be submitted concurrently to both Sussex County Engineering and DNREC for ultimate approval of the plans and construction, in addition to the operation of the proposed wastewater collection, transmission, treatment, and disposal facilities.

The East Gate site is currently located within a Sussex County Johnson Corner Sanitary Sewer District. Contributions to the existing sanitary sewer infrastructure were made by the existing property owners based upon the previous development application for the site. The on-site gravity sewer system will connect directly to the existing County facilities located along Zion Church Road in front of the project area. No on-site sanitary sewer pump stations are anticipated to be required at this time.

9. Prevention of pollution of surface and groundwater.

Stormwater facilities will be designed according to DNREC and SCD standards and regulations; as such, they will be designed to reduce impacts to surrounding natural water resources. Designs are anticipated to include the use of natural looking and functioning features like bio-swales, bio-retention, infiltration facilities, created wetlands, and/or extended detention wet pond facilities to allow the stormwater to receive pollutant removal prior to infiltration and/or discharge from the developed site.

The site will utilize centralized sanitary sewer systems in lieu of on-site septic systems. Wastewater will be conveyed to the existing Sussex County treatment facility and disposed of in accordance with current DNREC permit requirements. Therefore, the potential for surface and groundwater pollution from wastewater disposal is low.

10. 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 the groundwater is maximized.

Erosion and sediment control plans will be developed in accordance with regulatory requirements. Careful planning and construction phasing will allow the contractor to minimize the area of disturbance at any given time in order to limit the potential for sediment issues on-site.

On-site stormwater facilities will be designed to filter and infiltrate or slowly release stormwater runoff to mimic existing conditions in order to not exacerbate downstream flooding issues. Infiltration and/or slow release facilities will be employed in accordance with DNREC guidelines will help mimic recharge/discharge from the developed site for the Resource Protection Event Volume (RPv). On site management for the Conveyance (Cv) and Flood (Fv) events will be provided in to meet State and SCD requirements.

11. Provision for safe vehicular and pedestrian movement within the site and to adjacent roadways.

Construction plans for the proposed site entrance and any off-site road improvements will be designed in accordance with DeIDOT regulatory requirements. Easement areas have been provided along the Zion Church Road frontage for the installation of a shared use path in accordance with DeIDOT's typical requirements. Final plans will be submitted to DeIDOT for review and approval prior to construction.

Construction plans for the interior private roads will be developed in accordance with the requirements of the Sussex County Code and Sussex County Engineering. In addition to the sidewalks to be provided on both sides of all internal streets. Street lighting will also be provided along all private roads to promote safety within the development.

Additionally, all private roads and community parking lot areas will be designed in accordance with Fire Marshal requirements to ensure adequate lane widths, emergency access, and any additional safety features for fire / rescue vehicular movement.

12. Effect on area property values.

The East Gate project proposes a community comprised of market-rate single-family detached dwelling units. This development configuration is consistent with the development options permitted within the underlying GR zoning and the Sussex County Codes. This single-family project and lot size are generally consistent with the existing Fox Haven project located immediately to the east, and the previously approved Sweetbay project located on the north side of Zion Church Road. Perimeter buffering areas will be utilized to reduce direct visual impact on neighboring parcels.

The project is proposed to modify the configuration / alignment of the Batson Branch, Prong 1 and Sub 2, Prong 1 ax Ditches. These modifications will improve drainage for the upstream properties, and provide SWM in a currently unregulated area. As a result, these improvements should have a positive impact on both the upstream, and downstream properties.

13. Preservation and conservation of farmland.

The subject parcel is located entirely within the Coastal Area designated growth zone as shown in the Sussex County Zoning Map and Comprehensive Development Plan. Utilization of the Coastal Area Cluster Option as shown by the East Gate Preliminary Plan will allow for the efficient utilization of land within the targeted growth areas, in an area already serviced by public water and sewer infrastructure, and reduce the development of agricultural areas outside of the growth areas.

14. Effect on schools, public buildings and community facilities.

The East Gate site is located within the Indian River School District (IRSD). Based on similar projects within the area, an estimate of one student per 6 dwelling units may be anticipated as a result of this project. The proposed 88 units would therefore result in an increase of approximately 15 students being introduced to the IRSD. It is anticipated that the children of East Gate would attend Showell Elementary School, Selbyville Middle School, and Indian River High School based on current distribution patterns within the district. Coordination with the school district will occur throughout the plan approval process to determine necessary school bus stop location(s) to serve the residents of East Gate.

It is anticipated that additional local property taxes and the state contribution from income tax receipts will continue to support the school system to offset the impacts created by the additional student demand associated with this project.

15. Effect on area roadways and public transportation.

Based on the proposed 88 single-family homes, an estimated 924 average daily trips will be added to the existing road network surrounding the East Gate site. A Traffic Impact Study (TIS) was recently prepared for the Twin Cedars project on a nearby site along Zion Church Road to assess the current traffic in the area. In lieu of preparing a stand-alone TIS for the East Gate project, the developer will participate in the Area Wide Study (AWS) program. It is our understanding that DelDOT is currently evaluating the transportation needs within this area as part of the Southeast Sussex Circulator Study. It is anticipated that the developer will construct one site entrance to the project from Zion Church Road and make improvements to Zion Church Road along the project frontage in accordance with current DelDOT standards. Additionally, it is anticipated that the developer will participate in signal agreements associated with improvements to the nearby intersection of Zion Church Road (Route 20) and Bayard Road / Johnson Road, through an equitable share contribution.

Through the DelDOT review and approval process related to the Site Entrance Plans and the Record Plats, the needs for contributions to existing DelDOT

projects and/or construction of off-site road improvements to the existing infrastructure (roadways, intersections, etc.) and public transportation (i.e. bus stops) will be finalized.

16. Compatibility with other area land uses.

The surrounding properties are comprised of a mixture of GR, C-1, C-2, CR-1, AR-1, AR-2, and MR Zoning classifications. The East Gate residential project has been designed as a GR Coastal Area Cluster residential subdivision under the provisions allocated by the Sussex County Zoning Code. The proposed single-family residential subdivision is consistent with the existing and recently approved projects on the neighboring parcels as noted above. The overall project density proposed is consistent with the requirements of the existing GR zoning.

17. Effect on area waterways.

Erosion and sediment control measures will be implemented during construction in accordance with DNREC requirements to minimize impact to surrounding waterways during the construction process. It is anticipated that permanent stormwater management facilities will rely primarily upon the implementation of extended detention wet ponds to achieve stormwater management and water quality compliance for the developed site. The design of all stormwater management facilities will be in compliance with the requirements of Sussex Conservation District and DNREC. All stormwater runoff will be managed in accordance with requirements of the current Delaware Sediment and Stormwater Regulations.

Appendix 2 – Environmental Assessment and Public Utility Evaluation

115-194.3 Compliance



ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS

Environmental Assessment & Public Facilities Evaluation

Sussex County Code Chapter 115-194.3 Compliance

for

East Gate

Baltimore Hundred
Sussex County, Delaware

Prepared By:
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Suite 36
New Castle, DE 19720
Phone: (302) 326-2200
Attn: Christopher J. Flathers, P.E.

January 2022

E N V I R O N M E N T A L
A S S E S S M E N T & P U B L I C
F A C I L I T I E S E V A L U A T I O N

It is the intent of this submittal to demonstrate how the proposed East Gate complies with the regulatory requirements and follows the County growth objectives with regard to the Sussex County Code and Ordinances.

Located within the GR Zoning District, the proposed residential Coastal Area Cluster community will be comprised of 88 single-family detached dwelling units. Based upon an overall site area of 36.71± acres, the resulting gross density of the proposed project will be 2.40 dwelling units per acre. The project is located entirely within the designated Coastal Area growth zone as shown by the 2018 Sussex County Comprehensive Plan.

All infrastructure for the development (both on-site and off-site), will be designed and constructed at the developer's expense. The infrastructure will include roads, sidewalks, lighting within the project, off-site road improvements along road frontage, stormwater management, on-site sewer collection and transmission, on-site water distribution, and on-site community recreation facilities.

The East Gate community will be served by both centralized public water and sanitary sewer systems. The project is located within the existing CPCN service area of Artesian Water Company, Inc. (AWC). Water service for the community will be provided through connection to the existing AWC main located along the site frontage on Zion Church Road. All water distribution will be designed to requirements of the State Fire Marshal's Office and the Office of Drinking Water, and constructed in accordance with AWC standards. The project is located within the Sussex County Johnsons Corner Sanitary Sewer District. Public sewer service for the community will be provided by Sussex County through direct connection of the on-site gravity system to the existing County infrastructure located along the site frontage on Zion church Road. All sanitary sewer systems will be designed in accordance with State and County requirements and constructed in accordance with Sussex County standards.

The East Gate subdivision will be developed as community of market rate single-family dwelling units. A centrally located community active recreation area will be provided for the use and benefit of the community residents.

The information below is provided to address the requirements of Chapter 115-194.3.B(2) of the Sussex County Code:

- a) *Proposed drainage design and the effect on stormwater quality and quantity leaving the site, including methods for reducing the amount of phosphorous and nitrogen in the stormwater runoff and the control of any other pollutants such as petroleum hydrocarbons or metals.*

The grading of the developed site will attempt to maintain the drainage patterns of the pre-developed condition. Runoff from the developed site will be conveyed to

on-site stormwater management (SWM) facilities through a combination of surficial sheet flow, open channel, and closed pipes.

The permanent on-site SWM facilities will be designed in accordance with Delaware Department of Natural Resources and Environmental Control (DNREC) and Sussex Conservation District (SCD) standards to minimize potential impacts to the receiving watershed. Due to shallow groundwater conditions limiting the potential for infiltration based SWM practices, it is anticipated that the site will rely primarily upon extended detention wet pond facilities to achieve SWM compliance for the site. These facilities will address peak rate management and pollutant loading to the receiving watershed through a combination of slow release, sedimentation, and nutrient uptake. All SWM facilities will be designed in accordance with DNREC standards to achieve pollutant reduction requirements.

Erosion and sediment control measures will be implemented during the construction phase in accordance with DNREC requirements to minimize impact of sediment-laden runoff discharging to the watershed.

- b) *Proposed method of providing potable and, where appropriate, irrigation water and the effect on public or private water systems and groundwater, including an estimate of average and peak demands.*

The East Gate project is located within the CPCN service area assigned to Artesian Water Company, Inc. (AWC). The project will utilize public water supply to provide potable water and fire protection throughout the community. It is anticipated that the on-site distribution system will connect to the existing AWC water main located along the property frontage on Zion Church Road. No large scale irrigation is anticipated as a result of this project. AWC has issued a "Willing & Able" letter indicating ability to serve the proposed project in accordance with State standards.

Plans will be developed in accordance with AWC and Sussex County standards. These plans will be submitted concurrently to both Sussex County and the State Department of Health and Human Services in order to obtain an Approval to Construct and an Approval to Operate with regard to all of the proposed water facilities.

The 88 single-family homes and community center proposed by this project are anticipated to result in an average daily water demand of 27,000 gallons, with a corresponding peak demand of 40,500 gallons per day. With no on-site wells proposed by this project, there is no anticipated direct impact to the groundwater at the site location due to the proposed water use.

- c) *Proposed means of wastewater treatment and disposal with an analysis of the effect on the quality of groundwater and surface waters, including alternative locations for on-site septic systems.*

The East Gate project will utilize a public sewer system to serve the residents of the community; the site area located within Sussex County's Johnson Corner Sanitary Sewer District (SSD). Contributions to the sanitary sewer infrastructure

were made by the owners of the project parcels as part of a previous proposal for the project area. The proposed on-site gravity sewer system will connect directly to the existing County gravity sewer system located along the property frontage on Zion Church Road. No sanitary sewer pump station is anticipated to be required to serve the East Gate project. No on-site septic systems are proposed by the project; there are no anticipated impacts to the quality of groundwater or surface waters at the East Gate site as a result of the proposed sanitary sewer systems to serve this community.

Plans will be developed in accordance with Sussex County standards and submitted concurrently to both Sussex County Engineering and the Delaware Department of Natural Resources for ultimate approval of the plans and construction.

d) Analysis of the increase in traffic and the effect on the surrounding roadway system.

As part of the application process for this project, a Service Level Evaluation was performed by DeIDOT in December 2020. Based on this evaluation site qualifies to participate in Area Wide Study (AWS) Fee program in lieu of performing a stand-alone Traffic Impact Study (TIS). As noted in the PLUS review letter, DeIDOT is currently developing the Southeast Sussex Circulator Study to assess the transportation needs throughout the area of the East Gate project. Contributions to the AWS will support this study. .

Based on the proposed single-family dwellings to be constructed at full build-out of the East Gate project, an estimated 924 average daily trips will be added to the existing road network surrounding the project site area. In order to address the impacts of these additional trips on the surrounding road network, it is anticipated that the developer will make the following improvements in accordance with the TIS approval:

- Construct a full-movement access for the site onto Zion Church Road (Route 20)
- Complete roadway improvements to Zion Church Road to bring the roadway up to current DeIDOT standards for the length of the project frontage.
- Contribute equitable share for installation of traffic signal at Route 20 and Bayard Road / Johnson Road.
- Construct bike lanes as part of Route 20 / site entrance improvements.
- Provide easement area for the future construction of a shared use path along site frontage.

e) The presence of any endangered or threatened species listed on federal or state registers and proposed habitat protection areas.

No federally protected endangered or threatened species are known to exist on site. No protected critical habitat areas are known to exist on the site for federally threatened or endangered species based upon review of the US Fish & Wildlife Services Critical Habitat mapping tool.

(<https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>)

No state protected endangered or threatened species, as defined by Title 7 §16.2.3 of the Delaware Administrative Code are known to exist within the site boundary.

- f) *The preservation and protection from loss of any tidal or non-tidal wetlands on the site.*

A Wetlands Delineation Plan was prepared by Geo-Technology Associates, Inc. (GTA) for the project site in December 2020. Based upon this investigation, it was determined that no jurisdictional wetlands or “Waters of the U.S” were identified within the limits of the subject project area in the professional opinion of GTA. A Jurisdictional Determination was issued by the U.S. Army Corps of Engineers, confirming the GTA delineation that no federally regulated wetlands are located within the project area. Additionally, no State regulated wetlands, including tidal-wetlands, are located within the project. Based upon this information, no impact to regulated wetlands are anticipated as a result of this project.

Disturbances to portions of the Batson Branch, Prong 1 and Sub 2, Prong 1 Tax Ditches that crosses the front portion of the site are anticipated as the alignment of this feature is proposed to be modified by this project. These impacts will be performed under the permit requirements of the DNREC Subaqueous Lands Section and coordinated with the Tax Ditch managers.

- g) *Provisions for open space as defined in § 115-4.*

The implementation of Coastal Area Cluster Design option in the creation of the proposed East Gate layout is anticipated to result in more than 14 acres (39% of project area) to be utilized for passive and active open space purposes. Open space area has been distributed throughout the entirety of the community such that each residential lot will have a direct connection to open space area. Non-wooded areas of the perimeter buffers the open space will be enhanced through the planting of native plant materials. A centralized community amenity area will be provided for the enjoyment and active recreation of the community residents.

- h) *A description of provisions for public and private infrastructure.*

Public infrastructure will be utilized to provide sanitary sewer and water service for the proposed community, as noted above. The site entrance at Zion Church Road and associated improvements along the project frontage will be constructed in accordance with current DelDOT standards; the associated right-of-way frontage will be dedicated to public use for future maintenance by DelDOT. The internal community streets and associated storm drainage will be private infrastructure

designed in accordance with current Sussex County standards, and will be owned and maintained by the East Gate Homeowners Association (EGHOA).

Public water will be provided by AWC; all water mains will be designed and constructed in accordance with AWC and Sussex County standards as applicable. AWC will operate and maintain the water facilities throughout the community.

Public sanitary sewer will be provided by Sussex County; all sewers will be designed and constructed in accordance with Sussex County standards. Sussex County will operate and maintain the sewer facilities throughout the community.

The on-site stormwater management facilities will be designed and constructed in accordance with DRNEC and SCD standards as applicable. The EGHOA will be responsible for the long-term maintenance and operation of all on-site SWM facilities.

i) Economic, recreational or other benefits.

The architecture, housing styles, and proposed construction practices that are anticipated to be used for the single-family dwelling units proposed within the East Gate community will likely mirror those practices employed at the nearby communities like Batson Creek Estates and Fox Haven

The East Gate community will incorporate a central amenity feature that will provide an active recreation component for use by the community residents.

The subject parcel is located entirely within the Coastal Area growth zone as shown in the Sussex County Zoning Map and Comprehensive Development Plan. Utilization of a cluster type development developed under the County Zoning Code will allow for the efficient utilization of land within the targeted growth areas, and reduce the development of agricultural areas outside of the growth area.

j) The presence of any historic or cultural resources that are listed on the National Register of Historic Places.

There are no known archaeological sites or known National register listed or eligible properties within the boundaries of the East Gate project. As noted in the PLUS comments from the State Historic Preservation Office (SHPO) review, "prehistoric archaeological potential is low" and "historic archaeological potential is low" for the project site area.

k) An affirmation that the proposed application and proposed mitigation measures are in conformance with the current Sussex County Comprehensive Plan.

The entirety of the East Gate site is located within the Coastal Area as shown on the current Sussex County Comprehensive Plan. The site has ready access to public utilities as noted above. Utilizing the cluster design approach afforded by the County Code for parcels located within the Coastal Area will allow for efficient use of the project site.

- l) Actions to be taken by the applicant to mitigate the detrimental impacts identified relevant to Subsection B(2)(a) through (k) above and the manner by which they are consistent with the Comprehensive Plan.*

The East Gate project, from site selection to site layout, has resulted in a proposed project that will have minimal detrimental impact on the natural resources of the County, and the area surrounding the project site. The East Gate site design aligns with the goals of the Sussex County Comprehensive Plan:

The East Gate site is located within the Coastal Area growth zone; this is consistent with the County's strategy to "prioritize new development in designated Growth Areas to better preserve other areas".

The East Gate project is located within Johnson Corner Sanitary Sewer District (SSD) and within the Artesian Water Company, Inc. CPCN area. With direct access to existing public sewer and water mains located along the Zion Church Road frontage, the site is anticipated to have adequate access to public utilities. This is consistent with the County's objective for "planning that considers the efficient location of public services and infrastructure."

Based on the proposed 88 single-family homes, an estimated 924 average daily trips will be added to the existing road network surrounding the East Gate site. To evaluate the impacts of these additional vehicle trips, a Service Level Evaluation was performed by DeIDOT. Based on this study, DeIDOT noted the project would qualify to participate in the Area Wide Study Fee (AWS) program for the evaluation of traffic impacts throughout the East Gate area. Based upon recommendations for recent DeIDOT TIS approvals for other nearby projects, it is anticipated that the developer will participate in a signal agreement for the future construction of a traffic signal at the intersection of Zion Church Road (Route 20) and Bayard Road / Johnson Road, through an equitable share contribution. Through these proposed improvements, and commitments to financial contributions to the offsite intersection upgrades, traffic impacts as a result of the propose East Gate project will be mitigated in the vicinity of the East Gate site. This approach is consistent with the County's strategy for the coordination with "DeIDOT on road improvements and other transportation projects."

The East Gate site does not contain any regulated wetland areas, as noted above. On-site stormwater management facilities will be provided to mitigate the runoff from the developed site on the adjacent properties and downstream areas. The entirety of the site is located outside of a delineated FEMA floodplain; therefore, no direct impact to the floodplain is anticipated as a result of the proposed development on site.

The East Gate project is located along Zion Church Road, where continued residential development has continued to develop within the designated Coastal Area growth zone. The East Gate site is located to the southeast of the Twin Cedars and Hampden Park subdivisions, and immediately northwest of the Fox Haven residential community. Addition residential development projects are anticipated to occur on the north side of Zion Church Road as well. The East Gate residential project has been designed as a Coastal Area Cluster under the

provisions allocated by the Sussex County Zoning Code. The proposed single-family lots should blend in well with the surrounding land uses surrounding the project site as the area is generally dominated by residential uses. The surrounding properties are comprised of a mixture of GR, C-1, C-2, CR-1, AR-1, AR-2, and MR Zoning classifications. The cluster configuration and proposed lot sizes within the single family portion of the site are similar in nature to the recently constructed Batson Creek Estates and Fox Haven communities.

The East Gate project is proposing the implementation of a 20'-wide forested / vegetated buffer surrounding the outer boundary of the project area bordering the neighboring residential properties in accordance with the County Code requirements. These buffer areas will be enhanced through the use of native plant materials in order to "minimize the adverse impacts of development on existing development."

The implementation of Coastal Area Cluster development option under the County Code ordinance will allow for the efficient use of the East Gate site, while also providing for increased open space areas within the community. The project area is currently zoned for residential use and has been identified by the County for development under the Coastal Area designation. The efficient utilization of this site will allow for the concentration of development within one of the growth areas, and allow for the preservation of the rural areas of the County to support the "importance of the agricultural land base of the County".

Although the East Gate site does not front directly upon the inlays, the project is located within the Dirickson-Little / Inland Bays watershed. Throughout the construction phase of the project, temporary erosion control measures will be utilized to minimize the discharge of sediment laden water off-site. In the final configuration of the site structural and no-structural SWM BMPs will be utilized to reduce the direct discharge of polluted runoff to the watershed. The East Gate project will utilize the connection to the County public sewer system, eliminating the potential need for on-site septic systems. These practices will support the County's goal to "recognize the importance of the Inland Bays."

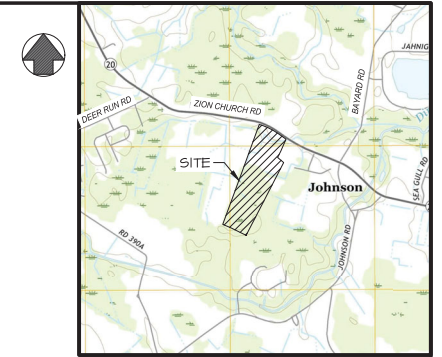
Appendix 3 – Preliminary Plan

EAST GATE

SUSSEX COUNTY, DELAWARE PRELIMINARY PLANS SUSSEX COUNTY PLANNING # 2021-19 GR - COASTAL AREA CLUSTER

LEGEND

	EXISTING PROPERTY LINE
	PROPOSED R/W LINE
	PROPOSED LOT LINE
	PROPOSED BUILDING SETBACK LINE
	EXISTING CONTOURS
	PROPOSED CONTOURS
	PROPOSED LOT NUMBER
	EXISTING WOODLANDS LINE
	WOODLAND PRESERVATION LINE



VICINITY MAP

SCALE: 1" = 2000'

DEVELOPER'S CERTIFICATION

I, UNDERSIGNED, AS DEVELOPER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

McKEE BUILDERS, LLC
440 WEST SPROUL ROAD, SUITE 301
SPRINGFIELD, PA 19064

OWNER'S CERTIFICATION

I, UNDERSIGNED, AS OWNER OF THE PROPERTY SHOWN, HEREBY APPROVE THESE PLANS FOR DEVELOPMENT AS SHOWN OR OTHERWISE NOTED.

ROXANA PREFERRED PROPERTIES, LLC DATE
1601 MILLTOWN ROAD, SUITE 17
WILMINGTON, DE 19806

PMP ASSOCIATES, LLC DATE
1601 MILLTOWN ROAD, SUITE 14
WILMINGTON, DE 19806

WETLANDS STATEMENT

GEO-TECHNOLOGY ASSOCIATES, INC. (GTA) HAS CONDUCTED A FIELD REVIEW WITHIN THE BOUNDARIES OF THIS PLAT TO EVALUATE THE PRESENCE OR ABSENCE OF POTENTIAL STATE AND FEDERAL JURISDICTIONAL WETLANDS FOR THE PURPOSES OF DELAWARE WETLAND AND SUBAQUEOUS LAND REGULATIONS AND SECTION 404 OF THE CLEAN WATER ACT. GTA'S REVIEW WAS CONDUCTED IN GENERAL ACCORDANCE WITH THE TECHNIQUES AND CRITERIA PROVIDED IN THE 1987 CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, ATLANTIC AND GULF COASTAL PLAN REGION (VERSION 2.0), DATED NOVEMBER 2010. THE LIMITS OF THE WETLANDS WERE EVALUATED IN THE FIELD BY GTA PERSONNEL USING BEST PROFESSIONAL JUDGEMENT. NO WETLANDS OR WATERWAYS WERE OBSERVED WITHIN THE BOUNDARIES OF THIS PLAT. NO STATE OR FEDERAL JURISDICTIONAL APPROVAL HAS OBTAINED FOR THIS PROPERTY.

ANDY STANSFIELD DATE
GEO-TECHNOLOGY ASSOCIATES, INC.

ENGINEER'S CERTIFICATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF DELAWARE AND THAT THE PLAN SHOWN AND DESCRIBED HEREON, IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED STANDARDS AND PRACTICES AND BY THE SUSSEX COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO THE EXTENT THAT IT DESCRIBES THE PROPOSED MANNER AND LAYOUT OF THE SUBDIVISION.

PHILLIP L. TOLLIVER, P.E. DATE
DE LICENSE NO. #12464

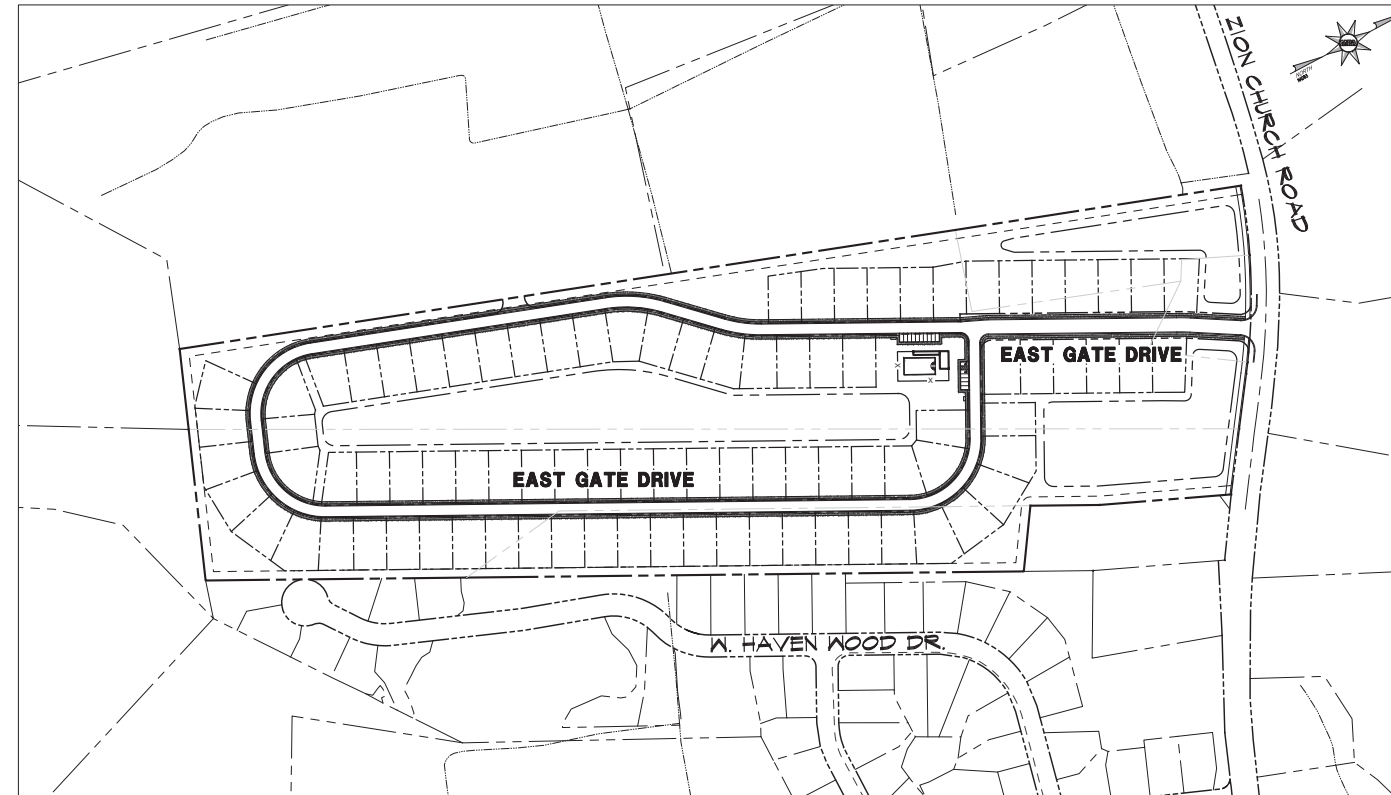
PLAN APPROVALS

SUSSEX COUNTY ENGINEERING DEPARTMENT
2 THE CIRCLE
GEORGETOWN, DE 19447

APPROVED DATE

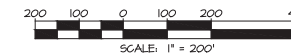
APPROVED BY: CHAIRMAN OR SECRETARY DATE
SUSSEX COUNTY PLANNING
AND
ZONING COMMISSION

APPROVED BY: PRESIDENT DATE
SUSSEX COUNTY PLANNING



SITE OVERVIEW

SCALE: 1" = 200'



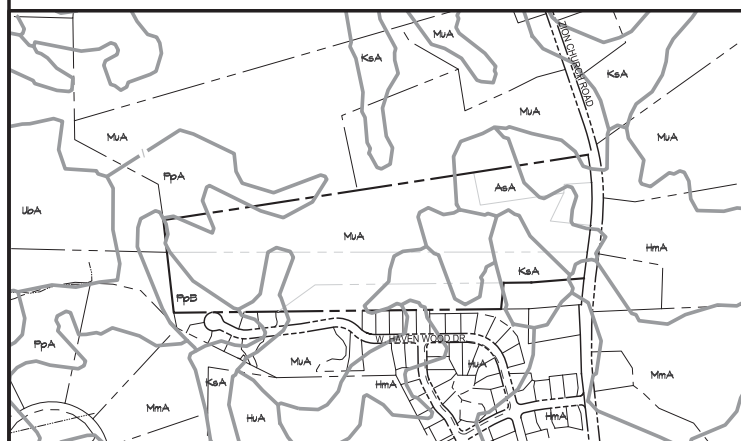
SCALE: 1" = 200'

PROJECT TEAM

DEVELOPER:	McKEE BUILDERS, LLC 440 WEST SPROUL ROAD, SUITE 301 SPRINGFIELD, PA 19064 ATTN: MR. MARK MCGONIGAL
LAND PLANNERS, CIVIL ENGINEER:	MORRIS & RITCHE ASSOCIATES, INC. 18 BOULDEN CIRCLE, SUITE 36 NEW CASTLE, DE 19720 ATTN: MR. PHILLIP L. TOLLIVER, P.E.
SURVEYOR:	MORRIS & RITCHE ASSOCIATES, INC. 8 WEST MARKET STREET GEORGETOWN, DE 19447 ATTN: MR. GARY FOKERS
ENVIRONMENTAL CONSULTANT:	GEO-TECHNOLOGY ASSOCIATES, INC. 3445 BOX HILL CORPORATE CENTER DRIVE, SUITE A ABINGDON, MD 21004 ATTN: MR. ANDY STANSFIELD
GEOTECHNICAL ENGINEER:	GEO-TECHNOLOGY ASSOCIATES, INC. 2193 STERLING AVENUE, SUITE 7 GEORGETOWN, DE 19447 ATTN: MR. GREG SAUTER
TRAFFIC CONSULTANT:	THE TRAFFIC GROUP 4800 FRANKLIN SQUARE DR. - SUITE H BALTIMORE, MD 21236 ATTN: MR. JOE CALOGGERO, P.E.
ATTORNEY:	FUQUA, WILLARD, STEVENS & SCHAB, P.A. 20245 BAY VISTA ROAD #203 REHOBOTH BEACH, DE 19871 MR. JAMES A. FUQUA, JR.

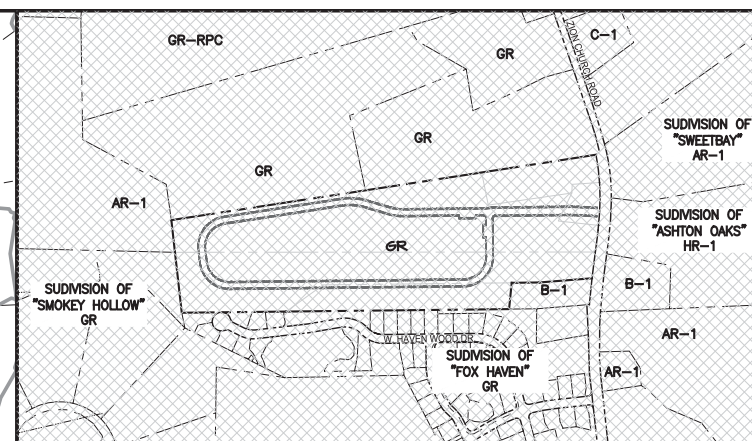
INDEX OF DRAWINGS

- 1 - PRELIMINARY TITLE SHEET
- 2 - PRELIMINARY GENERAL NOTES & DETAILS
- 3 - OVERALL PRELIMINARY PLAN
- 4 - PRELIMINARY PLAN
- 5 - PRELIMINARY PLAN
- 6 - PRELIMINARY PLAN



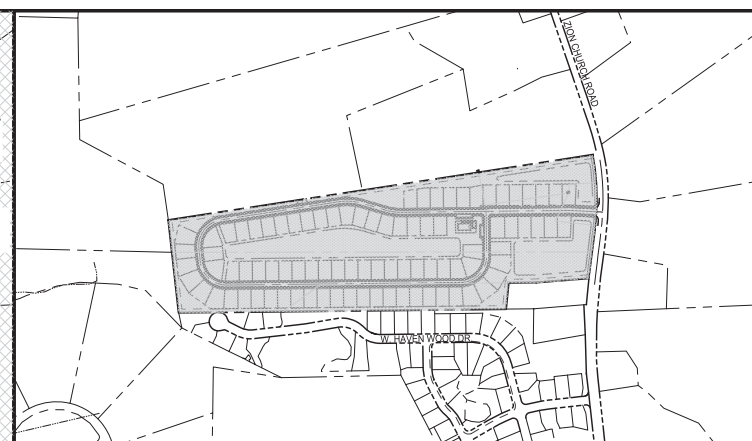
SOILS MAP

SCALE: 1" = 500'



ZONING MAP

SCALE: 1" = 500'



PHASING MAP

SCALE: 1" = 500'

THE PROJECT WILL BE APPROVED AS A SINGLE PHASE PROJECT WITH TWO (2) OPERATIONAL BREAKS FOR PURPOSES OF BONDING, BENEFICIAL OCCUPANCY INSPECTION, RELEASE OF USE AND OCCUPANCY PERMITS.



MORRIS & RITCHE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
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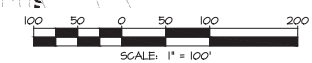
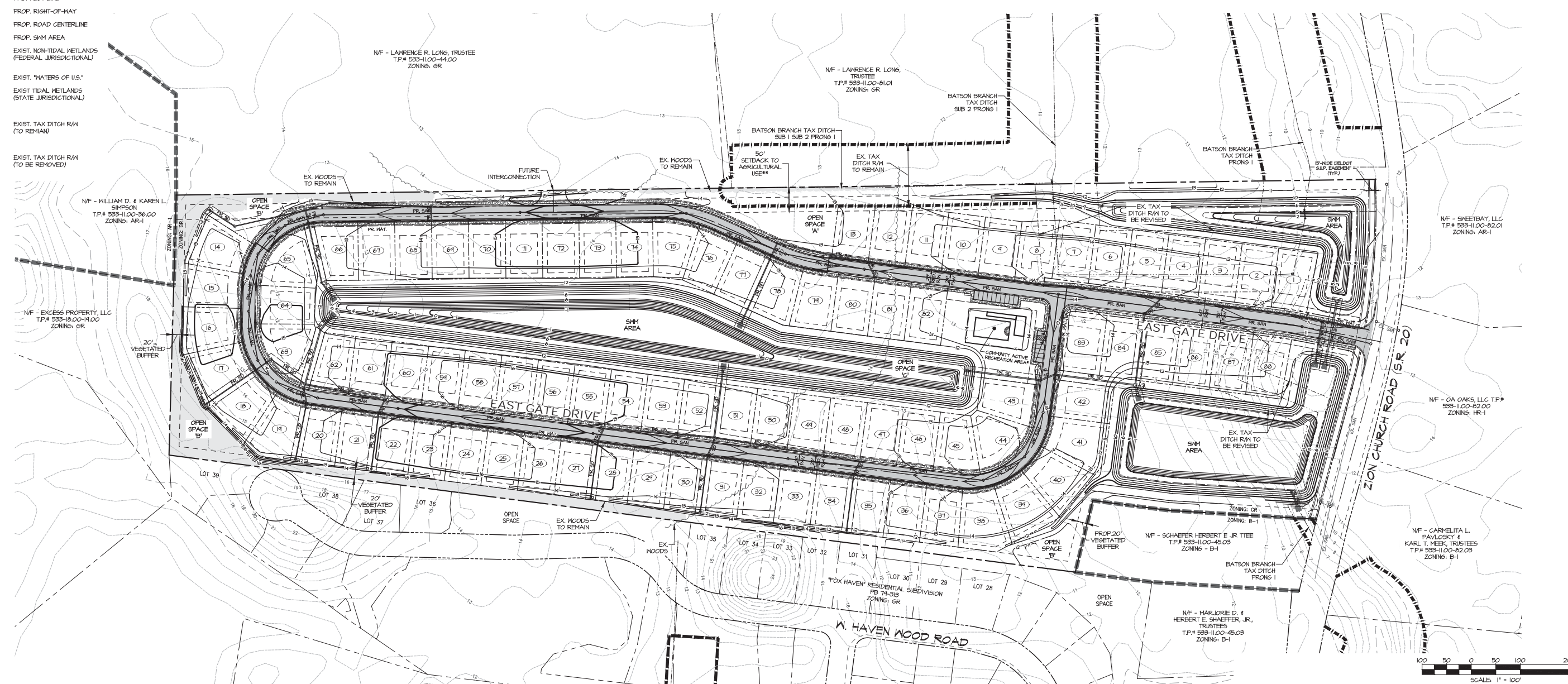
PRELIMINARY PLAN TITLE SHEET FOR EAST GATE

DATE	REVISIONS	JOB NO.:
01/10/22	REV. PER TAC / P&Z COMMENTS	21179
		SCALE: AS NOTED
		DATE: 06/09/21
		DRAWN BY: CJF
		DESIGN BY: CJF
		REVIEW BY: PLT
		SHEET: 1 OF 6

LEGEND

- EXIST. PARCEL BOUNDARY
- EXIST. RIGHT-OF-WAY
- EXIST. LOT LINE
- ZONING: AR-1
- EXIST. ZONING
- EXIST. HOODS
- PROP. HOODS TO REMAIN
- PROP. CURB
- PROP. SIDEWALK
- PROP. LOT LINE
- PROP. RIGHT-OF-WAY
- PROP. ROAD CENTERLINE
- PROP. SHM AREA
- EXIST. NON-TIDAL WETLANDS (FEDERAL JURISDICTIONAL)
- EXIST. "WATERS OF U.S."
- EXIST. TIDAL WETLANDS (STATE JURISDICTIONAL)
- EXIST. TAX DITCH R/W (TO REMAIN)
- EXIST. TAX DITCH R/W (TO BE REMOVED)

- * NOTE: THE EXACT SIZE AND CONFIGURATION OF COMMUNITY ACTIVE RECREATION AREA, INCLUDING THE POOL HOUSE, POOL, AND DECKING, SHALL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.
- **NOTE: LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-81.01) ARE UTILIZED FOR AGRICULTURAL PURPOSES; SEE SHEET 2, GENERAL NOTE 6.

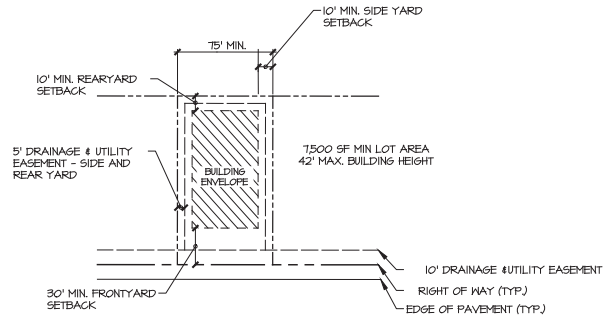


FOX HAVEN OWNER INFORMATION

LOT	PARCEL	OWNER	BOOK / PAGE	ZONING
05-1	533-11.00-45.01	FOX HAVEN HOMEOWNERS ASSOCIATION, INC.	5140 / 203	GR
31	533-11.00-496.00	DAVID SPALLONE & JOANN SPALLONE	5366 / 94	GR
32	533-11.00-497.00	LINDA M. SANDLOF	4791 / 57	GR
33	533-11.00-498.00	CHRISTIAN E. WEIR & DARLENE H. WEIR	4703 / 144	GR
34	533-11.00-499.00	PATICA A. ASHBURN & ALLEN J. ASHBURN	4719 / 315	GR
35	533-11.00-500.00	KEVIN J. GRIMM & BARBARA J. GRIMM	4718 / 35	GR
36	533-11.00-501.00	WENDY J. SCOTT	4879 / 308	GR
37	533-11.00-502.00	GEORGE H. SCHULTZ & ELIZABETH ANN SCHULTZ, IRR TRUST	5158 / 112	GR
38	533-11.00-503.00	THERESA MOSIER & TODD KURTZ	4922 / 297	GR
39	533-11.00-504.00	KEVIN J. CLARK	5119 / 99	GR

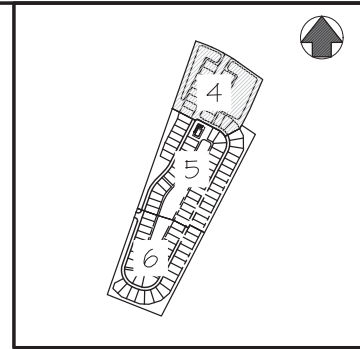
PROPOSED OPEN SPACE SUMMARY			
AREA	SHM FACILITY	ACTIVE OPEN SPACE	PASSIVE OPEN SPACE*
A	1.02 AC. ±	-	3.54 AC. ±
B	1.96 AC. ±	-	5.32 AC. ±
C	3.68 AC. ±	0.72 AC. ±	3.98 AC. ±
TOTAL	6.66 AC. ±	0.72 AC. ±	12.84 AC. ±

* NOTE: PASSIVE OPEN SPACE AREA IS INCLUSIVE OF SHM FACILITIES LOCATED THEREIN.



TYPICAL LAYOUT SINGLE FAMILY LOT (VARIABLE WIDTHS)
NOT TO SCALE

		MORRIS & RITCHE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 18 BOULDEN CIRCLE, SUITE 36 NEW CASTLE, DELAWARE 19720 (302) 326-2200 FAX: (302) 326-2399 WWW.MRAGTA.COM <small>©2021 MORRIS & RITCHE ASSOCIATES, INC.</small>	
		PRELIMINARY PLAN OVERALL PLAN FOR EAST GATE	
ENGINEER'S SEAL	BALTIMORE HUNDRED	SUSSEX COUNTY, DELAWARE	
DATE	REVISIONS	JOB NO.: 21179	
01/10/22	REV. PER TAC / P&Z COMMENTS	SCALE: 1" = 100'	
		DATE: 06/09/21	
		DRAWN BY: CJF	
		DESIGN BY: CJF	
		REVIEW BY: PLT	
		SHEET: 3 OF 6	



KEY MAP
SCALE: 1"=800'

LEGEND

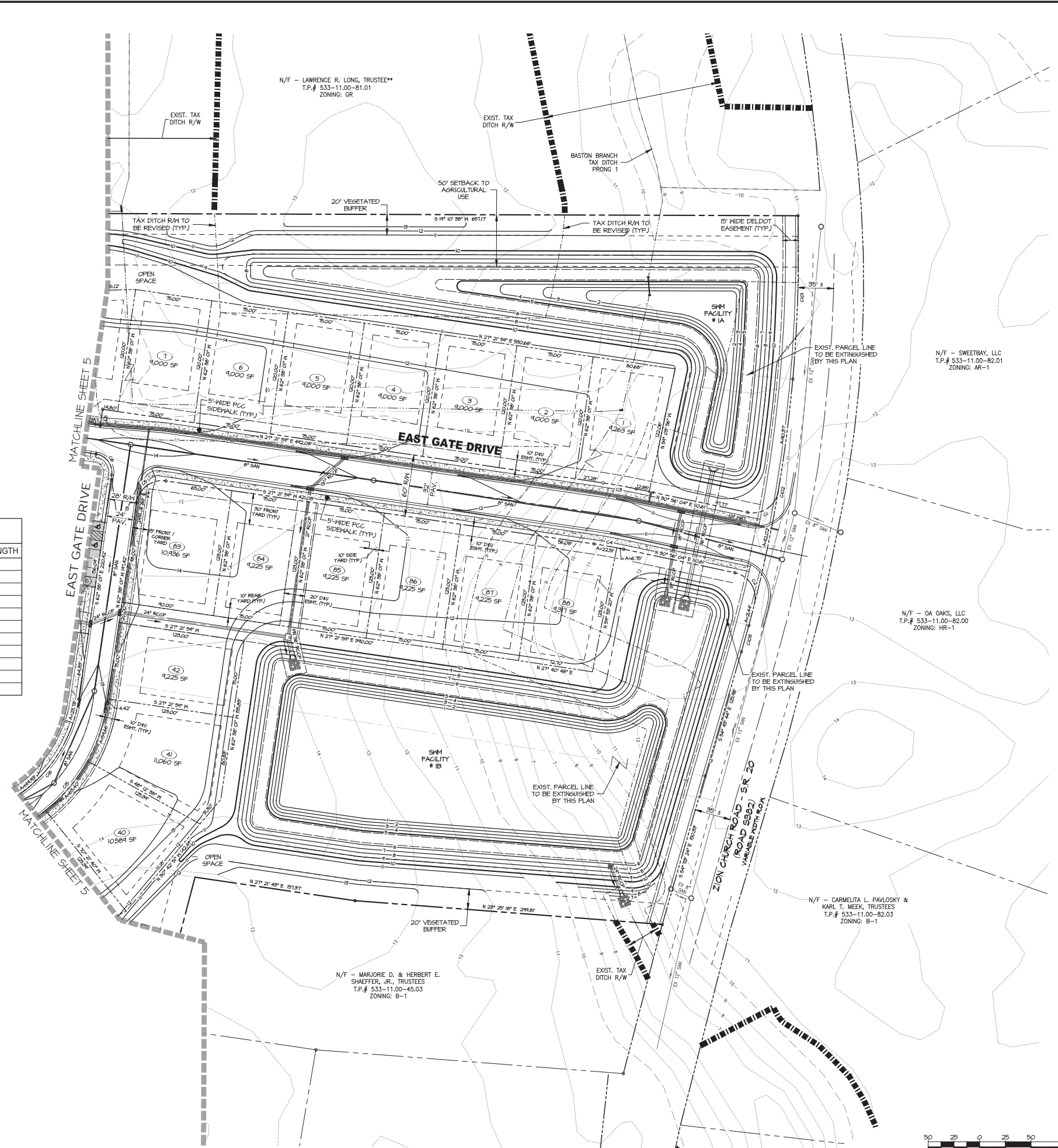
	EXIST. PARCEL BOUNDARY
	EXIST. RIGHT-OF-WAY
	EXIST. LOT LINE
	EXIST. ZONING
	EXIST. WOODS
	PROP. WOODS TO REMAIN
	PROP. CURB
	PROP. SIDEWALK
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	EXIST. TAX DITCH R/W (TO REMAIN)
	EXIST. TAX DITCH R/W (TO BE REMOVED)
	EXIST. CONTOUR
	SPOT ELEVATION
	EXIST. STORM DRAIN
	PROP. STORM DRAIN
	EXIST. SANITARY SEWER
	PROP. SANITARY SEWER
	EXIST. WATER LINE
	PROP. WATER LINE

LOT LINE TABLE

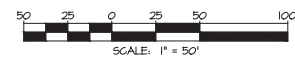
LINE #	LENGTH	DIRECTION
L6	16.00	N 62° 38' 01" W

RIGHT OF WAY CURVE TABLE

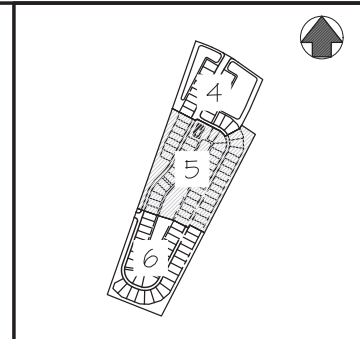
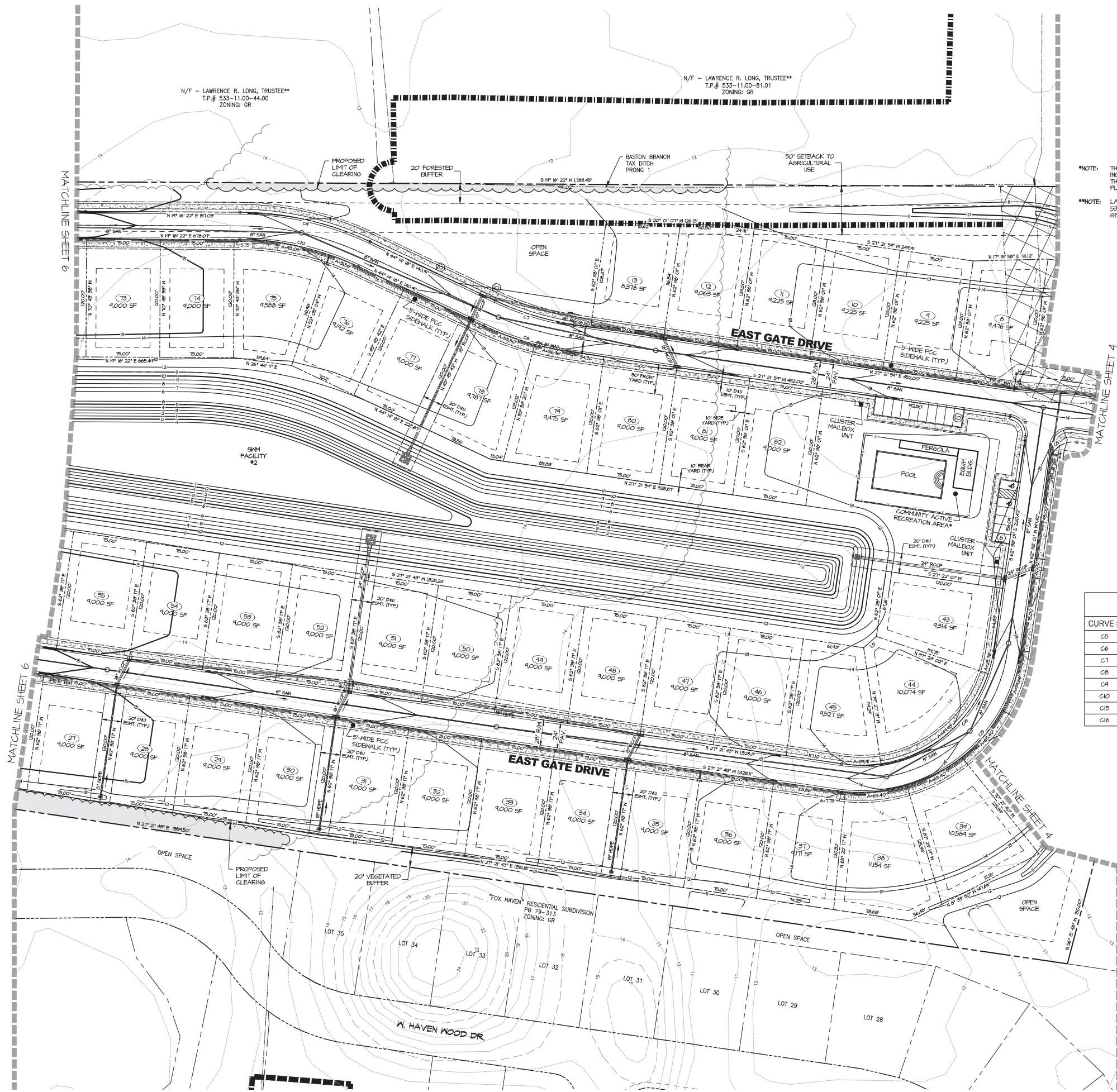
CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	40.27'	25.00'	42.28°	N 15° 12' 27" W	36.05'
C2	40.27'	25.00'	42.28°	N 77° 04' 34" E	36.05'
C3	39.00'	530.00'	3.57°	N 24° 04' 01" E	39.00'
C4	24.27'	410.00'	3.57°	S 29° 04' 01" W	24.26'
C5	34.27'	25.00'	40.00°	S 17° 38' 04" E	35.36'
C6	28.27'	18.00'	40.00°	S 72° 21' 54" W	25.46'
C15	251.60'	164.00'	40.00°	S 17° 38' 04" E	231.42'
C16	213.62'	136.00'	40.00°	S 17° 38' 04" E	142.33'
C101	154.13'	1341.30'	6.52°	S 64° 11' 25" E	154.04'
C102	243.83'	1405.36'	4.44°	S 60° 52' 42" E	243.52'
C103	26.56'	1341.31'	1.04°	S 55° 19' 27" E	26.56'



***NOTE: LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-81.01) ARE UTILIZED FOR AGRICULTURAL PURPOSES; SEE SHEET 2, GENERAL NOTE 6.



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	GR - COASTAL AREA CLUSTER PRELIMINARY PLAN FOR EAST GATE
ENGINEER'S SEAL: BALTIMORE HUNDRED	SUSSEX COUNTY, DELAWARE
DATE: 01/10/22 REVISIONS: REV. PER TAC / P&Z COMMENTS	JOB NO.: 21179 SCALE: 1"= 50' DATE: 06/09/21 DRAWN BY: CJF DESIGN BY: CJF REVIEW BY: PLT SHEET: 4 OF 6



NOTE: THE EXACT SIZE AND CONFIGURATION OF COMMUNITY ACTIVE RECREATION AREA, INCLUDING THE POOL, HOUSE, POOL, AND DECKING, SHALL BE DETERMINED DURING THE FINAL ENGINEERING PROCESS AND SHALL BE SHOWN ON A SEPARATE SITE PLAN PREPARED FOR THE SAME.

NOTE: LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-81.01) ARE UTILIZED FOR AGRICULTURAL PURPOSES, SEE SHEET 2, GENERAL NOTE 6.

FOX HAVEN OWNER INFORMATION

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32	533-11.00-497.00	LINDA M. SANDLOF	4791 / 57	GR
33	533-11.00-498.00	CHRISTIAN E. WEIR & DARLENE H. WEIR	4703 / 144	GR
34	533-11.00-499.00	PATCIA A. ASHURN & ALLEN J. ASHURN	4719 / 315	GR
35	533-11.00-500.00	KEVIN J. GRIMM & BARBARA J. GRIMM	4718 / 35	GR

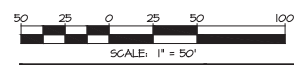
LOT LINE TABLE

LINE #	LENGTH	DIRECTION
L5	17.21	S 22° 21' 18" E
L6	16.00	N 62° 38' 01" W

RIGHT OF WAY CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C5	34.21'	25.00'	90.00°	S 17° 38' 01" E	35.36'
C6	28.21'	18.00'	90.00°	S 72° 21' 54" W	25.46'
C7	84.22'	286.00'	16.87°	N 35° 48' 04" E	83.92'
C8	42.46'	314.00'	16.87°	N 35° 48' 04" E	42.13'
C9	136.82'	314.00'	24.91°	N 31° 45' 20" E	135.74'
C10	124.62'	286.00'	24.91°	N 31° 45' 20" E	123.64'
C15	257.60'	164.00'	90.00°	S 17° 38' 04" E	231.92'
C16	219.62'	136.00'	90.00°	S 17° 38' 04" E	142.93'

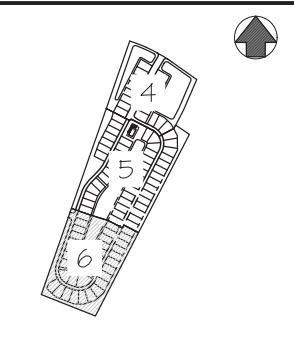
- LEGEND
- EXIST. PARCEL BOUNDARY
 - EXIST. RIGHT-OF-WAY
 - EXIST. LOT LINE
 - EXIST. ZONING
 - EXIST. WOODS
 - PROP. WOODS TO REMAIN
 - PROP. CURB
 - PROP. SIDEWALK
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 - PROP. ROAD CENTERLINE
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 - EXIST. CONTOUR
 - PROP. CONTOUR
 - SPOT ELEVATION
 - EXIST. STORM DRAIN
 - PROP. STORM DRAIN
 - EXIST. SANITARY SEWER
 - PROP. SANITARY SEWER
 - EXIST. WATER LINE
 - PROP. WATER LINE



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ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
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NEW CASTLE, DELAWARE 19720
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FAX: (302) 326-2399
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GR - COASTAL AREA CLUSTER
PRELIMINARY PLAN
FOR
EAST GATE

DATE	REVISIONS	JOB NO.:
01/10/22	REV. PER TAC / P&Z COMMENTS	21179
		SCALE: 1"= 50'
		DATE: 06/09/21
		DRAWN BY: CJF
		DESIGN BY: CJF
		REVIEW BY: PLT
		SHEET: 5 OF 6



KEY MAP
SCALE: 1"=800'

**NOTE: LANDS OF LAWRENCE R. LONG, TRUSTEE (PARCELS 533-11.00-44.00 & 533-11.00-81.00) ARE UTILIZED FOR AGRICULTURAL PURPOSES; SEE SHEET 2, GENERAL NOTE 6.

LEGEND

- EXIST. PARCEL BOUNDARY
- EXIST. RIGHT-OF-WAY
- EXIST. LOT LINE
- EXIST. ZONING
- EXIST. WOODS
- PROP. WOODS TO REMAIN
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- EXIST. STORM DRAIN
- PROP. STORM DRAIN
- EXIST. SANITARY SEWER
- PROP. SANITARY SEWER
- EXIST. WATER LINE
- PROP. WATER LINE

FOX HAVEN OWNER INFORMATION

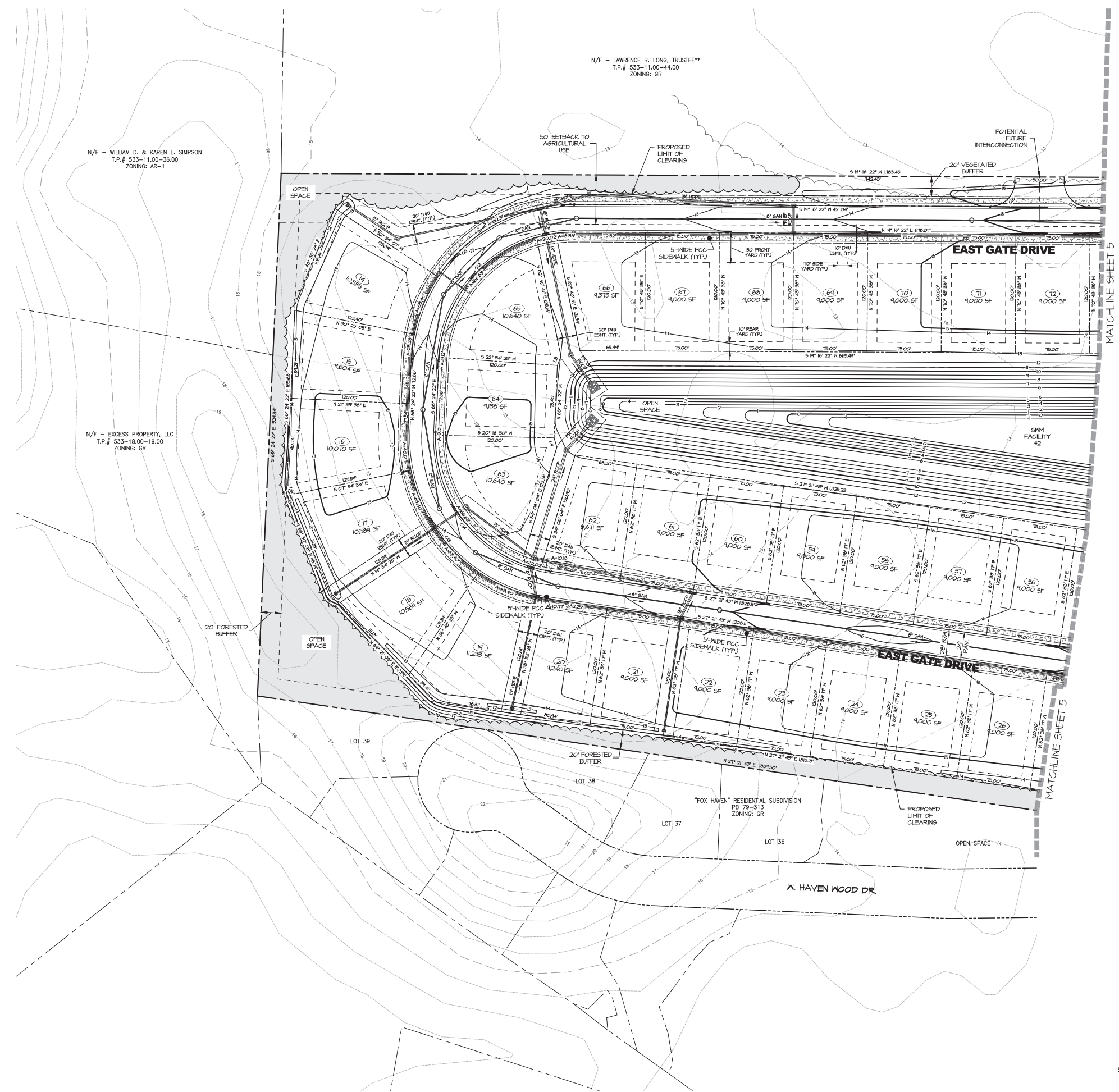
LOT	PARCEL	OWNER	BOOK / PAGE	ZONING
36	533-11.00-501.00	WENDY J. SCOTT	4879 / 308	GR
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38	533-11.00-503.00	THERESA MOSER & TODD KURTZ	4922 / 297	GR
39	533-11.00-504.00	KEVIN J. CLARK	5119 / 99	GR

RIGHT OF WAY CURVE TABLE

CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C11	250.91'	164.00'	87.68°	N 24° 34' 00" W	227.11'
C12	208.12'	136.00'	87.68°	N 24° 34' 00" W	188.40'
C13	241.10'	164.00'	84.23°	S 64° 28' 40" W	219.41'
C14	191.94'	136.00'	84.23°	S 64° 28' 40" W	182.41'
C17	34.21'	25.00'	90.00°	S 64° 16' 22" W	35.36'
C18	34.21'	25.00'	90.00°	N 25° 43' 38" W	35.36'

LOT LINE TABLE

LINE #	LENGTH	DIRECTION
L1	5.00	N 10° 43' 38" W
L2	5.00	N 10° 43' 38" W
L3	4.82	N 41° 12' 12" W
L4	4.82	N 81° 36' 33" W



N/F - WILLIAM D. & KAREN L. SIMPSON
T.P.# 533-11.00-36.00
ZONING: AR-1

N/F - EXCESS PROPERTY, LLC
T.P.# 533-18.00-19.00
ZONING: GR

N/F - LAWRENCE R. LONG, TRUSTEE**
T.P.# 533-11.00-44.00
ZONING: GR

"FOX HAVEN" RESIDENTIAL SUBDIVISION
PB 79-313
ZONING: GR

MRA
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NEW CASTLE, DELAWARE 19720
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**GR - COASTAL AREA CLUSTER
PRELIMINARY PLAN
FOR
EAST GATE**

DATE	REVISIONS	JOB NO.:
01/10/22	REV. PER TAC / P&Z COMMENTS	21179
		SCALE: 1"= 50'
		DATE: 06/09/21
		DRAWN BY: CJF
		DESIGN BY: CJF
		REVIEW BY: PLT
		SHEET: 6 OF 6



Appendix 4 – PLUS Review Response Letter

MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS



Date: January 27, 2022

Office of State Planning Coordination
122 Martin Luther King Jr. Blvd. South
Dover, DE 19901

Attention: Mr. David L. Edgell, Director

Subject: East Gate (formerly Twin Lakes)
PLUS Review 2020-11-08

Dear Mr. Edgell,

We are in receipt of your comment letter dated December 18, 2020 with regard to Concept Plan associated with the proposed East Gate (formerly known as Twin Lakes) residential subdivision to be located in Sussex County and respond as follows:

Strategies for State Policies and Spending

Comment 1: This project is located in Investment Levels 3 according to the Strategies for State Policies and Spending. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer-term future, or areas that may have environmental or other constraints to development. State investments may support future growth in these areas but may have priorities for the near future. Level 3 areas may mean that there may be environmental concerns on or near the parcel and we would encourage you to design the site with respect for the environmental features which are present.

This project was reviewed in September 2020 and at that time the proposal was also for 102 units, however the units were clustered on the front portion of the lot to avoid the forest and wetlands on the site. This resulted in approximately 28 acres of open space. The current proposal is seeking to use the entire site for development leaving approximately 15 acres of open space but removing much of the forested area and wetlands.

It is our understanding that the change to the site plan is due to the April 21, 2020 federal clarification on the Navigable Waters Protection Rule for the Definition of Waters of the United States ("WOTUS" Rule). With the new site plan, approximately 8 acres of forested non-tidal wetlands is anticipated to be filled by this development proposal, with no wetland permitting or wetland mitigation required, resulting in significant adverse effects for drainage, water quality, and plant and animal species.

Regardless of new federal permitting standards, these non-tidal wetlands provide significant flood attenuation, water quality benefits, and habitat for plant and animal species. Filling these wetland areas, then building homes and infrastructure upon them, will directly result in adverse drainage and flooding impacts for future residents.

As noted above, this parcel is within a Level 3 Investment area. State Strategies in Level 3 areas call for the protection of environmental features in and around the site. Therefore, the State objects to the current site plan for this parcel and asks that the County to

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Abingdon, MD ♦ Baltimore, MD ♦ Laurel, MD ♦ Towson, MD ♦ Georgetown, DE ♦ New Castle, DE ♦ Leesburg, VA ♦ Raleigh, NC
(410) 515-9000 (410) 935-5050 (410) 792-9792 (410) 821-1690 (302) 855-5734 (302) 326-2200 (703) 994-4047 (984) 200-2103

PLUS

Re: East Gate - 2019-12-07

January 27, 2022

Page 2 of 18

consider requiring the developer to protect this valuable resource by reverting to the September 2020 site plan. The September 2020 site plan is a true cluster subdivision that will allow the owner the same number of units while protecting Delaware's natural resources and protect future residents of this area from the drainage and flooding impacts that can result from filling wetland areas.

Response: Comment acknowledged. The project site area has direct access to public water and sanitary sewer; the site is located within the Coastal Area growth zone as designated by the Sussex County Comprehensive Plan. Site design, including preservation and protection of existing natural resources, will be performed in accordance with requirements of the Sussex County Code in effect at the time of the Preliminary Plan application.

Code Requirements/Agency Permitting Requirements

Department of Transportation - Contact Bill Brockenbrough 760-2109

Comment 2: The site access on Zion Church Road (Delaware Route 20) must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <https://www.deldot.gov/Business/subdivisions/index.shtml?dc=changes>

Response: Comment acknowledged; the site access will be designed in accordance with the Development Coordination Manual (DCM).

Comment 3: 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 https://deldot.gov/Business/subdivisions/pdfs/Meeting_Request_Form.pdf?08022017

Response: Comment acknowledged; a Pre-Submittal Meeting with the DelDOT Subdivision Section will be scheduled prior to submittal of plans for review.

Comment 4: Section 1.6 of the Manual addresses the location of development entrances. The site access must be located in accordance with that section and specifically in accordance with Figure 1.5.1 which is referenced therein.

Response: Comment acknowledged; project site entrance will be located in accordance with requirements of the DCM.

Comment 5: Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when construction plans are submitted for review.

Response: Comment acknowledged; review fees are anticipated to be provided in accordance with current DelDOT policy.

Comment 6: 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 1,274 vehicle trip ends per day. Using the 10th edition of the Institute of Transportation Engineers' Trip Generation Manual, DelDOT calculates this number to be 1,059 and estimates the weekday morning and evening peak hour trip ends at 77 and 104, respectively.

Section 2.2.2.2 of the Development Coordination Manual provides that for developments

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generating less than 2000 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, \$10,590. AWS Fees are used to fund traffic studies, not to build improvements.

DelDOT anticipates requiring the developer to improve Zion Church Road, within the limits of their frontage, to meet DelDOT's Major Collector Road standards, which include 72-foot lanes and 8-foot shoulders. Presently, DelDOT has begun work on an area study, tentatively named the Southeast Sussex Circulator Study, from which it anticipates identifying transportation improvements needed near this development. Depending on the timing of that study and this development, DelDOT may require participation in some of those improvements. DelDOT will definitely require the developer to enter a signal agreement for the intersection of Zion Church Road, Bayard Road (Sussex Road 384) and Bunting Road (Sussex Road 389). The developer may contact Ms. Jennifer Cinelli, a planner in DelDOT's Statewide and Regional Planning Section for more information on the Southeast Sussex Circulator Study as needed. Ms. Cinelli may be reached at (302) 7 60-2549 or Jennifer.Cinelli@delaware.gov.

Response: Comment acknowledged; as noted in the Service Level Evaluation performed by the Department as part of the Sussex County Preliminary Plan process, a TIS study was recently completed in the area for the Twin Cedars residential project. The developer for the East Gate project anticipates participating in the AWS alternative and make proportional contributions to the projects under design as part of the Southeast Sussex Circulator Study.

Comment 7: As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT require dedication of right-of-way along the site's frontage on Zion Church Road. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the physical centerline along both roads. 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."

Response: Comment addressed; as shown on the Preliminary Plan, right-of-way dedication for Zion Church Road has been provided along the project frontage to current DelDOT standards. Dedication of this right-of-way will be noted no final Record Plans utilizing DelDOT standard language requirements.

Comment 8: 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 Zion Church 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."

Response: Comment addressed; the requested easement area has been shown on the plan. The Record Plan will include the requested easement note in accordance with DelDOT requirements.

Comment 9: Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:

- A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.

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- Depiction of all existing entrances within 450 feet of the entrances on Zion Church Road.
- Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

Response: Comment acknowledged; Record Plans will be prepared in and submitted for DelDOT review in accordance with current DelDOT requirements.

Comment 10: Section 3.5.4.2 of the Manual addresses requirements for Shared Use Paths (SUP) and sidewalks. For projects in Level 3 and 4 Investment Areas, installation of paths or sidewalks along the frontage on State-maintained roads is at DelDOT's discretion. DelDOT anticipates requiring the developer to build an SUP along their frontage on Zion Church Road.

Response: Comment addressed; the easement area for a Shared Use Path has been shown on the Preliminary Plan as noted above. The requirement to install the Shared Use Path will be discussed with the Subdivision Engineer to determine confirm DelDOT's preference as part of the pre-submittal process.

Comment 11: In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bio swales, shall be located a minimum of 20 feet from the ultimate State right-of-way along Zion Church Road.

Response: Comment addressed; all SWM areas will be more a minimum of 20' beyond the area of DelDOT Right-of-Way dedication.

Comment 12: In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrances and how long those lanes should be. The worksheet can be found at <https://deldot.gov/Business/subdivisions/index.shtml>.

Response: Comment acknowledged; site entrance will be designed in accordance with current DelDOT requirements. Supporting design calculations will be provided as part of the plan review package. Design deviation requests will be submitted for DelDOT consideration in accordance with current DelDOT policy.

Comment 13: In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.

Response: Comment acknowledged; site distance triangles will be shown in accordance with current DelDOT requirements. Supporting design calculations will be provided as part of the plan review package.

Comment 14: 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.

Response: Comment acknowledged; plans will be developed and submitted for DelDOT review in accordance with current DelDOT requirements.

Department of Natural Resources and Control - Contact Beth Krumrine 735-3480

Concerns Identified Within the Development Footprint

Wetlands

Comment 15: This project was previously reviewed through PLUS in September 2020. According to the September application, approximately 8.6 acres of wetlands existed on the site. Development was limited to the northern portion of the site, avoiding development on forested wetlands to the south. As a result of the April 21, 2020 federal clarification on the Navigable Waters Protection Rule for the Definition of Waters of the United States ("WOTUS" Rule), the newest project application now proposes to expand housing into the forested wetland areas. Consequently, approximately 8 acres of forested non-tidal wetlands is anticipated to be filled by this development proposal, with no wetland permitting or wetland mitigation required, resulting in significant adverse effects for drainage, water quality, and plant and animal species.

Regardless of new federal permitting standards, these non-tidal wetlands provide significant flood attenuation, water quality benefits, and habitat for plant and animal species. Filling these wetland areas, then building homes and infrastructure upon them, will directly result in adverse drainage and flooding impacts for future residents.

- Revert to September 2020 plan. If the project proposes to disturb (dredge or fill) jurisdictional wetlands under the U.S. Army Corps of Engineers, a delineation of waterways and wetlands is required. In certain circumstances, additional certifications from DNREC Wetlands & Subaqueous Lands Section will be required as part of the U.S. Army Corps of Engineers permit process.

Response: Recommendations to revert to previous site configuration are noted. Per DNREC comment, the site design was revised in response to a change at the federal level that affected the interpretation of federally protected wetlands. As a result, the areas in question are no longer regulated at the federal, state, or local level. The site design will comply with current Federal, State, and County laws

Comment related to need for wetlands delineation has been addressed. A wetlands delineation was performed by Geo-Technology Associates, Inc. (GTA) and a jurisdictional determination was issued by the U.S. Army Corps of Engineers. Permitting of any disturbance to the regulated wetlands and/or subaqueous lands will be processed through the Army Corp and DNREC, as applicable.

Comment 16: For a list of consultants and engineers please visit the DNREC Wetlands and Subaqueous Lands Section link:
<http://www.dnrec.delaware.gov/wr/Documents/WSLS/Consultant%20List.pdf>

Response: Comment addressed; as noted above, wetland delineation has been performed by GTA.

Comment 17: Contact: U.S. Army Corps of Engineers (Dover Office) at DoverRegulatoryFieldOffice@usace.army.mil or (267) 240-5278.
Website: <https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit/>

Response: Information acknowledged.

Tax Ditches

Comment 18: The proposed project lies within the Batson Branch Tax Ditch Tax Ditch. Tax ditch Rights-of- Way exist in areas of proposed development on the site. These Rights-of-Way restrict certain activities within a set distance from the tax ditch, which varies by location.

Contact the DNREC Drainage Program to acquire approval for the revisions of the proposed changes to existing on-site tax ditches and associated Rights-of-Way prior to the project application meeting.

Response: Comment acknowledged; coordination will be made with the DNREC Drainage Program and the tax ditch managers for the Batson Branch Tax Ditch.

Comment 19: Permanent obstructions, such as stormwater management areas, buildings, sheds, and streets are not allowed within the tax ditch Rights-of-Way. Wetland permits may be required before clearing, cleaning, dredging ditches.

Response: Comment acknowledged; coordination will be made with the DNREC Drainage Program and the tax ditch managers for requirements related to the Tax Ditch right-of-way. Permits for modifications to the tax ditch will be pursued through the U.S. Army Corps of Engineers and/or DNREC Subaqueous Lands, as applicable.

Comment 20: Contact: DNREC Drainage Program at (302) 855-1930. Website: <http://www.dnrec.delaware.gov/swc/Drainage/Pages/TaxDitches.aspx>

Response: Information acknowledged.

Vegetated Buffer Zones

Comment 21: Vegetated buffer zones placed adjacent to waterways and wetlands help to improve water quality by reducing sediment and pollutants loads. They also provide valuable habitat and can help prevent encroachment of human activities into ecologically sensitive areas. Vegetated buffers are not equivalent to setbacks, as residential lots, walkways, and stormwater management facilities should not be contained within the vegetated buffer zone.

The applicant must comply with minimum vegetated buffer widths as identified within county and municipal codes.

Response: Comment addressed; buffer areas have been provided in accordance with the Sussex County Code in effect at the time of the Preliminary Plan application.

Stormwater Management

Comment 22: This project/site has met the minimum threshold of 5000 square feet of land disturbing activity under the Delaware Sediment and Stormwater Program.

A Sediment and Stormwater Plan must be developed and approved prior to any land disturbing activity taking place on the site. This plan approval agency will vary, depending on the location of the project, or whether it is operated by a state agency or school district. The appropriate agency for this project is the Sussex Conservation District.

Response: Comment acknowledged; Sediment and Stormwater Management approval will be obtained for the proposed project through the Sussex Conservation District (SCD).

Comment 23: Additionally, construction activities that exceed 1.0 acre of land 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

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submitted electronically (<https://apps.dnrec.state.de.us/eNOI/default.aspx>) to the DNREC Division of Watershed Stewardship, along with the \$195 fee.

Response: Comment acknowledged; NOI will be submitted to DNREC as part of the E&S approval through SCD.

Comment 24: Schedule a project application meeting with the appropriate agency prior to moving forward with the stormwater and site design. As part of this process, you must submit a Stormwater Assessment Study.

Response: Comment acknowledged; a Stormwater Assessment Study will be submitted to SCD as part of the pre-application process for Sediment and Stormwater design.

Comment 25: Appropriate plan review agency contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219. Website: <https://www.sussexconservation.org>
General stormwater contact: DNREC Sediment and Stormwater Program at (302) 739-9921. E-mail: DNREC.Stormwaterer@delaware.gov
Website: <http://www.dnrec.delaware.gov/swc/Pages/SedimentStormwater.aspx>

Response: Information acknowledged.

Water Quality (Pollution Control Strategies)

Comment 26: 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 Inland Bays Watershed. Consult with the appropriate plan review agency to determine if stricter stormwater management standards may apply for development projects in this area.

Response: Comment acknowledged; stormwater management, including water quality, will be provided in accordance with the requirements of the Delaware Sediment and Stormwater Regulations. Requirements for TMDL reductions will be discussed as part of the pre-submittal process.

Comment 27: Contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219
Website: <https://www.sussexconservation.org/>

Response: Information acknowledged.

Hydric Soils

Comment 28: Hydric Soil Group C or D soils have been identified on the site (specifically poorly drained A/D). These soil types are typically not conducive to utilizing infiltration stormwater Best Management Practices such as bioretention and infiltration basins, which must meet minimum infiltration requirements.

Any stormwater Best Management Practices that propose the use of infiltration or natural recharge shall include a soils investigation.

Response: Comment acknowledged; due to the underlying soils conditions, and the likelihood of shallow groundwater conditions throughout the site, it is anticipated that Extended Detention Wet Pond facilities will be utilized for stormwater management on the project site. Geotechnical evaluations will be performed on the site to provide guidance on the appropriate stormwater approach to utilize.

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Comment 29: Contact: DNREC Sediment and Stormwater Program at (302) 739-9921
E-mail: DNREC.Stormwater@delaware.gov
Website: <http://www.dnrec.delaware.gov/swc/Pages/SedimentStormwater.aspx>

Response: Information acknowledged.

Nutrient Management Plan

Comment 30: This project proposes open space exceeding 15.9 Acres, which includes the stormwater management pond.

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.

Response: Comment acknowledged; requirements for nutrient management plan will be incorporated into the Landscape Plan prepared for the site.

Comment 31: Contact: Delaware Department of Agriculture's Nutrient Management Program at (302) 698-4558. Website: <https://agriculture.delaware.gov/nutrient-management/>

Response: Information acknowledged.

Wastewater Permitting - Large Systems

Comment 32: Sussex County (permittee) holds existing permits with the DNREC Groundwater Discharges Section's Large Systems Branch.

It is the responsibility of the permittee to notify the Large Systems Branch if the capacity of the rate of wastewater disposal is to be updated.

Response: Comment acknowledged; wastewater approval will be coordinated through Sussex County Engineering and DNREC Groundwater Discharges Section.

Comment 33: Contact: DNREC Large Systems Branch at (302) 739-9948
Website: <https://dnrec.alpha.delaware.gov/water/groundwater/>

Response: Information acknowledged.

State Historic Preservation Office - Contact Carlton Hall 736-7400

Comment 34: Prehistoric archaeological potential is low. Majority of soils are poorly drained, not prime farmland. Although the creek that flows nearby/through the parcel is shown on Beers 1868, it's hard to tell the original path vs artificial rerouting since the historic aerials show early changes having been made.

Response: Comment acknowledged.

Comment 35: Historic archaeological potential is low. Historic aerials and topos don't show anything on the parcel, and Beers shows empty land.

Response: Comment acknowledged.

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:

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Fire Protection Water Requirements:

Comment 36: Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.

Response: Comment acknowledged; water distribution system will be coordinated with Artesian Water to designed to provide required fire flows in accordance with the Delaware State Fire Prevention Regulations (DFSFR). Hydrant spacing design will achieve maximum 800' spacing as noted in accordance with the current DFSFR.

Comment 37: Where a water distribution system is proposed for townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants

Response: Comment acknowledged; no townhouse type dwelling units are proposed by the current project.

Fire Protection Features:

Comment 38: For townhouse buildings, provide a section I detail and the UL design number of the 2-hour fire rated separation wall on the Site plan

Response: Comment acknowledged; no townhouse type dwelling units are proposed by the current project.

Accessibility:

Comment 39: All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. The road island at the entrance from the main thoroughfare must be constructed so fire department apparatus may negotiate it. If a "center island" is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision. Where traffic circles (roundabouts) are located in the subdivision, they too are to be arranged in such a manner that they will not adversely affect quick and unimpeded travel of fire apparatus throughout the subdivision. Additionally, where trees are to be situated adjacent to travel roads in the subdivision, some forethought should be exercised regarding how future growth of the trees may affect fire department travel throughout the subdivision

Response: Comment acknowledged; site entrance and all internal roadways will be designed in accordance with the requirements of DelDOT and Sussex County, as applicable. No traffic circles are anticipated to be utilized for this project. All street trees will be placed outside of the road right-of-way and are not anticipated to interfere with vehicular traffic within the roadway areas.

Comment 40: 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.

Response: Comment acknowledged; all structures will be located such that they are within 100' of the road area for fire apparatus accessibility.

Comment 41: Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be

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38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.

Response: Comment acknowledged; no dead end streets in excess of 300' are proposed by this project.

Comment 42: The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

Response: Comment acknowledged; no speed bumps are anticipated to be utilized within this project.

Comment 43: The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

Response: Comment acknowledged; no gates are anticipated to be utilized to limit access to the subdivision.

Gas Piping and System Information:

Comment 44: Provide type of fuel proposed, and show locations of bulk containers on plan.

Response: Comment acknowledged; no bulk fuel storage is proposed on site by the current project.

Required Notes:

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

Response: Comment acknowledged; plans will be prepared and submitted to the SFMO in accordance with the current Delaware Fire Regulations.

Sussex County Engineering Department - Contact Chris Calio 855-1299

Comment 45: Unified Sanitary Sewer District, Johnson's Corner area and connection to the sewer system is mandatory. A "Use of Existing Infrastructure Agreement" is required for new projects. Sussex County Code, Chapter 110, requires that the Engineer and/or Developer request a Sewer System Concept Evaluation (SSCE) from the Utility Planning Department for the project by providing the parcel(s) estimated equivalent dwelling units (EDU) for the project, along with payment of a \$1,000.00 fee for the evaluation and must be approved prior to approval of construction plans. The fee is to be payable to Sussex County Council. The Utility Planning Department will review the parcel(s) and EDU, confirm capacity, provide the connection point and define any additional parcels that

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must be served as part of the project. Should it be determined that a pump station is required for the project, additional information may be requested. This information will be conveyed to the engineer and/or developer as well as the Sussex County Public Works department. The Public Works Division will use this information when reviewing construction drawings to verify that the correct connection point is used, and all required parcels are served. The proposed development will require a developer installed collection system in accordance with Sussex County standards and procedures

Response: Comment acknowledged; evaluation of the sanitary sewer system was made by Sussex County Utility Planning as part of a previous application for the subject parcels. It is our understanding that financial contributions for improvements to the existing sanitary sewer infrastructure were previously made by the property owner. We will work with the Utility Planning and Sussex County Engineering to finalize any sewer agreements. All proposed public sewer system will be designed in accordance with the requirements of Sussex County and approved through the Sussex County Engineering.

Comment 46: The proposed development will require a developer installed collection system in accordance with Sussex County standards and procedures.

Response: Comment acknowledged; public sanitary sewer system will be constructed by the developer in accordance with the requirements of Sussex County.

Recommendations/Additional Information

This section includes a list of site specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site design, and it is hoped (**but in no way required**) that the applicant will open a dialogue with the relevant agencies to discuss how the suggestions can benefit the project.

Department of Transportation - Bill Brockenbrough 760-2109

Recommendation 1: From the discussion at the PLUS meeting, DeIDOT understands that the County is encouraging the developer to provide a stub street to the property line in the area of Lots 76 through 83 to allow for an interconnection to the lands to the Long property (Tax Parcel No. 533-11.00-44.00). DeIDOT supports such interconnections as being consistent with Section 3.5 of the Manual.

Response: Comment addressed; an interconnection to the Long property, located to the northwest of the East Gate site, has been provided as shown on the Preliminary Plan.

Recommendation 2: 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 Zion Church Road.

Response: Comment acknowledged; no substations or wastewater facilities are anticipated to be constructed by the Developer as part of the proposed East Gate project.

Recommendation 3: The applicant should expect a requirement that all PLUS and Technical Advisory Committee (TAC) comments be addressed prior to submitting plans for review.

Response: Comment acknowledged; plans will be submitted to DelDOT with revisions to address TAC and PLUS comments as noted above.

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Recommendation 4: 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 <https://www.deldot.gov/Business/subdivisions/>.

Response: Comment acknowledged; plans to be submitted to DelDOT will reference latest General Notes for Record Plans, Entrance Plans, and Maintenance of Traffic Plans.

Department of Natural Resources and Environmental Control – Beth Krumrine 735-3480

Concerns Identified Within the Development Footprint

Wetlands

Recommendation 5: Do not disturb wetland areas, even if they are no longer considered to be jurisdictional wetlands under current federal requirements. Wetlands are a critical part of our natural environment. They protect reduce the impacts of flooding, absorb pollutants, and improve water quality. Wetlands provide habitat for animals and plants and many contain a wide diversity of life, supporting plants and animals that are found nowhere else. Filling upwards of 30 acres of wetland will cause drainage issues for future homeowners and may increase drainage issues off site.

Response: Recommendation acknowledged; all proposed site improvements will be designed and constructed in accordance with local, county, state, and federal requirements. On-site stormwater management will be designed in accordance to mitigate discharge of runoff from the site in accordance with the Delaware Sediment and Stormwater Regulations.

Recommendation 6: Schedule a meeting through the DNREC Joint Permit Processing (JPP), which are held on the 3'd Thursday of every month. In order for your project to be seen through the JPP, you must submit the request through the following website: http://www.dnrec.delaware.gov/wr/Services/OtherServices/Documents/Jurisdictional_Determination_and_Map_Change_Request_Form.pdf

Response: Recommendation addressed; a jurisdictional determination was issued by the U.S. Army Corps of Engineers on March 26, 2021.

Recommendation 7: Recommendations for wetland buffers are prescribed under the heading, Vegetated Buffer Zones.

Response: Recommendation acknowledged; buffers will be provided to all regulated wetland areas in accordance with the requirements of Sussex County in effect at the time of application submittal

Tax Ditches

Recommendation 8: All measures should be taken to ensure the project does not create off-site, downstream, or upstream drainage or flooding issues due to increased stormwater or changes in drainage patterns.

Response: Recommendation acknowledged; modifications to the existing tax ditches will be done in accordance with the requirements of DNREC Drainage Section and the Tax Ditch Managers for the Batson Branch Tax Ditch. On-site stormwater management will be provided in accordance with the DSSR to mitigate the impacts of stormwater runoff generated by the developed site.

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Recommendation 9: Any area designated as a drainage/utility easement should be open space and not owned by the individual landowners.

Response: Recommendation acknowledged; locations of drainage and utility easements will be provided in accordance with the requirements of the utility owners and Sussex County

Recommendation 10: 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.

Response: Recommendation acknowledged; the purpose of the easement is to restrict the construction of obstructions for access and maintenance of the utility for which the easement is provided. Preparation of the Landscape Plan will account for the location of existing and proposed utilities, and access to stormwater management facilities.

Recommendation 11: Contact: DNREC Drainage Program at (302) 855-1930.

Website: <http://www.dnrec.delaware.gov/swc/Drainage/Pages/TaxDitches.aspx>

Response: Information noted.

Forest Removal (Mature Forest)

Recommendation 12: An analysis of historical data indicates that the forest area proposed for development has maintained some degree of forest cover since 1937, meaning that it can be considered a mature forest. Mature forests possess the potential for rare, threatened, or endangered species that rely on this type of habitat. The September submittal of the preliminary site design (2020-09-04) proposed to avoid these areas, leaving contiguous tracts of forests intact. However, the newest preliminary plan submitted (2020-11-08) proposes the removal of 17.4 of 19.8 acres of mature forest.

Response: Recommendation acknowledged; any on-site clearing will be designed and performed in accordance with the requirements of Sussex County.

Recommendation 13: Removing forested areas for development should be avoided to the greatest extent possible. 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. Particularly, mature forests, as observed on this site, possess the potential for rare, threatened, or endangered species that rely on this habitat type.

Response: Recommendation acknowledged; any on-site clearing will be designed and performed in accordance with the requirements of Sussex County.

State-listed Threatened and Endangered Species

The Cypress-swamp sedge (*Carex jorii*) is a plant listed as a State of Delaware rare, threatened, or endangered species, which has been documented within the project area. It is listed under State Rank 52, State Status (unlisted), and Global Rank G4G5. Please visit the following website for definitions on the specified State Rank, State Status, and Global Ranking:

<http://www.dnrec.delaware.gov/fw/dwap/Pages/CGCNTTest.aspx>

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Recommendation 14: To minimize negative impacts to these species, we recommend that wetlands, natural habitats of the Cypress-swamp sedge (*Carex jorii*), be conserved to the maximum extent practicable.

Response: Recommendation acknowledged; any disturbance to jurisdictional wetlands will be performed in accordance with permit requirements as issued by the U.S. Army Corps of Engineers and/or DNREC, as applicable.

Recommendation 15: Habitat type of wetlands indicates the likely presence of turtles and salamanders. For threatened or endangered turtles and salamanders located in proposed developments containing forest habitat and wetlands, design the development to exclude traditional street curb and gutter systems. Instead, utilize vegetated swales or other road curbing (such as Cape Cod curbing) that allows small animals to climb out of the roadbed. This is preferred over steep, vertical curbing.

Response: Recommendation addressed; DelDOT Type 2 curbing (rolled styled) is proposed for use on all internal subdivision streets

Recommendation 16: Recommendations for buffers pertaining to rare and endangered species are prescribed under heading, Vegetated Buffer Zones.

Response: Recommendation acknowledged; buffers will be provided to all regulated wetland areas in accordance with the requirements of Sussex County in effect at the time of application submittal

Recommendation 17: Contact: DNREC Division of Fish & Wildlife at (302)735-3600.

Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/contact-information/>

Response: Information noted

Vegetated Buffer Zones

Recommendation 18: Incorporate a 100-foot vegetated buffer zone from the edge of all waterways and wetlands (including tax ditches) to protect water quality and to protect a potential State of Delaware rare and endangered species, the Cypress-swamp sedge (*Carex jorii*), having a natural habitat of swamps and wetlands.

Response: Recommendation acknowledged; buffers will be provided to all regulated wetland areas in accordance with the requirements of Sussex County in effect at the time of application submittal

Recommendation 19: Vegetated buffer zones should be left undisturbed during construction and should be identified outside of the Limit of Disturbance (LOD) on the engineering plans. In some instances, stormwater outfalls, conveyances, and emergency spillways may cross through these zones, and will require temporary disturbance during construction.

Response: Recommendation acknowledged; disturbance to proposed buffers will be minimized to the maximum extent practicable.

Recommendation 20: Vegetated buffer zones should be deeded as community open space. Signage should be installed at the edge and within the buffer zones to deter residents from encroaching into these common areas.

Response: Recommendation acknowledged; required buffer areas will be located within open space areas of the community, in accordance with the requirements Sussex County in effect at the time of application submittal

Recommendation 21: Maintain vegetated buffer zones as either grasslands/meadows or forest. Buffer zones should be planted exclusively with native trees and plants. Native plants are well-suited to our climate and require limited maintenance. They also provide an increasingly important role in the survival of native birds and beneficial insects whose habitat is shrinking due to development and climate change. In general, grass cutting for vegetated buffer zones should not occur between April 1st to July 31st to reduce impacts to nesting birds and other wildlife species that utilize meadows and grasslands for breeding habitat.

Response: Recommendation acknowledged; buffer areas will be planted in accordance with the requirements of Sussex County. Maintenance requirements of these buffer areas will be noted on the Landscape Plan to be prepared as part of the project approval with Sussex County Planning & Zoning.

Recommendation 22: Contact: DNREC Wildlife Species Conservation & Research Program at (302) 735-3600
Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/contact-information/>

Response: Information noted

Stormwater Management

Recommendation 23: Where 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 overall runoff including pollutant runoff.

Response: Recommendation acknowledged; due to shallow groundwater conditions on the project site, opportunities for infiltration based stormwater management practices are limited. Site stormwater management will be designed in accordance with the DSSR and approved by SCD.

Recommendation 24: For improved stormwater management, preserve existing trees, wetlands, and passive open space.

Response: Recommendation acknowledged; site stormwater management will be designed in accordance with the DSSR and approved by SCD.

Nutrient Management Plan

Recommendation 25: Calculation of open space should not include stormwater management areas

Response: Recommendation acknowledged; open space calculations will be determined in accordance with the requirements of the Sussex County Zoning Code. .

Mosquitoes

The project lies within a zone that will be impacted by mosquitoes due to its location near large expanses of wetlands.

Recommendation 26: Mosquito control issues are increasing as developments infringe on wetland areas, often leading to increased demands by the public for mosquito control services. These control services can be provided at no charge to homeowners and other entities by the state's Mosquito Control Section, or by a private company licensed in this area of specialty.

Response: Comment acknowledged; proposed on-site stormwater management facilities will utilize deep pool areas that we believe will allow for the establishment of mosquito

PLUS

Re: East Gate - 2019-12-07

January 27, 2022

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predators within the SWM facilities. Information related to supplemental mosquito control measures will be shared with the developer for consideration.

Recommendation 27: Contact: DNREC Division of Fish and Wildlife at (302) 739-9917
Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/mosquito-control/>

Response: Information acknowledged.

Recommendations for Sustainable Practices

Recommendation 28: 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.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 29: Consider the use of solar panels for the club house. Renewable energy infrastructure such as solar or geothermal will 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: www.de.gov/greenenergy, www.de.gov/eef.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 30: Incorporate non-motorized connectivity and install bicycle racks where feasible will help to facilitate non-vehicular travel modes.

Response: Recommendation to be addressed; a shared use path may be installed along the project frontage to provide for non-motorized connectivity to the surrounding areas. It is anticipated that a bike rack facility will be installed at the clubhouse for the use of the community residents

Recommendation 31: 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.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 32: The applicant should consider the use of recycled materials, such as reclaimed asphalt pavement, to reduce landfill waste, heat island effects on paved surfaces, and pavement costs.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 33: Include space for recycling dumpsters within the preliminary site design stage. These can be placed adjacent to trash dumpsters.

Response: Recommendation acknowledged; no dumpsters are proposed to be installed in support of the community development.

Concerns Identified Outside the Development Footprint

Current or Previous Contamination

Based on DNREC records, a remediation project, called Hitchens Pit, is located along the southern border of the project area. This project is closed and poses no risk.

Response: Information acknowledged.

Recommendation 34: For additional questions, contact the Division of Waste and Hazardous Substances Remediation Section at (302) 395-2600.

Website : <https://dnrec.alpha.delaware.gov/waste-hazardous/>

Response: Information acknowledged.

Recommendation 35: Additional information may also be found online by searching Delaware's Environmental Navigator at <http://www.nav.dnrec.delaware.gov/den3/>

Response: Information acknowledged.

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

Recommendation 36: 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/title6/c036/sc03/index.shtml>

Response: Recommendation acknowledged; information related to sprinkler installation will be shared with the homebuilders for their consideration.

Recommendation 37: Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.statefiremarshal.delaware.gov, technical services link, plan review, applications or brochures.

Response: Recommendation acknowledged; we anticipate holding a pre-submittal meeting with the Fire Protection Specialist in advance of application submittal.

Delaware Transit Corporation (DTC) - Contact Jared Kauffman 576-6062

Recommendation 38: A shared Use Pathway is needed along the frontage.

Response: Recommendation acknowledged; a shared use path will be constructed along the Zion Church Road frontage in accordance with DelDOT requirements.

Delaware Emergency Management Agency - Contact Philip Cane 659-2325

Recommendation 39: Depending on the location along Zion Church road, the construction could fall within the 7 ft. coastal inundation zone, caution is advised depending on location.

Response: Comment acknowledged; while portions of the tax ditch appear to be around elevation 7, the upland area (outside the limits of the existing tax ditch) appear to be at elevations or higher.

Sussex County Housing: Brandv Nauman 855-7779

Recommendation 40: 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.

Response: Information acknowledged; the East Gate project is anticipated to be developed as a market-rate single-family development.

Recommendation 41: 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.sussexcountypde.gov/affordable-and-fairhousing-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.

Response: Information acknowledged; details related to the County's resources will be provided to the developer and builder for their consideration.

Recommendation 42: 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.

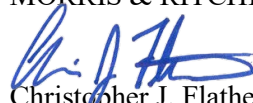
Response: Information acknowledged details related to the County's incentive programs will be provided to the developer and builder for their consideration.

Recommendation 43: 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.

Response: Comment acknowledged; site will be developed in accordance with the requirements of the Sussex County Subdivision and Zoning Codes.

A Preliminary Plan application has been submitted to Sussex County Department of Planning and Zoning review and approval. If you should require additional information regarding this PLUS application, please contact me to discuss at 302-326-2200.

Very Truly Yours,
MORRIS & RITCHIE ASSOCIATES, INC.


Christopher J. Flathers, P.E.
Senior Project Manager

cc: J. Whitehouse, Sussex County
K. McLaughlin, McKee Builders, LLC
J. Fuqua, Esq.
P. Tolliver, MRA
File

Appendix 5 – Soils Report

“Report of Subsurface Exploration”

Geo-Technology Associates, Inc. (GTA), June 3, 2021

GEO-TECHNOLOGY ASSOCIATES, INC.

GEOTECHNICAL AND
ENVIRONMENTAL CONSULTANTS

A Practicing Geoprofessional Business Association Member Firm



June 3, 2021

McKee Capital Partners, LP
940 W. Sprout Road, Suite 301
Springfield, Pennsylvania 19064

Attn: Mr. Mark McGonigal, Vice President

Re: Report of Subsurface Exploration
East Gate
Sussex County, Delaware

Dear Mr. McGonigal:

In accordance with our agreement dated December 30, 2020, Geo-Technology Associates (GTA) has completed subsurface exploration for the East Gate project located in Sussex County, Delaware. The exploration consisted of performing 27 borings within the proposed development area, visually classifying the soils, and performing limited laboratory testing. Transmitted herein is a report of our findings and conclusions about our preliminary recommendations with respect to general development implications. A report regarding stormwater management was submitted separately.

Unless McKee Capital Partners, LP specifies otherwise, the samples collected as a part of the subsurface exploration will be disposed of after a period of 60 days from the date of this report. Thank you for the opportunity to be of assistance. If you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
GEO-TECHNOLOGY ASSOCIATES, INC.

Travis Caraway, E.I.T.
Project Geotechnical Professional

Gregory R. Sauter, P.E.
Vice President



TPC/GRS/llh 31210297

21133 Sterling Avenue, Suite 7, Georgetown, DE 19947 (302) 855-9761

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REPORT OF SUBSURFACE EXPLORATION

East Gate

Sussex County, Delaware

June 3, 2021

Prepared For:

McKee Capital Partners, LP
940 W. Sprout Road, Suite 301
Springfield, Pennsylvania 19064

Attn: Mr. Mark McGonigal
Vice President

Prepared By:

GEO-TECHNOLOGY ASSOCIATES, INC.
Geotechnical and Environmental Consultants
21133 Sterling Avenue, Suite 7
Georgetown, Delaware 19947
302-855-9761 / Fax 302-856-3388

GTA Job No: 31210297

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**REPORT OF SUBSURFACE EXPLORATION
EAST GATE
SUSSEX COUNTY, DELAWARE
JUNE 2021**

INTRODUCTION

Geo-Technology Associates, Inc. (GTA) was retained by McKee Capital Partners, LP to perform a geotechnical exploration of the East Gate project. The scope of this study included field exploration, limited laboratory testing and analysis pertaining to general development implications. The field exploration consisted of 27 Standard Penetration Test (SPT) borings located throughout the property. Conclusions and recommendations regarding site development were derived from analysis of field data and plans titled *East Gate* prepared by Morris and Ritchie Associates (MRA), dated March 17, 2021. A stormwater management subsurface exploration report has been submitted separately.

SITE CONDITIONS

Referring to the attached Site Location Plan, the site consists of an almost rectangular-shaped parcel located along the south side of Zion Church Road (Route 20) approximately ¼-mile west of Bayard Road in Sussex County, Delaware. The northern portion of the property consists of overgrown vegetation and immature woods with mature woods located along the southern portion of the site. Topographically, the property is generally flat with the existing ground surface at the exploration locations ranges between approximate Elevation 10 and 16 Mean Sea Level (MSL), as determined by MRA.

PROPOSED CONSTRUCTION

The proposed construction will consist of 102 single family lots, roadways, stormwater management (SWM) facilities, and a community clubhouse/recreation area. The houses will be wood framed with slab-on-grade or conditioned crawlspace construction. The buildings will be served by public water and sewer. The grading scheme will generally entail several feet of cuts to fills in proposed building and roadway areas with upwards to 10 to 15 feet of cut in the pond areas.

SITE GEOLOGY

According to the Geologic Map of the Frankford and Selbyville Quadrangle, Delaware (2013) published by the Delaware Geological Survey, the site is within the Coastal Plain Physiographic Province. Coastal Plain sediments below the surficial deposits exposed in the site area were generally deposited in commonly estuarine environments of Quaternary geologic age. The Pleistocene deposits are designated as the Ironshire Formation of the Delaware Bay Group and typically consist of “Pale-yellow to light-gray, fine to very coarse sand... Thin, light-gray, silty clay beds occur but are not present at all localities.” Localized Swamp Deposits are present and generally consist of “...silty and clayey gravelly sand overlain by organic-rich fine to coarse sand.” Additionally, localized Dune Deposits are present in the southern end of the site, which consist of “white to pale-yellow, well-sorted, medium to fine sand.” Please refer to the publication for additional information.

SUBSURFACE EXPLORATION

To characterize subsurface conditions, 27 Standard Penetration Test (SPT) borings, designated as P-1 through P-6, P-8, P-11 and SWM-1 through SWM-19, were performed at the approximate locations shown on the Exploration Location Plan, presented as Figure 2 in Appendix A. Borings P-7, P-9 and P-10 were not performed as they were not accessible due to ponded water surrounding the locations. Boring locations were selected by GTA. The borings were staked with elevations determined by MRA. The exploration locations indicated on the plan should be considered approximate.

The SPT borings were advanced to depths of approximately 10 feet below existing grades for Borings P-1 through P-6, P-8 and P-11 and 14 to 16 feet for Borings SWM-1 through SWM-19, using an ATV-mounted CME-55 drill rig. Standard Penetration Testing was performed in the boreholes, with soil samples obtained at approximately 2-foot intervals in the upper 10 feet and then at 5-foot intervals thereafter at the roadway borings and samples obtained at approximately 2-foot intervals until the boring termination depths. Standard Penetration Testing involves driving a 2-inch O.D., 1 3/8 -inch I.D. split-spoon sampler with a 140-pound hammer free-falling 30 inches. The SPT N-value, given as blows per foot (bpf), is defined as the total number of blows required to drive the

sampler from 6 to 18 inches below the initial sampling depth. The boring holes were backfilled after longer term readings were performed.

Samples obtained from the borings were delivered to GTA's office for visual classification by GTA personnel. Selected samples recovered from the field exploration were submitted for limited laboratory analysis. The soil layers were classified in accordance with the Unified Soil Classification System (USCS). Classifications provided on the logs are visual descriptions, supplemented by available laboratory data. The exploration logs are presented in Appendix B. The logs represent our interpretation of the field data based on observation and selected soil classification tests. The interfaces indicated on the logs may be gradual.

SUBSURFACE CONDITIONS

The explorations generally confirm the description of subsurface conditions provided in the *SITE GEOLOGY* section of this report. Below a 4- to 24-inch-thick surface topsoil layer, the explorations generally encountered native subsoils visually classified as predominately consisting of Poorly-graded SANDs with Silt (USCS: SP-SM), Poorly-graded SANDs (SP), Silty SANDs (SM) and Clayey SANDs (SC). The relative densities of the granular soils were very loose to medium dense based on SPT N-values of 2 to 21 blows per foot (bpf).

At most exploration locations, the explorations encountered interspersed fine-grained native subsoil layers visually classified as predominately consisting of SILTs (USCS: ML) and Lean CLAYs (CL). The relative consistencies of the fine-grained soils were soft to very stiff based on SPT N-values of 2 to 18 bpf and cohesion values of 0.25 to 0.6 kips per square foot (ksf).

GTA's estimate of the seasonal high groundwater level at the borings is based upon water levels above seasonal high; and soil coloring, saturation and/or mottling. The results of the groundwater level readings and GTA's opinion of the estimated seasonal high groundwater depth are summarized as follows:

GROUNDWATER DATA SUMMARY

Exploration No.	Existing Ground Surface Elevation (MSL)	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Groundwater at Completion	Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Groundwater At Two to Eight Days After Completion	*Depth Below Existing Ground Surface (ft.)/ Elevation (MSL) to Estimated Seasonal High Groundwater
P-1	EL 11.4	2.0 / EL 9.4	0.5 / EL 10.9	1 / EL 11
P-2	EL 13.9	2.0 / EL 11.9	0.2 / EL 13.7	<1 / EL 14
P-3	EL 14.9	3.0 / EL 11.9	1.0 / EL 13.9	1 / EL 14
P-4	EL 14.8	3.0 / EL 11.8	1.5 / EL 13.3	2 / EL 13
P-5	EL 13.5	3.0 / EL 10.5	2.5 / EL 11.0	3 / EL 11
P-6	EL 13.4	3.0 / EL 10.4	0.6 / EL 12.8	1 / EL 13
P-8	EL 15.8	3.0 / EL 12.8	2.0 / EL 13.8	2 / EL 14
P-11	EL 13.9	4.0 / EL 9.9	3.5 / EL 10.4	4 / EL 10
SWM-1	EL 13.9	3.0 / EL 10.9	0.8 / EL 13.1	1 / EL 13
SWM-2	EL 11.4	3.0 / EL 8.4	2.0 / EL 9.4	2 / EL 9
SWM-3	EL 13.6	1.5 / EL 12.1	0.5 / EL 13.1	<1 / EL 13
SWM-4	EL 13.1	2.0 / EL 11.1	0.5 / EL 12.6	<1 / EL 13
SWM-5	EL 13.6	2.0 / EL 11.6	0.4 / EL 13.2	<1 / EL 13
SWM-6	EL 12.5	3.0 / EL 9.5	0.0 / EL 12.5	<1 / EL 12
SWM-7	EL 9.6	2.0 / EL 7.6	0.8 / EL 8.8	1 / EL 9
SWM-8	EL 11.3	3.0 / EL 8.3	2.0 / EL 9.3	2 / EL 9
SWM-9	EL 14.1	6.0 / EL 8.1	2.0 / EL 12.1	2 / EL 12
SWM-10	EL 13.9	4.0 / EL 9.9	2.0 / EL 11.9	2 / EL 12
SWM-11	EL 10.9	12.0 / EL -1.1	1.0 / EL 9.9	1 / EL 10
SWM-12	EL 12.4	4.2 / EL 8.2	4.8 / EL 7.6	5 / EL 8
SWM-13	EL 13.6	5.3 / EL 8.3	1.5 / EL 12.1	2 / EL 12
SWM-14	EL 14.0	9.0 / EL 5.0	5.0 / EL 9.0	5 / EL 9
SWM-15	EL 12.8	8.5 / EL 4.3	5.0 / EL 7.8	5 / EL 8
SWM-16	EL 11.8	2.5 / EL 9.3	1.0 / EL 10.8	1 / EL 11
SWM-17	EL 11.5	4.0 / EL 7.5	0.5 / EL 10.0	1 / EL 11
SWM-18	EL 12.2	4.0 / EL 8.2	2.0 / EL 10.2	2 / EL 10
SWM-19	EL 11.8	2.5 / EL 9.3	1.5 / EL 10.3	2 / EL 10

*Seasonal high groundwater estimate based upon observed soil mottling, saturation and color and should be considered approximate.

The groundwater levels can be expected to fluctuate with seasonal changes, precipitation, and other factors such as development activity. Additionally, perched water conditions develop in granular soils overlying fine-grained soils during the “wet season” as well as during periods of precipitation.

LABORATORY TESTING

Selected samples were obtained from the borings and were tested for grain-size analyses, Atterberg Limits, and natural moisture content. The grain-size analysis and Atterberg Limits testing were performed to determine the Unified Soil Classification System (USCS) designations for the soil. USCS classifications provide information regarding soil behavior beneath pavement, foundation systems, and infiltration areas. The results of testing are as follows:

SUMMARY OF INDEX TESTING

EXPLORATION NO.	DEPTH (ft)	USCS CLASSIFICATION	LL %	PI %	NMC%
P-1	1 – 4	Silty SAND (SM)	NP	NP	15.2
SWM-1	1 – 4	Clayey SAND (SC)	23	14	7.5
Composite: P-1/SWM-1	1 – 4	Clayey SAND (SC)	23	14	19.1

Note: LL=Liquid Limit PI=Plastic Index NP=Non-Plastic NMC=Natural Moisture Contents

A bulk, near-surface sample was also tested for moisture-density relationships in accordance with the Modified Proctor (ASTM D-1557) method for use in evaluating the suitability of these soils for reuse as fill. The sample was also subjected to California Bearing Ratio (CBR) testing for use in evaluation of pavement subgrade supporting quality. Results of this test are summarized in the following table.

**SUMMARY OF COMPACTION and CBR DATA
(ASTM D 1557, the Modified Proctor; ASTM D 1883, CBR)**

EXPLORATION NO.	DEPTH (FT)	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	NATURAL MOISTURE (%)	APPROXIMATE CBR AT 95% COMPACTION (%)
Composite: P-1/SWM-1	1 – 4	124.5	8.6	19.1	5.9

Please refer to the laboratory test results included within Appendix C for additional information.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the results of this study, it is our opinion that development of the property is feasible, given that the geotechnical recommendations are followed and that the standard level of care is maintained during construction. Shallow groundwater will impact site development. GTA's preliminary recommendations are provided in the following paragraphs.

Earthwork

Prior to the placement of compacted fill, areas below proposed foundation, slab, and pavement should be stripped and grubbed to remove topsoil and otherwise unsuitable materials to expose native granular soils. The building pads should be oversized at least 5 feet outside the building footprints. The actual stripping thickness will be dependent on localized topsoil development, previous plow depth, precipitation, soil moisture, construction traffic disturbance, and contractor care.

Precipitation will result in standing water at low areas and in localized undercut areas. If the water is allowed to pond, the exposed subgrade materials may deteriorate and additional over-excavation or subgrade improvement may be required at the affected areas. Positive drainage should be provided to protect exposed subgrades. During wet season construction, GTA anticipates that the existing surficial soils may soften and significant rutting may occur. The affected material will likely require removal prior to placement of fill. GTA recommends a summer season earthwork operation to minimize the economic impact of wet near surface soils.

Most near surface on-site soils beneath the topsoil are considered suitable for re-use as structural fill material. Excavated site materials conforming to SP, SP-SM or SM classifications will be suitable for re-use in structural areas of mass earthwork construction. The moisture content of the bulk sample materials tested was approximately ten percent above the optimum moisture, and at the tested moisture, on-site soils similar to the samples tested will require significant drying by aeration

or chemical amendment (e.g., Calciment, Portland Cement, etc.) after spreading over a large area and prior to compaction in fill construction.

Off-site borrow should meet Unified Soil Classification System (USCS) designation SM, SP, SW, GP, GM, or GW for general structural fill and be approved by GTA. All fills should be constructed in maximum 8-inch-thick loose lifts and be compacted to the following specifications:

COMPACTION SPECIFICATIONS

Structure / Fill Location	Compaction / Moisture Specification
Below foundations, retaining walls, floor slabs, fills below top one foot of pavement subgrade and within wall backfill or slopes steeper than 5H:1V	95% of ASTM D-698 Moisture: ± 3% of optimum
Fills within top one foot of pavement subgrade	95% of ASTM D-1557 Moisture: ± 3% of optimum

A soils-technician should observe fill construction on a full-time basis under the supervision of a geotechnical engineer in accordance with the 2012 International Building Code (IBC). Compactive effort should be verified by in-place density testing.

Subsurface Utilities

Based upon the results of the exploration, GTA anticipates that standard excavating techniques should be suitable for utility installation to depths of 10 feet. Firm natural soil and controlled compacted fill are considered suitable for support of the proposed pipe systems. Due to the potential for collapse of unsupported excavation in granular soils, the utility contractor should be prepared to provide adequate earth support systems during utility construction. Dewatering through the use of “sump and pump” for trenches extending 1 to 2 feet below groundwater, in conjunction with well point techniques in deeper utility areas, will be required for utility installation. At the current groundwater levels, most utility installations extended below 2 feet will likely encounter groundwater.

Surface and Subsurface Drainage

Final building pad and pavement grades should be carefully established to provide adequate surface drainage away from the foundations. Groundwater levels referenced in the *SUBSURFACE CONDITIONS* section of the report are, in our opinion, below normal seasonal high groundwater levels. Furthermore, soil layers containing appreciable amounts of silt or clay tend to perch groundwater at higher levels during wetter periods.

Crawlspace Feasibility

Based upon the results of this study, it is our opinion that the current groundwater levels are at or above the normal seasonal highs, typically at a depth ½ to 3-feet and averaging at 1½-feet below the existing ground surface. To facilitate conditioned crawlspace construction and an 18-inch or greater buffer between the seasonal high groundwater level and the bottom of footing elevation, the bottom of footing will generally need to be placed an average of ½-foot below the existing ground surface elevation with a nominal range of one foot above to below the existing ground elevation. Slab-on-grade construction is recommended at lots where grades cannot be raised to facilitate crawlspace construction.

For the conditioned crawlspace foundations, an exterior and interior perimeter foundation drain system outletted to a sump crock provided with a backup mechanical pump is recommended. All exterior grades should slope to drain away from the building foundation. Drains, damproofing, footings, and wall construction should be in general accordance with IRC 2012 and Sussex County requirements, as applicable.

With crawlspace grades outlined above, it is our opinion that with the recommended earthwork construction, the site native soils and structural fill will generally be suitable to support standard footing details. If saturated footing and crawlspace slab subgrades are encountered during construction, GTA should be consulted, as the subgrade will likely need to be stabilized using a 4-inch bed of AASHTO #57 stone and the crawlspace ground floor level may have to be raised as recommended by GTA at the time of construction. If saturated footing excavations are encountered,

the foundation contractor should anticipate dewatering from temporary sump pits to facilitate footing subgrade improvements.

Foundations

It is GTA's opinion that the community center and residential building construction may be supported on native soils or structural fill using shallow spread footings preliminarily designed for a maximum net allowable bearing pressure on the order of 2,000 pounds per square foot (psf). Minimum widths for wall footings of 16 inches and column footings of 24 inches are recommended. Exterior footings should be founded a minimum of 24 inches below the final exterior grades to provide protection from frost action.

Standard footing details should prove acceptable for construction. However, if very loose or soft soils are encountered at footing subgrade, these materials will require remediation. Remediation may include undercut and replacement of subgrade material using AASHTO #57 aggregate. Remediation should be performed during foundation construction as directed by the project geotechnical engineer.

Floor Slabs

Ground floor slabs should be designed as concrete slab-on-grade. GTA recommends that the concrete floor slabs supported on grade be founded on a four-inch thick open-graded washed gravel or stone layer covered with a polyethylene vapor retarder to interrupt the rise of moisture through the slab. Natural and compacted fill subgrades for support of the floor slabs should be tested to verify stability and compaction in accordance with GTA's earthwork recommendations prior to placement of concrete. Control joints should be provided to control shrinkage cracking of the concrete floor system. Isolation joints should be present at the location of walls, columns, and footings to allow for differential movement.

Pavements

Pavement sections should be designed based on anticipated subgrade conditions and traffic intensity. Laboratory testing of selected site soils conforming to USCS classification SC and AASHTO classification A-2-4 indicated a CBR value of approximately 6 percent for the sample tested. The CBR value is based upon a relative compaction of 95 percent of maximum dry density (Modified Proctor, ASTM D-1557). Based upon the CBR value and the field conditions encountered at the borings, the site soils tested are considered to be generally fair for supporting standard pavement sections.

Based on GTA's experience with similar developments, construction traffic is likely to be more significant for the design of the pavements. The pavement section thickness should be designed to reflect construction traffic and the subgrade supporting quality of the site soils. It is likely that the majority of the on-site soils conforming to USCS Classifications SP, SP-SM or SM, and AASHTO A-1, A-2, or A-3 will be suitable for the support of standard pavement thickness sections. However, subgrade materials should be carefully evaluated prior to graded aggregate base placement and paving. Therefore, GTA recommends that the upper 12 inches of pavement subgrade be constructed of fill with the following characteristics:

PAVEMENT SUBGRADE SPECIFICATIONS

Liquid Limit	35 or less
Plasticity Index	Non-Plastic
Maximum Dry Density	105 pcf or greater
California Bearing Ratio	6 or greater

Prior to construction of pavement sections, the pavement subgrade should be proof-rolled with a loaded tandem-axle dump truck under the observation of GTA to verify stability. Unstable or unsuitable soils should be over-excavated to a stable bearing layer. The subgrade may be re-established with approved, controlled, compacted stabilized fill. A contingency for undercutting and replacement of unsuitable materials should be provided.

For pavement construction, it is recommended that two different pavement sections be utilized to reduce the potential for pavement failures during construction. The heavy-duty pavement section can be constructed for the main roadway. The standard-duty pavement section can be constructed in the clubhouse parking lot. It is recommended that construction traffic be limited to the heavy-duty pavement sections. The recommended preliminary pavement sections are as follows:

FLEXIBLE PAVEMENT

Pavement Components	Standard-Duty	Heavy-Duty
Bituminous Concrete Surface Course (Type C; 9.5 mm Superpave)	1 ¼ inches	1 ¼ inches
Bituminous Concrete Intermediate Course (Type C)*	--	1 ½ inches
Bituminous Concrete Base Course (Type B; 12.5 or 19 mm Superpave)	3 inches	3 inches
Graded Aggregate Base Course (Type B Crusher Run)	6 inches	8 inches
Approved Subgrade	12 inches	12 inches

*Intermediate Course placed immediately following Base Course.

RIGID PAVEMENT

Pavement Components	Standard-Duty	Heavy-Duty
Portland Cement Concrete*	5 inches	6 inches
Graded Aggregate Base Course (Type B Crusher Run)	4 inches	4 inches
Approved Subgrade	12 inches	12 inches

*f_c= 4,000 psi concrete provided with 7% air-entrainment; control joints, isolation joints, load transfer devices, and reinforcement as required.

As an alternative, GTA recommends that the pavement soil subgrade be amended with cement to improve the subgrade supporting qualities of the native soils, to facilitate pavement construction and to maximize the use of available on-site soils for reuse in structural fill areas. The cement treated subgrade should be constructed and cured in general accordance with the Portland Cement Association (PCA) specifications. The cement amended subgrade should be compacted to 95 percent of the Standard Proctor (AASHTO T-99) maximum dry density.

GTA should monitor cement amended subgrade and pavement construction. Some areas may require deeper treatment should weak soils extend below the 12-inch depth. The decision to treat depths greater than 12 inches should be made in the field during construction. The subgrade should be cured and heavy construction traffic should be prohibited for a period of up to seven days after completion, as directed by GTA depending upon field conditions. Past experience has indicated that approximately 5 percent cement content (dry weight) may be needed. This is equivalent to a spread rate of approximately 50 pounds of cement per square yard, 12 inches deep, and compacted to 95 percent of the Standard Proctor maximum dry density. The actual amount of cement required will need to be determined based upon laboratory testing and the results of initial field treatment.

GTA should be present during a proofroll of the subgrade soils in these areas prior to subgrade cement amendment and paving. Any unsuitable or unstable soils present at the time should be undercut and replaced with suitable materials amended with cement as outlined in the following paragraphs. GTA recommends a minimum spread rate of 50 pounds of cement per square yard (approximately 5 percent by dry weight), mixed to a depth of 12 inches. The following preliminary pavement sections with a cement treated subgrade are recommended for use at this project:

**MAIN ROADWAY
ALTERNATE PAVEMENT SECTION (CEMENT AMENDED SUBGRADE)**

Pavement Components	Thickness
Bituminous Concrete Surface Course (Type C; 9.5 mm Superpave)	1 ½ inches
Bituminous Concrete Base Course (Type B; 12.5 or 19 mm Superpave)	3 ½ inches
Graded Aggregate Base Course (Type B Crusher Run)	2 inches
Cement Treated Subgrade*	12 inches

*GTA recommends a spread rate of 50 pounds of cement per square yard (approximately 5 percent by weight), mixed to a depth of 12 inches. Higher cement content may be required depending upon field conditions and additional testing.

The actual amount of cement required will need to be determined based upon laboratory testing and the results of initial field treatment. Some of the more plastic clayey soils may require additional treatment with cement or lime. GTA will evaluate these soils after the cement has been applied, mixed, and recompacted. The construction of the modified soil subgrade should generally

follow PCA specifications, with some slight modifications particularly with respect to curing times. GTA will likely recommend allowing paving prior to seven days, depending upon observed stability after 24 to 48 hours. Conformance testing will need to be performed by GTA during construction to verify that the modified soils and the pavement construction meet the project specifications.

When pavement areas are established to approximate pavement subgrade, the pavement subgrade material should be observed by GTA to allow for additional recommendations based upon subgrade conditions observed at the time of construction. All pavement materials and construction should conform to the State of Delaware, Department of Transportation (DelDOT), STANDARD SPECIFICATIONS, and Sussex County Private Road Standard Details, latest editions, as applicable.

ADDITIONAL SERVICES

We recommended that GTA be retained to provide consultation, observation and testing services for the following items.

- Provide additional exploration, as appropriate, as development features are further defined.
- Review preliminary structural loads when estimated.
- Provide observation and testing services during fill placement to evaluate if the work is being performed in accordance with the project specifications and intent of this report.
- Observe the proof-rolling of pad and pavement subgrades prior to placing fill or base course to evaluate stability.
- Review foundation construction for compliance with the project drawings and the intent of this geotechnical report.
- Provide “special inspection” services during building construction for compliance with building code requirements.
- Soil-cement mix design for cement amended subgrade.

LIMITATIONS

This report, including all supporting boring logs, field data, field notes, laboratory test data, calculations, estimates and other documents prepared by GTA in connection with this project have been prepared for the exclusive use of McKee Capital Partners, LP pursuant to agreements between GTA and McKee Capital Partners, LP dated December 30, 2020, and in accordance with generally accepted engineering practice. All terms and conditions set forth in the Agreement and the General Provisions appended thereto are incorporated herein by reference. No warranty, express or implied, is made herein. Use and reproduction of this report by any other person without the expressed written permission of GTA and McKee Capital Partners, LP is unauthorized and such use is at the sole risk of the user.

The analysis and preliminary recommendations contained in this report are based on the data obtained from limited observation and testing of the encountered materials. Test borings indicate soil conditions only at specific locations and times and only at the depths penetrated. They do not necessarily reflect strata or variations that may exist between test boring locations. Consequently, the analysis and recommendations must be considered preliminary until the subsurface conditions can be verified by direct observation at the time of construction. If variations of subsurface conditions from those described in this report are noted during construction, recommendations in this report may need to be re-evaluated.

In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report are verified in writing. Geo-Technology Associates, Inc. is not responsible for any claims, damages, or liability associated with interpretation of subsurface data or reuse of the subsurface data or engineering analysis without the expressed written authorization of Geo-Technology Associates, Inc.

The scope of our services for this geotechnical exploration did not include any environmental assessment or investigation for the presence or absence of wetlands, or hazardous or toxic materials

in the soil, surface water, groundwater or air, on or below or around this site. Any statements in this report or on the logs regarding odors or unusual or suspicious items or conditions observed are strictly for the information of our Client. This report and the attached logs are instruments of service.

The subject matter of this report is limited to the facts and matters stated herein. Absence of a reference to any other conditions or subject matter shall not be construed by the reader to imply approval by the writer.

31210297

GEO-TECHNOLOGY ASSOCIATES, INC.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer

will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it.* A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the “Findings” Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site’s subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report’s Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals’ misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals’ plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note*

conspicuously that you’ve included the material for information purposes only. To avoid misunderstanding, you may also want to note that “informational purposes” means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled “limitations,” many of these provisions indicate where geotechnical engineers’ responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a “phase-one” or “phase-two” environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

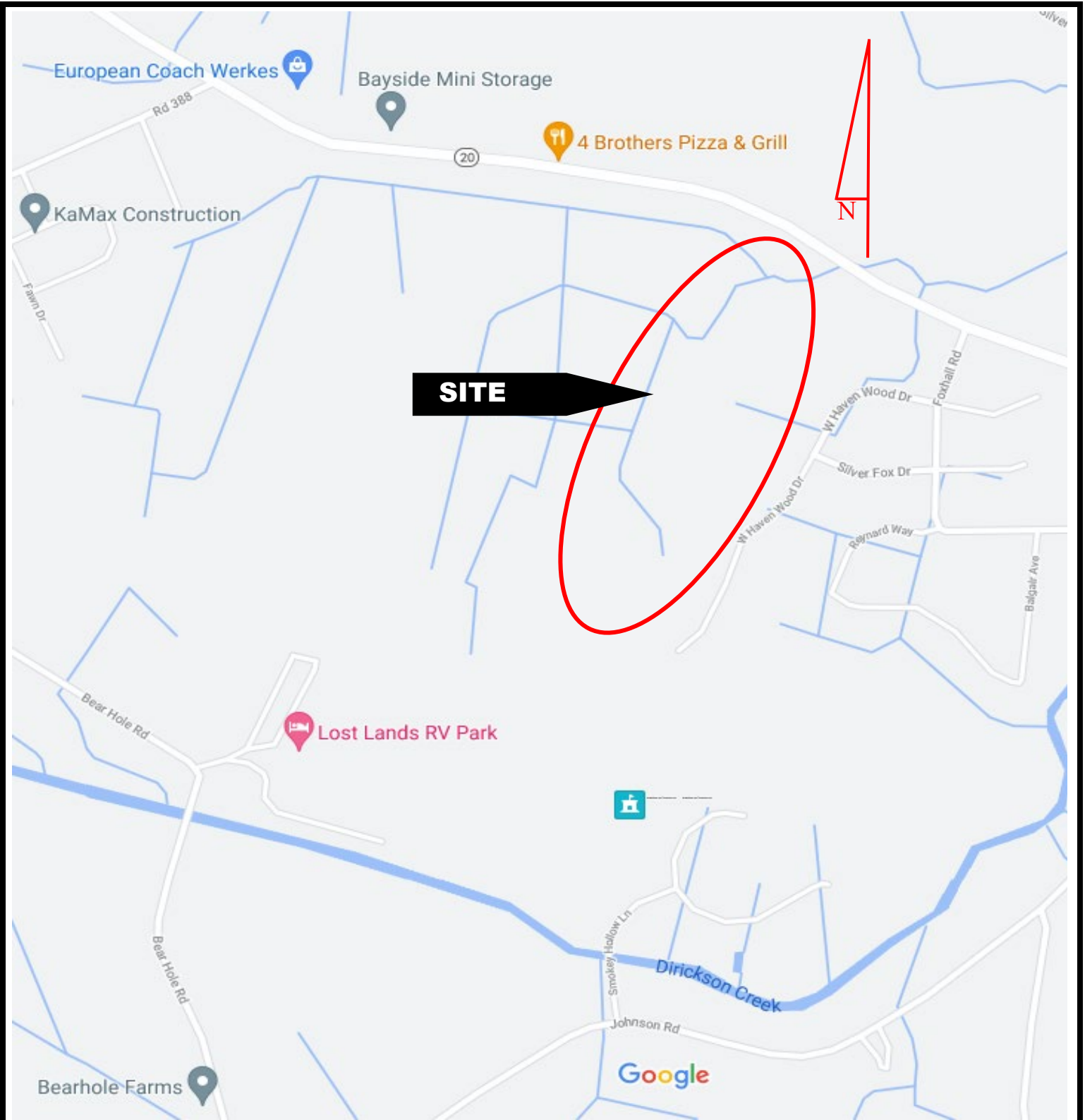
While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer’s services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, *proper implementation of the geotechnical engineer’s recommendations will not of itself be sufficient to prevent moisture infiltration.* **Confront the risk of moisture infiltration** by including building-envelope or mold specialists on the design team. **Geotechnical engineers are not building-envelope or mold specialists.**



Telephone: 301/565-2733

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APPENDIX A
FIGURES



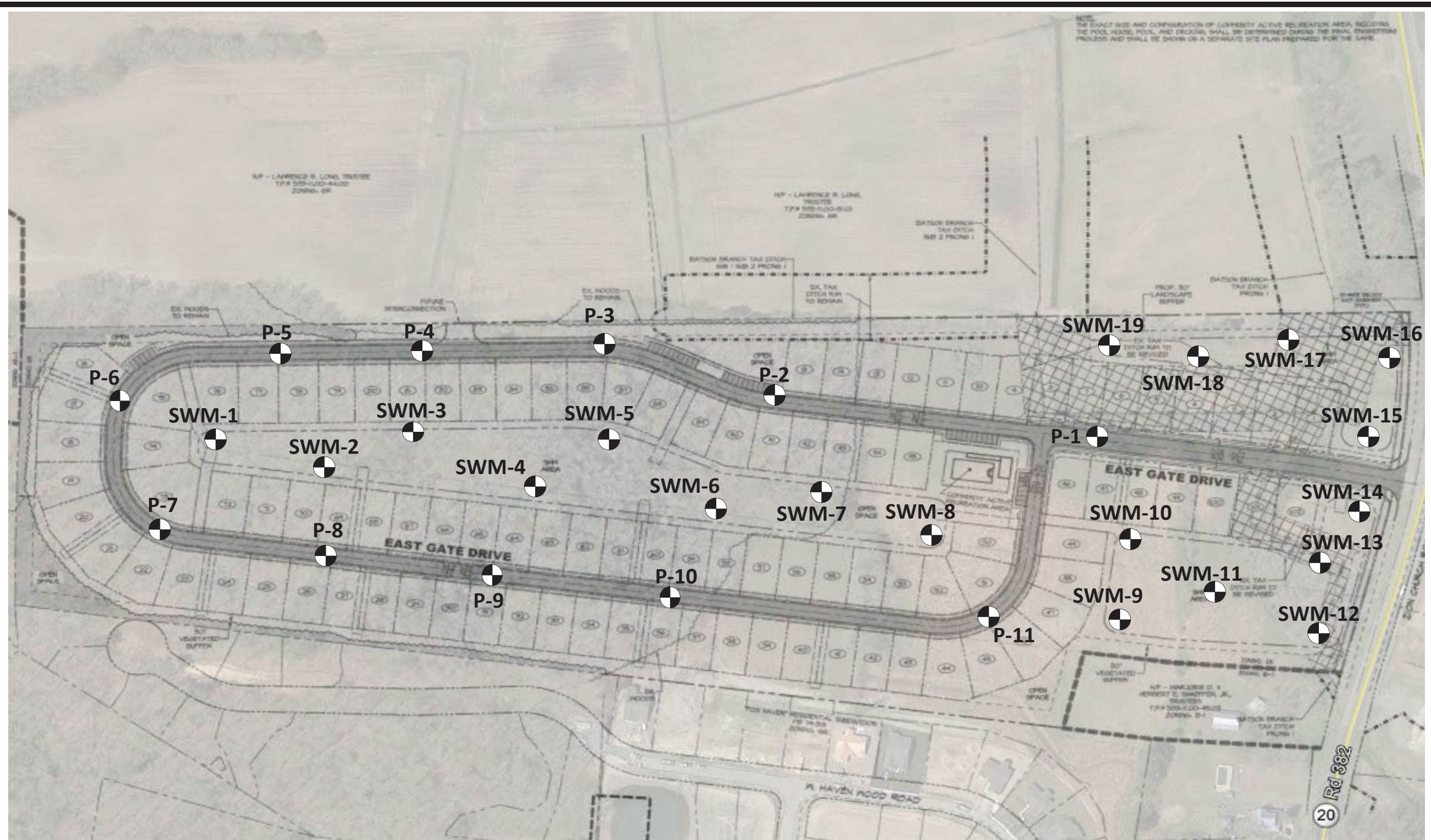
Site Location Plan taken from Google Maps



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

Site Location Plan
East Gate
Sussex County, Delaware

SCALE	DATE	DRAWN BY	DESIGN BY	REVIEW BY	JOB NO.
NTS	May 2021	GTA	Google Maps	GRS	31210297



Exploration Location Plan taken from Google Earth and a plan titled *East Gate* drawn by Morris & Richie Associates, Inc. and dated December 07, 2020.

 - Boring Location



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Exploration Location Plan
East Gate
Sussex County, Delaware

SCALE 11x17	DATE	DRAWN BY	DESIGN BY	REVIEW BY	JOB NO.	Figure
1" ~ 185'	May 2021	GTA	MRA	GRS	31200297	2

APPENDIX B
EXPLORATION DATA

NOTES FOR EXPLORATION LOGS

KEY TO USCS TERMINOLOGY AND GRAPHIC SYMBOLS

MAJOR DIVISIONS (BASED UPON ASTM D 2488)			SYMBOLS	
			GRAPHIC	LETTER
COARSE-GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LESS THAN 15% PASSING THE NO. 200 SIEVE)		GW
		GRAVELS WITH FINES (MORE THAN 15% PASSING THE NO. 200 SIEVE)		GP
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LESS THAN 15% PASSING THE NO. 200 SIEVE)		GM
				GC
		SANDS WITH FINES (MORE THAN 15% PASSING THE NO. 200 SIEVE)		SW
				SP
FINE-GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILT OR CLAY (<15% RETAINED ON THE NO. 200 SIEVE)		SM	
			SC	
			ML	
	SILT OR CLAY WITH SAND OR GRAVEL (15% TO 30% RETAINED ON THE NO. 200 SIEVE)		CL	
			OL	
	SANDY OR GRAVELLY SILT OR CLAY (>30% RETAINED ON THE NO. 200 SIEVE)		MH	
			CH	
		OH		
HIGHLY ORGANIC SOILS				PT

COARSE-GRAINED SOILS (GRAVEL AND SAND)

DESIGNATION	BLOWS PER FOOT (BPF) "N"
VERY LOOSE	0 - 4
LOOSE	5 - 10
MEDIUM DENSE	11 - 30
DENSE	31 - 50
VERY DENSE	>50

NOTE: "N" VALUE DETERMINED AS PER ASTM D 1586

FINE-GRAINED SOILS (SILT AND CLAY)

CONSISTENCY	BPF "N"
VERY SOFT	<2
SOFT	2 - 4
MEDIUM STIFF	5 - 8
STIFF	9 - 15
VERY STIFF	16 - 30
HARD	>30

NOTE: ADDITIONAL DESIGNATIONS TO ADVANCE SAMPLER INDICATED IN BLOW COUNT COLUMN:
 WOH = WEIGHT OF HAMMER
 WOR = WEIGHT OF ROD(S)

SAMPLE TYPE

DESIGNATION	SYMBOL
SOIL SAMPLE	S-
SHELBY TUBE	U-
ROCK CORE	R-

NOTE: DUAL SYMBOLS ARE USED TO INDICATE COARSE-GRAINED SOILS WHICH CONTAIN AN ESTIMATED 5 TO 15% FINES BASED ON VISUAL CLASSIFICATION OR BETWEEN 5 AND 12% FINES BASED ON LABORATORY TESTING; AND FINE-GRAINED SOILS WHEN THE PLOT OF LIQUID LIMIT & PLASTICITY INDEX VALUES FALLS IN THE PLASTICITY CHART'S CROSS-HATCHED AREA. FINE-GRAINED SOILS ARE CLASSIFIED AS ORGANIC (OL OR OH) WHEN ENOUGH ORGANIC PARTICLES ARE PRESENT TO INFLUENCE ITS PROPERTIES. LABORATORY TEST RESULTS ARE USED TO SUPPLEMENT SOIL CLASSIFICATION BY THE VISUAL-MANUAL PROCEDURES OF ASTM D 2488.

ADDITIONAL TERMINOLOGY AND GRAPHIC SYMBOLS

ADDITIONAL DESIGNATIONS	DESCRIPTION		GRAPHIC SYMBOLS
		TOPSOIL	
	MAN MADE FILL		
	GLACIAL TILL		
	COBBLES AND BOULDERS		
RESIDUAL SOIL DESIGNATIONS	DESCRIPTION	"N" VALUE	
	HIGHLY WEATHERED ROCK	50 TO 50/1"	
	PARTIALLY WEATHERED ROCK	MORE THAN 50 BLOWS FOR 1" OF PENETRATION OR LESS, AUGER PENETRABLE	

WATER DESIGNATION

DESCRIPTION	SYMBOL
ENCOUNTERED DURING DRILLING	
UPON COMPLETION OF DRILLING	
24 HOURS AFTER COMPLETION	

NOTE: WATER OBSERVATIONS WERE MADE AT THE TIME INDICATED. POROSITY OF SOIL STRATA, WEATHER CONDITIONS, SITE TOPOGRAPHY, ETC. MAY CAUSE WATER LEVEL CHANGES.

LOG OF BORING NO. P-1

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 2.0 ∇ ∇ 0.5
 DATE: 4/22/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/22/2021**
 DATE COMPLETED: **4/22/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **5.5**
 GROUND SURFACE ELEVATION: **11.4**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	8	1-2-4-4	6	11.4	0	TS		Topsoil: 6 inches		∇
					10.9		ML		Gray, moist, medium stiff, Sandy SILT		
2	2.0	16	8-9-10-10	19	9.4	3	SM		Tan, wet, medium dense, Silty SAND		∇
					7.4					CL	
3	4.0	16	4-2-2-2	4							∇
4	6.0	12	2-2-2-2	4							
5	8.0	24	3-3-2-2	5							
					1.4				Bottom of hole 10 feet		At 6 - 8 feet, MC = 27.0%, qu = 0.5 TSF
						12					
						15					
						18					

NOTES:



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 Georgetown, DE 19947

LOG OF BORING NO. P-1


LOG OF BORING NO. P-2

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 2.0 ∇ _____ ∇ 0.2
 DATE: 4/23/21 _____ 4/28/21
 CAVED (ft): - _____ -

DATE STARTED: **4/23/2021**
 DATE COMPLETED: **4/23/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **8.0**
 GROUND SURFACE ELEVATION: **13.9**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
					13.9	0			Topsoil: 4 inches		∇
1	0.0	12	1-1-2-2	3	13.6		TS SM		Tan-gray, moist to wet, very loose to medium dense, Silty SAND		∇
2	2.0	18	5-5-7-11	12		3					∇
3	4.0	18	6-10-6-6	16		6					
4	6.0	14	4-8-12-12	20		9					∇
5	8.0	14	4-3-2-2	5		9					∇
					3.9				Bottom of hole 10 feet		
						12					
						15					
						18					

NOTES:



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 Georgetown, DE 19947

LOG OF BORING NO. P-2




LOG OF BORING NO. P-3

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 3.0 ∇ ∇ 1.0
 DATE: 4/23/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/23/2021**
 DATE COMPLETED: **4/23/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **8.0**
 GROUND SURFACE ELEVATION: **14.9**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
1	0.0	4	1-1-1-4	2	14.9	0	TS		Topsoil: 4 inches		∇
					14.6		ML		Gray, moist, soft, SILT		
2	2.0	18	7-7-9-9	16	12.9	3	SM		Tan-gray, moist to wet, medium dense, Silty SAND		∇
3	4.0	16	4-10-10-10	20		6					
4	6.0	18	3-7-10-11	17							
5	8.0	18	5-4-4-4	8	6.9	9	CL		Dark gray, wet, medium stiff, Lean CLAY		∇
					4.9						
						12					
						15					
						18					

NOTES:



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. P-3




LOG OF BORING NO. P-4

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 3.0 ∇ ∇ 1.5
 DATE: 4/23/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/23/2021**
 DATE COMPLETED: **4/23/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **5.0**
 GROUND SURFACE ELEVATION: **14.8**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
					14.8	0	TS		Topsoil: 4 inches		
1	0.0	6	1-1-1-1	2	14.5		SM		Tan-orange, moist to wet, very loose to medium dense, Silty SAND		
2	2.0	24	3-4-5-6	9		3					
3	4.0	14	5-6-7-8	13		6					
4	6.0	18	4-8-8-8	16		9					
5	8.0	24	3-3-3-3	6	5.8	9	CL		Gray, wet, medium stiff, Lean CLAY		
					4.8				Bottom of hole 10 feet		
						12					
						15					
						18					

NOTES:



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LOG OF BORING NO. P-4

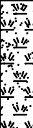
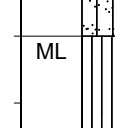

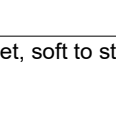
LOG OF BORING NO. P-5

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 3.0 ∇ _____ ∇ 2.5
 DATE: 4/23/21 _____ 4/28/21
 CAVED (ft): - _____ -

DATE STARTED: **4/23/2021**
 DATE COMPLETED: **4/23/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **8.0**
 GROUND SURFACE ELEVATION: **13.5**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	10	1-2-2-5	4	13.5	0	TS		Topsoil: 24 inches		
2	2.0	24	6-6-3-3	9	11.5	3	SM		Gray-tan, moist to wet, loose, Silty SAND		∇ At 2 - 4 feet, MC = 16.1%
3	4.0	12	3-4-5-5	9	9.5	6	ML		Gray-orange, wet, soft to stiff, SILT		At 4 - 6 feet, MC = 26.0%
4	6.0	18	2-2-2-2	4	6						At 6 - 8 feet, MC = 18.6%
5	8.0	18	2-2-2-4	4	5.5	9	SM		Gray, wet, very loose, Silty SAND		∇
					3.5						
						12					
						15					
						18					

NOTES:



GEO-TECHNOLOGY ASSOCIATES, INC.

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LOG OF BORING NO. P-5







LOG OF BORING NO. P-6

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 3.0 ∇ ∇ 0.6
 DATE: 4/23/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/23/2021**
 DATE COMPLETED: **4/23/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **4.0**
 GROUND SURFACE ELEVATION: **13.4**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	12	1-1-3-5	4	13.4	0	TS		Topsoil: 8 inches		∇
					12.7		SM		Tan, moist to wet, very loose to loose, Silty SAND		
2	2.0	18	3-3-3-4	6		3					∇
3	4.0	16	2-2-3-3	5	9.4		ML		Gray-orange, wet, medium stiff, SILT		∇
4	6.0	18	2-3-3-3	6		6					
5	8.0	20	1-2-3-4	5	5.4		SM		Gray-black, wet, loose, Silty SAND		
					3.4				Bottom of hole 10 feet		
						12					
						15					
						18					

NOTES:



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LOG OF BORING NO. P-6


LOG OF BORING NO. P-8

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 3.0 ∇ ∇ 2.0
 DATE: 4/26/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/26/2021**
 DATE COMPLETED: **4/26/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **3.0**
 GROUND SURFACE ELEVATION: **15.8**
 DATUM:
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
					15.8	0			Topsoil: 4 inches		
1	0.0	8	1-1-1-1	2	15.5		TS SM		Brown, moist to wet, very loose to medium dense, Silty SAND		∇ ∇
2	2.0	20	4-4-3-2	7		3					
3	4.0	18	2-4-5-6	9		6					
4	6.0	12	4-8-7-7	15		9					Clay Nodules present from 6 to 8 feet
5	8.0	24	4-4-3-2	7		12					
					5.8	15			Bottom of hole 10 feet		
						18					

NOTES:



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
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LOG OF BORING NO. P-8

LOG OF BORING NO. P-11

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **4.0** ∇ **3.5**
 DATE: **4/22/2021** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/22/2021**
 DATE COMPLETED: **4/22/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **8.0**
 GROUND SURFACE ELEVATION: **13.9**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	10	2-2-1-1	3	13.9	0	TS		Topsoil: 6 inches		
					13.4		SM		Tan-orange, moist to wet, very loose to loose, Silty SAND		
2	2.0	18	5-4-3-3	7		3					∇ ∇ ∇
3	4.0	16	2-1-2-1	3	8.9		ML		Gray, wet, soft to medium stiff, SILT		∇
4	6.0	18	5-4-3-3	7							
5	8.0	8	2-2-2-2	4		9					
					3.9				Bottom of hole 10 feet		
						12					
						15					
						18					

NOTES:



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
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LOG OF BORING NO. P-11

LOG OF BORING NO. SWM-1

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **3.0** ∇ _____ ∇ **0.8**
 DATE: **4/26/21** _____ **4/28/21**
 CAVED (ft): **-** _____ **-**

DATE STARTED: **4/26/2021**
 DATE COMPLETED: **4/26/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **3.0**
 GROUND SURFACE ELEVATION: **13.9**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					13.9	0	TS		Topsoil: 10 inches		
1	0.0	18	1-1-1-1	2	13.1		SC		Gray, moist, very loose to loose, Clayey SAND USDA: Sandy Clay Loam		∇
2	2.0	16	3-4-5-6	9		3					∇
3	4.0	18	3-4-4-4	8	9.9		CL		Gray, moist to wet, medium stiff, Lean CLAY USDA: Clay Loam		
4	6.0	12	1-1-1-1	2	7.9	6	SM		Gray, wet, very loose to medium dense, Silty SAND USDA: Sandy Loam		At 6 - 8 feet, MC = 17.8%,
5	8.0	14	1-1-1-1	2		9					
6	10.0	24	2-2-3-3	5		12					
7	12.0	24	4-5-6-6	11							
					-0.1				Bottom of hole 14 feet		
						15					
						18					

NOTES: **Air Temp.: 64, 48 hr. Precip.: 0.9 in., Coords: 38028'29.52"N, 750 8'53.74"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-1




LOG OF BORING NO. SWM-2

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **3.0** ∇ **2.0**
 DATE: **4/23/21** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/23/2021**
 DATE COMPLETED: **4/23/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **8.0**
 GROUND SURFACE ELEVATION: **11.4**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
					11.4	0	TS		Topsoil: 6 inches		
1	0.0	14	2-1-1-1	2	10.9		SM		Gray-black, moist to wet, very loose to medium dense, Silty SAND USDA: Sandy Loam		∇ ∇
2	2.0	20	2-2-2-4	4		3					∇
3	4.0	18	5-7-11-9	18		6					
4	6.0	18	3-4-9-9	13		9					∇
5	8.0	14	5-5-4-3	9		1.4	ML		Dark gray, wet, medium stiff to stiff, SILT USDA: Silt Loam		
6	10.0	16	3-3-3-3	6		12					
7	12.0	24	3-6-9-9	15		-2.6			Bottom of hole 14 feet		
						15					
						18					

NOTES: **Air Temp.: 64, 48 hr. Precip.: 0.9 in., Coords: 38028'36.07"N, 750 8'51.10"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-2

LOG OF BORING NO. SWM-3

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 1.5 ∇ ∇ 0.5
 DATE: 4/26/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/26/2021**
 DATE COMPLETED: **4/26/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **1.5**
 GROUND SURFACE ELEVATION: **13.6**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					13.6	0	TS		Topsoil: 8 inches		∇
1	0.0	18	2-2-2-3	4	12.9		SM		Gray-tan, moist to wet, very loose to medium dense, Silty SAND USDA: Sandy Loam		∇
2	2.0	16	6-6-8-8	14		3					
3	4.0	18	5-4-3-2	7							
4	6.0	18	1-2-6-6	8		6					
5	8.0	24	3-3-4-4	7	5.6	9	CL		Gray, wet, soft to medium stiff, Lean CLAY USDA: Clay Loam		
6	10.0	18	1-2-2-2	4							At 10 - 12 feet, MC = 26.2%
7	12.0	12	2-1-4-3	5	1.6	12	SM		Gray, wet, loose, Silty SAND USDA: Sandy Loam		
					-0.4				Bottom of hole 14 feet		
						15					
						18					

NOTES: **Air Temp.: 64, 48 hr. Precip.: 0.9 in., Coords: 38028'32.90"N, 750 8'52.59"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-3

LOG OF BORING NO. SWM-4

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **2.0** ∇ **0.5**
 DATE: **4/26/2021** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/26/2021**
 DATE COMPLETED: **4/26/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **2.0**
 GROUND SURFACE ELEVATION: **13.1**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	18	1-3-3-3	6	13.1	0	TS		Topsoil: 10 inches		∇
					12.3		SM		Gray, moist, loose, Silty SAND USDA: Sandy Loam		
2	2.0	14	4-5-7-7	12	11.1	3	SP-SM		Gray, wet, medium dense, Poorly-graded SAND with Silt USDA: Loamy Sand		∇
					9.1					SM	
3	4.0	16	4-9-9-7	18		6					
4	6.0	20	2-4-7-8	11							
5	8.0	24	2-2-3-3	5	5.1	9	ML		Gray, wet, medium stiff to stiff, SILT USDA: Silt Loam		
6	10.0	16	2-2-3-3	5							
7	12.0	16	2-2-3-3	5	1.1	12	SM		Gray, wet, loose, Silty SAND USDA: Sandy Loam		
					-0.9	15			Bottom of hole 14 feet		
						18					

NOTES: **Air Temp.: 64, 48 hr. Precip.: 0.9 in., Coords: 38028'34.50"N, 750 8'50.45"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-4

LOG OF BORING NO. SWM-5

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **2.0** ∇ **0.4**
 DATE: **4/26/2021** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/26/2021**
 DATE COMPLETED: **4/26/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **2.0**
 GROUND SURFACE ELEVATION: **13.6**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					13.6	0	TS		Topsoil: 12 inches		∇
1	0.0	16	1-2-3-4	5	12.6		SM		Gray-tan, moist to wet, very loose to medium dense, Silty SAND USDA: Sandy Loam		∇
2	2.0	20	3-5-6-6	11		3					
3	4.0	18	5-7-10-12	17							
4	6.0	24	3-5-6-8	11		6					
5	8.0	24	3-3-3-3	6		9					
6	10.0	24	1-2-2-2	4	2.6		CL		Gray, wet, soft to medium stiff, Lean CLAY USDA: Clay Loam		
7	12.0	16	2-4-3-3	7		12					
					-0.4				Bottom of hole 14 feet		
						15					
						18					

NOTES: **Air Temp.: 64, 48 hr. Precip.: 0.9 in., Coords: 38028'36.07"N, 750 8'51.10"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-5

LOG OF BORING NO. SWM-6

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 3.0 ∇ _____ ∇ 0.0
 DATE: 4/23/21 _____ 4/28/21
 CAVED (ft): - _____ -

DATE STARTED: **4/23/2021**
 DATE COMPLETED: **4/23/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **10.0**
 GROUND SURFACE ELEVATION: **12.5**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					12.5	0	TS		Topsoil: 6 inches		∇
1	0.0	12	1-2-7-7	9	12.0		SM		Brown-gray, moist to wet, loose to medium dense, Silty SAND USDA: Sandy Loam		
2	2.0	20	10-10-11-10	21		3					∇
3	4.0	14	5-5-2-2	7							
4	6.0	14	1-3-3-3	6	6.5	6	CL		Dark gray, wet, medium stiff, Lean CLAY USDA: Clay Loam		
5	8.0	20	2-2-2-1	4	4.5	9	SM		Gray, wet, very loose, Silty SAND USDA: Sandy Loam		
6	10.0	24	1-1-1-1	2	2.5	12	CL		Dark gray, wet, soft, Lean CLAY USDA: Clay Loam		∇ At 10 - 12 feet, MC = 40.3%, qu = 0.25 TSF
7	12.0	18	2-2-2-2	4							
					-1.5	15			Bottom of hole 14 feet		
						18					

NOTES: **Air Temp.: 64, 48 hr. Precip.: 0.9 in., Coords: 38028'37.30"N, 750 8'48.55"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-6

LOG OF BORING NO. SWM-7

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 2.0 ∇ ∇ 0.8
 DATE: 4/22/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/22/2021**
 DATE COMPLETED: **4/22/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **6.0**
 GROUND SURFACE ELEVATION: **9.6**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
					9.6	0	TS		Topsoil: 8 inches		
1	0.0	10	1-2-3-3	5	8.9		SM		Brown-tan, moist to wet, loose to medium dense, Silty SAND USDA: Sandy Loam		∇ ∇
2	2.0	18	4-4-5-6	9		3					
3	4.0	18	4-7-7-7	14		6					∇
4	6.0	20	5-9-9-5	18		9					
5	8.0	16	2-2-3-3	5		9					
6	10.0	18	1-2-2-2	4	-0.4		ML		Dark gray, wet, soft, SILT USDA: Silt Loam		
7	12.0	24	1-1-2-2	3	-2.4	12	SM		Dark gray, wet, very loose, Silty SAND USDA: Sandy Loam		
					-4.4				Bottom of hole 14 feet		
						15					
						18					

NOTES: **Air Temp.: 52, 48 hr. Precip.: 0.4 in., Coords: 38028'39.18"N, 750 8'48.46"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-7

LOG OF BORING NO. SWM-8

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 3.0 ∇ ∇ 2.0
 DATE: 4/22/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/22/2021**
 DATE COMPLETED: **4/22/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **9.0**
 GROUND SURFACE ELEVATION: **11.3**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS	
									DESCRIPTION			
1	0.0	14	2-1-1-1	2	11.3	0	TS		Topsoil: 8 inches			
					10.6		SM		Tan, moist to wet, very loose to loose, Silty SAND USDA: Sandy Loam			
2	2.0	14	4-3-3-4	6		3					∇ ∇	
3	4.0	16	5-4-3-3	7	7.3		ML		Gray-orange, wet, medium stiff, SILT USDA: Silt Loam			Mottling at 4 feet
4	6.0	18	3-3-4-4	7		6						
5	8.0	20	2-2-2-2	4	3.3	9		SM		Dark gray, wet, very loose to medium dense, Silty SAND USDA: Sandy Loam		∇
6	10.0	24	3-6-9-9	15		12						
7	12.0	24	2-5-6-2	11		12						
					-2.7	15			Bottom of hole 14 feet			
						18						

NOTES: **Air Temp.: 52, 48 hr. Precip.: 0.4 in., Coords: 38028'40.89"N, 750 8'46.68"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-8

LOG OF BORING NO. SWM-9

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **6.0** ∇ _____ ∇ **2.0**
 DATE: **4/22/21** _____ **4/28/21**
 CAVED (ft): **-** _____ **-**

DATE STARTED: **4/22/2021**
 DATE COMPLETED: **4/22/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **14.0**
 GROUND SURFACE ELEVATION: **14.1**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					14.1	0	TS		Topsoil: 8 inches		
1	0.0	16	2-2-1-1	3	13.4		SM		Tan, moist, very loose to medium dense, Silty SAND USDA: Sandy Loam		∇
2	2.0	12	2-1-1-1	2		3					
3	4.0	22	3-5-8-8	13							
4	6.0	18	2-3-4-8	7	8.1	6	CL		Gray, wet, medium stiff, Lean CLAY USDA: Clay Loam		∇
5	8.0	16	4-3-3-4	6	6.1	9	SM		Tan, wet, loose, Silty SAND USDA: Sandy Clay Loam		
6	10.0	14	2-5-8-12	13	4.1		CL		Dark gray, wet, stiff, Lean CLAY USDA: Clay Loam		
7	12.0	16	7-7-7-7	14	2.1	12	SM		Gray, very loose to medium dense, Silty SAND USDA: Sandy Loam		∇
8	14.0	20	WOH/12-1-2	1		15					
					-1.9				Bottom of hole 16 feet		
						18					

NOTES: **Air Temp.: 52, 48 hr. Precip.: 0.4 in., Coords: 38028'43.41"N, 750 8'43.34"W**
ASTM 1586



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LOG OF BORING NO. SWM-9






LOG OF BORING NO. SWM-10

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 4.0 ∇ ∇ 2.0
 DATE: 4/22/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/22/2021**
 DATE COMPLETED: **4/22/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **6.0**
 GROUND SURFACE ELEVATION: **13.9**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					13.9	0	TS		Topsoil: 8 inches		
1	0.0	8	1-1-1-1	2	13.2		SM		Brown-tan, moist to wet, very loose to loose, Silty SAND USDA: Sandy Loam		∇
2	2.0	18	2-1-1-2	2		3					∇
3	4.0	18	2-4-6-4	10	8.9		ML		Gray-tan, wet, medium stiff to stiff, SILT USDA: Silt Loam		Mottling at 5 feet ∇
4	6.0	16	2-4-4-5	8							
5	8.0	22	3-4-4-4	8		9					
6	10.0	24	2-2-8-8	10	3.9		SM		Gray, wet, loose, Silty SAND USDA: Sandy Loam		
7	12.0	24	4-5-6-6	11	1.9	12	ML		Gray, wet, stiff, SILT USDA: Silt Loam		
8	14.0	16	3-4-6-5	10		15					
					-2.1				Bottom of hole 16 feet		
						18					

NOTES: **Air Temp.: 52, 48 hr. Precip.: 0.4 in., Coords: 38028'44.15"N, 750 8'45.14"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
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LOG OF BORING NO. SWM-10

LOG OF BORING NO. SWM-11

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **12.0** ∇ **1.0**
 DATE: **4/22/21** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/22/2021**
 DATE COMPLETED: **4/22/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **14.0**
 GROUND SURFACE ELEVATION: **10.9**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					10.9	0	TS		Topsoil: 8 inches		
1	0.0	12	1-2-4-4	6	10.2		SC		Gray, moist, loose, Clayey SAND USDA: Sandy Clay Loam		∇
2	2.0	12	3-2-3-3	5	8.9	3	SM		Gray, moist, loose, Silty SAND USDA: Sandy Loam		
3	4.0	18	2-4-5-5	9	6.9		CL		Gray, moist, stiff, Lean CLAY USDA: Clay Loam		
					5.7		SP-SM		Gray, moist, loose, Poorly-graded SAND with Silt USDA: Loamy Sand		
4	6.0	24	2-2-3-3	5	4.9	6	CL		Gray-brown, moist to wet, soft to medium stiff, Lean CLAY USDA: Clay Loam		
5	8.0	22	2-3-2-4	5		9					
6	10.0	24	2-2-2-4	4							At 6 - 8 feet, MC = 16.1%
7	12.0	16	3-3-4-4	7		12					∇
8	14.0	16	3-3-4-4	7		15					∇
					-5.1				Bottom of hole 16 feet		
						18					

NOTES: **Air Temp.: 52, 48 hr. Precip.: 0.4 in., Coords: 38028'45.17"N, 750 8'43.29"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

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LOG OF BORING NO. SWM-11




LOG OF BORING NO. SWM-12

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **4.2** ∇ **4.8**
 DATE: **4/21/21** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/21/2021**
 DATE COMPLETED: **4/21/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **5.2**
 GROUND SURFACE ELEVATION: **12.4**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					12.4	0	TS		Topsoil: 4 inches		
1	0.0	16	2-2-2-2	4	12.1		SM		Tan, moist, very loose to loose, Silty SAND USDA: Sandy Loam		
2	2.0	10	2-3-3-2	6		3					
3	4.0	16	3-5-5-5	10	8.4		CL		Gray, moist to wet, stiff, Lean CLAY USDA: Clay Loam		∇ ∇ ∇
4	6.0	18	2-1-2-3	3	6.4	6	SM		Gray-tan, wet, very loose, Silty SAND USDA: Sandy Loam		
5	8.0	20	2-3-5-5	8	4.4	9	CL		Gray, wet, medium stiff, Lean CLAY USDA: Clay Loam		
6	10.0	18	2-3-3-2	6		12					
7	12.0	24	2-4-3-3	7	-0.6		SC		Gray, wet, loose, Clayey SAND USDA: Sandy Clay Loam		
8	14.0	14	2-2-3-3	5		15					
					-3.6				Bottom of hole 16 feet		
						18					

NOTES: Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'46.73"N, 750 8'41.51"W
 ASTM 1586



GEO-TECHNOLOGY
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21133 Sterling Avenue, Suite 7
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LOG OF BORING NO. SWM-12

LOG OF BORING NO. SWM-13

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **5.3** ∇ **1.5**
 DATE: **4/20/21** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/20/2021**
 DATE COMPLETED: **4/20/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **5.3**
 GROUND SURFACE ELEVATION: **13.6**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					13.6	0	TS		Topsoil: 9 inches		
1	0.0	14	2-2-2-2	4	12.8		SM		Gray, moist, very loose to loose, Silty SAND USDA: Sandy Loam		∇
2	2.0	16	3-4-2-3	6	10.6	3	CL		Gray, moist to wet, medium stiff, Lean CLAY USDA: Clay Loam		
3	4.0	18	2-3-5-5	8							∇
4	6.0	18	2-4-4-5	8	7.6	6	SM		Gray, wet, loose, Silty SAND USDA: Sandy Loam		
5	8.0	22	3-4-4-5	8	5.6	9	SP-SM		Gray, wet, loose, Poorly-graded SAND with Silt and Gravel USDA: Loamy Sand		
6	10.0	24	2-5-9-11	14	3.6		SP		Gray, wet, medium dense, Poorly-graded SAND with Gravel USDA: Sand		
7	12.0	24	3-8-11-14	19	1.6	12	SP-SM		Gray-orange, wet, loose to medium dense, Poorly-graded SAND with Silt USDA: Loamy Sand		
8	14.0	24		9		15					
					-2.4				Bottom of hole 16 feet		
						18					

NOTES: **Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'47.44"N, 750 8'43.19"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

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LOG OF BORING NO. SWM-13











LOG OF BORING NO. SWM-14

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **9.0** ∇ **5.0**
 DATE: **4/20/21** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/20/2021**
 DATE COMPLETED: **4/20/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **9.0**
 GROUND SURFACE ELEVATION: **14.0**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	18	1-1-2-2	3	14.0	0	TS		Topsoil: 18 inches		
2	2.0	18	2-5-5-6	10	12.5	3	SM		Gray, moist, very loose to medium dense, Silty SAND USDA: Sandy Loam		
3	4.0	12	3-6-7-3	13							∇
4	6.0	20	2-3-3-4	6	8.0	6	SC		Gray, moist, loose, Clayey SAND USDA: Sandy Clay Loam		
5	8.0	18	2-2-5-5	7	6.0	9	SM		Gray, moist, loose, Silty SAND USDA: Sandy Loam		∇
					5.0		SP-SM		Gray, wet, loose, Poorly-graded SAND with Silt USDA: Loamy Sand		
6	10.0	10	3-2-2-3	4	4.0		CL		Gray, wet, soft, Lean CLAY USDA: Clay Loam		
7	12.0	24	3-7-7-10	14	2.0	12	SC		Gray, wet, medium dense, Clayey SAND USDA: Sandy Clay Loam		
					1.0		SP-SM		Gray, wet, medium dense, Poorly-graded SAND with Silt USDA: Loamy Sand		
8	14.0	20	3-7-11-13	18	0.0		CL		Gray, wet, very stiff, Lean CLAY USDA: Clay Loam		
					-1.0	15	SP-SM		Gray, wet, medium dense, Poorly-graded SAND with Silt USDA: Loamy Sand		
					-2.0				Bottom of hole 16 feet		
						18					

NOTES: **Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'48.16"N, 750 8'44.27"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-14

LOG OF BORING NO. SWM-15

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 8.5 ∇ 5.0
 DATE: 4/20/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/20/2021**
 DATE COMPLETED: **4/20/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **8.5**
 GROUND SURFACE ELEVATION: **12.8**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	18	3-5-7-6	12	12.8	0	TS		Topsoil: 10 inches		
					12.0		SM		Brown-gray, moist, loose to medium dense, Silty SAND USDA: Sandy Loam		
2	2.0	18	4-4-4-4	8		3					
3	4.0	16	3-4-3-3	7							∇
4	6.0	20	3-2-3-3	5	6.8	6	ML		Gray, moist, medium stiff, SILT USDA: Silt Loam		
					4.8		SM		Gray-brown, moist to wet, very loose to medium dense, Silty SAND USDA: Sandy Loam		∇
5	8.0	24	2-1-2-2	3		9					
6	10.0	24	2-3-3-5	6							
7	12.0	20	4-7-7-11	14		12					
8	14.0	24	3-8-11-11	19	-1.2	15	SP-SM		Gray, wet, medium dense, Poorly-graded SAND with Silt USDA: Loamy Sand		
					-3.2			Bottom of hole 16 feet			
						18					

NOTES: **Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'48.70"N, 750 8'45.76"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-15








LOG OF BORING NO. SWM-16

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 2.5 ∇ 1.0
 DATE: 4/21/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/21/2021**
 DATE COMPLETED: **4/21/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **2.5**
 GROUND SURFACE ELEVATION: **11.8**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					11.8	0	TS		Topsoil: 14 inches		
1	0.0	20	1-2-1-3	3	10.6		CL		Gray, moist to wet, medium stiff to stiff, Lean CLAY USDA: Clay Loam		∇ ∇
2	2.0	14	3-4-5-5	9		3					
3	4.0	20	5-5-5-5	10							
4	6.0	12	1-2-1-1	3		6					At 6 - 8 feet, MC = 26.6%, qu = 0.6 TSF
5	8.0	10	1-2-4-3	6							
					2.5	9	SP-SM		Gray, wet, very loose to loose, Poorly-graded SAND with Silt USDA: Loamy Sand		
6	10.0	18	2-1-1-2	2	0.8		SC		Gray, wet, very loose, Clayey SAND USDA: Sandy Clay Loam		
7	12.0	24	2-4-5-5	9	-0.2	12	SP-SM		Gray, wet, loose, Poorly-graded SAND with Silt USDA: Loamy Sand		
					-1.9						
					-2.2		SC		Gray, wet, loose, Clayey SAND USDA: Sandy Clay Loam		
8	14.0	24	3-5-8-10	13		15	SM		Gray, wet, medium dense, Silty SAND USDA: Sandy Loam		
						-4.2			Bottom of hole 16 feet		
						18					

NOTES: Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'49.51"N, 750 8'47.77"W
 ASTM 1586



GEO-TECHNOLOGY
 ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-16

LOG OF BORING NO. SWM-17

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **4.0** ∇ **0.5**
 DATE: **4/21/21** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/21/2021**
 DATE COMPLETED: **4/21/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **4.0**
 GROUND SURFACE ELEVATION: **11.5**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					11.5	0	TS		Topsoil: 10 inches		∇
1	0.0	14	2-2-3-3	5	10.7		SM		Gray, moist, loose, Silty SAND USDA: Sandy Loam		
2	2.0	18	5-4-5-4	9		3					
					7.5		CL		Gray, wet, soft, Lean CLAY USDA: Clay Loam		∇
3	4.0	14	1-1-2-1	3							
					5.5	6	ML		Dark gray, wet, soft, SILT USDA: Silt Loam		
4	6.0	24	2-1-1-2	2							
5	8.0	10	1-1-1-1	2		9					
					1.5		CL		Dark gray, wet, soft to medium stiff, Lean CLAY USDA: Clay Loam		
6	10.0	10	1-2-3-2	5		12					
7	12.0	14	2-2-2-3	4							
8	14.0	24	2-1-2-3	3		15					
					-4.5				Bottom of hole 16 feet		
						18					

NOTES: **Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'47.92"N, 750 8'48.57"W**
ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-17

LOG OF BORING NO. SWM-18

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ **4.0** ∇ **2.0**
 DATE: **4/21/21** **4/28/21**
 CAVED (ft): **-** **-**

DATE STARTED: **4/21/2021**
 DATE COMPLETED: **4/21/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **4.0**
 GROUND SURFACE ELEVATION: **12.2**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
1	0.0	18	2-2-2-2	4	12.2	0	TS		Topsoil: 8 inches		
					11.5		CL		Gray-orange, moist, soft, Lean CLAY USDA: Clay Loam		
2	2.0	18	2-2-4-5	6	10.2	3	SM		Gray-tan, wet, very loose to loose, Silty SAND USDA: Sandy Loam		∇
3	4.0	22	3-3-4-4	7							
4	6.0	22	1-1-1-1	2							
5	8.0	18	1-1-1-1	2	4.2	9	SP-SM		Dark gray, wet, very loose, Poorly-graded SAND with Silt USDA: Loamy Sand		
7	10.0	18	1-1-2-3	3					Gray, wet, very loose, Clayey SAND USDA: Sandy Clay Loam		
8	12.0	16	1-2-3-5	5	0.2	12	SP-SM		Gray, wet, loose, Poorly-graded SAND with Silt USDA: Loamy Sand		
9	14.0	24	2-2-3-3	5	-1.3				Gray, wet, medium stiff, Lean CLAY USDA: Clay Loam		
					-1.8	15	SP-SM		Dark gray, wet, loose, Poorly-graded SAND with Silt USDA: Loamy Sand		
					-3.8				Bottom of hole 16 feet		
						18					

NOTES: Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'46.46"N, 750 8'48.81"W
 ASTM 1586



GEO-TECHNOLOGY ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-18

LOG OF BORING NO. SWM-19

PROJECT: **East Gate**
 PROJECT NO.: **31210297**
 PROJECT LOCATION: **Sussex County, Delaware**

WATER LEVEL (ft): ∇ 2.5 ∇ ∇ 1.5
 DATE: 4/21/21 4/28/21
 CAVED (ft): - -

DATE STARTED: **4/21/2021**
 DATE COMPLETED: **4/21/2021**
 DRILLING CONTRACTOR: **Manos Drilling Associates**
 DRILLER: **K. Manos**
 DRILLING METHOD: **Hollow Stem Auger**
 SAMPLING METHOD: **Splitspoon**

WATER ENCOUNTERED DURING DRILLING (ft) ∇ **2.5**
 GROUND SURFACE ELEVATION: **11.8**
 DATUM: **Survey**
 EQUIPMENT: **CME 55**
 LOGGED BY: **WLG**
 CHECKED BY: **GRS**

SAMPLE NUMBER	SAMPLE DEPTH (ft.)	SAMPLE RECOVERY (in.)	SAMPLE BLOWS/6 inches	N (blows/ft.)	ELEVATION (ft.)	DEPTH (ft.)	USCS	GRAPHIC SYMBOL	DESCRIPTION		REMARKS
									DESCRIPTION		
					11.8	0	TS		Topsoil: 8 inches		
1	0.0	12	1-1-3-4	4	11.1		SM		Gray-brown, moist to wet, very loose to loose, Silty SAND USDA: Sandy Loam		∇ ∇
2	2.0	18	2-2-3-2	5		3					
3	4.0	16	2-2-3-4	5							
4	6.0	22	1-1-1-1	2	5.8	6	SC		Dark gray, wet, very loose, Clayey SAND USDA: Sandy Clay Loam		
5	8.0	10	1-1-2-2	3	3.8	9	SM		Dark gray, wet, very loose, Silty SAND USDA: Sandy Loam		
6	10.0	24	1-1-1-2	2	0.8	12	CL		Gray, wet, soft to medium stiff, Lean CLAY USDA: Clay Loam		
7	12.0	24	2-3-4-5	7							
8	14.0	18	2-2-3-3	5		15					
					-4.2				Bottom of hole 16 feet		
						18					

NOTES: Air Temp.: 74, 48 hr. Precip.: 0.7 in., Coords: 38028'44.97"N, 750 8'49.72"W
 ASTM 1586



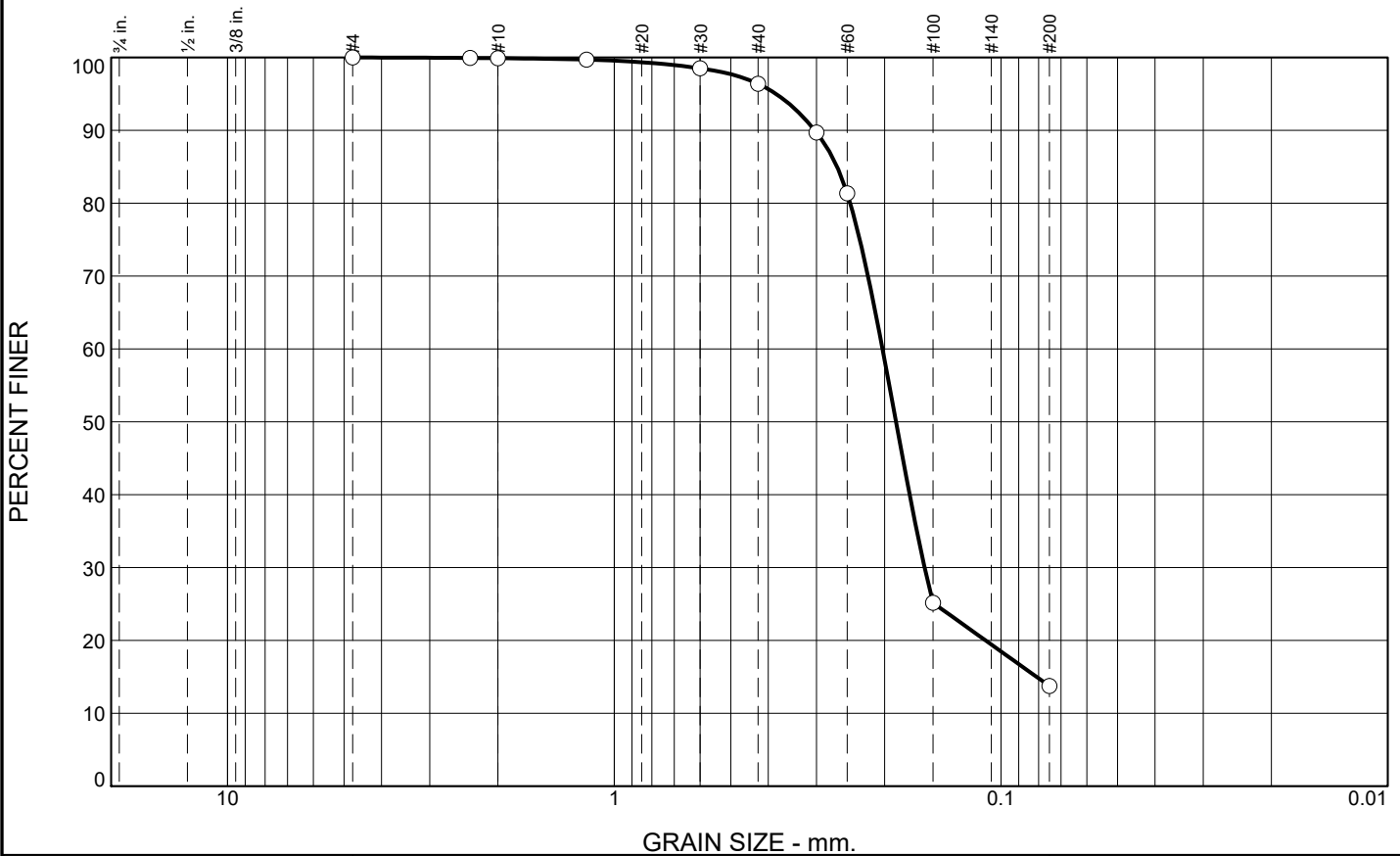
GEO-TECHNOLOGY
 ASSOCIATES, INC.

21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

LOG OF BORING NO. SWM-19

APPENDIX C
LABORATORY DATA

Particle Size Distribution Report



% Gravel		% Sand			% Fines
Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0	0.1	3.5	82.7	13.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
# 4	100.0		
# 8	99.9		
# 10	99.9		
# 16	99.7		
# 30	98.5		
# 40	96.4		
# 50	89.7		
# 60	81.4		
# 100	25.2		
#200	13.7		

Soil Description

Tan-gray, Silty SAND

Atterberg Limits

PL= NP LL= NP PI= NP NM= 15.2

Coefficients

D₉₀= 0.3031 D₈₅= 0.2654 D₆₀= 0.2026
D₅₀= 0.1870 D₃₀= 0.1577 D₁₅= 0.0810
D₁₀= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

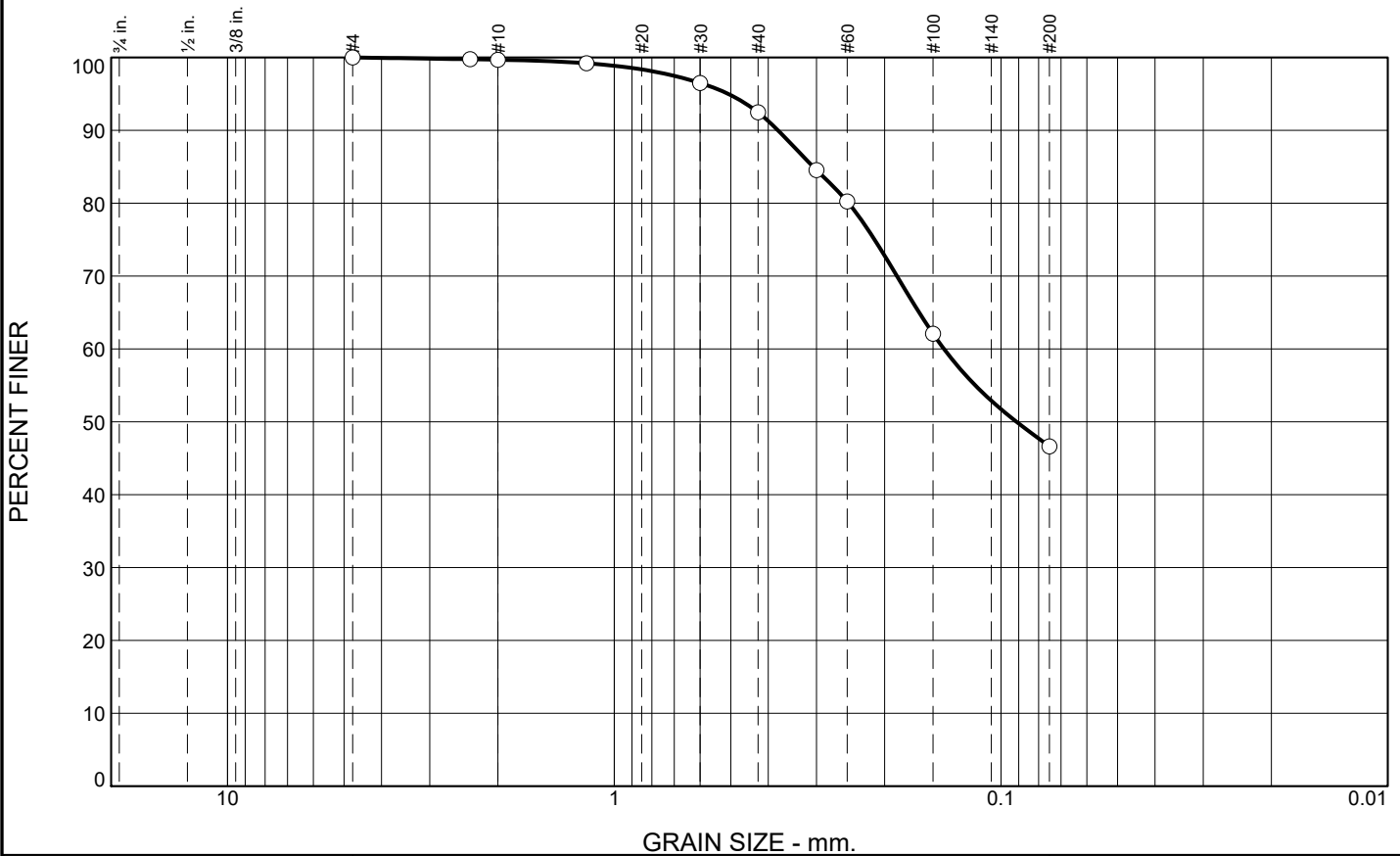
* (no specification provided)

Location: P-1 **Depth:** 1' - 4' **Date:** 4/23/2021
Sample Number: S-20210423-01

	GEO-TECHNOLOGY ASSOCIATES, INC. 21133 Sterling Avenue, Suite 7 Georgetown, DE 19947	Client: McKee Capital Partners, LP Project: East Gate Project No: 31210297	Figure
--	--	---	---------------

Tested By: JNLJ **Checked By:** GRS

Particle Size Distribution Report



% Gravel		% Sand			% Fines
Coarse	Fine	Coarse	Medium	Fine	
0.0	0.0	0.3	7.2	45.9	46.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
# 4	100.0		
# 8	99.8		
# 10	99.7		
# 16	99.2		
# 30	96.5		
# 40	92.5		
# 50	84.5		
# 60	80.2		
# 100	62.1		
# 200	46.6		

Soil Description
Gray, Clayey SAND

Atterberg Limits
PL= 14 LL= 23 PI= 9 NM= 23.7

Coefficients
D₉₀= 0.3773 D₈₅= 0.3059 D₆₀= 0.1405
D₅₀= 0.0912 D₃₀= D₁₅=
D₁₀= C_u= C_c=

Classification
USCS= SC AASHTO= A-4(1)

Remarks

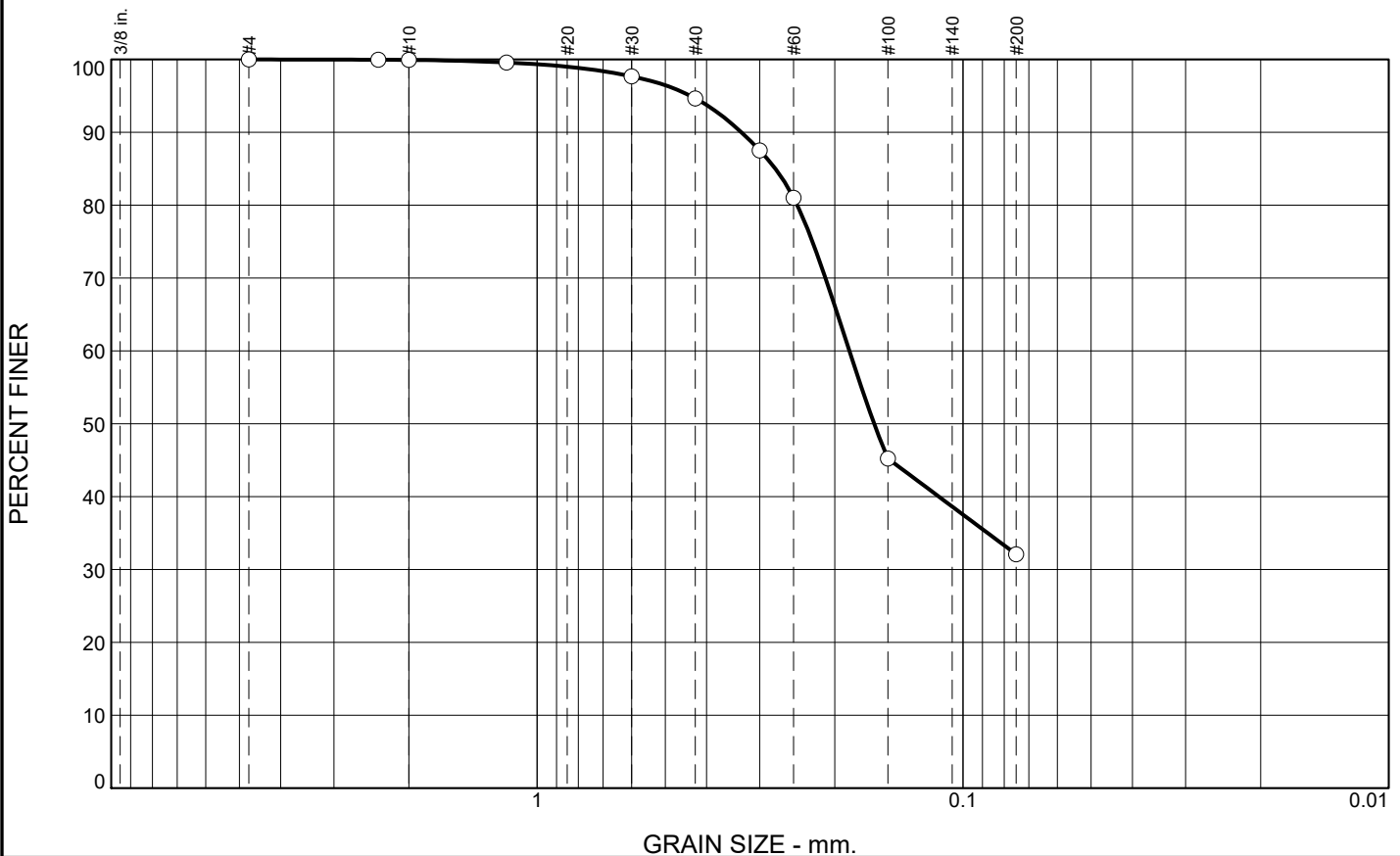
* (no specification provided)

Location: SWM-1 **Sample Number:** S-20210423-02 **Depth:** 1' - 4' **Date:** 4/23/2021

	GEO-TECHNOLOGY ASSOCIATES, INC. 21133 Sterling Avenue, Suite 7 Georgetown, DE 19947	Client: McKee Capital Partners, LP Project: East Gate Project No: 31210297	Figure
--	--	---	---------------

Tested By: JNLJ **Checked By:** GRS

Particle Size Distribution Report



% Gravel		% Sand			% Fines
Fine	Coarse	Medium	Fine		
0.0	0.1	5.2	62.6	32.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
# 4	100.0		
# 8	100.0		
# 10	99.9		
# 16	99.6		
# 30	97.7		
# 40	94.7		
# 50	87.5		
# 60	81.0		
# 100	45.2		
#200	32.1		

Soil Description
Gray, Clayey SAND

Atterberg Limits
 PL= 14 LL= 23 PI= 9 NM= 19.1

Coefficients
 D₉₀= 0.3311 D₈₅= 0.2757 D₆₀= 0.1847
 D₅₀= 0.1616 D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= SC AASHTO= A-2-4(0)

Remarks

* (no specification provided)

Location: Composite: P-1 & SWM-1
Sample Number: S-20210423-03

Date: 4/23/2021



GEO-TECHNOLOGY ASSOCIATES, INC.
 21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

Client: McKee Capital Partners, LP
Project: East Gate

Project No: 31210297

Figure

Tested By: WLG

Checked By: GRS

MOISTURE-DENSITY RELATIONSHIP TEST REPORT

ASTM D 1557-12 Method A Modified

Project No.: 31210297

Date: 4/23/2021

Project: East Gate

Client: McKee Capital Partners, LP

Location: Composite: P-1 & SWM-1

Sample Number: S-20210423-03

Remarks:

MATERIAL DESCRIPTION

Description: Gray, Clayey SAND

Classifications -

USCS: SC

AASHTO: A-2-4(0)

Nat. Moist. = 19.1 %

Sp.G. = 2.65A

Liquid Limit = 23

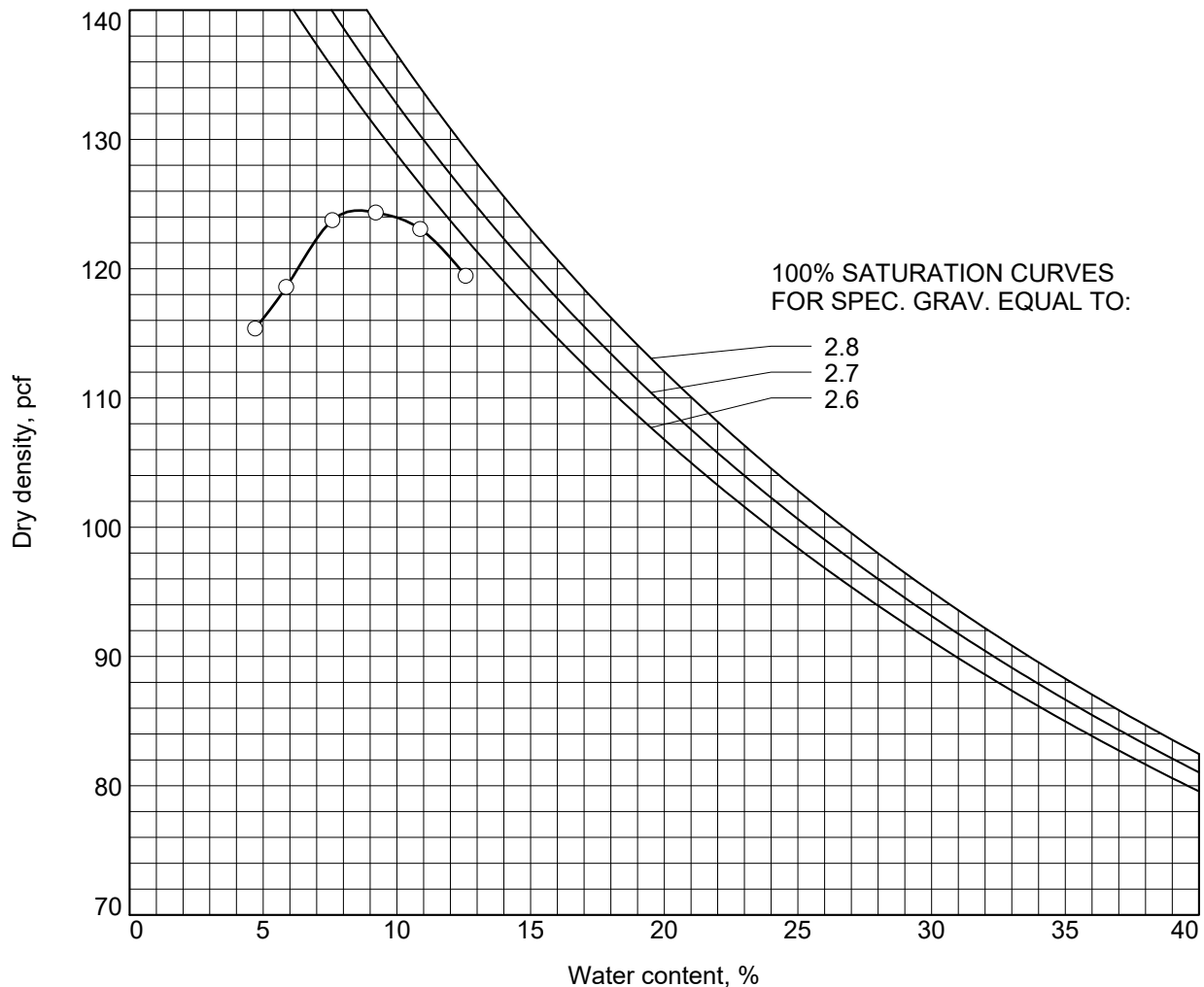
Plasticity Index = 9

% < No.200 = 32.1 %

TEST RESULTS

Maximum dry density = 124.5 pcf

Optimum moisture = 8.6 %



Figure

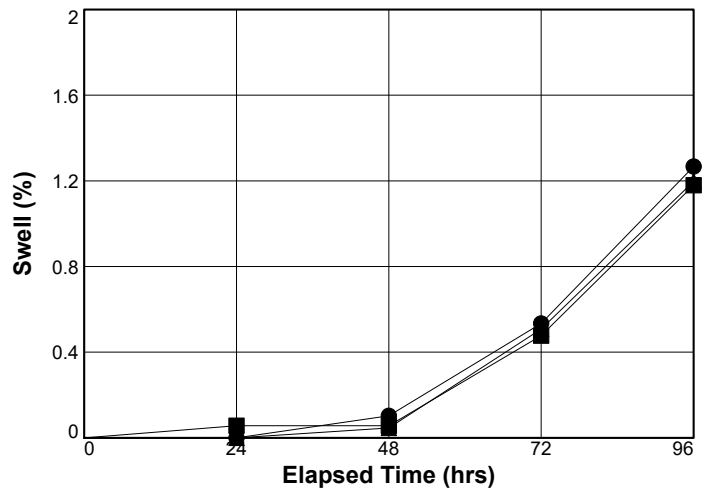
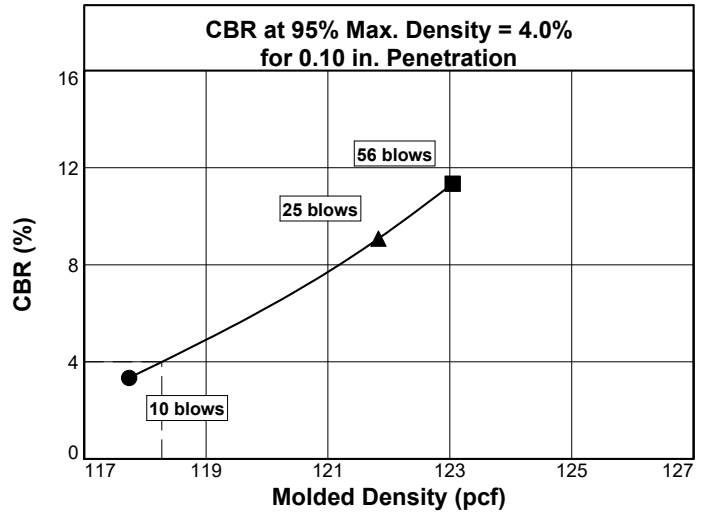
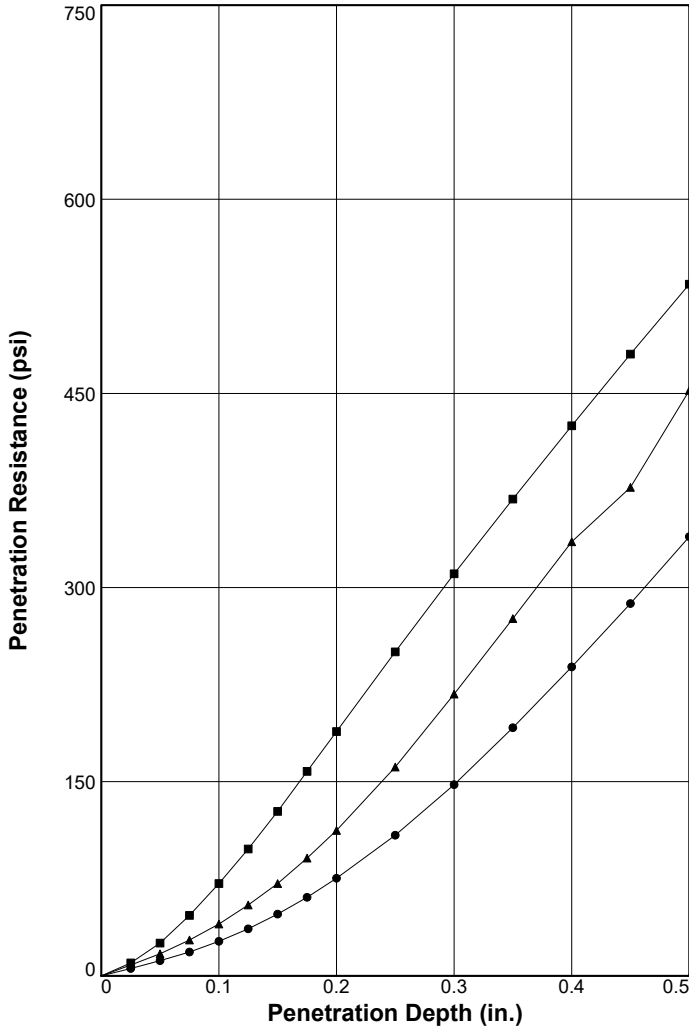
Geo-Technology Associates, Inc.

Tested By: JNLJ

Checked By: GRS

BEARING RATIO TEST REPORT

ASTM D1883-16



	Molded			Soaked			CBR (%)		Linearity Correction (in.)	Surcharge (lbs.)	Max. Swell (%)
	Density (pcf)	Percent of Max. Dens.	Moisture (%)	Density (pcf)	Percent of Max. Dens.	Moisture (%)	0.10 in.	0.20 in.			
1 ○	117.7	94.5	10.3	116.3	93.4	10.6	3.3	5.8	0.017	10	1.3
2 △	121.8	97.8	10.3	120.4	96.7	10.2	9.1	12.6	0.075	10	1.2
3 □	123.0	98.8	10.5	121.6	97.7	10.9	11.3	15.7	0.038	10	1.2
Material Description							USCS	Max. Dens. (pcf)	Optimum Moisture (%)	LL	PI
Gray, Clayey SAND											
							SC	124.5	8.6	23	9

Project No: 31210297
Project: East Gate
Location: Composite: P-1 & SWM-1
Sample Number: S-20210423-03
Date: 4/23/2021

Test Description/Remarks:



GEO-TECHNOLOGY ASSOCIATES, INC.
 21133 Sterling Avenue, Suite 7
 Georgetown, DE 19947

Figure _____

Appendix 6 –Wetlands Exhibits

**Approved Jurisdictional Determination, US Army Corps of Engineers, March 26,
2021**

Wetland Delineation Plan, GTA, December 10, 2020



REPLY TO
ATTENTION OF

Regulatory Branch

DEPARTMENT OF THE ARMY

PHILADELPHIA DISTRICT CORPS OF ENGINEERS
WANAMAKER BUILDING, 100 PENN SQUARE EAST
PHILADELPHIA, PENNSYLVANIA 19107-3390

26 March 2021

SUBJECT: Approved Jurisdictional Determination CENAP-OPR-2021-50-23
Project Name: Zion Church Road Property SX
Coordinates: Lat. 38.4769°N/Long.-75.1472°W

Ryan McGehee
Geo-Technology Associates, Incorporated
3445-A Box Hill Corporate Center Drive
Abingdon, Maryland 21009

Dear Mr. McGehee:

This approved jurisdictional determination (AJD) is provided in response to your request of on behalf of Schiff Land Development Company, LLC for a Corps of Engineers determination of federal jurisdiction as it relates to a site located at Tax Map Parcel 533-11.00-45.03, -45.05, -45.06, -45.07, and -45.08, Frankford, Sussex County, Delaware.

The findings of this AJD are documented in the enclosed AJD Form. The findings are also depicted on a site plan prepared by Geo-Technology Associates, Incorporated, dated December 10, 2020, revised March 22, 2021, and titled: Wetland Delineation JD Plan, Zion Church Road Property, Sussex County, Delaware, one sheet.

A Department of the Army permit is required for work or structures in “navigable waters of the United States” pursuant to Section 10 the Rivers and Harbors Act (RHA) of 1899 and the discharge of dredged or fill material into “waters of the United States” pursuant to Section 404 of the Clean Water Act (CWA). Any proposal to perform such activities within areas of federal jurisdiction will require the prior approval of this office.

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

This AJD is valid for a period of five (5) years. This AJD is issued in accordance with current federal regulations and is based upon the existing site conditions and information provided by you in your application. This office reserves the right to reevaluate and modify this AJD at any time should the existing site conditions or federal regulations change, or should the information provided by you prove to be false, incomplete, or inaccurate.

You may request an administrative appeal of this AJD if you do not accept this determination. Enclosed you will find a combined Notification of Appeal Process (NAP) and Request for Appeal (RFA) form. If you request to appeal this determination, you must submit a completed RFA form to the North Atlantic Division Office at the following address:

Mr. James W. Haggerty
Regulatory Program Manage (CENAD-PD-OR)
United States Army Corps of Engineers, North Atlantic Division
Fort Hamilton Military Community, Bldg. 301, General Lee Avenue
Brooklyn, NY 11252-6700
James.W.Haggerty@usace.army.mil

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by May 27, 2021.

It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

If you have any questions regarding this matter, please contact me at (302) 736-9764, or by email at john.g.brundage@usace.army.mil.

Sincerely,



John G. Brundage
Senior Staff Biologist
Regulatory Branch

COMMENTS: This letter supersedes an earlier jurisdictional determination made for this site by the Corps of Engineers on July 28, 2010 under action ID CENAP-OP-R-2009-46. The above referenced site was inspected by a Corps of Engineers representative on March 10, 2010.

Enclosures

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Dr. James W. Schiff	File Number: 2021-50	Date: 26 Mar 2021
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

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

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

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

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

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

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

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

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

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

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

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

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

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

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

Mr. John Brundage
U.S. Army Corps of Engineers, Philadelphia District
ATTN: CENAP-OP-R
1203 College Park Drive, Suite 103
Dover, DE 19904
Telephone: (302) 736-9764
john.g.brundage@usace.army.mil

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

Mr. James W. Haggerty
Regulatory Program Manager (CENAD-PD-OR)
U.S. Army Corps of Engineers
Fort Hamilton Military Community
301 General Lee Avenue
Brooklyn, New York 11252-6700
james.w.haggerty@usace.army.mil

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

Signature of appellant or agent.

Date:

Telephone number:



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 3/26/2021
 ORM Number: NAP-OPR-2021-50
 Associated JDs: N/A
 Review Area Location¹: State/Territory: Delaware City: Selbyville County/Parish/Borough: Sussex
 Center Coordinates of Review Area: Latitude 38.4769 N Longitude -75.1472 W

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size		§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): ³				
(a)(1) Name	(a)(1) Size		(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):				
(a)(2) Name	(a)(2) Size		(a)(2) Criteria	Rationale for (a)(2) Determination
N/A.	N/A.	N/A.	N/A.	N/A.
N/A.	N/A.	N/A.	N/A.	N/A.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):				
(a)(3) Name	(a)(3) Size		(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.	N/A.

¹ Map(s)/figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A.	N/A.	N/A.	N/A.

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴			
Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
Wetland 1	0.58 acre(s)	(b)(1) Non-adjacent wetland.	Wetland 1 is an isolated wetland that does not meet the NWPR definition of an adjacent wetland
Wetland 2	0.11 acre(s)	(b)(1) Non-adjacent wetland.	Wetland 2 is an isolated wetland that does not meet the NWPR definition of an adjacent wetland
Wetland 3	4.72 acre(s)	(b)(1) Non-adjacent wetland.	Wetland 3 is an isolated wetland that does not meet the NWPR definition of an adjacent wetland
Ditch A	1,306 Linear feet	(b)(5) Ditch that is not an (a)(1) or (a)(2) water, and those portions of a ditch constructed in an (a)(4) water that do not satisfy the conditions of (c)(1).	Ditch A is a ditch that does not meet the NWPR definition of a jurisdictional tributary
Ditch B	787 linear feet	(b)(5) Ditch that is not an (a)(1) or (a)(2) water, and those portions of a ditch constructed in an (a)(4) water that do not satisfy the conditions of (c)(1).	Ditch B is a ditch that does not meet the NWPR definition of a jurisdictional tributary
Ditch C	160 Linear feet	(b)(5) Ditch that is not an (a)(1) or (a)(2) water, and those portions of a ditch constructed in an (a)(4) water that do not satisfy the conditions of (c)(1).	Ditch C is a ditch that does not meet the NWPR definition of a jurisdictional tributary
Ditch D	249 linear feet	(b)(5) Ditch that is not an (a)(1) or (a)(2) water, and those portions of a ditch constructed in an (a)(4) water that do not satisfy the conditions of (c)(1).	Ditch D is a ditch that does not meet the NWPR definition of a jurisdictional tributary

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

Information submitted by, or on behalf of, the applicant/consultant: [Wetland Delineation Plan for Zion Church Road Property, prepared by Geo-Technology Associates, Inc.; dated December 10, 2020](#)

This information is sufficient for purposes of this AJD.

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

Rationale: [N/A or describe rationale for insufficiency \(including partial insufficiency\).](#)

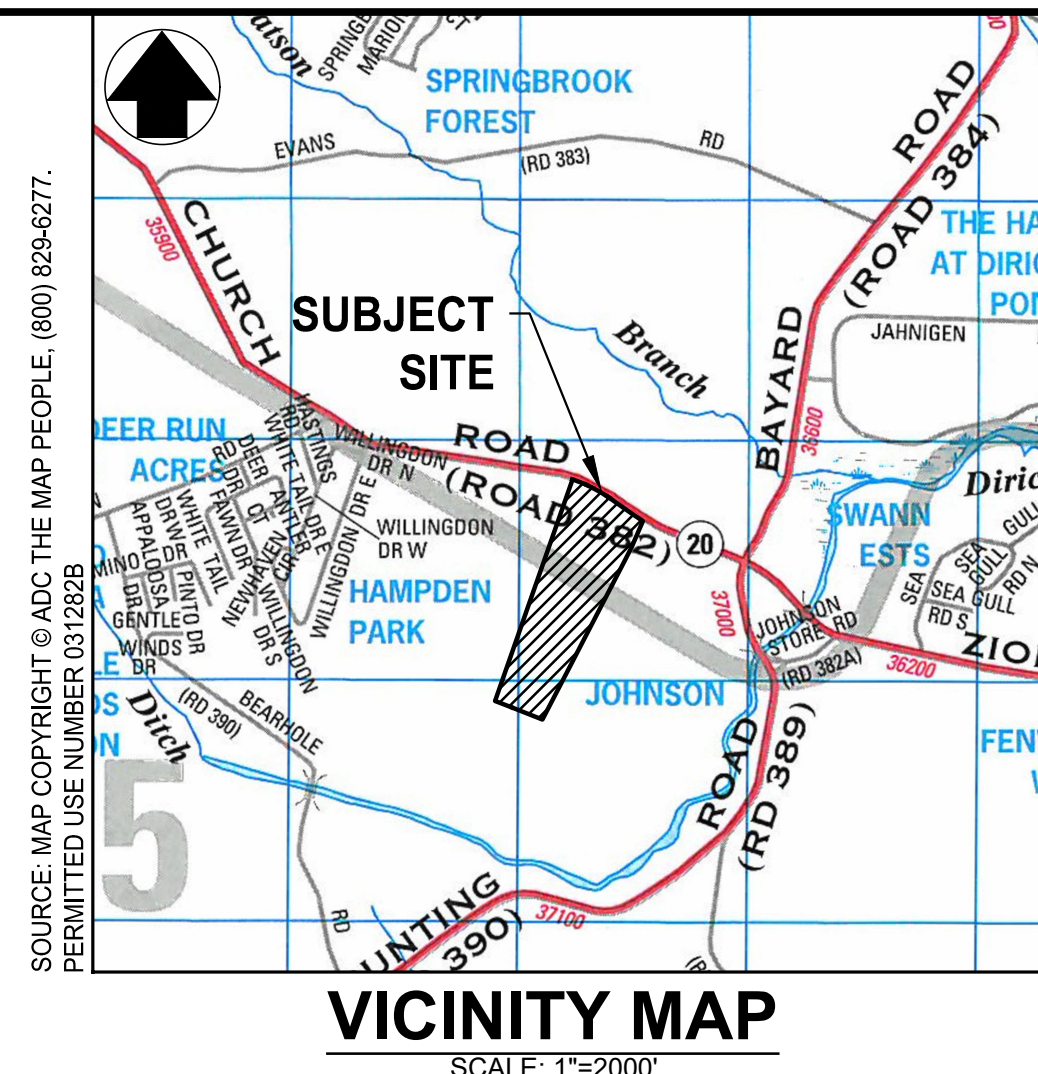
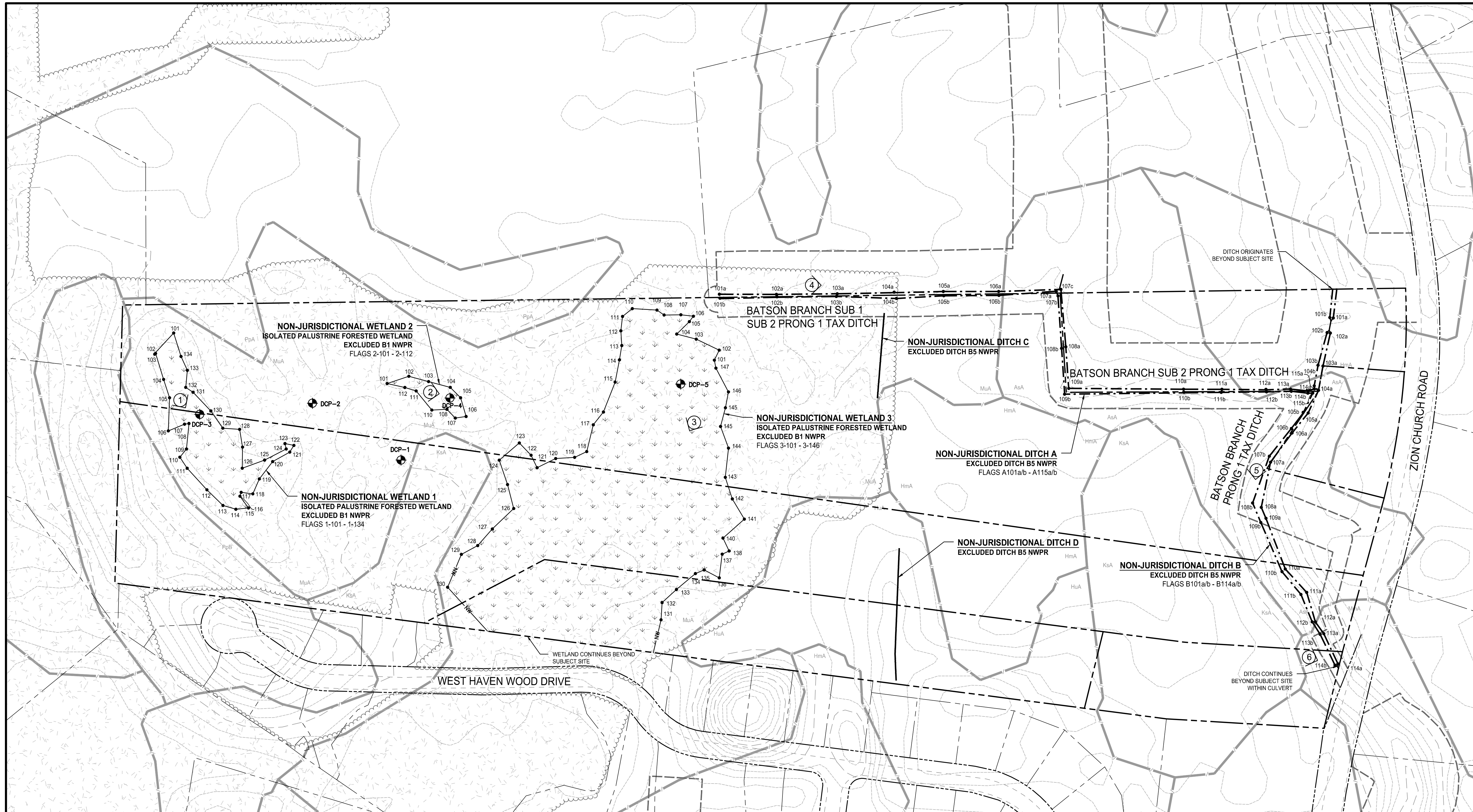
- Data sheets prepared by the Corps: [Title\(s\) and/or date\(s\).](#)
- Photographs: [Aerial and Other: 2017 Aerial Imagery, provided by National Agricultural Imagery Program; Site Photos taken in October 2020](#)
- Corps site visit(s) conducted on: [10 March 2010](#)
- Previous Jurisdictional Determinations (AJDs or PJDs): [CENAP-OP-R-2009-46, 7/28/2010](#)
- Antecedent Precipitation Tool: [provide detailed discussion in Section III.B.](#)
- USDA NRCS Soil Survey: [USDA Natural Resource Conservation Service Web Soil Survey obtained at <http://websoilsurvey.nrcs.usda.gov>; dated October 29, 2020](#)
- USFWS NWI maps: [USFWS National Wetland Inventory wetland map obtained at <http://www.fws.gov/wetlands>; dated October 29, 2020](#)
- USGS topographic maps: [1" = 2000' ; Selbyville, DE; dated October 29, 2020](#)

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	N/A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A.
State/Local/Tribal Sources	N/A.
FEMA/FIRM maps	FEMA Firmette Map, No. 10005C0635K, obtained at <http://www.fema.gov>

B. Typical year assessment(s): [See GTA report](#)

C. Additional comments to support AJD: [N/A](#)



GENERAL INFORMATION

- PROJECT NAME: ZION CHURCH ROAD PROPERTY
- LOCATION: SOUTH OF ZION CHURCH ROAD IN THE FRANKFORD AREA OF SUSSEX COUNTY, DELAWARE.
- PLAN PREPARED FOR: SCHIFF LAND DEVELOPMENT COMPANY, LLC
16054 SOUTH DUPONT HIGHWAY
HARRINGTON, DELAWARE 19952
ATTN: DR. JAMES W. SCHIFF
- PLAN PREPARED BY: GEO-TECHNOLOGY ASSOCIATES, INC. (GTA)
3445-A BOX HILL CORPORATE CENTER DRIVE
ABINGDON, MARYLAND 21009
ATTN: MR. RYAN MCGEEHEE
- AREA OF REVIEW: APPROXIMATELY 38.26 ACRES
- THE SUBJECT SITE IS IDENTIFIED AS SUSSEX COUNTY TAX PARCELS 533-11.00-45.03, 533-11.00-45.05, 533-11.00-45.06, 533-11.00-45.07, AND 533-11.00-45.08.
- ACCORDING TO FEMA FIRM MAP NUMBER 10005C0635K, EFFECTIVE MARCH 16, 2015, THE SUBJECT SITE IS NOT LOCATED WITHIN A 100-YEAR FLOODPLAIN.
- ACCORDING TO THE DELAWARE TAX DITCH MAP PROVIDED BY THE DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL, DELAWARE DRAINAGE PROGRAM (ACCESSED OCTOBER 13, 2020), PORTIONS OF AN APPARENT TAX DITCH IS LOCATED SOUTH OF ZION CHURCH ROAD. THIS TAX DITCH IS IDENTIFIED AS BATSON BRANCH PRONG 1, THIS TAX DITCH EXISTS THE SUBJECT SITE WITHIN A CULVERT IN THE NORTHEASTERN PORTION OF THE SUBJECT SITE. AN ADDITIONAL APPARENT TAX DITCH IS LOCATED IN THE WESTERN PORTION OF THE SUBJECT SITE AND IS IDENTIFIED AS BATSON BRANCH SUB 1 SUB 2 PRONG 1 CONTINUING NORTH TO PROVIDE CONFLUENCE TO APPARENT TAX DITCH BATSON BRANCH SUB 2 PRONG 1. BATSON BRANCH SUB 2 PRONG 1 ORIGINATES WEST OF THE SUBJECT SITE AND CONTINUES NORTH TO BATSON BRANCH PRONG 1, SOUTH OF ZION CHURCH ROAD.
- SOILS SHOWN ON THIS PLAN WERE ADAPTED FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE'S WEB SOIL SURVEY, ACCESSED ON SEPTEMBER 28, 2020. AVAILABLE ONLINE AT <HTTP://WWW.MD.NRCS.USDA.GOV/TECHNICAL/SOILS.HTML>.
- A WETLAND DELINEATION OF THE SUBJECT SITE WAS PERFORMED BY GTA IN OCTOBER, 2020. WETLAND FLAG LOCATIONS WITHIN THE SUBJECT SITE WERE SURVEY LOCATED BY MORRIS & RITCHIE ASSOCIATES, INC. (MRA) IN DECEMBER 2020.
- AS A RESULT OF THE REVIEW OF THE SITE, IT IS GTA'S PROFESSIONAL OPINION THAT THERE ARE NO JURISDICTIONAL "WATERS OF THE U.S." PRESENT WITHIN THE SUBJECT SITE.
- GTA'S CONCLUSIONS REGARDING THIS SITE HAVE BEEN BASED ON OBSERVATIONS OF EXISTING CONDITIONS, PROFESSIONAL EXPERIENCE, AND GENERALLY ACCEPTED PROFESSIONAL ENVIRONMENTAL PRACTICE UNDER SIMILAR CIRCUMSTANCES. SEASONAL VEGETATION CYCLES AND FLUCTUATIONS IN PRECIPITATION OR WEATHER CONDITIONS CAN RESULT IN DIFFERENCES IN THE PERCEPTION OF HYDROLOGIC CONDITIONS AND THE PRESENCE OF PREDOMINANTLY HYDROPHYTIC VEGETATION, WHICH CAN ALTER GTA'S EVALUATION OF WETLANDS/WATERWAYS.
- IT IS IMPORTANT TO NOTE THAT THIS EVALUATION IS GTA'S PROFESSIONAL OPINION, ONLY. DECISIONS REGARDING THE OFFICIAL JURISDICTIONAL STATUS OF WETLANDS/WATERWAYS ARE MADE BY FEDERAL, STATE, AND/OR LOCAL REGULATORY AGENCIES.
- THIS PLAN WAS PREPARED BY GTA FOR THE SOLE AND EXCLUSIVE USE OF SCHIFF LAND DEVELOPMENT COMPANY, LLC. ANY REPRODUCTION OF THIS PLAN BY ANY OTHER PERSON WITHOUT THE EXPRESSED WRITTEN PERMISSION OF GTA AND SCHIFF LAND DEVELOPMENT COMPANY, LLC IS UNAUTHORIZED, AND SUCH USE IS AT SOLE RISK OF THE USER.

LEGEND

- SUBJECT SITE
- EXISTING PROPERTY BOUNDARY
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- APPROXIMATE TREELINE
- EXISTING EDGE OF PAVEMENT
- EXISTING RIGHT OF WAY
- APPROXIMATE SOIL BOUNDARY
- EXISTING TAX DITCH RIGHT OF WAY
- EX. NONTIDAL WETLAND (WITH NUMBERED FLAG LOCATIONS)
- EX. INTERMITTENT STREAM
- WETLAND DELINEATION DATA COLLECTION POINT (DCP)
- NUMBERED PHOTOGRAPH LOCATION
- EX. CENTERLINE OF NON-JURISDICTIONAL DITCH

SOILS CHART

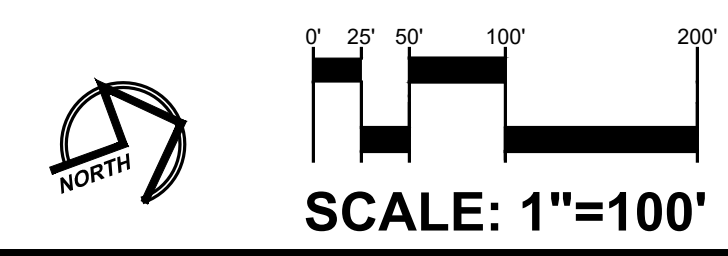
SYMBOL ¹	NAME/DESCRIPTION ¹	HYDRIC SOIL ²	HYDRIC COMPONENT ²	PERCENTAGE OF MAPPING UNIT ²	POSITION IN LANDSCAPE ²
AsA	ASKECKSY LOAMY SAND, 0 TO 2 PERCENT SLOPES	YES	ASKECKSY, UNDRAINED	45	FLATS
			ASKECKSY, DRAINED	30	FLATS
			HURLOCK, UNDRAINED	10	FLATS
			MULLICA, UNDRAINED	5	FLATS
HmA	HAMMONTON LOAMY SAND, 0 TO 2 PERCENT SLOPES	YES	HURLOCK, DRAINED	5	FLATS
			HURLOCK, UNDRAINED	5	FLATS
HuA	HURLOCK LOAMY SAND, 0 TO 2 PERCENT SLOPES	YES	HURLOCK, UNDRAINED	5	FLATS
			BERRYLAND, DRAINED	5	FLATS
KsA	KLEJ LOAMY SAND, 0 TO 2 PERCENT SLOPES	YES	HURLOCK, DRAINED	5	FLATS
			MULLICA, DRAINED	50	FLATS
MmA	MULLICA MUCKY SANDY LOAM, 0 TO 2 PERCENT SLOPES	YES	MULLICA, UNDRAINED	30	FLATS
			BERRYLAND	10	FLATS
			HURLOCK	10	FLATS
			MULLICA, DRAINED	26	FLATS
MuA	MULLICA-BERRYLAND COMPLEX, 0 TO 2 PERCENT SLOPES	YES	BERRYLAND, DRAINED	24	FLATS
			MULLICA, UNDRAINED	16	FLATS
			BERRYLAND, UNDRAINED	14	FLATS
			ASKECKSY, DRAINED	5	FLATS
PpA	PEPPERBOX LOAMY SAND, 0 TO 2 PERCENT SLOPES	NO	-	-	-
PpB	PEPPERBOX LOAMY SAND, 2 TO 5 PERCENT SLOPES	NO	-	-	-

1. UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE, SUSSEX COUNTY, MARYLAND, SOIL SURVEY DATA VERSION 13, DATED SEPTEMBER 13, 2019.
2. HYDRIC SOILS INFORMATION AVAILABLE FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCE CONSERVATION SERVICE SOIL DATA ACCESS HYDRIC SOILS LIST, ACCESSED SEPTEMBER 24, 2020.

AREA OF WETLANDS / DITCHES WITHIN THE SUBJECT PROPERTY:

WETLAND	APPROXIMATE AREA
WETLAND 1 (ISOLATED)	25,409 SF (0.58 AC)
WETLAND 2 (ISOLATED)	4,716 SF (0.11 AC)
WETLAND 3 (ISOLATED)	205,411 SF (4.72 AC)
TOTAL WETLAND AREA	235,536 SF (5.41 AC)

DITCHES	APPROXIMATE AREA	APPROXIMATE LENGTH
DITCH A (NON-JURISDICTIONAL)	9,253 SF (0.21 AC)	1,306 LINEAR FEET
DITCH B (NON-JURISDICTIONAL)	6,790 SF (0.16 AC)	787 LINEAR FEET
TOTAL DITCHES	16,043 SF (0.37 AC)	2,093 LINEAR FEET



GEO-TECHNOLOGY ASSOCIATES, INC.
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS
 3445-A BOX HILL CORPORATE CENTER DRIVE
 ABINGDON, MARYLAND 21009
 410-515-9446
 FAX: 410-515-4895
 WWW.GTAENG.COM
© 2019 GEO-TECHNOLOGY ASSOCIATES, INC.

WETLAND DELINEATION PLAN ZION CHURCH ROAD PROPERTY

SUSSEX COUNTY, DELAWARE

DATE	REVISIONS	JOB NO:
3/22/2021	PER USAGE COMMENTS	31201262
		SCALE: 1"=100'
		DATE: DECEMBER 10, 2020
		DRAWN BY: RJM
		DESIGN BY:
		REVIEW BY: MAJ/JAS
		SHEET: 1 OF 1

U:\mcd\gta\gta\Shared\Project Files\2020\31201262 - Zion Church Road Property\WETLAND\Plan\31201262_WDP.dwg

Appendix 7 – Traffic Analysis

Service Level Evaluation, DelDOT, December 23, 2020



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

December 23, 2020

Mr. Jamie Whitehouse, Director
Sussex County Planning & Zoning
P.O. Box 417
Georgetown, DE 19947

Dear Mr. Whitehouse:

The Department has completed its review of a Service Level Evaluation Request for the **Schiff Land Development Company, LLC (c/o Mr. T.J. Schiff)** conditional use application, which we received on November 23, 2020. This application is for an approximately 36.71-acre assemblage of parcels (Tax Parcels: 533-11.00-45.05, 45.06, 45.07, and 45.08). The subject land is located on the south side of Zion Church Road (Sussex Road 382), approximately 2,550 feet east of Deer Run Road (Sussex Road 388). The subject land is currently zoned GR (General Residential), and the applicant is seeking a conditional use approval with a residential planned community overlay to build a 102-unit single-family detached housing development to be known as Twin Lakes.

Per the 2019 Delaware Vehicle Volume Summary, the annual average and summer average daily traffic volumes along the segment of Zion Church Road where the subject land is located, which is from Roxana Road (Sussex Road 52) to Bayard Road (Sussex Road 384) / Bunting Road (Sussex Road 382A), are 5,487 and 7,062 vehicles per day, respectively.

Based on our review, we estimate that the proposed land use will generate more than 50 vehicle trips per a weekly peak hour and 500 vehicle trips per day, and would be considered to have a Minor impact to the local area roadways. In this instance, the Department considers a Minor impact to be when a proposed land use would generate more than either 50 vehicle trips per a weekly peak hour and / or 500 vehicle trips per day but fewer than 200 vehicle trips per a weekly peak hour and 2,000 vehicle trips per day. Because of this impact, we recommend that the applicant be required to perform a Traffic Impact Study (TIS) for the subject application. However, our Development Coordination Manual provides that where a TIS is required only because the volume warrants are met, and the projected trip generation will be fewer than 200 vehicle trips per a weekly peak hour and fewer than 2,000 vehicle trips per day, DelDOT may permit the developer to pay an Area-Wide Study Fee of \$10 per daily trip in lieu of doing a TIS. For this application, if the County were agreeable, we would permit the developer to pay an Area-Wide Study Fee.



Mr. Jamie Whitehouse

Page 2 of 2

December 23, 2020

According to the Institute of Transportation Engineers (ITE) Trip Generation Manual, a development of 102 single-family detached houses would generate 1,059 vehicle trips per day, 77 vehicle trips during the morning peak hour, and 104 vehicle trips during the afternoon peak hour. As stated above, because this development would generate fewer than 2,000 vehicle trips per day and fewer than 200 vehicle trips during a weekly peak hour, the applicant has the option to pay the Area-Wide Study Fee in lieu of doing a TIS. The Area-Wide Study Fee for the proposed development would be \$10,590.00. Payment of the Area-Wide Study Fee does not preclude a developer from having to make or participate in off-site improvements, including a traffic operational analysis (TOA) if one is found to be necessary during the plan review process.

A review of TIS completed in the last three years found that a TIS was completed for the Twin Cedars residential development. That TIS included the intersections of Zion Church Road and Deer Run Road, and Zion Church Road and Bayard Road / Bunting Road. We are providing a copy of that TIS review letter; please find it enclosed with this letter.

If the County approves this application, the applicant should be reminded that DelDOT requires compliance with State regulations regarding plan approvals and entrance permits, whether or not a TIS is required.

Please contact Mr. Claudy Joinville, at (302) 760-2124, if you have questions concerning this correspondence.

Sincerely,



T. William Brockenbrough, Jr.
County Coordinator
Development Coordination

TWB:cjm

Enclosure

cc: Schiff Land Development Company, LLC (c/o Mr. T.J. Schiff), Applicant
Russell Warrington, Sussex County Planning & Zoning
Constance C. Holland, Coordinator, Cabinet Committee on State Planning Issues
Todd Sammons, Assistant Director, Development Coordination
Gemez Norwood, South District Public Works Manager, Maintenance & Operations
Steve McCabe, Sussex County Review Coordinator, Development Coordination
Derek Sapp, Subdivision Manager, Development Coordination
Kevin Hickman, Subdivision Manager, Development Coordination
Brian Yates, Subdivision Manager, Development Coordination
John Andrescavage, Subdivision Manager, Development Coordination
James Argo, South District Project Reviewer, Maintenance & Operations
Troy Brestel, Project Engineer, Development Coordination
Claudy Joinville, Project Engineer, Development Coordination



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

JENNIFER COHAN
SECRETARY

July 13, 2020

Mr. Joe Caloggero
The Traffic Group, Inc.
9900 Franklin Square Drive
Suite H
Baltimore, MD 21236

Dear Mr. Caloggero:

The enclosed Traffic Impact Study (TIS) review letter for the proposed **Twin Cedars** (Protocol Tax Parcel 533-11.00-42.00) development has been completed under the responsible charge of a registered professional engineer whose firm is authorized to work in the State of Delaware. They have found the TIS to conform to DelDOT's Development Coordination Manual and other accepted practices and procedures for such studies. DelDOT accepts this letter and concurs with the recommendations. If you have any questions concerning this letter or the enclosed review letter, please contact me at (302) 760-2167.

Sincerely,

A handwritten signature in black ink, appearing to read "Troy Brestel".

Troy Brestel
Project Engineer

TEB:km

Enclosures

cc with enclosures: Ms. Constance C. Holland, Office of State Planning Coordination
Mr. Jamie Whitehouse, Sussex County Planning and Zoning
Mr. Andrew Parker, McCormick Taylor, Inc.
Mr. Kevin Hickman, Johnson, Mirmiran & Thompson, Inc.
DelDOT Distribution

DelDOT Distribution

Brad Eaby, Deputy Attorney General
J. Marc Coté, Director, Planning
Shanté Hastings, Director, Transportation Solutions (DOTS)
Mark Luszcz, Deputy Director, DOTS
Michael Simmons, Assistant Director, Project Development South, DOTS
Todd Sammons, Assistant Director, Development Coordination
T. William Brockenbrough, Jr., County Coordinator, Development Coordination
Peter Haag, Chief Traffic Engineer, Traffic, DOTS
Chris Sylvester, Traffic Studies Manager, Traffic, DOTS
Alistair Probert, South District Engineer, South District
Gemez Norwood, South District Public Works Supervisor, South District
Jared Kaufmann, Service Development Planner, Delaware Transit Corporation
Tremica Cherry, Service Development Planner, Delaware Transit Corporation
Susanne Laws, Sussex Review Coordinator, Development Coordination
Anthony Aglio, Planning Supervisor, Statewide & Regional Planning
James Argo, Sussex Plan Reviewer, South District
Mark Galipo, Traffic Engineer, Traffic, DOTS
Claudy Joinville, Project Engineer, Development Coordination



July 10, 2020

Mr. Troy E. Brestel
Project Engineer
DelDOT Division of Planning
P.O. Box 778
Dover, DE 19903

RE: Agreement No. 1946F
Traffic Impact Study Services
Task No. 1A Subtask 01A – Twin Cedars

Dear Mr. Brestel:

McCormick Taylor has completed its review of the Traffic Impact Study (TIS) for the Twin Cedars residential development prepared by The Traffic Group, Inc. dated March 9, 2020. The Traffic Group prepared the report in a manner generally consistent with DelDOT's Development Coordination Manual.

The TIS evaluates the impacts of the proposed Twin Cedars residential development, proposed to be located along Delaware Route 20 (Zion Church Road / Sussex Road 382) between Deer Run Road (Sussex Road 388) and Bayard Road (Sussex Road 384) / Johnson Road (Sussex Road 382A) in Sussex County, Delaware. The proposed development would consist of 44 single-family detached houses, 44 townhouses, and 168 apartments. One full-access driveway is proposed on Delaware Route 20. Construction is expected to be complete by 2026.

The subject land is located on an approximately 64.22-acre parcel. The land is currently split zoned as C-1 (General Commercial) and GR (General Residential), and the developer is seeking a residential planned community (RPC) overlay for the GR portion in Sussex County.

Currently, there is one active DelDOT project within the study area. The project involves planned improvements at the intersection of Delaware Route 20 and Bayard Road/Johnson Road. In late 2018 and early 2019, DelDOT's Traffic Studies Section conducted a traffic study and solicited public input to evaluate possible safety improvements at this unsignalized two-way stop-controlled intersection. Through this process, DelDOT determined that a traffic signal is recommended for this intersection. This recommendation and the associated documentation has been sent to DelDOT's Traffic Design Section to start programming the design work. The construction date is to be determined.

Based on our review, we have the following comments and recommendations:

The following intersections exhibit level of service (LOS) deficiencies without the implementation of physical roadway and/or traffic control improvements:

<i>Intersection</i>	<i>Existing Traffic Control</i>	<i>Situations for which deficiencies occur</i>
Delaware 20 and Bayard Road / Johnson Road	Unsignalized	2019 Existing summer Saturday (Case 1); 2026 without Twin Cedars summer Saturday (Case 2); 2026 with Twin Cedars summer Saturday (Case 3)

Delaware Route 20 and Bayard Road / Johnson Road

This unsignalized intersection experiences LOS deficiencies in the Saturday midday peak hour for 2019 existing conditions, 2026 conditions without Twin Cedars, and 2026 conditions with Twin Cedars. DelDOT has evaluated various improvement options for this intersection and determined that a traffic signal is recommended; to this end, the developer should make an equitable share contribution toward the installation of a traffic signal, as described below in Item No. 2.

Should the County choose to approve the proposed development, the following items should be incorporated into the site design and reflected on the record plan by note or illustration. All applicable agreements (i.e. letter agreements for off-site improvements and traffic signal agreements) should be executed prior to entrance plan approval for the proposed development.

1. The developer should construct the full-movement site access on Delaware Route 20. The proposed configuration is shown in the table below. This proposed site driveway should be constructed directly across from the existing Bayside Mini Storage driveway.

Approach	Existing Configuration	Proposed Configuration
Eastbound Delaware Route 20	One shared left-turn/through lane	One left-turn lane, one through lane, and one right-turn lane
Westbound Delaware Route 20	One shared through/right-turn lane	One left-turn lane and one shared through/right-turn lane
Northbound Site Access	Approach does not exist	One shared left-turn/through lane and one right-turn lane
Southbound Bayside Mini Storage driveway	One shared left/right-turn lane	One shared left/through/right-turn lane

Initial recommended minimum turn-lane lengths (excluding tapers) of the separate turn lanes are listed below. The developer should coordinate with DelDOT’s Development Coordination Section to determine final turn-lane lengths during the site plan review.

Approach	Left-Turn Lane	Right-Turn Lane
Eastbound Delaware Route 20	50 feet *	290 feet **
Westbound Delaware Route 20	210 feet **	N/A
Northbound Site Access	N/A	50 feet ***
Southbound Bayside Mini Storage driveway	N/A	N/A

- * Turn lane is not warranted per DelDOT’s *Auxiliary Lane Worksheet*, but is recommended for safety to shadow the required westbound left-turn lane.
- ** Initial turn-lane length based on DelDOT’s *Auxiliary Lane Worksheet*.
- *** Initial turn-lane length based on storage length per queuing analysis, with 50-foot minimum

2. The developer should coordinate with DelDOT regarding an equitable share contribution toward a DelDOT project to install a traffic signal at the intersection of Delaware Route 20 and Bayard Road / Johnson Road. The amount of the contribution should be determined through coordination with DelDOT’s Development Coordination Section. At least one other developer is required to contribute to this improvement as well.
3. The following bicycle and pedestrian improvements should be included:
 - a. Adjacent to the proposed right-turn lane on eastbound Delaware Route 20 at the proposed site entrance, a minimum of a five-foot bicycle lane should be dedicated and striped with appropriate markings for bicyclists through the turn lane in order to facilitate safe and unimpeded bicycle travel
 - b. Appropriate bicycle symbols, directional arrows, pavement markings, and signing should be included along bicycle facilities and turn lanes within the project limits.
 - c. Utility covers should be made flush with the pavement.
 - d. If clubhouses or other community facilities are constructed as shown on the site plan, bicycle parking should be provided near building entrances. Where building architecture provides for an awning, other overhang, or indoor parking, the bicycle parking should be covered.
 - e. A minimum 15-foot wide permanent easement from the edge of the right-of-way should be dedicated to DelDOT within the site frontage along Delaware Route 20.

- f. Within the easement along the Delaware Route 20 site frontage, a minimum of a ten-foot wide shared-use path that meets current AASHTO and ADA standards should be constructed. The shared-use path should meet AASHTO and ADA standards and should have a minimum of a five-foot buffer from the roadway. At the property boundaries, the shared-use path should connect to the adjacent property or to the shoulder in accordance with DelDOT's *Shared-Use Path and/or Sidewalk Termination Reference Guide* dated August 1, 2018. The developer should coordinate with DelDOT's Development Coordination Section to determine the details of the shared-use path connections at the property boundaries.
- g. ADA compliant curb ramps and crosswalks should be provided at all pedestrian crossings, including all site entrances. Type 3 curb ramps are discouraged.
- h. Internal sidewalks for pedestrian safety and to promote walking as a viable transportation alternative should be constructed within the development. These sidewalks should each be a minimum of five-feet wide (with a minimum of a five-foot buffer from the roadway) and should meet current AASHTO and ADA standards. Internal sidewalks in the development should connect to the proposed shared-use path along Delaware Route 20.
- i. Where internal sidewalks are located alongside of parking spaces, a buffer should be added to prevent vehicular overhang onto the sidewalk.

Improvements in this TIS may be considered "significant" under DelDOT's *Work Zone Safety and Mobility Procedures and Guidelines*. These guidelines are available on DelDOT's website at http://deldot.gov/Publications/manuals/de_mutcd/index.shtml.

Please note that this review generally focuses on capacity and level of service issues; additional safety and operational issues will be further addressed through DelDOT's site plan review process.

Additional details on our review of this TIS are attached. Please contact me at (610) 640-3500 or through e-mail at ajparker@mccormicktaylor.com if you have any questions concerning this review.

Sincerely,

McCormick Taylor, Inc.

A handwritten signature in black ink, appearing to read "Andrew J. Parker".

Andrew J. Parker, PE, PTOE
Project Manager

Enclosure

General Information

Report date: March 9, 2020

Prepared by: The Traffic Group, Inc.

Prepared for: Bay Developers, LLC

Tax parcel: 533-11.00-42.00

Generally consistent with DelDOT's Development Coordination Manual: Yes

Project Description and Background

Description: The proposed Twin Cedars development consists of 44 single-family detached houses, 44 townhouses, and 168 apartments.

Location: The site is located along Delaware Route 20 (Zion Church Road / Sussex Road 382) between Deer Run Road (Sussex Road 388) and Bayard Road (Sussex Road 384) / Johnson Road (Sussex Road 382A) in unincorporated Sussex County. A site location map is included on page 6.

Amount of land to be developed: approximately 64.22 acre parcel

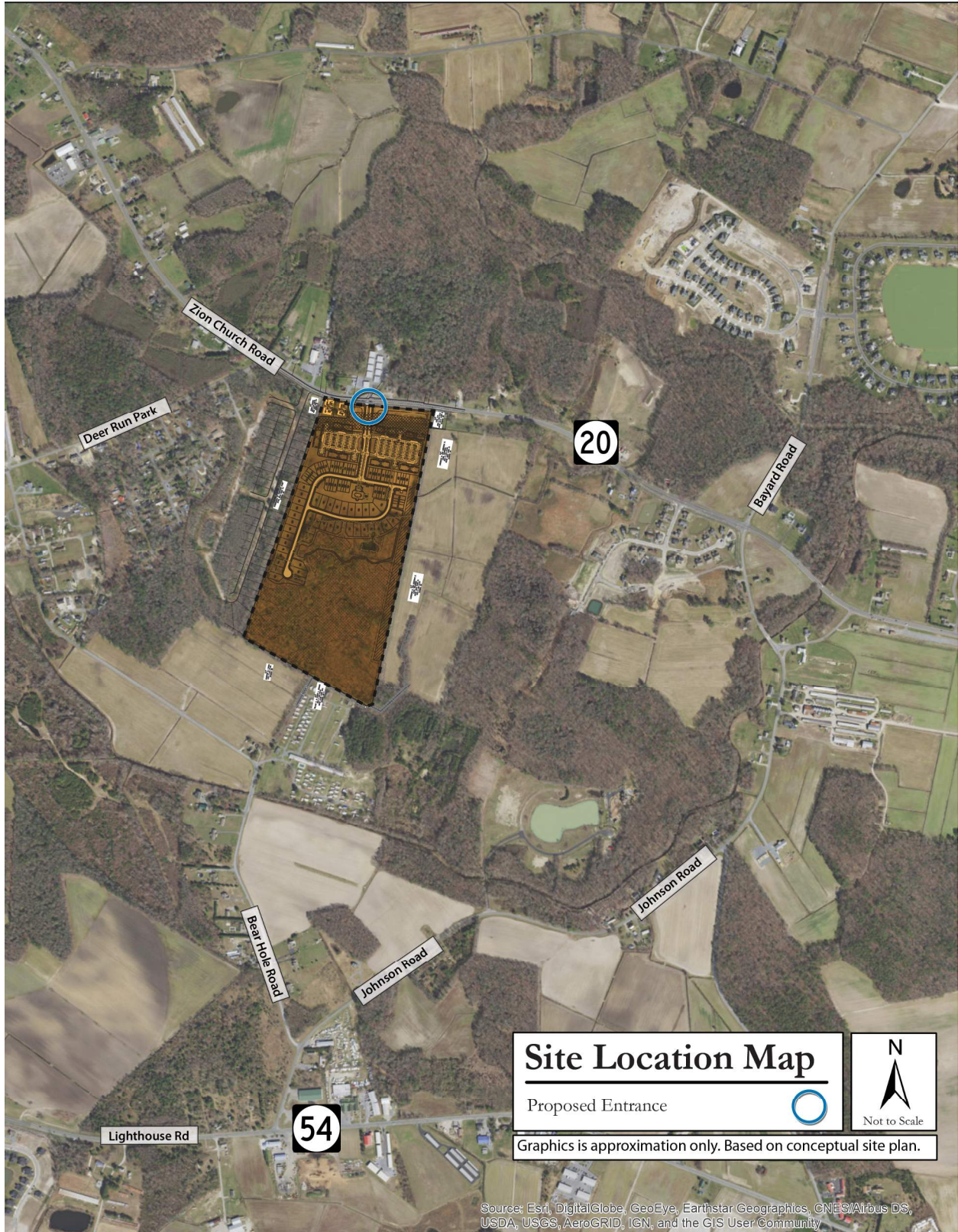
Land use approval(s) needed: Subdivision approval. The land is currently split zoned as C-1 (General Commercial) and GR (General Residential), and the developer is seeking a residential planned community (RPC) overlay for the GR portion in Sussex County.

Proposed completion year: 2026

Proposed access locations: One full-access driveway is proposed on Delaware Route 20.

Daily Traffic Volumes (per DelDOT Traffic Summary 2019):

- 2019 Average Annual Daily Traffic on Delaware Route 20: 6,635 vehicles/day



2015 Delaware Strategies for State Policies and Spending

Location with respect to the Strategies for State Policies and Spending Map of Delaware:

The proposed Twin Cedars residential development is located within Investment Level 3.

Investment Level 3

Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer-term future. Investment Level 3 areas generally fall into two categories. The first category covers lands that are in the long-term growth plans of counties or municipalities, but where development is not necessary to accommodate expected short-term population growth. The second category includes lands that are adjacent to fast-growing Investment Level 1 and 2 areas but are often impacted by environmentally sensitive features, agricultural-preservation issues, or other infrastructure issues. In these instances, development and growth may be appropriate in the near term, but the resources on the site and in the surrounding area should be carefully considered and accommodated by state Agencies and local governments with land-use authority.

Generally, Investment Level 3 areas should not be developed until surrounding Investment Level 1 and 2 areas are substantially built out. From a housing perspective, Investment Level 3 areas are characterized by low density and rural homes. New housing developments in the short term would, in most cases, represent leap-frog development, which is undesirable. Higher density housing in Investment Level 3 areas is more appropriate once Level 2 areas are built out and utilities are available.

Proposed Development's Compatibility with Strategies for State Policies and Spending:

The proposed Twin Cedars residential development includes 44 single-family detached houses, 44 townhouses, and 168 apartments located within an Investment Level 3 area. Investment Level 3 reflects areas where growth is anticipated by the county in the long-term. Given that the location is in a Growth Area as defined by Sussex County and that the anticipated opening date for this development is three years out, the proposed development generally appears to comply with the guidelines of Investment Level 3 areas as described in the 2015 "Strategies for State Policies and Spending."

Comprehensive Plan

Sussex County Comprehensive Plan:

(Source: Sussex County Comprehensive Plan, March 2019)

The Sussex County Comprehensive Plan Future Land Use Map indicates that the proposed development parcel is within a Coastal Area (categorized as a Growth Area).

Growth Areas, including the Coastal Area, are designed to accommodate concentrated levels of development. Sussex County has designated the areas around Rehoboth Bay, Indian River Bay, and Little Assawoman Bay (the inland bays) as Coastal Areas. Coastal Areas generally encompass areas on the south-eastern side of Sussex County within what was previously referred to as the Environmentally Sensitive Developing Areas of prior Comprehensive Plans. The updated name more accurately reflects the function of this land use classification. While the Coastal Area is a

Growth Area, additional considerations should be taken into account in this Area that may not apply in other Growth Areas.

The Coastal Area designation is intended to recognize two characteristics. First, this region is among the most desirable locations in Sussex County for new housing, as is reflected in new construction data and real estate prices. Second, this region contains ecologically important and sensitive characteristics as well as other coastal lands which help to absorb floodwaters and provide extensive habitat for native flora and fauna. This area also has significant impact upon water quality within the adjacent bays and inlets as well as upon natural the region's various habitats. And, these factors are themselves part of the reason that this Area is so desirable-making the protection of them important to both the environment and the economy.

The County has significant initiatives to extend public sewer service to replace inadequate on-site systems. Careful control of stormwater runoff is also an important concern in keeping sediment and other pollutants out of the Inland Bays.

The challenge in this region is to safeguard genuine natural areas and mitigate roadway congestion without stifling the tourism and real estate markets which: a) provide many jobs; b) create business for local entrepreneurs; and c) help keep local tax rates low.

The following guidelines should apply to future growth in Coastal Areas:

Permitted Uses – Coastal Areas are areas that can accommodate development provided special environmental concerns are addressed. A range of housing types should be permitted in Coastal Areas, including single-family homes, townhouses, and multi-family units. Retail and office uses are appropriate but larger shopping centers and office parks should be confined to selected locations with access along arterial roads. Appropriate mixed-use development should also be allowed. In doing so, careful mixtures of homes with light commercial, office and institutional uses can be appropriate to provide for convenient services and to allow people to work close to home. Major new industrial uses are not proposed in these areas.

Densities – Sussex County's base density of 2 units per acre is appropriate throughout this classification; however, medium and higher density (4-12 units per acre) can be appropriate in certain locations. Medium and higher density could be supported in areas: where there is central water and sewer; near sufficient commercial uses and employment centers; where it is in keeping with the character of the area; where it is along a main road or at/or near a major intersection; where there is adequate Level of Service; or where other considerations exist that are relevant to the requested project and density. A clustering option permitting smaller lots and additional flexibility in dimensional standards is encouraged on tracts of a certain minimum size, provided significant permanent common open space is preserved and the development is connected to central water and sewer service. The preservation of natural resources or open space is strongly encouraged in this land use classification. The County should revisit environmental protection in the Coastal Areas.

Specific regulations governing cluster developments are designated by zoning district. There currently is an option where density can be increased with optional density bonuses for certain

zoning districts. Those optional bonuses may involve payment of fees that fund permanent land preservation elsewhere in the County, or other options. RPC's are encouraged to allow for a mix of housing types and to preserve open space and natural areas/resources. Cluster development that allows for smaller lots and flexibility in dimensional standards is encouraged if the developer uses a cluster option that results in permanent preservation of a substantial percentage of the tract and/or natural areas/resources. Master planning should be encouraged especially for large-scale developments on large parcels or groups of parcels, higher density and mixed-use developments to provide flexibility in site design.

All applicants for developments of a minimum size (as specified in zoning) should continue to be required to provide information that analyzes the development's potential environmental impacts, including effects on stormwater runoff, nitrogen and phosphorous loading, wetlands, woodlands, wastewater treatment, water systems, and other matters that affect the ecological sensitivity of the inland bays.

Infrastructure – Central water and sewer facilities are strongly encouraged. If central utilities are not possible, permitted densities should be limited to two units per acre provided a septic permit can be approved.

Proposed Development's Compatibility with Comprehensive Plan: The proposed Twin Cedars residential development includes 44 single-family detached houses, 44 townhouses, and 168 apartments on a 64.22-acre parcel (a gross density of just under 4 units per acre). The land is currently split zoned as C-1 (General Commercial) and GR (General Residential), and the developer is seeking a residential planned community (RPC) overlay for the GR portion in Sussex County. The Sussex County Comprehensive Plan Future Land Use Map indicates that the proposed development parcel is within the Coastal Area (categorized as a Growth Area). The proposed development appears to comply with the characteristics and *Permitted Uses* for the Coastal Area. However, due to the some small lot sizes and overall density greater than 2 units per acre, along with the potential RPC overlay, this development raises questions regarding consistency with Sussex County regulations; therefore additional discussion may be required.

Relevant Projects in the DelDOT Capital Transportation Program

Currently, there is one active DelDOT project within the study area. The project involves planned improvements at the intersection of Delaware Route 20 and Bayard Road/Johnson Road. In late 2018 and early 2019, DelDOT's Traffic Studies Section conducted a traffic study and solicited public input to evaluate possible safety improvements at this unsignalized two-way stop-controlled intersection. Through this process, DelDOT determined that a traffic signal is recommended for this intersection. This recommendation and the associated documentation has been sent to DelDOT's Traffic Design Section to start programming the design work. The construction date is to be determined.

Trip Generation

Trip generation for the proposed development was computed using comparable land uses and equations contained in Trip Generation, Tenth Edition, published by the Institute of Transportation Engineers (ITE). The following land use was utilized to estimate the amount of new traffic generated for this development:

- 44 Single-Family Detached Homes (ITE Land Use Code 210)
- 44 Multi-Family Housing Units, Low-Rise (ITE Land Use Code 220)
- 168 Multi-Family Housing Units, Mid-Rise (ITE Land Use Code 221)

Table 1
TWIN CEDARS PEAK HOUR TRIP GENERATION

Land Use	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
44 Single-Family Detached	9	27	36	29	17	46	30	25	55
44 Multi-Family Housing, Low-Rise	5	17	22	18	10	28	8	6	14
168 Multi-Family Housing, Mid-Rise	15	42	57	45	28	73	38	39	77
TOTAL TRIPS	29	86	115	92	55	147	76	70	146

Overview of TIS

Intersections examined:

- 1) Delaware Route 20 & Site Access
- 2) Delaware Route 20 & Deer Run Road
- 3) Delaware Route 20 & Bayard Road / Johnson Road

Conditions examined:

- 1) 2019 existing (Case 1)
- 2) 2026 without Twin Cedars (Case 2)
- 3) 2026 with Twin Cedars (Case 3)

Peak hours evaluated: Weekday morning and evening and Saturday mid-day peak hours

Committed developments considered:

- 1) Orr Property (a.k.a. Miller Creek) (135 single-family detached houses)
- 2) Estuary (284 single-family detached houses)
- 3) Fox Haven I (76 single-family detached houses; 4 unbuilt)
- 4) Fox Haven II (99 single-family detached houses)

Intersection Descriptions

1) Delaware Route 20 & Site Access

Type of Control: proposed one-way stop (T-intersection)

Eastbound Approach: (Delaware Route 20) existing one through lane; proposed one through lane and one right-turn lane

Westbound Approach: (Delaware Route 20) existing one through lane; proposed one left-turn lane and one through lane

Northbound Approach: (Site Access) proposed one shared left-turn/right-turn lane, stop control

2) Delaware Route 20 & Deer Run Road

Type of Control: unsignalized

Eastbound Approach: (Delaware Route 20) one shared through/right-turn lane

Westbound Approach: (Delaware Route 20) one left-turn/through lane

Northbound Approach: (Deer Run Road) one shared left-turn/right-turn lane, stop control

3) Delaware Route 20 & Bayard Road / Johnson Road

Type of Control: existing two-way stop; DelDOT traffic study proposes a traffic signal

Eastbound Approach: (Delaware Route 20) one left-turn lane, one through lane, one bicycle lane, and one right-turn lane

Westbound Approach: (Delaware Route 20) one shared left-turn/through/right-turn lane

Northbound Approach: (Johnson Road) one shared left-turn/through/right-turn lane, stop control

Southbound Approach: (Bayard Road) one shared left-turn/through/right-turn lane, stop control

Safety Evaluation

Crash Data: Per current DelDOT policy, review of crash data was not conducted at this time.

Sight Distance: The proposed site access on Delaware Route 20 is located between two horizontal curves, so sight distance is limited looking in either direction (especially to the left) from the proposed northbound driveway approach. As always adequacy of available sight distance should be confirmed during the site plan review process for all proposed movements at the site accesses.

Transit, Pedestrian, and Bicycle Facilities

Existing transit service: Based on the current DART Bus Stop Map, the Delaware Transit Corporation (DTC) does not currently operate any fixed-route transit bus service in the area of the proposed Twin Cedars residential development.

Planned transit service: The TIS provided documentation of correspondence with a DTC representative who stated that no transit amenities are needed at this time. DTC has no plans to provide transit service to the area in the near future.

Existing bicycle and pedestrian facilities: The following study area roadways are identified as “Bicycling Routes” on the *Sussex County Bicycle Map* published by DelDOT:

- Delaware Route 20:
 - Regional Bicycle Route with bikeway
 - Over 5,000 vehicles daily
- Bayard Road: Connector bicycle route without bikeway
- Johnson Road: Connector bicycle route without bikeway

There are no existing sidewalks or exclusive pedestrian facilities in the immediate area of the proposed site entrance on Delaware Route 20. There are however new pedestrian facilities and bike lanes at the Delaware Route 20 & Bayard / Johnson Road intersection in the eastbound direction.

Planned bicycle and pedestrian facilities: The TIS provided documentation of correspondence with a representative from DelDOT’s Local Systems Planning Section who was contacted to determine requested accommodations for bicycles and pedestrians. It is requested that a 10-foot-wide Multi-Use Pathway would be needed across the frontage.

Previous Comments

In a review letter dated February 5, 2020, DelDOT indicated that the revised Preliminary TIS was acceptable as submitted.

It appears that all substantive comments from DelDOT’s TIS Scoping Memorandum, Traffic Count Review, Preliminary TIS Review, and other correspondence were addressed in the Final TIS submission.

General HCS Analysis Comments

(see table footnotes on the following pages for specific comments)

- 1) Both The Traffic Group, Inc. and McCormick Taylor utilized Highway Capacity Software (HCS) version 7.8 to complete the traffic analyses.
- 2) As per HCM methodologies, The Traffic Group and McCormick Taylor applied percent heavy vehicles (HV) by lane at all-way stop control intersections. In general, existing HV were applied to future conditions as well. For new intersections, 3% was assumed as per the DelDOT Development Coordination Manual section 2.2.8.11.6.H.
- 3) For existing conditions, the TIS and McCormick Taylor determined overall intersection peak hour factors (PHF) for each intersection based on the turning movement counts. Future PHFs were determined as per the DelDOT Development Coordination Manual section 2.2.8.11.6.F.

Table 2
Peak Hour Levels of Service (LOS)
Based on Twin Cedars Traffic Impact Study – March 2020
Prepared by The Traffic Group, Inc.

Unsignalized Intersection ¹ One-Way Stop (T-Intersection)	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
Delaware Route 20 & Site Access						
2026 with Twin Cedars (Case 3)						
Westbound DE 20 – Left	A (7.9)	A (8.3)	A (8.6)	A (7.9)	A (8.3)	A (8.6)
Northbound Site Access	B (12.9)	B (14.1)	C (19.8)	B (12.9)	B (14.1)	C (19.8)

¹ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 3
Peak Hour Levels of Service (LOS)
Based on Twin Cedars Traffic Impact Study – March 2020
Prepared by The Traffic Group, Inc.

Unsignalized Intersection ² One-Way Stop (T-Intersection)	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
Delaware Route 20 & Deer Run Road						
2019 Existing (Case 1)						
Westbound DE 20 – Left	A (7.8)	A (7.9)	A (8.2)	A (7.8)	A (7.9)	A (8.2)
Northbound Deer Run Road	B (10.8)	B (10.8)	B (12.5)	B (10.8)	B (10.8)	B (12.5)
2026 without Twin Cedars (Case 2)						
Westbound DE 20 – Left	A (7.9)	A (8.0)	A (8.3)	A (7.9)	A (8.0)	A (8.3)
Northbound Deer Run Road	B (11.3)	B (11.2)	B (13.0)	B (11.3)	B (11.2)	B (13.0)
2026 with Twin Cedars (Case 3)						
Westbound DE 20 – Left	A (7.9)	A (8.1)	A (8.4)	A (7.9)	A (8.1)	A (8.4)
Northbound Deer Run Road	B (11.6)	B (11.6)	B (13.4)	B (11.6)	B (11.6)	B (13.4)

² For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 4
Peak Hour Levels of Service (LOS)
Based on Twin Cedars Traffic Impact Study – March 2020
Prepared by The Traffic Group, Inc.

Unsignalized Intersection ³ Two-Way Stop	LOS per TIS			LOS per McCormick Taylor		
	Weekday AM	Weekday PM	Summer Saturday	Weekday AM	Weekday PM	Summer Saturday
Delaware Route 20 & Bayard Road / Johnson Road						
2019 Existing (Case 1)						
Eastbound DE 20 – Left	A (7.8)	A (8.0)	A (8.6)	A (7.8)	A (8.0)	A (8.6)
Westbound DE 20 – Left	A (7.7)	A (7.8)	A (8.1)	A (7.7)	A (7.8)	A (8.1)
Northbound Johnson Road	B (14.9)	C (16.6)	D (30.3)	B (14.9)	C (16.7)	D (30.6)
Southbound Bayard Road	C (17.1)	C (18.3)	F (70.9)	C (17.6)	C (18.9)	F (82.6)
2026 without Twin Cedars (Case 2)						
Eastbound DE 20 – Left	A (7.9)	A (8.1)	A (8.8)	A (7.9)	A (8.1)	A (8.8)
Westbound DE 20 – Left	A (7.7)	A (7.8)	A (8.2)	A (7.7)	A (7.8)	A (8.2)
Northbound Johnson Road	C (16.4)	C (19.8)	E (47.2)	C (16.5)	C (19.9)	E (49.1)
Southbound Bayard Road	C (21.2)	C (24.1)	F (206.3)	C (22.1)	D (25.4)	F (238.9)
2026 with Twin Cedars (Case 3)						
Eastbound DE 20 – Left	A (8.0)	A (8.2)	A (8.9)	A (8.0)	A (8.2)	A (8.9)
Westbound DE 20 – Left	A (7.8)	A (7.9)	A (8.2)	A (7.8)	A (7.9)	A (8.2)
Northbound Johnson Road	C (18.6)	C (23.5)	F (76.2)	C (18.6)	C (23.6)	F (86.1)
Southbound Bayard Road	D (25.5)	D (29.1)	F (310.7)	D (27.5)	D (31.1)	F (354.3)

³ For both unsignalized and signalized analyses, the numbers in parentheses following levels of service are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS



Date: January 27, 2022

Office of State Planning Coordination
122 Martin Luther King Jr. Blvd. South
Dover, DE 19901

Attention: Mr. David L. Edgell, Director

Subject: East Gate (formerly Twin Lakes)
PLUS Review 2020-11-08

Dear Mr. Edgell,

We are in receipt of your comment letter dated December 18, 2020 with regard to Concept Plan associated with the proposed East Gate (formerly known as Twin Lakes) residential subdivision to be located in Sussex County and respond as follows:

Strategies for State Policies and Spending

Comment 1: This project is located in Investment Levels 3 according to the Strategies for State Policies and Spending. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer-term future, or areas that may have environmental or other constraints to development. State investments may support future growth in these areas but may have priorities for the near future. Level 3 areas may mean that there may be environmental concerns on or near the parcel and we would encourage you to design the site with respect for the environmental features which are present.

This project was reviewed in September 2020 and at that time the proposal was also for 102 units, however the units were clustered on the front portion of the lot to avoid the forest and wetlands on the site. This resulted in approximately 28 acres of open space. The current proposal is seeking to use the entire site for development leaving approximately 15 acres of open space but removing much of the forested area and wetlands.

It is our understanding that the change to the site plan is due to the April 21, 2020 federal clarification on the Navigable Waters Protection Rule for the Definition of Waters of the United States ("WOTUS" Rule). With the new site plan, approximately 8 acres of forested non-tidal wetlands is anticipated to be filled by this development proposal, with no wetland permitting or wetland mitigation required, resulting in significant adverse effects for drainage, water quality, and plant and animal species.

Regardless of new federal permitting standards, these non-tidal wetlands provide significant flood attenuation, water quality benefits, and habitat for plant and animal species. Filling these wetland areas, then building homes and infrastructure upon them, will directly result in adverse drainage and flooding impacts for future residents.

As noted above, this parcel is within a Level 3 Investment area. State Strategies in Level 3 areas call for the protection of environmental features in and around the site. Therefore, the State objects to the current site plan for this parcel and asks that the County to

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PLUS

Re: East Gate - 2019-12-07

January 27, 2022

Page 2 of 18

consider requiring the developer to protect this valuable resource by reverting to the September 2020 site plan. The September 2020 site plan is a true cluster subdivision that will allow the owner the same number of units while protecting Delaware's natural resources and protect future residents of this area from the drainage and flooding impacts that can result from filling wetland areas.

Response: Comment acknowledged. The project site area has direct access to public water and sanitary sewer; the site is located within the Coastal Area growth zone as designated by the Sussex County Comprehensive Plan. Site design, including preservation and protection of existing natural resources, will be performed in accordance with requirements of the Sussex County Code in effect at the time of the Preliminary Plan application.

Code Requirements/Agency Permitting Requirements

Department of Transportation - Contact Bill Brockenbrough 760-2109

Comment 2: The site access on Zion Church Road (Delaware Route 20) must be designed in accordance with DelDOT's Development Coordination Manual, which is available at <https://www.deldot.gov/Business/subdivisions/index.shtml?dc=changes>

Response: Comment acknowledged; the site access will be designed in accordance with the Development Coordination Manual (DCM).

Comment 3: 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 https://deldot.gov/Business/subdivisions/pdfs/Meeting_Request_Form.pdf?08022017

Response: Comment acknowledged; a Pre-Submittal Meeting with the DelDOT Subdivision Section will be scheduled prior to submittal of plans for review.

Comment 4: Section 1.6 of the Manual addresses the location of development entrances. The site access must be located in accordance with that section and specifically in accordance with Figure 1.5.1 which is referenced therein.

Response: Comment acknowledged; project site entrance will be located in accordance with requirements of the DCM.

Comment 5: Section P.5 of the Manual addresses fees that are assessed for the review of development proposals. DelDOT anticipates collecting the Initial Stage Fee when the record plan is submitted for review and the Construction Stage Fee when construction plans are submitted for review.

Response: Comment acknowledged; review fees are anticipated to be provided in accordance with current DelDOT policy.

Comment 6: 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 1,274 vehicle trip ends per day. Using the 10th edition of the Institute of Transportation Engineers' Trip Generation Manual, DelDOT calculates this number to be 1,059 and estimates the weekday morning and evening peak hour trip ends at 77 and 104, respectively.

Section 2.2.2.2 of the Development Coordination Manual provides that for developments

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generating less than 2000 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, \$10,590. AWS Fees are used to fund traffic studies, not to build improvements.

DelDOT anticipates requiring the developer to improve Zion Church Road, within the limits of their frontage, to meet DelDOT's Major Collector Road standards, which include 72-foot lanes and 8-foot shoulders. Presently, DelDOT has begun work on an area study, tentatively named the Southeast Sussex Circulator Study, from which it anticipates identifying transportation improvements needed near this development. Depending on the timing of that study and this development, DelDOT may require participation in some of those improvements. DelDOT will definitely require the developer to enter a signal agreement for the intersection of Zion Church Road, Bayard Road (Sussex Road 384) and Bunting Road (Sussex Road 389). The developer may contact Ms. Jennifer Cinelli, a planner in DelDOT's Statewide and Regional Planning Section for more information on the Southeast Sussex Circulator Study as needed. Ms. Cinelli may be reached at (302) 7 60-2549 or Jennifer.Cinelli@delaware.gov.

Response: Comment acknowledged; as noted in the Service Level Evaluation performed by the Department as part of the Sussex County Preliminary Plan process, a TIS study was recently completed in the area for the Twin Cedars residential project. The developer for the East Gate project anticipates participating in the AWS alternative and make proportional contributions to the projects under design as part of the Southeast Sussex Circulator Study.

Comment 7: As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Manual, DelDOT require dedication of right-of-way along the site's frontage on Zion Church Road. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the physical centerline along both roads. 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."

Response: Comment addressed; as shown on the Preliminary Plan, right-of-way dedication for Zion Church Road has been provided along the project frontage to current DelDOT standards. Dedication of this right-of-way will be noted no final Record Plans utilizing DelDOT standard language requirements.

Comment 8: 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 Zion Church 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."

Response: Comment addressed; the requested easement area has been shown on the plan. The Record Plan will include the requested easement note in accordance with DelDOT requirements.

Comment 9: Referring to Section 3.4.2.1 of the Manual, the following items, among other things, are required on the Record Plan:

- A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.

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- Depiction of all existing entrances within 450 feet of the entrances on Zion Church Road.
- Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

Response: Comment acknowledged; Record Plans will be prepared in and submitted for DelDOT review in accordance with current DelDOT requirements.

Comment 10: Section 3.5.4.2 of the Manual addresses requirements for Shared Use Paths (SUP) and sidewalks. For projects in Level 3 and 4 Investment Areas, installation of paths or sidewalks along the frontage on State-maintained roads is at DelDOT's discretion. DelDOT anticipates requiring the developer to build an SUP along their frontage on Zion Church Road.

Response: Comment addressed; the easement area for a Shared Use Path has been shown on the Preliminary Plan as noted above. The requirement to install the Shared Use Path will be discussed with the Subdivision Engineer to determine confirm DelDOT's preference as part of the pre-submittal process.

Comment 11: In accordance with Section 3.8 of the Manual, storm water facilities, excluding filter strips and bio swales, shall be located a minimum of 20 feet from the ultimate State right-of-way along Zion Church Road.

Response: Comment addressed; all SWM areas will be more a minimum of 20' beyond the area of DelDOT Right-of-Way dedication.

Comment 12: In accordance with Section 5.2.9 of the Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrances and how long those lanes should be. The worksheet can be found at <https://deldot.gov/Business/subdivisions/index.shtml>.

Response: Comment acknowledged; site entrance will be designed in accordance with current DelDOT requirements. Supporting design calculations will be provided as part of the plan review package. Design deviation requests will be submitted for DelDOT consideration in accordance with current DelDOT policy.

Comment 13: In accordance with Section 5.4 of the Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at <http://www.deldot.gov/Business/subdivisions/index.shtml>.

Response: Comment acknowledged; site distance triangles will be shown in accordance with current DelDOT requirements. Supporting design calculations will be provided as part of the plan review package.

Comment 14: 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.

Response: Comment acknowledged; plans will be developed and submitted for DelDOT review in accordance with current DelDOT requirements.

Department of Natural Resources and Control - Contact Beth Krumrine 735-3480

Concerns Identified Within the Development Footprint

Wetlands

Comment 15: This project was previously reviewed through PLUS in September 2020. According to the September application, approximately 8.6 acres of wetlands existed on the site. Development was limited to the northern portion of the site, avoiding development on forested wetlands to the south. As a result of the April 21, 2020 federal clarification on the Navigable Waters Protection Rule for the Definition of Waters of the United States ("WOTUS" Rule), the newest project application now proposes to expand housing into the forested wetland areas. Consequently, approximately 8 acres of forested non-tidal wetlands is anticipated to be filled by this development proposal, with no wetland permitting or wetland mitigation required, resulting in significant adverse effects for drainage, water quality, and plant and animal species.

Regardless of new federal permitting standards, these non-tidal wetlands provide significant flood attenuation, water quality benefits, and habitat for plant and animal species. Filling these wetland areas, then building homes and infrastructure upon them, will directly result in adverse drainage and flooding impacts for future residents.

- Revert to September 2020 plan. If the project proposes to disturb (dredge or fill) jurisdictional wetlands under the U.S. Army Corps of Engineers, a delineation of waterways and wetlands is required. In certain circumstances, additional certifications from DNREC Wetlands & Subaqueous Lands Section will be required as part of the U.S. Army Corps of Engineers permit process.

Response: Recommendations to revert to previous site configuration are noted. Per DNREC comment, the site design was revised in response to a change at the federal level that affected the interpretation of federally protected wetlands. As a result, the areas in question are no longer regulated at the federal, state, or local level. The site design will comply with current Federal, State, and County laws

Comment related to need for wetlands delineation has been addressed. A wetlands delineation was performed by Geo-Technology Associates, Inc. (GTA) and a jurisdictional determination was issued by the U.S. Army Corps of Engineers. Permitting of any disturbance to the regulated wetlands and/or subaqueous lands will be processed through the Army Corp and DNREC, as applicable.

Comment 16: For a list of consultants and engineers please visit the DNREC Wetlands and Subaqueous Lands Section link:
<http://www.dnrec.delaware.gov/wr/Documents/WSLS/Consultant%20List.pdf>

Response: Comment addressed; as noted above, wetland delineation has been performed by GTA.

Comment 17: Contact: U.S. Army Corps of Engineers (Dover Office) at DoverRegulatoryFieldOffice@usace.army.mil or (267) 240-5278.
Website: <https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/Obtain-a-Permit/>

Response: Information acknowledged.

Tax Ditches

Comment 18: The proposed project lies within the Batson Branch Tax Ditch Tax Ditch. Tax ditch Rights-of- Way exist in areas of proposed development on the site. These Rights-of-Way restrict certain activities within a set distance from the tax ditch, which varies by location.

Contact the DNREC Drainage Program to acquire approval for the revisions of the proposed changes to existing on-site tax ditches and associated Rights-of-Way prior to the project application meeting.

Response: Comment acknowledged; coordination will be made with the DNREC Drainage Program and the tax ditch managers for the Batson Branch Tax Ditch.

Comment 19: Permanent obstructions, such as stormwater management areas, buildings, sheds, and streets are not allowed within the tax ditch Rights-of-Way. Wetland permits may be required before clearing, cleaning, dredging ditches.

Response: Comment acknowledged; coordination will be made with the DNREC Drainage Program and the tax ditch managers for requirements related to the Tax Ditch right-of-way. Permits for modifications to the tax ditch will be pursued through the U.S. Army Corps of Engineers and/or DNREC Subaqueous Lands, as applicable.

Comment 20: Contact: DNREC Drainage Program at (302) 855-1930. Website: <http://www.dnrec.delaware.gov/swc/Drainage/Pages/TaxDitches.aspx>

Response: Information acknowledged.

Vegetated Buffer Zones

Comment 21: Vegetated buffer zones placed adjacent to waterways and wetlands help to improve water quality by reducing sediment and pollutants loads. They also provide valuable habitat and can help prevent encroachment of human activities into ecologically sensitive areas. Vegetated buffers are not equivalent to setbacks, as residential lots, walkways, and stormwater management facilities should not be contained within the vegetated buffer zone.

The applicant must comply with minimum vegetated buffer widths as identified within county and municipal codes.

Response: Comment addressed; buffer areas have been provided in accordance with the Sussex County Code in effect at the time of the Preliminary Plan application.

Stormwater Management

Comment 22: This project/site has met the minimum threshold of 5000 square feet of land disturbing activity under the Delaware Sediment and Stormwater Program.

A Sediment and Stormwater Plan must be developed and approved prior to any land disturbing activity taking place on the site. This plan approval agency will vary, depending on the location of the project, or whether it is operated by a state agency or school district. The appropriate agency for this project is the Sussex Conservation District.

Response: Comment acknowledged; Sediment and Stormwater Management approval will be obtained for the proposed project through the Sussex Conservation District (SCD).

Comment 23: Additionally, construction activities that exceed 1.0 acre of land 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

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submitted electronically (<https://apps.dnrec.state.de.us/eNOI/default.aspx>) to the DNREC Division of Watershed Stewardship, along with the \$195 fee.

Response: Comment acknowledged; NOI will be submitted to DNREC as part of the E&S approval through SCD.

Comment 24: Schedule a project application meeting with the appropriate agency prior to moving forward with the stormwater and site design. As part of this process, you must submit a Stormwater Assessment Study.

Response: Comment acknowledged; a Stormwater Assessment Study will be submitted to SCD as part of the pre-application process for Sediment and Stormwater design.

Comment 25: Appropriate plan review agency contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219. Website: <https://www.sussexconservation.org>
General stormwater contact: DNREC Sediment and Stormwater Program at (302) 739-9921. E-mail: DNREC.Stormwaterer@delaware.gov
Website: <http://www.dnrec.delaware.gov/swc/Pages/SedimentStormwater.aspx>

Response: Information acknowledged.

Water Quality (Pollution Control Strategies)

Comment 26: 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 Inland Bays Watershed. Consult with the appropriate plan review agency to determine if stricter stormwater management standards may apply for development projects in this area.

Response: Comment acknowledged; stormwater management, including water quality, will be provided in accordance with the requirements of the Delaware Sediment and Stormwater Regulations. Requirements for TMDL reductions will be discussed as part of the pre-submittal process.

Comment 27: Contact: Sussex Conservation District at (302) 856-2105 or (302) 856-7219
Website: <https://www.sussexconservation.org/>

Response: Information acknowledged.

Hydric Soils

Comment 28: Hydric Soil Group C or D soils have been identified on the site (specifically poorly drained A/D). These soil types are typically not conducive to utilizing infiltration stormwater Best Management Practices such as bioretention and infiltration basins, which must meet minimum infiltration requirements.

Any stormwater Best Management Practices that propose the use of infiltration or natural recharge shall include a soils investigation.

Response: Comment acknowledged; due to the underlying soils conditions, and the likelihood of shallow groundwater conditions throughout the site, it is anticipated that Extended Detention Wet Pond facilities will be utilized for stormwater management on the project site. Geotechnical evaluations will be performed on the site to provide guidance on the appropriate stormwater approach to utilize.

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Comment 29: Contact: DNREC Sediment and Stormwater Program at (302) 739-9921
E-mail: DNREC.Stormwater@delaware.gov
Website: <http://www.dnrec.delaware.gov/swc/Pages/SedimentStormwater.aspx>

Response: Information acknowledged.

Nutrient Management Plan

Comment 30: This project proposes open space exceeding 15.9 Acres, which includes the stormwater management pond.

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.

Response: Comment acknowledged; requirements for nutrient management plan will be incorporated into the Landscape Plan prepared for the site.

Comment 31: Contact: Delaware Department of Agriculture's Nutrient Management Program at (302) 698-4558. Website: <https://agriculture.delaware.gov/nutrient-management/>

Response: Information acknowledged.

Wastewater Permitting - Large Systems

Comment 32: Sussex County (permittee) holds existing permits with the DNREC Groundwater Discharges Section's Large Systems Branch.

It is the responsibility of the permittee to notify the Large Systems Branch if the capacity of the rate of wastewater disposal is to be updated.

Response: Comment acknowledged; wastewater approval will be coordinated through Sussex County Engineering and DNREC Groundwater Discharges Section.

Comment 33: Contact: DNREC Large Systems Branch at (302) 739-9948
Website: <https://dnrec.alpha.delaware.gov/water/groundwater/>

Response: Information acknowledged.

State Historic Preservation Office - Contact Carlton Hall 736-7400

Comment 34: Prehistoric archaeological potential is low. Majority of soils are poorly drained, not prime farmland. Although the creek that flows nearby/through the parcel is shown on Beers 1868, it's hard to tell the original path vs artificial rerouting since the historic aerials show early changes having been made.

Response: Comment acknowledged.

Comment 35: Historic archaeological potential is low. Historic aerials and topos don't show anything on the parcel, and Beers shows empty land.

Response: Comment acknowledged.

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:

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Fire Protection Water Requirements:

Comment 36: Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.

Response: Comment acknowledged; water distribution system will be coordinated with Artesian Water to designed to provide required fire flows in accordance with the Delaware State Fire Prevention Regulations (DFSFR). Hydrant spacing design will achieve maximum 800' spacing as noted in accordance with the current DFSFR.

Comment 37: Where a water distribution system is proposed for townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants

Response: Comment acknowledged; no townhouse type dwelling units are proposed by the current project.

Fire Protection Features:

Comment 38: For townhouse buildings, provide a section I detail and the UL design number of the 2-hour fire rated separation wall on the Site plan

Response: Comment acknowledged; no townhouse type dwelling units are proposed by the current project.

Accessibility:

Comment 39: All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. The road island at the entrance from the main thoroughfare must be constructed so fire department apparatus may negotiate it. If a "center island" is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision. Where traffic circles (round-about) are located in the subdivision, they too are to be arranged in such a manner that they will not adversely affect quick and unimpeded travel of fire apparatus throughout the subdivision. Additionally, where trees are to be situated adjacent to travel roads in the subdivision, some forethought should be exercised regarding how future growth of the trees may affect fire department travel throughout the subdivision

Response: Comment acknowledged; site entrance and all internal roadways will be designed in accordance with the requirements of DelDOT and Sussex County, as applicable. No traffic circles are anticipated to be utilized for this project. All street trees will be placed outside of the road right-of-way and are not anticipated to interfere with vehicular traffic within the roadway areas.

Comment 40: 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.

Response: Comment acknowledged; all structures will be located such that they are within 100' of the road area for fire apparatus accessibility.

Comment 41: Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be

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38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.

Response: Comment acknowledged; no dead end streets in excess of 300' are proposed by this project.

Comment 42: The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

Response: Comment acknowledged; no speed bumps are anticipated to be utilized within this project.

Comment 43: The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

Response: Comment acknowledged; no gates are anticipated to be utilized to limit access to the subdivision.

Gas Piping and System Information:

Comment 44: Provide type of fuel proposed, and show locations of bulk containers on plan.

Response: Comment acknowledged; no bulk fuel storage is proposed on site by the current project.

Required Notes:

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

Response: Comment acknowledged; plans will be prepared and submitted to the SFMO in accordance with the current Delaware Fire Regulations.

Sussex County Engineering Department - Contact Chris Calio 855-1299

Comment 45: Unified Sanitary Sewer District, Johnson's Corner area and connection to the sewer system is mandatory. A "Use of Existing Infrastructure Agreement" is required for new projects. Sussex County Code, Chapter 110, requires that the Engineer and/or Developer request a Sewer System Concept Evaluation (SSCE) from the Utility Planning Department for the project by providing the parcel(s) estimated equivalent dwelling units (EDU) for the project, along with payment of a \$1,000.00 fee for the evaluation and must be approved prior to approval of construction plans. The fee is to be payable to Sussex County Council. The Utility Planning Department will review the parcel(s) and EDU, confirm capacity, provide the connection point and define any additional parcels that

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must be served as part of the project. Should it be determined that a pump station is required for the project, additional information may be requested. This information will be conveyed to the engineer and/or developer as well as the Sussex County Public Works department. The Public Works Division will use this information when reviewing construction drawings to verify that the correct connection point is used, and all required parcels are served. The proposed development will require a developer installed collection system in accordance with Sussex County standards and procedures

Response: Comment acknowledged; evaluation of the sanitary sewer system was made by Sussex County Utility Planning as part of a previous application for the subject parcels. It is our understanding that financial contributions for improvements to the existing sanitary sewer infrastructure were previously made by the property owner. We will work with the Utility Planning and Sussex County Engineering to finalize any sewer agreements. All proposed public sewer system will be designed in accordance with the requirements of Sussex County and approved through the Sussex County Engineering.

Comment 46: The proposed development will require a developer installed collection system in accordance with Sussex County standards and procedures.

Response: Comment acknowledged; public sanitary sewer system will be constructed by the developer in accordance with the requirements of Sussex County.

Recommendations/Additional Information

This section includes a list of site specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site design, and it is hoped (**but in no way required**) that the applicant will open a dialogue with the relevant agencies to discuss how the suggestions can benefit the project.

Department of Transportation - Bill Brockenbrough 760-2109

Recommendation 1: From the discussion at the PLUS meeting, DeIDOT understands that the County is encouraging the developer to provide a stub street to the property line in the area of Lots 76 through 83 to allow for an interconnection to the lands to the Long property (Tax Parcel No. 533-11.00-44.00). DeIDOT supports such interconnections as being consistent with Section 3.5 of the Manual.

Response: Comment addressed; an interconnection to the Long property, located to the northwest of the East Gate site, has been provided as shown on the Preliminary Plan.

Recommendation 2: 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 Zion Church Road.

Response: Comment acknowledged; no substations or wastewater facilities are anticipated to be constructed by the Developer as part of the proposed East Gate project.

Recommendation 3: The applicant should expect a requirement that all PLUS and Technical Advisory Committee (TAC) comments be addressed prior to submitting plans for review.

Response: Comment acknowledged; plans will be submitted to DeIDOT with revisions to address TAC and PLUS comments as noted above.

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Recommendation 4: 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 <https://www.deldot.gov/Business/subdivisions/>.

Response: Comment acknowledged; plans to be submitted to DelDOT will reference latest General Notes for Record Plans, Entrance Plans, and Maintenance of Traffic Plans.

Department of Natural Resources and Environmental Control – Beth Krumrine 735-3480

Concerns Identified Within the Development Footprint

Wetlands

Recommendation 5: Do not disturb wetland areas, even if they are no longer considered to be jurisdictional wetlands under current federal requirements. Wetlands are a critical part of our natural environment. They protect reduce the impacts of flooding, absorb pollutants, and improve water quality. Wetlands provide habitat for animals and plants and many contain a wide diversity of life, supporting plants and animals that are found nowhere else. Filling upwards of 30 acres of wetland will cause drainage issues for future homeowners and may increase drainage issues off site.

Response: Recommendation acknowledged; all proposed site improvements will be designed and constructed in accordance with local, county, state, and federal requirements. On-site stormwater management will be designed in accordance to mitigate discharge of runoff from the site in accordance with the Delaware Sediment and Stormwater Regulations.

Recommendation 6: Schedule a meeting through the DNREC Joint Permit Processing (JPP), which are held on the 3'd Thursday of every month. In order for your project to be seen through the JPP, you must submit the request through the following website: http://www.dnrec.delaware.gov/wr/Services/OtherServices/Documents/Jurisdictional_Determination_and_Map_Change_Request_Form.pdf

Response: Recommendation addressed; a jurisdictional determination was issued by the U.S. Army Corps of Engineers on March 26, 2021.

Recommendation 7: Recommendations for wetland buffers are prescribed under the heading, Vegetated Buffer Zones.

Response: Recommendation acknowledged; buffers will be provided to all regulated wetland areas in accordance with the requirements of Sussex County in effect at the time of application submittal

Tax Ditches

Recommendation 8: All measures should be taken to ensure the project does not create off-site, downstream, or upstream drainage or flooding issues due to increased stormwater or changes in drainage patterns.

Response: Recommendation acknowledged; modifications to the existing tax ditches will be done in accordance with the requirements of DNREC Drainage Section and the Tax Ditch Managers for the Batson Branch Tax Ditch. On-site stormwater management will be provided in accordance with the DSSR to mitigate the impacts of stormwater runoff generated by the developed site.

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Recommendation 9: Any area designated as a drainage/utility easement should be open space and not owned by the individual landowners.

Response: Recommendation acknowledged; locations of drainage and utility easements will be provided in accordance with the requirements of the utility owners and Sussex County

Recommendation 10: 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.

Response: Recommendation acknowledged; the purpose of the easement is to restrict the construction of obstructions for access and maintenance of the utility for which the easement is provided. Preparation of the Landscape Plan will account for the location of existing and proposed utilities, and access to stormwater management facilities.

Recommendation 11: Contact: DNREC Drainage Program at (302) 855-1930.

Website: <http://www.dnrec.delaware.gov/swc/Drainage/Pages/TaxDitches.aspx>

Response: Information noted.

Forest Removal (Mature Forest)

Recommendation 12: An analysis of historical data indicates that the forest area proposed for development has maintained some degree of forest cover since 1937, meaning that it can be considered a mature forest. Mature forests possess the potential for rare, threatened, or endangered species that rely on this type of habitat. The September submittal of the preliminary site design (2020-09-04) proposed to avoid these areas, leaving contiguous tracts of forests intact. However, the newest preliminary plan submitted (2020-11-08) proposes the removal of 17.4 of 19.8 acres of mature forest.

Response: Recommendation acknowledged; any on-site clearing will be designed and performed in accordance with the requirements of Sussex County.

Recommendation 13: Removing forested areas for development should be avoided to the greatest extent possible. 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. Particularly, mature forests, as observed on this site, possess the potential for rare, threatened, or endangered species that rely on this habitat type.

Response: Recommendation acknowledged; any on-site clearing will be designed and performed in accordance with the requirements of Sussex County.

State-listed Threatened and Endangered Species

The Cypress-swamp sedge (*Carex jorii*) is a plant listed as a State of Delaware rare, threatened, or endangered species, which has been documented within the project area. It is listed under State Rank 52, State Status (unlisted), and Global Rank G4G5. Please visit the following website for definitions on the specified State Rank, State Status, and Global Ranking:

<http://www.dnrec.delaware.gov/fw/dwap/Pages/CGCNTTest.aspx>

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Recommendation 14: To minimize negative impacts to these species, we recommend that wetlands, natural habitats of the Cypress-swamp sedge (*Carex jorii*), be conserved to the maximum extent practicable.

Response: Recommendation acknowledged; any disturbance to jurisdictional wetlands will be performed in accordance with permit requirements as issued by the U.S. Army Corps of Engineers and/or DNREC, as applicable.

Recommendation 15: Habitat type of wetlands indicates the likely presence of turtles and salamanders. For threatened or endangered turtles and salamanders located in proposed developments containing forest habitat and wetlands, design the development to exclude traditional street curb and gutter systems. Instead, utilize vegetated swales or other road curbing (such as Cape Cod curbing) that allows small animals to climb out of the roadbed. This is preferred over steep, vertical curbing.

Response: Recommendation addressed; DelDOT Type 2 curbing (rolled styled) is proposed for use on all internal subdivision streets

Recommendation 16: Recommendations for buffers pertaining to rare and endangered species are prescribed under heading, Vegetated Buffer Zones.

Response: Recommendation acknowledged; buffers will be provided to all regulated wetland areas in accordance with the requirements of Sussex County in effect at the time of application submittal

Recommendation 17: Contact: DNREC Division of Fish & Wildlife at (302)735-3600.

Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/contact-information/>

Response: Information noted

Vegetated Buffer Zones

Recommendation 18: Incorporate a 100-foot vegetated buffer zone from the edge of all waterways and wetlands (including tax ditches) to protect water quality and to protect a potential State of Delaware rare and endangered species, the Cypress-swamp sedge (*Carex jorii*), having a natural habitat of swamps and wetlands.

Response: Recommendation acknowledged; buffers will be provided to all regulated wetland areas in accordance with the requirements of Sussex County in effect at the time of application submittal

Recommendation 19: Vegetated buffer zones should be left undisturbed during construction and should be identified outside of the Limit of Disturbance (LOD) on the engineering plans. In some instances, stormwater outfalls, conveyances, and emergency spillways may cross through these zones, and will require temporary disturbance during construction.

Response: Recommendation acknowledged; disturbance to proposed buffers will be minimized to the maximum extent practicable.

Recommendation 20: Vegetated buffer zones should be deeded as community open space. Signage should be installed at the edge and within the buffer zones to deter residents from encroaching into these common areas.

Response: Recommendation acknowledged; required buffer areas will be located within open space areas of the community, in accordance with the requirements Sussex County in effect at the time of application submittal

Recommendation 21: Maintain vegetated buffer zones as either grasslands/meadows or forest. Buffer zones should be planted exclusively with native trees and plants. Native plants are well-suited to our climate and require limited maintenance. They also provide an increasingly important role in the survival of native birds and beneficial insects whose habitat is shrinking due to development and climate change. In general, grass cutting for vegetated buffer zones should not occur between April 1st to July 31st to reduce impacts to nesting birds and other wildlife species that utilize meadows and grasslands for breeding habitat.

Response: Recommendation acknowledged; buffer areas will be planted in accordance with the requirements of Sussex County. Maintenance requirements of these buffer areas will be noted on the Landscape Plan to be prepared as part of the project approval with Sussex County Planning & Zoning.

Recommendation 22: Contact: DNREC Wildlife Species Conservation & Research Program at (302) 735-3600
Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/contact-information/>

Response: Information noted

Stormwater Management

Recommendation 23: Where 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 overall runoff including pollutant runoff.

Response: Recommendation acknowledged; due to shallow groundwater conditions on the project site, opportunities for infiltration based stormwater management practices are limited. Site stormwater management will be designed in accordance with the DSSR and approved by SCD.

Recommendation 24: For improved stormwater management, preserve existing trees, wetlands, and passive open space.

Response: Recommendation acknowledged; site stormwater management will be designed in accordance with the DSSR and approved by SCD.

Nutrient Management Plan

Recommendation 25: Calculation of open space should not include stormwater management areas

Response: Recommendation acknowledged; open space calculations will be determined in accordance with the requirements of the Sussex County Zoning Code. .

Mosquitoes

The project lies within a zone that will be impacted by mosquitoes due to its location near large expanses of wetlands.

Recommendation 26: Mosquito control issues are increasing as developments infringe on wetland areas, often leading to increased demands by the public for mosquito control services. These control services can be provided at no charge to homeowners and other entities by the state's Mosquito Control Section, or by a private company licensed in this area of specialty.

Response: Comment acknowledged; proposed on-site stormwater management facilities will utilize deep pool areas that we believe will allow for the establishment of mosquito

PLUS

Re: East Gate - 2019-12-07

January 27, 2022

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predators within the SWM facilities. Information related to supplemental mosquito control measures will be shared with the developer for consideration.

Recommendation 27: Contact: DNREC Division of Fish and Wildlife at (302) 739-9917
Website: <https://dnrec.alpha.delaware.gov/fish-wildlife/mosquito-control/>

Response: Information acknowledged.

Recommendations for Sustainable Practices

Recommendation 28: 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.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 29: Consider the use of solar panels for the club house. Renewable energy infrastructure such as solar or geothermal will 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: www.de.gov/greenenergy, www.de.gov/eef.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 30: Incorporate non-motorized connectivity and install bicycle racks where feasible will help to facilitate non-vehicular travel modes.

Response: Recommendation to be addressed; a shared use path may be installed along the project frontage to provide for non-motorized connectivity to the surrounding areas. It is anticipated that a bike rack facility will be installed at the clubhouse for the use of the community residents

Recommendation 31: 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.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 32: The applicant should consider the use of recycled materials, such as reclaimed asphalt pavement, to reduce landfill waste, heat island effects on paved surfaces, and pavement costs.

Response: Recommendation acknowledged; information will be shared with the developer and builder for their consideration.

Recommendation 33: Include space for recycling dumpsters within the preliminary site design stage. These can be placed adjacent to trash dumpsters.

Response: Recommendation acknowledged; no dumpsters are proposed to be installed in support of the community development.

Concerns Identified Outside the Development Footprint

Current or Previous Contamination

Based on DNREC records, a remediation project, called Hitchens Pit, is located along the southern border of the project area. This project is closed and poses no risk.

Response: Information acknowledged.

Recommendation 34: For additional questions, contact the Division of Waste and Hazardous Substances Remediation Section at (302) 395-2600.

Website : <https://dnrec.alpha.delaware.gov/waste-hazardous/>

Response: Information acknowledged.

Recommendation 35: Additional information may also be found online by searching Delaware's Environmental Navigator at <http://www.nav.dnrec.delaware.gov/den3/>

Response: Information acknowledged.

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

Recommendation 36: 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/title6/c036/sc03/index.shtml>

Response: Recommendation acknowledged; information related to sprinkler installation will be shared with the homebuilders for their consideration.

Recommendation 37: Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.statefiremarshal.delaware.gov, technical services link, plan review, applications or brochures.

Response: Recommendation acknowledged; we anticipate holding a pre-submittal meeting with the Fire Protection Specialist in advance of application submittal.

Delaware Transit Corporation (DTC) - Contact Jared Kauffman 576-6062

Recommendation 38: A shared Use Pathway is needed along the frontage.

Response: Recommendation acknowledged; a shared use path will be constructed along the Zion Church Road frontage in accordance with DelDOT requirements.

Delaware Emergency Management Agency - Contact Philip Cane 659-2325

Recommendation 39: Depending on the location along Zion Church road, the construction could fall within the 7 ft. coastal inundation zone, caution is advised depending on location.

Response: Comment acknowledged; while portions of the tax ditch appear to be around elevation 7, the upland area (outside the limits of the existing tax ditch) appear to be at elevations or higher.

Sussex County Housing: Brandv Nauman 855-7779

Recommendation 40: 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.

Response: Information acknowledged; the East Gate project is anticipated to be developed as a market-rate single-family development.

Recommendation 41: 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.sussexcountypde.gov/affordable-and-fairhousing-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.

Response: Information acknowledged; details related to the County's resources will be provided to the developer and builder for their consideration.

Recommendation 42: 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.

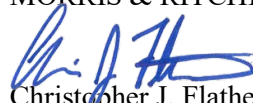
Response: Information acknowledged details related to the County's incentive programs will be provided to the developer and builder for their consideration.

Recommendation 43: 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.

Response: Comment acknowledged; site will be developed in accordance with the requirements of the Sussex County Subdivision and Zoning Codes.

A Preliminary Plan application has been submitted to Sussex County Department of Planning and Zoning review and approval. If you should require additional information regarding this PLUS application, please contact me to discuss at 302-326-2200.

Very Truly Yours,
MORRIS & RITCHIE ASSOCIATES, INC.


Christopher J. Flathers, P.E.
Senior Project Manager

cc: J. Whitehouse, Sussex County
K. McLaughlin, McKee Builders, LLC
J. Fuqua, Esq.
P. Tolliver, MRA
File

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SUSSEX COUNTY
PLANNING & ZONING

January 27, 2022

Mr. Jamie Whitehouse, AICP MRTPI
Sussex County Planning & Zoning Dept.
2 The Circle, PO Box 417
Georgetown, DE 19947

RE: 2021-19 East Gate

Dear Mr. Whitehouse:

Please read the following comments into the public record regarding the above referenced application at the appropriate times.

We request the County to require the developer of these parcels to inform the buyers of their properties that there exists an RV Park at their rear border, and that during its off-season, there is hunting and firearms target practice occurring in areas of this same location.

Thank you,



William D. Simpson
37421 Bearhole Road
Selbyville, DE 19975
302-242-8912



Karen L. Simpson
302-363-2189