

LAND APPLICATION OF BIOSOLIDS  
JOHN MAGRUDER

EX 65 (FIELDS 4-5)  
ESSEX COUNTY, VIRGINIA  
SEPTEMBER 1, 2021



1681 Tappahannock Blvd  
Tappahannock, VA 22560  
www.synagro.com

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SEPTEMBER 1, 2021

**Mr. Neil Zahradka**  
**Department of Environmental Quality**  
**Piedmont Regional Office**  
**4949-A Cox Road**  
**Glen Allen, VA 23060**

Dear Mr. Zahradka,

Transmitted herein for your consideration is land application site for John Magruder (designated as EX 65, fields 4-5), located in Essex County, Virginia. This submission contains strictly site specific information. Please refer to the operations and maintenance manual submitted under separate cover for all non-site specific information.

Do not hesitate to contact me at (804) 443-2170 should you have any questions or require additional information.

Sincerely,

  
Hunter Davis

Technical Services specialist

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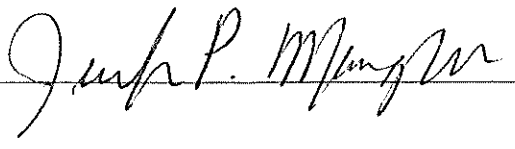
# SYNAGRO

## VIRGINIA REQUEST AND CONSENT FOR BIOSOLIDS

FARM OPERATOR: John C. Magruder PHONE: (804) 445-5774  
ADDRESS: 247 Bruce Road, Tappahannock, VA 22560  
FARM LOCATION: TM 28-34 Lat: 37° 56' 48" N Lon: 77° 00' 14" W  
1 mile west of Rexburg, on the southside of RT 627, Essex County  
FSA TRACT #: \_\_\_\_\_  
TOTAL ACRES: 111 COUNTY: Essex  
CROPS: \_\_\_\_\_

1. I agree to be responsible for adhering to the following conditions, where applicable:
  - a. The soil pH will be adjusted  $\geq 6.0$  when biosolids are applied. (This may be accomplished through the application of lime-treated biosolids).
  - b. Do not graze animals on the land for 30 days after the application of biosolids. In addition, animals intended for dairy production should not be allowed to graze on the land or be fed chopped foliage for 60 days after the application of biosolids. Meat-producing livestock should not be fed chopped foliage for 30 days after the application of biosolids.
  - c. Food crops for direct human consumption with harvested parts below the surface of the land shall not be harvested for 14 months after the application of biosolids.
  - d. Food crops for direct human consumption with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface  $\geq 4$  months prior to incorporation into the soil or 38 months when the biosolids remain on the land surface  $< 4$  months prior to incorporation.
  - e. Food crops, feed crops and fiber crops shall not be harvested for 30 days after application of biosolids.
  - f. Public access to land with a low potential for public exposure (land the public uses infrequently including but not limited to agricultural land and forests) shall be restricted for 30 days after application of biosolids. Public access to land with a high potential for public exposure (land the public uses frequently including but not limited to a public contact site such as parks, playgrounds and golf courses) shall be restricted for 1 year. No biosolids-amended soil shall be excavated or removed from the site for 30 days following the biosolids application unless adequate provisions are made to prevent public exposure to soils, dusts or aerosols.
  - g. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority.
  - h. Supplemental commercial fertilizer or manure applications should be coordinated with the biosolids applications such that the total crop needs for nutrients are not exceeded as identified on the nutrient balance sheet or the nutrient management plan approved by the Virginia Department of Conservation and Recreation to be supplied to the farm operator by Synagro at the time of application of biosolids to a specific permitted site.
  - i. Tobacco, because it has been shown to accumulate cadmium, should not be grown for three years following the application of biosolids-borne cadmium equal to or exceeding 0.45 lbs/acre.
2. I understand that this transaction is not contemplated by the parties to be a sale of goods, and that Synagro is willing to provide to me without charge the service of land applying biosolids which have been approved by the appropriate regulatory agencies for land application.
3. I understand that successful crop production depends on many variables, such as weather, soil conditions and specific farming practices and that while Synagro has experience with land application of biosolids, the responsibility for properly accommodating agricultural practices to biosolids utilization are solely mine. I have also read and understand the "Important Information About Using Biosolids as a Fertilizer" which is on the reverse side and incorporated by reference in this Request and Consent.

  
OPERATOR'S SIGNATURE



12/4/17  
DATE

Synagro \* 10647 Tidewater Trail \* Champlain, VA 22438 \* 804.443.2170

## IMPORTANT INFORMATION ABOUT USING BIOSOLIDS AS A FERTILIZER

### Biosolids Generation

Biosolids are the accumulated, treated solids separated from water during the treatment of wastewater by public and private wastewater treatment plants (Generators). The Generator is responsible for supplying biosolids that are suitable for land application under state and federal regulations.

### Benefits of Biosolids

Biosolids provide nitrogen in a form that can be taken up by plants during their growth cycle. Biosolids also add phosphorus to the soil. If lime is added to biosolids, the biosolids will have the added benefit of a liming agent. Biosolids contain primary, secondary and micronutrients that can be used by plants. Biosolids are primarily an organic material; when added to soil, they improve water and nutrient retention, reduce erosion potential and improve soil structure.

### The Permitting Process

Once the farm operator requests biosolids, a Synagro representative initially evaluates the farm for truck access and field conditions. If the farm is found to be suitable and the Request for Biosolids and the Consent for Biosolids forms are signed, Synagro will collect soil samples and have them analyzed by an independent laboratory.

Synagro will then apply for any federal, state or local permits required for biosolids application. The permits will specifically identify the fields to which biosolids will be applied and will be issued to Synagro or the Generator.

After the permits are obtained (a process that may take several months or more) Synagro will apply biosolids, as they become available, to the fields. Availability of biosolids may vary because of weather conditions, contractual arrangements with biosolids generators and other factors. Although the company cannot guarantee biosolids application because of factors beyond its control, Synagro will use its best efforts to apply biosolids to the permitted fields.

The conditions outlined in the permit will apply to any and all biosolids applications made by Synagro. Synagro will not be responsible for biosolids application made by any other entity.

Periodic visits to the land application site(s) by federal, state and local regulatory staff and Synagro representatives may occur for the purpose of permitting the site, inspecting the site, applying biosolids, obtaining samples at the site and testing. Proper identification will be provided upon request.

### Agronomic Considerations

Tractor-trailer units are used to deliver biosolids to the fields approved for biosolids applications. Soil compaction may occur on the travel areas used by the trucks and in areas where biosolids are unloaded for transfer to the applicator vehicle.

Since some biosolids contain lime, it is important to recognize any increase in soil pH where biosolids have been applied and exercise care in using certain herbicides. If considering the use of a sulfonylurea herbicide, particular attention should be paid to any label restrictions. High soil pH and dry weather may slow decomposition of these chemicals, resulting in carryover. For soils with low manganese levels, increased soil pH from lime addition (alone or in lime treated biosolids) may reduce manganese availability and thereby potentially reduce crop yields.

In planning a herbicide program, it should be noted that seeds may sometimes survive the biosolids treatment process – for example, tomato seeds. Also, the organic matter additions from biosolids application (organic matter tends to tie up certain herbicides) may require increased herbicide application rates. Consult your extension agent or chemical representative for a specific recommendation.

Biosolids contain salts. Biosolids applications alone rarely cause salt problems. However, if combined with other significant salt-increasing factors, such as drought, excessive soil compaction, saline irrigation water and salt-containing fertilizers, salts may reach levels that could negatively affect germination and growth of some crops.

While odors from biosolids applications are not usually significant, and typically less than that from livestock manure, it is possible that an odor from the decomposition of organic matter may be noticed. If this occurs, it generally disappears in a short time.

Since biosolids provide nitrogen that will be released slowly throughout the growing season with diminishing carryover in subsequent years, it is important to reduce the use of nitrogen and other fertilizers to appropriate levels.



# VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS

## PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 9/17/2021 between John C. & Jennifer P Magruder R/S referred to here as "Landowner", and Synagro Central, LLC, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

**Landowner:**

The Landowner is the owner of record of the real property located in ESSEX, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) with county documentation identifying owners, attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
28-34			

Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

**Check one:**  The Landowner is the sole owner of the properties identified herein.  
 The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

<u>Class B biosolids</u>	<u>Water treatment residuals</u>	<u>Food processing waste</u>	<u>Other industrial sludges</u>
X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No

Printed name <u>John C. &amp; Jennifer P Magruder R/S</u>	<b>Mailing Address</b> <u>247 Bruce Road</u> <u>Tappahannock VA 22560</u>	<b>Landowner Signature</b> 
By: <u>John C. Magruder</u>	Phone No. <u>804-445-5770</u>	
<b>Title*</b> <u>owner</u>		
<input type="checkbox"/> I certify that I have authority to sign for the landowner as indicated by my title as executor, Trustee or Power of attorney, etc. <input type="checkbox"/> I certify that I am a responsible official [or officer] authorized to act on behalf of the following corporation, partnership, proprietorship, LLC, municipality, state or federal agency, etc.		

**Permittee:**

Synagro Central, LLC, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with [§10.1-104.2 of the Code of Virginia](#).

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

Printed name <u>Hunter Davis.</u>	Mailing Address: <u>1681 Tappahannock Blvd, Tappahannock, VA 22560</u>	Permittee- Authorized Representative Signature 
Title: <u>Technical Services Specialist</u>	Phone No. <u>443-2170</u>	



VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: SYNAGRO CENTRAL LLC County or City: ESSEX

Landowner: John C. & Jennifer P. Magruder R/S

***Landowner Site Management Requirements:***

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
  - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
  - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
  - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
  - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
  - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
  - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
  - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
  - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:

Following biosolids application to pasture or hayland sites:

  - a. Meat producing livestock shall not be grazed for 30 days,
  - b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
  - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

Landowner's Signature

Date

9/3/2024



**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION  
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

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<u>Class B biosolids</u>	<u>Water treatment residuals</u>	<u>Food processing waste</u>	<u>Other industrial sludges</u>
X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No

Printed name <u>John C. &amp; Jennifer P Magruder R/S</u>	<b>Mailing Address</b> <u>247 Bruce Road</u> <u>Tapp VA 22570</u>	<b>Landowner Signature</b> 
By: <u>Jennifer P. Magruder</u>	Phone No. <u>804-445-5770</u>	
<b>Title*</b> <u>Owner</u>		

\* I certify that I have authority to sign for the landowner as indicated by my title as executor, Trustee or Power of attorney, etc.  
 \* I certify that I am a responsible official [or officer] authorized to act on behalf of the following corporation, partnership, proprietorship, LLC, municipality, state or federal agency, etc.

**Permittee:**

Synagro Central, LLC, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with [§10.1-104.2 of the Code of Virginia](#).

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Landowner: John C. & Jennifer P. Magruder R/S

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  - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
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  - a. Meat producing livestock shall not be grazed for 30 days,
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6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

  
Landowner's Signature

9/3/2021  
Date





# 0 MT LANDING RD RT 627

**Location** 0 MT LANDING RD RT 627

**Mblu** 28 / 34 / 1

**Acct#** 2476

**Owner** MAGRUDER JOHN C

**Clean & Green Total** \$87,600

**Class** Agrigultural - 100+ Ac

**Appraisal** \$157,200

**PID** 1558

**Building Count** 1

## Current Value

Appraisal					
Valuation Year	Improvements		Land	Total	
2021			\$0	\$157,200	\$157,200

Assessment					
Valuation Year	Improvements	Land	Total	Clean & Green Land	Clean & Green Total
2021	\$0	\$157,200	\$157,200	\$87,600	\$87,600

## Owner of Record

<b>Owner</b>	MAGRUDER JOHN C	<b>Sale Price</b>	\$202,400
<b>Co-Owner</b>	MAGRUDER JENNIFER P R/S	<b>Certificate</b>	17
<b>Address</b>	P O BOX 764 TAPPAHANNOCK, VA 22560	<b>Book &amp; Page</b>	0/0
		<b>Sale Date</b>	10/31/2017
		<b>Instrument</b>	00

## Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
MAGRUDER JOHN C	\$202,400	17	0/0	00	10/31/2017

## Building Information

### Building 1 : Section 1

**Year Built:**  
**Living Area:** 0  
**Replacement Cost:** \$0  
**Building Percent Good:**

### Building Photo

 Building Photo  
<https://images.vgsi.com/photos/EssexVAPhotos/default.jpg>

## TAX ID LANDOWNER IDENTIFICATION SHEET

Landowner	Field Number	Tax ID
John C. & Jennifer P Magruder R/S	65-04	28-34
John C. & Jennifer P Magruder R/S	65-05	28-34

Field Number	Latitude (North)	Longitude (West)
65-04	37.946°	-77.003°
65-05	37.940°	-77.003°

\*Latitude and Longitude are a random point determined by ArcView program

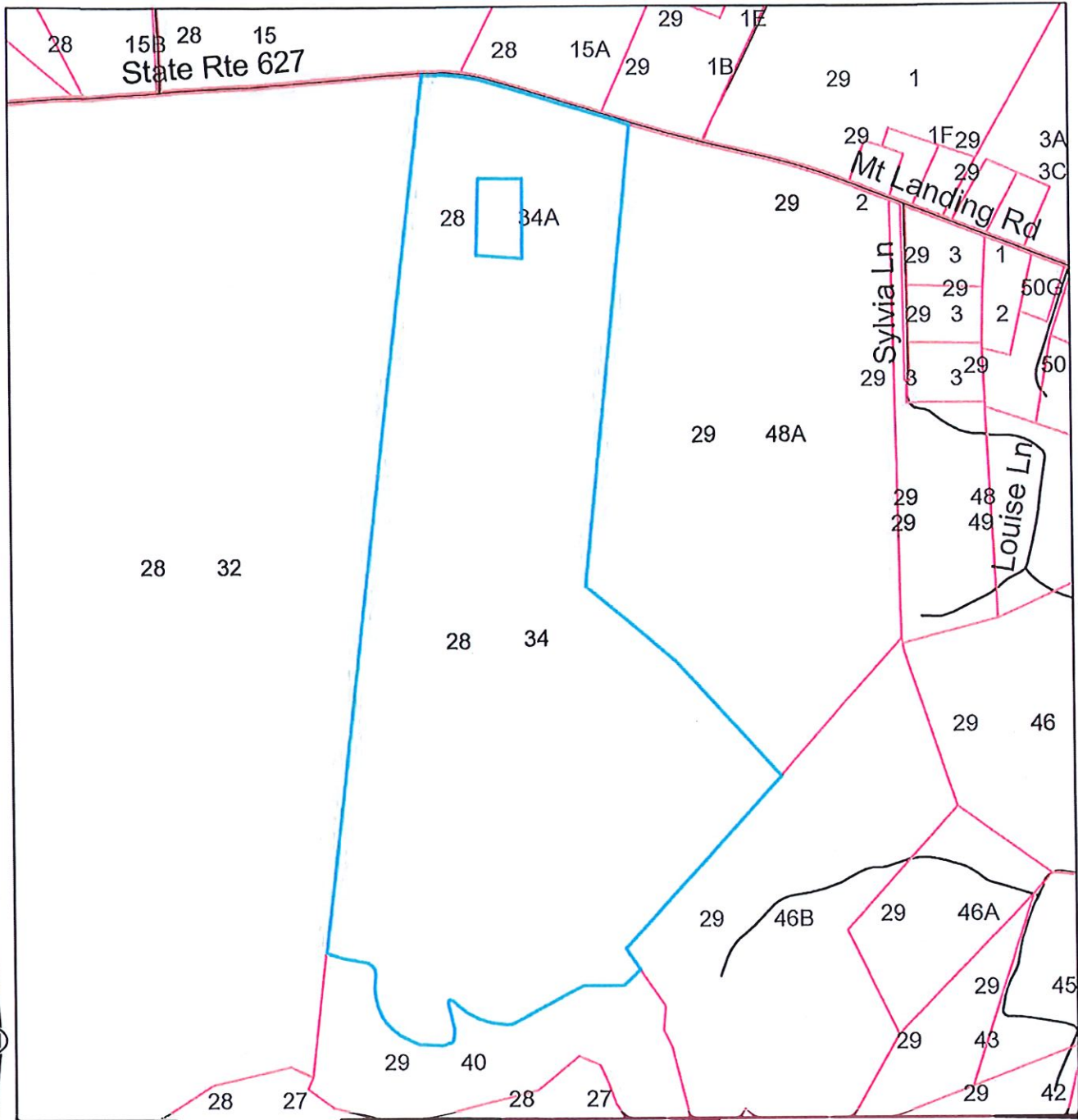
#### Haul Route:

The Location maps in conjunction with the above latitude and longitude coordinates are a route planning tool meant to be a guide to indicate suggested haul routes for various preferences: to include but not limited to all federal, state, and local granted STAA access routes.





John Magruder  
EX 65  
Field 04-05



1 inch = 663 feet

TAX MAP

1:7,960

Disclaimer: Information shown on these maps are derived from public records that are constantly undergoing change and do not replace a site survey, and is not warranted for content or accuracy. The County does not guarantee the positional or thematic accuracy of the GIS data. The GIS data or cartographic digital files are not legal representation of any of the features in which it depicts, and disclaims any assumption of the legal status of which it represents.

5/22/23

### Farm Summary Report

Plan: New Plan Fall, 2021 - Winter, 2031

Farm Name: New Farm  
Location: Essex  
Specialist: Hunter Davis  
N-based Acres: 100.5  
P-based Acres: 0.0

Tract Name: EX65  
FSA Number: 0  
Location: Essex

Field Name: 04  
Total Acres: 15.00 Usable Acres: 15.00  
FSA Number: 0  
Tract: EX65  
Location: Essex  
Slope Class: B Hydrologic Group: B

Riparian buffer width: 0 ft  
Distance to stream: 0 ft

*P-Index Summary*

N-based  
Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

*Soil Test Results:*

DATE	PH	P	K	Lab
[NO TEST]				

*Soils:*

PERCENT	SYMBOL	SOIL SERIES
2	10A	Kempsville
8	20D	Rumford Slagle
90	23B	Suffolk

*Field Warnings:*

*Crop Rotation:*

PLANTED	YIELD	CROP NAME
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EX 65 John Magruder

Synagro Central, LLC

Field Name: 05  
Total Acres: 85.50 Usable Acres: 85.50  
FSA Number: 0  
Tract: EX65  
Location: Essex  
Slope Class: D Hydrologic Group: C

Riparian buffer width: 0 ft  
Distance to stream: 0 ft

**P-Index Summary**

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

DATE	PH	P	K	Lab
	[NO TEST]			

**Soils:**

PERCENT	SYMBOL	SOIL SERIES
49	19E	Emporia Rumford
13	20D	Rumford Slagle
35	23B	Suffolk
3	24B	Tetotum

**Field Warnings:**

*Environmentally Sensitive Soils due to:*

*Soils with potential for leaching based on soil texture or excessive drainage*

*Soils with percent slope in excess of 15%*

**Crop Rotation:**

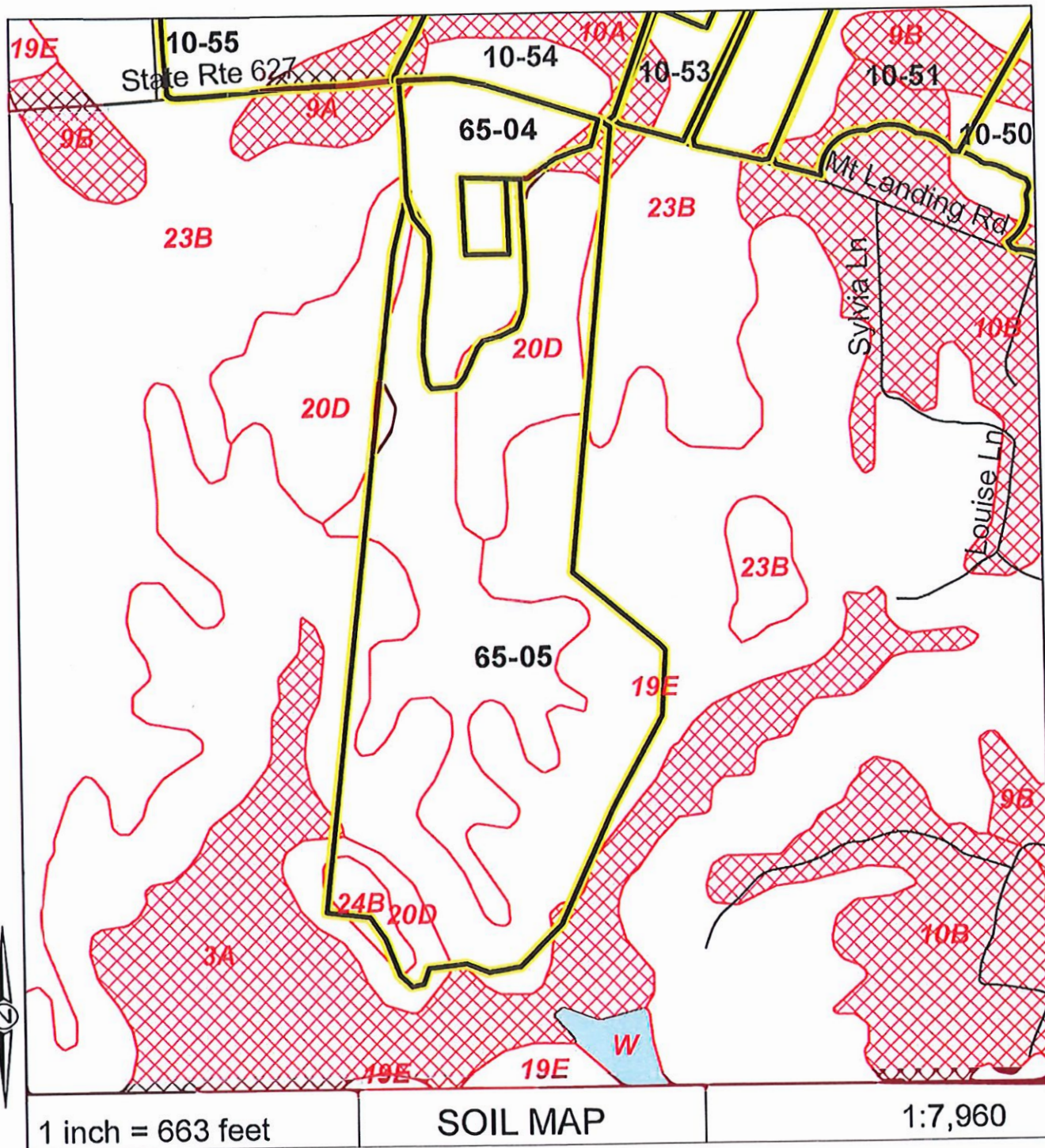
PLANTED	YIELD	CROP NAME
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## ENVIRONMENTALLY SENSITIVE AREAS

Field	Reason for Sensitive Area
65-04	High Leaching Potential (Map Unit 20 D - 1.7%)
65-05	High Leaching Potential (Map Units 19E, 20D - 64.3%)

### Essex County Soils that are Environmentally Sensitive

Soil Map Unit	Series Name	Time of year		Environmental
		High Water	Flooded	
2A	Augusta	Jan-May		
3A	Bibb	Jan-Apr, Dec	Jan-May, Dec	Drainage
4A	Bojac			Leaching
6B	Catpoint			Leaching
7A	Chickahominy	Jan-Apr, Nov-Dec		
11A	Levy		Jan-Dec	Drainage, Shallow soils
12A	Molena			Leaching
14A	Newflat	Jan-Apr, Nov-Dec		
17A	Rappahannock	Jan-Dec	Jan-Dec	Drainage, Shallow soils
18B, 19E	Rumford			Leaching
20D	Rumford			Leaching
25A	Tomotley	Jan-Apr, Nov-Dec		



 Environmentally Sensitive Soils

5/22/23



# Map Legend



House/Dwelling with a well

- 200' buffer-dwelling (with conditions for reduction)
- 100' buffer- from well



Rock Outcrop

- 25' buffer



Limestone Outcrop/Closed Sinkhole

- 50' buffer



Well/Spring/Open Sinkhole

- 100' buffer



Lake/Pond

- 35' w/vegetative buffer; 100' without vegetative buffer



Slope which exceeds 15%



Publicly Accessible Site/Odor Sensitive Site

- 200' buffer Publicly Accessible Site Property Line
- 400' buffer Odor Sensitive Site



Stream/River

- 35' w/vegetative buffer; 100' without vegetative buffer



Agricultural/Drainage Ditch

- 10' buffer



Roadway

- 10' improved highway buffer

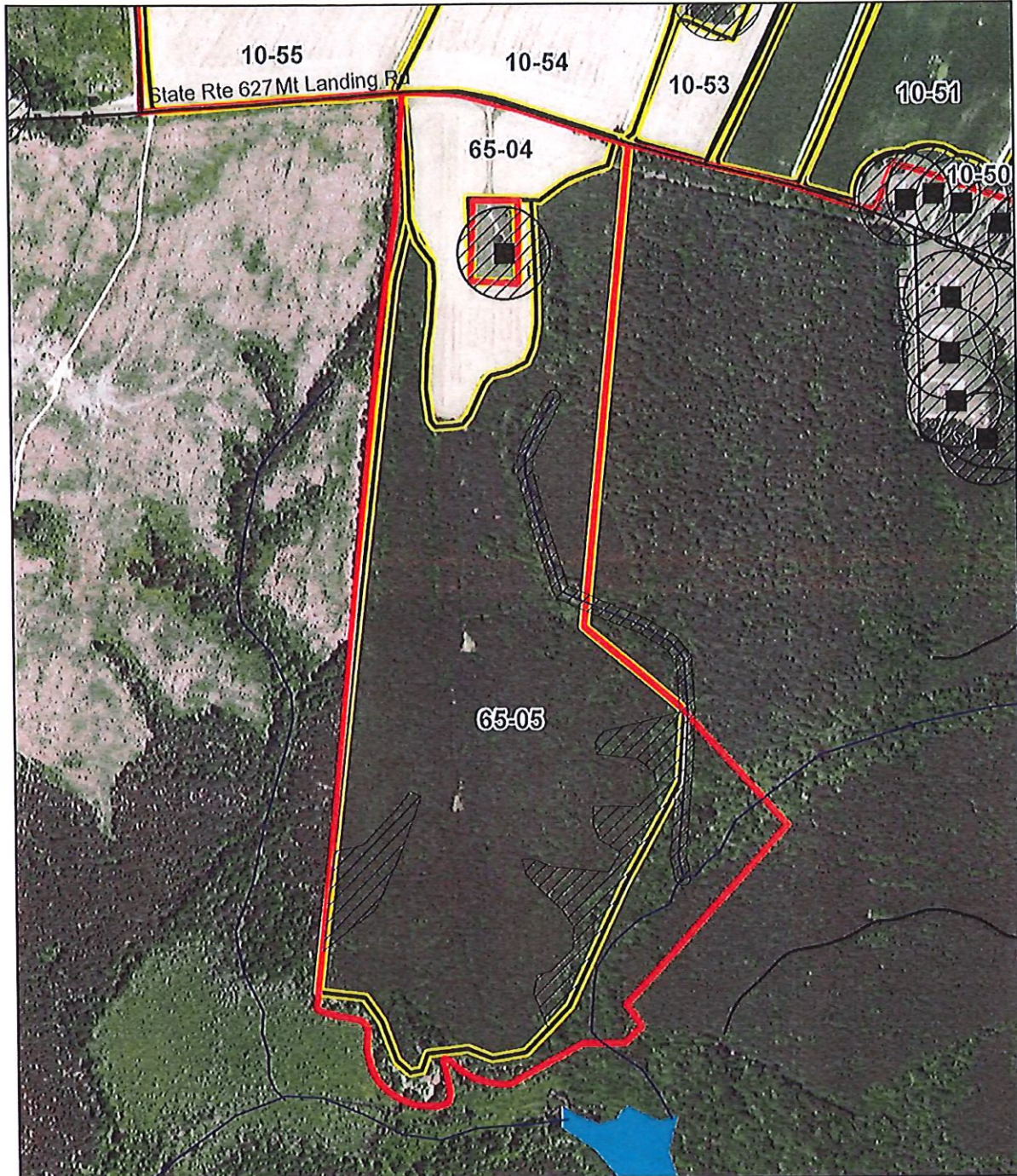


Field Boundary



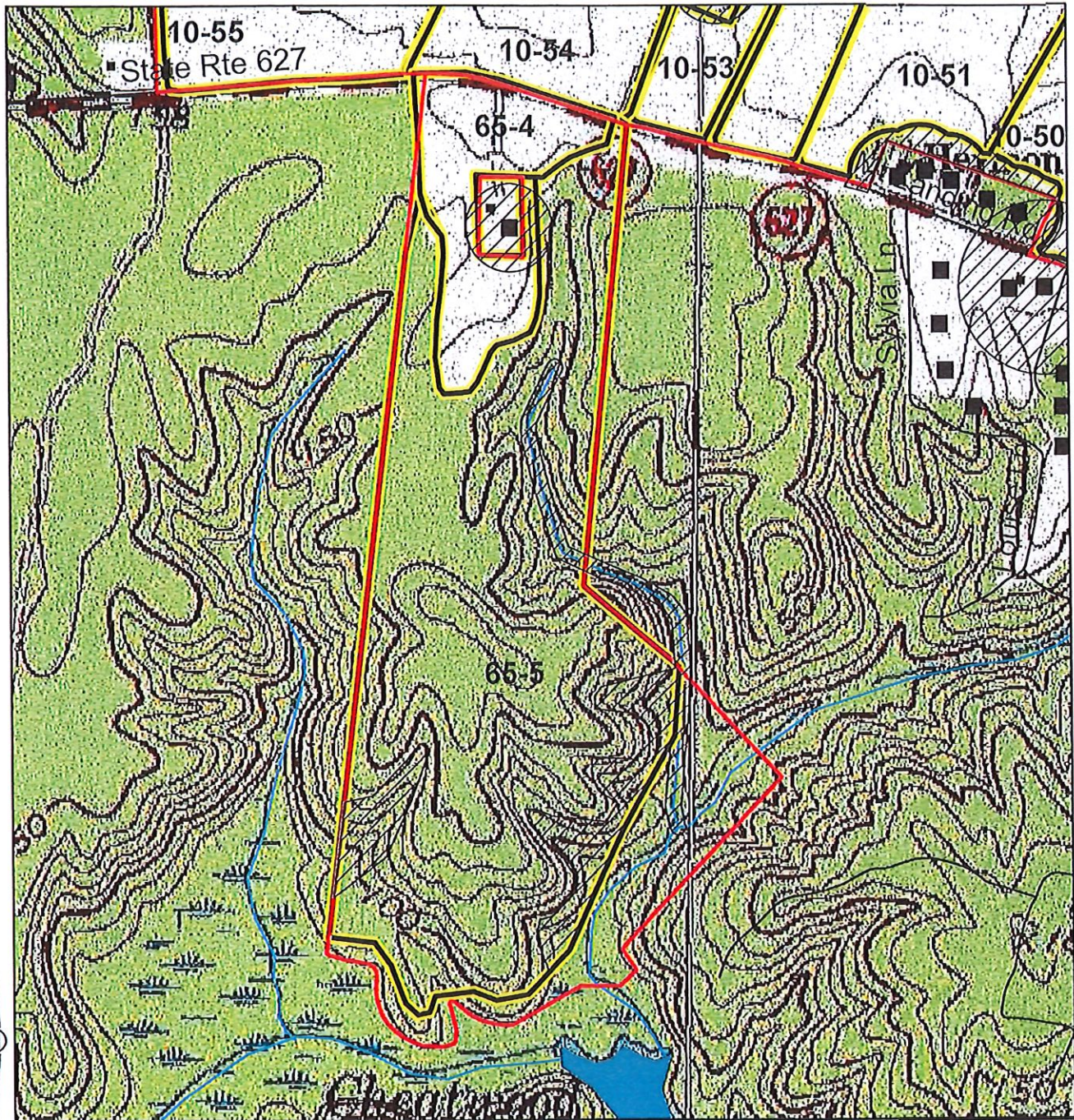
Property Line

- 100' buffer unless waiver issued



1 inch = 660 feet	AERIAL MAP	1:7,920
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1 inch = 663 feet

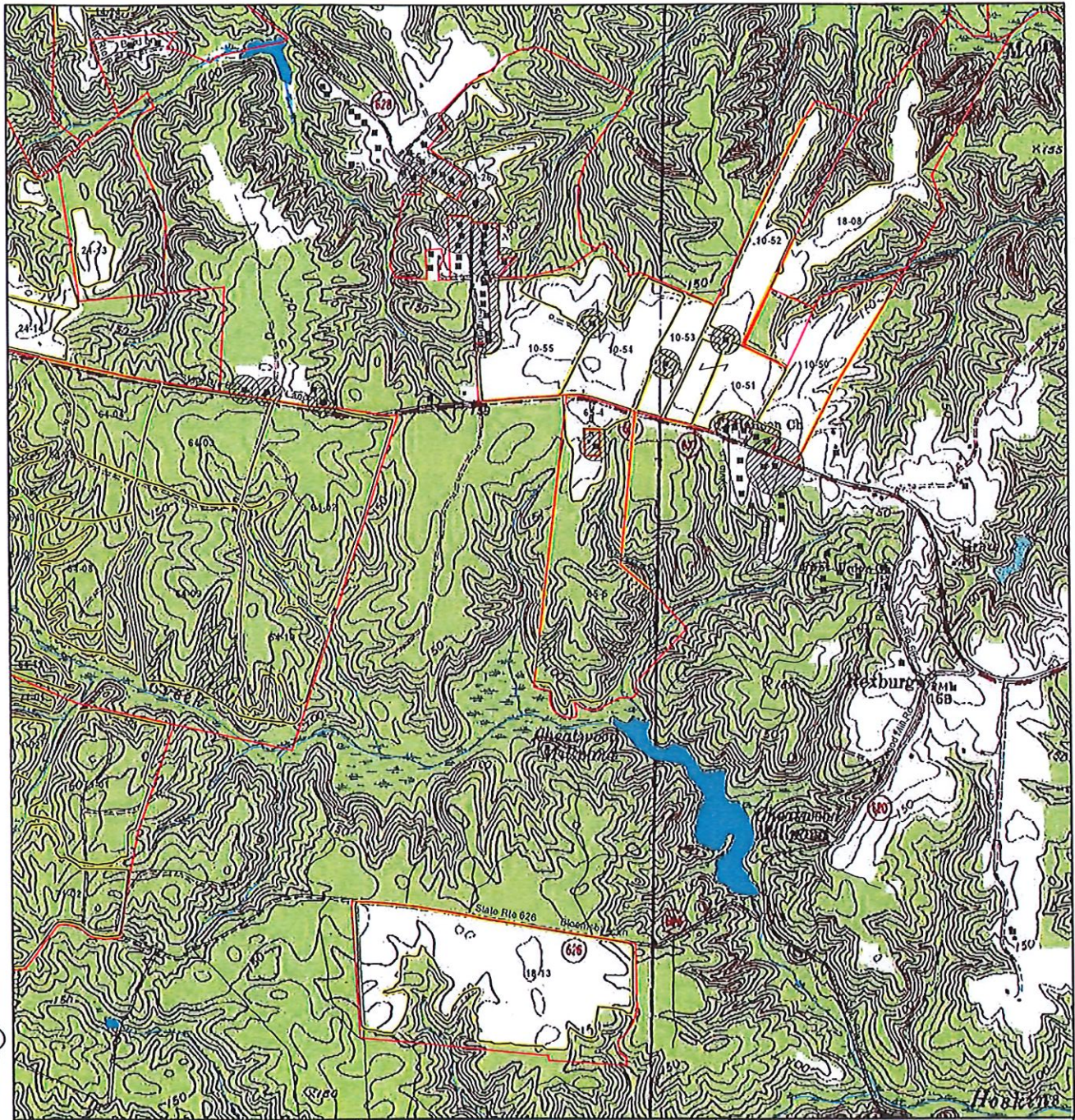
TOPO MAP

1:7,960

FIELD	ACRES
65-4	15
65-5	85.5

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1 inch = 2,000 feet

TOPO MAP

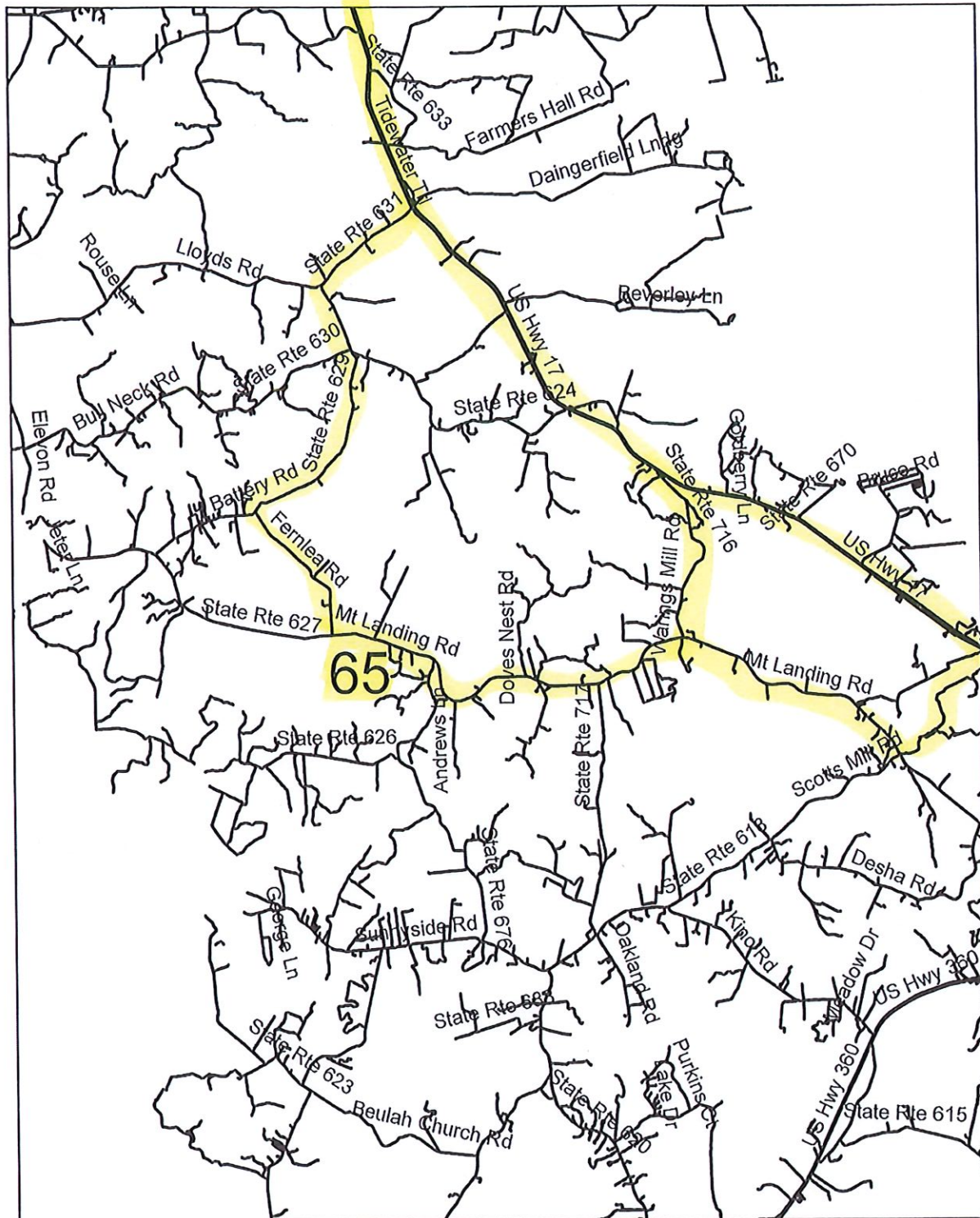
1:24,000

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# SYNAGRO

John Magruder  
EX65  
Fields 04-05



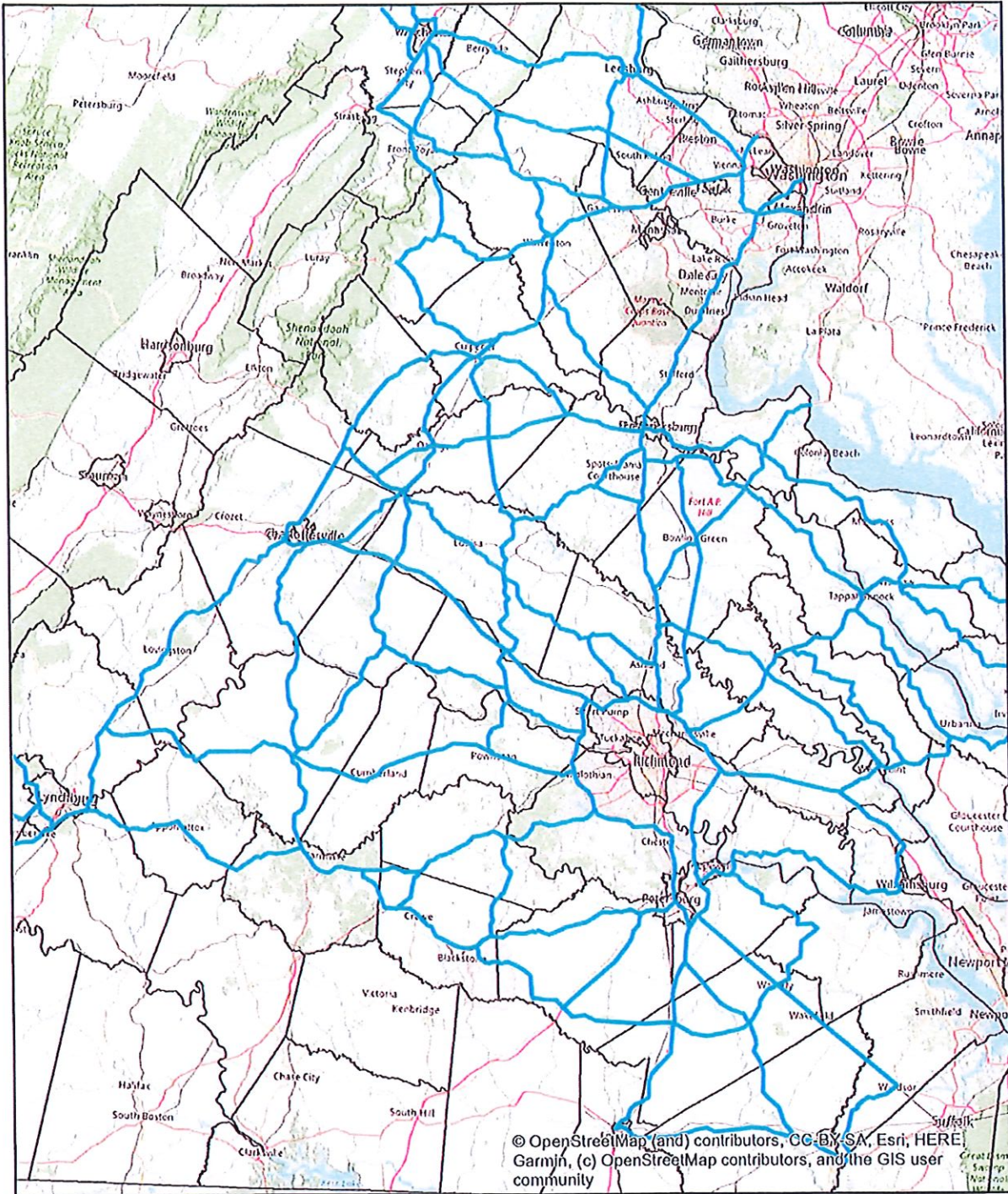
1 inch = 8,333 feet	LOCATION MAP	1:100,000
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- Haul Route

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# SYNAGRO



Haul Route

## HAUL ROUTE MAP

1:1,500,000

This map highlights all major routes from approved generators to the locations of permitted sites. The Highlighted routes on the Location Map will pinpoint routes closer to the site.



