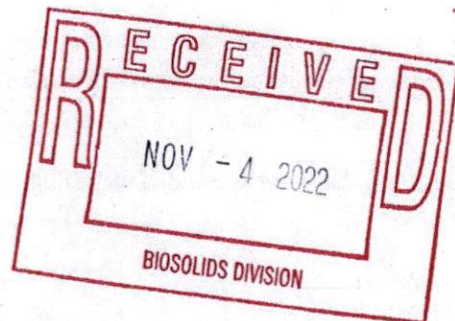


**Land Application of Biosolids**

*Wilson Property  
CA 48  
Carroll County, MD  
September 26, 2022*



435 Williams Court, Suite 100  
Baltimore, MD 21220  
www.synagro.com



SEPTEMBER 26, 2022

Mr. Thomas Yoo, Chief  
Biosolids Division  
Maryland Department of the Environment  
1800 Washington Blvd., Suite 610  
Baltimore, Maryland 21230

**RE: New Permit Request**  
**CA 48: Wilson Property**

Dear Mr. Yoo,

Synagro is interested in obtaining sewage sludge utilization permit for the Wilson Property, CA 48, located in Carroll County, Maryland. In order to process this request six copies of the site-specific information have been included for your consideration.

I am requesting rates for grass hay based on the enclosed nutrient management recommendations. Methods of application may include surface application, surface application with direct incorporation and/or injection. Please allow for application during adverse weather conditions.

Should you have any questions regarding this application, please contact me at 443-442-7393.

Sincerely,

A handwritten signature in blue ink that reads "Corinne Darragh". The signature is fluid and cursive, with a long, sweeping tail on the letter "h".

Corinne Darragh

Technical Services Specialist





MARYLAND DEPARTMENT OF THE ENVIRONMENT  
Land and Materials Administration • Resource Management Program  
1800 Washington Boulevard • Suite 610 • Baltimore, Maryland 21230-1419  
410-537-3314 • 800-633-6101 x3314 • <http://www.mde.maryland.gov>

**Sewage Sludge Utilization Permit Application**

Authority: Title 9, Environment Article, Annotated Code of Maryland, and Code of Maryland Regulations (COMAR) 26.04.06

For questions regarding this application form, please contact the Department at 410-537-3314

Application for:  New Permit  Renewal Permit  Modification/Material Alteration or Extension

Existing Permit No.: \_\_\_\_\_ Issued Date: \_\_\_/\_\_\_/\_\_\_ Expiration Date: \_\_\_/\_\_\_/\_\_\_

Applicant's Legal Name: Synagro Central LLC

Applicant's Status:  Individual  Corporation  Government  Other: \_\_\_\_\_

Corporation or Government Federal Tax Identification No.: 76-0612568

Maryland State Department of Assessments and Taxation (SDAT) ID No.: Z11164118

Please note that a business/entity must be registered to do business in Maryland before a permit can be issued. The business or entity's information provided in this application must match the information in the SDAT register.

Proof of workers' compensation coverage is required under § 1-202 of the Environment Article. Please provide one of the following:

- (1) A copy of a Certificate of Compliance issued by the Maryland Workers' Compensation Commission; or
- (2) Workers' Compensation Insurance Policy/Binder Number: WC9-243-961-01

Applicant's Mailing Address: 435 Williams Court, Suite 100 City: Baltimore State: MD Zip Code: 21220

Applicant's Telephone No.: (443) 489 - 9000 Facsimile No.: (443) 489 - 9044

Emergency Contact Name & Title: Peter Price, Technical Services Manager Telephone No.: (610) 368 - 5497

Facility/Site Name: CA48 Wilson Property  
(Where Sewage Sludge Will Be Utilized)

Facility/Site Address: 3510 Bullfrog Road City: Taneytown State: MD Zip Code: 21757

County: Carroll Maryland Grid Coordinates: \_\_\_\_\_

County Zoning Map No.: 18 Lot/Parcel No.: 0001 Deed/Liber/Folio No.: 101681/00025

Latitude/Longitude (Deg/Min/Sec): 39-40-37.77-13-51 Site Acreage: 143.77

Wastewater Treatment Plant (WWTP) Information (Source of Sewage Sludge)

(If additional space is required, please use a separate sheet)

Name Of WWTP: Annapolis(2); Back River(1); Ballenger Creek(2); Bowie(2); Broadneck(2); Broadwater(2); Cox Creek(2); Damascus(2); Dorsey Run(2); Frederick City(1); Freedom District(2); Havre de Grace(1); Kent Island(1); Little Patuxent(1); Little Patuxent(2); Leonardtown(1); Marley Taylor(1); Maryland City(2); Maryland Correctional Institute(2); Mattawoman(2); Mt. Airy(2); Mt. St. Marys(2); Ocean City(2); Parkway(2); Patuxent(2); Piscataway(2); Rock Hall(1); Seneca(2); Sod Run Cake & Liquid(1); Taneytown(1); Thurmont(1); Valley Forge(2); Wicomico Shores(1)

Total % Solids of Sewage Sludge: 1-50 % (1) Digested (2) Lime Stabilized (3) Pellet

Sewage Sludge Type:

Anaerobic Digestion  Aerobic Digestion  Lime Stabilized  Unstabilized  Other: \_\_\_\_\_

Description of Project or Reason for Permit Modification/Alteration or Material Extension:

Land application of biosolids at agricultural rates and modification of sources

Performance Bond or Other Financial Security:

Except for a municipal landfill operating under a separate financial security or a government agency, an applicant for a Sewage Sludge Utilization Permit is required to file with the Department a bond on a form prescribed by the Department or other financial security as approved by the Department. The bond or other financial security shall be payable to the Department and the obligation of the bond or other financial security shall be conditioned upon the fulfillment of any requirement related to the Sewage Sludge Utilization Permit.

Required Number of Permit Application Packages:

Please submit six (6) copies of the complete permit application package for an application for a new permit or a major modification to an existing permit. For the renewal of an existing permit or a minor permit modification, please submit four (4) copies of the complete permit application package. Please be advised that the Department defines a complete application package as being this application form, payment in full of all required fees, and the submittal of the required number of copies of the information specified in COMAR 26.04.06 for the type of permit applied for.



**SEWAGE SLUDGE UTILIZATION PERMITS & FEES**

(Please submit a separate application for each type of permit applied for)

<input checked="" type="checkbox"/>	Application to agricultural land	\$175.00
<input type="checkbox"/>	Application to marginal land	\$350.00
<input type="checkbox"/>	Transportation (out-of-State, to another WWTP, or to a municipal landfill)	\$45.00
<input type="checkbox"/>	Disposal at a municipal landfill	\$350.00
<input type="checkbox"/>	Energy Generation or Incineration*	\$750.00
<input type="checkbox"/>	Research project	\$25.00
<input type="checkbox"/>	Innovative project	\$750.00
<input type="checkbox"/>	Treatment Facility**	\$350.00
<input type="checkbox"/>	Composting Facility**	\$350.00
<input type="checkbox"/>	Marketing (distribution in Maryland of out-of-State Class A sewage sludge)	\$750.00
<input type="checkbox"/>	Storage (to construct and operate a structure for permanent storage)***	\$350.00
<input type="checkbox"/>	Distribution Facility***	\$750.00

Notes: \* May require an Air Quality Permit.  
 \*\* Subject to the requirements of §10-202 of the Environment Article.  
 \*\*\* Subject to the requirements of §1-601 and §10-202 of the Environment Article.

<input type="checkbox"/>	Minor Permit Modification:	\$40.00
<input type="checkbox"/>	Major Permit Modification	\$130.00
<input type="checkbox"/>	Material Alteration or Extension	\$130.00
<input type="checkbox"/>	Variance	\$500.00

✦ IMPORTANT ✦ IMPORTANT ✦ IMPORTANT ✦

Please submit a COPY of this form and a check for the total amount due made payable to the "CLEAN WATER FUND" to:

Maryland Department of the Environment  
 P.O. Box 1417  
 Baltimore, Maryland 21230-1417



Please submit the ORIGINAL application to:

Maryland Department of the Environment  
 1800 Washington Boulevard, Suite 610  
 Baltimore, Maryland 21230-1719

By signing this form, I the applicant or duly authorized representative, do solemnly affirm under the penalties of perjury that the contents of this application are true to the best of my knowledge, information, and belief. Except for a separate authorization by the property owner for a land application site, I hereby authorize the representatives of the Department to have access to the site of the proposed activity for inspection and to records relating to this application at any reasonable time. I acknowledge that depending on the type of activity applied for, other permits or approvals may be required.

*Corinne Damagh*  
 Signature of Applicant  
 Corinne Damagh  
 Applicant's Name (Print)

9/26/2022  
 Date  
 TSS  
 Title

Privacy Act Notice: This Notice is provided pursuant to the Federal Privacy Act of 1974, 5 U.S.C. §552.a. Disclosure of your Social Security Number or Federal Employer Identification Number on this application is mandatory pursuant to the provisions of §1-203 (2003), Environment Article, Annotated Code of Maryland, which requires the Department to verify that an applicant for a permit has paid all undisputed taxes and unemployment insurance. The Department is also mandated by §10-119.3, Family Law Article, Annotated Code of Maryland, to require each applicant for a license to disclose the Social Security Number of the applicant and record the applicant's Social Security Number on the application. Pursuant to §10-119.3(a)(2), the definition of "license" means any license, certificate, registration, permit, or other authorization that: (i) is issued by a licensing authority; (ii) is subject to suspension, revocation, forfeiture, or termination by a licensing authority; and (iii) is necessary for an individual to practice or engage in a particular business, occupation, or profession. Social Security or Federal Employer Identification Numbers will not be used for any purposes other than those described in this Notice.

This Notice is provided pursuant to § 10-624 of the State Government Article of the Maryland Code. The personal information requested on this form is intended to be used in processing your application. Failure to provide the information requested may result in your application not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment ("MDE") is a public agency and subject to the Maryland Public Information Act (Md. Code Ann., State Gov't §§ 10-601, et seq.). This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State law.



**Owner's Consent Form  
Sewage Sludge Land Application**

Property Name: *CA 48 Bernadette + Michael Wilson Property*  
Property Address: *3510 Bullfrog Road Taneytown, MD*  
Owner's Name(s): *Same as above*  
Owner's Address:

Permittee: Synagro Central, LLC

I (we) owner(s) of this property do hereby authorize the land application of sewage sludge from Annapolis (2); Back River (1); Ballenger Creek (2); Bowie (2); Broadneck (2); Broadwater (2); Cox Creek (2); Damascus (2); Dorsey Run (2); Frederick City (1); Freedom District (2); Havre de Grace (1); Kent Island (1); Leonardtown (1); Little Patuxent (1); Little Patuxent (2); Marlay-Taylor (1); Maryland City (2); Maryland Correctional Institute (2); Mattawoman (2); Mt. Airy (2); Mt. St Mary's (2); Ocean City (2); Parkway (2); Patuxent (2); Piscataway (2); Rock Hall (1); Seneca (2); Sod Run Cake & Liquid (1); Taneytown (1); Thurmont (1); Valley Forge (2); Wicomico Shores (1)

(1 = DIGEST; 2 = LIMESTABILIZED; 3 = PELLETS)

Wastewater Treatment Plant(s) on this property and agree to comply with the following conditions:

1. The soil pH on all soils upon which sewage sludge is applied will be adjusted to a minimum of 6.0 at the time of sewage sludge land application and will be maintained at a minimum of 6.0 for the life of the Sewage Sludge Utilization (SSU) Permit.
2. Animals will not be allowed to graze on fields where sewage sludge has been land applied for at least 30 days after the land application of sewage sludge.
3. Public access to any site where sewage sludge has been land applied will be controlled for a minimum of 12 months following the land application of sewage sludge.
4. Crops which may be eaten raw by humans will not be grown for a period of 3 years following the land application of sewage sludge.
5. Sewage sludge should not be applied to land where tobacco will be grown. This is because tobacco is a leafy crop, which is grown under acidic soil conditions. Under these conditions heavy metals (cadmium in particular) migrate more readily from the root zone in the soil to the tobacco leaf. Since smokers already intake cadmium from tobacco smoke, the use of sewage sludge containing heavy metals to grow tobacco may increase

the levels of cadmium which may accumulate in the body to levels which are harmful to human health.

6. Personnel from the Maryland Department of the Environment and other governmental agencies shall be allowed access to any property where sewage sludge is to be land applied for preliminary inspections and throughout the life of the SSU Permit, and to take photos or collect samples.
7. In the event that any interest in property upon which sewage sludge has been land applied is transferred within 38 months of the last date of sewage sludge land application, the transferee shall be provided with a copy of this consent prior to transfer of any interest in the property.

I am aware that there is a possibility of herbicide carryover with certain classes of herbicides on soils with a pH exceeding 6.8 to 7.0. Herbicide carryover can occur on any soil type in Maryland, and involves delayed or prolonged effects of herbicides after initial application, including possible damage to the next crop planted in the rotation. In the event that the use of limed sewage sludge were to raise the pH of my soil above the recommended range, the Maryland Department of the Environment recommends that I check with the applicator, local Extension Office, or fertilizer dealer for a list of herbicides which may be safely used on these amended soils.

I (we) furthermore agree to abide by the provisions of the SSU Permit issued for this property.

<u>Michael Wilson</u> Name (PRINT)	<u>July 29, 2022</u> Date
<u>Michael Wilson</u> Signature	<u>July 29, 2022</u> Date
_____ Name (PRINT)	_____ Date
_____ Signature	_____ Date



LANDOWNER VERIFICATION STATEMENT

Michael  
Wilson

I, \_\_\_\_\_, hereby certify that I am the legal and rightful owner of the property listed

as follows:

County Tax Map: Carroll  
Parcel Number: 001  
Map Number: 18  
Liber/Folio: 101681/00525

This property was (circle one) purchased / inherited / \_\_\_\_\_ on

\_\_\_\_\_  
7-29-2022  
Date

Michael Wilson  
Landowner

\_\_\_\_\_  
7/29/2022  
Date

\_\_\_\_\_  
Landowner  
Cocaine Damagh  
Synagro Representative



Land Management Administration • Waste Diversion and Utilization Program

Site Information Form  
 Sewage Sludge Agricultural Land Application

Site Owner's Name(s): Michael I + Bernadette Wilson  
 Site Name (where applicable): CA48 Wilson Property  
 Site Address: 3510 Bullfrog Road City: Taneytown County: Carroll Deed/Liber/Folio No.:  
01681/0057.5 County Zoning Map No.: \_\_\_\_\_ Lot/Parcel No.: 001  
 Total # of Fields: 5 Total Acres (included in this project): \_\_\_\_\_  
 Applicant/Permittee (Authorized Agent): Synagro Central, LLC  
 Site Operator's Name: Michael Wilson  
 Site Operator's Address: same as above City: \_\_\_\_\_ County: \_\_\_\_\_  
 Site Operator's Daytime Phone No: \_\_\_\_\_

Table Instructions

1. Complete the table for all fields where sewage sludge is to be land applied.
2. Use the "Attachment" form if more space is needed, label it: page of with the appropriate page number and number of pages, as provided on the upper right hand corner of the Attachment.
3. **Field ID**- The Identification used for each field to be permitted.
4. **Irrigated**- If the field has irrigation please indicate the date irrigation was installed.
5. **Historical Crop Yields** - List the crop yields for the past consecutive ten years.
6. **Expected Crop Yield** - In accordance with the requirements in COMAR 15.20.08 or any data acceptable by the Department such as expected crop yields based on field-specific and dominant soil map unit-based yields of the United States Department of Agriculture – Natural Resource Conservation Service (USDA-NRCS) such as Web Soil Survey.
7. **Other**- Please write in any crop to be grown on any permitted field not listed in the table.

Crop Yields Per Field								
Field #: all	Irrigated:none							
Historical Crop Yields: Please list the harvested crop yields for the past consecutive ten years.								
Year	Corn	Soybean	Wheat	Grass Hay	Alfalfa	Barley	Other:	Other:
2021				1.5				
2020				1				
2019				1.5				
2018				1.5				
2017				2				
Expected Crop Yield:				47				
Comments (if necessary, attach another page): Yields from Farmer's statement								
yields from farmers statement								



Has sewage sludge been land applied to these fields in the past?

Yes  No

If yes, please list Sewage Sludge Utilization Permit #s/Sewage Sludge Applicators:

\_\_\_\_\_  
\_\_\_\_\_

Has tobacco been grown on these fields in the past?

Yes  No

Will there be tobacco grown on these fields in the future?

Yes  No

Is this site approved for septage disposal?

Yes  No

Is there an approved Soil Conservation and Water Quality Plan for the farm on file with the local Natural Resources Conservation Service District?

Yes  No

What is the crop rotation on these fields? ~~corn & soybeans~~ grass hay

Please list specific soil conservation measures used on the site, such as, but not limited to, contour tillage and strip cropping, grassed waterways and buffers, and minimum tillage? ~~contour tillage~~ none

I am aware that there is a possibility of herbicide carryover with certain classes of herbicides on soils with a pH exceeding 6.8 to 7.0. Herbicide carryover can occur on any soil type in Maryland, and involves delayed or prolonged effects of herbicides after initial application, including possible damage to the next crop planted in the rotation. In the event that the use of limed sewage sludge were to raise the pH of my soil above the recommended range, the Maryland Department of the Environment recommends that I check with the applicator, local Extension Office, or fertilizer dealer for a list of herbicides which may be safely used on these amended soils.

**CERTIFICATION**

*I, the operator/farmer, as an authorized representative of the site owner named on this form, do solemnly affirm under the penalties of perjury, that the contents of this document are true to the best of my knowledge, information, and belief. Information in this form is subject to audit by the Maryland Department of the Environment (the "Department"). I hereby authorize the representatives of the Department, upon request, to have access to any records supporting the information provided in this form.*

*I furthermore agree to abide by the provisions of the Sewage Sludge Utilization (SSU) Permit issued for this site.*

Michael Wilson  
Operator/Farmer (PRINT)

Michael Wilson  
Signature

July 29, 2022  
Date

*I, the Applicant, do solemnly affirm under the penalties of perjury, that the information provided in this document was supplied solely by the operator/farmer without any influence or coercion from me or any other representative of the applicant/permittee. I hereby affirm that any misrepresentation of any information included in this form could lead to the termination of the SSU permit.*

Corinne Darragh  
Applicant (PRINT)

Corinne Darragh  
Signature

7/29/22  
Date

## FIELD DATA SHEET

FIELD	TOTAL ACRES	SURFACE	SURFACE WITH INCORPORATION	PREDOMINANT SOILS	SOIL pH	C.E.C
1	24.0	23.8	23.9	PhB, PhA, PnB	6.5	9.3
2	12.7	12.7	12.7	PhB, AbB	6.4	5.9
3	17.0	16.5	16.5	PhB, AbB	6.2	9.2
4	22.0	22.0	22.0	PhB, AbB	6.5	11.3
5A	5.1	4.5	4.5	PhA, PhB	6.4	9.2
<b>TOTAL</b>	80.8	79.5	79.6			

**Table Instructions**

1. Complete the table for all fields where sewage sludge is to be land applied.
2. **Field ID** - The Identification used for each field to be permitted
3. **Total Acres** - Total acreage of each field.
4. **Surface Acres** - Acreage available on each field for surface application.
5. **Injection Acres** - Acreage available on each field for injection.
6. **Predominant Soils** - Predominant soil series on each field.
7. **Soil pH** - pH of soil tested on each field.
8. **C.E.C.** - Cationic Exchange Capacity of soil tested on each field.



**OPERATIONAL PLAN  
FOR  
MARYLAND**

**SYNAGRO CENTRAL, LLC**

- A. TYPE OF EQUIPMENT
- B. TYPES OF SEALS ON BIOSOLIDS TRANSPORTATION VEHICLES
- C. TRANSPORTATION ROUTES
- D. DAYS AND HOURS OF OPERATIONS
- E. TRUCK CLEANING FACILITIES
- F. PROCEDURES FOR SPREADING AND INCORPORATION
- G. ADVERSE WEATHER CONDITIONS/WINTER OPERATING PROCEDURES
- H. SPILL CONTROL AND REPORTING
- I. RECORD KEEPING
- J. FUTURE USE OF MARGINAL LAND

A. Type of Equipment:

All truck units will be inspected, licensed and marked as required for the purpose of transporting biosolids (sewage sludge). Biosolids will be transported in trailers sufficiently tight as to prevent any leakage. Each truck will have the applicable Sewage Sludge Utilization Permit Number available in the cab. Equipment utilized will be calibrated by monitoring weight and application area on a regular basis.

I. Liquid Operations:

Biosolids will be transported from wastewater treatment facilities in sealed, watertight units. The transport trucks will transfer the biosolids to high flotation land-application vehicles stationed on the field receiving biosolids. The biosolids transfer will occur through a suction hose and the land-application vehicle will perform all biosolids distribution.

A summary of equipment to be employed on the project is as follows:

- a. An appropriate number of truck units depending on plant production and travel time to land application sites.
- b. One to three high flotation land-application vehicles of 2,000 – 4,000 gallon capacity (Terra-Gator). The number will vary depending on the configuration of the land application site, as it affects application time efficiency.

II. Cake Operations:

Biosolids will be transported from wastewater treatment facilities in dump trailers with covered tops and sealed tailgates. The trailers will be equipped with front and rear splashguards that each covers at least 25% of the trailer's open area. A minimum 2-foot of freeboard shall be maintained between the biosolids and the top of the trailer unless the top of the trailer is completely sealed.

A summary of equipment to be employed on the project is as follows:

- a. One to two front-end loaders.
- b. One to two cake spreaders typically with 10–14 wet ton capacity. The number will vary depending on the configuration of the land-application site, as it affects application time efficiency. The cake spreader boxes will either be a type which can be pulled behind a tractor or the box will be mounted on the frame of a high flotation vehicle.

B. Types of Seals on Biosolids Transport Vehicles:

All trucks are regularly inspected to ensure water tightness.

I. Liquid Operations:

Biosolids are transported in standard 6,500-gallon tanker trucks, with mechanical seals and/or wing locks on ports or openings.

II. Cake Operations:

Biosolids are transported in dump trailers with covered tops and sealed tailgates. Each trailer has a 20–24 wet ton capacity.



C. Transportation Routes:

The transport trucks will employ the most direct routes to the various land-application sites as influenced by traffic conditions and restricted bridges. See haul routes included in each permit application.

D. Days and Hours of Operations:

Normal field operations are 6:00 AM until 5:00 PM, Monday through Saturday. However, there are situations due to biosolids production, weather conditions, or unforeseen occurrences in the field where other than normal hours of operations will take place.

E. Truck Cleaning Facilities:

At each of the Wastewater Treatment Facilities, there is truck washing facilities near biosolids processing buildings.

I. Liquid Operations:

Once the biosolids leave the WWTP, they are transported in sealed units and then unloaded onto a Terra-Gator. If any biosolids remain on the coupling from the truck to the Terra-Gator, cleaning will occur at the application site.

II. Cake Operations:

Once the biosolids leave the WWTP, they are transported in dump trailers and then unloaded onto a permitted field. The biosolids are then loaded onto a cake spreader with a front-end loader. If any biosolids remain on the dump trailer, cleaning will occur at the application site.

If necessary, trucks will be cleaned on-site to prevent drag-out of dirt or biosolids onto public roads. In the event dirt or biosolids are tracked out onto a road, clean-up activities will be initiated immediately.

F. Procedures for Spreading and Incorporating:

- I. Surface, surface with incorporation and sub-surface modes of application may be employed.
- II. Biosolids may remain on the surface (surface application without incorporation) when applied to an approved crop. Surface application will not occur on slopes greater than 6% unless authorized by a permit condition.
- III. If subsurface injection and/or surface application with incorporation is employed, a minimum of 98% of the biosolids will be covered with soil by the end of each working day. When weather and/or soil conditions prevent adherence to the biosolids application procedure, biosolids will not be applied to the site.
- IV. Biosolids which are surface applied and incorporated or injected biosolids will not be applied on slopes greater than 15% without specific authorization. Biosolids which are surface applied and not incorporated will not be applied on slopes greater than 6% without specific authorization.
- V. The amount of biosolids applied will be limited to the allowable LbsN per acre as determined by the State Permit and/or Nutrient Management Plan if applicable.
- VI. The application of biosolids will be accomplished in an even, continuous manner avoiding swales, gullies, ponding water, and water channels.

- VII. Unless approved by MDE, there will be no storage or stockpiling of biosolids at the site.
- VIII. Buffer zones will be established and maintained in accordance with COMAR 26.04.06.09, with the following exception:

The property line buffer may be waived by written consent from the affected landowner.

G. Adverse Weather Conditions/Winter Operations Procedures:

When weather and/or soil conditions prevent adherence to the following required biosolids agricultural application procedures, biosolids will not be applied.

- I. Biosolids may be injected into the soil through up to 6 inches of snow cover provided that there is an existing hay, pasture, sod, small grain, or cover crop, and the underlying soil is not frozen to the extent that injector shank penetration is impeded. Biosolids so applied shall be injected below the surface of the ground by use of injection equipment, which will leave 50% or more crop coverage on the soil surface after injection of the biosolids.
- II. Biosolids may be surface applied to frozen ground only when the following conditions are met:
  - a. Site slopes are 6% or less.
  - b. Minimum buffer zones of 400 feet from wells, streams, other bodies of water, and property lines are maintained.
  - c. Biosolids are only applied to well or moderately well drained soils.
  - d. Sufficient vegetative cover exists on site to prevent runoff.
  - e. Biosolids are applied on an established hay, pasture, sod, small grain, or cover crop.

Application of all nutrients should be made as close to planting as possible.

- III. When biosolids are applied to soil in late summer or fall, biosolids application shall cease and a crop shall be planted by October 31. The crop planted shall be capable of germination and significant plant growth before onset of wither so the plant is able to use available nitrogen released by the biosolids.
- IV. During November 1 through February 28, biosolids may be wither surface applied or subsurface injected using one of the following applications listed:
  - a. Biosolids are surface applied to or subsurface injected beneath an established living crop, such as hay, pasture, sod, small grain, or cover crop.
  - b. Biosolids are surface applied or subsurface injected so that immediately after application the crop residue still provides 50% soil surface coverage, or the level of surface coverage is consistent with that specified in an existing Soil Conservation and Water Quality Plan for the site.
  - c. Biosolids are subsurface injected or incorporated by any procedure and then ridging the land on the contour so that uniform parallel ridges are created that will prevent run off with the ridges formed not less than 6 inches in height and with a distance between ridges to 30 to 48 inches.



- V. Slopes may not exceed 10% if biosolids are subsurface injected or 6% if biosolids are surface applied.

H. Spill Prevention and Control:

A biosolids spill is considered the loss of any "measurable quantity" of biosolids onto an area which is not part of a permitted field. This is meant to include biosolids seeping from tailgates or biosolids dripping from valves. Major spills, such as over-turned are also included in this category.

I. Prevention:

It is the responsibility of each project manager to operate his site and hauling operation in a manner so as to minimize spill potential. For the use of liquid biosolids, all tanker trucks must have rubber hatch seals which can be mechanically tightened to prevent any leakage. Any dump trucks used to transport cake biosolids must have a seal gasket on tailgates where it makes contact with the rest of the truck body.

At the beginning of each day's operation, all vehicles will be visually inspected for integrity of the seal. After loading, each unit will be checked for leakage prior to the unit's operation on public roadways. No truckers or contract haulers are to be utilized until their units have been inspected and verified as watertight. Any seepage or dripping is unacceptable.

II. Spill Response:

In the unlikely event of a spill, Synagro will take the following actions immediately:

- a. Halt source of spill: for example, close valve of damaged tank unit or ruptured line.
- b. Contain spill: In the event large quantities of liquid biosolids have been spilled, use straw bales where available to form a barrier and/or soak up biosolids.
- c. Clean up:

Liquid biosolids: Employ vacuum equipment on biosolids applicator to remove as much spilled material as possible. Complete clean-up by scattering straw bales and soaking up remaining material. Manually pick-up straw and take spilled material to permitted site or landfill.

Cake biosolids: Use a front-end loader to pick-up bulk of the spilled material. Complete clean-up procedure with shovels and scattering straw bales to soak up remaining material. Manually pick-up straw and take spilled material to a permitted site or landfill.

III. Final Clean-up:

Flush roadways with water as necessary to clean. Allow to dry and incorporate if spill occurs on non-paved and tillable area. In the event a spill occurs on private property, final clean-up will be completed immediately to the satisfaction of the owner.

IV. Management of Clean-up Efforts:

The project manager shall take immediate charge and initiate clean-up activities. Synagro labor will be used. Additional labor may be secured as needed. The project manager shall also communicate with any public on the scene, answering questions and advising of clean-up activities.

V. Reporting:

In the event of a spill, the project manager or his field representative shall immediately notify the Synagro office at (410)284-4120. Individuals to be notified are as follows, in descending order of priority:

	<u>Mobile Phone</u>	<u>Home</u>
Jason Krankowski Technical Services Director MD and PA	410-916-4411	
Tony Lawson Operations Manager Central MD	443-829-5085	410-798-0547
Doug Bennett Technical Services Director MD	443-614-1280	
Rick Hushon Director of Operations Eastern & Western MD	610-368-9629	717-456-7353
John Uzupis Sr. Technical Services Director	410-371-3195	717-432-1796

After notification of a spill to Synagro's management, the Technical Services Director shall notify the Maryland Department of the Environment at 410-537-3424 (during work hours) or 410-94-3551 (during non-work hours). A written report detailing how the spill occurred and all actions taken shall also be submitted to MDE within 72 hours.

I. Record Keeping:

Daily truck reports as well as an applicator report are kept on-site by the manager or operator. In addition, the site manager keeps a copy of the Sewage Sludge Utilization Permit with him/her at the job site. All other reports and records are kept at the Synagro Office in Baltimore, Maryland and are available for regular inspection.

Each month a report on biosolids applied to each field is sent to the Maryland Department of the Environment. This monitoring report details quantities of nutrients and other regulated constituents applied based on recent biosolids analyses.

J. Future Use of Marginal Land:

Depending upon location and zoning classification, reclaimed marginal lands can have a wide variety of future uses. Some sites remain as open space providing homes for wildlife, others may be used for large-scale development.



## BIOSOLIDS SOURCES

WASTEWATER TREATMENT PLANT	STABILIZATION PROCESS
ANNAPOLIS	LIME STABILIZED
BACK RIVER	ANAEROBIC DIGESTION
BALLENGER CREEK	LIME STABILIZED
BOWIE	LIME STABILIZED
BROADNECK	LIME STABILIZED
BROADWATER	LIME STABILIZED
COX CREEK	LIME STABILIZED
DAMASCUS	LIME STABILIZED
DORSEY RUN	LIME STABILIZED
FREDERICK CITY	ANAEROBIC DIGESTION
FREEDOM DISTRICT	LIME STABILIZED
HAVRE DE GRACE	AEROBIC DIGESTION
KENT ISLAND	AEROBIC DIGESTION
LEONARDTOWN	AEROBIC DIGESTION
LITTLE PATUXENT	LIME STABILIZED, ANAEROBIC DIGESTION
MARLAY-TAYLOR	ANAEROBIC DIGESTION
MARYLAND CITY	LIME STABILIZED
MD CORRECTIONAL INST.	LIME STABILIZED
MATTAWOMAN	LIME STABILIZED
MOUNT AIRY	LIME STABILIZED
MOUNT ST. MARYS	AEROBIC DIGESTION
OCEAN CITY	LIME STABILIZED
PARKWAY	LIME STABILIZED
PATUXENT	LIME STABILIZED
PISCATAWAY	LIME STABILIZED
ROCK HALL	AEROBIC DIGESTION
SENECA	LIME STABILIZED
SOD RUN CAKE	ANAEROBIC DIGESTION
SOD RUN LIQUID	ANAEROBIC DIGESTION
TANEYTOWN	AEROBIC DIGESTION
THURMONT	ANAEROBIC DIGESTION
VALLEY FORGE, PA	LIME STABILIZED
WICOMICO SHORES	AEROBIC DIGESTION

## HAUL ROUTES FOR CARROLL COUNTY

### ANNAPOLIS

Edgewood Rd to Right on Forrest Drive to Rte 665 West to Rte 50 West to Rte 97 North to Rte 695 West to Rte 70 West

### BACK RIVER

Eastern Ave to 695 North to Rte 70 West OR Eastern Ave to 95 North to Rte 695 North to Rte 70 West

### BALLENGER CREEK:

Marcie's Choice Lane to Rte 85 North to Rte 270 North to Rte 15 North to Rte 26 East OR  
Marcie's Choice Lane to Rte 85 North to Rte 270 North to Rte 15 North to Rte 194 North

### BOWIE

Route 450 West to Rte 295 South to Rte 495 North to Rte 270 North to Rte 70 West

### BROADNECK

Log Inn Rd to Left on Access Rd to Rte 50 West to Rte 97 North to 695 West to 70 West

### BROADWATER

Deep Cove Rd to left on Rte 468 to left on Rte 214 West to Rte 2 North to Rte 665 West to Rte to Rte 50 West to Rte 97 North to Rte 695 West to Rte 70 West

### COX CREEK

Fort Smallwood Rd to Rte 695 West to Rte 70 West

### DAMASCUS

Log House Road to Rte 124 North to Rte 27 North

### DORSEY RUN

Toulson Rd to right on Brock Bridge Rd to left on Guilford Rd to MD 32 W to I 70 W

### FREDERICK CITY

Right onto Monocacy Blvd to left onto Rte 26 West to MD Route 15 South to right onto I-70 West OR left onto Monocacy Blvd to right onto Rte 26 East to Rte 194 North

### FREEDOM DISTRICT

Raincliffe Rd to Rte 32 North

### HAVRE DE GRACE

Old Post Rd/Revolution St to Rte 40 West to Rte 22 West to Rte I-95 South to Rte 695 West to Rte 795 North to Rte 140 West

### KENT ISLAND

Bateau Rd to Right on Skipjack Parkway to left onto Romancoke to MD 50 East to Rte 97 North to Rte 695 East to Rte 70 West

### LEONARDTOWN

Van Wert Ln to right on Fenwick St to MD 5 N to MD 247 N to MD 235 N to MD 5 N to US 301 N to MD 5 N to I 495 N to I 270 N to I 70 W

### LITTLE PATUXENT

Greenwood Place to left on Larkin Rd to left on Corridor Rd to Rte 1 North to Rte 32 West to Rte 29 North to Rte 70 West OR Greenwood Place to left on Larkin Rd to left on Corridor Rd to Rte 1 North to Rte 32 West to Rte 29 North to 70 West

### MARLAY-TAYLOR

Pine Hill Run Rd to left on Forest Park Rd/Shaw Rd to right on Three Notch Rd (Rte 235 North) to Rte 5 North to Rte 301 North to Rte 5 North to Rte I-495 North to 270 North to Rte 70 West

## HAUL ROUTES FOR CARROLL COUNTY

### MARYLAND CITY

Brockbridge Rd to right on Rte 198 to right onto MD 295 to Rte 695 West to Rte 70 West

### MARYLAND CORRECTIONAL INSTITUTE

Roxbury Rd to Rte 65 North to Rte 70 East

### MATTAWOMAN

Route 225 East to Route 301 North to Rte 5 North to 495/95 North to Rte 695 West to Rte 70 West **OR** Rte 225 East to Rte 301 North to Rte 97 North to Rte 695 West to Rte 70 West

### MOUNT AIRY

Ridge Rd to I 70 W

### MOUNT SAINT MARYS

College Ln to US 15 S to MD 77 W to MD 64 W to MD 66 S to Mapleville Rd to I 70 W

### OCEAN CITY

Rte 90 West to Rte 50 West to 97 North to Rte 695 West to Rte 70 West

### PARKWAY

Canadian Way to right on Route 197 to left on Rte 197 to left on Rte 198 to Rte 1 North to Rte 32 West to Rte 29 North to Rte 70 West **OR** Canadian Way to right on Rte 197 to left on Rte 198 to Rte 95 North to Rte 32 West to Rte 29 North to Rte 70 West

### PATUXENT

Rte 424 East to Rte 3 North to MD 97 North to Rte 695 West to Rte 70 West **OR** Rte 424 East to Route 32 East to I-70 West

### PISCATAWAY

Farmington Rd to Rte 210 North to I95 East to Rte 270 North to Rte 15 North to Rte 26 East **OR** Farmington Rd to Rte 210 North to I95 East to Rte 270 North to Rte 15 North to Rte 194 North **OR** Farmington Rd to Rte 210 North to I 95 East to Rte 270 North to Rte 70 East to Rte 27 North

### ROCK HALL

Rte 20 North to Rte 213 South to Rte 301 South to Rte 50 W to Rte 97 North to Rte 695 West to Rte 70 West

### SENECA

Riffleford Rd to right on Rte 118 to Rte 270 North to Rte 70 East to Rte 27 North **OR** Riffleford Rd to right on Rte 118 to Rte 270 North to Rte 15 North to Rte 26 East **OR** Riffleford Rd to right on Rte 118 to Rte 27 North

### SOD RUN

Chelsea Rd to left on Michaelsville Rd to right on Rte 159 to left on Rte 7 to Rte 40 South to left on Rte 543 to Rte 95 South to Rte 695 West to Rte 795 West to Rte 140 West **OR** Chelsea Rd to left on Michaelsville Rd to right on Rte 159 to left on Rte 7 to Rte 40 South to Rte 543 to Rte 95 South to Rte 695 West to Rte 70 West

### TANEYTOWN

Whippoorwill Dr to Rte 140 East

### THURMONT

Moser Rd to right on Frederick Rd to left on Water St to right on E Main St to Rte 77 East

### VALLEY FORGE

Right on Pawlings Rd to left on Ferry Lane to Left on Rte 23 to right on Rte 252 to Rte 202 South to Rte 95 South to Rte 695 West to Rte 70 West

### WICOMICO SHORES



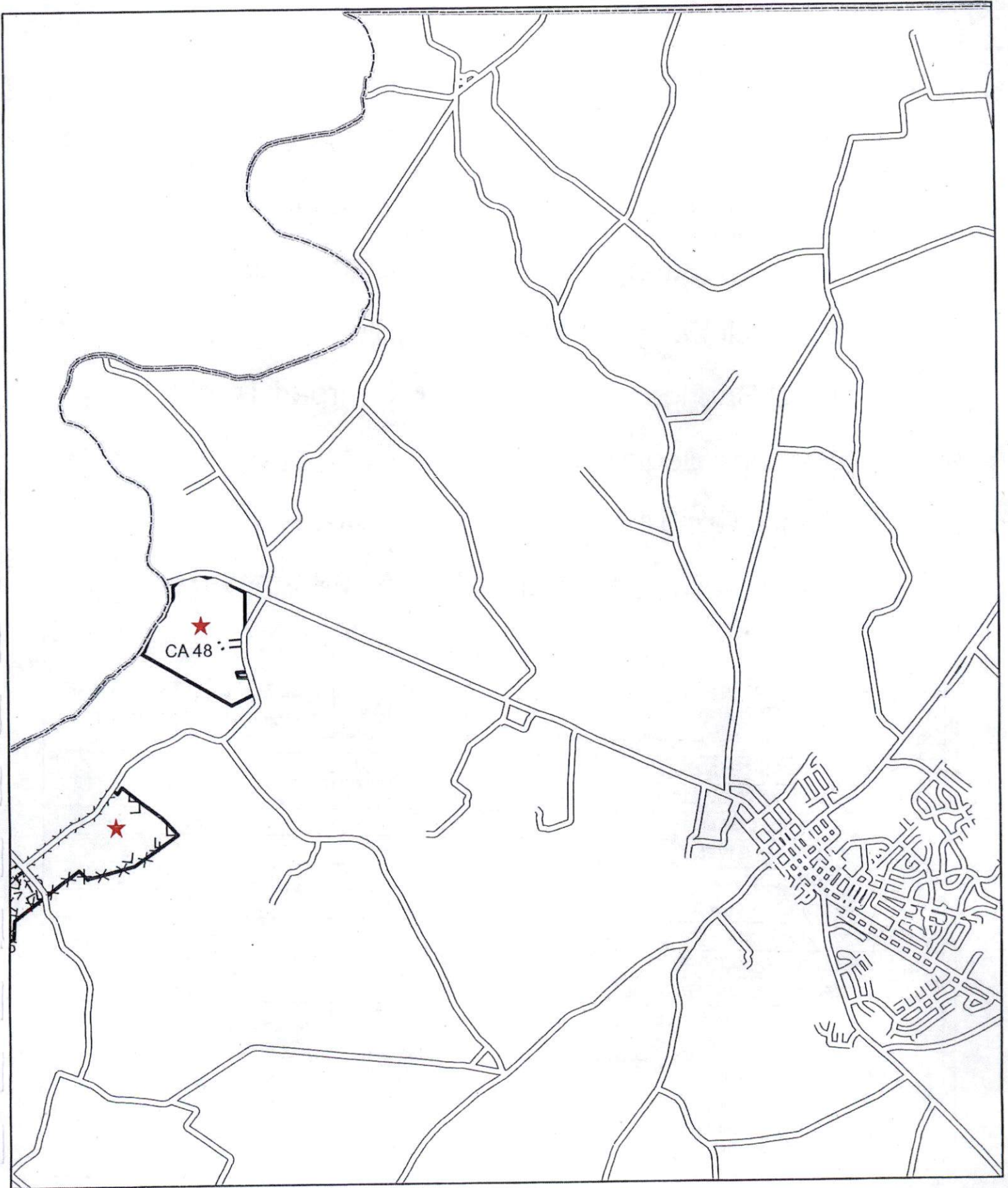
HAUL ROUTES FOR CARROLL COUNTY

Golf Course Dr to left on Chief Rd to left on Aviation Yacht Club Rd to left on MD 234 W to right on Trinity Church Rd to Olivers Shop Rd to MD 5 N to I 495 N to I 270 N to I 70 W

ONCE IN CARROLL COUNTY TO SITE CA 48

- A. Route 70 West to US 15 North to right on MD 140. Turn right onto Bullfrog Road. Farm is on right.
- B. Route 26 East to MD 194 to left onto Keysville Road. Turn right onto Roop Road then right onto Bullfrog Road.
- C. Route 194 North to B
- D. Route 27 North to left onto MD 407 to right onto MD 31 to left onto MD 75. Turn right onto MD 84/ S. Clear Ridge Road then right onto Middleburg Road. Turn left onto Trevanion Road then left onto MD-140 then left onto Bullfrog Road. Farm is on right.
- E. Route 32 North to MD 70 West to A
- F. Route 140 West to right onto Bullfrog road.
- G. Route 140 East to left onto Bullfrog Road.
- H. Route 77 East to left onto MD 194 to left onto Keysville Road. Turn right onto Roop Road then to right onto Bullfrog Road.




# SYNAGRO



CA 48  
Wilson Property  
Location Map



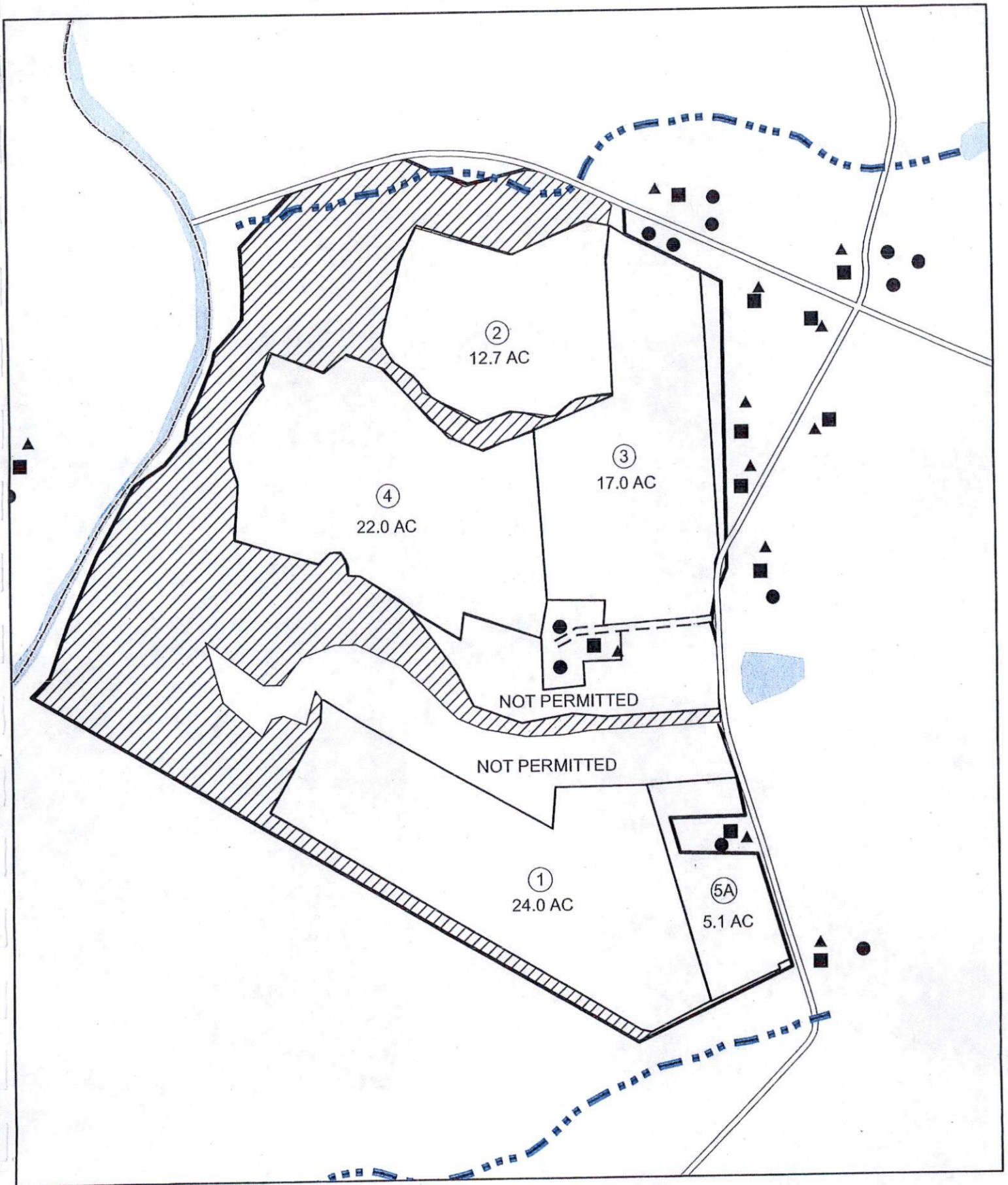
# Map Legend & Buffers

■	House	→→→→→	Drainage Ditch
▲	Well	- - - - -	Stream or River
●	Barn	x x x x x	Tree Line
◆	Pivot Irrigation	E E E E E	Electric Lines
^	Bedrock Outcrop	>15>15>15	Slope >15 % or Higher
—	Field Boundary	+ + + + +	Railroad Tracks
—	Property Boundary		Pond or Surface Water
==	Public Road		Woods
----	Farm or Private Road		Not Permitted

TYPE	SURFACE APPLICATION	SURFACE W/INCORPORATION OR INJECTION APPLICATION
OCCUPIED OFF-SITE DWELLING	200 FT	100 FT
OCCUPIED ON-SITE DWELLING	200 FT	100 FT
POTABLE WELLS	100 FT	100 FT
NON-POTABLE WELLS	25 FT	25 FT
PUBLIC ROADS	25 FT	15 FT
PROPERTY LINES	50 FT	25 FT
BEDROCK	20 IN	20 IN
BEDROCK OUTCROPS	50 FT	25 FT
STREAMS/SURFACE WATER BODIES	100 FT	35 FT
FIELD DRAINAGE DITCHES	10 FT	10 FT
WATER TABLE	20 IN	20 IN
TIDAL WATERS OR WETLANDS (Measure from Mean High Water Line)	100 FT	100 FT
INCORPORATED MUNICIPALITY BOUNDARY LINES	1,000 FT	400 FT



# SYNAGRO



CA 48  
Wilson Property  
Site Map





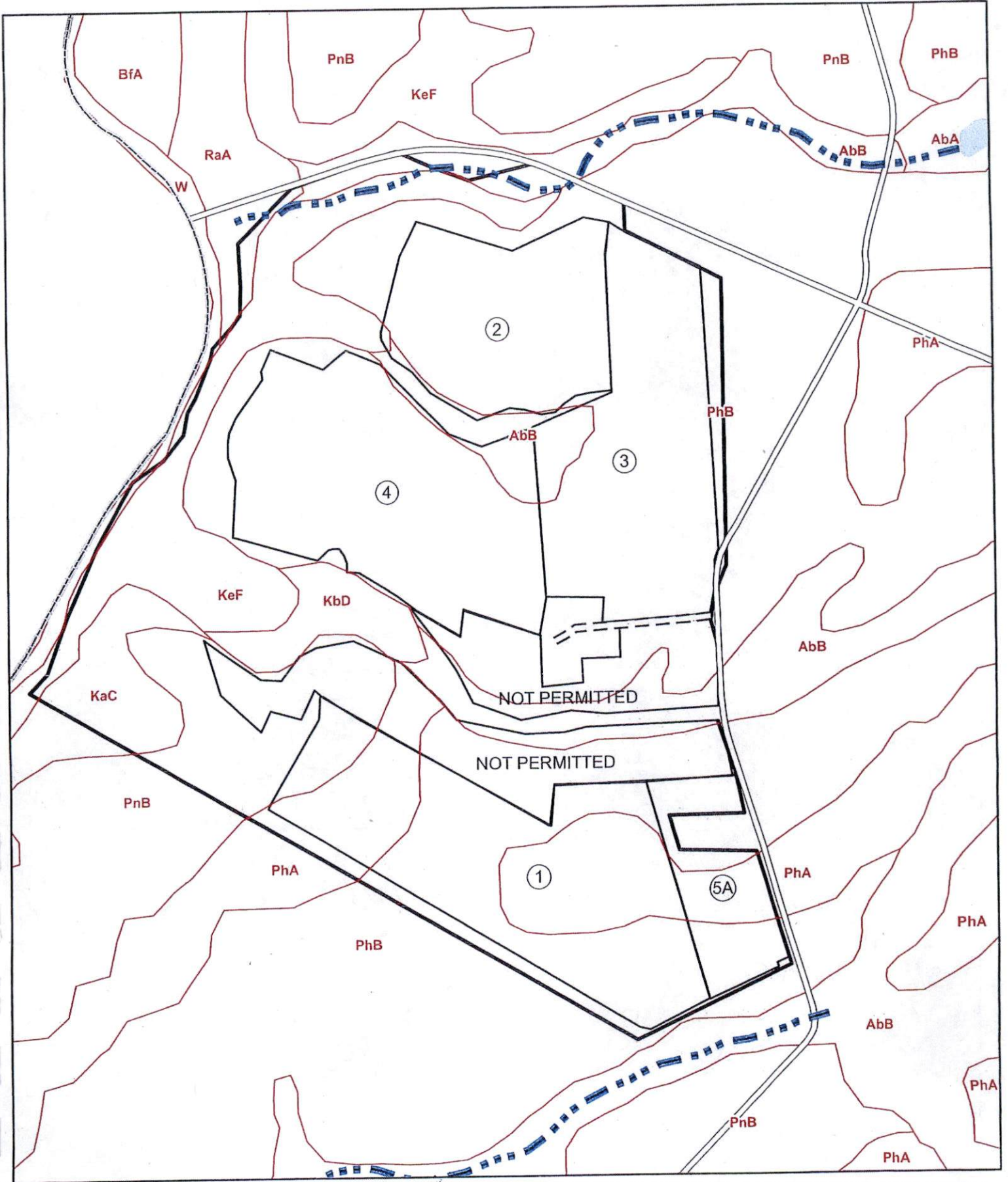


CA 48  
Wilson Property  
Aerial Map





# SYNAGRO

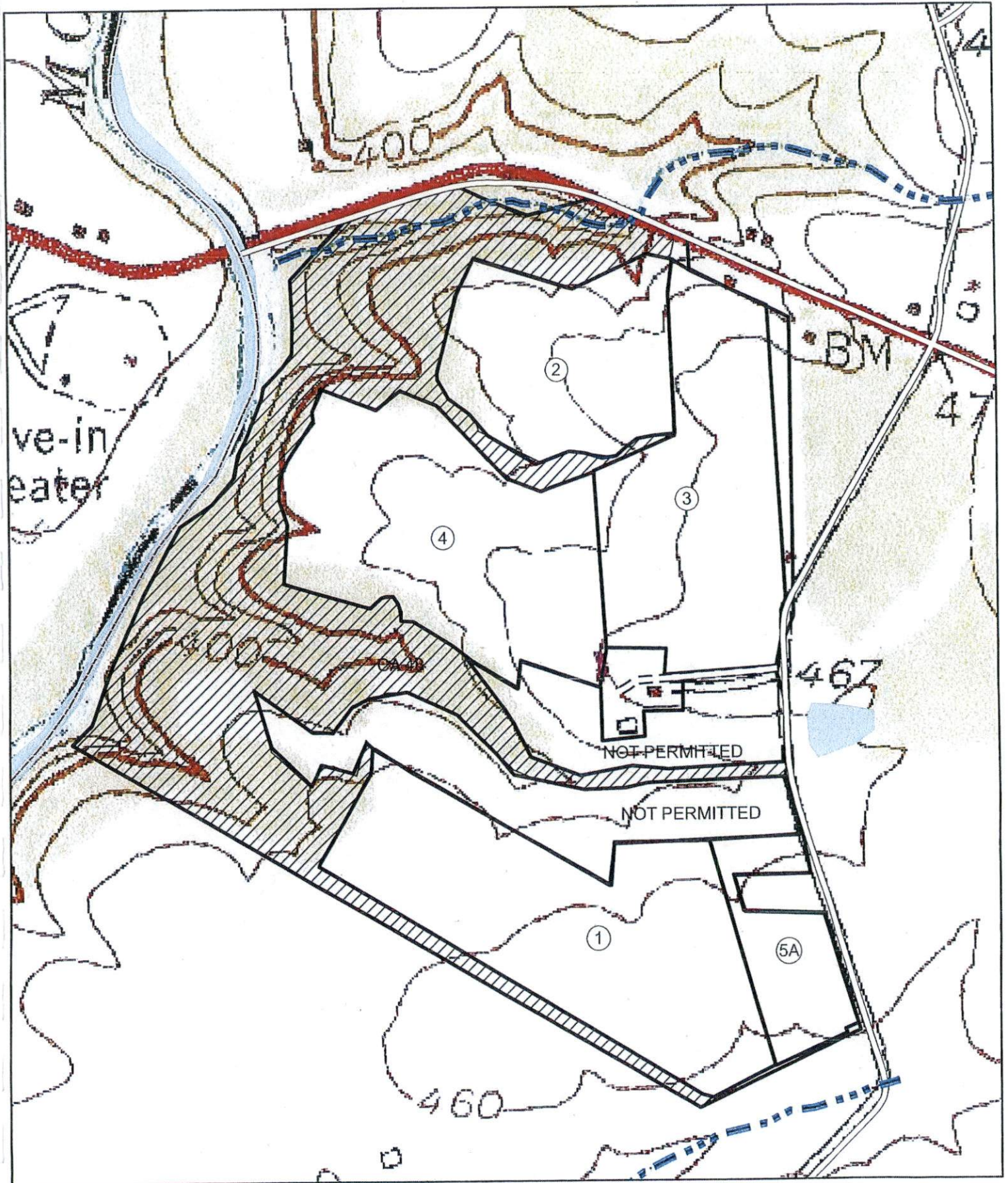


CA 48  
Wilson Property  
Soil Map





# SYNAGRO



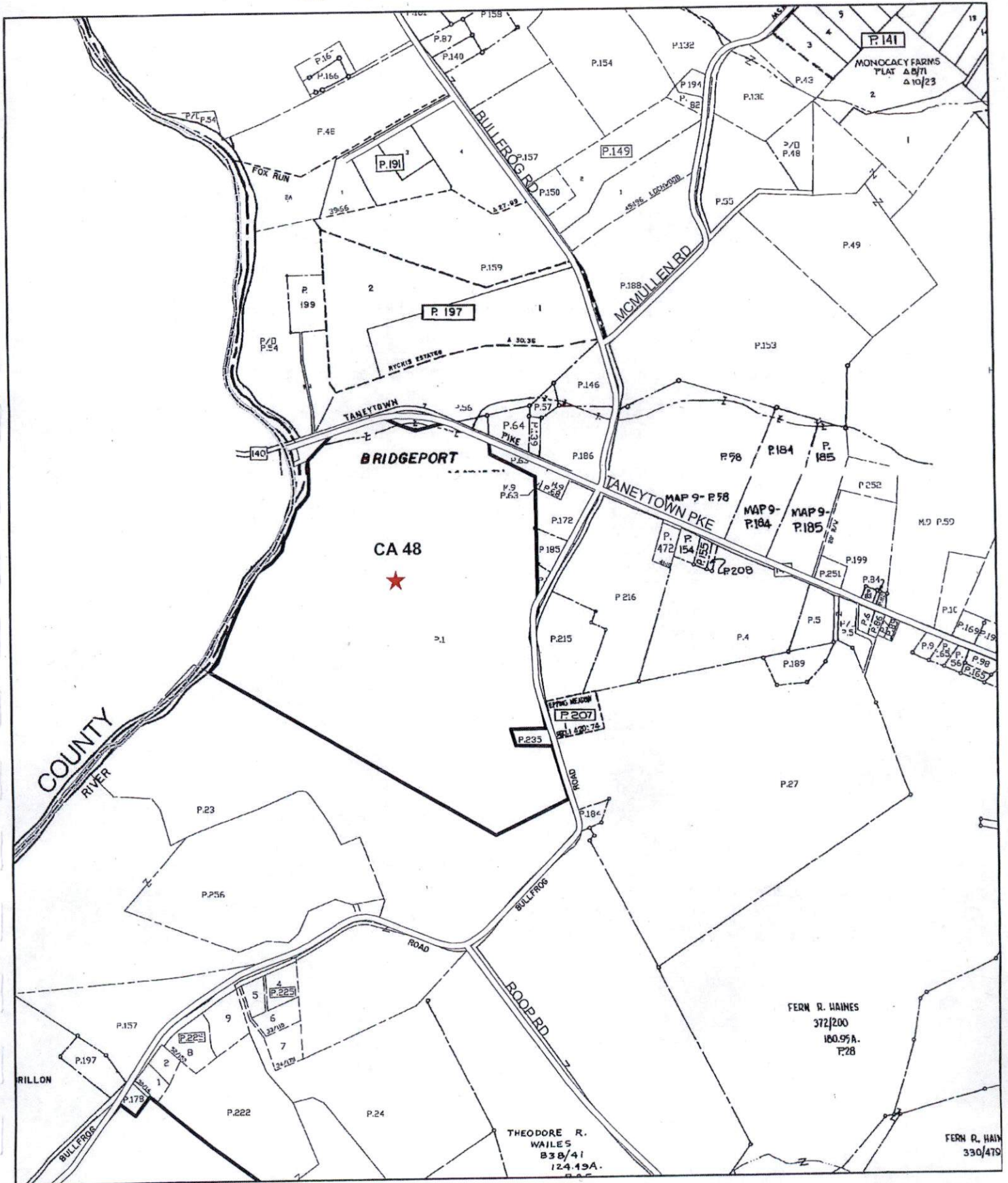
0 420 840  
Feet

CA 48  
Wilson Property  
Topographical Map





# SYNAGRO



CA 48  
Wilson Property  
Tax Map



[View Map](#)

[View GroundRent Redemption](#)

[View GroundRent Registration](#)

**Special Tax Recapture: AGRICULTURAL TRANSFER TAX**

Account Identifier: District - 01 Account Number - 000128

**Owner Information**

Owner Name: WILSON MICHAEL D Use: AGRICULTURAL  
 WILSON BERNADETTE E Principal Residence: YES  
 Mailing Address: 3510 BULLFROG RD Deed Reference: /01681/ 00525  
 TANEYTOWN MD 21787-1808

**Location & Structure Information**

Premises Address: 3510 BULLFROG RD Legal Description: 143.7718 ACS  
 TANEYTOWN 21787-0000 W/S BULLFROG RD  
 BRIDGEPORT

Map:	Grid:	Parcel:	Neighborhood:	Subdivision:	Section:	Block:	Lot:	Assessment Year:	Plat No:
0018	0003	0001	1020003.07	0000				2021	Plat Ref:

Town: None

Primary Structure Built	Above Grade Living Area	Finished Basement Area	Property Land Area	County Use
1900	2,262 SF		143.7718 AC	

Stories	Basement	Type	Exterior Quality	Full/Half Bath	Garage	Last Notice of Major Improvements
2	YES	STANDARD UNIT	FRAME/ 3	2 full	1Att/1Det	

**Value Information**

	Base Value	Value		Phase-in Assessments	
		As of 01/01/2021	As of 07/01/2022	As of 07/01/2023	
Land:	161,500	161,500			
Improvements	99,300	105,500			
Total:	260,800	267,000	264,933		267,000
Preferential Land:	36,500	36,500			

**Transfer Information**

Seller:	Date:	Price:
ALEXANDER HENRY H & WF	03/29/1995	\$375,000
Type: ARMS LENGTH IMPROVED	Deed1: /01681/ 00525	Deed2:
Seller:	Date:	Price:
Type:	Deed1:	Deed2:
Seller:	Date:	Price:
Type:	Deed1:	Deed2:

**Exemption Information**

Partial Exempt Assessments:	Class	07/01/2022	07/01/2023
County:	000	0.00	
State:	000	0.00	
Municipal:	000	0.00 0.00	0.00 0.00

**Special Tax Recapture: AGRICULTURAL TRANSFER TAX**

**Homestead Application Information**

Homestead Application Status: Approved 02/28/2012

**Homeowners' Tax Credit Application Information**

Homeowners' Tax Credit Application Status: No Application Date:



Report Number: 22-263-0718

Account Number: 25002



7621 Whitepine Road, Richmond, VA 23237  
 Main 804-743-9401 ° Fax 804-271-6446  
 www.waypointanalytical.com

Send To: Synagro Central, LLC  
 435 Williams Ct  
 Suite 100  
 Baltimore MD 21220

"Every acre...Every year."™

Grower: CA48WILSON

### SOIL ANALYSIS REPORT

Analytical Method(s): Mehlich 3 SMP Buffer pH Loss On Ignition Water pH

Date Received: 09/20/2022

Date Of Analysis: 09/21/2022

Date Of Report: 09/22/2022

MD = Maryland Fertility Index Value

Sample ID Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	M3 ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
CA48-1	23713	4.0 M	MIN	117	21 L MD = 25		60 L MD = 37	274 H MD = 211	1227 M MD = 128	15 VL	6.5		0.7	9.3	
CA48-2	23714	3.3 M	MIN	108	14 L MD = 18		36 VL MD = 21	146 H MD = 114	794 M MD = 73	17 VL	6.4		0.5	5.9	
CA48-3	23716	4.0 M	MIN	117	27 L MD = 32		43 VL MD = 26	188 H MD = 145	1268 M MD = 133	18 VL	6.2		1.1	9.2	
CA48-4	23717	4.9 M	MIN	132	73 H MD = 82		54 VL MD = 33	321 H MD = 246	1527 M MD = 166	14 VL	6.5		0.8	11.3	
CA48-5A	23718	4.3 M	MIN	123	31 M MD = 36		62 L MD = 38	267 H MD = 205	1185 M MD = 123	13 VL	6.4		0.8	9.2	

Sample ID Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts
	K %	Mg %	Ca %	Na %	H %	NO <sub>3</sub> N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate
CA48-1	1.7	24.6	66.0	0.7	7.5		4 VL	2.1 L	105 VH	83 VH	1.0 M	0.5 L	
CA48-2	1.6	20.6	67.3	1.3	8.5		10 L	1.4 L	33 H	60 VH	0.8 L	0.3 VL	
CA48-3	1.2	17.0	68.9	0.9	12.0		13 L	1.7 L	12 M	70 VH	0.9 M	0.3 VL	
CA48-4	1.2	23.7	67.6	0.5	7.1		12 L	3.9 H	53 VH	83 VH	1.2 M	0.5 L	
CA48-5A	1.7	24.2	64.4	0.6	8.7		6 VL	2.3 M	80 VH	73 VH	1.1 M	0.6 M	

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Paucic Mc Groary

Paucic Mc Groary Ph.D., CPAg



**NUTRIENT MANAGEMENT PLAN**

09/26/22

**CA 48**

**Mike Wilson  
3510 Bullfrog Road  
Taneytown, MD 21757**

This plan applies to the Wilson property (CA 48 ), consisting of 85.8 permitted acres, located in Carroll County, Watershed Code\*0233. Please see below for specific account information. The nutrient management recommendations provided herein conform to the Maryland nutrient management and sewage sludge management regulations. This plan provides supplemental information for the use of organic residuals.

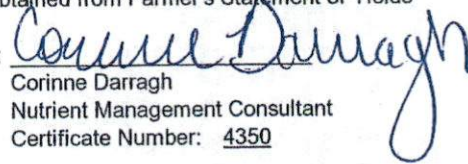
No biosolids have been applied on this farm

Please note that there are livestock on this farm but are pastured 100% of time on non-permitted ground. Therefore, no manure information is included in this plan.

A Phosphorus Management Tool Report is attached for fields - none  
A Nitrogen based plan is satisfactory for fields - all

The Yield Goals for this Nutrient Management Plan were obtained from Farmer's Statement of Yields

Prepared by:

  
Corinne Darragh  
Nutrient Management Consultant  
Certificate Number: 4350

License Number: 2018

Account ID Number	Total Acres
07-01-000128	143.8

\* Watershed Code is taken from United States Geological Survey Maps

**Nutrient Management Plan Maintenance**

This nutrient management plan is valid for a period of one year from the date prepared or for a period of one year from the date approved by the Maryland Department of the Environment if applicable.

The following changes in the farm operation requires the plan to be updated or modified:

- change in crop rotation
- introduction of a new crop not addressed in this plan
- soil test results indicate a change in nutrient recommendations
- in acreage managed of 10 percent or greater or 30 acres, whichever is less
- in animal units of 10 percent or greater if resultant manure production will require significant management adjustments

### NOTES:

- To satisfy TOTAL recommendation for many crops, it may be necessary to adjust SUGGESTED TIMING AND METHODS of application, (i.e. broadcast, topdress, sidedress, row, etc.) to be compatible with available equipment and materials.
- These recommendations assume that the highest level of N management will be utilized and that N losses due to leaching, volatilization and denitrification are minimized due to best management practices.
- For conventional tillage, ag-lime recommendations are based upon the amount of oxides required for the surface 8" of soil. Lime should be thoroughly mixed with the soil by plowing and disking. If recommended amount of oxides exceeds 1.5 tons of lime per acre (assuming 50% total oxides), 1/2 should be plowed down and the remainder applied after plowing and disked in thoroughly.
- If topdressing ag-lime without tillage, reduce the total amount of oxides recommended by 50 percent. When topdressing ag-lime, and soil mixing is not possible, do not apply more than 1500 lbs per acre of oxides in any one application. The balance can be applied the next year. It would be best to do a soil test before making the second application.
- Split-application of nitrogen is required for optimal production and nitrogen use efficiency of small grain crops and canola and for the protection of ground water resources.
- Magnesium will be recommended when the soil test indicates a low or very low level. Use dolomitic lime as a liming material when magnesium is recommended AND when lime is needed to correct soil acidity. The magnesium recommendation is expressed as elemental Mg when lime is not required.
- When applying liquid wastes, application rate should not exceed the soil's infiltration rates.
- For small grains like wheat, barley, rye and oats and small grains double-cropped with soybeans, TOTAL N recommendation allows up to 30 lbs N per acre at planting if allowed by the Fall Soil Nitrate Test, and 1 lb of N per bushel of yield goal in the spring, split applied. In Spring application, topdress half at green-up, but not prior to February 15th, and the other half at Feekes 5-6.
- When surface applying the following nitrogen fertilizers, adjust rates as follows: if UAN is surface broadcast, increase rate by 15-20%; if UAN is dribbled or streamed, increase rate by 5-10%; if granulated urea is broadcast, increase rate by 25%.
- Organic P values in the Phosphorus Management Tool (PMT) are based on the sources planned to be applied on this site from MDE PAN Table or from Synagro analytical data with the minimum guaranteed Organic P value. No P is allowed to be applied to the fields other than what is justified by the PMT. If a source with a higher Organic P value is desired to be applied, the PMT will be updated accordingly.
- The nutrient application rate is phosphorus-based for those fields that have a Phosphorus Management Tool report attached. Otherwise, the application rate is nitrogen-based.
- Proper timing of nutrient applications is important. Apply nutrient sources as close to planting or nutrient demand as possible so that nutrients are absorbed by plants quickly and not allowed to runoff into surface water or leach into ground water.
- Nutrient application made during the spring-summer time, March 1 through September 9, is permitted for an existing crop or a crop to be planted during this time period.
- Organic nutrient application made during the fall time, September 10 through December 15, is permitted for pastureland, hay-land, or other acreage under vegetative cover. Application to fallow cropland shall plant a cover crop as soon as possible after application, but no later than November 15.

- If the application is phosphorus-based, fall-application of organic nutrients for a fall seeded crop shall be based on the phosphorus recommendations for that crop. For crops to be planted the following Spring, (no later than June 1) may not exceed the one-year crop removal rate of phosphorus for the Spring planted crop. Shall follow the provisions of the Phosphorus Management Tool and shall not exceed plant available nitrogen of 50 lbs. per acre.
- If application is nitrogen-based, fall-application of organic nutrient for a fall-seeded crop shall be based on nitrogen recommendations as outlined in Section I-B of the Maryland Nutrient Management Manual. If the application is for a crop to be planted the following spring (before June 1), then nitrogen may not exceed 50% of the plant available nitrogen recommendations for that crop and 50 lbs of nitrogen per acre.
- For small grains, fall nitrogen rate of up to 30# PAN/acre depends upon residual soil nitrate concentration. Nitrogen may not be applied in fall if soil nitrate test is greater than 10ppm for wheat or greater than 15ppm for barley.
- Winter (December 16<sup>th</sup> thru February 28<sup>th</sup>) application for a crop to be planted the following spring is prohibited except under special circumstances, limited storage, non-stackable products, and there is no other reasonable option to manage.
- Applications required in emergency situations shall be managed in consultation with the Maryland Department of Agriculture. Operators shall contact the MDA regional nutrient management representative for guidance.
- Organic nutrient sources shall be injected or incorporated as soon as possible, but no later than 48 hours after application.
- Any field with a soil FIV value of 150 and above will follow PMT recommendations.







APPLICATION RATES IN DT/ACRE FOR

SITE: CA 48

DATE: 9/26/2022

PLANT AVAILABLE NITROGEN (PAN) PER DRY TON OF BIOSOLIDS

FIELD	CROP	LBS N REQUIRED BY CROP	AN	BN	MDC	PA	BW	CC	BR	BC	BO	DA	DR	FRC	KI	LT	LP-LS	LP-DIG	MT	MA	OC-LS	PWY
			21.52	27.57	29.5	22.3	20.3	26.5	35.4	20.3	27.6	31.1	15.2	39.7	38.5	35.3	TBD	49.6	35.2	20.1	16.6	28.1
1	Grass Hay	180	8.4	6.5	6.1	8.1	8.9	6.8	5.1	8.9	6.5	5.8	11.8	4.5	4.7	5.1	#####	3.6	5.1	9.0	10.8	6.4
2	Grass Hay	180	8.4	6.5	6.1	8.1	8.9	6.8	5.1	8.9	6.5	5.8	11.8	4.5	4.7	5.1	#####	3.6	5.1	9.0	10.8	6.4
3	Grass Hay	180	8.4	6.5	6.1	8.1	8.9	6.8	5.1	8.9	6.5	5.8	11.8	4.5	4.7	5.1	#####	3.6	5.1	9.0	10.8	6.4
4	Grass Hay	180	8.4	6.5	6.1	8.1	8.9	6.8	5.1	8.9	6.5	5.8	11.8	4.5	4.7	5.1	#####	3.6	5.1	9.0	10.8	6.4

Sur = Surface Applied Liquid

Inc = Incorporation

No surface application rates on corn & soybeans



APPLICATION RATES IN DT/ACRE FOR

SITE: CA 48

DATE: 9/28/2022

PLANT AVAILABLE NITROGEN (PAN) PER DRY TON OF BIOSOLIDS

FIELD	CROP	LBS N REQUIRED BY CROP	AN	BN	MDC	PA	BW	CC	BR	BC	BO	DA	DR		FRC	KI	LT	LP-LG	UP-DIG	MT		MA	OC-LG	PWY
			21.52	27.57	29.5	22.3	20.3	26.5	35.4	20.3			27.6	31.4	15.2		39.7	36.5	35.3	TBD	49.6	35.2		20.1
	Grass Hay	180	8.4	6.5	6.1	8.1	6.9	6.6	5.1	8.9	6.5	5.8	11.8		4.5	4.7	5.1	####	3.6	5.1		9.0	10.8	6.4
	Grass Hay		#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
	Grass Hay		#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####	#####	#####	#####
	Grass Hay		#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####		#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

Sur = Surface Applied Liquid  
Inc = Incorporation

o surface application rates on corn & soybeans





WWTP	Symbol	PAN *	P205 **	K2O	Include?
Annapolis Cake	AN	21.52	76.94	2.99	x
Broadneck Cake	BN	27.57	85.19	4.75	x
MD City Cake	MDC	29.48	61.83	9.92	x
Patuxent Cake	PA	22.34	65.04	7.01	x
Broadwater	BW	20.30	36.09	2.85	x
Cox Creek	CC	26.48	59.08	8.29	x
Back River	BR	35.40	99.39	4.05	x
Ballenger Creek	BC	20.28	44.61	4.02	x
Bowie	BO	27.55	75.90	6.05	x
Damascus LS	DA	31.07	98.93	9.95	x
Dorsey Run	DR	15.23	40.51	1.32	x
Fort Meade	FM-Sur				
Fort Meade	FM-Inc				
Frederick City	FRC	39.69	146.56	3.89	x
Kent Island WWTP's	KI	38.50	115.87	10.22	x
Leontardtown	LT	35.32	68.70	10.02	x
Little Patuxent LS	LP-LS	TBD	TBD	TBD	x
Little Patuxent DIG	LP-DIG	49.60	129.16	5.43	x
Marlay Taylor	MT	35.15	115.15	4.29	x
Mariboro Meadows	MM-Sur				
Mariboro Meadows	MM-Inc				
Mattawoman	MA	20.08	70.07	3.63	x
Ocean City - Lime Stabilized	OC-LS	16.61	41.65	4.53	x
Parkway	PWY	28.08	60.00	2.16	x
Havre de Grace	HdG	25.98	96.18	6.96	x
Mount St. Mary's University	MSM	48.12	106.03	12.19	x
Taneytown Cake	TTC	37.27	135.57	9.12	x
Piney Orchard	POR				
Piscataway	PI	23.05	57.32	0.65	x
Rock Hall Cake	RH	2.27	8.56	0.02	x
Seneca Creek LS	SE	38.93	108.55	7.81	x
Sod Run Liquid	SRL-Sur	49.04	200.95	10.72	x
Sod Run Liquid	SRL-Inc	73.40	200.95	10.72	x
Sod Run Cake	SRC	29.66	90.98	3.02	x
Thurmont Liquid	TH-Sur		0.00	0.00	
Thurmont Liquid	TH-Inc		0.00	0.00	
Thurmont Cake	THC		0.00	0.00	
Valley Forge, PA	VF	27.26	35.57	3.20	x
Viasic	VL-Sur				
Viasic	VL-Inc				
Wicomico Shores	WS	31.24	91.60	4.80	x
MCI	MCI	24.18	67.98	5.14	x
Freedom District	FD	31.77	107.96	5.36	x
Mt. Airy	MTA	35.10	86.23	9.65	x
Cedarville Lagoon	CDL				

\* Values from MDE PAN Table 10/7/2021

\*\* Values from SYN 10/20 - 9/21 Data or MDE PAN Table 10/7/2021

**NUTRIENT APPLICATION SETBACKS FROM SURFACE WATER:**

(5-19-15)

Setbacks for Nutrient Application are required in the development of nutrient management plans. Application and livestock setback regulations are contained under the Nutrient Application Requirements, Maryland Department of Agriculture 2012, COMAR 15.20.07.02, Maryland Nutrient Management Manual, 1-D1.

A minimum of a 10' vegetative setback must be in place next to surface water. The chart below indicates if surface water is present that requires a setback on any farm/operation and identifies the fields that are required to have a nutrient application setback. **An application of crop nutrients using a broadcast method either with or without incorporation requires a 35' setback. A directed spray application or the injection of crop nutrients only requires a 10' setback.** Excepting perennial forage crops grown for hay and pasture, vegetation in the 10' setback area may not include plants that would be considered part of the crop grown in the field (i.e. row crops). Pastures and hayfields are subject to a 10' and/or a 35' nutrient application setback depending on application methods. Nutrients may not be applied within the 10' setback.

*Livestock on pasture are required to meet the minimum 10' setback by means of fencing unless a Best Management Practice (BMP) is approved by MDA or a Soil Conservation and Water Quality Plan is developed and implemented that prescribes an alternative to fencing animals 10' from surface water. Alternative BMP's may include stream crossings, watering facilities, pasture management, or other practices that are equally protective of water quality. Sacrifice lots for livestock require a 35' setback from surface water.*

*If nutrients are custom-applied, it is the operator's responsibility to inform the applicator of the setback distance based on the method of application.*

Farm Name(s)	Is Surface Water Present on the farm that requires a setback (Yes or No)	Field(s) requiring a Nutrient Application Setback*	Nutrient Application Setback Required (Indicate with "Yes" in appropriate column(s).)		
			Livestock on Pasture ≥ 10 ft.	Directed Application** ≥ 10 ft.	Broadcast Application or Sacrifice Lots*** ≥ 35 ft.
CA 48	No	None	Yes		yes

\*If a field contains multiple sources of surface water (i.e. a pond and a stream), list each separately or identify on the map.

\*\*Directed Application = Directed Spray Application (Vertical Fan or Drop Nozzle), Air Flow Application, Knifed/Injected application of Nutrients, Planter Applied nutrients

\*\*\*Broadcast Application or Sacrifice Lots = Spinner Spreaders (Manure or Fertilizer), High Volume Horizontal Nozzles, Manure Spreaders (Box type with beaters, Splasher plates for liquid, Side Discharge V-Type)