

LAND APPLICATION OF BIOSOLIDS  
CHARLES ATHEY

LD 27 (FIELDS 1-7)  
LOUDOUN COUNTY, VIRGINIA  
JULY 2014

| Event   | Date    | Initials |
|---------|---------|----------|
| Code:   |         |          |
| Scanned | 4/12/16 | JT       |
| QC      |         |          |





July 30, 2014

Mr. Ed Stuart  
Department of Environmental Quality  
Northern Virginia Regional Office  
13901 Crown Court  
Woodbridge, VA 22193

Dear Mr. Stuart:

Transmitted herein for your consideration is land application site for Charles Athey (designated as LD 27, fields 1-7), located in Loudoun 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,

A handwritten signature in blue ink that reads "Carolanne M. Whiteside".

Carolanne M. Whiteside  
Technical Services Coordinator



## FIELD SUMMARY SHEET

Charles Athey

LD 27

| SYNAGRO<br>FIELD<br># | GROSS<br>ACRES | NET<br>ACRES | FSA<br>TRACT<br># | FIELD<br>TYPE | OWNER                   |
|-----------------------|----------------|--------------|-------------------|---------------|-------------------------|
|                       |                |              |                   |               |                         |
| 27-01                 | 44.5           | 44.5         | T-864             | Agricultural  | Nancy H O'Connor Estate |
| 27-02                 | 63.5           | 63.5         | T-864             | Agricultural  | Nancy H O'Connor Estate |
| 27-03                 | 61.6           | 61.6         | T-864             | Agricultural  | Nancy H O'Connor Estate |
| 27-04                 | 36.8           | 36.8         | T-864             | Agricultural  | Nancy H O'Connor Estate |
| 27-05                 | 27.0           | 27.0         | T-864             | Agricultural  | Nancy H O'Connor Estate |
| 27-06                 | 23.5           | 23.5         | T-864             | Agricultural  | Nancy H O'Connor Estate |
| 27-07                 | 89.4           | 89.4         | T-864             | Agricultural  | Nancy H O'Connor Estate |
|                       |                |              |                   |               |                         |
|                       |                |              |                   |               |                         |
|                       |                |              |                   |               |                         |
|                       |                |              |                   |               |                         |
|                       |                |              |                   |               |                         |
| <b>TOTALS:</b>        | 346.3          | 346.3        |                   |               |                         |

**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 12/21/12 between Harrison O'Connor referred to here as "Landowner", and Synagro, 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 Loudoun Co., Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) 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 |
| 106275531  |               |               |               |
|  |               |               |               |
|  |               |               |               |
|  |               |               |               |
|  |               |               |               |

☐ 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 |

Harrison O'Connor  
Landowner – Printed Name, Title

Harrison O'Connor  
Signature

PO Box 122 Geyser, MT 59447-0122  
Mailing Address

**Permittee:**

Synagro, 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.

☒ I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

Madison Holsinger  
Permittee – Authorized Representative  
Printed Name

Madison Holsinger  
Signature

10647 Tidewater Trl, Champlain, VA 22438-2017  
Mailing Address

Permittee: Synagro County or City: Loudoun County  
 Landowner: Harrison O'Connor

### 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).

Harrison O'Connor  
 Landowner's Signature

12/21/12  
 Date

# TAX ID LANDOWNER IDENTIFICATION SHEET

| Landowner                     | Field Number | Parcel ID |
|-------------------------------|--------------|-----------|
| Nancy H O'Connor Estate ET AL | 1            | 106275531 |
| Nancy H O'Connor Estate ET AL | 2            | 106275531 |
| Nancy H O'Connor Estate ET AL | 3            | 106275531 |
| Nancy H O'Connor Estate ET AL | 4            | 106275531 |
| Nancy H O'Connor Estate ET AL | 5            | 106275531 |
| Nancy H O'Connor Estate ET AL | 6            | 106275531 |
| Nancy H O'Connor Estate ET AL | 7            | 106275531 |

| Field Number | Latitude (North) | Longitude (West) |
|--------------|------------------|------------------|
| 1            | 39° 11' 34.5"    | 77° 30' 6.29"    |
| 2            | 39° 11' 34.25"   | 77° 30' 21.8"    |
| 3            | 39° 11' 16.7"    | 77° 30' 19.07"   |
| 4            | 39° 11' 17.23"   | 77° 30' 1.48"    |
| 5            | 39° 11' 5.28"    | 77° 30' 11.12"   |
| 6            | 39° 11' 2.18"    | 77° 30' 7.03"    |
| 7            | 39° 10' 54.34"   | 77° 30' 45.53"   |

## 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.



**Loudoun County, Virginia**  
[www.loudoun.gov](http://www.loudoun.gov)

Wednesday, June 20, 2012

(map not to scale)



## Farm Summary Report

Plan: New Plan Summer, 2011 - Winter, 2012

Farm Name: Ld 27

Location: Loudoun

Specialist: Kelly M Love

N-based Acres: 346.3

P-based Acres: 0.0

Tract Name: 864

FSA Number: NA

Location: Loudoun

Field Name: 1

Total Acres: 44.50 Usable Acres: 44.50

FSA Number: 1

Tract: 864

Location: Loudoun

Slope Class: C Hydrologic Group: C

Riparian buffer width: 0 ft

Distance to stream: 0 ft

### Conservation Practices:

Pasture (>75% cover)

### P-Index Summary

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

### Soil Test Results:

| DATE    | PH  | P            | K           |          | Lab |
|---------|-----|--------------|-------------|----------|-----|
| Sp-2011 | 4.9 | M-(24 P ppm) | L(30 K ppm) | A&L MIII |     |

MOST RECENT LIME: Summer-2011 1.5 tons/acre

### Soils:

| PERCENT | SYMBOL | SOIL SERIES |
|---------|--------|-------------|
| 6       | 14B    | Manassas    |
| 51      | 72C    | Birdsboro   |
| 4       | 73B    | Penn        |
| 18      | 77C3   | Nestoria    |
| 11      | 79A    | Albano      |
| 10      | 95B    | Goresville  |

### Field Warnings:

**Field Name:** 2  
Total Acres: 63.50 Usable Acres: 63.50  
FSA Number: 2  
Tract: 864  
Location: Loudoun  
Slope Class: B Hydrologic Group: C

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

**Conservation Practices:**  
Pasture (>75% cover)

*P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

| DATE    | PH  | P            | K           |          | Lab |
|---------|-----|--------------|-------------|----------|-----|
| Sp-2011 | 5.0 | M-(24 P ppm) | L(30 K ppm) | A&L MIII |     |

MOST RECENT LIME: Summer-2011 2.3 tons/acre

**Soils:**

| PERCENT | SYMBOL | SOIL SERIES |
|---------|--------|-------------|
| 22      | 13B    | Morven      |
| 14      | 14B    | Manassas    |
| 43      | 73B    | Penn        |
| 2       | 79A    | Albano      |
| 7       | 90B    | Springwood  |
| 12      | 91B    | Springwood  |

**Field Warnings:**

**Field Name:** 3  
Total Acres: 61.60 Usable Acres: 61.60  
FSA Number: 3  
Tract: 864  
Location: Loudoun  
Slope Class: B 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 |
|---------|--------|-------------|
| 9       | 13B    | Morven      |
| 6       | 14B    | Manassas    |
| 3       | 64C    | Legore      |
| 15      | 72C    | Birdsboro   |
| 5       | 77D3   | Nestoria    |
| 5       | 78A    | Dulles      |
| 14      | 83C    | Braddock    |
| 4       | 90B    | Springwood  |
| 6       | 91B    | Springwood  |
| 33      | 95B    | Goresville  |

**Field Warnings:**

**Field Name:** 4

Total Acres: 36.80 Usable Acres: 36.80

FSA Number: 4

Tract: 864

Location: Loudoun

Slope Class: A 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 |
|---------|--------|-------------|
| 2       | 5A     | Rowland     |
| 1       | 7A     | Huntington  |
| 3       | 72C    | Birdsboro   |
| 87      | 78A    | Dulles      |
| 3       | 79A    | Albano      |
| 4       | 66A    | Waxpool     |

**Field Warnings:**

**Field Name:** 5  
Total Acres: 27.04 Usable Acres: 27.04  
FSA Number: 5  
Tract: 864  
Location: Loudoun  
Slope Class: B Hydrologic Group: C

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

**Conservation Practices:**  
Pasture (>75% cover)

*P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

|         |     |              |             |          |     |
|---------|-----|--------------|-------------|----------|-----|
| DATE    | PH  | P            | K           |          | Lab |
| Sp-2011 | 5.0 | M-(26 P ppm) | L(12 K ppm) | A&L MIII |     |

MOST RECENT LIME: Summer-2011 2.3 tons/acre

**Soils:**

| PERCENT | SYMBOL | SOIL SERIES |
|---------|--------|-------------|
| 3       | 8A     | Lindside    |
| 13      | 78A    | Dulles      |
| 8       | 79A    | Albano      |
| 12      | 91C    | Springwood  |
| 33      | 93B    | Hibler      |
| 31      | 94B    | Allegheny   |

**Field Warnings:**

**Field Name:** 6  
Total Acres: 23.50 Usable Acres: 23.50  
FSA Number: 6  
Tract: 864  
Location: Loudoun  
Slope Class: A Hydrologic Group: C

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

**Conservation Practices:**

Pasture (>75% cover)

*P-Index Summary*

N-based

Phosphorus Limit method: Phosphorus Environmental Threshold (PET) method

**Soil Test Results:**

| DATE    | PH  | P           | K           |          | Lab |
|---------|-----|-------------|-------------|----------|-----|
| Sp-2011 | 5.0 | M(26 P ppm) | L(33 K ppm) | A&L MIII |     |

MOST RECENT LIME: Summer-2011 2.3 tons/acre

**Soils:**

| PERCENT | SYMBOL | SOIL SERIES |
|---------|--------|-------------|
| 56      | 8A     | Lindside    |
| 44      | 7A     | Huntington  |

**Field Warnings:**

**Field Name:** 7  
Total Acres: 89.40 Usable Acres: 89.40  
FSA Number: 7  
Tract: 864  
Location: Loudoun  
Slope Class: C 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 |
|---------|--------|-------------|
| 3       | 7A     | Huntington  |
| 14      | 72C    | Birdsboro   |
| 14      | 77C3   | Nestoria    |
| 40      | 77D3   | Nestoria    |
| 9       | 78A    | Dulles      |
| 2       | 79A    | Albano      |
| 18      | 95B    | Goresville  |

**Field Warnings:**

*Environmentally Sensitive Soils due to:*

*Shallow soils less than 41 inches deep likely to be located over fractured or limestone bedrock*

*Soils with percent slope in excess of 15%*

## ENVIRONMETALLY SENSITIVE AREAS

| Field | Reason for Sensitive Area  |
|-------|--|
| 1     | No environmentally sensitive areas found   |
| 2     | No environmentally sensitive areas found   |
| 3     | No environmentally sensitive areas found   |
| 4     | No environmentally sensitive areas found   |
| 5     | No environmentally sensitive areas found   |
| 6     | No environmentally sensitive areas found   |
| 7     | Shallow soils less than 41 inches deep likely to be located over fractured or limestone bedrock<br>Soils with percent slope in excess of 15% |

# MAP LEGEND



House/Dwelling with a well



Rock Outcrop



Well



Lake/Pond



Slope which exceeds 15%



Intermittent Stream



Stream/River



Agricultural/Drainage Ditch

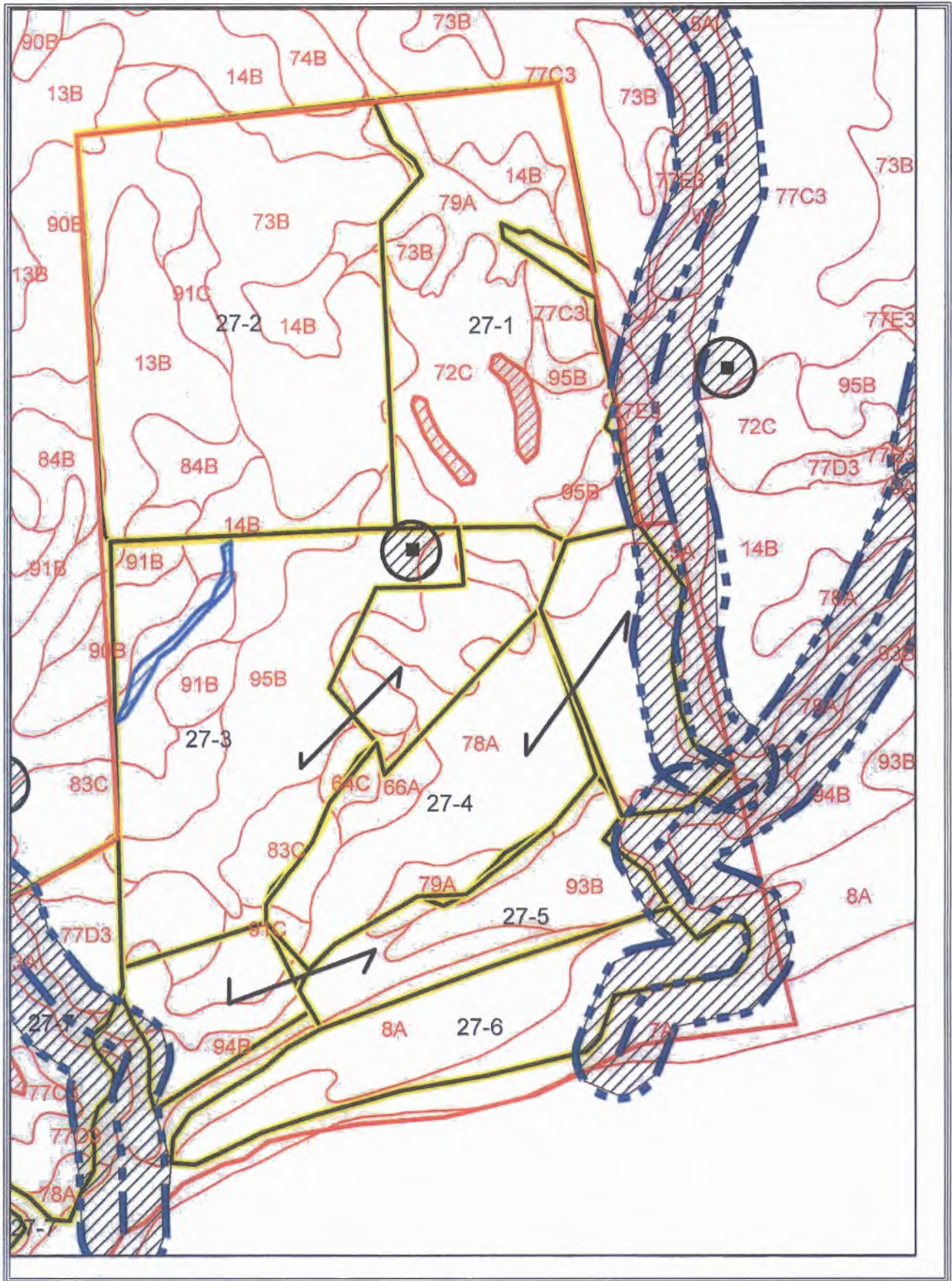


Field boundary



Property Line – (Standard 100'  
Buffer, unless waiver issued)

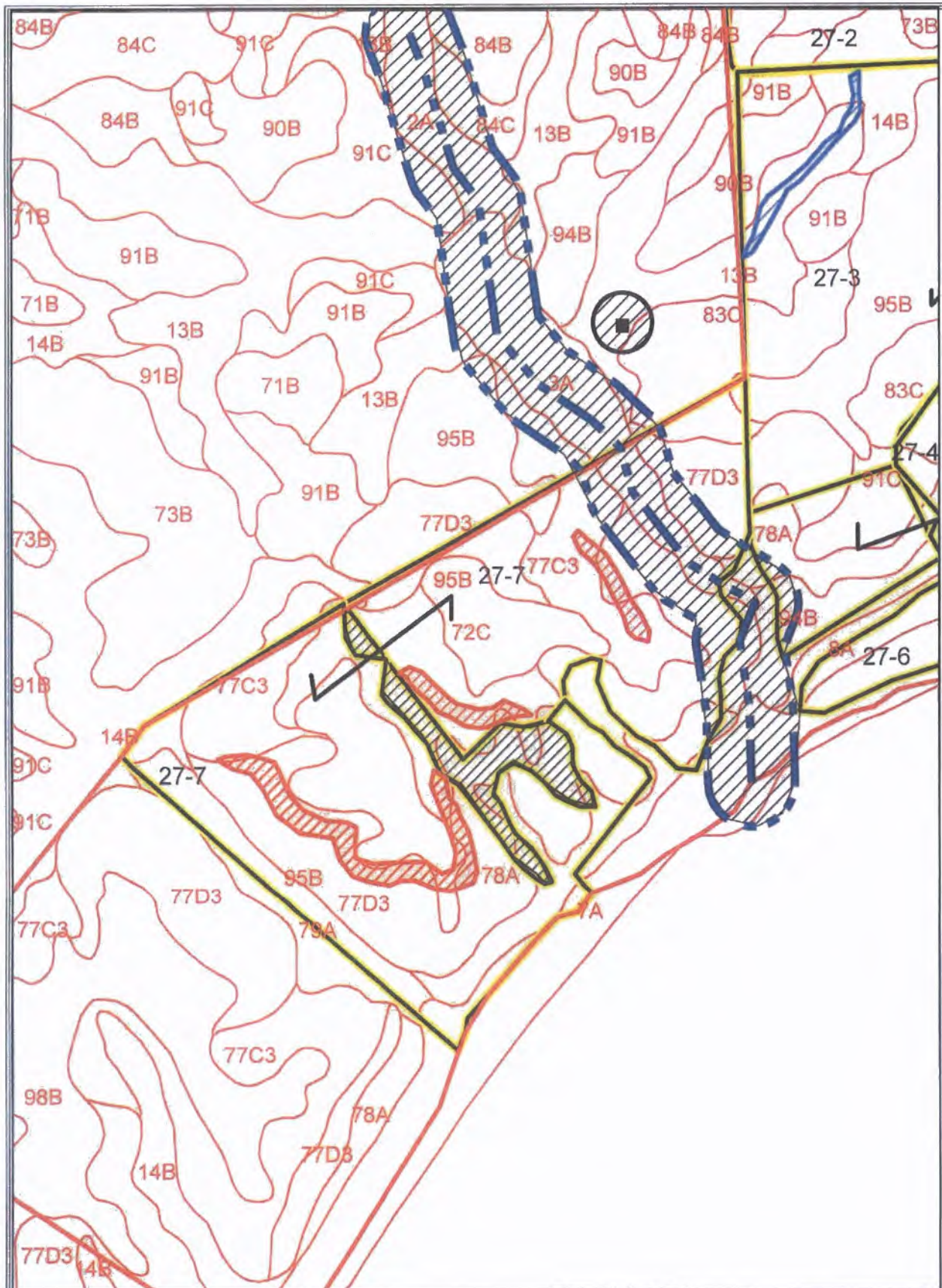
Revised: Jan. 13, '14



1 inch = 660 feet

Revised March, 2016

1:7,920

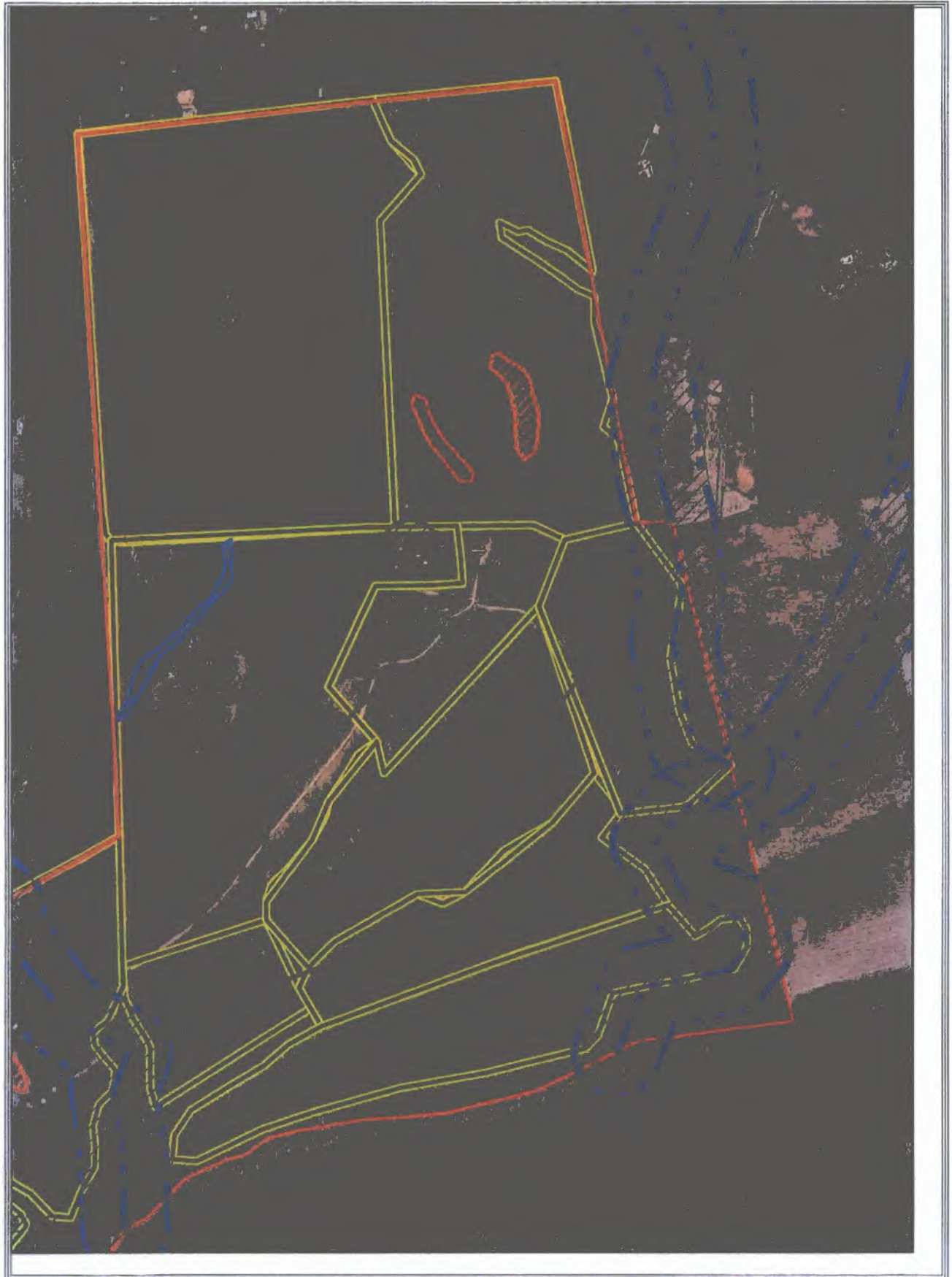


1 inch = 660 feet

1:7,920

# SYNAGRO

Charles Athey  
LD 27  
Fields 1-6

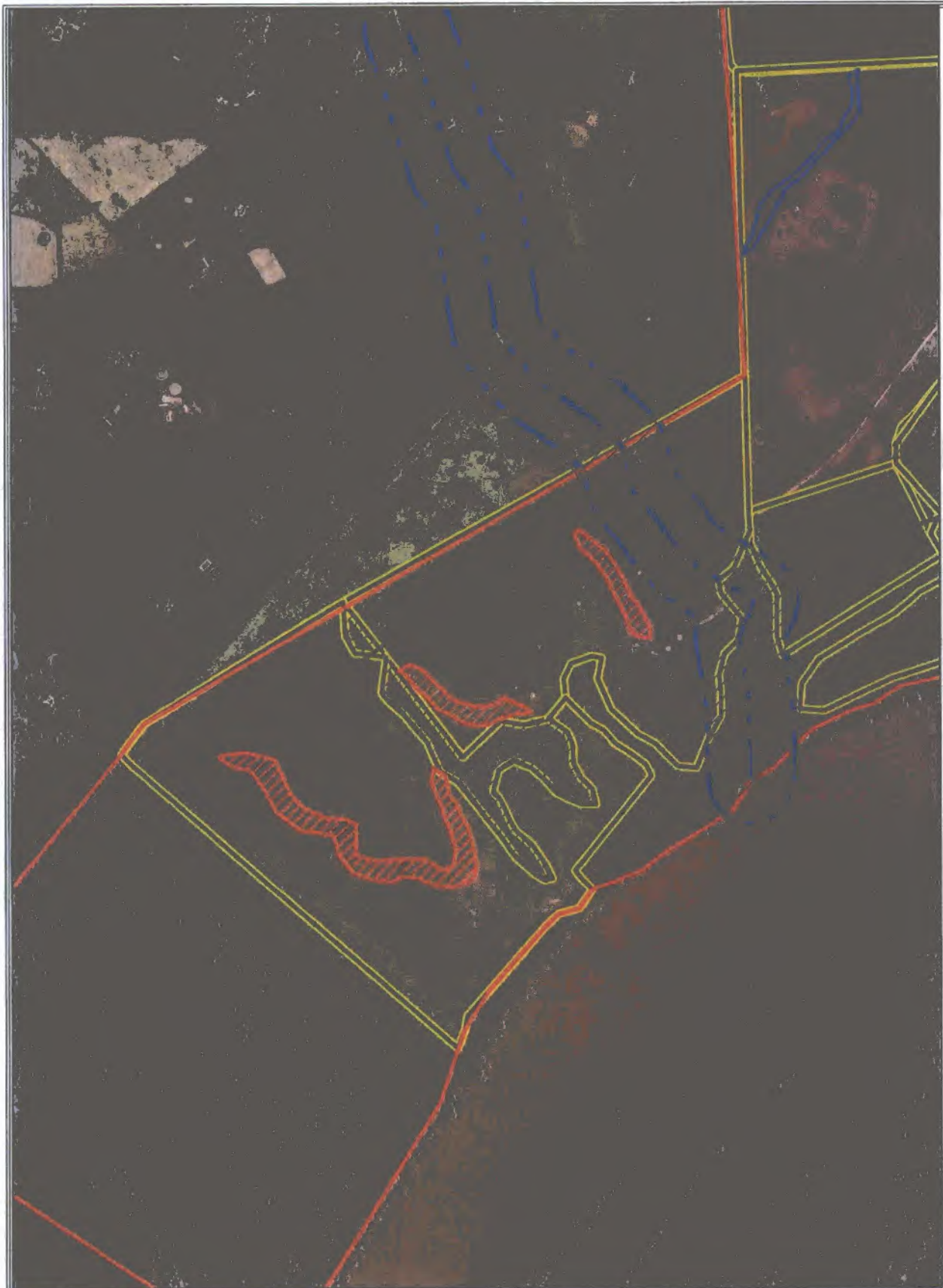


1 inch = 660 feet

1:7,920

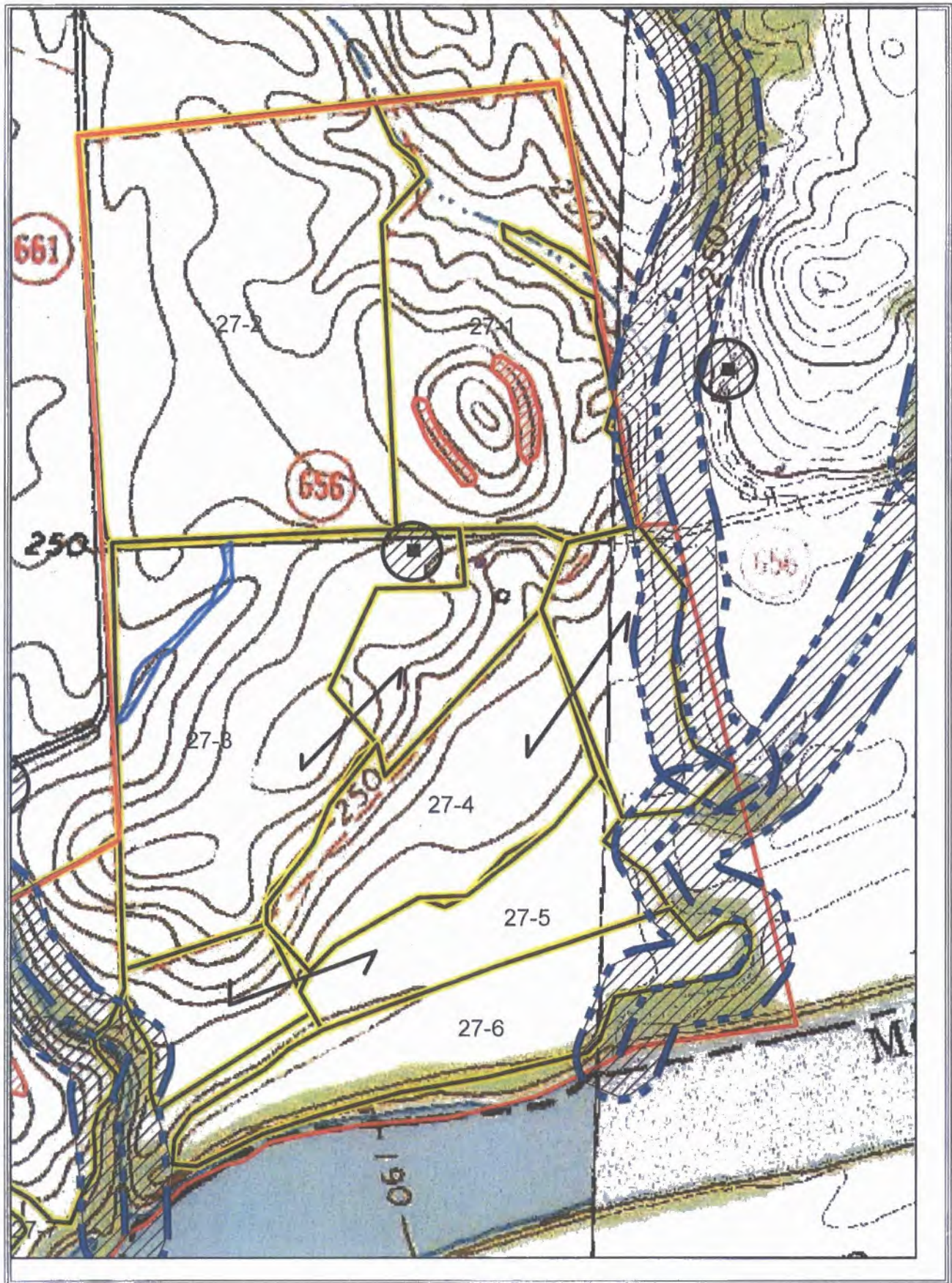
# SYNAGRO

Charles Athey  
LD 27  
Field 7



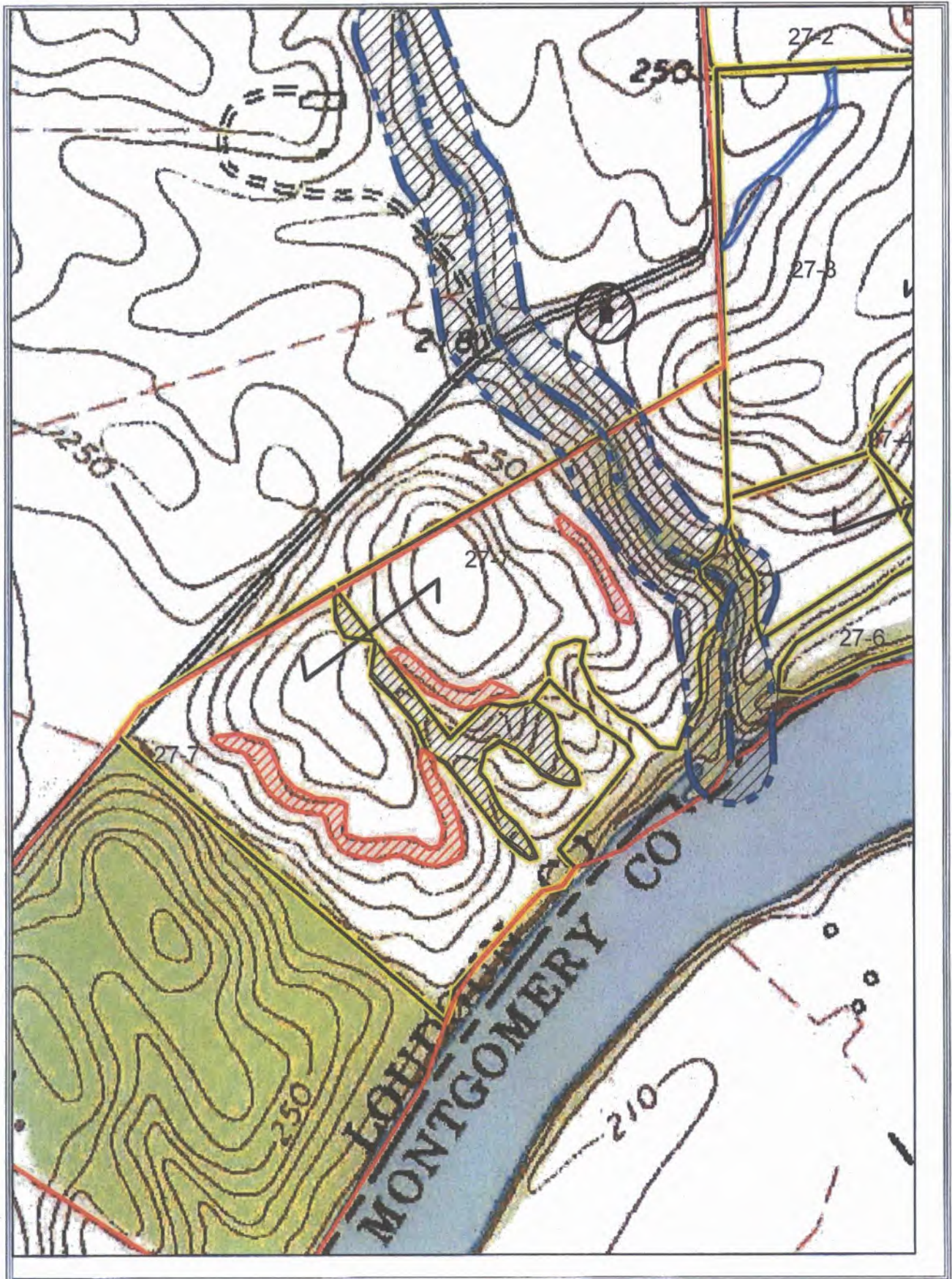
1 inch = 660 feet

1:7,920



1 inch = 660 feet

1:7,920

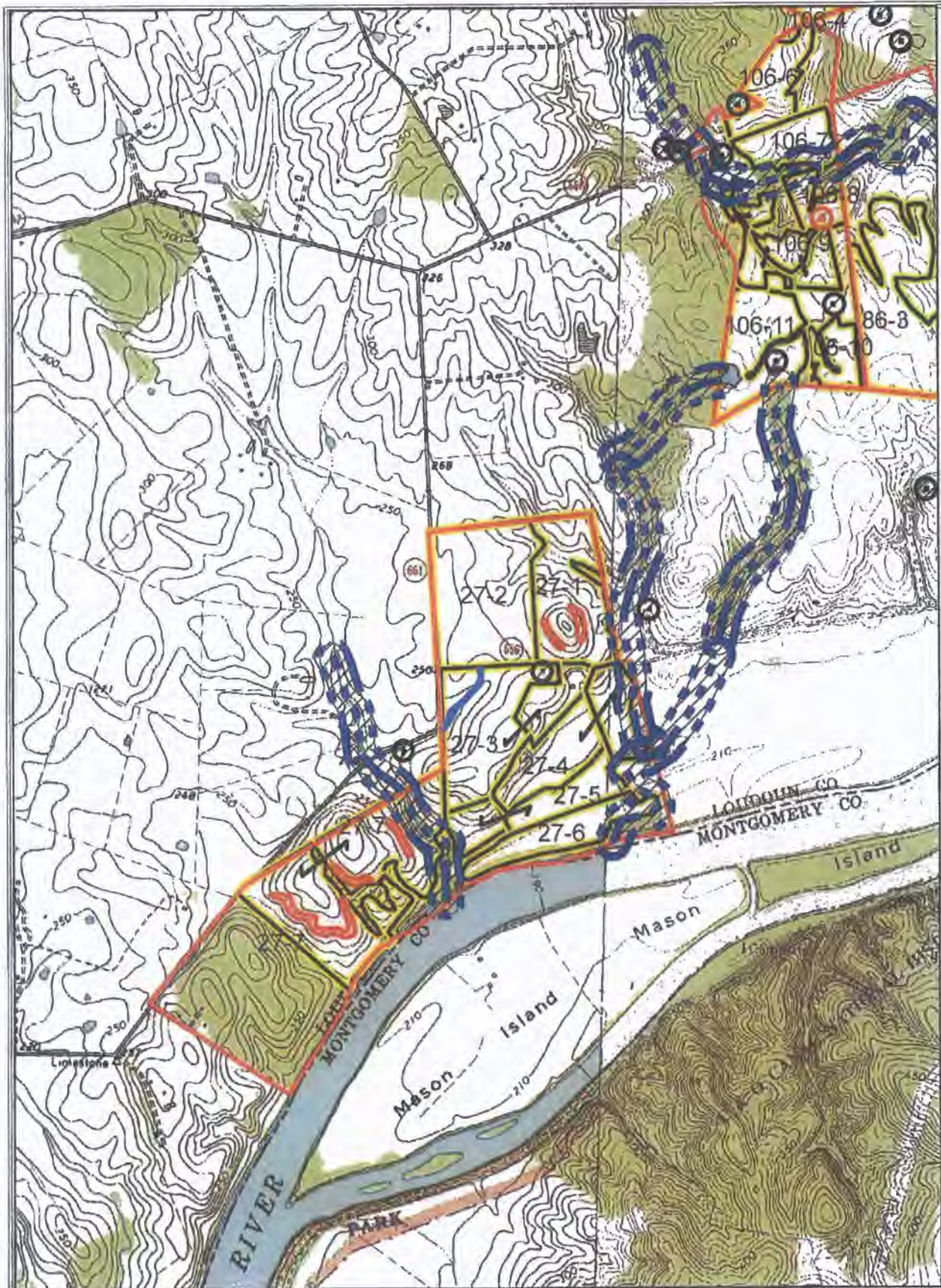


1 inch = 660 feet

1:7,920

# SYNAGRO

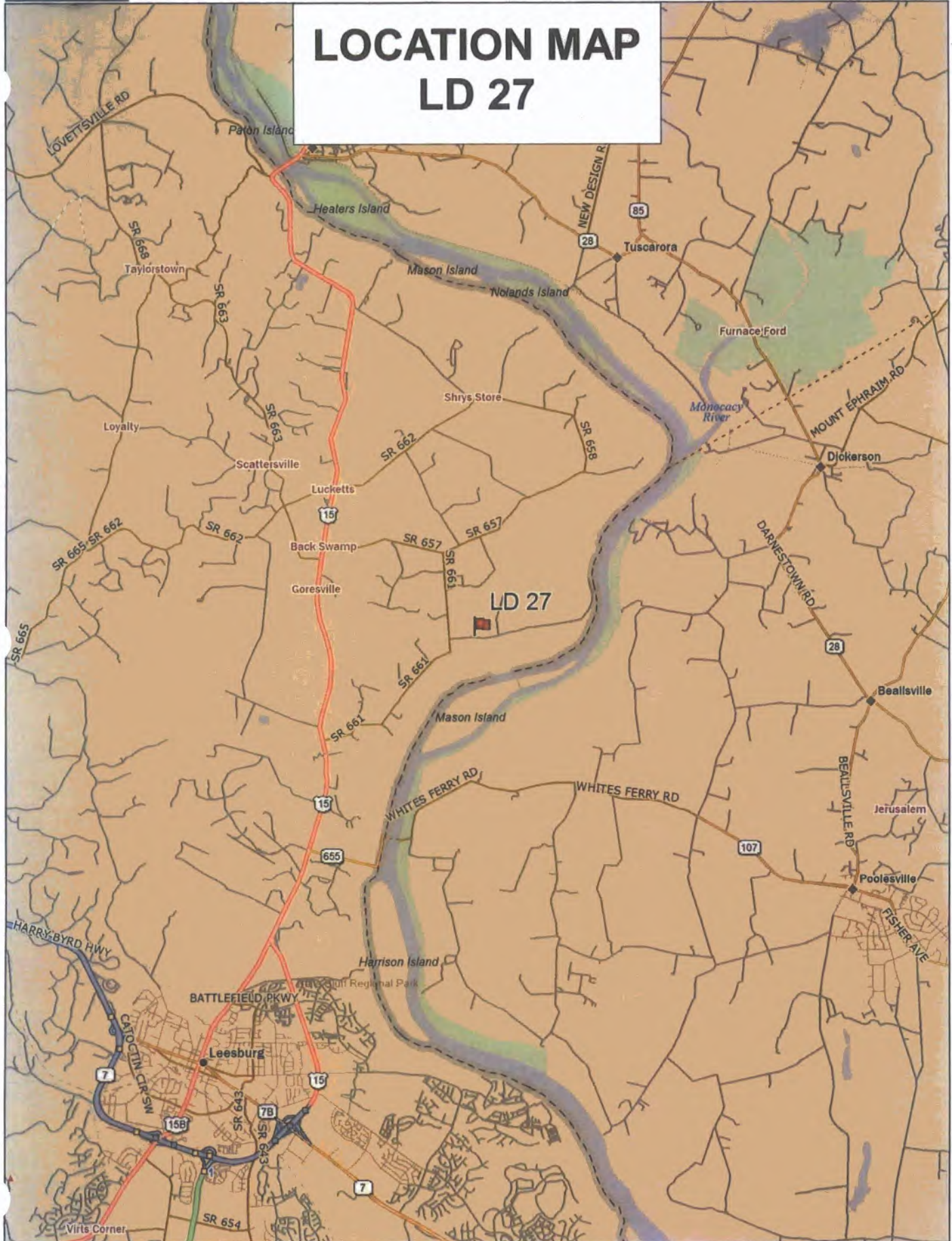
Charles Athey  
LD 27  
Fields 1-7



1 inch = 2,000 feet

1:24,000

# LOCATION MAP LD 27



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