

Building a Better Land Application Program



Stephen Warrner, WDNR Wastewater Specialist

Spring Biosolids Symposium

March 22, 2016

Objectives

- Information to improve your spreading program
 - Clear site request packages
 - Complete land application management plans
- Outline the progress DNR is making to improve our spreading programs
 - Defined review process
 - Landspreading Work Group

How to Develop a Better Site Request Package

Application Package

Land Application Site Request
Form 16-000-01 (01/02) Page 1 of 4

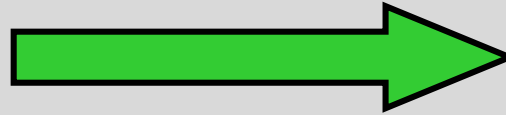
Complete this form for each site and submit to the County Hazard Management Specialist at the appropriate Department of Public Resources center for approval. Approval of this form does not constitute approval of the application. Approval of this form does not constitute approval of the application. Approval of this form does not constitute approval of the application.

Provide name of applicant (business or property name): _____

Address: _____

Waste Information: _____

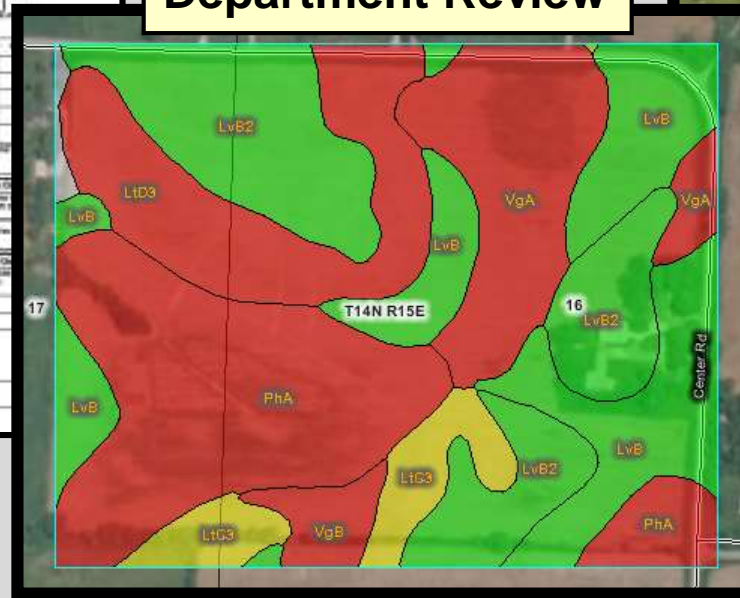
Site Information: _____



Site Approval



Department Review



Importance of Complete Requests

- Complete request packages—quicker turn around time
- Incomplete package—“bogs down” review process
- Creates additional questions about submittal
- Timely approval and return of site packages to permittees



Components of a Complete Site Request Package

Item 1. 3400-53 Form (Front)

Complete this form for each site and submit it with a copy of the approved Department of Public Resource permit for approval of the site. An approval letter will be mailed to you. The Department of Public Resource will be notified of the approval. The Department of Public Resource will be notified of the approval. The Department of Public Resource will be notified of the approval.

Notice: Completion and submission of this form is necessary under s. 221.05, F.S., 221.06, F.S., 221.07, F.S., 221.08, F.S., 221.09, F.S., 221.10, F.S., 221.11, F.S., 221.12, F.S., 221.13, F.S., 221.14, F.S., 221.15, F.S., 221.16, F.S., 221.17, F.S., 221.18, F.S., 221.19, F.S., 221.20, F.S., 221.21, F.S., 221.22, F.S., 221.23, F.S., 221.24, F.S., 221.25, F.S., 221.26, F.S., 221.27, F.S., 221.28, F.S., 221.29, F.S., 221.30, F.S., 221.31, F.S., 221.32, F.S., 221.33, F.S., 221.34, F.S., 221.35, F.S., 221.36, F.S., 221.37, F.S., 221.38, F.S., 221.39, F.S., 221.40, F.S., 221.41, F.S., 221.42, F.S., 221.43, F.S., 221.44, F.S., 221.45, F.S., 221.46, F.S., 221.47, F.S., 221.48, F.S., 221.49, F.S., 221.50, F.S., 221.51, F.S., 221.52, F.S., 221.53, F.S., 221.54, F.S., 221.55, F.S., 221.56, F.S., 221.57, F.S., 221.58, F.S., 221.59, F.S., 221.60, F.S., 221.61, F.S., 221.62, F.S., 221.63, F.S., 221.64, F.S., 221.65, F.S., 221.66, F.S., 221.67, F.S., 221.68, F.S., 221.69, F.S., 221.70, F.S., 221.71, F.S., 221.72, F.S., 221.73, F.S., 221.74, F.S., 221.75, F.S., 221.76, F.S., 221.77, F.S., 221.78, F.S., 221.79, F.S., 221.80, F.S., 221.81, F.S., 221.82, F.S., 221.83, F.S., 221.84, F.S., 221.85, F.S., 221.86, F.S., 221.87, F.S., 221.88, F.S., 221.89, F.S., 221.90, F.S., 221.91, F.S., 221.92, F.S., 221.93, F.S., 221.94, F.S., 221.95, F.S., 221.96, F.S., 221.97, F.S., 221.98, F.S., 221.99, F.S., 221.100, F.S.

Permittee Information:
Permittee Name (or Contract Number if Page 100): _____
Permittee Address (Street and City): _____

Site Information:
Site Name: _____
Site Address: _____
Site City: _____
Site State: _____
Site Zip: _____
Site Phone Number: _____

Use Information:
Primary Use (Check one):
 Other (Specify) _____
 Residential (Specify) _____
 Commercial (Specify) _____
 Industrial (Specify) _____
 Other (Specify) _____

Site Information:
Instructions: Outline the exact location of the site on a site map, showing the property boundary, lot number, and map sheet number. See map or aerial photograph. Add color for site location.

Site Number: _____

| Adjacent | Legal Description | Address | Travels | Range | Range |
|----------|-------------------|---------|---------|-------|-------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Site Owner Name: _____
Site Owner Address: _____
Site Owner City: _____
Site Owner State: _____
Site Owner Zip: _____

Kind of Site: _____
Comments: _____

Comments: _____
Comments: _____
Comments: _____

Comments: _____
Comments: _____
Comments: _____

Comments: _____
Comments: _____
Comments: _____

Comments: _____
Comments: _____
Comments: _____

Comments: _____
Comments: _____
Comments: _____

- } Site Owner & Farmer
- } Comments: Requests for Winter Approval, Transfer Site, Etc.
- } Signature

Item 1. 3400-53 Form (Back)

If any of the applicable separation distances shown below are not complied with, select the "No" box under "Compliance with State Requirements" on page 1 of this form and provide an explanation in the space provided (or attach sheet if necessary).

Existing Cover Crop

Cultivated Cropland Tree Plantation Pasture Permanent Hayland Other (specify) _____

Has the site been used or is it currently being used for the landspreading of non-agricultural waste? Yes No

If yes, select type(s) of waste, and note in the comments section on the front of this form.

Holding Tank / Septic Combined Waste Whey or Permeate Municipal Sludge
 Industrial Sludge Food Processing Waste Paper Mill Sludge Industrial Waste
 Other (specify) _____

What type of land use is adjacent to site? (select all appropriate)

Residential Commercial Industrial Agricultural
 Forest Landfill Mining Operation Recreational
 Other (specify) _____

The separation distance between the ground surface and bedrock or groundwater is greater than: 36 inches 18 inches

Industrial Sludge and Waste Only

Criteria for Industrial Sludge or Waste Applied to Land

| Site Criteria | Surface | Incorporation | Injection |
|---|----------|---------------|-----------|
| Distance to public water supply | 1000 ft. | 1000 ft. | 1000 ft. |
| Distance to private water supply | 250 ft. | 250 ft. | 250 ft. |
| Distance to residence | 500 ft. | 500 ft. | 500 ft. |
| Distance with written permission | 500 ft. | 200 ft. | 200 ft. |
| Distance to any surface water or dry run | 200 ft. | 50 ft. | 50 ft. |
| Distance to any surface water or dry run with vegetative buffer | 100 ft. | 50 ft. | 50 ft. |

Municipal Sludge / Septage Only

Criteria for Non-Eq Municipal Sludge / Septage Applied to Land

| Site Criteria | Surface | Incorporation | Injection |
|---|-------------|---------------|-----------|
| Depth to bedrock | 3 ft. | 3 ft. | 3 ft. |
| Depth to high groundwater | 3 ft. | 3 ft. | 3 ft. |
| Allowable slopes | 0-6 % | 0-12 % | 0-12 % |
| Distance to wells | | | |
| Community water supply or school | 1000 ft. | 1000 ft. | 1000 ft. |
| Other | 250 ft. | 250 ft. | 250 ft. |
| Minimum distance to residence, business or recreation area | 500 ft. | 200 ft. | 200 ft. |
| Minimum distance to residence or business with permission | 250 ft. | 100 ft. | 100 ft. |
| Distance to rural schools and health care facilities | 1000 ft. | 1000 ft. | 500 ft. |
| Distance to property line | 50 ft. | 25 ft. | 25 ft. |
| Minimum distance to streams, lakes, ponds, wetlands or channelized waterways connected to a stream, lake, pond or wetland | | | |
| Slope 0 to < 6 | 200 ft. | 150 ft. | 100 ft. |
| Slope 6 to < 12 | Not Allowed | 200 ft. | 150 ft. |
| Minimum distance to grass waterways, or dry run with a 50 foot range grass strip. | | | |
| Slope 0 to < 6 | 100 ft. | 50 ft. | 25 ft. |
| Slope 6 to < 12 | Not Allowed | 100 ft. | 50 ft. |
| Soil permeability range (in/hr) | 0.2-6.0 | 0-6.0 | 0-6.0 |

Note: The Department will not determine whether the requested sites are in government sponsored agricultural programs (i.e., CRP, ACR, etc.), or whether they are subject to any local ordinances. The permittee should contact the appropriate government agency to determine whether any additional restrictions or penalties apply.

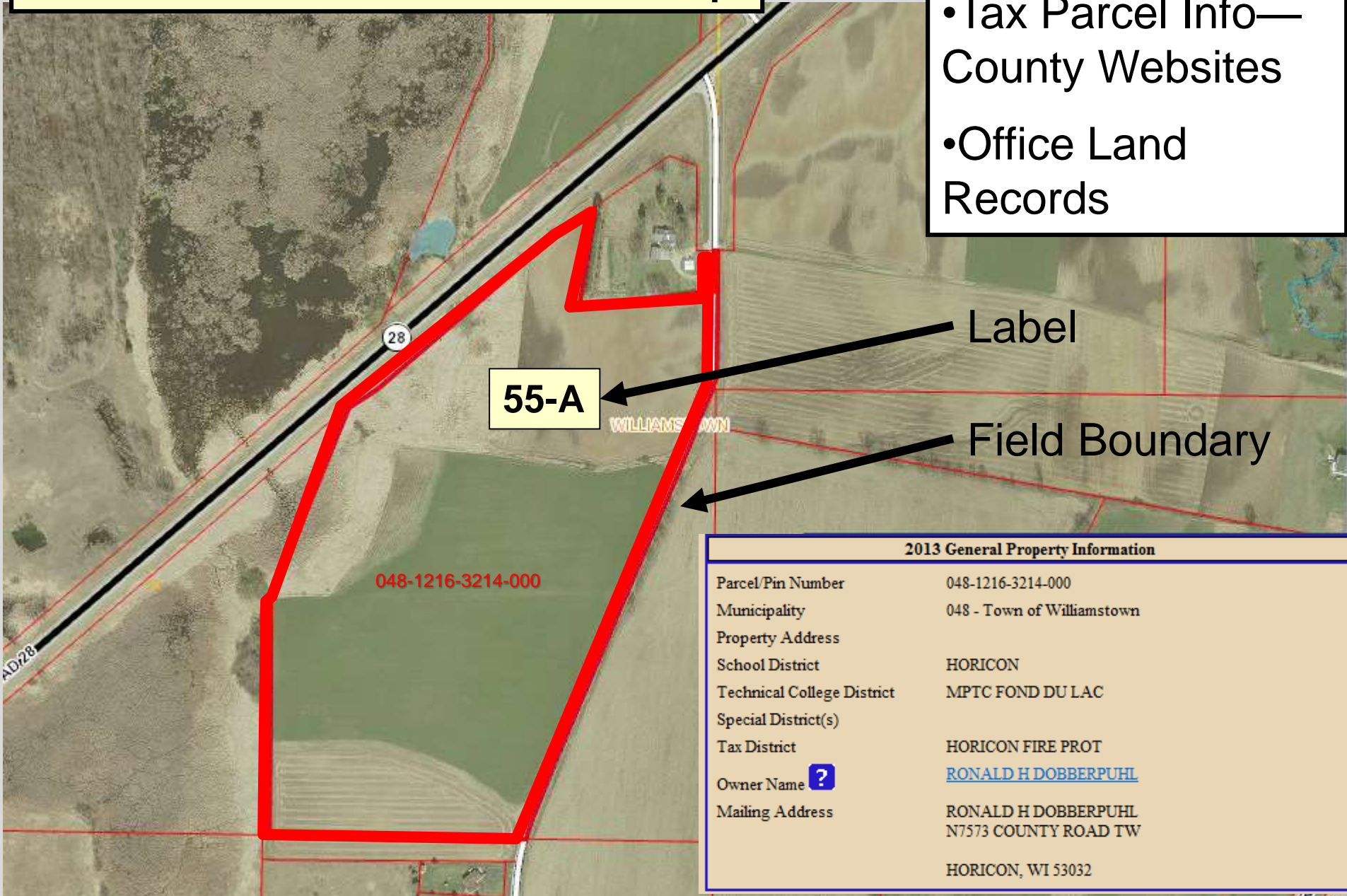
Existing and Adjacent Site Information

Standard Setbacks (Industrial, Municipal, Septage)

Item 2. Proof of Ownership

Possible Sources

- Tax Parcel Info—
County Websites
- Office Land
Records



Label

Field Boundary

Items 3 & 4. Aerial/Soil Map

Drainageway

55-A

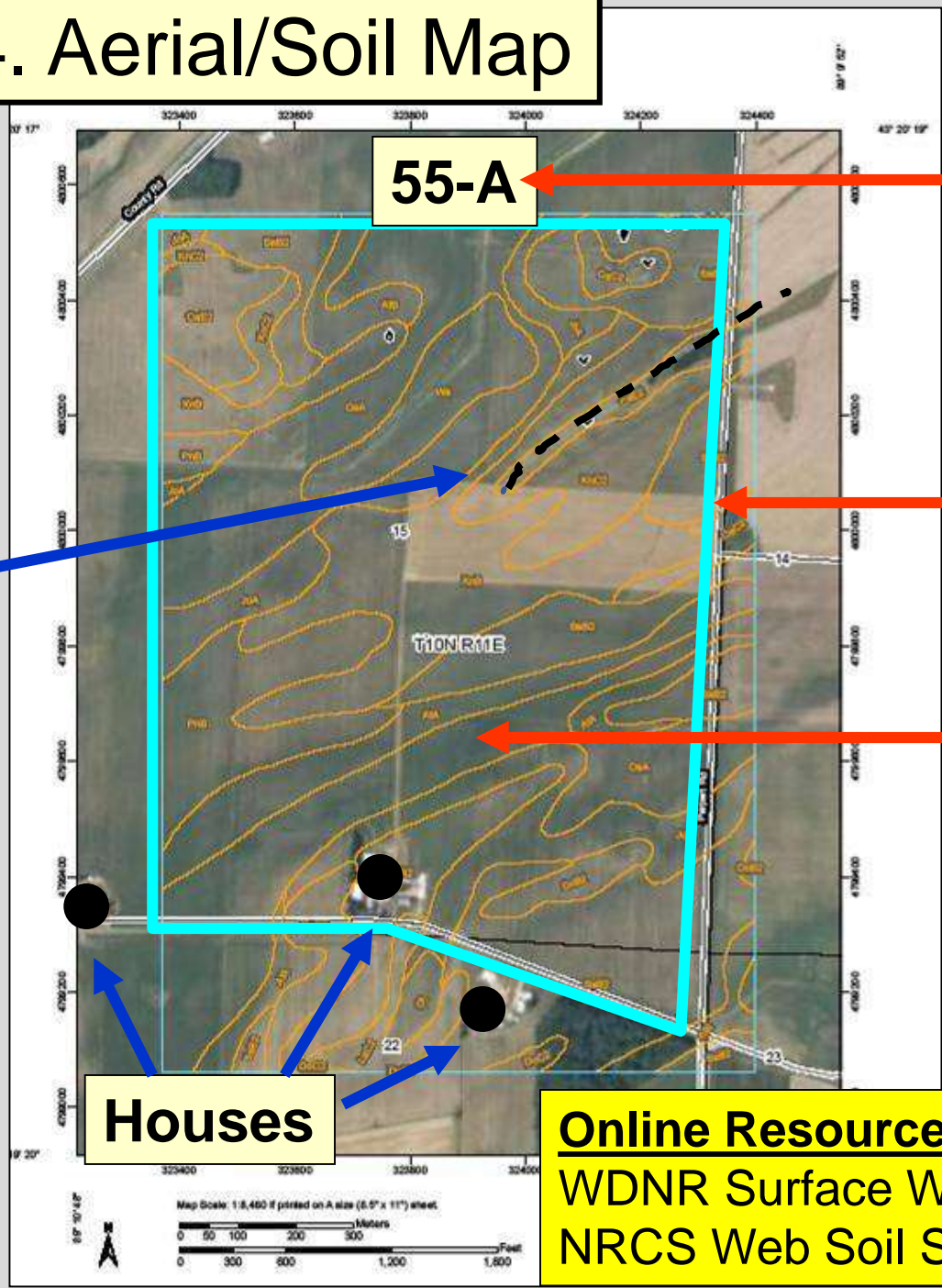
Site/Field Label

Outlined Site/Field Boundaries

Soil Map Overlay

Houses

Online Resources—Free!!
WDNR Surface Water Data Viewer
NRCS Web Soil Survey



WDNR Surface Water Data Viewer

<http://dnr.wi.gov/topic/surfacewater/swdv/>

Surface Water Data Viewer

Search for map features...

Basic Tools Identify Tools Drawing Tools Measuring Tools Find Location Maps & Data Help

Home Show Layers Show Legend Pan Zoom In Zoom Out Previous Extent Full State Point Identify

Map Scale: 1: 5,303,555

Clicked Coordinates Lat: 44.7513 Lon: -89.7632 Coordinate System Lat/Lon (DD)

Print Map

Home Map Layers Navigation Location Info Scale & Bookmarks Coordinate Tools

Home

I want to...

Basic and Advanced Tools Help Guide

Welcome to the Surface Water Data Viewer (SWDV), a Wisconsin DNR data delivery system that provides interactive web mapping tools for a wide variety of datasets including chemistry (water, sediment), physical, and biological (macroinvertebrate, fish, aquatic invasive species) data.

Toolbar

- Click on the "Show Layers" button above to view map data in the map layers panel
- Use Pan, Zoom In/Out, Full State and Previous/Next Extent buttons to navigate around map
- For information about a feature, click on the Identify tool, followed by clicking on the feature
- Use Print Map to generate a custom map
- Click on Help tab and the Layer Information button for layer definitions

Map Layers

- Click the plus sign (+) to expand the data content in

DNR Website | SWIMS | Comments | Terms of Use

Internet | Protected Mode: On 11:10 AM 01/06/2014

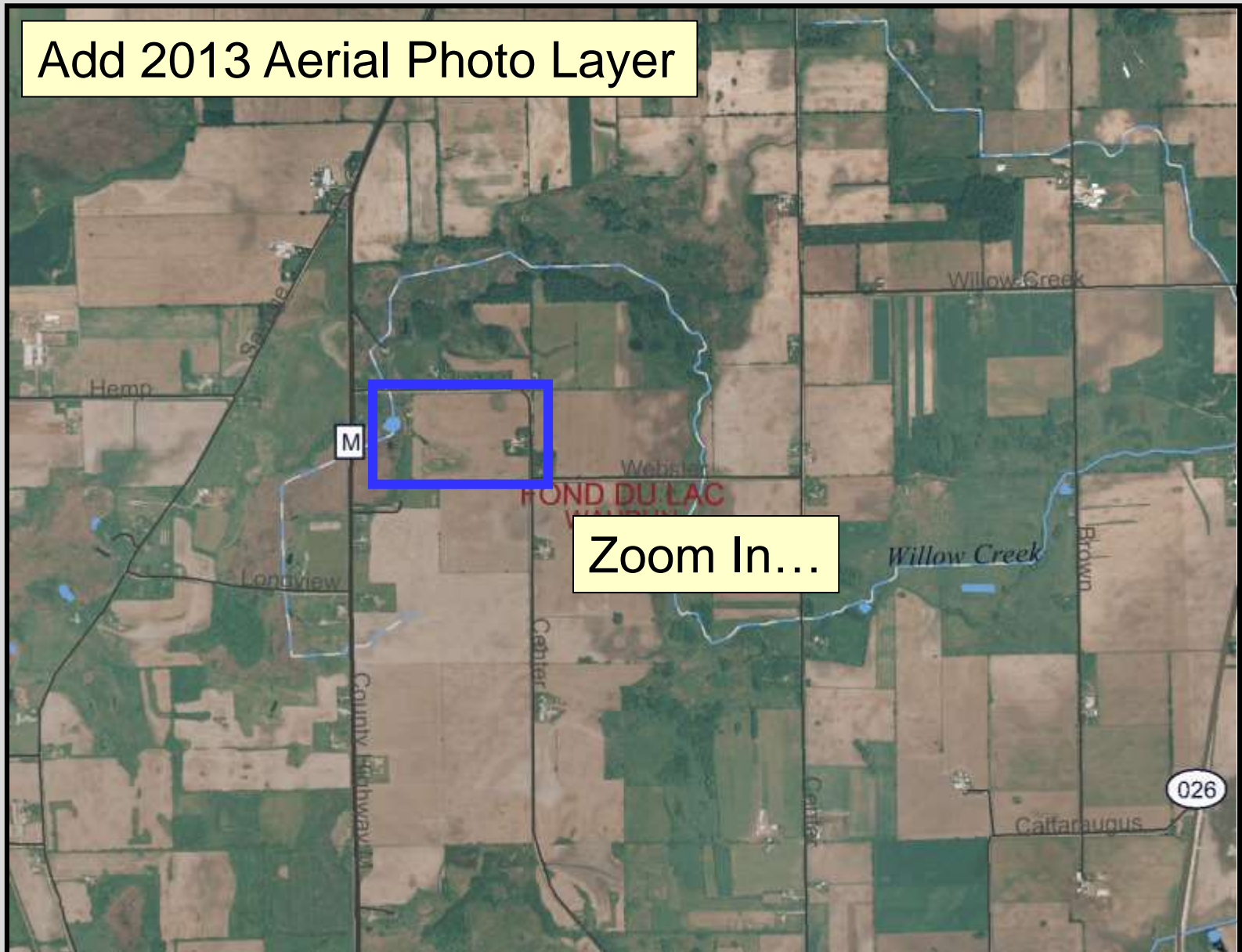
Finding Your Site/Field



Legal Description:
14N,15E,Section 16

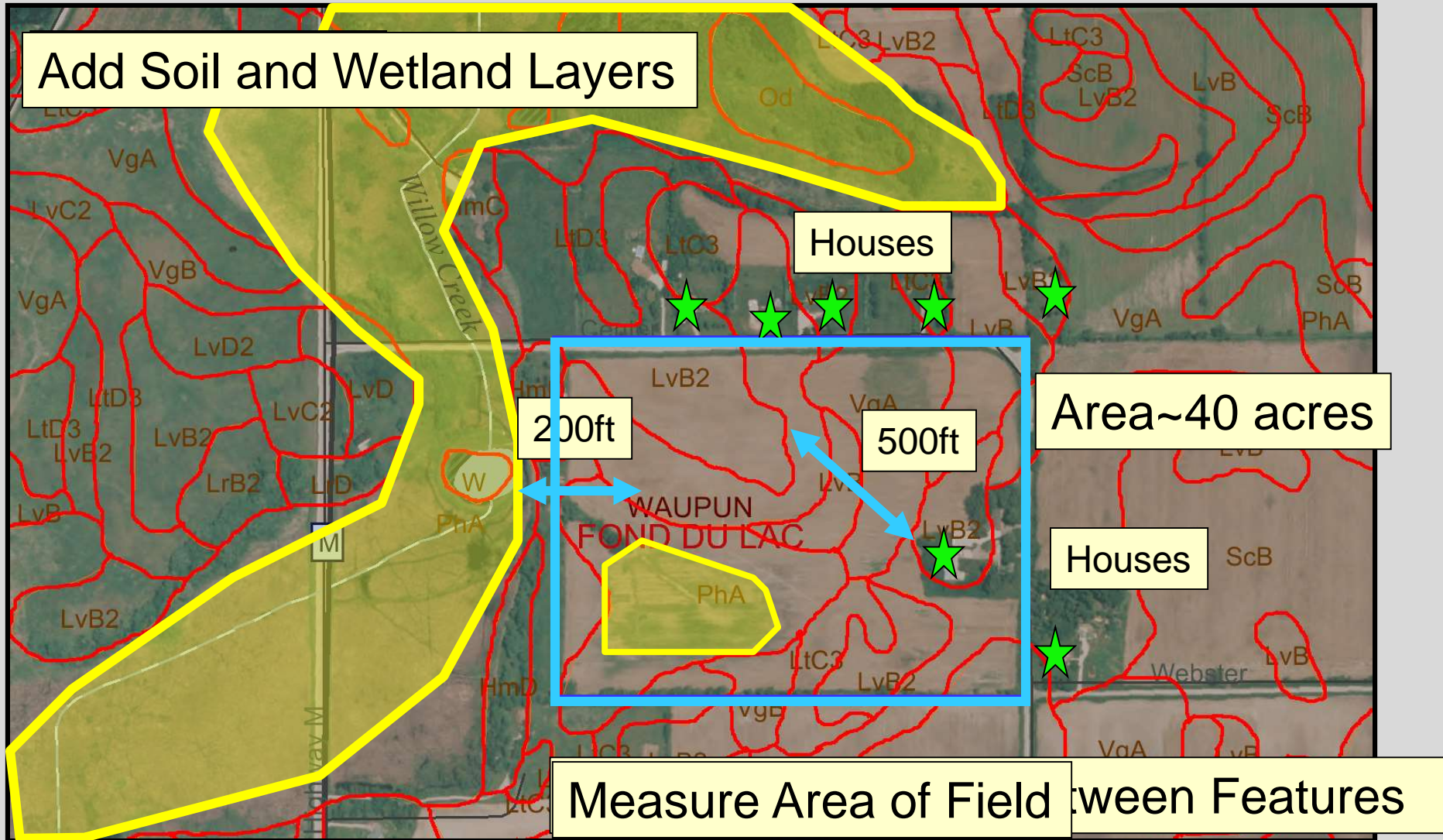
WDNR Surface Water Data Viewer

Add 2013 Aerial Photo Layer



Zoom In...

WDNR Surface Water Data Viewer



NRCS Web Soil Survey

<http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

The screenshot shows the NRCS Web Soil Survey homepage. At the top, the browser title is "Web Soil Survey - Home - Microsoft Internet Explorer provided by Wisconsin DNR". The address bar shows the URL: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. The main banner features the USDA logo, the text "United States Department of Agriculture Natural Resources Conservation Service", and the title "Web Soil Survey" in large yellow letters. Below the banner is a navigation menu with "Home", "About Soils", "Help", and "Contact Us".

The main content area includes a breadcrumb trail: "You are here: Web Soil Survey Home". To the left is a search box with the text "Enter Keywords" and a "Go" button, and a "Browse by Subject" menu with links to "Soils Home", "National Cooperative Soil Survey (NCSS)", "Archived Soil Surveys", "Status Maps", "Official Soil Series Descriptions (OSD)", and "Soil Series Extent Mapping Tool".

The central text reads: "The simple yet powerful way to access and use soil data." To the right of this text is a large green circular button with the text "START WSS". A red arrow points from the "START WSS" button to the first item in the "I Want To..." list.

The "I Want To..." list contains the following items:

- [Start Web Soil Survey \(WSS\)](#)
- [Know the requirements for running Web Soil Survey](#)
- [Know whether Web Soil Survey works in my web browser](#)
- [Know the Web Soil Survey hours of operation](#)
- [Find what areas of the U.S. have soil data](#)

Below the list is an "Announcements/Events" section. The main content area also features a "Welcome to Web Soil Survey (WSS)" section with a photograph of people in a field and the following text: "Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source".

NRCS Web Soil Survey

Web Soil Survey - Microsoft Internet Explorer provided by Wisconsin DNR

File Edit View Favorites Tools Help

Address <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> Go Links


Contact Us | Download Soils Data | Archived Soil Surveys | Glossary | Preferences | Logout | **Help**

Using the NCSS Web Soil Survey


Three Basic Steps make WSS a simple yet powerful way to access and use soil data.

- 1 Define.**

Area of Interest (AOI) Use the **Area of Interest** tab to define your area of interest. You can navigate to an area by zooming in on a map or by selecting from a Quick Navigation choice list. After you find the area, define it as the Area of Interest (AOI) by drawing a rectangle or a polygon around it using a map tool. You must complete this step before you can go on to the next two steps.


- 2 View/Explore.**

Soil Map Click the **Soil Map** tab to view or print a map of the soils in your area and view a description of the soils, or click the **Soil Data Explorer** tab to access soil data for your area and determine the suitability of the soils for a particular use. The items you want saved in a report can be added to your shopping cart.



Area of Interest (AOI)

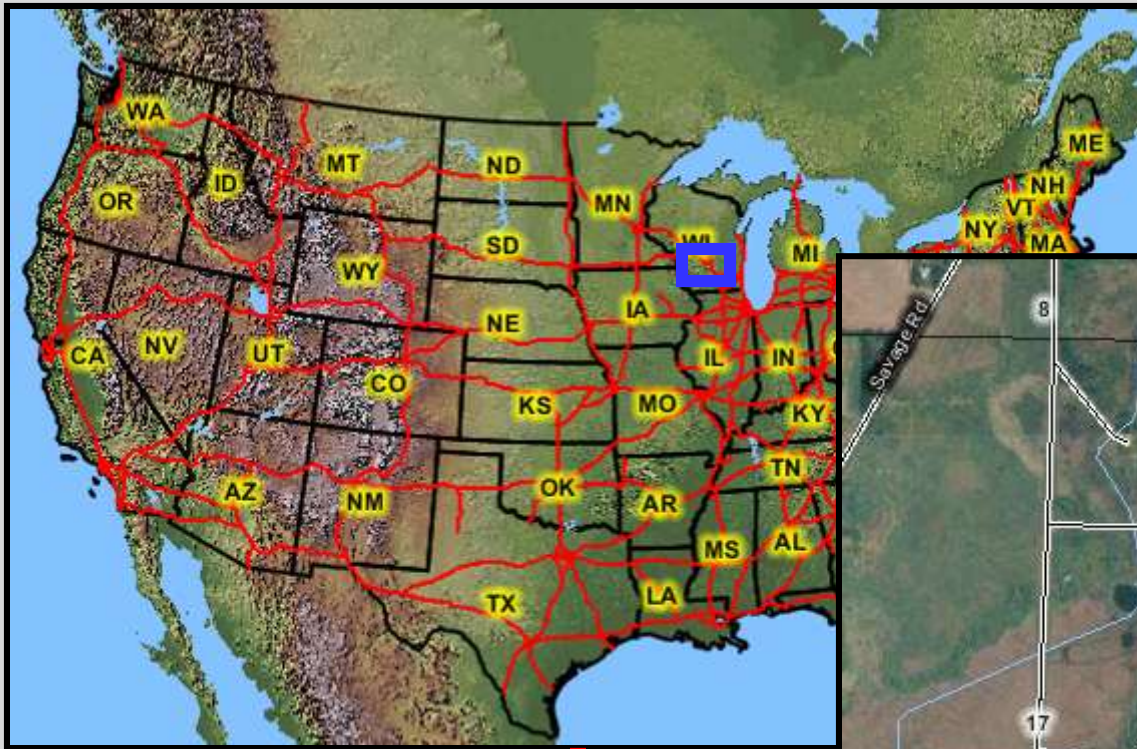
Search

Quick Navigation

Navigate By...

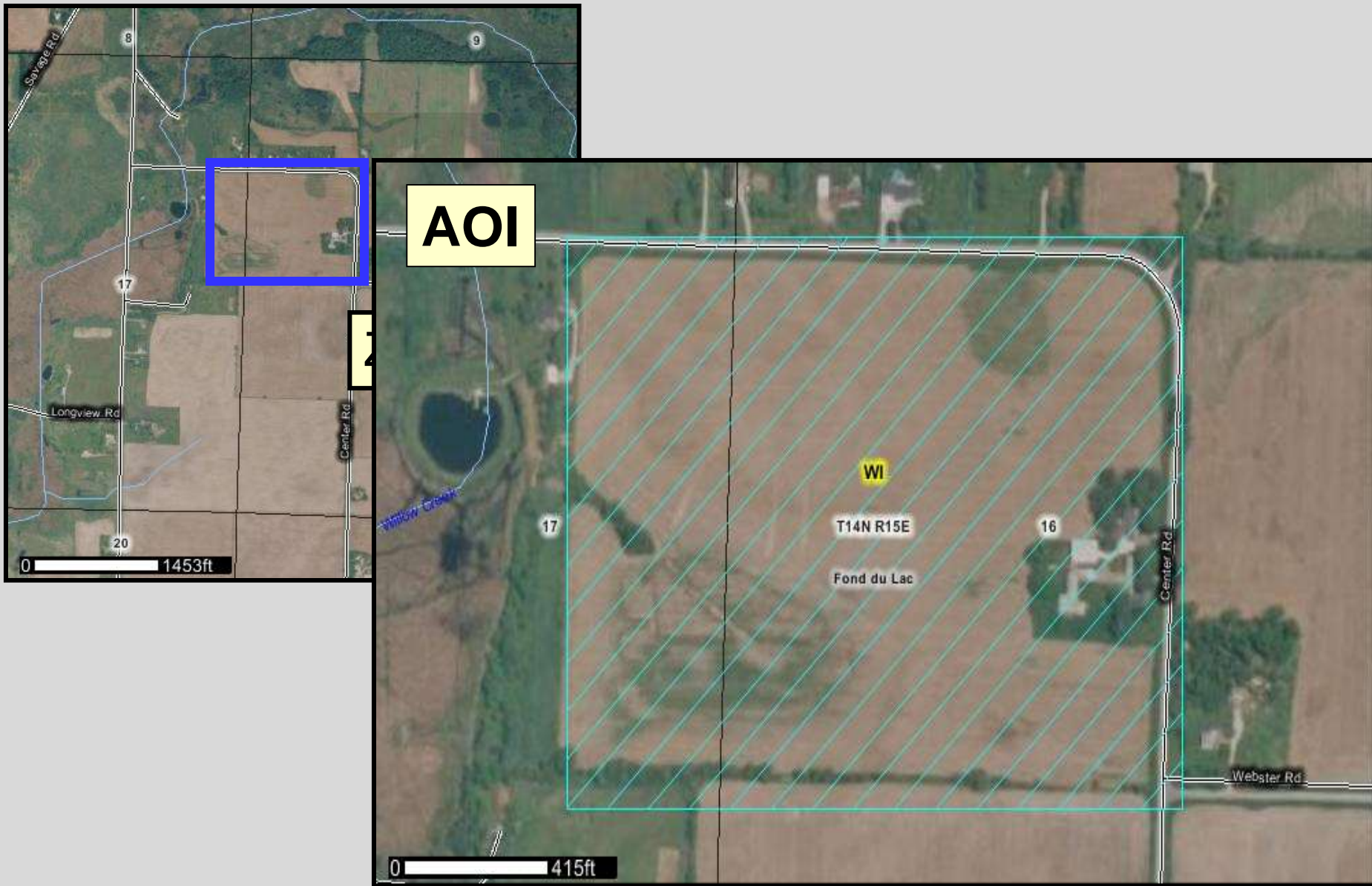
- Address
- State and County
- Soil Survey Area
- Latitude and Longitude
- PLSS (Section, Township, Range)
- Bureau of Land Management
- Department of Defense
- Forest Service
- National Park Service
- Hydrologic Unit

Finding Your Site/Field



Legal Description:
14N,15E,Section 16

Select Area of Interest (AOI)



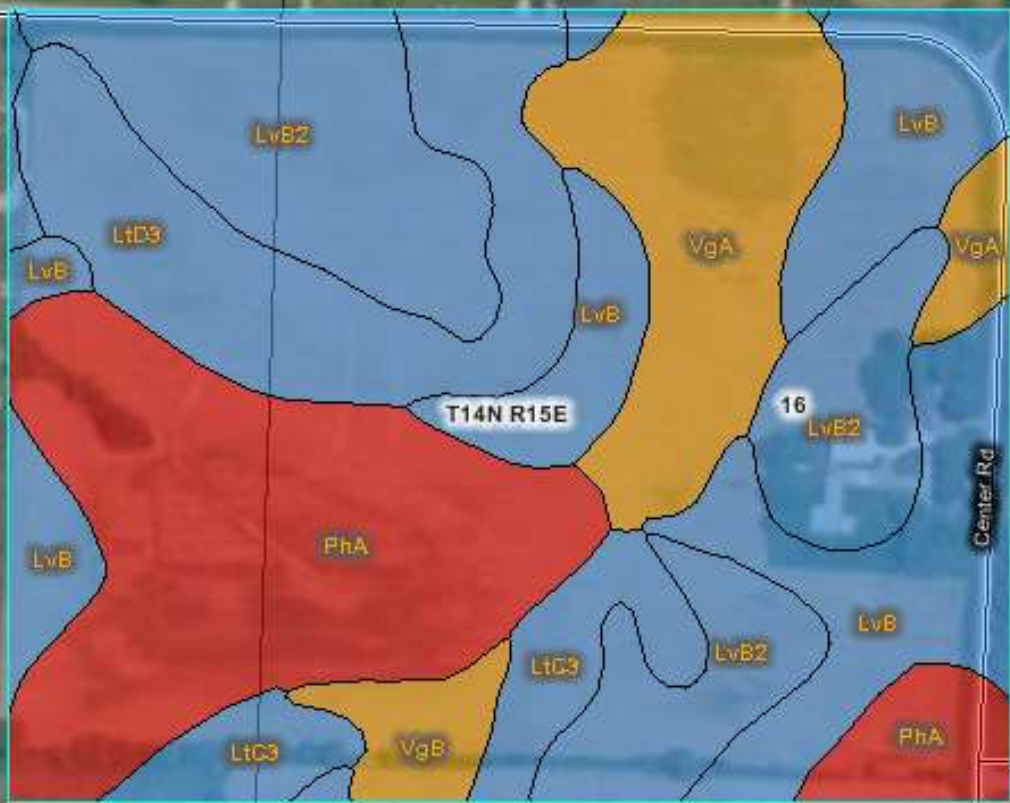
Soil Map Overlay



| Fond du Lac County, Wisconsin (WI039) | | | |
|--|---|--------------|----------------|
| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
| HmD | Hochheim loam, 12 to 20 percent slopes | 0.3 | 0.50% |
| LtC3 | LeRoy soils, 6 to 12 percent slopes, severely eroded | 3.2 | 5.70% |
| LtD3 | LeRoy soils, 12 to 20 percent slopes, severely eroded | 7.4 | 13.20% |
| LvB | Lomira silt loam, 2 to 6 percent slopes | 11.4 | 20.20% |
| LvB2 | Lomira silt loam, 2 to 6 percent slopes, eroded | 11.7 | 20.80% |
| PhA | Pella silt loam, 0 to 3 | 13.5 | 24.00% |

NRCS Soil Data Explorer

Depth to Water Table

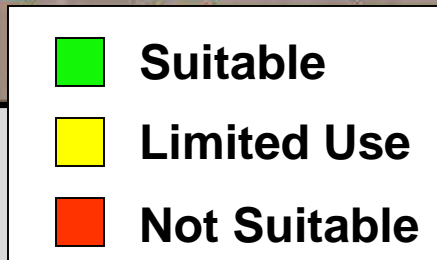
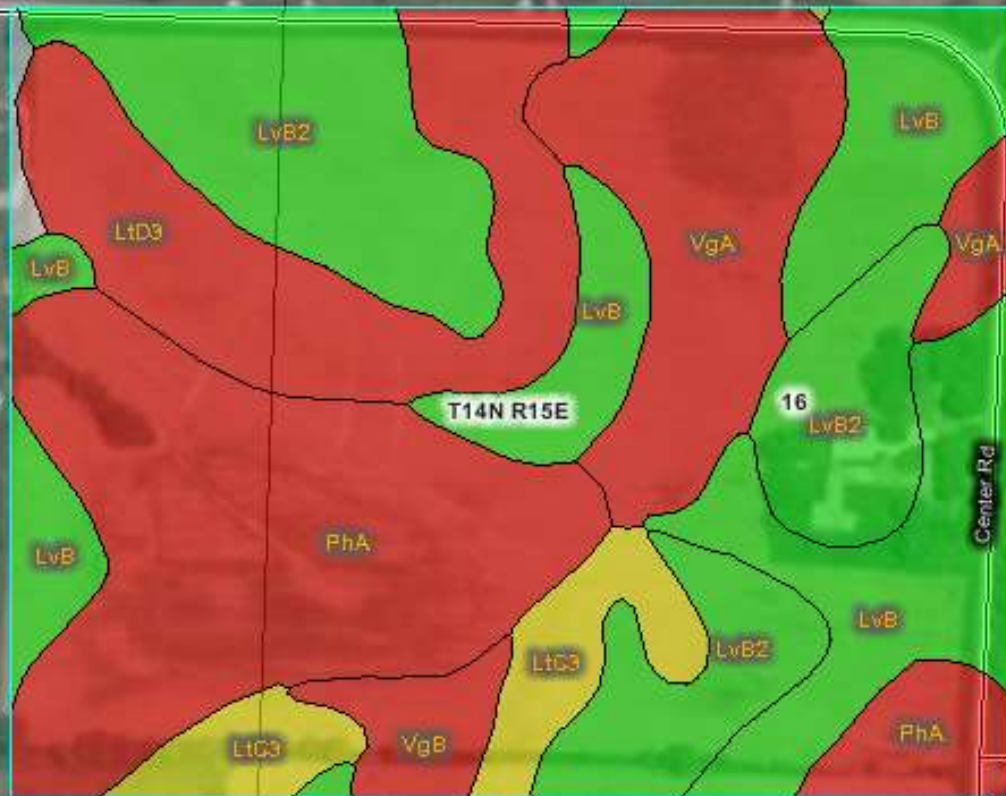


- >200 cm (6.5 ft.)
- 60-80 cm (1.9-2.6 ft.)
- < 60 cm (<1.9 ft.)

| Summary by Map Unit – Fond du Lac County, Wisconsin | | | | |
|---|---|----------------------|--------------|----------------|
| Map unit symbol | Map unit name | Rating (centimeters) | Acres in AOI | Percent of AOI |
| HmD | Hochheim loam, 12 to 20 percent slopes | 178 | 0.3 | 0.50% |
| LtC3 | LeRoy soils, 6 to 12 percent slopes, severely eroded | 178 | 3.2 | 5.70% |
| LtD3 | LeRoy soils, 12 to 20 percent slopes, severely eroded | 178 | 7.4 | 13.20% |
| LvB | Lomira silt loam, 2 to 6 percent slopes | 178 | 11.4 | 20.20% |
| LvB2 | Lomira silt loam, 2 to 6 percent slopes, eroded | 178 | 11.7 | 20.80% |
| PhA | Pella silt loam, 0 to 3 percent slopes | 0 | 13.5 | 24.00% |

NRCS Soil Data Explorer

Land Application-Municipal Biosolids



| Summary by Map Unit — Fond du Lac County, Wisconsin | | | | | |
|---|---|------------------|--------------------|--|--------------|
| Map unit symbol | Map unit name | Rating | Component name (%) | Rating reasons | Acres in AOI |
| HmD | Hochheim loam, 12 to 20 percent slopes | Not rated | Hochheim (100%) | | 0.3 |
| | LeRoy soils, 6 to 12 percent slopes, severely eroded | Somewhat limited | LeRoy (100%) | Slope (0.04) | 3.2 |
| LtD3 | LeRoy soils, 12 to 20 percent slopes, severely eroded | Very limited | LeRoy (100%) | Slope (1.00) | 7.4 |
| LvB | Lomira silt loam, 2 to 6 percent slopes | Not limited | Lomira (100%) | | 11.4 |
| LvB2 | Lomira silt loam, 2 to 6 percent slopes, eroded | Not limited | Lomira (100%) | | 11.7 |
| PhA | Pella silt loam, 0 to 3 percent slopes | Very limited | Pella (100%) | Ponding (1.00) Depth to saturated zone (1.00) | 13.5 |
| VgA | Virgil silt loam, 0 to 2 percent slopes | Very limited | Virgil (90%) | Depth to saturated zone (1.00) Ponding (1.00) | 7.5 |
| VgB | Virgil silt loam, 2 to 6 percent slopes | Very limited | Virgil (95%) | Depth to saturated zone (1.00) | 1.3 |
| Totals for Area of Interest | | | | | 56.4 |

Item 5. Field Authorization Form (Front)

dnr.wi.gov

Complete this form for each land application site and submit to the sludge/Waste Management Specialists at the appropriate Department of Natural Resources Service center for approval evaluation. This form should directly accompany the 3400-053 Land Application Site Request Form. An approval letter and/or Form 3400-122 must be obtained before waste can be applied, unless self-approved.

Notice:

| I. WPDES Permittee/Septage Business Company Information | | | | | | |
|---|--|--|---|---------------|--------------|-------|
| WPDES Permittee/ Septage Business Company | | | Business Phone Number (Include area code) | | | |
| Permittee/Septage Business OIC | | | OIC Alternative Phone Number (Include area code) | | | |
| Address | | City | State | ZIP Code | Request Date | |
| WPDES Permit Number WI-00 _ _ _ _ _ | | Septage License Number _ _ _ _ _ | | | | |
| II. Site Information | | | | | | |
| Property Owner | | | Phone Number (Include area code) | | | |
| Address | | City | State | ZIP Code | | |
| Field Name | County | Legal Description | Section | Township N | Range | Acres |
| Field Name | County | Legal Description | Section | Township N | Range | Acres |
| Field Name | County | Legal Description | Section | Township N | Range | Acres |
| Field Name | County | Legal Description | Section | Township N | Range | Acres |
| III. Farmer Information (if different) | | | | | | |
| Farmer Name | | | Phone Number (Include area code) | | | |
| Address | | City | State | ZIP Code | | |
| Farm/Business Name | | | Business Alt. Phone (Include area code) | | | |
| Farm/Business Address | | City | State | ZIP Code | | |
| IV. Waste Information | | | | | | |
| <input type="checkbox"/> Whey or Permeate | <input type="checkbox"/> Industrial Sludge | <input type="checkbox"/> Food Processing Waste | <input type="checkbox"/> Septage | | | |
| <input type="checkbox"/> Municipal Sludge | <input type="checkbox"/> Paper Mill Sludge | <input type="checkbox"/> Industrial Wastewater | <input type="checkbox"/> Other (specify) _____ | | | |

Permit/License
Holder Information

Site Information

Farmer Information

Waste Type

Item 5. Field Authorization Form (Back)

V. Approval/Acknowledgement Statement

I, _____ (owner), hereby give _____ (WPDES permittee/septage business) permission to land apply the above waste(s) to my field(s) listed above. Furthermore:

- I understand that I can revoke this privilege at any time.
- I accept these wastes onto my field to gain useful nutrients and/or add beneficial properties to the soils of my fields.
- I will communicate to the farmer the additional nutrients added to these fields so that they may be credited in a nutrient management plan.

I, _____ (farmer), hereby certify that:

- These fields are actively farmed with crop removal each year.
- The nutrients added to the soils are accounted for in an appropriate nutrient management plan to prevent nitrogen and phosphorus over application.
- The nutrients are accounted for through the appropriate Land and Water Conservation Department if necessary.
- Information regarding crops, planting/harvesting schedules, crop output and additional fertilizer use will be communicated to the WPDES permittee/septage business.

I, _____ representing WPDES permittee or as septage business OIC:

- Agree to communicate any crop restriction requirements to the farmer and owner.
- Agree to communicate nutrient application rates to the farmer and owner.
- Agree to notify and obtain the necessary approvals from the Land and Water Conservation Department if necessary.

All parties agree to:

- Understand and agree to all rules and regulations of the Wisconsin Department of Natural Resources that apply to the land application of the applied waste including but not limited to horizontal/vertical setbacks and application rates.
- Understand that the Wisconsin Department of Natural Resources will review each site/field for approval.

| | | |
|--|-----------|------|
| Property Owner Name (Print) | Signature | Date |
| Farmer Name (Print) | Signature | Date |
| WPDES Permittee/Septage Business OIC (Print) | Signature | Date |

VI. Additional Comments or Approval Considerations

Blank area for additional comments or approval considerations.

Owner Signature
Farmer Signature
Permittee Signature

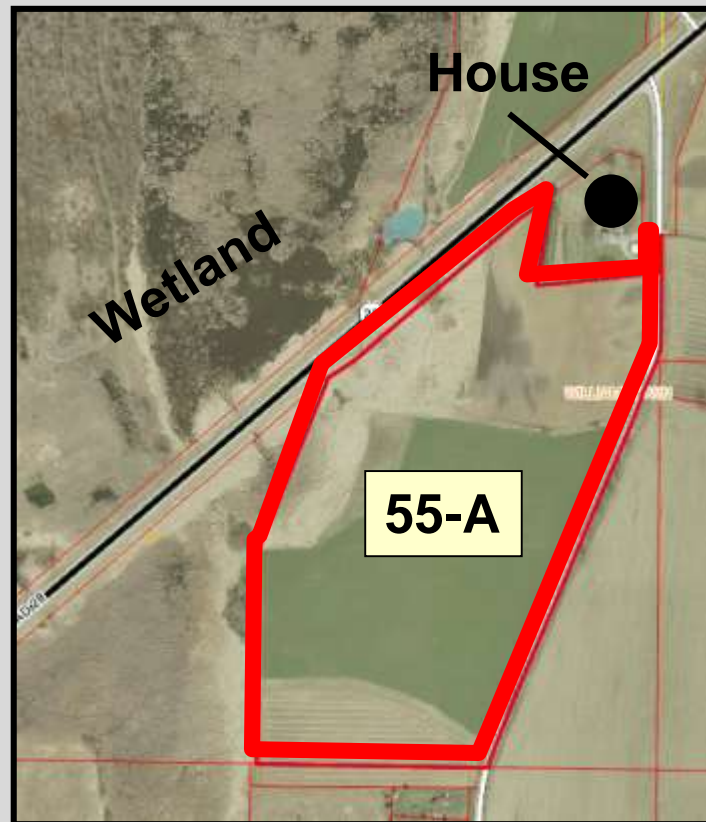
Transfer Request,
Setback Reductions, Etc.

Site Request Package “Top Five” Tips

1. Submit a complete package
 - A. Form 3400-053
 - B. Proof of ownership
 - C. Aerial photograph
 - D. Soil map
 - E. Field authorization form
 - F. Soil test report

Site Request Package “Top Five” Tips

2. Identify features (houses, drainageways, wetlands, streams, etc.)



Site Request Package “Top Five” Tips

3. Verify the site meet code requirements (suitable soils, setback restrictions, etc.)?

| Municipal Sludge / Septage Only | | | |
|--|-------------|---------------|-----------|
| Criteria for Non-Eq Municipal Sludge / Septage Applied to Land | | | |
| Site Criteria | Surface | Incorporation | Injection |
| Depth to bedrock | 3 ft. | 3 ft. | 3 ft. |
| Depth to high groundwater | 3 ft. | 3 ft. | 3 ft. |
| Allowable slopes | 0-6 % | 0-12 % | 0-12 % |
| Distance to wells | | | |
| Community water supply or school | 1000 ft. | 1000 ft. | 1000 ft. |
| Other | 250 ft. | 250 ft. | 250 ft. |
| Minimum distance to residence, business or recreation area | 500 ft. | 200 ft. | 200 ft. |
| Minimum distance to residence or business with permission | 250 ft. | 100 ft. | 100 ft. |
| Distance to rural schools and health care facilities | 1000 ft. | 1000 ft. | 500 ft. |
| Distance to property line | 50 ft. | 25 ft. | 25 ft. |
| Minimum distance to streams, lakes, ponds, wetlands or channelized waterways connected to a stream, lake, pond or wetland | | | |
| Slope 0 to < 6 | 200 ft. | 150 ft. | 100 ft. |
| Slope 6 to < 12 | Not Allowed | 200 ft. | 150 ft. |
| Minimum distance to grass waterways, or dry run with a 50 foot range grass strip. | | | |
| Slope 0 to < 6 | 100 ft. | 50 ft. | 25 ft. |
| Slope 0 to < 12 | Not Allowed | 100 ft. | 50 ft. |
| Soil permeability range (in/hr) | 0.2-6.0 | 0-6.0 | 0-6.0 |

Note: The Department will not determine whether the requested sites are in government sponsored agricultural programs (i.e., CRP, ACR, etc.), or whether they are subject to any local ordinances. The permittee should contact the appropriate government agency to determine whether any additional restrictions or penalties apply.

Back of 3400-053 Form

Site Request Package “Top Five” Tips

4. Provide comments on 53 form (transfer site, winter spreading, etc.)

for separation between the site boundary and waterways, wells, residences, etc. as indicated on page 2 of this form been complied with?

Yes No

If no, explain: _____

Comments: _____

Signature of Responsible Party

Printed or Typed Name

If yes, DNR Site Self-Approver Number: _____

Industrial Waste Only

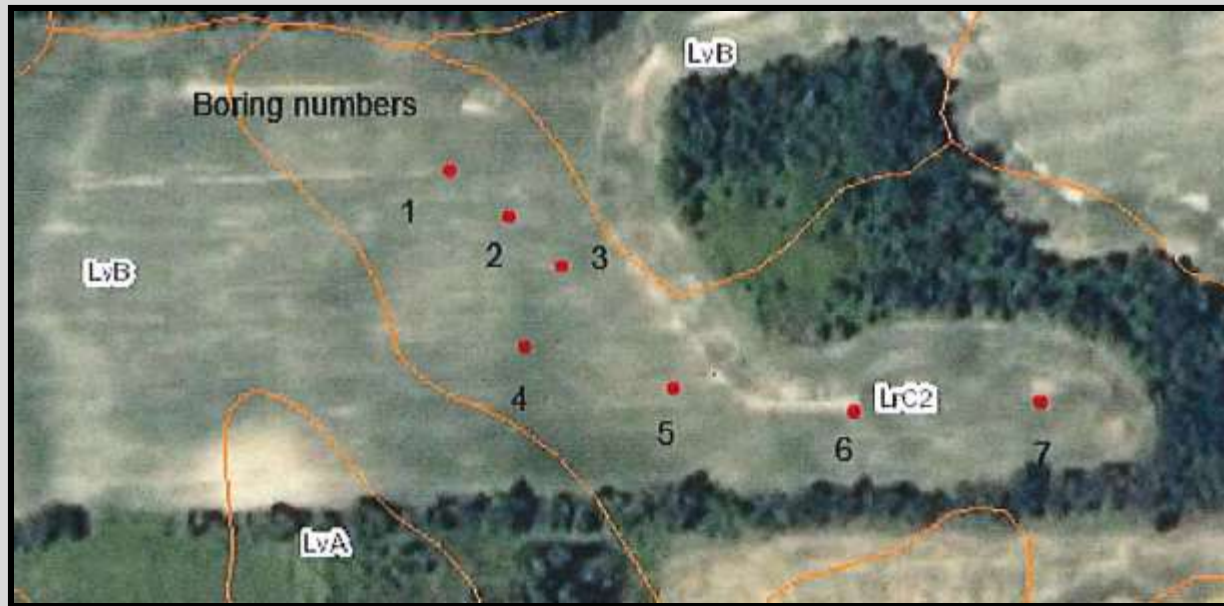
| Season | Proposed Application Rate (gal/acre or ton/acre) Per Application | Total |
|---------------------|--|-------|
| Summer | | |
| Winter | | |
| Year of Application | | |

Date Signed

Title

Site Request Package “Top Five” Tips

5. For potentially restricted soils provide field data to verify soils meet code requirements



Continuing Efforts to Improve the Site Review Process

- Land Application Geodatabase (LAG)
- Statewide Soil Suitability Index (SSSI) project
- Guidance for evaluating restricted soils

LAG (DNR Land Application Geodatabase)

Total Sites Cataloged: 4, 527

Total Acreage: 96, 011

 Registered Sites





Permittee: RCRE
 DNR#: 70353 Site-field: DJA-001

Facility Name

DNR #

Site/Field Name

Approved Areas

Restricted Areas

Legend

- Permitted Fields
- Restricted Areas
- Drainageways
- Wells
- HYDRO_FLOW_SCR**
- Intermittent Stream
- Potential Stream
- Waterbody
- Wetlands

Site Information

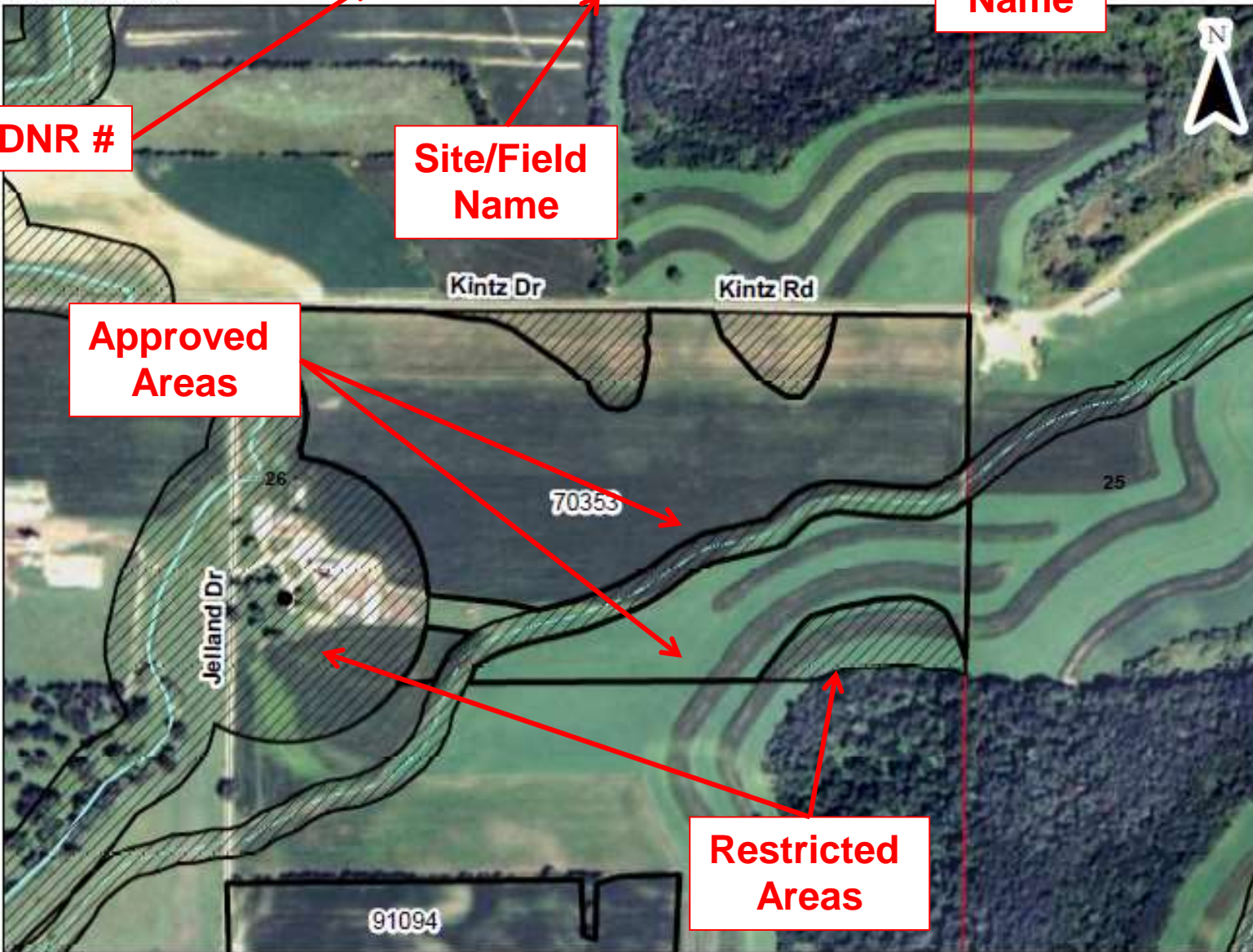
Property Owner: D. Jelinek
 DNR #: 70353
 Site-Field Name: DJA-001
 Total Acres Approved: 49.5
 Winter Acres Approved: 0.0

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Approved By: Date:



0 1,000 Feet 1 in equals 500 ft

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Legend

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Facility Name

Legend

Site Info

Field Location

County

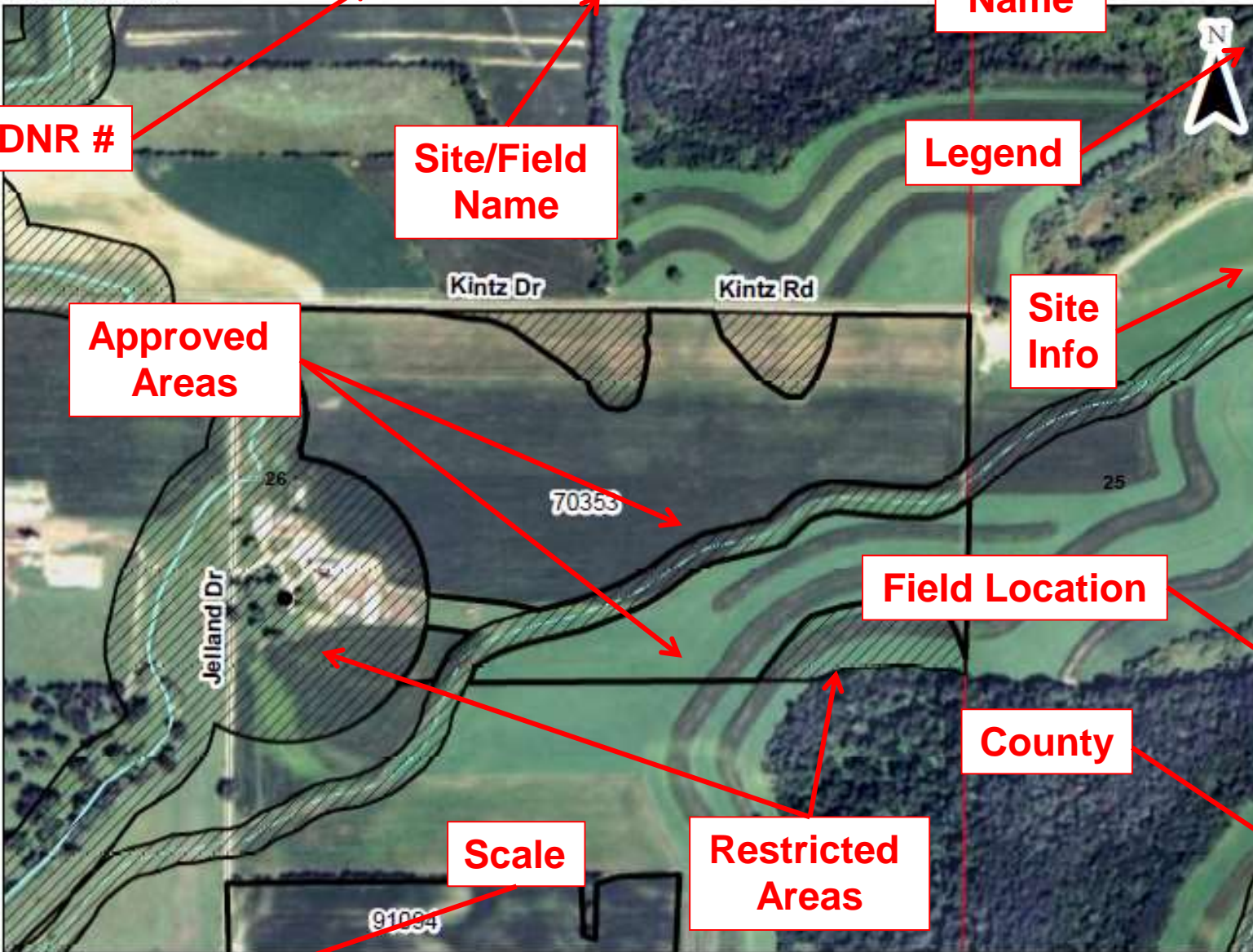
Restricted Areas

Scale

Approved Areas

Site/Field Name

DNR #



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DNR Soil Suitability Project

- Working with NRCS to identify soil map units that do not meet code requirements
- Develop rule based criteria
- Apply criteria to NRCS SURGO (soils) database
- Ultimate goals
 - Consistent & efficient review process
 - Clear expectations
 - Defined playing field among competitors



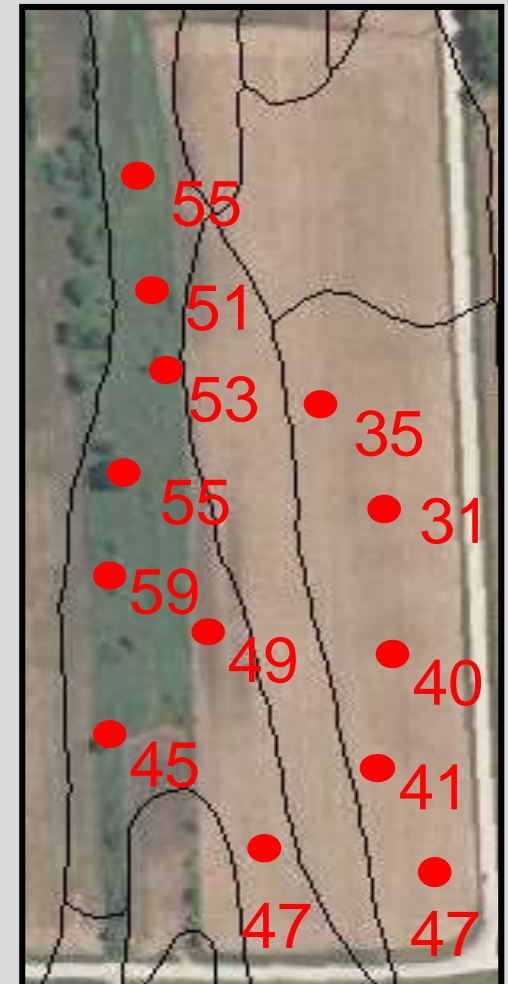
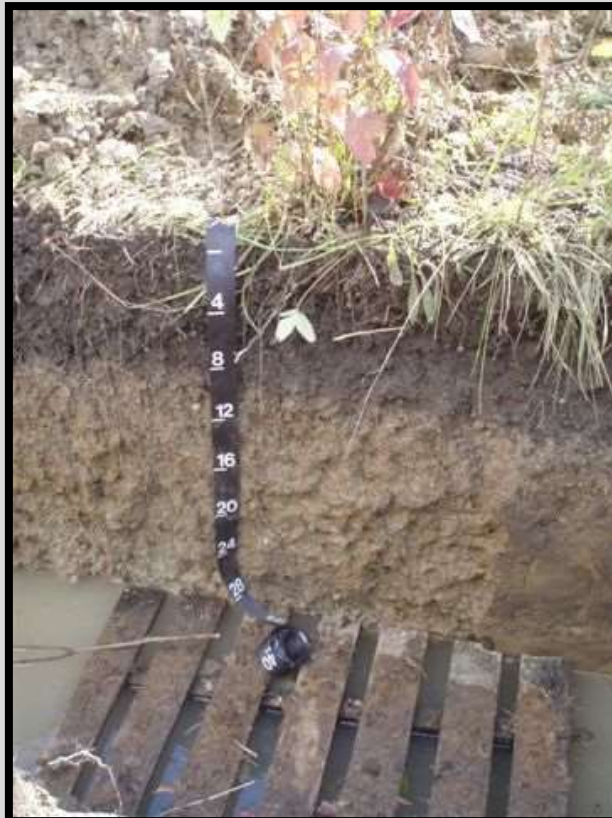
Statewide Soil Suitability Index

- Green = Only hydraulic and nutrient, metal, and chloride limitations
- Yellow = Approvable given certain conditions
- Orange = Unlikely to meet code requirements
- Red = Highly unlikely to meet code requirements



Field Verification Guidance

- In-field approval process
- Qualifications for collecting field data
- Information need for report

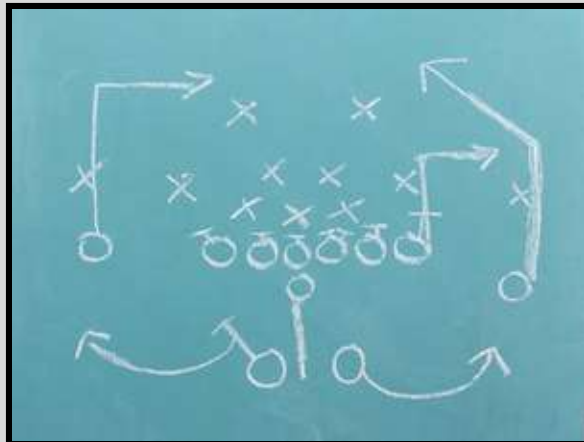


Objectives

- Information to improve your spreading program
 - Clear site request packages
 - Complete land application management plans
- Outline the progress DNR is making to improve our spreading programs
 - Defined review process
 - Landspreading Work Group

Management Plan = Your “Playbook”

- Plan for how waste is stored, transported, land applied, and reported
- Industrial [see NR 214.17(6)(c) and NR 214.18(6)(c) Wis. Adm. Code]
- Municipal [see NR 204.11(1) Wis. Adm. Code]
- Septage-SOP



Improving Your Management Plan

- Written document
- Logs daily spreading activities
- Improves communication
- Minimizes
 - Complaints
 - Potential impacts to surface and groundwater
 - Potential impacts to public health



Part 1. Storage

- List storage locations (include flow diagram)
- Method for collecting representative sample
- Regular inspection and maintenance of unit



Part 2. Transport

- Method of pumping wastes to transport vehicle
- Type and capacity each vehicle
- Volume measured
- Method for unloading waste (tractor, tank)
- Transport log (*optional*)



Part 3. Land Application

- Application method
 - Injected
 - Incorporated
 - Surface
- Pathogen/vector control (biosolids & septage)
- Uniform application of wastes
 - Mark start/stop
 - Hydraulic volume calibration



Hydraulic (Spreading Rate) for Equipment

Truck Capacity: 4,000 Gallons



Area = Length x width

Area = 20ft x 700ft

Area = 14,000 sq. ft.

Convert Square Feet to Acres

14,000 sq. feet x 1 acre/43,560 sq. feet

14,000/43,560= 0.321 Acres

700 feet

20 feet

Hydraulic rate

4000 gallons/0.321 acres = **12,460 gallons/acre**

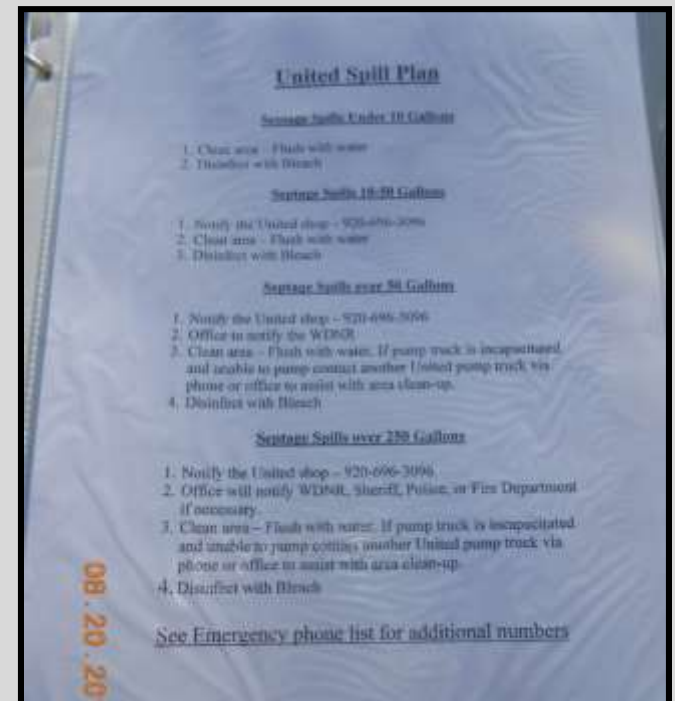
3. Land Application

- Nutrient and chloride calculations
- Estimate total acreage need to spread waste
- Additional sources of nitrogen
- Cropping restrictions



3. Land Application

- Odor abatement
- Contingency plan (inclement weather)
- Spill response plan (1-800-943-0003)



Final Thoughts—Management Plans

- Does your “Playbook cover all four categories?
- Easy to follow? Useable?
- If using a contract service—do you have a full understanding of what they do?
- Is it current (new equipment, wastes, etc.)?
- Complete draft—can ask DNR to review

Continuing Efforts to Improve the Plan Review Process

- Guidance outline will help you prepare a better “Playbook”
- Clearly define expectations
- Expedite DNR review of draft plans
- Goal: consistent plan requirements across all landspreaders

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DNR Landspreading Work Group

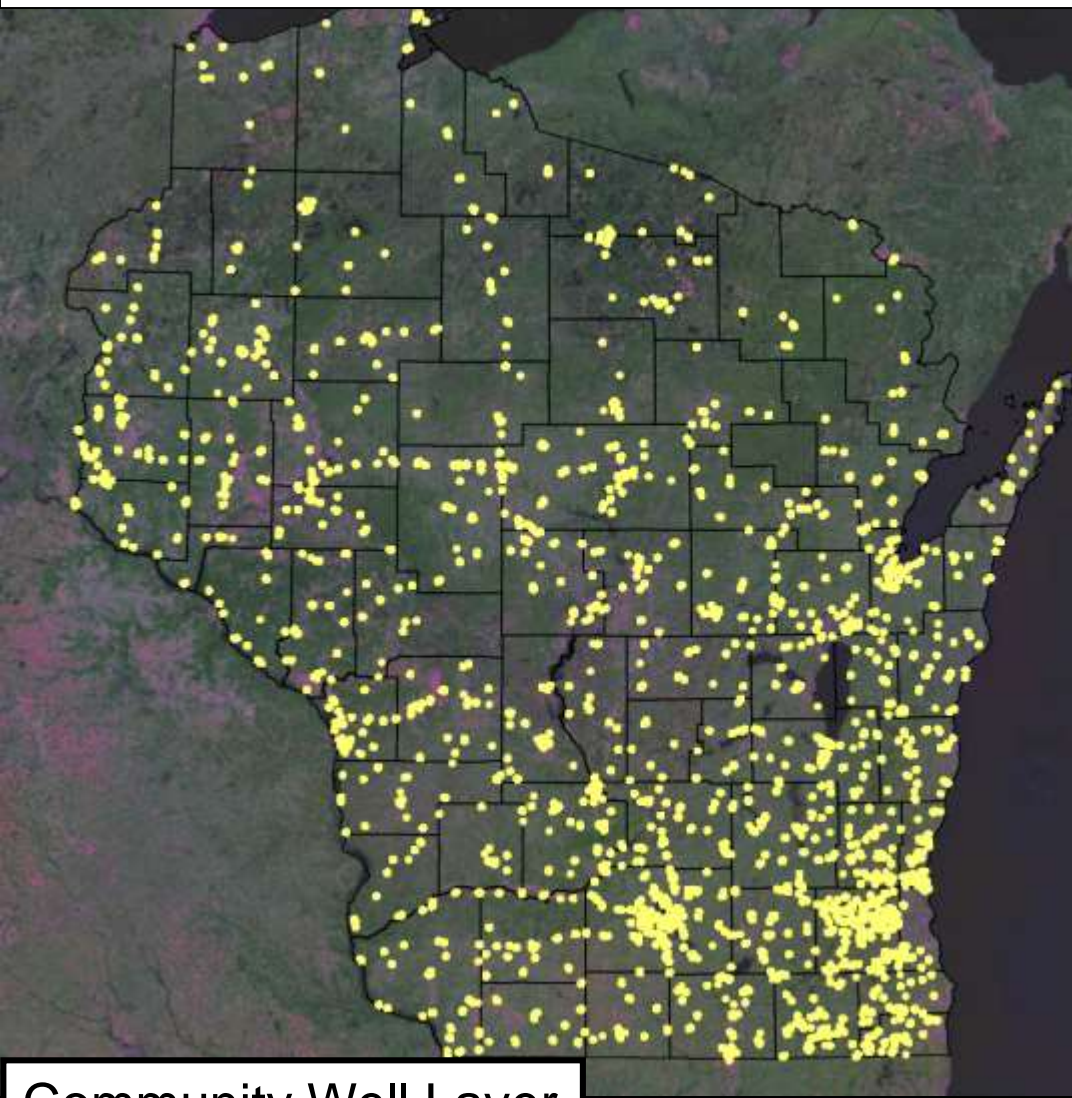
- Internal group consists of Wastewater, Runoff Management, and Groundwater staff
- Goals
 - Cross program sharing and training
 - Address inconsistencies between programs
 - Evaluation rules and guidance—revise as needed
 - Address an increasing number of questions related to spreading activities

Example 1. Community Well Database Layer

- Community wells require 1000 ft. setback (NR 113, 204, and 214) from spreading
- Problem: protected well locations
 - Information needed in order to approve fields
 - Additional steps needed to track down locations (takes time)



Solution: DNR work group developed procedure to include well information in LAG.



Community Well Layer

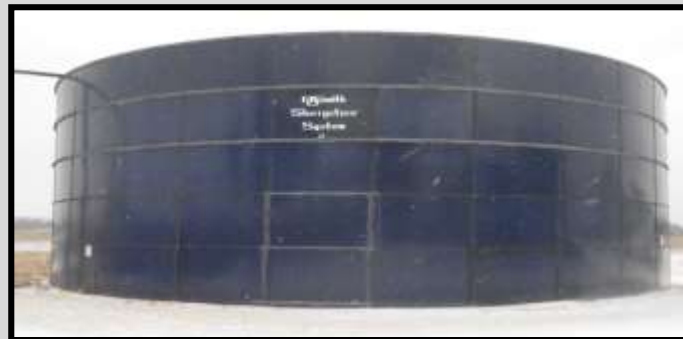


Example 2. Discharge Non-Farm Wastes to Manure Storages

- Discharge of septage, biosolids, and industrial wastes into manure storage units
- Problem: inconsistencies statewide for review and approval of these discharges
- Guidance in progress
- Both non-permitted and permitted farms

Non-Farm Waste Guidance

- Components of request package
- Waste generator responsibilities
- Exemptions for low discharge waste
 - Examples: Industrial <10% total volume
 - Septage <10% total volume or <25,000 gallons total



State of Wisconsin
Department of Natural Resources
611 WI DNR

Notice of Intent to Store Industrial Wastes in Existing Off-Site Manure Structures
Form 588-100 (3/13)

Notice: Completion of this information is submitted under s. 231.55, Wis. Stats., and Chapter NR 214, Wis. Admin. Code. Failure to provide this information may result in penalties. Particularly sensitive information collected will be used for program administration and other governmental programs and may be provided to inspectors to investigate Wisconsin Clean Recovery Act (s. 231.55-231.59, Wis. Stats.).

Waste Generator Information

Legal Name of Generator _____ WPODES Permit No. _____

Address - Street, Route or Box _____ City _____ State _____ ZIP Code _____

Amount of waste to be stored to storage facility: Maximum Volume: _____ gallons Accuracy: _____ gallons

Location of Storage Structure

Facility Name _____ County _____ Township _____

Address - Street, Route or Box _____ City _____ State _____ ZIP Code _____

Quarter/Quarter, Quarter, Section, Town Number, Range Number, County Parcel No. or Computer Number _____

Storage Structure Design

Storage Type: Open Area Clay Concrete Intermediate Biodegradable Clay Other (describe) _____

IMPORTANT: Attach documentation by a professional engineer or other qualified individual that design and construction of the structure meets NRCS Standard 213 or NR 212, Wis. Admin. Code, requirements.

Construction Date _____ Storage Capacity: _____ gallons

Is the proposed storage structure currently being used for storing manure? Yes No

If no, when was the last date manure was stored in the structure? _____

If yes, _____

- How many days of storage are provided by the structure without addition of liquid industrial wastes? _____ days
- How many days of storage are provided by the structure with addition of liquid industrial wastes? _____ days
- Does the amount of industrial waste to be stored exceed 10% of the material stored in the storage structure? Yes No

If yes, submit documentation by a professional engineer or other qualified individual that design and construction of the structure complies with the requirements of NR 213, Wis. Admin. Code.

Generator Certification

I certify that I am familiar with the information contained in this notice and that to the best of my knowledge and belief such information is true, complete and accurate.

Printed or Typed Name of Official Representative _____ Title _____

Signature of Official Representative _____ Date Signed _____

Land Application and Farmer/Producer Certification

Does the farmer/producer have a current nutrient management plan? Yes No

If not, my agreement has been provided with a waste analysis of the proposed waste. I certify that the proposed waste will be included into my nutrient management plan or other land application practices.

Printed or Typed Name of Farmer/Producer _____ Signature of Farmer/Producer _____ Date Signed _____

County Land Conservation Department Representative

The waste generator has discussed with appropriate County Land Conservation Department staff the proposed use of the manure storage facility for storage of industrial waste. The County has determined that its resource management issues relating to storage and land spreading of these industrial wastes have been addressed and that storage of industrial waste is consistent with land-use agreement conditions that may apply to the facility.

Printed or Typed Name of Official County Representative _____ Title _____

Signature of Official County Representative _____ Date Signed _____

The WPODES permittee shall submit this completed form along with the request for approval to discharge wastes to the manure storage structure to its DNR Regional contact.



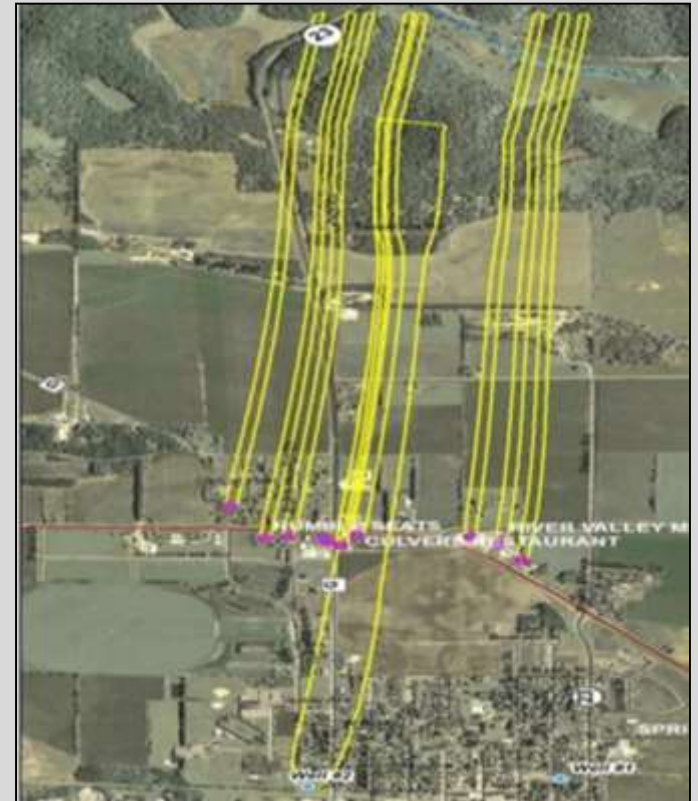
Non-Farm Waste Guidance

- Design review requirements
 - NR 110
 - NR 213
 - NRCS 313
- Permitted (CAFO) farms
 - WPDES permit modification necessary
- Pathogen wastes may have potential DATCP grading issues (for dairy)



Work Group Future Projects

- Development of cross program training
- Linking LAG with Runoff Management database (CAFO fields)
- Integration of wellhead protection areas into database



Wellhead protection areas

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Questions??

Stephen Warrner

WDNR Statewide Site Review Coordinator

Email: Stephen.Warrner@Wisconsin.gov

Phone: (920) 387-7870

