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
- Department Review
- Site Approval
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)

- Permit/ License Holder Information
- Waste Type
- Site/Field Information
Comments: Requests for Winter Approval, Transfer Site, Etc.
### Existing and Adjacent Site Information

#### Industrial Sludge and Waste Only

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Surface</th>
<th>Incorporation</th>
<th>Injection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distance to public water supply</td>
<td>1000 ft</td>
<td>1000 ft</td>
<td>1000 ft</td>
</tr>
<tr>
<td>Distance to private water supply</td>
<td>250 ft</td>
<td>250 ft</td>
<td>250 ft</td>
</tr>
<tr>
<td>Distance to residence</td>
<td>500 ft</td>
<td>500 ft</td>
<td>500 ft</td>
</tr>
<tr>
<td>Distance with written permission</td>
<td>500 ft</td>
<td>200 ft</td>
<td>200 ft</td>
</tr>
<tr>
<td>Distance to any surface water or dry run</td>
<td>200 ft</td>
<td>50 ft</td>
<td>50 ft</td>
</tr>
<tr>
<td>Distance to any surface water or dry run with vegetative buffer</td>
<td>50 ft</td>
<td>50 ft</td>
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</tr>
</tbody>
</table>

#### Municipal Sludge / Septage Only

<table>
<thead>
<tr>
<th>Site Criteria</th>
<th>Surface</th>
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<th>Injection</th>
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<tr>
<td>Depth to bedrock</td>
<td>3 ft</td>
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<td></td>
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<td>1000 ft</td>
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<td>1000 ft</td>
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<td>1000 ft</td>
<td>1000 ft</td>
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<td>100 ft</td>
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<td>Slope 6 to 12</td>
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<td>200 ft</td>
<td>150 ft</td>
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<td>0–6.0</td>
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</tr>
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**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.
Item 2. Proof of Ownership

Possible Sources
- Tax Parcel Info—County Websites
- Office Land Records

55-A

Label

Field Boundary

2013 General Property Information

- Parcel/Pin Number: 048-1216-3214-000
- Municipality: 048 - Town of Williamstown
- Property Address: HORICON
- School District: HORICON
- Technical College District: MPTC FOND DU LAC
- Special District(s): HORICON FIRE PROT
- Tax District: RONALD H DOBBERPUEHL
- Owner Name: RONALD H DOBBERPUEHL
- Mailing Address: RONALD H DOBBERPUEHL
  N7573 COUNTY ROAD TW
  HORICON, WI 53032
Items 3 & 4. Aerial/Soil Map

Drainageway

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/

Basic and Advanced Tools Help Guide
Finding Your Site/Field

Legal Description: 14N,15E,Section 16
WDNR Surface Water Data Viewer

Add Soil and Wetland Layers

Measures Distance Between Features

Area ~ 40 acres

Houses

Measure Area of Field

200 ft

500 ft
NRCS Web Soil Survey

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

Welcome to Web Soil Survey (WSS)

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.
Using the NCSS Web Soil Survey

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

1. Define.

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.

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.
Legal Description: 14N, 15E, Section 16
Select Area of Interest (AOI)
Soil Map Overlay

Site/Field: 55/1

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HmD</td>
<td>Hochheim loam, 12 to 20 percent slopes, severely eroded</td>
<td>0.3</td>
<td>0.50%</td>
</tr>
<tr>
<td>LtC3</td>
<td>LeRoy soils, 6 to 12 percent slopes, severely eroded</td>
<td>3.2</td>
<td>5.70%</td>
</tr>
<tr>
<td>LtD3</td>
<td>LeRoy soils, 12 to 20 percent slopes, severely eroded</td>
<td>7.4</td>
<td>13.20%</td>
</tr>
<tr>
<td>LvB</td>
<td>Lomira silt loam, 2 to 6 percent slopes</td>
<td>11.4</td>
<td>20.20%</td>
</tr>
<tr>
<td>LvB2</td>
<td>Lomira silt loam, 2 to 6 percent slopes, eroded</td>
<td>11.7</td>
<td>20.80%</td>
</tr>
<tr>
<td>PhA</td>
<td>Pella silt loam, 0 to 3 percent</td>
<td>13.5</td>
<td>24.00%</td>
</tr>
</tbody>
</table>
NRCS Soil Data Explorer

Depth to Water Table

<table>
<thead>
<tr>
<th>Map unit symbol</th>
<th>Map unit name</th>
<th>Rating (centimeters)</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>HmD</td>
<td>Hochheim loam, 12 to 20 percent slopes</td>
<td>178</td>
<td>0.3</td>
<td>0.50%</td>
</tr>
<tr>
<td>LtC3</td>
<td>LeRoy soils, 6 to 12 percent slopes, severely eroded</td>
<td>178</td>
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</tr>
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</table>

Legend:
- Blue: >200 cm (6.5 ft.)
- Orange: 60-80 cm (1.9-2.6 ft.)
- Red: < 60 cm (<1.9 ft.)
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:

<table>
<thead>
<tr>
<th>I. WPDES Permittee/Septage Business Company Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>WPDES Permittee/ Septage Business Company</td>
</tr>
<tr>
<td>Permittee/Septage Business OIC</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>WPDES Permit Number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. Site Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property Owner</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>Field Name</td>
</tr>
<tr>
<td>Field Name</td>
</tr>
<tr>
<td>Field Name</td>
</tr>
<tr>
<td>Field Name</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III. Farmer Information (if different)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer Name</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>Farm/Business Name</td>
</tr>
<tr>
<td>Farm/Business Address</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV. Waste Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whey or Permeate</td>
</tr>
<tr>
<td>Municipal Sludge</td>
</tr>
</tbody>
</table>

<table>
<thead>
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<th>Waste Type</th>
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Item 5. Field Authorization Form (Back)

Department of Natural Resources
Form (XXXX-XX) (XX/XX) Page 2 of 2

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.

<table>
<thead>
<tr>
<th>Property Owner Name (Print)</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer Name (Print)</td>
<td>Signature</td>
<td>Date</td>
</tr>
<tr>
<td>WPDES Permittee/Septage Business OIC (Print)</td>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

VI. Additional Comments or Approval Considerations

Owner Signature
Farmer Signature
Permittee Signature

Transfer Request, Setback Reductions, Etc.
Soil sampling must follow UW Extension Bulletin A 2100. Lab report must be from a WI certified soil testing lab.

Site/Field Name

Nutrient & Lime Recommendations

Soil Properties (pH, OM, CEC)

Required: Municipal Biosolids & Septage High Use Fields
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.)
3. Verify the site meet code requirements (suitable soils, setback restrictions, etc.)?

![Screen Shot 2022-01-13 at 11.54.40 AM](image.png)

<table>
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<th>Surface</th>
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Site Request Package “Top Five” Tips

4. Provide comments on 53 form (transfer site, winter spreading, etc.)
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
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
Components of a Management Plan

1. Storage
2. Transport
3. Land Application
4. Reporting
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

- Approved site list
- Setbacks identified (flags, cones)
- Spreading vehicle: approval form, DNR site photo, spreading log, “Playbook”
- Soil testing
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

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)
4. Reporting

- Who maintains daily log records
- Where is location of records
- What annual reports (3400-049, 52, and 55 forms)
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
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
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.
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
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
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
Questions??

Stephen Warrner
WDNR Statewide Site Review Coordinator
Email: Stephen.Warrner@Wisconsin.gov
Phone: (920) 387-7870