

# **Livestock Facility Siting Technical Expert Committee**

**July 21, 2010**

- Background
- Siting standards
  - Requirements
  - Local implementation
  - New developments

# Background of Rule

**2003**

- Rohde advisory committee

**2004**

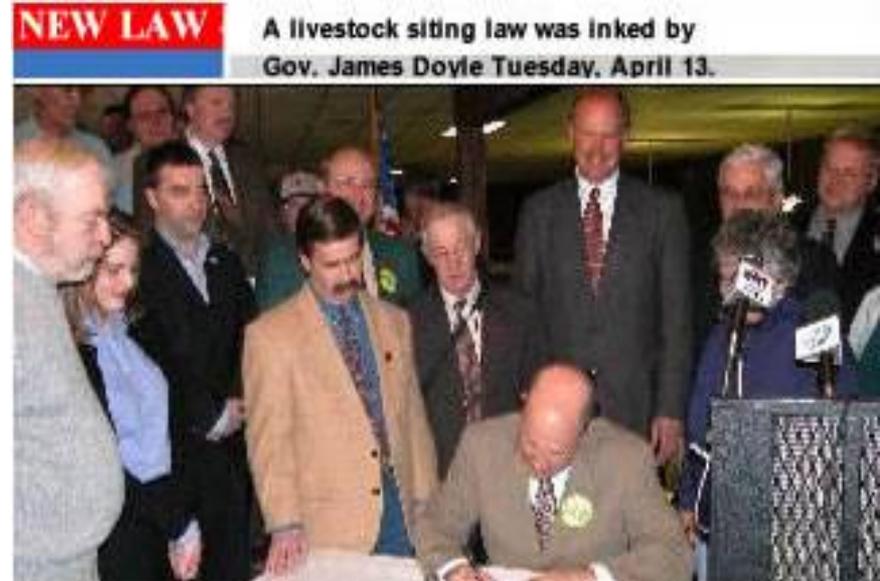
- Siting statute (s. 93.90) passed
- First technical panel convened
- Rule drafted based on panel advice

**2006**

- Siting rule (ATCP 51) becomes law

**2010**

- Four year review of rule



# The Siting Law Does Not

- Replace local land use planning and zoning
- Determine where large farms belong on the land
- Provide a mechanism to enforce other state or local regulations
  - See Application # 15, p. 390-19

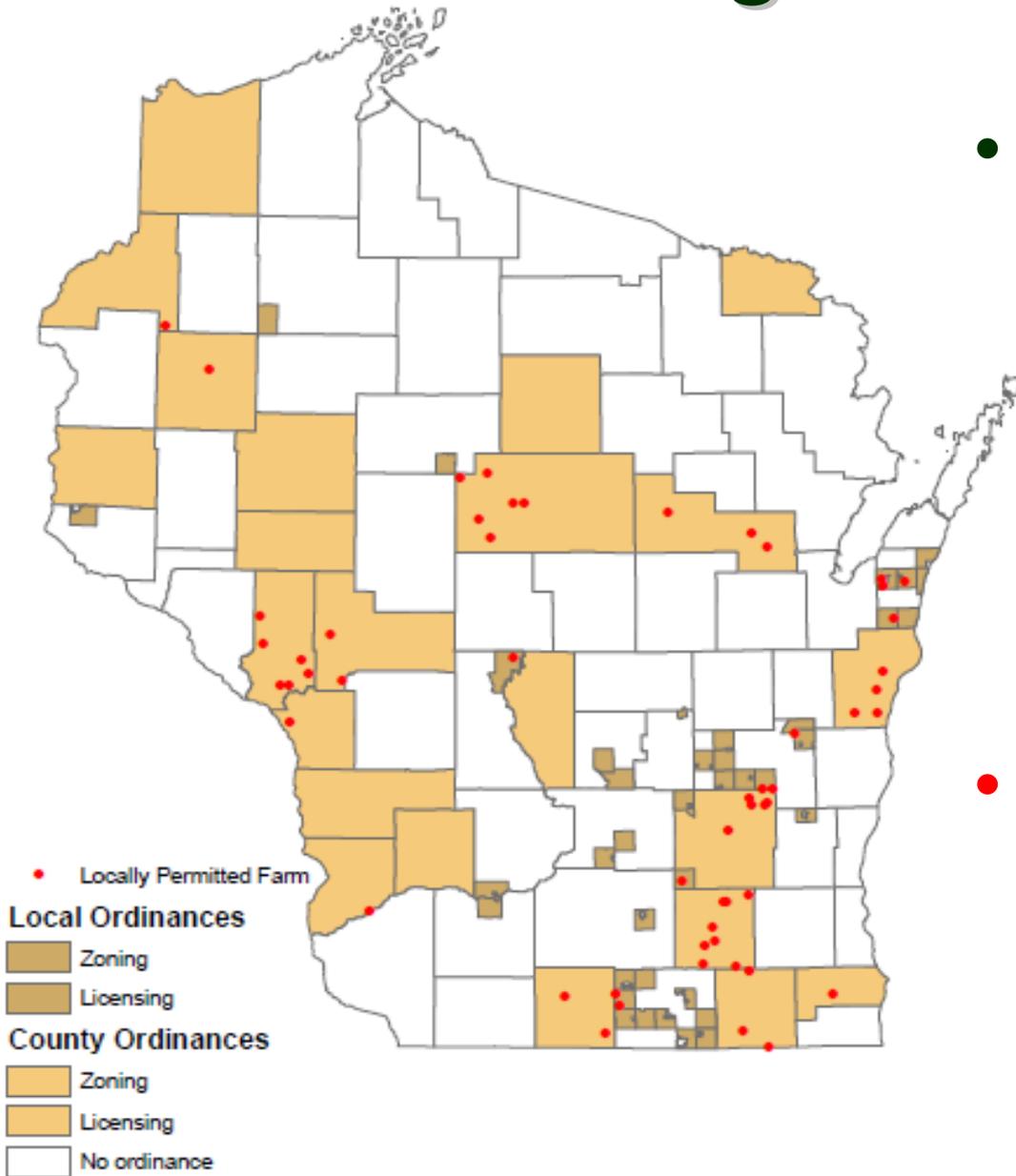


# Local Permitting Under Siting Law

 <b>Wisconsin Department of Agriculture, Trade and Consumer Protection</b> 2811 Agriculture Drive, PO Box 8911, Madison WI 53708-8911 Phone: (608) 224-4822 or (608) 224-4500			
<b>Application for Local Approval</b> <i>New or Expanded Livestock Facility</i>		Wis. Statutes s. 93.90 Wis. Adm. Code ch. ATCP 51	
1. Legal Name of Applicant (Business Entity):			
2. Type of Business Entity: check one			
<input type="checkbox"/> Individual	<input type="checkbox"/> Corporation	<input type="checkbox"/> Partnership	<input type="checkbox"/> Cooperative
<input type="checkbox"/> Trust	<input type="checkbox"/> Other	Describe:	
3. Other names, if any, under which applicant does business (list all):			
4. Contact Individual:		Name:	
Phone:		E-mail:	
5. Business Address: Street Address:			
City/Village/Town:		County:	State: Zip:
6. Principal Owners or Officers (list if applicant is an entity other than an individual):			
Name:		Title:	Phone:
Address:		City:	State: Zip:
Name:		Title:	Phone:
Address:		City:	State: Zip:
Name:		Title:	Phone:
Address:		City:	State: Zip:
7. Description of Proposed Livestock Facility			
Check one: <input type="checkbox"/> New Livestock Facility <input type="checkbox"/> Expanded Livestock Facility		Premises ID:	
Address of Proposed Livestock Facility:			
City/Village/Town:		County:	State: Zip:
Town #	Range # (E or W)	Section #	¼ Section #

- Option to regulate by zoning or licensing
- 500 AU permit threshold
  - Some <500 AU grandfathered
- Predictable process
  - State application
  - Uniform standards
- State Board oversight

# Local Regulatory Activity



- 62 zoning and licensing ordinances
  - 23 counties
  - 38 towns
  - 1 city
- 55 permits
  - 18 licenses
  - 37 CUP

# Local Permits Approved

## 44 by Counties and 11 by Towns

<b>Permitted Facilities by Size, Animal Units</b>		
<b>AU</b>	<b># Facilities</b>	<b># Approved by Towns</b>
Less than 499	2	0
500 to 899	15	3
900 to 999	12	1
1000 to 3,999	21	4
4000 to 10,000	4	3
More than 10,000	1	0

# 7 Appeals to the Livestock Facility Siting Review Board

- No jurisdiction = 2 appeals, 2 farms
  - Completeness determination delay
  - Government should have required a permit
- Nutrient management plan = 3 appeals, 2 farms
  - Approval reversed – NM plan did not meet 590
  - Two approvals upheld – NM plan met 590
- Extra conditions in permit = 2 appeals, 2 farms
  - Remove conditions from permit

# Four Year Review

- Review within scope defined by s. 93.90 Stats.
- Collect public input
- Obtain expert advice
- Revise rule if needed



## Opinions Differ on Effectiveness of Livestock Siting Law

BY RON JOHNSON, DAIRY EDITOR

Is the rule that governs Wisconsin's livestock siting law working?

It depends on who you listen to.

A handful of people were critical of the rule during the public comment period at a recent Agriculture Board meeting. More supported the law and its rule, while one of the broad economic impacts of the law need to be investigated.

Last week's meeting marked the beginning of a review of the law's administration by the Agriculture Board. The Agriculture Board has been in force for four years. The agriculture board is currently reviewing the siting law rule. (See the accompanying article).



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BLOG: LAPTOP CITY HALL ELECTION MATTERS BLOG: CAPITOL REPORT

## Let facts prevail on livestock siting rules

Story Discussion

Bill Berry | state columnist | Posted: Monday, March 1, 2010 5:00 am | (3) Comments



STEVENS POINT – One of the most contentious issues in rural Wisconsin today involves large livestock facilities. Unfortunately, as with most such matters, emotion often trumps reason, and there's a lot of emotion flying around on all sides of this issue.

The Department of Agriculture, Trade and Consumer Protection has been holding public sessions around the state to gather input on the siting rule.

Large animal facilities...

# 4 Year Report Summarizes Public Comments

<b>432 support</b>	<b>431 want change</b>
Predictable process	Restricts local control
Protective, uniform standards	Standards are weak
Setback distances work	No control over location
Allows for public input	Favors CAFOs over locals
Permitting process works	No enforcement, low fees
Small changes acceptable	Want major reform



# Issues Within Expert Committee's Scope

- Application materials and requirements
- State standards - odor, setbacks, nutrient management, manure storage, runoff
- Farm size in relation to standards
- Impact of local conditions
- Compliance monitoring



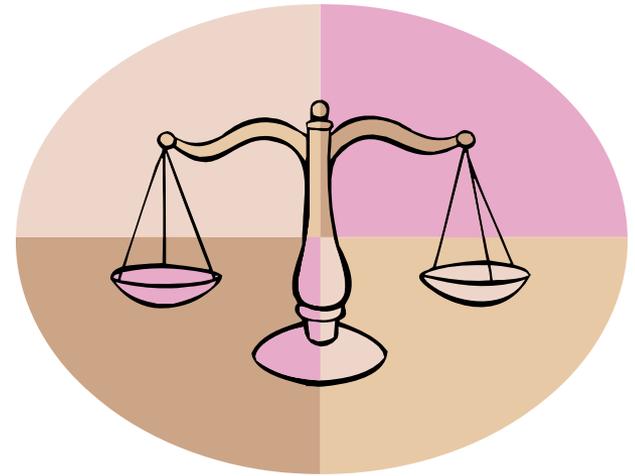
# Issues Outside Expert Committee's Scope

- Local land use policy for facility location and size
- Enforcement of WPDES permits or other state and local regulation
- Social and economic impacts
- Groundwater quantity
- Hazardous air emissions



# Considerations in Review of Standards

- Protect public health and safety
- Be practical and workable
- Be cost effective
- Be objective
- Use peer-reviewed science
- Promote growth and viability of animal agriculture
- Balance economic viability of farms with protecting natural resources and other community interests
- Be useable by local officials



# Considerations in Review of Standards



- Consistency with other water quality standards e.g. provisions in related rules such as NR 151 and NR 243
- Cannot conflict with provisions in water quality rules

# Expert Committee Timeline

## **July 2010**

- Full Group Meeting

## **August-October**

- Subcommittees develop recommendations

## **November**

- Full Group reviews subcommittee work

## **December 2010**

- Recommendations provided to DATCP Secretary

**Open binders to application worksheets**

# Application Appendix A

Wisconsin Dept. of Agriculture, Trade & Consumer Protection 2811 Agriculture Drive, PO Box 8911, Madison WI 53708-8911 Phone: (608) 224-4611 or 608-224-4610		Application	
<b>Application for Local Approval New or Expanded Livestock Facility</b>			
<b>Instructions:</b> This application and accompanying worksheets meet the requirements of s. 93.90, Wis. Stats., and ch. ATCP 51, Wis. Adm. Code. These DATCP approved forms cannot be altered, except additional information may be requested to determine compliance with local ordinance standards			
<b>Applicant Information</b>			
<b>1. Legal Name of Applicant:</b>			
<b>2. Type of Entity:</b> check one		<b>State Entity Created In:</b>	
<input type="checkbox"/> Individual	<input type="checkbox"/> Corporation	<input type="checkbox"/> Partnership	<input type="checkbox"/> Cooperative
<input type="checkbox"/> LLC	<input type="checkbox"/> Trust	<input type="checkbox"/> Other	Describe:
<b>3. Other names, if any, under which applicant does business (list all):</b>			
<b>4. Contact Individual:</b>	Name:	Phone:	
<b>5. Business Address:</b>	Address:		
City/Village/Town:	County:	State:	Zip:
<b>6. Principal Owners or Officers</b> (list if applicant is an entity other than an individual):			
Name:	Title:	Phone:	
Address:	City:	State:	Zip:
Name:	Title:	Phone:	
Address:	City:	State:	Zip:
Name:	Title:	Phone:	
Address:	City:	State:	Zip:
<b>7. Proposed Livestock Facility</b> <sup>1</sup>			
<b>New or Expanded Facility (check one):</b>		<input type="checkbox"/> New Facility	<input type="checkbox"/> Expansion of Existing Facility
<b>Address of Proposed Facility:</b>			
City/Village/Town:	County:	State:	Zip:
Town #	Range # (E or W)	Section #	¼ Section #

<sup>1</sup> If you propose to expand an existing livestock facility, describe the complete facility as it will exist after the proposed expansion (including existing facility and proposed expansion). Include all facilities, owned or managed by the same person or business entity, that are adjacent to each other, that share the same waste collection or storage, or that share spread waste on the same land.

- Complete application includes
  - Applicant information
  - A facility description
  - Area and site maps
  - Worksheets and attached documentation
- Credible and complete application creates presumption of compliance

# Livestock Structures; Location on Property

## ATCP 51.12

Application (continued)

### 8. Total Animal Units

Enter total *animal units* from **worksheet 1**:

**Total Animal Units:** \_\_\_\_\_. This is the maximum *livestock facility* size for which the applicant requests approval at this time.

### 9. Area Map of Livestock Facility

Attach a scale map or aerial photo of the proposed *livestock facility* and surrounding area. The map or photo must be appropriately sized and marked, so that it clearly and legibly shows all of the following:

- All existing and proposed *livestock structures*. Label each *livestock structure* to show structure type, and whether existing or proposed.
- The area lying within 2 miles of any of the *livestock structures*. Show all existing buildings, property lines, roadways, and navigable waters lying within that area.
- All residences and *high use buildings* within 2500 ft. of any *livestock structure*. Show which (if any) of those buildings are owned by the applicant, or by persons who have agreed to exclude the buildings from the applicant's odor worksheet calculations.
- Topographic lines at 10 ft. elevation intervals.
- Map scale and north direction indicator.

### 10. Site Map of Livestock Facility

Attach a scale map or aerial photo of the proposed *livestock facility* site. The map or photo shall be appropriately sized and marked, so that it clearly and legibly shows all of the following:

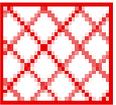
- All existing and proposed *livestock structures*. Label each *livestock structure* to show structure type, and whether existing or proposed.
- The area lying within 1,000 ft. of any of the *livestock structures*. Show all existing buildings, property lines, roadways, navigable waters, and known *karst features* within that area.
- Topographic lines, at 2 ft. elevation intervals, for the area within 300 feet of the *livestock structures*.
- Map scale and north direction indicator.

### 11. Location of Livestock Structures

The applicant certifies that:

- All *livestock structures* comply with applicable local property line and road setbacks (see *ATCP 51.12*).
- All *waste storage structures* comply with setbacks in *ATCP 51.12(2)*.
- All *livestock structures* comply with applicable local shoreland, wetland, and floodplain zoning ordinances (copies available from local government).
- Wells comply with the Wisconsin well code (*NR 811* and *812*). *New or substantially altered livestock structures* are separated from existing wells (including neighbors' wells) by setback distances required in *NR 811* and *812*.

- New structures must comply with property line and road setbacks
- Existing structures cannot expand into setback
- Local government can reduce setbacks

 **Road 100 - 150 ft Livestock structures (housing)**

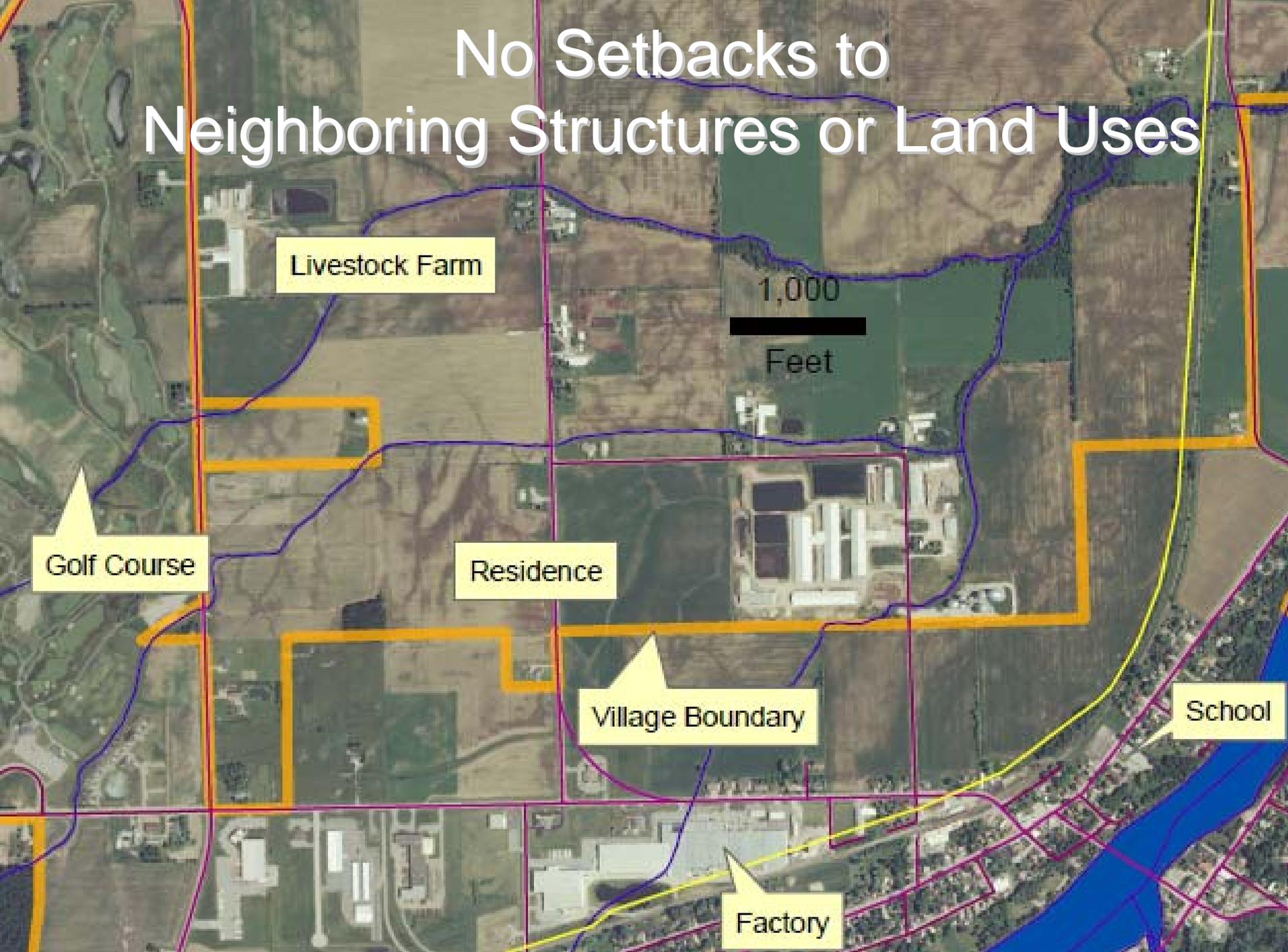
 **Property line 100 - 200 ft Livestock structures**

 **Manure storage 350 ft from property line & road**

**Other rules** shoreland, wetland, floodplain, wells



# No Setbacks to Neighboring Structures or Land Uses



Livestock Farm

1,000  
Feet

Golf Course

Residence

Village Boundary

School

Factory

# Setbacks in Local Siting Ordinance, compared to ATCP 51.12

	Below	ATCP 51	Above	Not reported
Property line 10 – 1320 ft	3	57	2	2
Road 42 – 1000 ft	3	58	2	4
Manure Storage 10 – 2000 ft	7	57	1	4

**More stringent standard**

# Animal units: Worksheet 1

Cattle – Poultry – Swine – Sheep – Goats

**Number of animals is the baseline for the permit  
ATCP 51.04**



# Siting Does Not Use the NR 243 Non-mixed AU Conversions

Animal Unit Calculations: Projected Number of AUs on Operation						
Animal Type	I. Mixed Animal Units			II. Non-mixed Animal Units		
	b. Equiv. factor	c. Current Number	d. No. of AUs	e. Equiv. factor	f. Current Number	g. No. of AUs
<i>Example - Broilers (non-liquid manure):</i>						
	0.005 x	150,000	= 750	0.008 x	150,000	= 1200
Dairy/Beef Calves (under 400 lbs)						
	0.20 x		=	<i>Fed. numbers in this column comply with 40 CFR s. 122.23</i>		
Dairy Cattle	Milking & Dry Cows	1.40 x	=	1.43 x		=
	Heifers (800 lbs to 1200 lbs)	1.10 x	=			
	Heifers (400 lbs to 800 lbs)	0.60 x	=	1.00 x		=
Beef	Steers or Cows (400 lbs to market)	1.00 x	=			
	Bulls (each)	1.40 x	=	1.00 x		=
Veal Calves						
	0.50 x		=	1.00 x		=
Pigs (up to 55 lbs)						
	0.10 x		=	0.10 x		=

# Worksheet 2: Odor Management

Am. Inv. 11/04 January 2006



Wisconsin Department of Agriculture, Trade and Consumer Protection  
2811 Agriculture Drive, PO Box 8911, Madison WI 53708-8911  
Phone: (608) 224-4622 or (608) 224-4500

## Worksheet 2 - Odor Management

**Instructions:** This worksheet addresses odor from *livestock structures*. You are NOT required to complete this worksheet if any of the following apply (check box if applicable):

- I am requesting approval for a *new livestock facility* with fewer than 500 animal units.
- I am requesting approval for an *expanded livestock facility* with fewer than 1,000 animal units.
- All *livestock structures* will be at least 2500 ft. from the nearest affected neighbor.

If you checked any of the above boxes, just sign below and submit this page with your application. If you did NOT check any of the above boxes, you must complete this worksheet to calculate the odor score (Box 4) for your proposed *livestock facility*. To meet the odor management standard, you must have a total odor score of 500 or more.

If *livestock structures* are located in *clusters* that are separated by more than 750 feet, you may elect to complete a separate worksheet for each *cluster*. If you choose that option, each *cluster* must meet the odor management standard.

A complete worksheet must include Tables A and B. You may use a convenient automated spreadsheet in place of Tables A and B if you prefer (submit spreadsheet output instead of tables, results will be identical). However, you must still sign and submit this signature page. The spreadsheet is available at the DATCP website, [www.datcp.state.wi.us](http://www.datcp.state.wi.us).

### TO COMPLETE THIS WORKSHEET, FOLLOW THESE STEPS:

**Step 1:** Complete Table A to determine the Predicted Odor from your *livestock structures*. Enter the Predicted Odor in Box 3 below (NOT Box 1).

**Step 2:** Complete Table B to determine your Separation Score. Enter your Separation Score in Box 1 below (NOT Box 2).

**Step 3:** Enter your management credits in Box 2 (maximum 100 points). All applicants may enter 80 points for completing required incident response and employee training plans (described on page A-3). Applicants completing an optional odor management plan (described on page A-3), may add an additional 20 points. Applicants determine plan contents, as long as the plan addresses the required topics.

**Step 4:** Add Box 1 and Box 2. Subtract Box 3 and enter the total in Box 4. This is your Odor Score.

<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> <p>Box 1 Separation Score (from Step 2)</p>	+	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> <p>Box 2 Management Score (from Step 3)</p>	-	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> <p>Box 3 Predicted Odor (from Step 1)</p>	=	<div style="border: 1px solid black; width: 40px; height: 20px; margin: 0 auto;"></div> <p>Box 4 Odor Score</p>
---	---	---	---	---	---	---

A local government must approve a *livestock facility* with an odor score of 500 or more (Box 4). You may add odor control practices to increase your odor score to 500 or more. A local government may approve, but is not required to approve, a *livestock facility* with an odor score less than 500 but not less than 470.

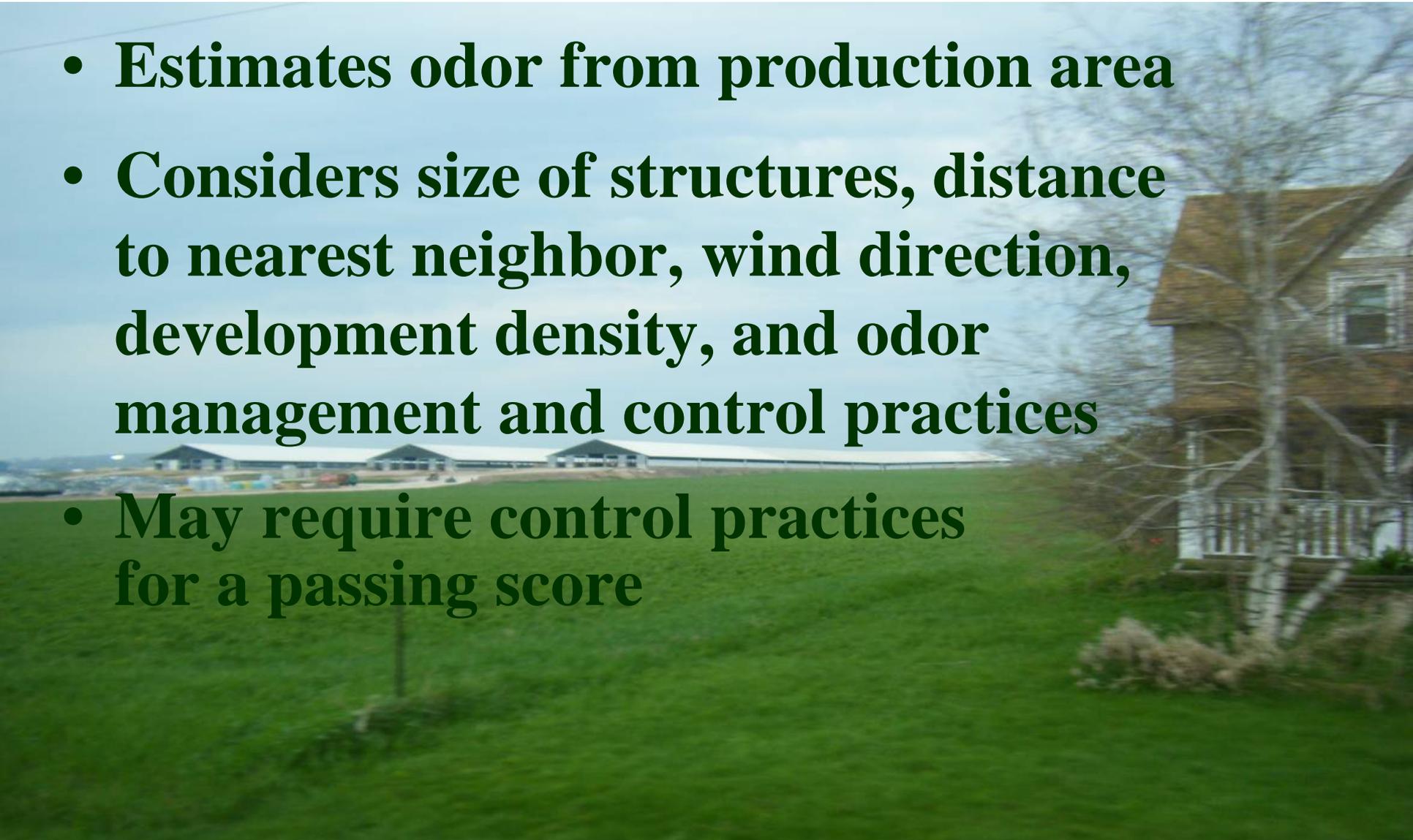
- Exempts:
  - New facilities < 500 AU
  - Expansions < 1,000 AU
  - > 2,500' separation distance
- Exempted facilities can voluntarily comply

Signature of Applicant or Authorized Representative

Date

# Odor Standard

- **Estimates odor from production area**
- **Considers size of structures, distance to nearest neighbor, wind direction, development density, and odor management and control practices**
- **May require control practices for a passing score**



# Worksheet 2 or Excel Spreadsheet

**TABLE A: Predicted Odor from Livestock Structures**

Worksheet 2 (continued)

**Instructions:** Complete Table A. You must measure all structures to the same affected neighbor. If the nearest neighbor is not the same for all livestock structures, you will need to complete the table once for each close neighbor. Compare the "H" Total of the table for each neighbor. The neighbor that has the lowest weighted distance is considered your nearest affected neighbor, and you should use that table to complete the odor worksheet. Enter the Column F total on page A-6 in **Box 3**. Enter the Column G result on page A-8 in **Table B, Step 1**. Add lines or use additional sheet, if needed, to list all structures.

**1. Animal Housing Areas – List each**

Column A Manure Management Type Enter your housing buildings and the related 4-letter code from Chart 2. You may exclude up to 1000 calf hutches and 4 structures less than the sq. footage listed in Chart 2.	Column B Odor Generation Number From Chart 2	Column C Housing Area (Ft) Use occupied animal area only. Exclude feed alleys, holding areas and milking parlors. Express in 10,000's. (Ex: 15,523 ft <sup>2</sup> = 1.55)	Column D Odor Control Practice Codes List all that apply to each housing area, from Chart 3	Column E Multiplier for Odor Control Practice List all that apply to Each from Chart 3. Enter "1" if none.	Column F Predicted Odor Multiply columns B, C, and E	Column G Distance to Nearest Affected Neighbor(ft) Measure from corner of the bldg to corner of the neighbor's bldg. Measure all to the same neighbor.	Column H Weighted Distance (ft.) Multiply columns F & G
1A.							
1B.							
1C.							
1D.							
1E.							

**2. Waste Storage Facilities – List each**

Column A Waste Storage Type Enter 4-letter type code from Chart 2	Column B Odor Generation Number From Chart 2	Column C Exposed Surface Area Measure surface area (ft <sup>2</sup> ) when pit is filled to capacity, excluding freeboard. Enter in 10,000's. (Ex: 75,575 = 7.56)	Column D Odor Control Practice Codes List all that apply to each facility from Chart 3	Column E Multiplier for Odor Control Practice List all that apply to each from Chart 3. Enter "1" if none.	Column F Predicted Odor Multiply columns B, C, and E	Column G Distance to Nearest Affected Neighbor (ft) Measure from top inside edge to neighbor's bldg corner. Measure to the same neighbor.	Column H Weighted Distance (ft.) Multiply columns F & G
2A.							
2B.							
2C.							
2D.							

**3. Animal Lots – List each**

Column A Animal Lot Type Enter 4-letter type code from Chart 2	Column B Odor Generation Number From Chart 2	Column C Animal Lot Area (ft <sup>2</sup> ) Enter in 10,000's (Ex: 7438 = .74)	Column D Odor Control Practice Codes List all that apply to each facility from Chart 3	Column E Multiplier for Odor Control Practice List all that apply to each from Chart 3. Enter "1" if none.	Column F Predicted Odor Multiply columns B, C, and E	Column G Distance to Nearest Affected Neighbor(ft) Measure from corner to corner. Measure all structures to the same neighbor.	Column H Weighted Distance (ft.) Multiply columns F & G
3A.							
3B.							
3C.							

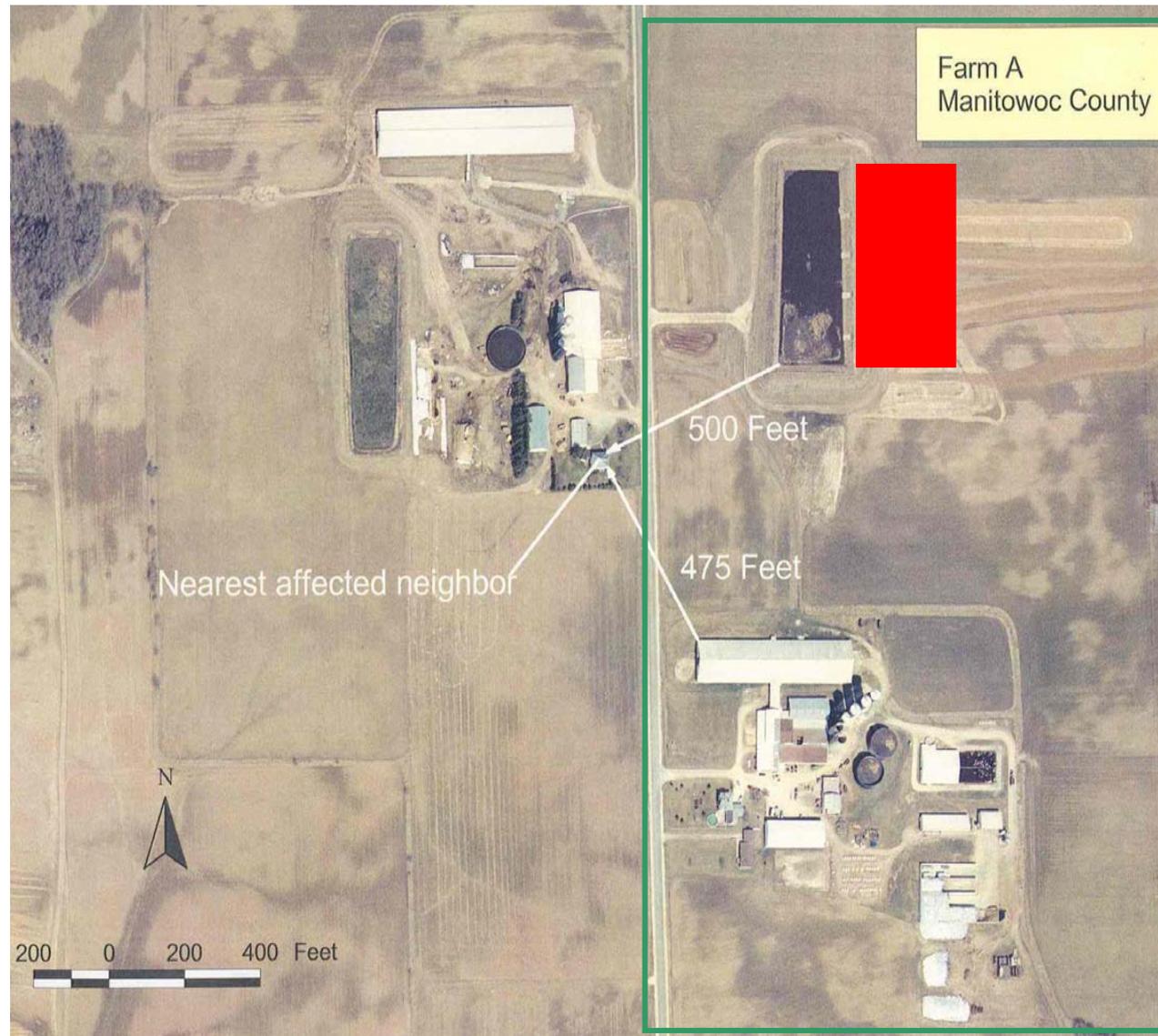
<b>F Total</b>	<b>G = (H Total) ÷ (F Total)</b>	<b>H Total</b>
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Enter on page A-6, **Box 3**

Enter on page A-8, **Table B, Step 1**

# Separation Score p. 390-24

- Distance to nearest neighbor
- Density of neighbors within 1,300 ft
- Direction



# Management Score

## Application #12, 13, 14, p. 390-18

Am-36- 11/04 January 2006



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Phone: (608) 224-4622 or (608) 224-4500

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I am requesting approval for a *new livestock facility* with fewer than 500 animal units.

I am requesting approval for an *expanded livestock facility* with fewer than 1,000 animal units.

All *livestock structures* will be at least 2500 ft. from the nearest affected neighbor.

If you checked any of the above boxes, just sign below and submit this page with your application. If you did NOT check any of the above boxes, you must complete this worksheet to calculate the odor score (Box 4) for your proposed *livestock facility*. To meet the odor management standard, you must have a total odor score of 500 or more.

If *livestock structures* are located in *clusters* that are separated by more than 750 feet, you may elect to complete a separate worksheet for each *cluster*. If you choose that option, each *cluster* must meet the odor management standard.

A complete worksheet must include Tables A and B. You may use a convenient automated spreadsheet in place of Tables A and B if you prefer (submit spreadsheet output instead of tables, results will be identical). However, you must still sign and submit this signature page. The spreadsheet is available at the DATCP website, [www.datcp.state.wi.us](http://www.datcp.state.wi.us).

**TO COMPLETE THIS WORKSHEET, FOLLOW THESE STEPS:**

- Step 1:** Complete Table A to determine the Predicted Odor from your *livestock structures*. Enter the Predicted Odor in Box 3 below (NOT Box 1).
- Step 2:** Complete Table B to determine your Separation Score. Enter your Separation Score in Box 1 below (NOT Box 2).
- Step 3:** Enter your management credits in Box 2 (maximum 100 points). All applicants may enter 80 points for completing required incident response and employee training plans (described on page A-3). Applicants completing an optional odor management plan (described on page A-3), may add an additional 20 points. Applicants determine plan contents, as long as the plan addresses the required topics.
- Step 4:** Add Box 1 and Box 2, subtract Box 3 and enter the total in Box 4. This is your Odor Score.

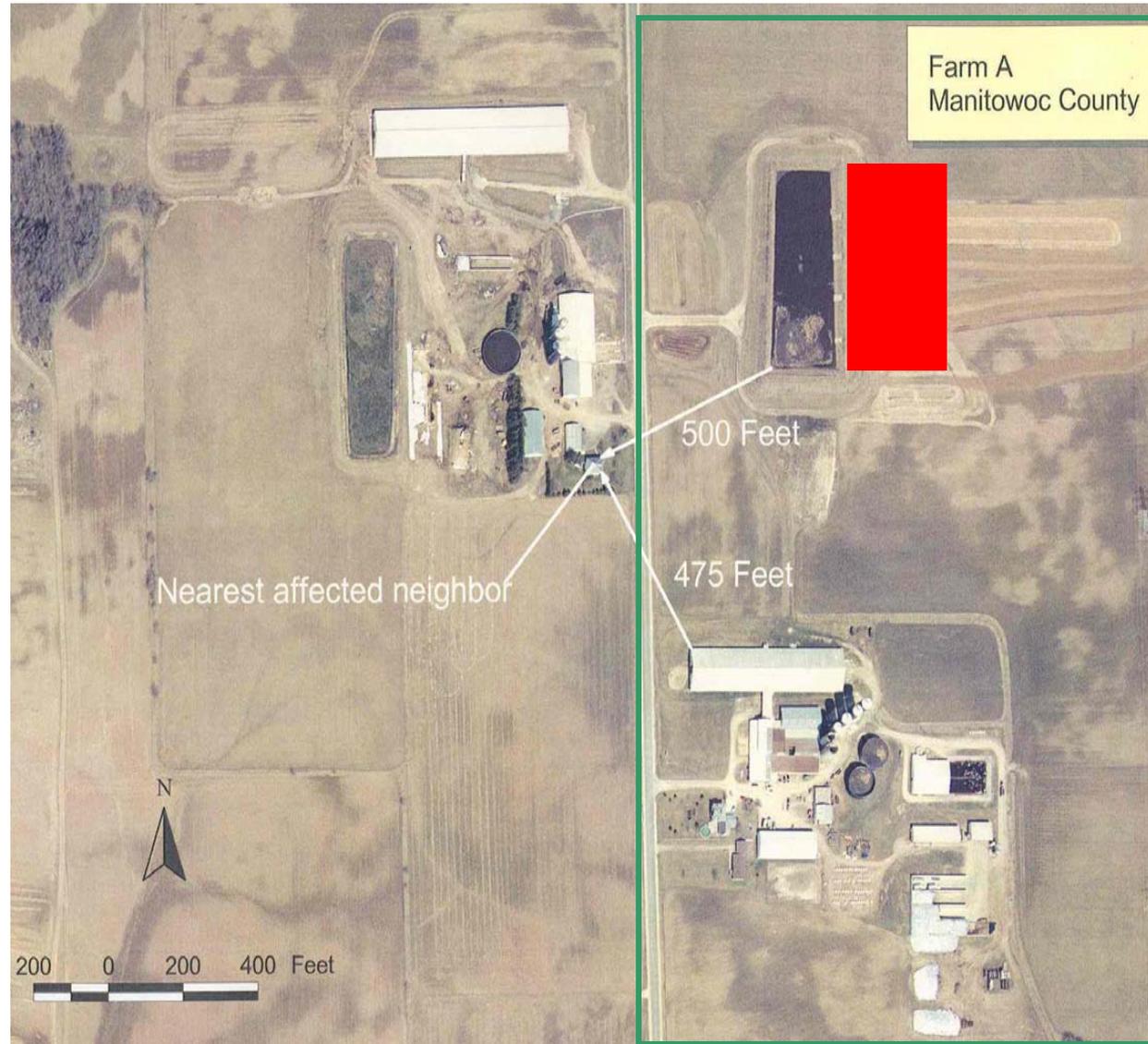


A local government must approve a *livestock facility* with an odor score of 500 or more (Box 4). You may add odor control practices to increase your odor score to 500 or more. A local government may approve, but is not required to approve, a *livestock facility* with an odor score less than 500 but not less than 470.

- **80 points** for completing required management plans
  - Employee training #12
  - Incident response #13
- **20 points** completing advanced odor management plan # 14

# Predicted Odor

- Animal housing
- Waste storage
- Animal lots
- Odor control practices



# **Odor Score**

## **Need 500 Points to Pass**

*If under 500 points something must change:*

- Propose new locations for structures
  - Make management changes
  - Add odor control practices
- 
- Local government can opt to give 30 discretionary points

# Future Expansions



Nearest affected neighbor



- Use same reference point for the odor standard
- Density is “locked in”
- New residences will not be counted in future odor scores

# 38 of 55 Permitted Facilities Comply With Odor Standard > 500 points

	# Facilities
Exempt, < 500 or < 1,000 AU	16
Exempt, distance > 2,500 ft	1
Voluntary compliance (< 1,000 AU)	13
Required to comply (> 1,000 AU)	26

Odor Control Practice Used	# Times (all facilities)
housing--diet manipulation	26
housing--frequent cleaning of animal housing area	25
housing--fresh water flush	1
housing--slatted floor - pork farrowing	1
housing--treated water flush	2
housing--windbreak (includes man-made berms)	5
lot--animal lot moisture control	9
lot--frequent cleaning of animal lot	14
lot--windbreak (includes man-made berms)	3
<b>no practices</b>	<b>3</b>
storage--aeration	3
storage--anaerobic digestion	2
storage--bottom fill	12
storage--chemical or biological additives	3
storage--compost	1
storage--impermeable cover	1
storage--natural crust	7
storage--solids separation and reduction	9
storage--windbreak (includes man-made berms)	6
advanced odor management plan	6

# Odor Control Practices Not Used

- 3 facilities claimed no odor control practices
  - Why? Nearest neighbor > 1,450 feet
- Housing practices
  - Bio-filter
  - Vegetable oil sprinkling
- Storage
  - Bio-cover
  - Geotextile cover
  - Water treatment
- Lots
  - Drag

# New Developments

A photograph of a wastewater treatment facility. In the foreground, there are large concrete tanks filled with dark, murky water. A long, dark, corrugated metal pipe runs across the water. In the background, there are more tanks, pipes, and a yellow excavator. The sky is overcast.

- Practices not in the worksheets
  - E.g. Sand settling lanes
- NR 445 Air Toxics Rule
  - Workgroup
  - Emission control technologies applicable to livestock farms

# Worksheet 3: Waste and Nutrient Management

Part A: Waste Generation and Storage Summary

Part B: Land Base for Applying Nutrients

Part C: Nutrient Management Checklist

# Part A: Waste Generation Worksheet

You are NOT required to complete this worksheet if you already hold a *WPDES* permit for the proposed *livestock facility* (for the same or greater number of *animal units*). Simply check the following box, sign at the bottom of this page, and include a copy of the *WPDES* permit with your application.

I enclose a copy of my *WPDES* permit in place of Worksheet 3.

Specify a single livestock type (dairy, beef, swine, etc.). Use a separate worksheet for each livestock type.

Livestock Type: dairy 

Description of Storage	Column A Waste Storage Capacity (Gallons or Tons)	Column B Source of Waste (Animal Waste, Wastewater, Leachate, etc)	Column C Average Annual Volume of Waste Produced from Each Source (Gallons or Tons)	Column D Total Average Annual Volume Waste Produced (Gallons or Tons)	Column E Storage Duration in Days (Column A divided by Column D times 365 days)
<i>Example: Unit 1 - lagoon</i>	5,000,000 gallons	<i>Animal waste</i>	4,000,000 gallons	7,000,000 gallons	260 days
		<i>Wastewater</i>	1,000,000 gallons		
		<i>Leachate</i>	2,000,000 gallons		
Unit 1					
Unit 2	5,300,000	Animal waste	5,500,000	9,175,000	210
		Wastewater	1,175,000		
		Leachate	2,500,000		
Unit 3					

# Part B: Land Base for Applying Nutrients

Arm-Mr- 11/04 August 2005

Worksheet 3 (continued)

## Part B – Land Base for Applying Nutrients

1. Enter total *animal units* in proposed *livestock facility* (from worksheet 1): 876

2. What percentage of the waste from the *livestock facility* will be:

a. Applied to land: 100%. Attach map showing where waste will be applied to land.

b. Processed and sold as commercial fertilizer, under a fertilizer license: \_\_\_\_\_%.

c. Disposed of in other ways: \_\_\_\_\_%. Describe ways: \_\_\_\_\_

3. Multiply the percent in line 2a by the number of *animal units* in line 1. Result (# of *animal units*): 876

4. Acres of cropland currently available for land application (owned, rented, or landspreading agreement): 1000

5. Divide # of acres in line 4 by # of *animal units* in line 3 to obtain ratio of acres to *animal units*: 1.14

6. Is the ratio in line 5 equal to or greater than the applicable ratio in Table 1? No

If YES, and if the # of *animal units* in line 1 is less than 500, you need NOT complete Part C. Otherwise, complete Part C.

Table 1: Acreage per Animal Unit

Animal Type	Acres per Animal Unit*
Dairy	1.5
Beef	1.5
Swine	1.0
Chickens/Ducks	2.5
Turkeys	5.5
Sheep/Goats	2.0

Spreading maps required

Ratio is not mandatory

# 590 Nutrient Application Restrictions

required with application Worksheet 3 Part B

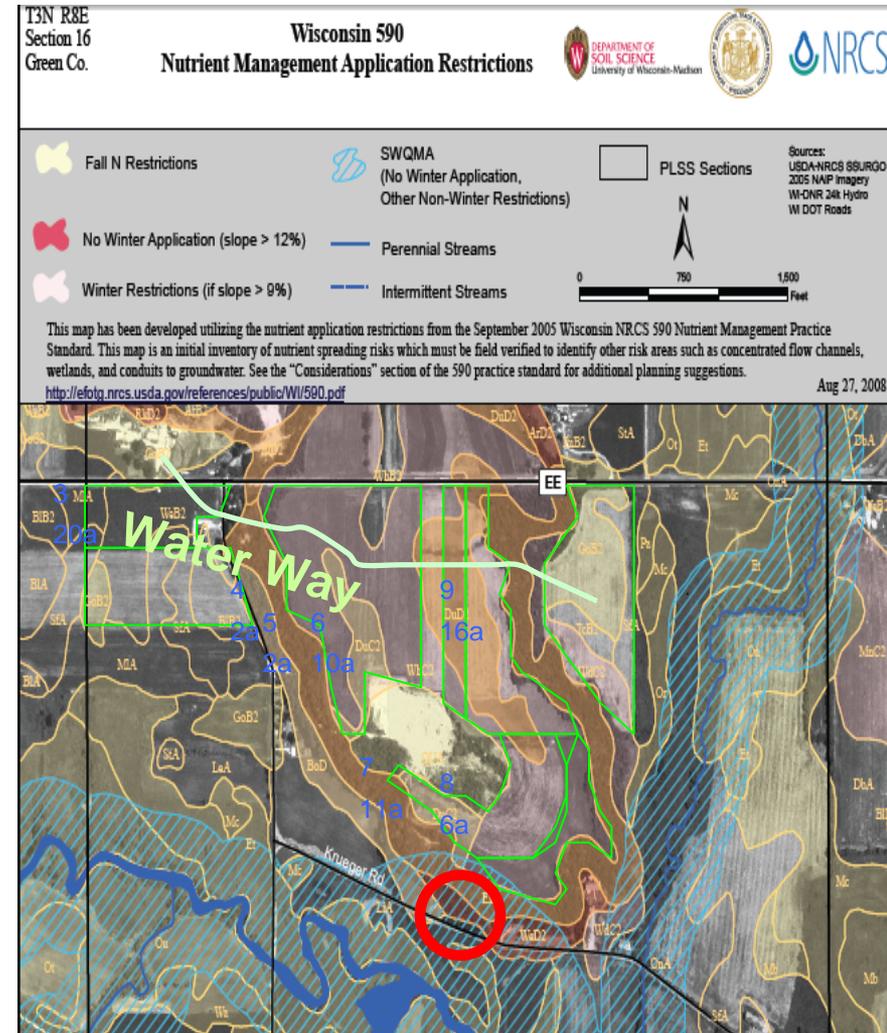
**O** 200' setback from wells, sinkholes, fractured bedrock at the surface - nutrient applications must be incorporated within 72 hours.

**Blue** No winter apps 300' from perennial streams, 1,000' from lake and ponds. Other non-winter application restrictions required.

**Red** No winter apps.

**clear** can have winter manure apps  
**Pink** OK if contoured or if slopes are 9% or less. Winter manure apps can not exceed 7,000 gals/acre or P removal of the crop.

**Yellow** No fall apps of fertilizer N. Fall manure apps limited. Best to Spring apply.



<http://mmas-mapping.soils.wisc.edu/>

# Part C: Nutrient Management Checklist

Worksheet 3 (continued)

## Part C – Nutrient Management Checklist

**Instructions:** All applicants must submit this checklist unless exempted under Part A or B. The checklist is based on *NRCS Technical Guide Nutrient Management Standard 590* (September 2005)

County Name:	Date Submitted:	Township (T. _____ N., S.) – (R. _____ E., W.)
Cropland Acres: (owned, rented, or with manure spreading agreement)		Name of livestock operator submitting checklist:
	Yes	NA
<b>1. Are the following field features identified on maps or aerial photos?</b>		
a) Field location, soil survey map unit(s), field boundary, and field identification number	X	
b) Areas prohibited from receiving nutrient applications: Surface water, established concentrated flow channels with perennial cover, permanent non-harvested vegetative buffer, non-farmed wetlands, sinkholes, lands where established vegetation is not removed, nonmetallic mines, and fields eroding at a rate exceeding tolerable soil loss (T)	X	
c) Areas within 50 feet of a potable drinking water well where mechanically-applied manure is prohibited.	X	
d) Areas prohibited from receiving winter nutrient applications: Slopes > 9% (12% if contour-cropped); Surface Water Quality Management Area (SWQMA) defined as land within 1,000 ft of lakes and ponds or within 300 ft of perennial streams draining to these waters, unless manure is deposited through winter grazing/pasturing of plant residue and not exceeding the N and P requirements of this standard	X	
e) Areas where winter applications are restricted unless effectively incorporated within 72 hours: Land contributing runoff within 200 feet upslope of direct conduits to groundwater such as a well, sinkhole, fractured bedrock at the surface, tile inlet, or nonmetallic mine	X	
f) Sites vulnerable to N leaching: Areas within 1,000 feet of a municipal well, and soils listed in Appendix 1 of the Conservation Planning Technical Note WI-1	X	
<b>2. Are erosion controls implemented so the crop rotation will not exceed T on fields that receive nutrients according to the conservation plan or WI P Index model?</b>		
	X	
<b>3. Check the methods used to determine field soil nutrient levels:</b>		
a) Soil samples were collected and analyzed within the last 4 years according to UW Publication A2100 recommendations	X	
b) For fields not meeting (a.) above, soil test phosphorus levels are assumed to be greater than 100 ppm soil test P. *		X
c) For fields not meeting (a.) above, preliminary estimates of soil nutrients were determined using limited soil sampling (> 5 acre per sample) but analyzed by a DATCP certified laboratory. *		X
*For fields with soil nutrient levels determined under (b) or (c), the applicant must collect and analyze soil samples meeting the requirements of A2100 within 12 months of siting approval, and revise the nutrient management plan accordingly.		
<b>4. Using the field's predominant soil series and realistic yield goals, are planned nutrient application rates, timing, and methods of all forms of N, P, and K listed in the plan and consistent with UW Publication A 2809, <i>Soil Test Recommendations for Field, Vegetable and Fruit Crops</i>, and the 590 standard?</b>		
	X	
<b>5. Do manure production and collection estimates correspond to the acreage needed in the plan? Are manure application rates realistic for the calibrated equipment used?</b>		
	X	
<b>6. Is a single phosphorus (P) assessment of either the P Index or soil test P management strategy uniformly applied to all fields within a tract?</b>		
	X	
<b>7. Are areas of concentrated flow, resulting in reoccurring gullies, planned to be protected with perennial vegetative cover?</b>		
	X	
<b>8. All nutrient applications on non-frozen soil within the SWQMA comply with the following?</b>		
a) Unincorporated liquid manure on unsaturated soils will be applied according to Table 1 of the 590 standard to minimize runoff	X	
b) One or more of the following practices will be used: 1) Install/maintain permanent vegetative buffers, or 2) Maintain greater than 30% crop residue or vegetative coverage on the surface after nutrient application, or 3) Incorporate nutrients leaving adequate residue to meet tolerable soil loss, or 4) Establish fall cover crops promptly following application	X	
<b>9. Is a narrative included which describes proposed manure collection, transportation, and application methods?</b>		
	X	

- Different than other 590 checklists

- Signature of Nutrient Management Planner

- Signature of applicant

I certify that the documentation supporting this checklist is complete and accurate:

Signature of *Qualified Nutrient Management Planner*, other than applicant: \_\_\_\_\_  
 (qualified by 1. NAICC-CPCC, 2. ASA-CCA, 3. ASA-Professional Agronomist, 4. SSSA-Soil Scientist)

Signature of Applicant or Authorized Representative: \_\_\_\_\_

# Documentation for NM ATCP 51.16

- Complete nutrient management plan is not required with the application
- Local government may request documentation that the planner relied upon to substantiate the answers to questions on the NM checklist
- Local government can deny approval if the documentation does not reasonably substantiate the answers.

# CAFO Nutrient Management = 590 + NR 243 Revised in 2007

- **Manure/process wastewater may not be applied:**
  - On areas with < 24 in. to bedrock/groundwater
  - Within 100 ft. of private well/1000 ft. municipal well
  - On fields with  $\leq 5$  ft. over fractured bedrock when ground is frozen or snow-covered
- **Identification of subsurface drainage systems**
- **2nd year nutrient crediting**
- **SWQMA = 1000' of a lake, 300' of a stream or conduit to a navigable water**
  - 100 foot application setback or equivalent practice, or 35-foot vegetated buffer
  - Equivalent practices are a combination of reduced setbacks, conservation practices and/or hydraulic loading restrictions
- **Additional P Restrictions for soils >100 ppm**
- **Build and maintain 180-day storage for liquid manure**

# CAFO

## Frozen or Snow-Covered Ground

- No surface applications of solid ( $\geq 12\%$  solids) & liquid manure on frozen/snow covered ground during February and March

### Liquid Manure (<12% solids)

- No non-emergency surface applications of liquid manure on frozen/snow covered ground
- Allowances for surface applications of frozen liquid manure that cannot be transferred to storage



# Waste Storage Facilities: ATCP 51.18

- New and altered structures designed to NRCS standards
- Certification that existing storage:
  - Is not leaking / failing, or repair plan developed
  - Will be closed properly
- Certify capacity
- Signed by licensed engineer or practitioner

Actm. brv. 11/04 Jan. 2005	<b>Worksheet 4</b>
	<b>Wisconsin Department of Agriculture, Trade &amp; Consumer Protection</b> 2811 Agriculture Drive, PO Box 8911, Madison WI 53708-8911 Phone: (608) 224-4611 or 608-224-4610
<b>Waste Storage Facilities</b>	
<b>Instructions:</b> This worksheet must be signed by a registered professional engineer or certified agricultural engineering practitioner. This worksheet must identify every waste storage facility in the proposed livestock facility (including storage structures and transfer systems).	
<b>New or Substantially Altered Facilities:</b> Design specifications for the following new or substantially altered waste storage facilities comply with NRCS Technical Guide Standards 313 (November 2004) and 634 (November 2004):	
Identify each facility and attach design specifications for each facility	
<b>Existing Facilities Retained:</b> The following waste storage facilities will continue in use without substantial alteration. Each facility meets one of the following:	
<input type="checkbox"/> The facility (list each facility _____) was constructed of concrete or steel or both, was constructed within the last 10 years according to then-existing NRCS technical standards, and shows no apparent signs of structural failure or significant leakage.	
<input type="checkbox"/> The facility (list each facility _____) was constructed within the last 3 years according to then-existing NRCS technical standards, and shows no apparent signs of structural failure or significant leakage.	
<input type="checkbox"/> The facility (list each facility _____) was constructed NRCS technical standards that existed at the time of construction, is in good condition and repair and shows no apparent signs of structural failure or significant leakage.	
<input type="checkbox"/> The facility (list each facility _____) is in good condition and repair, shows no apparent signs of structural failure or significant leakage, and is located on a site at which the soils and separation distances to groundwater comply with NRCS technical guide manure storage facility standard 313, table 1 (November, 2004).	
<input type="checkbox"/> The facility (list each facility _____) is in good condition and repair, shows no apparent signs of structural failure or significant leakage, is located entirely above ground, and is located on a site at which the soils comply with NRCS technical guide manure storage facility standard 313, table 5 (November, 2004).	
<b>Storage To Be Abandoned:</b> The following waste storage facilities will be closed according to a closure plan that complies with NRCS Technical Guide Standard 360 (June 2001). Attach closure plan for each facility	
<b>Total Storage Capacity:</b> The waste storage facilities in the proposed livestock facility have a combined useable storage capacity of _____ cubic feet (cannot include required "freeboard" in useable capacity).	
Applicant Signature _____	Date _____
Professional Engineer's Embossed Seal _____	Print Name of Engineer (include WI License No.) or Certified Practitioner _____
Signature of Engineer or Practitioner _____	Date _____
Name of Firm and Address _____	

# Worksheet 4: Waste Storage

- **Engineer must inspect existing structures for leaks and structural integrity**
  - Physical inspection of the structure
  - Groundwater samples can be required if signs of failure or leakage
- **What happens if storage is leaking or failing?**
  - Make repairs to the structure to continue use
  - Properly abandon structure

*State cost-sharing is not required - s. 93.90*



# New Development DNR CAFO Rule NR 243 Revised in 2007

- NR 243.15 Design, submittal and approval of proposed facilities or systems.
  - 180 days of storage
  - Digesters for biogas production
  - More
- NR 243.16 Evaluations of previously constructed facilities or systems

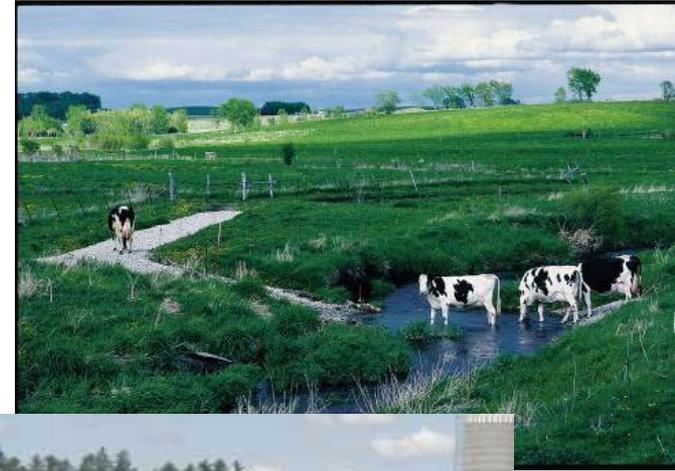
# Runoff Management: Worksheet 5



- Control runoff from animal lots
- Manage leachate from feed storage
- Meet nonpoint standards for livestock farms

# Animal Lot Runoff

- New or Substantially Altered:
  - Build to NRCS 635 specs
  - Attach design specifications
- Existing (within 300' stream / 1000 ft lake):
  - Run BARNY
  - Each lot less than 5 lbs runoff/year
  - May make minor alterations
  - Measure at end of treatment area
  - No direct conduit to groundwater
- Existing (all others)
  - Run BARNY
  - Each lot less than 15 lbs runoff/year



# Animal Lots

- **Treat multiple lots as one animal lot** if runoff from the animal lots drains to the same treatment area or if runoff from the animal lot treatment areas converges or reaches the same surface water within 200 feet of any of those treatment areas.
- **Minor alterations** may include conservation practices such as runoff diversions, contouring and planting vegetation

# New Development

## New Animal Lot Evaluation Tool

- New NRCS Barnyard Evaluation Rating Tool (BERT)
- BARNY is based on older Agricultural Research Station research
  - Young, Huntrods, and Anderson, “Effectiveness of Nonstructural Feedlot Discharge Control Practices,” Paper No. 78-2572 at ASAE in 1978.
  - ARM-NC-17, “An Evaluation System to Rate Feedlot Pollution Potential,” April 1982.

# Runoff Management Feed Storage

- All feed storage must be managed to “prevent significant discharge”
- Requirements for storage of high moisture feed (70%)
  - Existing
  - New or substantially altered



# High Moisture (70%) Feed Storage



- Existing paved areas and bunkers:
  - Divert runoff
  - Collect and treat leachate if one or more acres
- New or altered buildings, bunkers and paved areas:
  - Divert runoff
  - Collect and treat leachate
  - Locate 3 feet above groundwater and bedrock
  - If over 10,000 sq ft, collect leachate from cracked floors

# Subsurface Drainage System

- Drainfill below surfacing material
- Tile network to collect leachate passing through surfacing material
- Subliner or suitable soils
- Store collected leachate for proper disposal

# New Development New Design Criteria for Feed Storage Leachate Control

- NRCS Standard 629, Waste Treatment
- NR 243.15(9) feed storage

# Nonpoint Pollution Standards Worksheet 3

## Nonpoint Pollution Standards

The livestock facility will be designed, constructed and maintained to do all of the following:

1. Divert runoff from contact with *animal lots, waste storage facilities*, paved feed storage areas or manure piles within 300 ft. of a stream or 1,000 ft. of a lake.
2. Avoid having any unconfined manure pile within 300 ft. of a stream or 1,000 ft. of a lake.
3. Prevent any overflow of *waste storage facilities*.
4. Restrict livestock access to waters of the state, as necessary to maintain adequate vegetative cover on banks adjoining the water (this does not apply to properly designed, installed and maintained livestock or farm equipment crossings).

\_\_\_\_\_  
Signature of Applicant or Authorized Representative

\_\_\_\_\_  
Date

Professional Engineer's  
Embossed Seal

\_\_\_\_\_  
Print Name of Engineer (include WI License No.) or Certified Practitioner

\_\_\_\_\_  
Signature of Engineer or Practitioner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name of Firm and Address

<sup>1</sup> Runoff may be diverted by means of earthen diversions, curbs, walls, gutters, waterways or other practices, as appropriate.

<sup>2</sup> Use safe methods to dispose of collected leachate. For example, leachate may be transferred to waste storage, and then

# New Development

## Proposed NR 151 Revisions

- Prohibition against significant discharge of process wastewater from milk houses, feedlots and other sources
- Limit on phosphorus runoff from croplands as measured by a phosphorus index
- Use of targeted performance standards to reduce discharges needed to meet Total Maximum Daily Load (TMDL)

# New Developments Revisions to NRCS Standards Referenced in ATCP 51

## WASTE STORAGE FACILITY

(No.)  
Code 313

Natural Resources Conservation Service  
Conservation Practice Standard

### I. Definition

A waste storage *impoundment*<sup>1</sup> made by constructing an embankment and/or excavating a pit or dugout, or by fabricating a *structure*.

### II. Purpose

To temporarily store wastes such as manure, *manure processing derivatives*, *leachate*, *wastewater*, and *contaminated runoff* in a manner which safeguards the environment.

### III. Conditions Where Practice Applies

This standard applies to:

Wisconsin Department of Natural Resources (WDNR).

- closure of waste storage facilities. For information related to closures refer to the criteria contained in Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV, Standard 360, Closure of Waste Impoundments.

### IV. Federal, State and Local Laws

Waste storage facilities shall comply with all federal, state, and local laws, rules or regulations. The operator is responsible for securing required permits. This standard does not contain the text of the federal, state, or local laws governing waste storage facilities.

## MANURE TRANSFER

(No.)  
Code 634

Natural Resources Conservation Service  
Conservation Practice Standard

### I. Definition

A manure conveyance system using structures, conduits, or equipment.

### II. Purposes

To transfer animal manure (bedding material, spilled feed, process and wash water, *wastewater*<sup>1</sup>, *contaminated runoff*, *leachate* and other fluids and residues associated with animal production may be included) in a manner which safeguards the environment. It includes transfer through a hopper, reception structure or tank, a pump, *channel*, or conduit to:

- A manure storage/treatment facility,
- A wastewater treatment strip,
- A loading area,
- Cropland or satellite storage facilities using permanent conduits or pipelines.

### III. Conditions Where Practice Applies

The manure transfer component is part of a planned agricultural waste management or comprehensive nutrient management system.

regulations or permit requirements governing manure transfer. This standard does not contain the text of the federal, state or local laws.

### V. Criteria

The following **minimum** criteria shall apply to all transfer designs.

#### A. General Criteria

##### 1. Management Assessment

A management assessment shall be conducted, documented, and incorporated into the design. The assessment shall be performed with the owner/operator to explore options and to determine the purpose of transfer components, available resources, manure handling practices, and waste characterizations. Pertinent items in the Management Assessment criteria in V. A. 1. of Wisconsin NRCS Field Office Technical Guide (FOTG) Section IV, Standard 313, Waste Storage Facility, shall be followed.

##### 2. Site Assessment

- 313 waste storage facility
- 634 manure transfer
- 360 closure of waste impoundments
- 635 vegetated treatment area (wastewater treatment strip)

# 12 of 26 Facilities >1000 AU Used Their CAFO Permit in the Local Application

<b>Standard</b>	<b>Substitute with CAFO Permit?</b>
<b>Worksheet 1: Animal Units</b>	<b>No</b>
<b>Worksheet 2: Odor Management</b>	<b>No</b>
<b>Worksheet 3: Waste and Nutrient Management</b>	<b>Yes</b>
<b>Worksheet 4: Waste Storage</b>	<b>Yes</b>
<b>Worksheet 5: Runoff Management</b> <b>-- Animal Lot</b> <b>-- Feed Storage</b>	<b>Yes</b>

# New Development Proposed Large Dairy & Small/Medium WPDES General Permits

Based on proposed GP:

- 4 LS permits Poultry, Swine, Dairy/Swine CAFOs = no GP coverage
- 22 LS permits = Large Dairy GP (< 5720 AU)
- 29 LS Permits = Small/Medium GP (300-999AU)

## **LARGE DAIRY CONCENTRATED ANIMAL FEEDING OPERATIONS**

**Fact Sheet For Public Notice**

**WPDES Permit No. WI-0063274-01**

**February 2010**

### **Background and Rationale**

The Wisconsin Department of Natural Resources (the Department) has developed General Wisconsin Pollutant Discharge

# Application Review ATCP 51.30 & 51.32

- Applications often submitted incomplete
  - Completeness determination – 45 days
  - Final approval – 90 days
- Resources and expertise varies - up to 120 hours to review an application
  - County land conservation departments
  - Zoning officials
  - Town boards
  - Consultants, enviro groups, neighbors

# Compliance with permit conditions ATCP 51.34(4)

- Local governments monitor compliance with permit conditions and enforce violations
- Permit outlines a producers compliance obligations

## Farm practices concern environmental group

By Jim Massey

Editor

An environmental group is asking the Wisconsin Department of Natural Resources to take enforcement action against a Crawford County pork producer they say is violating state rules.

Crawford Stewardship Project members say they want the DNR to bring the Roth Feeder Pig operation near Wauzeka into compliance with state clean water requirements. They say the swine operation was recently expanded to become a concentrated animal feeding operation before a DNR water-quality permit was received.

State law requires CAFOs with 1,000 or more animal units to have a Wisconsin pollutant discharge elimination system permit that includes a nutrient-management

plan and other restrictions needed to protect surface water and groundwater. According to a recent inspection of the farm, the Roth facility was over the animal limit prescribed by CAFO rules.

Howard "A.V." Roth, the farm's owner and operator, said the application he filed for his WPDES permit was delayed in processing due to a change in DNR personnel.

"My nutrient-management plan was all done last March, but they didn't look at it until October," Roth said. "All I have to do is fax a piece of paper to them and (the review) should be complete. They can't sign off on it until

they get that part done too."

Roth said he hopes the situation will get straightened out within the next few weeks.

Roth said his operation is just over the 1,000-animal-unit threshold that triggers a WPDES permit.

"I guess they need something to talk about," Roth said about the Crawford Stewardship Project members.

Once the application is ruled complete, the DNR will prepare a draft WPDES permit for public review and schedule a public hearing.

The CSP members said they are planning a "thorough review of the application by experts in the engineering and nutrient-management field as soon as all of the required documents are received by the DNR."

The CSP and the Madison-based Midwest Environmen-

tal Advocates in 2008 filed an appeal to object to the Roth livestock farm's expansion. Wisconsin's Livestock Facility Siting Review Board reviewed the case and eventually cleared the way for Roth to expand his operation to 2,900 sows and 4,100 animals.

Crawford County Conservationist Russ Hagen said Roth is complying with the provisions of his county permit but not his DNR permit.

"We did an animal head count and he's under the 1,401 animal units that he's permitted to have under his county permit," Hagen said. "He has a (county) permit and he's following the provisions of his permit."

Hagen said the county regu-

Country Today 2-11-09

# Questions?

