

Final Report

Agricultural Targeted Runoff Management & Notice of Discharge Grant Programs

NOTICE: This document is required under s. 281.65, Wis. Stats., and chs. NR 153 and 154, Wis. Adm. Code. A final project report must be submitted as part of the final reimbursement request. Personally identifiable information contained in this form will be used for determining reimbursement eligibility in the Targeted Runoff Management and Notice of Discharge Grant Programs and will not be used for any other purpose.

INSTRUCTIONS: Send the completed, electronic copy of this form and all attachments to the Department of Natural Resources (DNR) Region Nonpoint Source Coordinator. Please read all instructions prior to completion.

Grant Type		
Select Grant Type Notice of Discharge		
Project Name & Location		
Project Name Kaeding Manure Storage System		
Grant Number LC14-18000-N13		Governmental Unit Name Eau Claire County
County Eau Claire	Watershed Name Bears Grass Creek	12-Digit HUC 070500060503
Project Contact Name Greg Leonard	Phone Number (715) 839-4784	E-mail Address Greg.Leonard@co.eau-claire.wi.us
<input type="checkbox"/> For a project with multiple site locations, an aerial photo map is attached with each site location labeled.		

Site Location - 1							
Name of Cost-Share Recipient Mark C & Catherine S Kaeding					Animal Units 630	Nearest Receiving Waterbody Bears Grass Creek	
Township 26	Range 07	E / W W	Section 22	Quarter NE	Quarter/Quarter NE	Latitude 44.725389	Longitude -91.2075
Compliance Requirements - 1							
Chs. NR 151 or 243 Wis. Adm. Code Notice Type NOI / NOD		Notice letter attached <input checked="" type="checkbox"/>	Compliance achieved? If no, explain in site information <input checked="" type="radio"/> Yes <input type="radio"/> No			Compliance determination letter attached <input checked="" type="checkbox"/>	
<input checked="" type="checkbox"/> Attached is a copy of the written statement the County provided to the landowner and cost-share recipient of the landowner's obligation to maintain compliance with performance standards & prohibitions on cropland and livestock facilities addressed by the cost-share agreement. Compliance at these sites must be maintained in perpetuity regardless of future cost sharing. The County has also placed a copy of this written statement in the County files.							

Summary of Results - 1							
Best Management Practice Installed	Quantity	Unit of Measure	Performance Standard/Prohibition Addressed	Total Installation Cost	Load Reduction		
					Phosphorus lbs/yr	Nitrogen lbs/yr	Sediment Tons/yr
Manure Storage Systems	1	No.	Code(s) 10	\$505,481.41	848	1560	n/a
Manure Storage Systems	0	No.	Code(s) 10	\$12,285.71	ineligible	costs	
Subsurface Drains	600	Feet	Code(s) 10	\$12,921.02	tracked	w/Manure	Storage
Waste Transfer Systems	1	No.	Code(s) 10	\$119,521.00	tracked	w/Manure	Storage
Waterway Systems	1	Acres	Code(s) 10	\$12,130.92	tracked	w/Manure	Storage
Diversions	400	Feet	Code(s) 10	\$12,130.92	tracked	w/Manure	Storage
Roof Runoff Systems	1	No.	Code(s) 10	\$21,384.40	tracked	w/Manure	Storage
Nutrient Management	1,420	Acres	Code(s) 9	\$0.00	not	cost -	shared
Manure Storage Systems	0	No.	Code(s) 10	\$59,395.00	consulting	engineerin	services

Site Location Attachment - 1

Check the box if the required information for the site is attached:

- Photos of pre-and post-implementation of BMP(s) Load reduction modeling documents
 Aerial photo map of site with BMPs labeled Water quality monitoring results/summary, if applicable

Site Information - 1

Narrative space will expand to fit

Mark Kaeding's previous existing manure storage structure was built in 2001. At that time, his structure was intended to contain between 2 and 4 months' worth of storage. Since the original structure was built, Mark's dairy herd had doubled in size. Mark estimated he had capacity within the previous structure for 3 to 4 weeks. This estimate may be over exaggerated as Mark needed to pile the sand-laden manure within the existing pit higher than the top of the structure. If filled to within 1 foot of the top of the structure, his actual capacity was estimated at 10 days. This structure would often overflow because of winter weather prevented timely applications. This would lead to runoff into nearby Bears Grass Creek.

Since the BMPs have been completed, all manure from this facility is now being stored. The design of this facility includes a passive solid/liquid separation system which is believed the first of its design to be built in Wisconsin. To date, Mark has been pleased with the system's functionality.

- DNR may use this site as a success story to meet state and federal reporting needs.

Additional Project Information and/or Comments

Narrative space will expand to fit

Items listed on Page 1 (Summary of Results) were all components of the completed manure storage system. Consulting engineering services were as described in the Supplemental Information submitted with the original application.

Grantee Certification

A responsible government official (authorized signatory) must authorize and date the final report form prior to submittal to DNR.

I certify that, to the best of my knowledge, the project is complete and the information contained in this final report and attachments are correct and true.

Name of Authorized Government Official	Title of Authorized Government Official	Date
Kelly R. Jacobs	Land Conservation Supervisor	02/15/2016

For DNR Use Only

- Received complete reports with all attachments Practices implemented were consistent with the grant agreement

Comments about this project:

NOI issued June 14, 2013. With project completion, the winter manure storage overflows and liquid manure applications on frozen snow covered ground with steep slopes has been eliminated. The resulting pollutant reductions have been estimated at 848 lbs/P and 1560 lbs/N on an annual basis. The Kaeding facility housed approximately 500 AU's at the time of NOI issuance and 630 AU's as of Dec. 31, 2013. NRCS EQIP funding was also utilized for the project. Overall cost share rates by BMP does not exceed 70%. The two stage storage facility was designed to hold a minimum of 180-days of storage; utilizing an NRCS engineering assumption that the liquid separation process would fail. Storage capacity was calculated for 600 AUs (500 AUs x 0.2% = 600 AU's).

Name of Region Nonpoint Source Coordinator	Date
Terence M. Kafka	02/19/2016

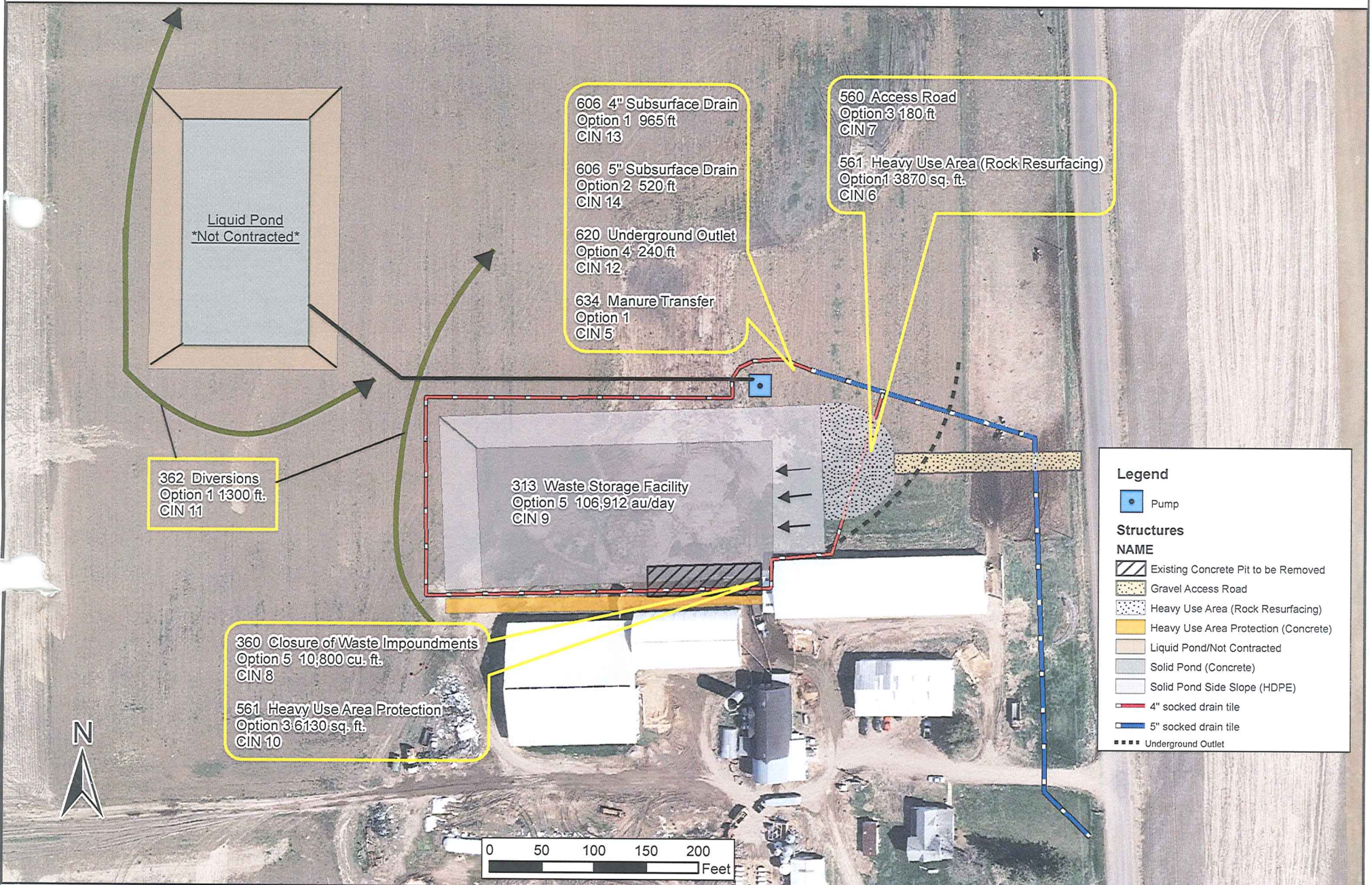
Send the Final Report and attachments to the Community Financial Assistance Grants Manager and to the Runoff Management Grant Coordinator. Keep a printed copy for the Region file.

CUSTOMER: Kaeding Dairy LLC
 Legal Description: Farm 3672 Tract 2049
 T26N R07W Section 22

Kaeding Dairy EQIP

Date: 3/4/2015

Field Office: ALTOONA SERVICE CENTER
 Agency: USDA-NRCS



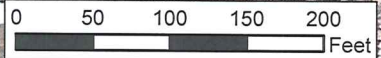
Legend

Pump

Structures

NAME

- Existing Concrete Pit to be Removed
- Gravel Access Road
- Heavy Use Area (Rock Resurfacing)
- Heavy Use Area Protection (Concrete)
- Liquid Pond/Not Contracted
- Solid Pond (Concrete)
- Solid Pond Side Slope (HDPE)
- 4" socked drain tile
- 5" socked drain tile
- Underground Outlet





June 14, 2013

Mark C. & Catherine S. Kaeding
E18325 County Road V
Augusta, WI 54722

Subject: Notice of Intent (NOI) to issue a Notice of Discharge (NOD)

Dear Mr. & Mrs. Kaeding:

This correspondence is regarding current surface and groundwater quality concerns associated with your livestock operation. During previous meetings, you have expressed interest in addressing these concerns by installing and implementing the necessary best management practices to bring your livestock facility into compliance with state code and county ordinance requirements. The livestock facility is located at S7450 Morning Crest Drive, Augusta, WI 54722, also described as the NE¼, NE¼, Section 22, T26N, R7W, Town of Lincoln, Eau Claire County.

An on-site review was conducted at your facility on April 4, 2013. Participants included Mark Kaeding (owner); Greg Leonard (Eau Claire County LCD); John Sippl (NRCS); and Terence Kafka (DNR). The intent of the review was to assess the facility for potential water quality impacts and compliance with the Agriculture Performance Standards and Prohibitions (Chapters NR 151 & NR 243, Wis. Adm. Code).

In 2001, a manure storage facility was constructed to store three-months of liquid manure and process wastewater generated by approximately 250 animal units (AU's). The facility currently houses 500 AU's and available storage capacity has been reduced to less than one-month. A final expansion to 630 AU's is planned by the end of 2013. The facility has developed and follows a nutrient management plan, but there are concerns about potential water quality impacts posed by winter spreading.

During the April 4, 2013 review, the following issues were documented:

- 1) Manure Storage Overflow. The lack of adequate storage greatly limits the flexibility to access crop fields to apply liquid manure during periods of poor soil conditions and / or excessive snow cover. Evidence of manure over-topping the structure was evident during the review. Chronic manure overflow incidents increases concerns about potential impacts to groundwater and surface water. Groundwater impact concerns result from discharges into a swale which retains the manure until snowmelt or rainfall causes it to overflow. Surface water impacts occur after the swale overflows into the road ditch and flows into Bear Grass Creek.
- 2) Winter Manure Applications. Lacking adequate storage, the facility commonly land applies liquid manure on frozen and/or snow covered ground. The lack of suitable field availability for winter applications poses additional concerns as the area consists of rolling topography and is prone to runoff. During the review, it was observed that an adjacent crop field had received a recent application of liquid manure. The field was estimated to have a slope of 7-9% and snow melt runoff would flow into the same swale which contained manure deposited from the last manure storage overflow.

Based upon site review findings, it is the Department's determination that you are not in compliance with the manure management prohibitions as defined within s. 151.08, Wis. Adm. Code. Specifically, s. 151.08 (2) & (4), which respectively state the following:

- A livestock operation shall have no overflow of manure storage facilities.
- A livestock operation shall have no direct runoff from a feedlot or stored manure into the waters of the state.

The aforementioned activities are deemed as "unacceptable practices" and pursuant to s. 243.24(3), Wis. Adm. Code, the Department is issuing you a Notice of Intent (NOI) to issue a Notice of Discharge (NOD). In response to this determination, the Eau Claire County Land Conservation Department submitted a Cost-Share Grant Application for NOI/NOD Project Funding on your behalf on April 12, 2012. **The DNR and DATCP reviewed the application and jointly made the decision that the DNR would fund the grant request in the amount of \$163,400.00.**

The grant award is at a state cost share rate of 70% and was calculated to accommodate manure generated by 600 AU's, which is equivalent to a 20% expansion. Eau Claire County will administer the grant, which includes the requirement to sign a cost share agreement with Eau Claire County. The grant provides funding for the construction and installation of the following best management practices (BMP), as well as consulting services:

- Manure Storage Systems
- Diversions
- Roof Runoff Systems
- Subsurface Drains
- Waste Transfer Systems
- Waterway Systems
- Consultant Engineering Services

Although there are some management measures that the state must provide cost share funding for, this does not include basic management changes that you may need to make to prevent future discharges. As such, you will ultimately be required to make any required management changes regardless of cost share funding availability.

The purpose of this NOI is to inform you that unless you take the necessary actions to reduce or eliminate the aforementioned discharges from your livestock facility, you will be issued a Notice of Discharge (NOD). If a NOD is issued, you will be required to install the corrective measures without cost share assistance. All best management practices must be constructed / installed by the grant deadline to be eligible for cost share funding. The grant award deadline is July 31, 2014.

Your cooperation toward addressing these discharge issues and improving water quality within Bear Grass Creek and the Lower Eau Claire River Watershed is greatly appreciated. Feel free to contact me at (715) 355-1363 if you have further questions.

Sincerely,



Terence M. Kafka
Nonpoint Source Program Regional Coordinator

cc: Greg Leonard, Eau Claire County LCD (e-copy)
Kelly Jacobs, Eau Claire County LCD (e-copy)
John Sippl, NRCS (e-copy)
Bob Baczynski, DNR, Baldwin (e-copy)
Amy Callis, DNR, WT/3 (e-copy)
Tim Parsons, DNR, CF/2 (e-copy)
Coreen Fallet, DATCP (e-copy)



Eau Claire County
LAND CONSERVATION DIVISION

Department Of Planning And Development
227 First Street West, Altoona, WI 54720
Phone: (715) 839-6226 ♦ Fax: (715) 839-6277
www.co.eau-claire.wi.us

Housing & Community
Development
839-6240
Emergency Services
Management
839-4736
County Surveyor
839-4742
Planning & Development
839-4743
Building Inspection
839-2944

February 8, 2016

Mark C & Catherine S Kaeding
E18325 County Road V
Augusta, WI 54722

RE: Notice of Continuing Compliance with Wisconsin Administrative Code NR 151

Dear Mark & Catherine:

You have been offered cost-share funds to install, operate, and maintain best management practices on your property located at S7450 Morning Crest Drive, Town of Lincoln, Eau Claire County, Wisconsin. The specific funds offered to you are as follows:

____ DATCP funds in the amount of _____
____ NRCS funds in the amount of _____
 X DNR funds in the amount of \$163,400.00
____ funds in the amount of _____

The conservation practices installed under a cost-share agreement will result in compliance with the following performance standards:

____ NR 151.02 Sheet, rill and wind erosion
____ NR 151.05 Manure storage facilities
____ NR 151.06 Clean water diversions
____ NR 151.07 Nutrient management
 X NR 151.08 Manure management prohibitions
____ OTHER: _____

By voluntarily agreeing to accept the cost-share funds, you will be required to sign a cost-share agreement that specifics your rights and responsibilities. If you are not the property owner, the property owner will also be required to sign the agreement.

You acknowledge that the cost-share funds being offered are a bona fide offer of cost-share as required under Wisconsin Administrative Code ATCP 50.08. The cost-share agreement requires that you comply with the performance standards during the maintenance period. In addition to the maintenance period specified in the cost-share agreement, you will be required to comply with the performance standards beyond the term specified in the cost-share agreement.,

You will be required to sign the cost-share agreement. In addition, you and any other individuals involved (i.e. property owner, spouse, etc.) will also need to read and acknowledge this notice of continuing compliance. By signing the cost-share agreement and this notice of continuing compliance, you acknowledge that you have not received any other cost-share funds for the same practice within the last three years.

Mark C. Kaeding
Property Owner's Signature

2-9-16
Date

Catherine S Kaeding
Property Owner Spouse's Signature

2-9-16
Date

Cost-Share Fund Recipient's Signature

Date

Spouse's Signature

Date

Kathy R. J...
County Representative's Signature

2-8-2016
Date



Eau Claire County
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County Surveyor
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Planning & Development
839-4743
Building Inspection
839-2944

February 9, 2016

Mark & Catherine Kaeding
E18325 County Road V
Augusta, WI 54722

Dear Mark & Catherine,

In June 2013, you received a letter from the Wisconsin Department of Natural Resources (DNR). This correspondence was in relation to your livestock operation located at S7450 Morning Crest Drive, Augusta, WI, and was in relation to the issuance from the DNR of a Notice of Intent (NOI) to issue a Notice of Discharge (NOD). Specifically, the operation was found not in compliance with the manure management prohibitions as defined within s. 151.08, Wis. Adm. Code. Specifically, s. 151.08 (2) & (4), which respectively state the following:

- A livestock operation shall have no overflow of manure storage facilities.
- A livestock operation shall have no direct runoff from a feedlot or stored manure into the waters of the state.

Since then you have worked cooperatively with the USDA-Natural Resources Conservation Service and our office to install corrective measures addressing the NOI/NOD.

I am happy to announce that our office has determined your livestock facility mentioned above is now in compliance with the s. 151.08 (2) & (4).

If you have any questions or concerns, please feel free to contact our office at any time.

Sincerely,

Greg Leonard, CCA
Conservation Planner - Agronomist

Name Mark Kaeding

MANURE STORAGE RATING
SURFACE WATERS

SPRING RUNOFF:

High Hazard-
Low Hazard-

3 lbs lost per acre
1 lbs lost per acre

DATE: Feb 10, 2016

BY: grl

Ver 1.1 4/21/97

Acres at rate of 54 lbs of P per acre

221 acres

Ratio of high hazard acres to total acres

0.61 ratio

IS THERE ENOUGH CROPLAND TO HANDLE NITROGEN IN MANURE ? NO

P lost per acre based on high haz. acre ratio

2.23 lb P per acre

Total manure collected in year: 11038 tons

Acres needed to use avail. N : 380 acres

Acres available to spread on : 62 acres

Total lost in spring runoff

492 lbs

IF ALL WINTER MANURE WERE SPREAD ON LOW HAZARD ACRES,
WOULD THERE BE ENOUGH ACRES AVAILABLE ? NO

MASS LOAD: lbs gained per acre

High Delivery :

2 lbs per acre

Low Delivery :

1 lbs per acre

Acres needed to take winter manure: 221 acres

Low hazard and winter spreadable : 72 acres

ACRE DEFICIT: 149 acres

Acres at rate of 54 lbs of P per acre

221 acres

Ratio of high delivery acres to total acres

0.61 ratio

P lost per acre based on high delivr. acre ratio

1.61 lb P per acre

IF ALL MANURE IS STORED AND MANAGED AS A NUTRIENT,
HOW MUCH PHOSPHORUS WILL BE SAVED? 848 lbs of P saved

Total P gained by mass load reduction

356 lbs

P saved due to no winter spreading: 492 lbs P

P saved due to nutrient management: 356 lbs P

Total gained from both spring runoff and MASS LOAD

848 lbs

SPACE TO TRY RATING METHODS:

(Try basing 50% on P saved and 50% on high hazard acre ratio)

TABLE 1

N gained from P gained:

1560.13

P saved- 50

High Haz. Ratio- 31 Rating (0 to 100)= 81

Species/mgmt % Dry Matter

TOTAL
N P2O5 K20

Available
N

Dairy, solid, fresh	12.7
Beef, solid, fresh	11.6
Swine, solid, fresh	9.2
Poultry, solid, fresh	25.2

N	10	5	10
P2O5	14	9	11
K20	10	6	9
TOTAL	25	25	12

Available N	4
	4
	4
	13

VOLUME OF MANURE PRODUCED

A. Critical Winter Period : 180 days

% of manure collected in summer= 100 %

B. Manure produced during critical period (bedding not included):

TYPE	NUMBER	WEIGHT	1000# AU	MAN/DAY	TOT/DAY	lbs of P	(Avail)
Cows	450	1400	630	2.2	1008	68	125
Heifers		700	0	1.1	0	0	0
Calves		300	0	0.5	0	0	0
Beef		1000	0	1.1	0	0	0
Swine		200	0	0.3	0	0	0
Poultry		3	0	0.0	0	0	0

630 A.U. 1008 cu ft 68 125

Lbs of P versus P2O5:

If 75 lbs of available P2O5 is spread,
it's equivalent to 125 lbs of total P2O5

(5 lbs vs 3 lbs)

and 54 lbs of P (2.3 lbs of P2O5 = 1 lb of P).

180

185

45622 = Total N collected

TOTAL FOR CRITICAL PERIOD: 181440 cu ft

C. Manure from B which is not spread on land during critical period: (1=Dairy, 2=Beef, 3=swine, 4=poultry)

Existing storage:	4680 cu. ft.	1	Type of Manure	725
Manure pack:	0 cu. ft.	1	Type of Manure	0
Dry lot:	0 cu. ft.	1	Type of Manure	0
____(Other)____	0 cu. ft.	1	Type of Manure	0

TOTAL 4680 cu. ft. 725 = Total P2O5

D. Totl manr spread in the winter: 176760 cu ft 5303 tons
 Total manure spread in summer : 186480 cu ft
 Total manure spread in year : 367920 cu ft 11038 tons

12227 = Total P produced
 315 = Total P not spread (from J49)

22499 = Total N produced
 0 = N not spread

22499 =Total N spread

PRINTING

Alt P- First two pages Alt A- Rest of Fields Alt B- Write-up

11912 = Total P spread during critical period
 12243 = Total P spread during summer
 24155 = Total P spread during year

PRECEDURE FOR FIGURING HIGH HAZARD ACRES

A. Identify and map all water bodies and discharge points as defined in Section 1.4, Wis Tech Note 1

SPF (Use Soil map, FSA aerial photo including fields, & USGS Quad)

B. Enter all available fields below. Group fields if desired.

Total acres entered below : 498.4 acres
 High Haz.: 306.6 ac Low Haz.: 192.1 ac

SURFACE WATER

Low hazard acres: 192.1 acres
 High hazard acres: 306.3 acres
 Low hazard and spreadable during winter : 72.0 acres

INPUT TO BALANCE TOTAL MANURE TO SPREADABLE FIELDS BY NITROGEN

Typical rate of Nitrogen per acre? 120 lbs
 Typical Rotation Length ? 8 years
 Manure is spread how many years in rotation ? 3 years
 Typical ratio (Spread ac/ Total ac) = 0.38 Ratio

=====

MORE FIELDS (Third group)

Field numbers:

Acres in field (if accessible during critical period):

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

----- -- Excluded acres below only count once. -----

High pollution hazard areas: (Wisconsin Technical Note 1)

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

Areas with excessive slope (See Standard 590 p. 5):

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

-----Low hazard acres:-----

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

Years corn/Years of rotation: eg. C2OH3 = 2/6

0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

Acres left assuming spreading on corn 2,3 etc. and hay 1

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

MORE FIELDS (Fourth group)

Field numbers:

Acres in field (if accessible during critical period):

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

----- -- Excluded acres below only count once. -----

High pollution hazard areas: (Wisconsin Technical Note 1)

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

Areas with excessive slope (See Standard 590 p. 5):

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

-----Low hazard acres:-----

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0

Years corn/Years of rotation: eg. C2OH3 = 2/6

0.33 0.33 0.33 0.33 0.33 0.33 0.33 0.33

Acres left assuming spreading on corn 2,3 etc. and hay 1

0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

