

Notice: This final report is authorized by ss. 281.65 and 281.66, Wis. Stats., and chs. NR 153 and NR 155, Wis. Adm. Code. Personally identifiable information collected will be used for program administration and may be made available to requesters as required under Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

**Instructions: The grant agreement requires grantees to submit a Final Report 60 days after the end date listed in the grant agreement. This Final Report form must be used in conjunction with the "FINAL REPORT INSTRUCTIONS." The instructions detail how to complete and submit the report to DNR.**

**1. Grant Type**

- Agricultural - Targeted Runoff Management Grant
- Urban - Targeted Runoff Management Grant
- Construction - Urban Nonpoint Source & Storm Water Management Grant
- Planning - Urban Nonpoint Source & Storm Water Management Grant

**2. Grantee & Project Information**

Project Name <b>KLOTEN STAR DAIRY 01</b>	Grant Number <b>TRC-MA05-08000-05</b>
Governmental Unit Name <b>Calumet County</b>	Governmental Unit Type (city, village, town, etc.) <b>County</b>
Watershed Name <b>South Branch of the Manitowoc River</b>	Watershed Code <b>MA05</b>
DNR Water Management Unit (River System) Name <b>Manitowoc</b>	Water Body Identification Code (WBIC) (if applicable)

s. 303(d) Waterbody?  Yes  No

What pollutant(s) were addressed by the project?

**Extra Nitrogen, Phosphorus, and organic matter get into the surface and ground waters from animal waste.**

For **each** project site location provide the following: (attach additional sheets if necessary)

Location:		A	B	C	D	E
Minor Civil Division Name						
PLSS	Town	18N				
	Range	19E				
	Section	17				
	Quarter	2				
	Quarter-Quarter	1				
Latitude		88° 15' 29" W				
Longitude		44° 2' 9" N				
Property Owner(s)	Name	Jeffery Kohlman				
	Mailing address	W4412 Hwy F Chilton, WI 53014				
Site address <i>(if different than mailing address)</i>						

**3. Summary of Results**

**A. Performance Standards and Prohibitions and Other Water Resources Management Priorities**

For grants issued in calendar year 2006 or later, complete Tables A and B (following) consistent with the entries on your grant application. For grants issued prior to calendar year 2006, complete Tables A and B, *to the best of your knowledge*, consistent with the entries on your grant application.

**Table A. Performance Standards and Prohibitions (per ch. NR 151, Wis. Adm. Code, effective October 1, 2002)**

Performance Standard or Prohibition	Units of Measure	Quantity	Measurement Method Used
Sheet, rill and wind erosion	Acres meeting T		
Manure Storage Facilities: New Construction/Alterations	Number of facilities	1	Number
	Number of animal units	364	Number x 1.4
Manure Storage Facilities: Closure	Number of facilities	1	Number
Manure Storage Facilities: Failing/Leaking Facilities	Number of facilities	1	Number
	Number of animal units		
Clean Water Diversions in WQMA	Pollutant load reduction		
	Number of farms with diversions		
	Number animal units		
Nutrient Management on Agricultural Land	Acres planned	398	Acres
Prohibition: Manure Storage Overflow	Number of facilities		
	Number of animal units		
Prohibition: Unconfined Manure Pile in WQMA	Number of farms		
Prohibition: Direct Runoff From Feedlot/Stored Manure	Pollutant load reduction		
	Number of facilities		
	Number of animal units		
Prohibition: Unlimited Livestock Access	Feet of bank protected		
	Number of farms		
Urban: 20-40% Reduction in Total Suspended Solids (TSS)	Pounds TSS reduced		
	% TSS reduction		

**Table B. Other Water Resources Management Priorities**

I. Agricultural Areas	Units of Measure	Quantity	Measurement Method Used
Buffers	Feet of bank protected		
	Number of farms		
Streambank	Tons of bank erosion reduced		
	Feet of bank protected		
Other (specify)			
II. Developed Urban Areas	Units of Measure	Quantity	Measurement Method Used
Urban: 20-40% Reduction in TSS	Pounds TSS reduced		
	% TSS reduction		
Infiltration	% Pre-development stay-on volume		
	Cubic feet stay-on volume		
Peak flow discharge	Change in cubic feet per second		
Protective areas	Feet of bank protected		
Fueling & maintenance areas	Oily sheen presence		
Streambank	Tons of bank erosion reduced		
	Feet of bank protected		
Other (specify)			
III. Planning	Units of Measure	Quantity	Measurement Method Used
Quantify how implementation of the planning project decreased storm water impacts on state waters (i.e., storm water plan, I & E plan, etc.)	Municipalities planned for		
	Acres planned for		
Document/track progress made in implementing the planning product (i.e., ordinance, utility district evaluation/formation, storm water management plan information & education, etc.)	Municipalities planned for		
	Acres planned for		
Other (specify)			

**B. Project Results Narrative**

The purpose of this project was to reduce groundwater contamination from animal waste. Private wells at and around the area of the project site had unsafe levels of nitrates and/or bacteria. An old earthen manure storage on the project site is thought to have been a major contributing source to the groundwater contamination. The project site is located on shallow bedrock and groundwater. This site also has sandier soils that have a low plasticity index.

After site investigations which included test pits and a few visits with the landowner a plan to deal with this site was agreed upon. It was decided that to properly abandon the old earthen manure storage, and to install a liquid tight concrete lined manure storage system was the best method to deal with this site. The earthen storage at the original project site was properly abandoned. The landowner was also required to develop and implement a nutrient management plan for all of his owned and rented land.

Pre-project evaluations included direct observations of bedrock depth on the project site and of the soil beneath the earthen storage and water testing of private wells on-site and in the area of the site. When the earthen manure storage was emptied, a test pit was dug in the bottom of it. The soil in the side embankments and bottom of the storage was light textured, saturated with manure, and had an ammonia type smell. Based on these observations, it is very likely that animal waste from the manure storage was entering the bedrock. Since the manure storage was properly abandoned, the pollutant loads from these sources to groundwater were greatly reduced at this site.

The condition of the groundwater at and around the site has been and continues to be monitored. Prior to the project, well water from a private well on-site and wells within a few miles around the site were tested for nitrates and bacteria. Results indicated that the well water on site and in at least 19 other wells was unsafe due to high nitrate levels and/or bacteria. In cooperation with DNR, five wells in the area were tested before and after installation of the grant project. Testing will include nitrate levels and concentrations of Coliform bacteria and Ecol bacteria, to track and analyze groundwater quality trends. The well owners will be asked to continue testing for nitrate levels and bacteria presence at 12 month intervals for two more years. Testing results will be mapped and analyzed to see if groundwater quality on site and area improves. These five wells were tested just prior to project completion and just after project completion. Nitrate levels remained the about the same in all of them and Coliform bacteria concentrations decreased in all of them. Three of the wells tested positive for Ecol prior to project completion and negative afterward. Starting May of 2006 and going thru May of 2007 monthly sampling of 10 wells has and will take place. More time and testing results are needed to determine trends in groundwater quality and whether long term improvements in area groundwater quality will occur as a result of the project. Calumet County Land and Water Conservation Department will continue monitoring activities for the next 3 years and will make these determinations.

The previous condition of this project site and the impacts of it on the groundwater resource have been used in at least five educational presentations to farmers and rural landowners and in two nutrient management workshops for farmers.

The project site landowner will be issued a notice that the site complies with NR151.09 performance standards related to manure storage, closure of manure storage, and runoff, once standard procedures and forms are developed for Calumet County. It is anticipated that the procedures and forms will be developed as part of the update of the Calumet County Land and Water Resource Management Plan in 2006. A process to track, evaluate, and report statue of compliance with NR151 will also be developed at that time.

**4. Satisfaction of Notice Requirements (if applicable)**

If cost sharing for this project was offered under a formal notice to achieve compliance with performance standards or prohibitions, provide information for each notice in the table below.

Notice Information				Notice Satisfaction Information		
Notice Type	Issue Date	From (Name)	To (Name)	Satisfied?		Date Letter Sent
				Yes	No	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	

**5. Summary of Project Challenges**

The biggest challenge with this project was the site itself. We needed to design a manure storage that was safe for this site. The site has shallow bedrock, shallow groundwater, light soils, and a large internally drained area just north of the buildings that actually ponds up with water each spring. Although somewhat costly it was determined liquid tight concrete was the only effective way to address this site.

Also many DNR forms for projects like this require listing land descriptions in sections and quarter/ quarter of sections. Two of our townships in Calumet County are described in government lots instead of sections. We were asked to convert them to sections for some forms and did this by looking at other maps which wrongfully show section lines in these townships. We recommend that DNR and other state agencies convert their forms and maps to allow the location of projects in government lot land description.

**6. Additional Information about the Project (optional)**

See attached photos of project site.

**7. Planning Product (UNPS&SW - Planning Projects only)**

Check here if a printed copy of the planning product (e.g., plans, ordinances, analyses) was sent to your DNR Regional Nonpoint Source Coordinator.

Name of Document

Date(s) effective

Date Submitted to NPS Coordinator

**8. Grantee Certification:**

Check here to certify that, to the best of your knowledge, the information contained in this report is correct and true.

Type or print Name and Title of Authorized Representative certifying here.

**William P. Craig, County Administrator**

Signature of Authorized Representative

Date



**Old pit before being closed.**



**Old pit as it is being closed.**



**Bedrock a few feet below bottom of old pit.**



**Concrete being poured in new pit.**

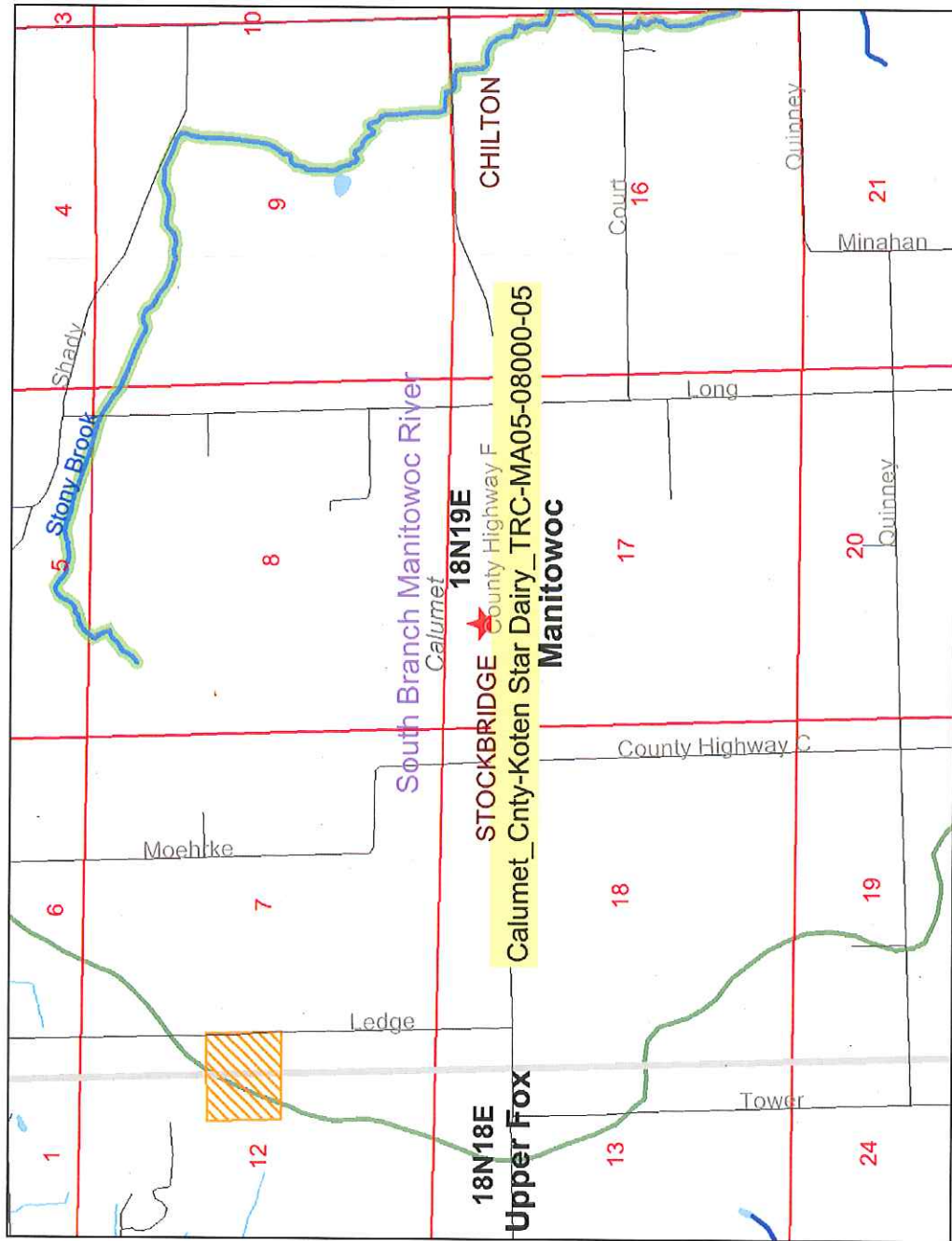


**New pit being used.**



**New pit being used.**

# Calumet\_Cnty-Kloten Star Dairy-TRC-MA05-08000-05



## Legend

- Railroads
- Local Roads
- NR104 Lines
- Trout Stream Lines
- Class 1
- Class 2
- Class 3
- Outstanding and Exceptional Waters
- Exceptional Outstanding
- PRF Sensitive Areas of Lakes
- ASNRI Outstanding and Exceptional Streams
- ORW
- ASNRI Outstanding and Exceptional Lakes
- ERW
- ASNRI Wild and Scenic Rivers
- ASNRI Trout Streams
- Class I Trout
- Class II Trout
- Class III Trout
- ASNRI Wild Rice Streams
- ASNRI Wild Rice Areas
- ASNRI Quality Wetland Streams



Scale: 1:30,487



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Scale: 1:15,243



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