Permit Fact Sheet

General Information

Permit Number	WI-0064696-03-0
Permittee Name and Address	New Chester Dairy LLC N3569 Vanden Bosch Rd, Kaukauna, WI 54130
Permitted Facility Name and Address	New Chester Dairy LLC 2563 5th Ave Grand Marsh
Permit Term	June 01, 2025 to May 31, 2030
Discharge Location	SE ¼ of Section 8, T16N R7E, Township of New Chester, Adams County
Receiving Water	Unnamed tributaries within the Duck and Plainville Creeks watershed, Mississippi River Drainage Basin, and groundwaters of the state.
Discharge Type	Existing

Animal Units					
	Current AU		**Proposed AU** **(Note: If all zeroes, expansions are not expected during permit term)**		
Animal Type	**Mixed**	**Individual**	**Mixed**	**Individual**	**Date of Proposed Expansion**
Milking and Dry Cows	13580	13871	0	0	
Steers or Cows (400 lbs. to market)	500	500	0	0	
Total	14080	13871	0	0	

Facility Description

New Chester Dairy LLC is an existing Concentrated Animal Feeding Operation in Adams County, WI. New Chester Dairy is owned and operated by Milk Source LLC. As of January of 2025, it has 9,700 milking and dry cows and 500 large heifers (14,080 animal units). New Chester Dairy will annually generate approximately 125,535,988 gallons of liquid manure and process wastewater and 17,105 tons of solid manure. As of October 2023, New Chester has greater than the required minimum of 180 days of storage. New Chester Dairy has 47,965 acres in its approved nutrient management plan, of which 44,061 acres are rented or in contract agreements and 3,903 acres are owned. 19,078 acres are not compliant with soil testing requirements and therefore are prohibited from manure and process wastewater applications. This leaves the farm with 24,983 total spreadable acres.

Substantial Compliance Determination

Enforcement During Last Permit:

During the previous permit term, New Chester Dairy LLC did not receive any enforcement actions for violations of its WPDES permit.

After a desk top review of all compliance schedule items, and a site visit on August 16, 2022, this facility has been found to be in substantial compliance with their current permit.

Compliance determination made by James Salscheider, CAFO Compliance and Enforcement Coordinator on April 1, 2025.

Sample Point Designation For Animal Waste		
Sample Point Number	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**	
001	WSP 1: This sample point addresses all liquid manure and process wastewater stored within this concrete lined structure located immediately north of WSP 2. WSP 1 was constructed in 2011 with a top dimension of 500' X 455' and a designed capacity of 27.8 million gallons.	
002	Settled Solids (WSP 1, 2, 3, 5, 6, and Digesters AD 1 - 4): This sample point addresses all solid material scraped from the bottom of the five waste storage ponds and the digester tanks after all liquids have been pumped. Representative sampling and analyses for nutrient content of the scraped solid material is required prior to land application.	
003	Stacking Pad: This sample point addresses all separated digested and non-digested manure solids generated at the facility. The separated manure solids storage area is located between the two (2) freestall facilities. The separated manure solids storage area was constructed in 2011 with the dimensions of 232' x 384'. All runoff from stacked material is returned to the roofed separation tank facility. A representative sample for nutrient content analysis is required for the non-digested separated manure solids prior to land application. Separated sand is re-used for bedding.	
004	Feed storage area and runoff control system: The feed storage area is a the 590' X 1130' concrete feed pad in which any leachate and runoff is directed to a collection tank. Leachate and runoff is pumped via a transfer pipe to the flush flume or WSP 1. Any runoff not directed to waste storage flows into adjacent process wastewater storage (WSP 6) and vegetated treatment area.	
005	Waste Feed: This sample point addresses all waste feed generated at the facility, including all material(s) scraped from within the 10' wide scrape lanes of both feed storage structures, material removed from within each collection trench, and solids removed from the sweet corn silage bunker collection box. A representative sample for nutrient content analysis of all solid waste feed sources is required prior to land application.	
006	WSP 6: This sample point addresses all feed pad runoff stored in concrete lined waste storage pond 6. This facility was constructed in 2011 (124' x 420') and is located immediately west of the feed storage pad. Currently WSP 6 is designed to overflow onto the vegetated treatment area. Sample collection for nutrient content analysis is only required if directly pumped and land applied.	
007	Settled Solids: This sample point addresses the removal of settled solids from within storm water management ponds in the event all liquid is pumped due to maintenance or repairs. Representative samples for nutrient content analysis of the settled solids is required prior to land application.	

Sample Point Designation For Animal Waste		
Sample Point Number	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**	
008	WSP 2: This sample point addresses all liquid manure and process wastewater stored within this concrete lined structure located between WSP 1 & 3. WSP 2 was constructed in 2011 with a top dimensions of 269' X 425' and a designed storage capacity of 7.4 million gallons.	
009	WSP 3: This sample point addresses all liquid manure and process wastewater stored within this concrete lined structure located immediately south of WSP 2. WSP 3 was constructed in 2014 and has a designed storage capacity of 27.8 million gallons.	
010	Digested Liquids - Anaerobic Digesters (AD) 1 and 2. This sample point addresses all digested liquids located within the proposed digester cells AD 1 and AD 2. Manure will be piped from the existing manure processing buildings (after sand removal) to the digesters and then returned to the manure processing buildings (for solids removal) after the digestion is completed. Sampling from within the digester cell(s) for nutrient content is only required if the liquids are to be manually pumped from the cell(s) and directly land applied. The digesters were constructed in 2020 with department review and approval.	
011	Digested Liquids - Anaerobic Digesters (AD) 3 and 4. This sample point addresses all digested liquids located within the proposed digester cells AD 3 and AD 4. Manure will be piped from the existing manure processing buildings (after sand removal) to the digesters and then returned to the manure processing buildings (for solids removal) after the digestion is completed. Sampling from within the digester cell(s) for nutrient content is only required if the liquids are to be manually pumped from the cell(s) and directly land applied. The digesters were constructed in 2020 with department review and approval.	
013	WSP 5: This sample point addresses leachate, runoff and all other waste materials received from the sweet corn silage bunker area and entering this structure having a top dimension of 235' X 235' and a designed storage capacity of 5.0 million gallons.	
014	Storm Water Runoff Control System: This sample point is for visual monitoring and inspection of all production site storm water conveyance systems. This includes roof gutter and downspout structures, drainage tile systems, grassed waterways and other diversion systems that transport and store uncontaminated storm water. Proper operation and maintenance is required to keep uncontaminated runoff diverted away from manure and process wastewater handling systems. Weekly inspections are required and shall be recorded according to monitoring program.	
015	Storm Water Management Ponds: This sample point is for visual monitoring and inspection of production site storm water management ponds that store and infiltrate uncontaminated storm water. Proper operation and maintenance is required to keep uncontaminated runoff diverted away from manure and process wastewater handling systems. Weekly inspections are required and shall be recorded according to monitoring program.	

Sample Point Designation For Groundwater Monitoring Systems			
System	**Sample Pt Number**	**Well Name**	**Comments**
Maranatha Farm Field 400-012	811	811 (MW-11)	To be sampled quarterly

Sample Point Designation For Groundwater Monitoring Systems			
System	**Sample Pt Number**	**Well Name**	**Comments**
	812	812 (MW-12)	To be sampled quarterly
	813	813 (MW-13)	To be sampled quarterly
	815	815 (MW-15) Proposed	To be installed and sampling begin one year after permit issuance
	816	816 (MW-16) Proposed	To be installed and sampling begin one year after permit issuance
Production Area	801	801 (MW-1)	To be sampled quarterly
	802	802 (MW-2)	To be sampled quarterly
	803	803 (MW-3)	To be sampled quarterly
	804	804 (MW-4S)	To be sampled quarterly
	805	805 (MW-5D)	To be sampled quarterly
	806	806 (MW-6)	To be sampled quarterly
	807	807 (MW-7)	To be sampled quarterly
	808	808 (MW-8S)	To be sampled quarterly
	809	809 (MW-9D)	To be sampled quarterly
	810	810 (MW-10)	To be sampled quarterly
	814	814 (MW-14)	To be sampled quarterly

1 Livestock Operations - Proposed Operation and Management

Production Area Discharge Limitations

Beginning on the effective date of the permit, the permittee may not discharge pollutants from the operation's production area (e.g., manure storage areas, outdoor animal lots, composting and leachate containment systems, milking center wastewater treatment/containment systems, raw material storage areas) to navigable waters, except in the event a 25-year, 24-hour rainfall event (or greater) causes the discharge from a structure which is properly designed and maintained to contain a 25-year, 24-hour rainfall event for this location as determined under s. NR 243.04. If an allowable discharge occurs from the production area, state water quality standards may not be exceeded.

Runoff Control

The permit requires control of contaminated runoff from all elements of the production area to prevent a discharge of pollutants to navigable waters in accordance with the Production Area Discharge Limitations and to comply with surface water quality standards and groundwater standards. Beginning on the effective date of this permit, (if needed) interim measures shall be implemented to prevent discharges of pollutants to navigable waters. In addition, permanent runoff control system(s) shall be designed, operated and maintained in accordance with the requirements found in USDA Natural Resources Conservation Service standards and ch. NR 243, Wis. Adm. Code. If any upgrading or modifications to runoff controls are necessary, formal engineering plans and specifications must submitted to the Department for approval.

Manure and Process Wastewater Storage

The permit requires the operation to have adequate storage for manure and process wastewater and that storage or containment facilities are designed, operated and maintained to prevent overflows and discharges to waters of the state. In order to prevent overflows, the permittee must maintain levels of materials in liquid storage or containment facilities at or below certain levels including a one foot margin of safety that can never be exceeded. If any upgrading or modifications to the storage facilities are necessary, formal engineering plans and specifications must submitted to the Department for approval.

The permittee currently has approximately 6 ½ months of storage for liquid manure. The permittee must maintain 180 days of storage, unless temporary reductions in required storage are approved by the Department.

Solid Manure Stacking

The operation has proposed to stack solid manure. All stacking of solid manure shall be done in accordance ch. NR 243, Wis. Adm. Code, which includes restrictions from NRCS Standard 313. Stacking of manure is considered to be part of the production area and is subject to the Production Area Discharge Limitations.

Ancillary Service and Storage Areas

The permittee shall take preventative maintenance actions and conduct visual inspections to minimize pollutant discharges from areas of the operation that are not part of the production area or land application areas. These areas are called ancillary service and storage areas and include access roads, shipping and receiving areas, maintenance areas, refuse piles and CAFO outdoor vegetated areas.

Nutrient Management

With 9,700 milking and dry cows and 500 steers , it is estimated that approximately 125,535,988 gallons of manure and process wastewater and 17,105 tons of solid manure will be produced per year. The permittee owns *approximately* 3,903 acres of cropland and rents about 44,061. Given the rotation commonly used by the permittee, 24,983 acres are available (or open) to receive manure and process wastewater on an annual basis. The permit requires all landspreading of manure and process wastewater be completed in accordance with an approved nutrient management plan. The permit will require sampling and analysis of manure and process wastewater that will be landspread. Landspreading rates must be adjusted based on sample analysis. The permit requires the permittee to maintain a daily log that documents landspreading activities. The permit also requires the submittal of an annual report that summarizes all landspreading activities. Plans must be updated annually to reflect cropping plans and other operational changes. Among the requirements, the plans must include detailed landspreading information including field by field nutrient budgets.

The permittee is required to implement a number or practices to address potential water quality impacts associated with the land application of manure and process wastewater. Among the permit conditions are restrictions on manure ponding, restrictions on runoff of manure and process wastewater from cropped fields, and setbacks from wells and direct conduits to groundwater (e.g., sinkholes, fractured bedrock at the surface). In addition, the permittee must implement a phosphorus based nutrient management plan that addresses phosphorus delivery to surface waters by basing manure and process wastewater applications on soil test phosphorus levels or the Wisconsin Phosphorus index. Additional phosphorus application restrictions apply to fields that are high in soil test phosphorus (>100 ppm).

The permitee must also implement conservation practices when applying manure near navigable waters and their conduits, referred to as the Surface Water Quality Management Area (SWQMA). These practices include a 100-foot setback from navigable waters and their conduits, a 35-foot vegetated buffer adjacent to the navigable water or conduit, or a practice that provides equivalent pollutant reductions equivalent to or better than the 100-foot setback.

In addition, the permittee must comply with restrictions on land application of manure and process wastewater on frozen or snow-covered ground. Included in these restrictions is a prohibition on surface applications of solid manure (≥12%

solids) on frozen or snow-covered ground during February and March. Beginning June 1, 2025, non-emergency surface applications of liquid manure (<12%) on frozen or snow-covered ground are prohibited.

Monitoring and Sampling Requirements

The permittee must submit a monitoring and inspection program that outlines how the permittee will conduct self-inspections to determine compliance with permit conditions. These self-inspections include visual inspections of water lines, diversion devices, storage and containment structures and other parts of the production area. The permit requires periodic inspections and calibrations of landspreading equipment. The permittee must take corrective actions to problems identified inspections or otherwise notify the Department. Samples of manure, process wastewater and soils receiving land applied materials from the operation must also be collected and analyzed.

Sampling Points

The permit identifies the different sources of land applied materials (e.g., manure storage facilities, milking centers, egg-washing facilities) as "Sampling Points." For these Sampling Points, the permittee is required to sample and analyze the different sources for nutrients and other parameters which serve as the basis for determining rates of application for these materials. Other areas are also identified as Sampling Points as a means of identifying them as areas requiring action by the permittee, such as an upgrade or evaluation of a certain system or structure (e.g., runoff control systems), even though sampling is not actually required.

1.1 Sample Point Number: 001- WSP 1; 006- WSP 6; 008- WSP 2; 009- WSP 3; 010- Digested Liquids - AD 1 and 2; 011- Digested Liquids - AD 3 and 4; 013- WSP 5

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total		lb/1000gal	2/Month	Grab	
Nitrogen, Available		lb/1000gal	2/Month	Calculated	
Phosphorus, Total		lb/1000gal	2/Month	Grab	
Phosphorus, Available		lb/1000gal	2/Month	Calculated	
Solids, Total		Percent	2/Month	Grab	

1.1.1 Changes from Previous Permit

No changes from previous permit.

1.1.2 Explanation of Operation and Management Requirements

Liquid waste must be properly stored and land applied according to the permit and nutrient management plan.

1.2 Sample Point Number: 002- Settled Solids; 003- Stacking Pad; 005- Waste Feed; 007- Settled Solids

Monitoring Requirements and Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Nitrogen, Total		lbs/ton	Quarterly	Grab	
Nitrogen, Available		lbs/ton	Quarterly	Calculated	
Phosphorus, Total		lbs/ton	Quarterly	Grab	
Phosphorus, Available		lbs/ton	Quarterly	Calculated	
Solids, Total		Percent	Quarterly	Grab	

1.2.1 Changes from Previous Permit

No changes from the previous permit.

1.2.2 Explanation of Operation and Management Requirements

Solid manure must be properly samples and land applied according to the permit and nutrient management plan

1.3 Sample Point Number: 004- Feed Storage & Runoff Controls; 014- Storm Water System, and 015- Storm Water Ponds

1.3.1 Changes from Previous Permit

No changes from the previous permit.

1.3.2 Explanation of Operation and Management Requirements

Proper operation and maintenance is required to ensure unlawful discharges to waters of the state do not occur. Weekly or quarterly inspections are required and shall be recorded according to the monitoring plan.

2 Groundwater – Monitoring and Limitations

2.1 Groundwater Monitoring System for Production Area

Location of Monitoring system: The vicinity of the production area

Groundwater Monitoring Well(s) to be Sampled: 801 (MW-1), 802 (MW-2), 803 (MW-3), 804 (MW-4S), 805 (MW-5D) , 806 (MW-6), 807 (MW-7), 808 (MW-8S), 809 (MW-9D), 810 (MW-10), 814 (MW-14)

Groundwater Monitoring Well(s) Used to Evaluate Background Groundwater Quality: 810 (MW-10)

Groundwater Monitoring Well(s) Used for Point of Standards Application: 807 (MW-7), 806 (MW-6), 805 (MW-5D) , 804 (MW-4S), 802 (MW-2)

Parameter	Units	Preventative Action Limit	Enforcement Standard	Frequency
Depth To Groundwater	feet	N/A	N/A	Quarterly
Depth To Groundwater	feet	8.72	N/A	Quarterly
Groundwater Elevation	feet MSL	N/A	N/A	Quarterly
Solids, Total Dissolved	mg/L	482	N/A	Quarterly
COD	mg/L	42	N/A	Quarterly
pH Field	su	8.72	N/A	Quarterly
Chloride Dissolved	mg/L	125	250	Quarterly
Potassium Dissolved	mg/L	11	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Total Kjeldahl Dissolved	mg/L	4.2	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	32.1	32.1	Quarterly
Carbon, Total Organic	mg/L	3.7	N/A	Quarterly
E. coli	#/100 ml	0	0	Quarterly

2.1.1 Changes from Previous Permit:

Groundwater limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under "Explanation of Limits and Monitoring Requirements" below.

2.1.2 Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch. NR 140, Wis. Adm. Code. Indicator parameter Preventive Action Limit (PAL) values are established per s. NR 140.20, Wis. Adm. Code. Alternative Concentration Limits as allowed under s. NR 140.28, Wis. Adm. Code, are established on a case-by-case basis.

For more information, please refer to the hydrogeologic review memo attached to this fact sheet.

2.2 Groundwater Monitoring System for Maranatha Farm Field 400-012

Location of Monitoring system: WNW of facility VTA system

Groundwater Monitoring Well(s) to be Sampled: 811 (MW-11), 812 (MW-12), 813 (MW-13), 815 (MW-15) Proposed , 816 (MW-16) Proposed

Groundwater Monitoring Well(s) Used to Evaluate Background Groundwater Quality:

Groundwater Monitoring Well(s) Used for Point of Standards Application:

Parameter	Units	Preventative Action Limit	Enforcement Standard	Frequency
Depth To Groundwater	feet	N/A	N/A	Quarterly
Groundwater Elevation	feet MSL	N/A	N/A	Quarterly
Solids, Total Dissolved	mg/L	N/A	N/A	Quarterly
COD	mg/L	N/A	N/A	Quarterly
pH Field	su	N/A	N/A	Quarterly
Chloride Dissolved	mg/L	125	250	Quarterly
Potassium Dissolved	mg/L	N/A	N/A	Quarterly
Nitrogen, Ammonia Dissolved	mg/L	0.97	9.7	Quarterly
Nitrogen, Total Kjeldahl Dissolved	mg/L	N/A	N/A	Quarterly
Nitrogen, Nitrite + Nitrate (as N) Dissolved	mg/L	2.0	10	Quarterly
Carbon, Total Organic	mg/L	N/A	N/A	Quarterly
E. coli	#/100 ml	0	0	Quarterly

2.2.1 Changes from Previous Permit:

Groundwater limitations and monitoring requirements were evaluated for this permit term and the following changes were made from the previous permit. See additional explanation of limits under "Explanation of Limits and Monitoring Requirements" below.

Two proposed monitoring wells were added to the permit for upgradient monitoring wells within field "400-012"

2.2.2 Explanation of Limits and Monitoring Requirements

Groundwater limits and requirements are determined in accordance with ch. NR 140, Wis. Adm. Code. Indicator parameter Preventive Action Limit (PAL) values are established per s. NR 140.20, Wis. Adm. Code. Alternative Concentration Limits as allowed under s. NR 140.28, Wis. Adm. Code, are established on a case-by-case basis.

For more information, please refer to the hydrogeologic review memo attached to this fact sheet.

3 Schedules

3.1 Emergency Response Plan

Required Action	Due Date
Develop Emergency Response Plan: Update the written Emergency Response Plan within 30 days of permit coverage, available to the Department upon request.	06/30/2025

Explanation of Schedules

Permit schedule 3.1 is included in the permit to update the Emergency Response Plan. This is a general permit requirement.

3.2 Monitoring & Inspection Program

Use of the department's monitoring and inspection program template is encouraged, but optional

Required Action	Due Date
Proposed Monitoring and Inspection Program: Consistent with the Monitoring and Sampling Requirements subsection, the permittee shall submit a proposed monitoring and inspection program within 90 days of the effective date of this permit.	08/31/2025

Explanation of Schedules

Permit schedule 3.2 is included in the permit to update the monitoring and inspection program. This is a general permit requirement.

3.3 Nutrient Management Plan

Submit annual nutrient management plan (NMP) updates by March 31 of each year. Note, in addition to annual NMP updates, submit NMP amendments and substantial revisions to the department for written approval prior to implementation of any changes to the NMP.

Required Action	Due Date
Management Plan Submittal: Submit a proposed methodology for Department review and approval that accounts for nitrogen applied to cropland through irrigation. Methodology must account for spatial and temporal variations in nitrogen concentration and irrigation volume. Implement and include approved methodology in future Management Plan Annual Updates.	06/01/2026
Submit NMP Update #1: Submit an Annual Update to the Nutrient Management Plan by March 31st of each year. Note: In addition to Annual Updates, submit Management Plan Amendments to the Department for written approval prior to implementation of any changes to nutrient management practices, in accordance with the Nutrient Management requirements in the Livestock Operational and Sampling Requirements section.	03/31/2026
Submit NMP Update #2: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2027
Submit NMP Update #3: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2028
Submit NMP Update #4: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2029
Submit NMP Update #5: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department for 3400-025D.	03/31/2030
Ongoing Management Plan Annual Updates: Continue to submit Annual Updates to the Nutrient Management Plan until permit reissuance has been completed.	

Explanation of Schedules

Permit Schedule 3.3 is included to require New Chester Dairy LLC to submit nutrient management updates. This is a general permit requirement. The department is also requiring New Chester Dairy LLC to submit a proposed methodology for Department review and approval that accounts for nitrogen applied to cropland through irrigation.

3.4 Annual Reports

Submit Annual Reports by January 31st of each year in accordance with the Annual Reports subsection in Standard Requirements.

Required Action	Due Date
Submit Annual Report #1: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2026
Submit Annual Report #2: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2027
Submit Annual Report #3: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2028
Submit Annual Report #4: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2029
Submit Annual Report #5: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2030
Ongoing Annual Reports: Continue to submit Annual Reports until permit reissuance has been completed.	

Explanation of Schedules

Permit Schedule 3.4 is included to require New Chester Dairy to submit annual reports. This is a general permit requirement.

3.5 Groundwater Monitoring System - Plan

See New Chester Dairy LLC - Groundwater Monitoring Review Memo 6.14.2024

Required Action	Due Date
Goundwater Monitoring Plan: Submit a groundwater monitoring plan to add at least two offsite monitoring wells upgradient of field 400-012 for Department review and approval in accordance with Chapter 281.41, Wis. Stats., and Chapter NR 243, Wis. Adm. Code. See Standard Requirements for plan content information.	09/01/2025
Well Installation: Complete well installation in accordance with ch NR 141, Wisconsin Administrative Code, within 90 days following approval by the Department of the Groundwater	

Monitoring System Plan. (Note: Documentation of well construction must be submitted to the Department within 60 days of well installation.)	

Explanation of Schedules

Permit Schedule 3.5 is included in the permit to require New Chester Dairy to submit a groundwater monitoring plan to add at least two offsite monitoring wells upgradient of field 400-012 and install wells that are approved by the department.

3.6 Submit Permit Reissuance Application

Required Action	Due Date
Reissuance Application: Submit a complete permit reissuance application 180 days prior to permit expiration.	11/30/2029

Explanation of Schedules

Permit Schedule 3.6 is included to require New Chester Dairy to submit a permit reissuance application to maintain permit coverage.

Other Comments

N/A

Attachments

August 16, 2022 Reissuance Inspection Report

March 28, 2024 Conditional Nutrient Management Plan Approval

October 12, 2023 Days of Storage Review Letter

June 14, 2024 Hydrogeologic Review Memo

Site Maps

Justification Of Any Waivers From Permit Application Requirements

No waivers requested or granted as part of this permit reissuance

Prepared By: James Salscheider Agricultural Runoff Management Specialist Date: April 16, 2025

CAFO Compliance Report 8.26.22

Inspection Date: 8.16.2022

Inspection Type: Permit Reissuance

Operation Name: New Chester Dairy LLC

WPDES Permit No. 0064696-02-01

Operation Address: 2563 5th Ave, Grand Marsh, WI

On-Site Representative(s): Sarah Babcock (Environmental Coordinator), Gilberto Gracia (Operations Manager)

DNR Staff / Report Writer: Claire O'Connell, Josie Hanrahan, Ian Anderson, BetsyJo Howe

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At approximately 1pm on August 16, 2022 Claire O'Connell, Josie Hanrahan, Ian Anderson, and BetsyJo Howe (WDNR) met with Sarah Babcock (Environmental Coordinator) and Gabriel Gracia (Operations Manager), to conduct a site inspection for New Chester Dairy LLC's WPDES permit reissuance. The production area inspected includes 2 freestall barns, a milking parlor, 2 manure processing facilities (one per freestall barn), an anaerobic digester system, solids stacking area, 3 waste storage facilities (WSFs), a feed storage area with associated runoff collection facility and vegetated treatment area, sweet corn silage bunkers with an associated waste collection facility, a groundwater monitoring well system, and a stormwater conveyance system with three stormwater ponds.
It was 78 degrees Fahrenheit, partially sunny, and no precipitation fell within 24 hours prior to the site inspection. No water samples were taken, and the inspection concluded at approximately 3pm.

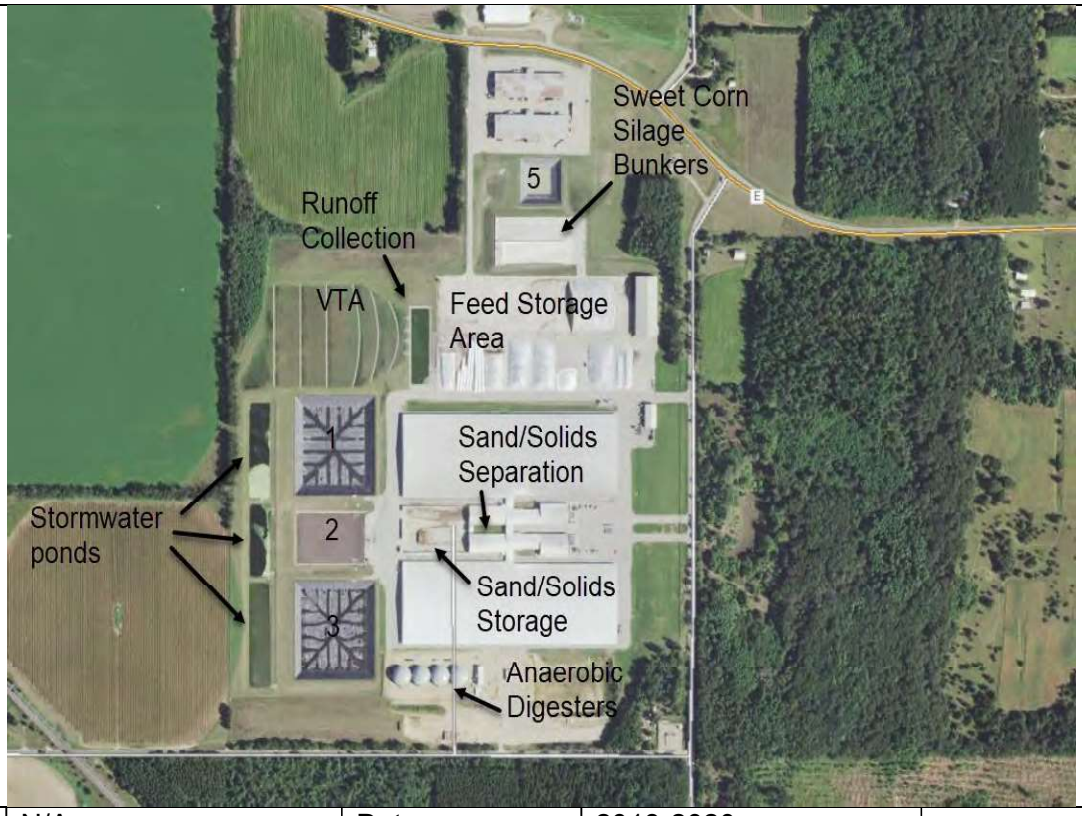

Photo #:	N/A	Date:	2018-2020	
Photo made by:	C. O'Connell	Photo Location	New Chester Dairy, LLC SWDV aerial	
Description:	Labeled aerial photo of production area, indicating facility locations			

SITE OBSERVATIONS

Feedlot Runoff
New Chester Dairy does not operate feedlots within their production area; all animals are housed within 2 freestall barns.

Calf Hutch Areas
New Chester Dairy does not have any calf hutch areas. Newborn calves are held in a nursery adjacent to the maternity areas within the freestall barns and are removed from the site by a custom raiser, Calf Source. Calves are removed at least once a day.

Waste Storage Facilities
Freestall barns are scraped with skid steers approximately 3 times a day. Flush flume systems direct manure and process wastewater from both freestall barns and the milking parlor to manure processing facilities, located in between the freestall barns, where sand is recovered. Recovered sand is stored on a concrete stacking pad west of the processing facilities, which was built in 2011. After sand removal, manure is piped from the processing facilities to the anaerobic digesters. The manure digesters were constructed in 2020 with department review and approval. After digestion, digestate is then returned to the processing facilities for solids removal. Recovered solids are stored on the concrete stacking pad west of the processing facilities, and all remaining waste is directed to WSF2. The separation and drying process operates on a roughly 7-day cycle, and any liquids from drying materials in the stacking area are drained back into the separation system. New Chester Dairy does not utilize headland stacking sites, and typically has adequate solids storage on the stacking pad. The Dairy intends to use the sweet corn bunkers for backup solids storage if necessary, during winter conditions.

Waste storage facilities 1,2 and 3 are all concrete lined and WSFs 1&3 utilize HDPE covers. WSF2 acts as a first stage storage and directs waste to WSF3 and WSF2 with gravity pipes. Waste is agitated during pumping, and solids are removed approximately twice a year and landspread by a contract hauler. The concrete storages have approximately 8 inches of concrete flooring depth to limit damage from solids removal or agitation. Sump pumps regularly remove pooled freshwater from the tops of the liners. An inspection in 2016 discovered a waste stream entering the stormwater conveyance system caused by the HDPE liners scraping against the bottom of near-empty pits and creating pin-hole leaks in the covers. To prevent this issue, New Chester Dairy no longer draws down storage levels low enough to damage the covers.

WSF1 and WSF2 were constructed in 2011 and WSF3 was constructed in 2014. Two underground manure transfer pipes can be connected to direct waste from the WSFs to several fields within New Chester Dairy's NMP north and east of the production area, and several fields south and west of the production area. These transfer pipes are also regularly attached to dragline systems to direct manure to additional fields in New Chester Dairy's NMP. The transfers were constructed in 2015 with department review and approval.

Solid and liquid waste storage facilities are managed to not have current or past indicators of discharges. Solid and liquid waste storage structures are well-maintained, in good repair, and in compliance with permit requirements. Liquid waste storage facilities have permanent markers installed, and perimeter fencing was observed during the site inspection.

Photo #:	IMG_1242	Date/Time:	8/16/2022	1:48 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF 2, concrete lined waste storage facility located between HDPE lined WSF's 1 & 3. Photo taken looking SW from the W side of the barns.			

Photo #:	IMG_1245	Date/Time:	8/16/2022	1:49 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF 2, rebar permanent markers. Photo taken looking NW form the E side of the WSF. Markers indicated in the red circle.			

Photo #:	IMG_1247	Date/Time:	8/16/2022	1:51 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF 3, HDPE lined and covered waste storage facility located S of the concrete lined WSF 2. Photo taken looking S from between WSF's 2 & 3.			

Photo #:	IMG_1248	Date/Time:	8/16/2022	1:52 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Odor control box for WSF 3, located N of the storage. Photo taken looking S from between WSF's 2 & 3.			

Photo #:	IMG_1249	Date/Time:	8/16/2022	1:52 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF 3, permanent markers. Photo taken looking S, down into the pit from the N edge of the storage.			

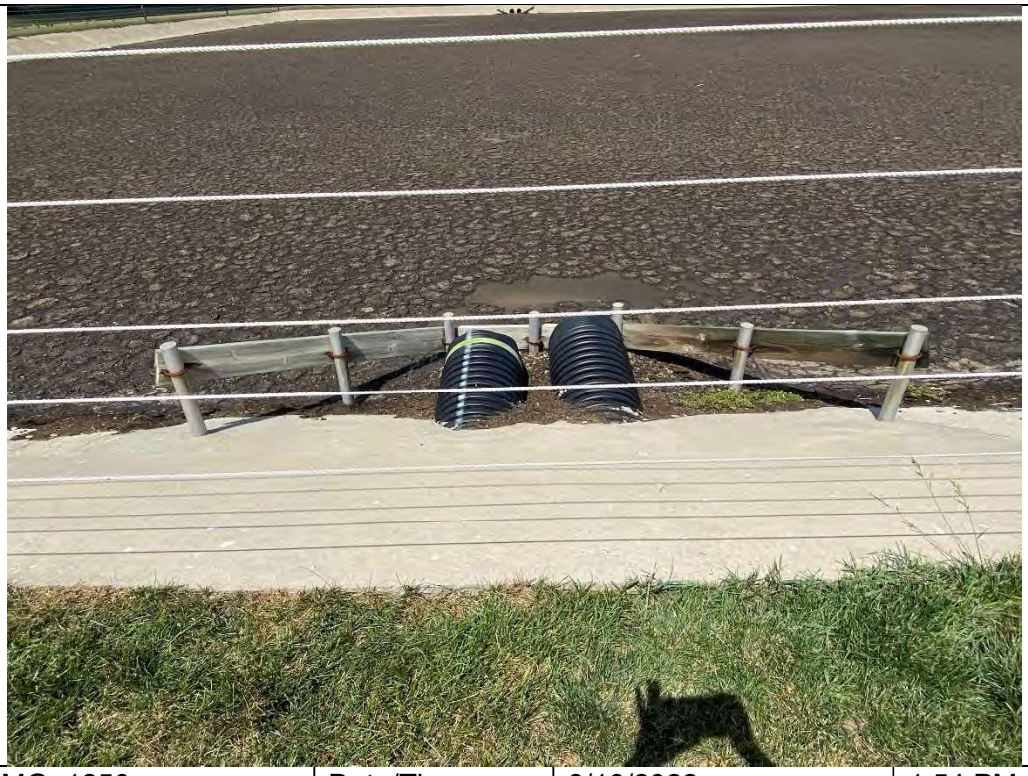

Photo #:	IMG_1250	Date/Time:	8/16/2022	1:54 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Inlet pipes from WSF 2 to WSF 3. Photo taken looking N from the S side of WSF 2.			

Photo #:	IMG_1263	Date/Time:	8/16/2022	1:59 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF 1 – Permanent markers shown in red circle. Photo taken looking E.			

Photo #:	IMG_1275	Date/Time:	8/16/2022	2:08 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF 1 – Photo taken from N side of facility looking SE. Permanent markers shown in red circle.			

Photo #:	IMG_1291	Date/Time:	8/16/2022	2:17 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Waste transfer system for WSF 3. Photo taken looking S.			

Photo #:	IMG_1283	Date/Time:	8/16/2022	2:13 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Sand/solids separation area and stacking pad. Photo taken looking E.			

Photo #:	IMG_1284	Date/Time:	8/16/2022	2:13 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Sand/solids separation area and stacking pad. Photo taken looking S.			

Photo #:	IMG_1285	Date/Time:	8/16/2022	2:13 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Sand/solids separation area and stacking pad. Photo taken looking SE.			

Photo #:	IMG_1290	Date/Time:	8/16/2022	2:15 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Process wastewater feed and return for the sand & solids separation system. Photo taken on the S side of the sand separation/stacking area looking NE.			

Photo #:	IMG_1292	Date/Time:	8/16/2022	2:22 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Manure solids removed from sand. Photo taken within the sands/solids separation area looking SE.			

Photo #:	IMG_1293	Date/Time:	8/16/2022	2:22 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Inside of the south sands/solids separation building. Looking at the screw presses.			

Photo #:	IMG_1295	Date/Time:	8/16/2022	2:23 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Inside the south sands/solids separation building. Looking E at the sand separation.			

Photo #:	IMG_1296	Date/Time:	8/16/2022	2:23 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Close-up of sand settling lanes in the south sands/solids separation building. Photo taken looking E.			

Photo #:	IMG_1236	Date/Time:	8/16/2022	1:40 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Anaerobic Digesters located on the S side of the production area. Photo taken looking W.			

Photo #:	IMG_1239	Date/Time:	8/16/2022	1:46 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Anaerobic Digesters located on the S side of the production area. Photo taken looking SW.			

Feed Storage Area Runoff

New Chester Dairy utilizes a feed storage area and runoff collection system north of the freestall barns, which was built in 2011. Leachate and runoff surface flow to a first flush collection tank located west of the storage pad. First flush liquids are directed to the sand separation system/flush flume with a sump pump. This system is disabled in winter to prevent components from freezing. Additional runoff is then directed to WSF6 west of the collection tank. WSF6 is concrete lined and had perimeter fencing in place at the time of the site inspection. The first flush and WSF6 are designed to collect up to a 25-year, 24-hour storm. Any overflow from WS6 would be directed to a vegetated treatment area (VTA) west of WSF6. Dairy staff stated the VTA is very rarely employed, and is mowed once weekly. Spreader bars appeared to be in good condition at the time of the site visit, and no evidence of concentrated flow or pooling was observed. The westernmost boundary of the VTA did appear to be saturated, with areas of browned vegetation and wet areas.

New Chester Dairy stores sweet corn silage sourced from a local cannery in a series of bunkers north of the feed storage area. All leachate and runoff from this storage area is collected by a HDPE-lined WSF5 to the north, which has a clay secondary liner. The storage and runoff control system as constructed in 2014 with department review and approval. Liquids collected from WSF5 are pumped to WSF1 and WSF3 in order to clean out sand from the bottom of the storages. In 2020 a leak was discovered in the northwest bunker wall of the sweet corn silage bunkers, after which maintenance and repair activities were conducted to direct any leachate to WSF5 and seams were resealed. The area was not observable during the inspection because silage was stacked in the area, but no discharges were observed during the inspection.

Feed storage areas and associated process wastewater (leachate, runoff) appeared to be managed to not have current or past indicators of discharges. Feed storage areas and runoff control systems appeared well-maintained, in good repair and in compliance with permit requirements.

Photo #:	IMG_1298	Date/Time:	8/16/2022	2:29 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF6. Photo taken looking N from the SE corner of the collection basin.			

Photo #:	IMG_1299	Date/Time:	8/16/2022	2:29 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Feed storage area leachate collection path. Photo taken looking N.			

Photo #:	IMG_1300	Date/Time:	8/16/2022	2:29 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Pump for feed pad runoff collection first flush tank. Photo taken looking NE.			

Photo #:	IMG_1302	Date/Time:	8/16/2022	2:30 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Feed storage pad leachate collection path inlet to first flush tank. Photo taken looking N.			

Photo #:	IMG_1308	Date/Time:	8/16/2022	2:35 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Close-up of concrete swale for leachate. Photo taken looking E.			

Photo #:	IMG_1304	Date/Time:	8/16/2022	2:31 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Feed storage pad – photo taken looking E.			

Photo #:	IMG_1309	Date/Time:	8/16/2022	2:37 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Sweet corn silage bunkers. Photo taken of S wall from the SE corner looking W.			

Photo #:	IMG_1311	Date/Time:	8/16/2022	2:37 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Sweet corn silage bunkers. Photo taken looking NW from the SE corner.			

Photo #:	IMG_1316	Date/Time:	8/16/2022	2:39 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Sweet corn silage bunkers – leachate collection grate. Photo taken from the NE corner of the bunkers.			

Photo #:	IMG_1317	Date/Time:	8/16/2022	2:39 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Sweet corn silage bunkers. Photo taken of N wall from the NE corner looking W.			

Photo #:	IMG_1322	Date/Time:	8/16/2022	2:44 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	WSF 5 – industrial waste storage facility for sweet corn silage leachate. Photo taken looking W from the SE corner of the facility.			

Process Wastewater (other than feed storage area leachate/runoff)

Process wastewater sources (milking center, wash water, etc.) are managed to not have current or past indicators of discharges. Parlor waste, wash water, and water from animal cooling systems in the freestall barns are all captured by the flush flume system.

Animal Mortality Disposal

Mortalities are stored in a roofed shed west of the solids stacking area. O J Krull & Sons regularly removes mortalities from the temporary storage shed. Animal mortalities appeared to be managed to not have current or past indicators of discharges.

Photo #:	IMG_1240	Date/Time:	8/16/2022	1:48 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Mortality storage shed located between the WSF's and the barns. Photo taken looking E.			

Ancillary Service Areas

There are four high-capacity wells used in the operation: two are located east of the freestall barns, which were constructed in 2011 and another two are located 2.5 miles south of the production area, which were built in 2014. The Dairy also has a system of 14 groundwater monitoring wells located within the production area.

Stormwater from driveways east of the freestall barns and from the roofs of the freestall barns is directed around the barns and WSFs to culverts that outlet to the stormwater ponds west of the waste storage facilities. Storm water is also diverted to a retention area east of WSF5 and around the feed storage area.

Preventative maintenance actions and visual inspections are occurring to minimize pollutant discharges from ancillary service and storage areas (i.e., storm water conveyance systems, driveways, etc.).

Photo #:	N/A	Date:	2018-2020	
Photo made by:	C. O'Connell	Photo Location	New Chester Dairy, LLC SWDV aerial	
Description:	Labeled aerial photo of production area, blue dots indicating GW monitoring wells and red indicating high-capacity supply wells			

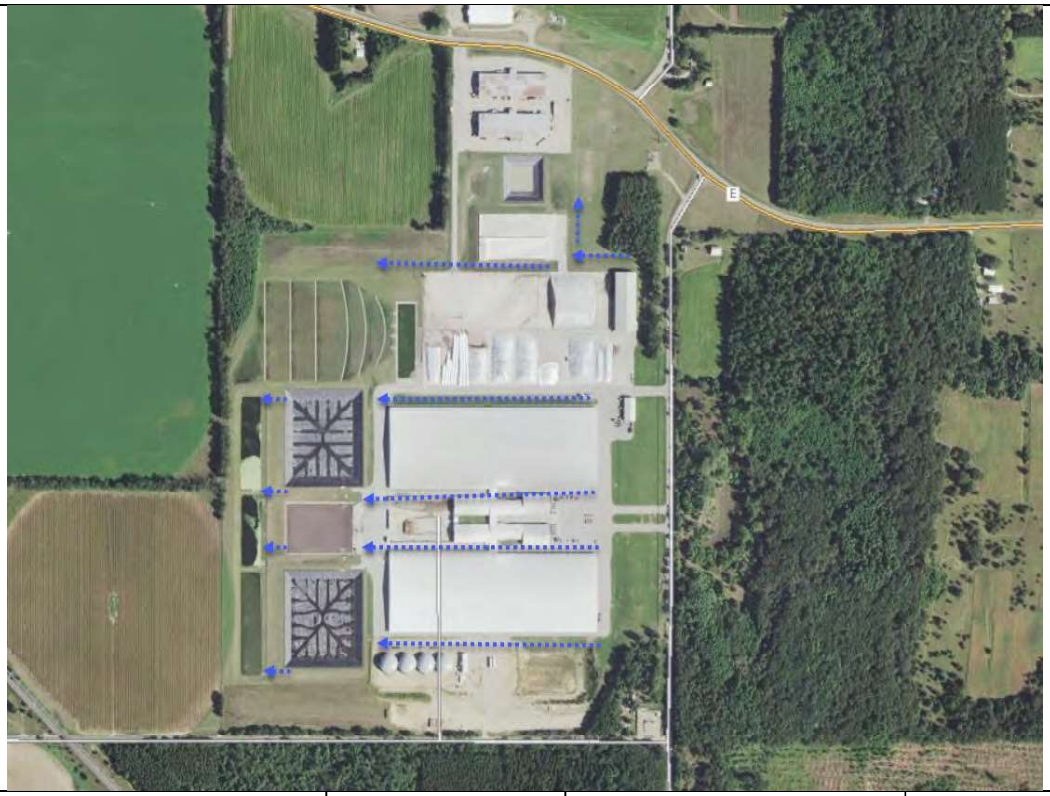

Photo #:	N/A	Date:	2018-2020	N/A
Photo made by:	C. O'Connell	Photo Location	New Chester Dairy, LLC SWDV aerial	
Description:	Labeled aerial photo of production area, blue lines indicating clean water conveyance system flow direction			

Photo #:	IMG_1234	Date/Time:	8/16/2022	1:32 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Stormwater conveyance located along the NE side of the south barn. Stormwater is carried W to the stormwater ponds. Photo taken looking S.			

Photo #:	IMG_1256	Date/Time:	8/16/2022	1:55 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Outlet from stormwater conveyance that boarders the south barn. Photo taken looking SW.			

Photo #:	IMG_1258	Date/Time:	8/16/2022	1:56 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Outlet from stormwater conveyance that boarders the north barn. Photo taken looking NW.			

Photo #:	IMG_1259	Date/Time:	8/16/2022	1:57 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Close up of stormwater conveyance outlet that directs water from the north barn. Photo taken looking W.			

Photo #:	IMG_1280	Date/Time:	8/16/2022	2:10 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Grassed swale between feed storage area and the north barn. Photo taken looking E from the E side of WSF 1.			

Photo #:	IMG_1282	Date/Time:	8/16/2022	2:13 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Stormwater conveyance located along the SW side of the north barn. Stormwater is carried W to the stormwater ponds. Photo taken looking E.			

Photo #:	IMG_1289	Date/Time:	8/16/2022	2:15 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Stormwater conveyance located along the NW side of the south barn. Stormwater is carried W to the stormwater ponds. Photo taken looking E.			

Photo #:	IMG_1318	Date/Time:	8/16/2022	2:43 PM
Photo taken by:	J. Hanrahan	Photo Location	New Chester Dairy, LLC	
Description:	Stormwater infiltration area N of the sweet corn bunkers. Photo taken looking N.			

RECORDS REVIEW

New Chester Dairy maintains their records electronically. The facility does not use the optional CAFO calendar, and instead retains monitoring and inspection data in a custom-made, digital file retention system.

The permittee had a current WPDES Permit and Nutrient Management Plan onsite.
The permittee provided complete production site inspection records that are required to be retained.
The permittee provided adequate documentation that the facility has a minimum of 180 days of liquid manure storage capacity.
The permittee provided land application records to demonstrate compliance with nutrient management plan requirements.
The permittee confirmed they maintained copies of their emergency response and monitoring and inspection plans onsite.
The permittee is up to date on required reporting and actions as specified in the Schedules section of permit.

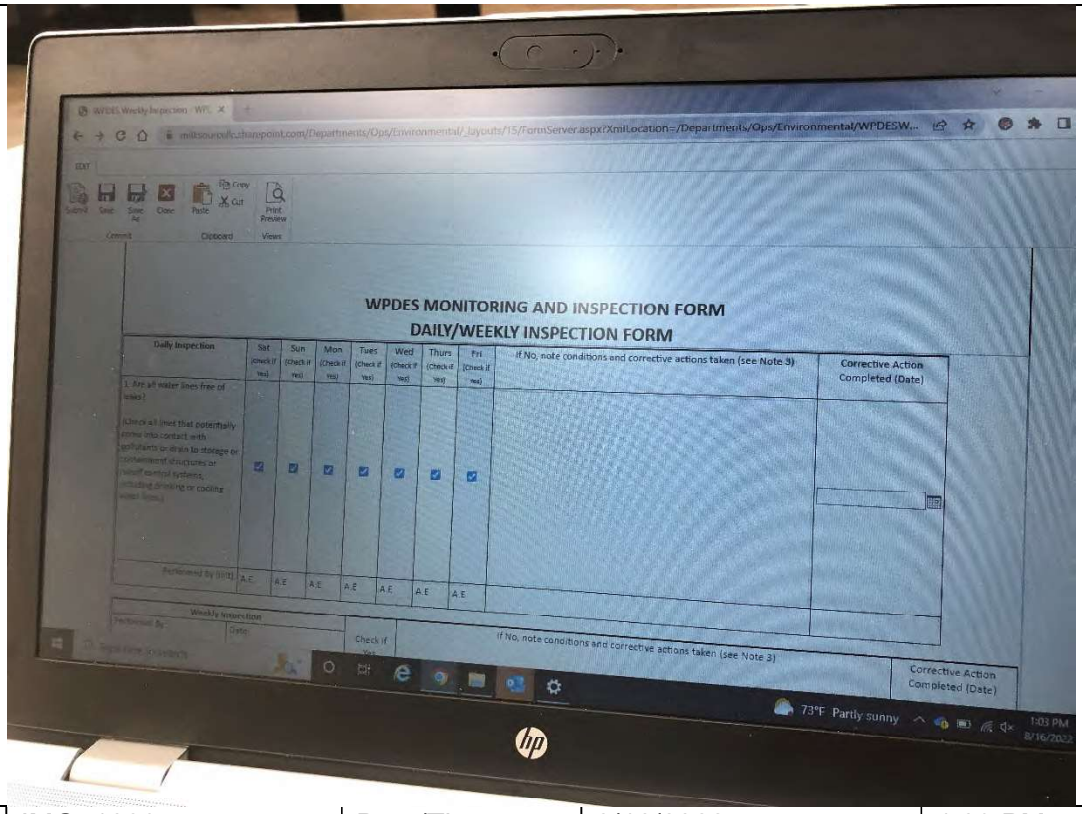

Photo #:	IMG_1089	Date/Time:	8/16/2022	1:03 PM
Photo taken by:	C. O'Connell	Photo Location	New Chester Dairy, LLC	
Description:	Custom Monitoring and inspection program used by the Dairy; daily/weekly inspection record			

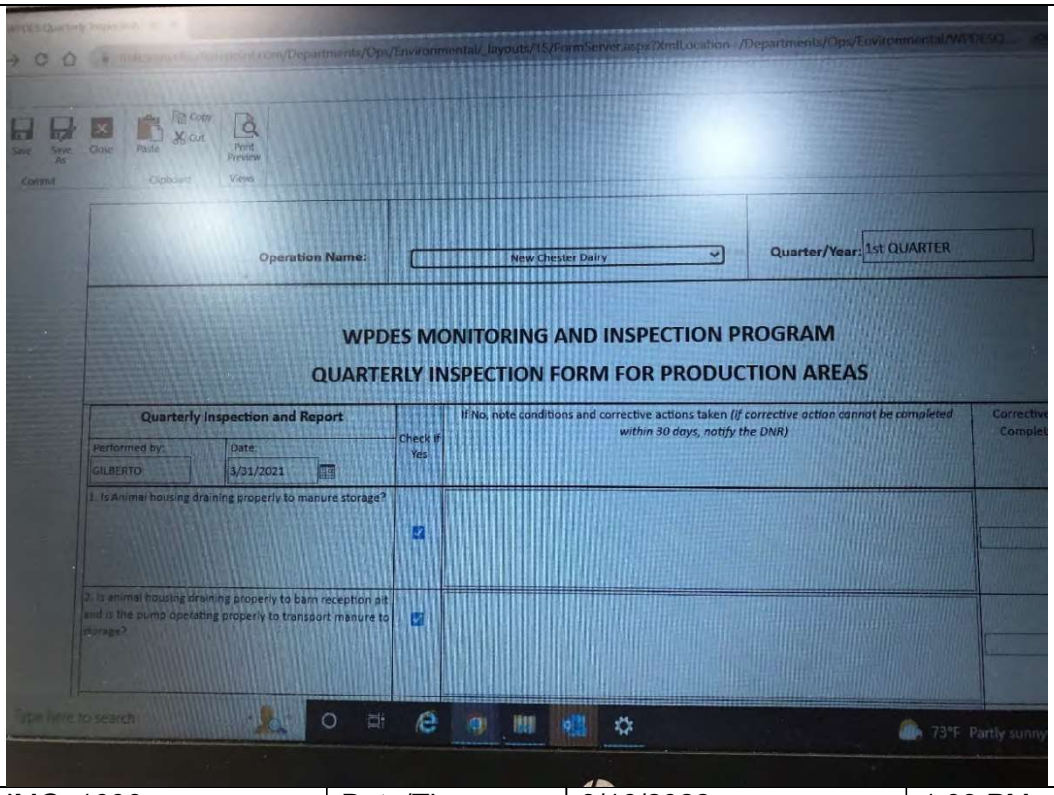

Photo #:	IMG_1090	Date/Time:	8/16/2022	1:03 PM
Photo taken by:	C. O'Connell	Photo Location	New Chester Dairy, LLC	
Description:	Custom Monitoring and inspection program used by the Dairy; quarterly inspection record			

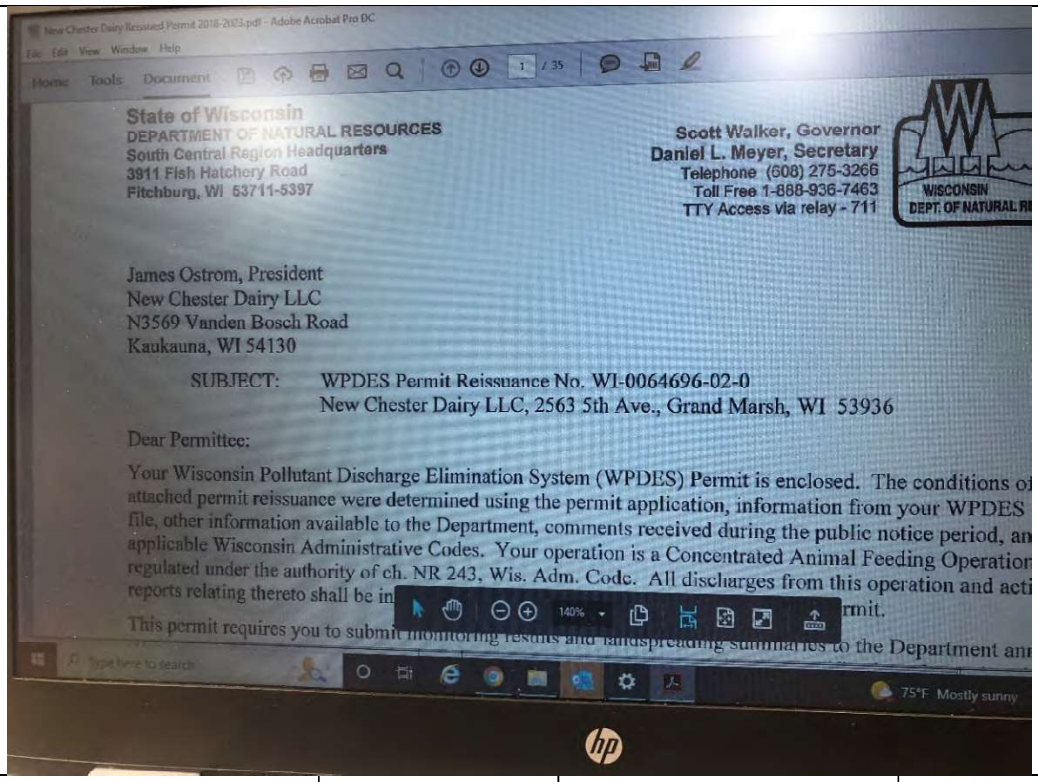

Photo #:	IMG_1091	Date/Time:	8/16/2022	1:03 PM
Photo taken by:	C. O'Connell	Photo Location	New Chester Dairy, LLC	
Description:	Electronic copy of current WPDES permit for new Chester dairy			

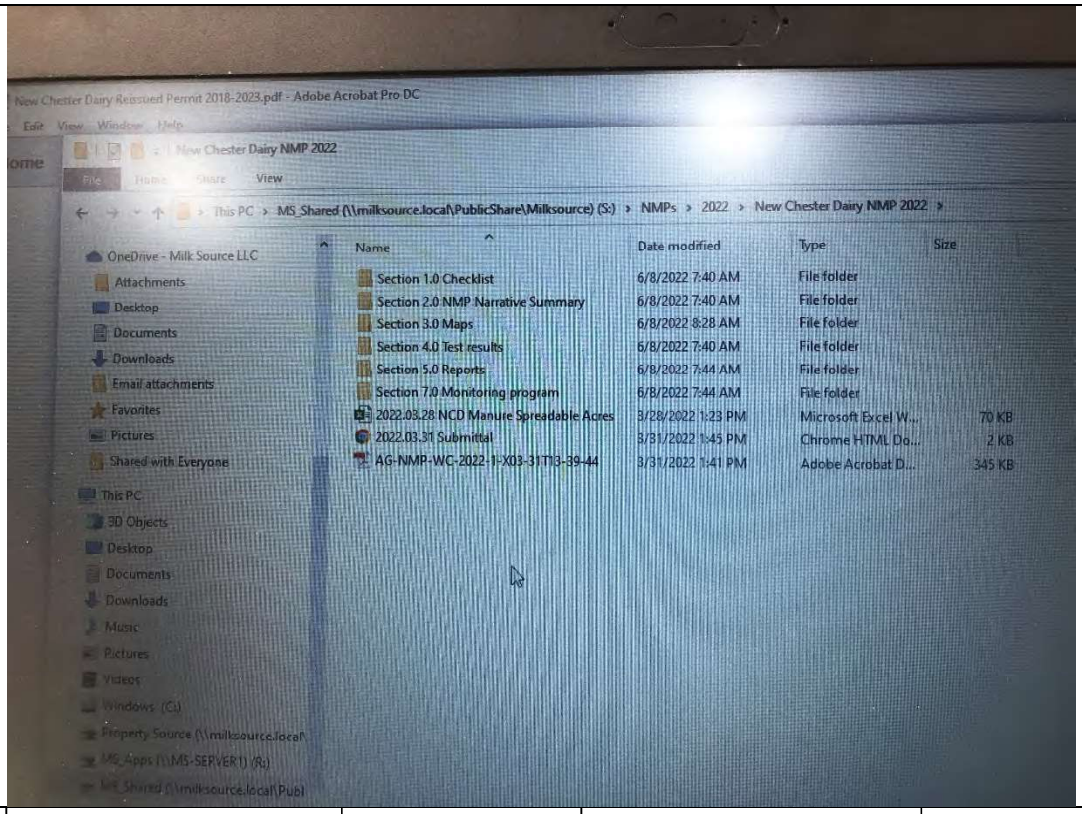

Photo #:	IMG_1092	Date/Time:	8/16/2022	1:03 PM
Photo taken by:	C. O'Connell	Photo Location	New Chester Dairy, LLC	
Description:	New Chester Dairy NMP/hauling logs and records, monitoring and inspection report			

SUMMARY

New Chester Dairy does not have any expansion plans for the next 5 years and would not be able to increase animal unit numbers without building additional infrastructure. A review of the ground water monitoring system and groundwater data is in process. Any actions or changes regarding the groundwater monitoring will be included in the proposed draft permit. The current WPDES permit will expire on June 30th, 2023 and a reissuance application is due to the department no later than December 31st, 2022.

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Tony Evers, Governor
Adam N. Payne, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

October 12, 2023

FILE REF: 2022-0275
WPDES Permit #: WI-0064696

Todd Willer
New Chester Dairy LLC
2563 5th Ave.
Grand Marsh, WI 53936

Subject: Days of Storage Review for New Chester Dairy LLC SE¼ of T16N, R07E, Section 08 in New Chester Township, Adams County – NO ADDITIONAL ACTION REQUIRED

Dear Mr. Willer:

The previous review letter (R-2022-0275, August 11, 2023) is superseded by this current letter due to a minor error in the volume numbers. This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has completed its review of the calculation of days of storage submitted under certification by Jennifer Keuning, GHD on December 30, 2022 on behalf of New Chester Dairy LLC.

The Department reviewed the submitted calculations in accordance with ss. NR 243.14(9) and NR 243.15(3)(i) to (k), Wis. Adm. Code. Under s. NR 243.17(3)(c), Wis. Adm. Code, the permittee shall demonstrate compliance with the 180-day design storage capacity requirement at specified times. For the following liquid manure storage calculations, the Department has determined **no additional actions** on your part are required.

Days of Available Liquid Waste Storage: The submitted information states that New Chester Dairy LLC has **197 days** of liquid waste storage based on the volumes listed in the table below with respect to s. NR 243.15(3)(i) to (k), Wis. Adm. Code. The current number of animal units provided for the calculation is **14,080 AU**. The liquid waste volumes are based on the NRCS spreadsheet and other estimated or calculated value for a collection period of 365 days. These calculations assume that there is a first flush collection volume of 0.15 inches of precipitation runoff from the feed storage area with the remainder going to a VTA. It is also assumed that there is a full collection of the 25-yr, 24-hr storm event from the sweet corn silage bunkers. WSP #1 and #3 have a HDPE cover therefore direct precipitation is not collected.

Total Annual Liquid Waste Volume (NRCS Table Values)	
Liquids Collected/Stored	**Annual Gallons**
Manure, Bedding, and Parlor Wastewater	113,504,050
Total Feed Storage Leachate (120,000 tons + 50,000 tons [(1)]):	1,009,800
Total Feed Storage Runoff Collected (784,700 SF)[(2)]:	2,917,825
Total Sweet Corn Silage Bunkers Runoff Collected:	2,351,755
Net Precipitation on Storage Surfaces (114,471 SF + 55,225 SF)[(3)]:	2,147,277
Total Sand Separation Facility Runoff Collected:	1,770,250
Total Solids Storage Area Runoff Collected (89,088 SF):	1,835,031
Total Liquid Waste Stored Below the MOL	**125,535,988**

(1) Sweet Corn Leachate is based on 1.5 cu.ft. of leachate per ton of stored feed for 50,000 tons
(2) Values derived from a collection of 0.15 inches of first flush precipitation runoff
(3) Net Precipitation includes WSP #2 and WSP#5

Total Liquid Waste Storage (Gallons)						
Waste Storage	Total Vol. from Top to Bottom	-Solids Storage	-25-yr, 24-hr Precip on Storage	-25-yr, 24-hr Collected Runoff	-Freeboard Vol.	Max Operating Level (MOL) Vol.
#1	31,416,000	965,637 (4)	0	0	2,512,579	27,937,784
#2	9,117,361	0	344,883	264,231(5)	1,242,934	7,265,313
#3	31,416,000	965,637(4)	0	0	2,512,579	27,937,784
#5	5,807,908	0	162,135	332,549(6)	791,508	4,521,716
					Total MOL Vol.	**67,662,597**

(4) 1 ft of solids

(5) Volume for the solids stacking pad

(6) Volume for the sweet corn bunkers

Should you have any questions, please contact Bernie Michaud, DNR Madison office or your regional CAFO Specialist.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. For judicial review of a decision pursuant to WIS. STAT. §§ 227.52 and 227.53, you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to WIS. STAT. § 227.42, you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with WIS. ADMIN. CODE § NR 2.05(5), and served on the Secretary in accordance with WIS. ADMIN. CODE § NR 2.03. The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

Bernie Michaud

Bernie Michaud, P.E.
CAFO Engineer Supervisor
Watershed Management Program

Jazmin Lara

Jazmin Lara
Engineering Intern
Watershed Management Program

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Aaron O'Rourke; DNR, Eau Claire
(715) 839-3775; aaron.orourke@wisconsin.gov

Dustin Grant; Adams County LCD
(608) 339-4222; dustin.grant@co.adams.wi.us

Tabatha A Davis; DNR – South Central Region
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Ashley Scheel; DNR, Central Office
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Jazmin Lara; DNR, Central Office
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TTY Access via relay - 711

August 26th, 2022

Adams County
WI-0064696-02-01

Todd Willer
VP of Operations
New Chester Dairy, LLC
N3569 Vanden Bosch Road
Kaukauna, WI 54130

SUBJECT: Inspection Report for New Chester Dairy LLC, 2563 5th Avenue, Grand Marsh

Dear Mr. Willer,

On August 16th, 2022, the Wisconsin Department of Natural Resources (department) conducted a site inspection as part of the reissuance process for New Chester Dairy LLC's WPDES permit. Please see the enclosed inspection report.

The current WPDES permit will expire on **June 30th, 2023**, and a reissuance application is due to the department no later than **December 31st, 2022**. Materials needed for a complete permit application are listed below.

1. Livestock/Poultry Operation WPDES Permit Application Forms 3400-025, 025B, 025C
2. Animal Unit Calculation Worksheet Form 3400-025A
3. Labeled Aerial Maps
4. Soil Survey Maps
5. 180-day manure storage calculations
6. 180-day manure storage documentation
7. Nutrient Management Plan (NMP)
8. Environmental Analysis Questionnaire

If you have any questions regarding this letter or the enclosed report, please contact me at (608) 963-1463 or claire.oconnell@wisconsin.gov.

Sincerely,

Claire L. O'Connell

_____

Claire O'Connell
Wastewater Specialist – Bureau of Watershed Management
Wisconsin Department of Natural Resources
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Enclosed:
Site Inspection Report

ECC:
Laura Bub – WDNR
Ian Anderson – WDNR
Josie Hanrahan – WDNR
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Jen Keuning – GHD Services Inc
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Sarah Babcock – Milk Source

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
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March 28, 2024

Adams County
Approval

Todd Willer
New Chester Dairy, LLC
N3569 Vanden Bosch Road
Kaukauna, WI 54130

SUBJECT: Conditional Approval of New Chester Dairy, LLC Nutrient Management Plan, WPDES Permit No. 0064696-03-0

Dear Todd Willer,

After completing a review of New Chester Dairy, LLC 2024-2028 Nutrient Management Plan (NMP) the Wisconsin Department of Natural Resources (Department) is providing conditional approval that it is consistent with Nutrient Management Requirements in s. NR 243, Wis. Adm. Code. This part of your WPDES permit application is now ready for the public notice and comment process as required by Ch. 283 Stats.

Before applying manure onto approved fields each season, the Department recommends New Chester Dairy, LLC review the NMP with those individuals involved with manure applications to ensure all remain familiar with the approved manure spreading protocol, spreading maps, field and map verification, record keeping requirements, and all the conditions of this approval. Specifically, some fields in New Chester Dairy, LLC may have:

- Soils that may have bedrock or groundwater within 24 inches of surface,
- Multiple setback areas due to streams, conduits to streams, grassed waterways, wetlands or wells, and
- Evidence of possible soil erosion/flow channels. Note: road ditches or other man-made channels may be considered flow channels or conduits to navigable water and may be subject to a SWQMA and setback.

Reviewing the NMP and checking fields for these features and soil conditions prior to manure applications will help New Chester Dairy, LLC maintain compliance with their WPDES permit and Ch. NR 243 requirements.

FINDINGS OF FACT

The Department confirms that:

1. A current dairy herd size of 14,080 animal units (9,700 milking & dry cows, 500 heifers). Currently there are no planned expansions in the next permit term.
2. Manure generation and spreading records indicate your herd will annually generate approximately 125,535,988 gallons of manure and process wastewater and 17,105 tons of solid manure in the first year of the permit term.
3. The use of application restriction options 1 and 5 within surface water quality management areas.
4. The use of phosphorus delivery method P Index.
5. That New Chester Dairy, LLC currently has 47,965.1 acres (3,903.8 owned and 44,061.3 controlled through contracts, rental agreements or leases, or under manure agreements). **New Chester Dairy, LLC currently has 19,078 acres that are not compliant with soil testing requirements and therefore are prohibited**

from manure and process wastewater applications. This leaves the farm with 24,983.3 total spreadable acres.

6. That some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to Wisconsin River (listed 303(d) impaired water by 'Total Phosphorus, BOD, Mercury, Dioxin, PCBs, and Unknown Pollutant'), Castle Rock Lake (listed 303(d) impaired water by 'Total Phosphorus, Mercury, PCBs, and Dioxin'), 176300 (listed 303(d) impaired water by 'TSS'), Mason Lake (listed 303(d) impaired water by 'Total Phosphorus and TSS'), Fox River (listed 303(d) impaired water by 'Total Phosphorus, PCBs, TSS, and Mercury') Caves Creek (listed 303(d) impaired water by 'Unknown Pollutant'), Tagatz Creek (listed 303(d) impaired water by 'Unknown Pollutant'), and Bird Creek (listed 303(d) impaired water by 'Unknown Pollutant').
7. That some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to outstanding/exceptional waters including Carter Creek, Schmudlack Creek, White River, West Branch White River, Bird Creek, Mud Creek, Lunch Creek, Tagatz Creeky, Caves Creek, Lawrence Creek, Little Roche A Cri Creek, Fordham Creek, Campbell Creek, Fairbanks Creek, Neenah Creek, Corning Creek, Plainville Creek, Gulch Creek.
8. That 35 fields are listed as being tiled.

- 401-002-023 Jungenbergs
- 401-024-BrewsterMini
- 401-025-BrewsterWip or
- 401-026-BrewsterNW
- 401-027-BrewsterNW
- 401-028-BrewsterNE
- 401-029-BrewsterNE
- 401-031-BrewsterSE
- 401-033 Allens
- 401-054-Petersons
- 401-057-BrewsterD
- 402-005-A-3E
- 402-006-A-3W
- 402-045-BaysS
- 402-046-BaysN
- 415-101 H-01
- 415-102 H-02
- 415-103 H-03
- 415-104 H-04
- 415-105 H-05
- 415-106 H-06
- 415-107 H-07
- 415-109 H-09
- 415-110 H-10
- 415-111-H-11
- 415-112 H-12
- 415-113 H-13
- 415-114 H-14
- 415-115 H-15
- 415-116 H-16
- 415-117 H-17
- 415-118 N18
- 415-119 H-19
- 415-120 H-20
- 434-046-Walkers

9. That all fields will be checked for the following features prior to/during manure or process wastewater applications: soil areas with possible shallow groundwater (i.e., within 24 inches of surface) at the time of manure application; required setbacks associated with wells, navigable waters, conduits to navigable waters, grassed waterways, wetlands, possible soil erosion/flow channels.
10. That surface applications of manure will not be completed when precipitation capable of producing runoff is forecasted within 24 hours of the time of planned application.

CONDITIONAL NUTRIENT MANAGEMENT PLAN APPROVAL

The Department hereby approves the 2024-2028 New Chester Dairy, LLC Nutrient Management Plan subject to the following conditions and the applicable requirements of Ch. NR 243, Wis. Adm. Code:

FIELD AND MANURE MANAGEMENT

1. Fields not included in the NMP and new fields shall not receive manure or process wastewater applications until they have been properly soil sampled, entered into Snap Plus, evaluated for their nutrient needs, and approved by the Department.

2. The following fields have also been approved to receive industrial, municipal, or septage waste:

Field Name	Other Permittee Name	Other Permittee Field Name	DNR #
403-001	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	712	118239
403-003-A&WN	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA G	62761
403-005-AustinN	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	708	49054
403-006-AustinND	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	708	49054
403-007-AustinS	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	710	49055
403-008-AustinSD	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	710	49055
403-013-Ferge	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	687	49046
403-016-EGrainB	WASTEWATER REUSE AND MANAGEMENT, LLC	CF B	49062
403-017-EGrainBD	WASTEWATER REUSE AND MANAGEMENT, LLC	CF B	49062
403-026-M&G	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	709	118238
403-029-Pouse	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	711	67915
403-034-SmeBigPivot	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 C	110349
403-034-SmeBigPivot	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 E	110350
403-034-SmeBigPivot	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 D	110366
403-035-SmeCass	BILLERUD WISCONSIN LLC	SMF 14	103005
403-036-SmeOffice	BILLERUD WISCONSIN LLC	SMF 3	99447
403-036-SmeOffice	BILLERUD WISCONSIN LLC	SMF 4	99449

403-036-SmeOffice	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 B	110362
403-038-SmeShopS	BILLERUD WISCONSIN LLC	SMF 14	103005
403-038-SmeShopS	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 D	110366
403-039-SmeVicks	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 A	110339
403-039-SmeVicks	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 B	110362
403-040-SmeWiporF	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	152 E	110350
403-044 CoferG	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA E	76240
403-045 Schmidt	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA F	81592
403-050 CoferG	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA D	75651
403-051 CoferG	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA D	75651
403-058 CoferG	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA C1	62759
403-058 CoferG	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA C2	62760
403-059 CoferG	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA B1	62757
403-059 CoferG	WASTEWATER REUSE AND MANAGEMENT, LLC	BULA B2	62758
403-064 WPark	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	688	110609
403-065 EPark	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	689	110608
403-066-King	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	707	118236
403-077 WGrainB	WASTEWATER REUSE AND MANAGEMENT, LLC	CF A	49061
404-002-MassenS	WASTEWATER REUSE AND MANAGEMENT, LLC	BG D	118964

404-056 M and 4th North	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	702	113897
404-057 M and 4th Middle	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	703	53097
404-058 M and 4th South	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	703	53097
411-023 DanMorse	SCHULTZ EXCAVATING, INC. DBA JAKE'S SANI-SER	JM 1	117398
440-013 Stone North	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	699 A	113210
440-014 Stone South	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	699 B	113211
440-015 Stone Back	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	699 C	113212
463-001	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	706	113940
464-001 Sorenson	GRANDE CHEESE COMPANY, CUSTOM INGREDIENT DIV.	704	115284
474-001	GRANDE CHEESE CORP WYOCENA	MIG 973	116367
474-002	GRANDE CHEESE CORP WYOCENA	MIG 973	116367
474-003	GRANDE CHEESE CORP WYOCENA	MIG 973	116367
474-004	GRANDE CHEESE CORP WYOCENA	MIG 973	116367

Prior to any manure applications on these fields New Chester Dairy, LLC shall contact the entities listed above to obtain recent spreading records and make the necessary adjustments to the planned manure application rates. At the end of each year New Chester Dairy, LLC shall contact each entity listed above to obtain spreading records from the previous year so that they can be properly tracked in the NMP. Please Note: New Chester Dairy, LLC is responsible for obtaining nutrient content values for all other wastes spread on any field in their NMP.

3. The following fields are prohibited from receiving applications of manure or process wastewater:
   SEE APPENDIX A FOR LIST OF PROHIBITED FIELDS DUE TO DEFAULT SOIL TESTS
   SEE APPENDIX B FOR LIST OF PROHIBITED FIELDS DUE TO SOIL TEST P >200PPM

   If New Chester Dairy, LLC wishes to use these fields for applications of manure or process wastewater all necessary information shall be submitted to the Department prior to application to demonstrate compliance

with NR 243 and other applicable codes. Written Department approval amending this condition approval must be received prior to application.

4. If existing fields yield a soil test results equal to or greater than 200 ppm P, those fields would be prohibited from receiving manure or process wastewater applications, unless you obtain Department approval in accordance with NR 243.14(5)(b)2., Wis. Adm. Code.

5. All liquid manure samples collected may be analyzed, at a minimum, for percent dry matter, total nitrogen, percent NH_4-N, percent NO_3-N, phosphorus, potassium, and sulfur.

6. If manure sample results have a dry matter (DM) content less than 2.0% and the percent ammonium (NH_4^+) is greater than 75% of the total N, New Chester Dairy, LLC may use the following equation to adjust the first year available nitrogen when applications are injected or incorporated within 1 hour:

$$\text{First-Year Available N} = NH_4\text{-N} + [0.25 \times (\text{Total N} - NH_4\text{-N})]$$

7. New Chester Dairy, LLC shall record daily manure applications by using form 3200-123A. These forms shall be retained at the farm and provided to the department upon request.

8. New Chester Dairy, LLC shall annually submit a spreading report that summarizes the land application activities listed under NR 243.19(3)(c)5., Wis. Adm. Code by using form 3200-123.

WINTER SPREADING

9. Liquid manure applications during winter conditions, as defined by NR 243.14(7), Wis. Adm. Code, are prohibited with the exception of emergency applications.

10. The following field(s) are approved for winter spreading solid manure, emergency applications of liquid manure and frozen liquid manure:

- 400-008	- 400-012	- 400-013	- 400-014
- 400-015	- 400-016	- 400-017	- 400-018
- 400-019	- 400-020	- 400-021E	- 400-021W
- 400-022	- 400-023	- 400-024	- 400-025
- 400-026	- 400-026S	- 400-027	- 400-028
- 400-029	- 400-030	- 400-031	- 400-032
- 400-033	- 400-034	- 400-035	- 400-036
- 400-037	- 400-038	- 400-039	- 400-046

11. Winter spreading of solid and liquid manure may not occur during the “high risk runoff period” pursuant to s. NR 243.14(6)(c) and NR 243.14(7)(c), respectively.

12. Winter applications of liquid manure shall only occur under emergency situations, after notifying the Department and receiving verbal approval.

13. Liquid applications shall be limited to 3,500 gallons per acre or 30 lbs. P per acre, whichever is less, on slopes 2-6% and 7,000 gallons per acre or 60 lbs. P per acre, whichever is less, on slopes 0-2%. Winter applications of solid manure shall be limited to 60 lbs. P per acre.

HEADLAND STACKING

14. No headland stacking sites are approved.

MANURE & PROCESS WASTEWATER IRRIGATION

15. Irrigation of manure or process wastewater is prohibited.

SUBMITAL AND RECORDKEEPING REQUIREMENTS

16. A copy of this conditional approval shall be included in all future annual Nutrient Management Plan Updates in addition to the NR 243 and NRCS 590 checklists.

CONSIDERATIONS:

17. A large percentage of fields within this NMP are using default soil tests rather than obtaining up to date soil tests. It was communicated by New Chester Dairy, LLC that they do not intend to soil test these fields unless manure is to be applied as a contingency plan. It is recommended that the farm soil sample these fields and update the NMP with the results in order to accurately manage those fields to meet compliance with NR 243, NRCS 590, and NR 151. If fields are planned to not be managed to meet compliance with the above codes, New Chester Dairy, LLC should consider removing those fields from the NMP.
18. A large percentage of fields within this NMP have soil test P levels far higher than the optimal range. It is recommended that actions be taken to draw down the soil test levels to optimal. The optimal soil test P range for crops in Wisconsin (excluding potatoes) is 30-50ppm P.

This conditional approval does not limit the Department's regulatory authority to require NMP revisions (based upon new information or manure irrigation research findings) or request additional information in order to confirm or ensure your farm operation remains in compliance with NR 243 and your WPDES permit conditions. If additional information, project changes or other circumstances indicate a possible need to modify this approval, the Department may ask you to provide further information relating to this activity.

Please keep in mind that approval by the Department of Natural Resources – Runoff Management Program does not relieve you of obligations to meet all other applicable federal, state or locate permits, zoning and regulatory requirements.

If you have any questions regarding this approval, I can be reached at 715-214-5503 or Aaron.Orourke@Wisconsin.gov.

Sincerely,

Aaron O'Rourke
WDNR Nutrient Management Program Coordinator
Wisconsin Department of Natural Resources

cc: Tabatha Davis, WDNR Agricultural Runoff Management Specialist (Tabatha.Davis@Wisconsin.gov)
Laura Bub, WDNR Watershed Field Supervisor (Laura.Bub@Wisconsin.gov)
Christopher Clayton, WDNR Runoff Management Section Chief (Christopherr.Clayton@Wisconsin.gov)
Aaron O'Rourke, WDNR Nutrient Management Program Coordinator (Aaron.Orourke@Wisconsin.gov)
Falon French, WDNR Intake Specialist (Falon.French@Wisconsin.gov)
Ben Anderson, Monroe County (Benjamin.Anderson@Co.Monroe.Wi.Us)
Chuck Sibilsky, Adams County (Charles.Sibilsky@Co.Adams.Wi.Us)
Todd Schaumberg, Tilth Agronomy (Todd@Tilthag.com)
Sarah Babcock, MilkSource Environmental Coordinator (Sbabcock@Milksource.net)
File

APPENDIX A: FIELDS PROHIBITED DUE TO DEFAULT SOIL TESTS

401-032- Roths	416-001 FothNW	431-014
401-039-P4	416-002 Foth SW	431-015
401-040-P4	416-003 FothNE	431-016
401-047- CollinsEast	416-004 Foth SE	431-017
401-054- Petersons	416-005 G MARKS NORTH	431-018
401-055- CollinsD	416-006 G MARKS SOUTH	431-019
401-056- LonesomeD	416-101 MARKS	431-020
401-057- BrewsterD	416-102 SIMENSON E	431-021
401-058- MeistersD	416-103 SIMENSON W	432-001
401-059- Christensen sD	416-104 JUDAY EAST	432-002
401-066 Helm	416-105 EATON E	432-003
401-067 Wpodols E2nd	416-106 EATON W	432-004
401-069 NE Podoll Dry	416-107 RACETRAC K	432-005
401-071 NW Podoll Dry	416-108 ANNS EAST	432-006
401-073 Podoll S Dry	416-109 ANNS WEST	432-007
401-075 Wendall Podoll Dry	416-110 KIRKS BF	432-008
401-079 Podoll SW	416-111 LARRYS	432-009
401-080 Lonesome 40	416-112 MARSHALL	432-010
401-081 New Property	416-114 KIRK GL	432-011
403-002- A&WE	416-115 HOME EE	432-012
403-004- A&WS	416-116 HOME EW	432-013
403-005- AustinN	416-117 HOME N	432-014

403-006- AustinND	416-118 PARKINSO N	432-015
403-007- AustinS	416-119 SLINGER E	432-016
403-008- AustinSD	416-120 TOMINGO	432-017
403-013- Ferge	416-121 POLZIN SOUTH	432-018
403-016- EGrainB	416-122 POLZIN N	432-019
403-026- M&G	416-201 TATRO E ON V	433-001 Dover
403-027- Martin	416-202 TATRO W ON V	433-003 TB
403-029- Pouse	416-203 TATRO NE	433-004 DP
403-030- Pond	416-204 TATRO NW	433-005 NS
403-034- SmeBigPivo t	416-205 BROWN EAST	433-006 DF
403-036- SmeOffice	416-206 BROWN W	434-026 Wpodols W2nd
403-039- SmeVicks	416-207 PAGEL E	434-037 Bartels S 07
403-041- Tex	416-208 PAGEL WE	434-039 Bartels S 03
403-042- TexD	416-209 PAGEL WW	438-001 Dads
403-044 CoferG	416-210 PAGEL N	438-002 HOME NORTH 1
403-046 Dave Demlo	416-211 ROEHL	438-003 HOME NORTH 3
403-047 Dave Demlo	416-212 BAILLODS E ON V	438-004 HOME SOUTH 5
403-048 Dave Demlo	416-213 BAILLODS	438-005 HOME SOUTH 8
403-057 Patties	416-214 BAILLODS WEST	438-006 HOME SOUTH 4
403-058 CoferG	416-215 BAILLODS NW	438-007 HOME SOUTH 13
403-059 CoferG	416-216 BAILLODS N	438-008 HOME SOUTH 6
403-063 Ginter	416-217 HENRY EAST	438-009 C- 2
403-064 WPark	416-218 HENRY W	438-010 C- 3
403-065 EPark	416-220 FOSTER SE	438-011 C- 4
403-068 18th Ave	416-221 FOSTER SW	438-012 C- 6
403-069 Quinnell	416-222 FOSTER NE	438-013 C- 5
403-070 Quinnell	416-223 FOSTER NW	438-014 C- 1
403-071 Heittman N	416-224 JASONS	438-015 C- 7
403-072 Heittman S	416-225 STAPLES E	438-016 C- 8
403-078 Dombroski	416-226 STAPLES WEST	438-017 Becker 3

403-080 Morley	416-227 SMALL STAPLES	438-018 Becker 2
403-081 Z +H	416-228 FANCHER	438-019 Becker 1
403-082 Klein	416-229 HAMILTON E	438-020 Becker 4
404-001- MassenN	416-230 HAMILTON W	438-021 Jason West
404-002- MassenS	416-241 FF West	438-022 Jason East
404-003- MashN	416-242 FF East	438-023 Metcalf
404-004- MashS	421-001 Shop 1	438-024 Becker 5
404-005- Massen E	421-010 Tratt	439-001
404-009- 010-Fell	421-011 GoodhueS	439-002 Greg
404-019- Fred W	421-019 Evans	440-001 Harold
404-020- Fred E	421-030 Juneau	440-002 Harolds
404-027- LobE W	421-037 Johnson West	440-003 Capela 1
404-028- LobE E	421-038 Johnson South	440-004 Capela 2
404-039- KRM W	421-039 Johnson North	440-005 Capela 4
404-040- KRM E	422-001 Sherry 1	440-006 Tofsuns
404-045- Podoll W	422-002 GF-2	440-012 Vet East
404-047- McGowan N	422-003 GF-1	441-001 12- 13 County J
404-048- McGowan E	422-012 Peterson 10	441-003 Field 3
404-049- McGowan W	422-013 Peterson 11	441-004 Field 1A
404-054 Bancroft	422-014 Peterson 12	441-005 Field 1B
404-056 M and 4th North	422-015	441-006 Field 2
404-057 M and 4th Middle	422-016	441-009 Field 9
404-058 M and 4th South	422-017 Home 22	441-010 Field 10
404-065 Pivot 2	422-018 Home 23	441-014 Field 14
406-029 K7	422-021 Peterson 16	441-025 Field 25
411-001 Sampson	422-023 Evans 2	456-001 Coons
411-012 Buckminste r	422-024 Evans 5	456-004 Stone Irr
411-016 Shultz	422-027 Evans	456-005 Stone Dry
411-017 Morse	422-028 Johnson 1	456-006 Fern N
411-018 Beard	422-029 Evans 3	456-007 Fern S

411-029 DonPhillips	422-030 Evans 4	456-008 Fern SE
413-003	422-031 Evans 6	457-001
413-006	423-026	457-002
413-010	423-027	457-003
415-101 H- 01	423-028	457-004
415-102 H- 02	423-029	457-005
415-103 H- 03	423-030	457-006
415-104 H- 04	423-031	458-001
415-105 H- 05	423-032	458-002
415-106 H- 06	423-033	461-002
415-107 H- 07	423-034	461-003
415-109 H- 09	423-035	461-004
415-110 H- 10	423-036	461-005
415-111 H- 11	423-041	461-006
415-112 H- 12	423-042	461-007
415-113 H- 13	423-043	461-008
415-114 H- 14	423-044	461-010
415-115 H- 15	423-045	461-011
415-116 H- 16	423-046	461-012
415-117 H- 17	423-047	461-013
415-118 H- 18	423-048	461-014
415-119 H- 19	431-002	461-017 Weglarz Tony
415-120 H- 20	431-003	463-001
415-126 H- 26	431-004	464-001 Sorenson
415-136 H- 36	431-005	464-002 Nahmens
415-137 H- 37	431-006	464-003
415-138 H- 38	431-007	464-004
415-139 H- 39	431-008	464-005
415-140 H- 40	431-009	464-006
415-160 H- 60	431-010	466-003
415-161 H- 61	431-011	466-004

415-162 H-62	431-012	468-002 Richards
415-201	431-013	

APPENDIX B: FIELDS PROHIBITED DUE TO SOIL TEST P LEVELS >200PPM

401-007-KereazesE	401-036-P2	402-003-A-2E
402-030-WagnerN	401-037-P2	403-014-Fredrick
435-010 Strauss	402-141 Tracy N	402-056 Tracy 13
402-031-WagnerS	402-142 Tracy S	

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: June 14, 2024 WPDES Permit #0064696-02-1

TO: Claire O'Connell – Wastewater Specialist, Dodgeville

FROM: Ian Anderson – CAFO Hydrogeologist, Madison

SUBJECT: New Chester Dairy LLC – Groundwater Monitoring Review

Background:

The New Chester Dairy production area is located in Section 8, T16N R7E, Town of New Chester, Adams County. The facility has had production area groundwater monitoring since 2014 and has historically had exceedances of nitrate ($NO_2^- + NO_3^-$), occasional exceedances of ammonia and occasional detects of *E. coli*.

An Alternative Concentration Limit (ACL) was granted to New Chester Dairy in 2018, based on the concentrations of nitrate in MW-10, which is an upgradient well located on the northwest end of the facility. The WPDES permit for New Chester Dairy (Permit #064696-02-1) has been expired, but administratively continued since June 2023. This memo summarizes recent and historical groundwater monitoring data at New Chester Dairy and provides recommendations for further actions to be included in the next permit, including whether offsite groundwater monitoring is appropriate at this location.

Site Geology/hydrogeology:

Bedrock geology in the area around New Chester Dairy is unmapped, likely due to the thickness of unconsolidated deposits. However, a few wells in the area hit sandstone bedrock at just over 100ft depth, which is categorized as Cambrian-aged Mt. Simon formation by Clayton (1987).

Pleistocene geology is mapped as uncollapsed meltwater-stream sediment of the Mapleview Member of the Horicon Formation. It is described as "primarily sand and slightly pebbly sand, but includes gravelly sand and sandy gravel; deposited during the Johnstown Phase and later phases of the Wisconsin Glaciation" (Clayton, 1987). The Johnstown Moraine and associated tills are found east of the New Chester Dairy production area. The hummocky terrain of the morainal tills, dotted with kettle lakes and pierced by tunnel channels, form a striking contrast to the very flat uniform outwash plain to the west (See Figures 2 & 3).

A review of well construction reports (WCR) at the facility and from the surrounding area indicates outwash sand and gravel underlain by sandstone bedrock encountered at a depth of 118-171ft. Static water levels in wells near the production area are approximately 30ft. Lithology in WCRs in the area of the New Chester Dairy production area is similar to Clayton's description of the Mapleview member.

A regional groundwater divide is located immediately west of the New Chester Dairy production area, based on the water table map of Adams County produced by the Wisconsin Geologic and Natural History Survey (Lippelt, 1981). See figure 4 for details. Groundwater gradients are also rather flat, with water table elevation decreasing by only 3-4ft over the length of the production area. See figure 6 for details.

Potential production area contaminant sources:
Animal waste is known to contain nitrogen in various forms, and pathogens such as coliform bacteria including *E. coli*. The sandy unconsolidated glacial outwash deposits have high hydraulic conductivity, which means they readily transmit contaminants. Potential sources of the contamination in groundwater in this area include the New Chester Dairy production area and intensive crop production which includes landspreading of manure and application of fertilizers. Several potential contaminant sources can be found at the New Chester Dairy production area, including raw material storage facilities, runoff control systems, waste storage and transfer systems, and animal housing areas. Manure and process wastewater from dairy operations are known to contain significant levels of potential nitrogen groundwater contaminants, including nitrate and ammonia.

Groundwater Monitoring Results
Groundwater monitoring data from New Chester Dairy production area indicate a long history of elevated nitrate (nitrate + nitrite as N), occasional exceedances of ammonia (see figures 8-12) and occasional detects of *E. coli*. Elevated nitrate concentrations are found in both upgradient and downgradient wells, although upgradient wells have higher concentrations than downgradient wells (see Figures 10 and 11), suggesting an upgradient nitrogen source. In fact, all upgradient wells other than MW-1 exceeded the enforcement standard (ES) of 10mg/L in the most recent sampling event.

Concentrations in upgradient well MW-10 were used to calculate an ACL in 2018. However, as pointed out in the memo dated February 13, 2018, from Bill Phelps to Casey Jones and Tom Bauman:

"Sampling results from monitoring well MW-10, installed on the NCD production site, east/southeast and downgradient of Field 400-012, show nitrate levels as high as 46 mg/L. Based on these monitoring results it appears that NCD manure land application practices have caused exceedances of the 10 mg/L ch. NR 140 nitrate groundwater quality enforcement standard downgradient of Field 400-012."

In other words, elevated concentrations of nitrate in monitoring wells upgradient of the production area suggests that activities upgradient of the production area are likely the cause of nitrate contamination. Geoprobe sampling conducted upgradient of the New Chester Dairy production area in 2015 support this assertion. GHD Services Inc. advanced 30 direct push borings in a grid pattern west of the vegetated treatment area (VTA) on the southeast end of field 400-012 in order to assess upgradient nitrate concentrations. Nitrate ranged from 0.19-87mg/L. Twenty-six samples were all at or above 28mg/L. Four of the samples (GP-30, GP-31, GP-32 and GP-48) had nitrate at or below the preventative action limit (PAL) of 2mg/L. GHD interpreted this to be the result of focused recharge from the nearby stormwater pond (SWMP-1). The mean concentration, including the four apparently influenced by stormwater pond 1, was 31.3mg/L nitrate. Previous geoprobe samples (GP-5 through GP-12) taken from the northwest end of field 400-012 had lower nitrate, with concentrations ranging from 2.4-29mg/L and a mean concentration of 12.1mg/L nitrate. See Figure 7 for details.

This again suggests that cropping practices at field 400-012, and potentially other upgradient fields, may be causing or significantly contributing to nitrate concentrations that exceed the enforcement standard. Table 1 lists cropping and nutrient application information for the seven fields located north or west of the production area (i.e. upgradient), and Figure 13 shows the locations of these seven fields. Of these seven fields, five were planted in corn and received

>15,000 gallons per acre of liquid manure in spring 2021, and five were planted with either corn or potatoes and four received either >12,000 gallons per acre of liquid manure or solid manure in 2022.

Need to investigate and required response action:
Chapter NR 140, Wis. Adm. Code, establishes state groundwater quality standards that apply to all facilities, practices and activities which may affect groundwater quality, and which are regulated by the department under chs. 281 and 283, Stats. In accordance with s. NR 243.13(5), Wis. Adm. Code, all permitted large CAFOs are required to comply with state groundwater quality standards. Recent sampling of monitoring wells at the New Chester Dairy production area has identified that groundwater is contaminated with nitrate at concentrations as high as 38 mg/L. These results exceed ch. NR 140 groundwater standards. Ch. NR 140 directs the department to assess the cause and significance of contaminants in groundwater above state groundwater quality standards, and to determine appropriate response actions to minimize the concentration of contaminants in groundwater and prevent exceedances of ch. NR 140 enforcement standards.

Recommendations:
Analytical data from the groundwater monitoring system at New Chester Dairy production area show persistent exceedances of NR 140 groundwater standards. As described above, elevated nitrate concentrations appear to be the result of activities upgradient of the New Chester Dairy production area. As such, I recommend requiring New Chester Dairy to install a minimum of two offsite monitoring wells upgradient of field 400-012 in order to assess the contribution of cropping activities on that field to groundwater standard exceedances. If necessary, and requested by the facility, these new background concentrations could be used to calculate new ACLs.

Additionally, I recommend that the department require New Chester Dairy to sample their irrigation wells for nitrogen in order to account for nitrate in groundwater that is applied as irrigation water as part of their Nutrient Management Plan (NMP). According to s. NR 243.14(3), a WPDES permittee's NMP must take into account all nutrient sources. Based on groundwater monitoring data, irrigation water may be a significant source of nitrogen in this area. To this end, NCD should submit an irrigation water sampling plan, subject to department review and approval, as part of the re-issued permit schedule.

References

Pleistocene Geology of Adams County, Wisconsin. WGNHS Information Circular 59, Plate 1 (Map 87-1a). Clayton, L., 1987. https://wgnhs.wisc.edu/catalog/dataset/000309/resource/ic59plate01/view/d1c99268-abe3-4828-9276-00a2962b413c

Irrigable Lands Inventory – Phase I Groundwater and Related Information. WGNHS MP 81-1, Plate 1. Lippelt, I., 1981. https://wgnhs.wisc.edu/catalog/publication/000467/resource/mp811plate01

Attachments

Figure 1- Aerial Photo of New Chester Dairy and surrounding area
Figure 2 – Topographic Map of New Chester Dairy and surrounding area
Figure 3 – Excerpt from Pleistocene Geologic Map, Adams County, Wisconsin. Lee Clayton, 1987
Figure 4 – Groundwater Elevations of Adams County near New Chester Dairy
Figure 5 – Locations of New Chester Dairy monitoring wells
Figure 6 – Groundwater elevation contour map
Figure 7 – Locations of Geoprobe samples and nitrate concentrations upgradient from production area
Figure 8 – Time series of nitrate concentrations in all monitoring wells at New Chester Dairy
Figure 9 – Time series of nitrate concentrations in MW-10 at New Chester Dairy
Figure 10 –Time series of nitrate concentrations in upgradient monitoring wells at New Chester Dairy
Figure 11 - Time series of nitrate concentrations in downgradient monitoring wells at New Chester Dairy
Figure 12 – Time series of ammonia concentrations at New Chester Dairy
Figure 13 - Aerial photo of New Chester Dairy with NMP fields

Table 1 – Recent cropping, soil test P and nutrient applications for the upgradient fields

Figure 1 – Aerial Photo of New Chester Dairy production area and surroundings.

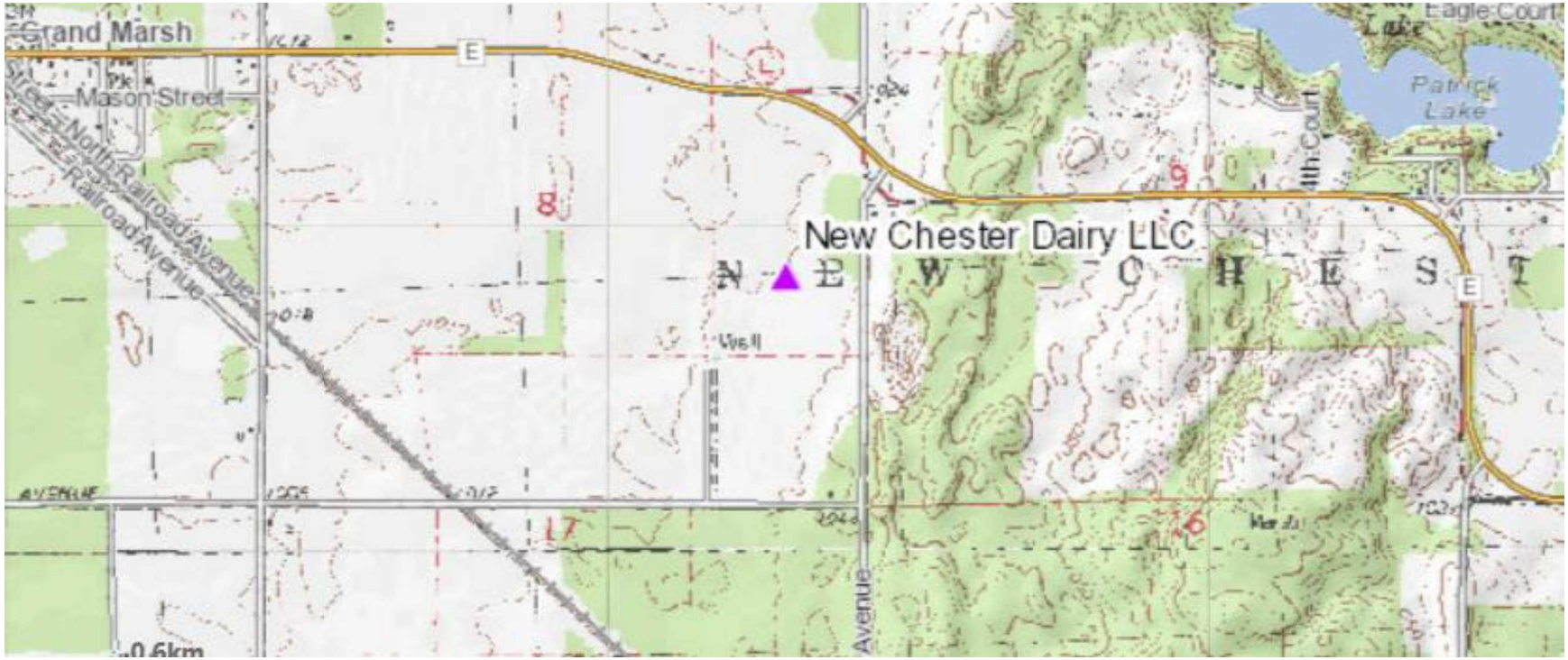


Figure 2 – Topographic Map of New Chester Dairy production area and surroundings. Note the contrast of the flat outwash plain where the farm sits compared to the hummocky moraine and till to the east.

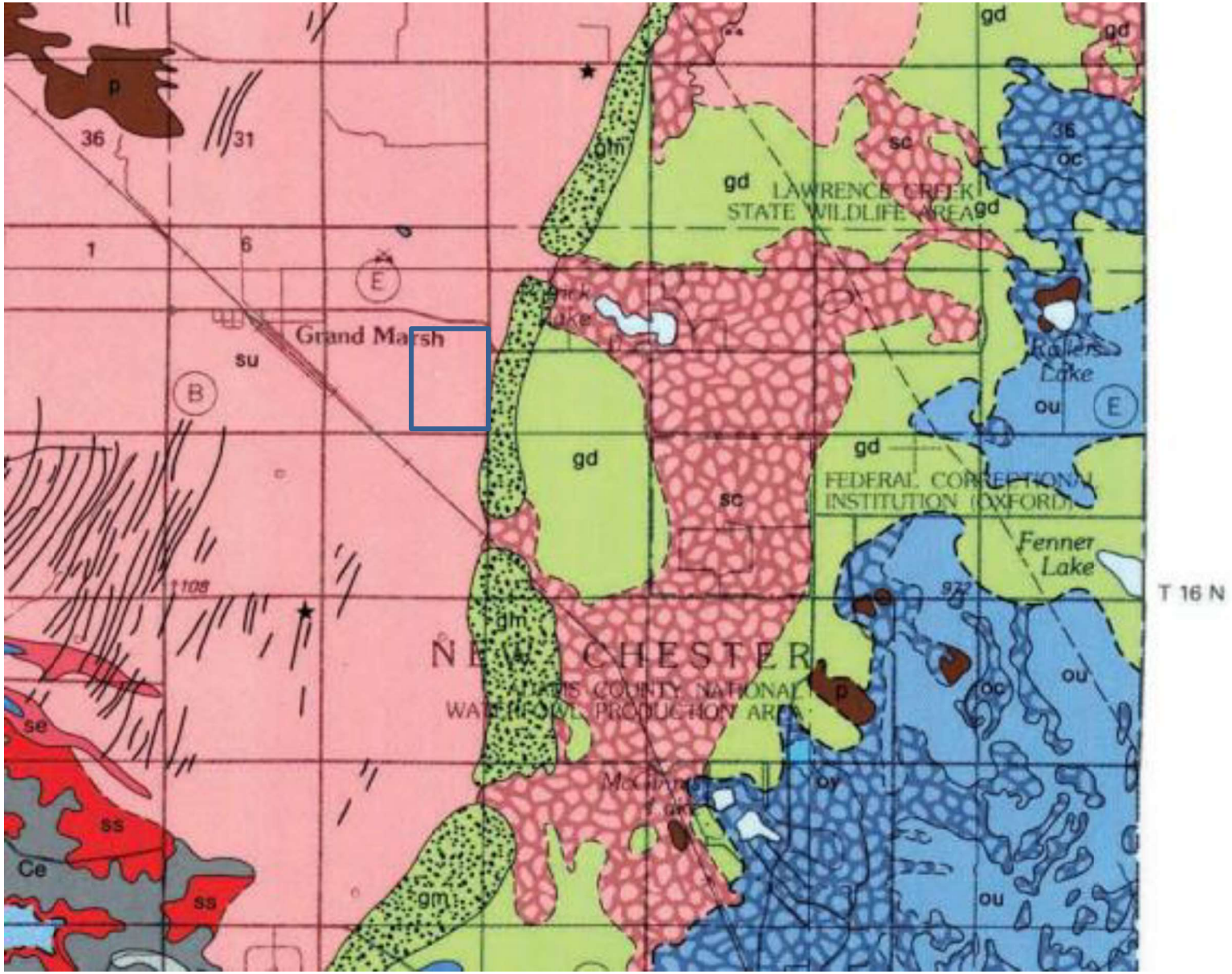


Figure 3 – Excerpt from Pleistocene Geologic Map, Adams County, Wisconsin. Lee Clayton, 1987. Blue rectangle is the approximate location of the New Chester Dairy production area.

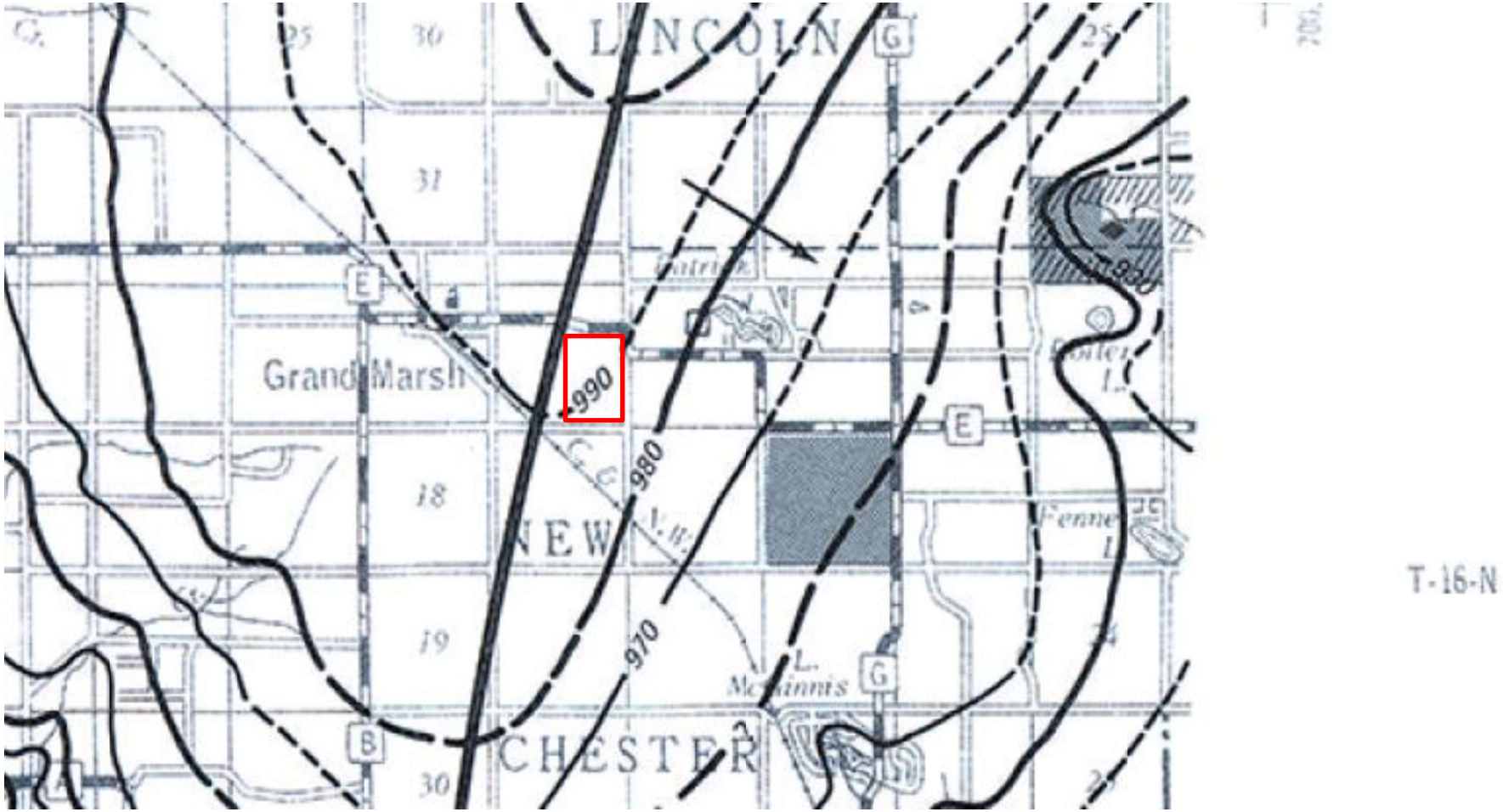


Figure 4 – Excerpt from Groundwater Elevations of Adams County (Lippelt, 1981), focused on area surrounding New Chester Dairy production area, outlined in red. Note the thick black line west of the farm, which represents the regional groundwater divide.

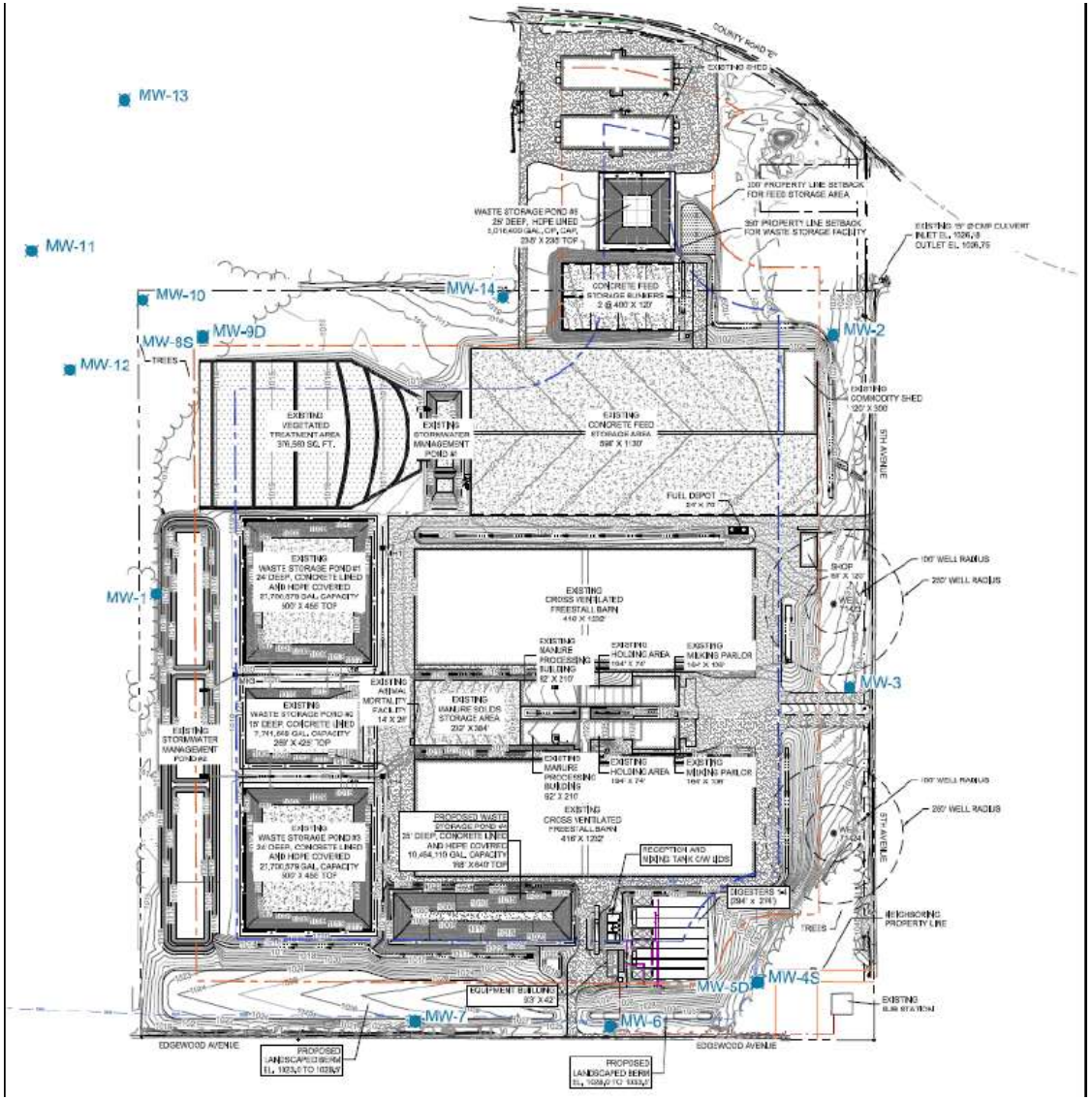


Figure 5 – Schematic of New Chester Dairy production area with locations of monitoring wells. Excerpted from Figure 2 of 2021 Annual Groundwater Monitoring Report dated January 19, 2022, produced by Professional Service Industries, Inc.

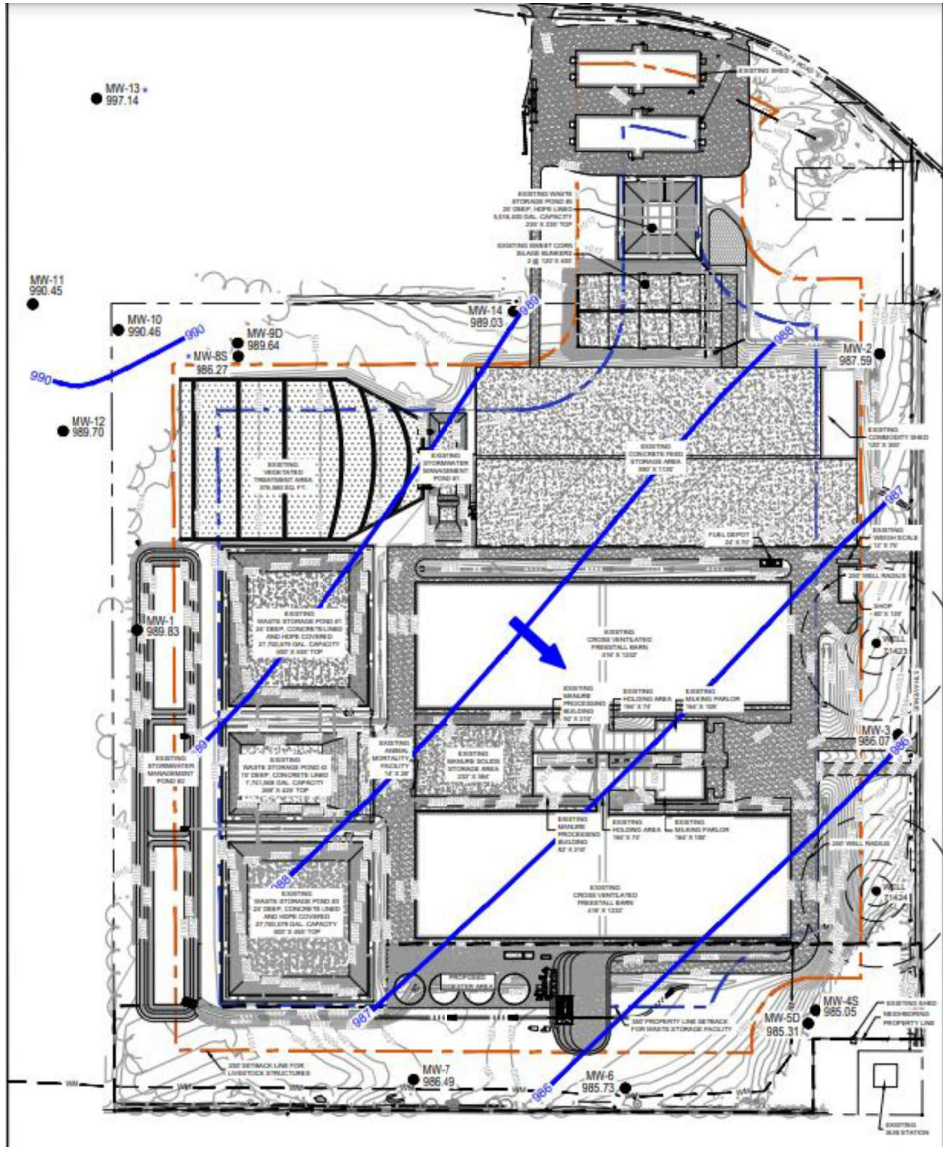


Figure 6 - Schematic of New Chester Dairy production area with locations of monitoring wells and groundwater elevation contours. Excerpted from Appendix A of 2022 Annual Groundwater Monitoring Report dated January 31, 2023, produced by GHD.

Figure 7 – Location of geoprobe samples and nitrate concentrations taken in 2015. Excerpted from a report submitted by GHD titled *Upgradient Groundwater Geoprobe Sample Results,* dated November 17, 2015. Note that this field is immediately upgradient (northwest) of the New Chester Dairy production area. Nitrate concentrations range from 0.19-87mg/L, averaging 31.3mg/L.

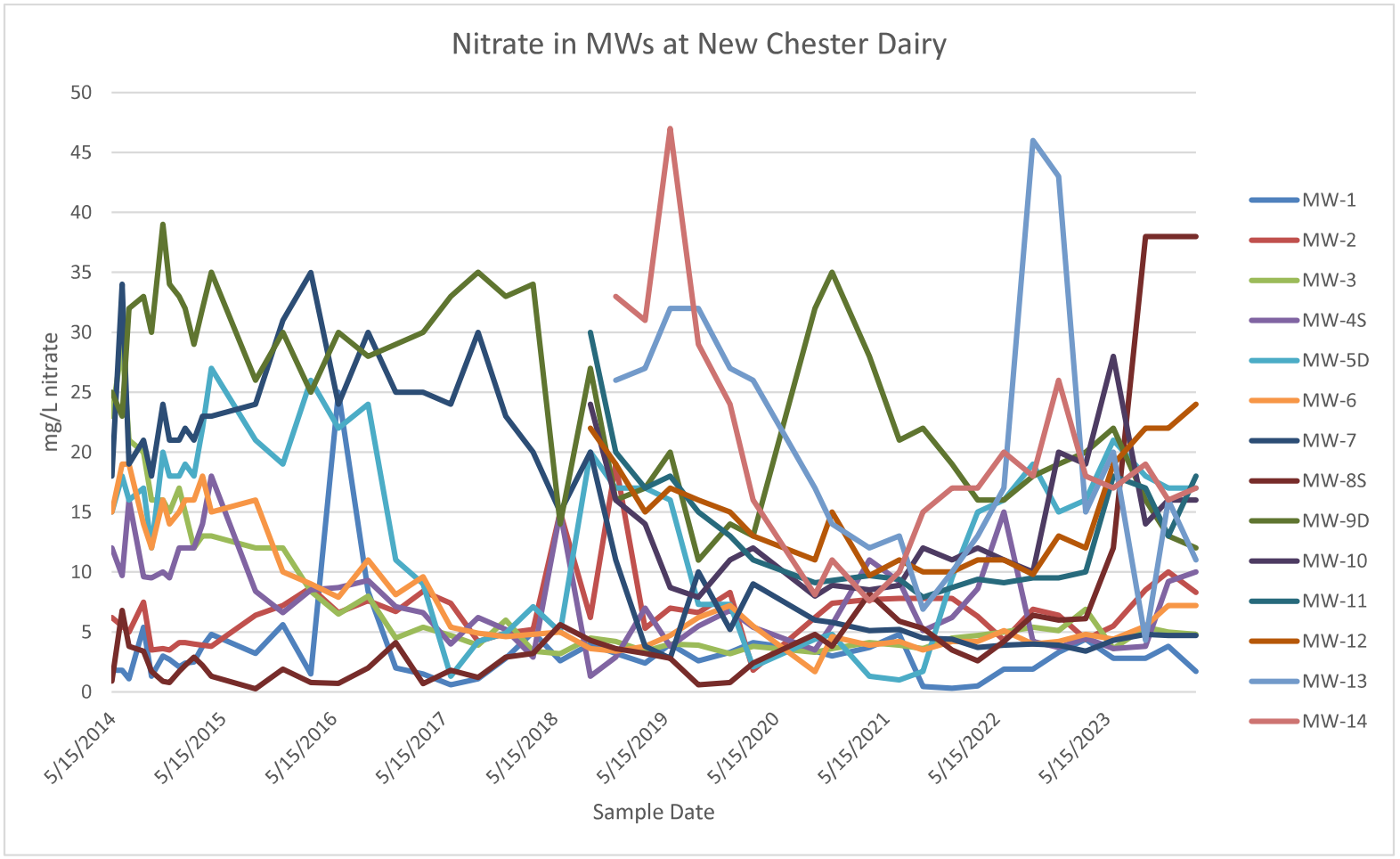


Figure 8 – Time series of nitrate concentrations from all groundwater monitoring wells at New Chester Dairy production area.

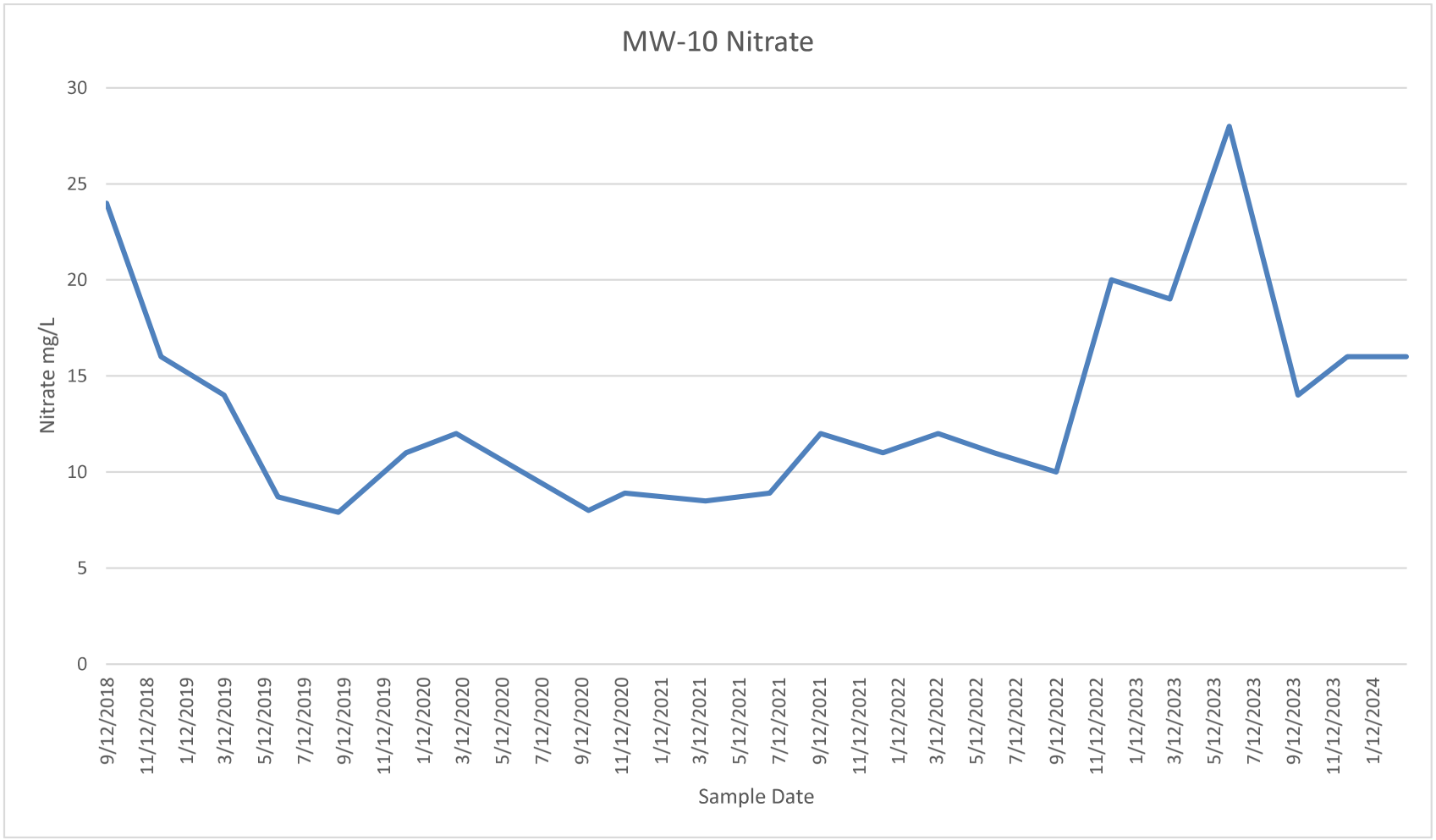


Figure 9 - Time series of nitrate concentrations from MW-10, an upgradient monitoring well at New Chester Dairy production area. Note that nitrate in MW-10 has exceeded the enforcement standard of 10mg/L since September 2021.

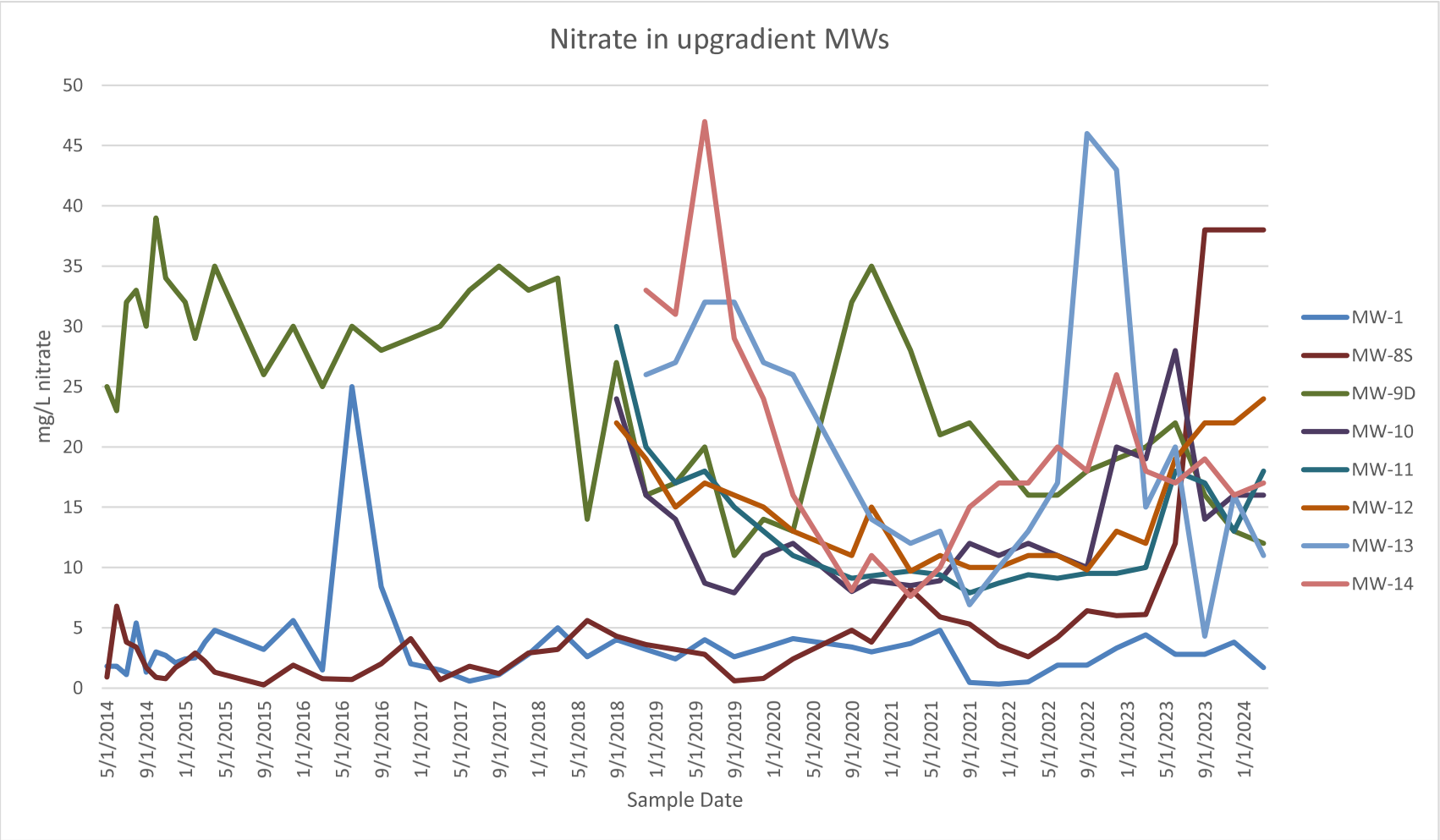


Figure 10 - Time series of nitrate concentrations in upgradient monitoring wells at New Chester Dairy production area. Note that nitrate in all upgradient wells except MW-1 exceeded the enforcement standard of 10mg/L in March 2024.

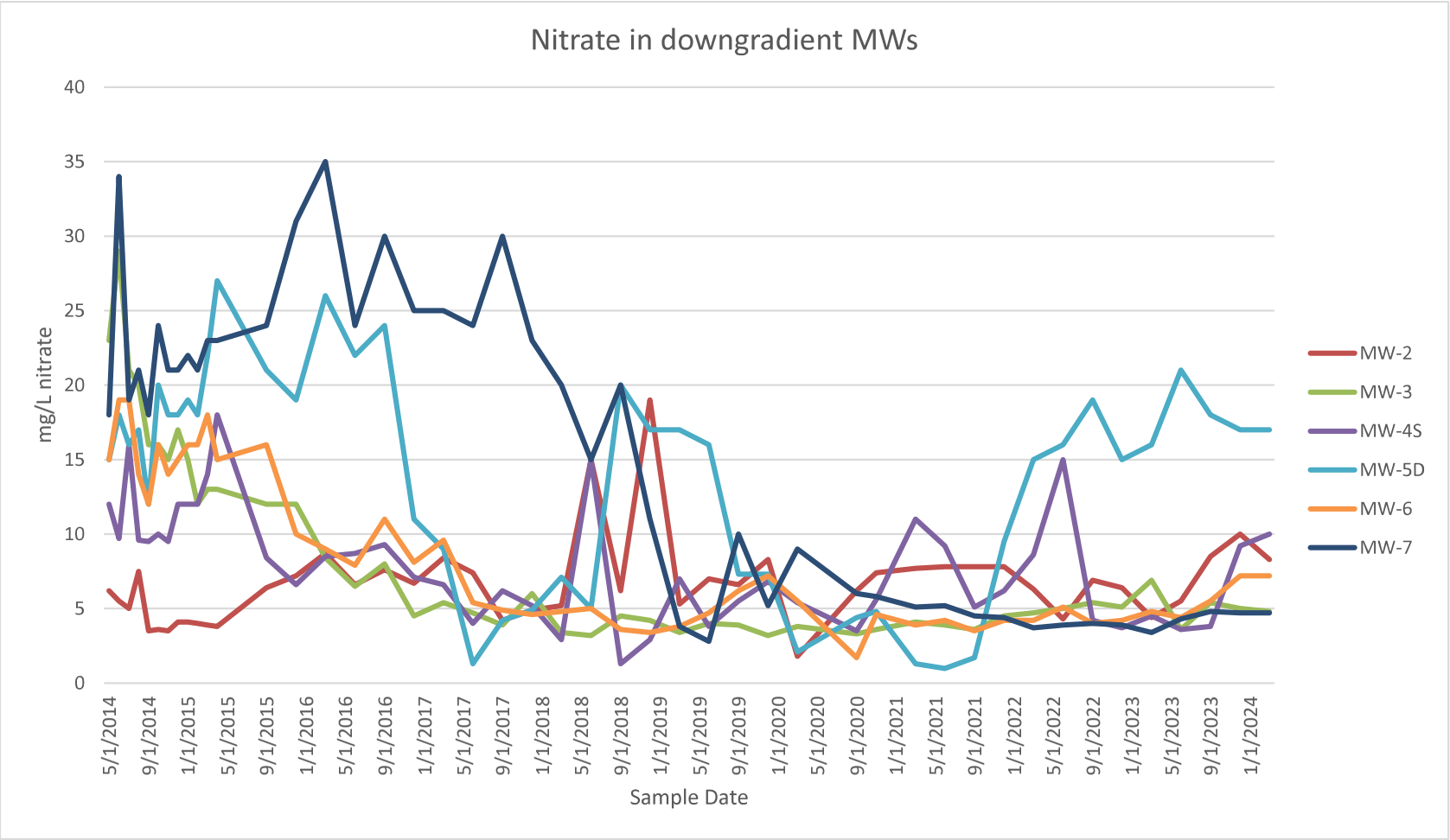


Figure 11 - Time series of nitrate concentrations in downgradient monitoring wells at New Chester Dairy production area. Note that only MW-5D exceeded the enforcement standard for nitrate of 10mg/L in March 2024.

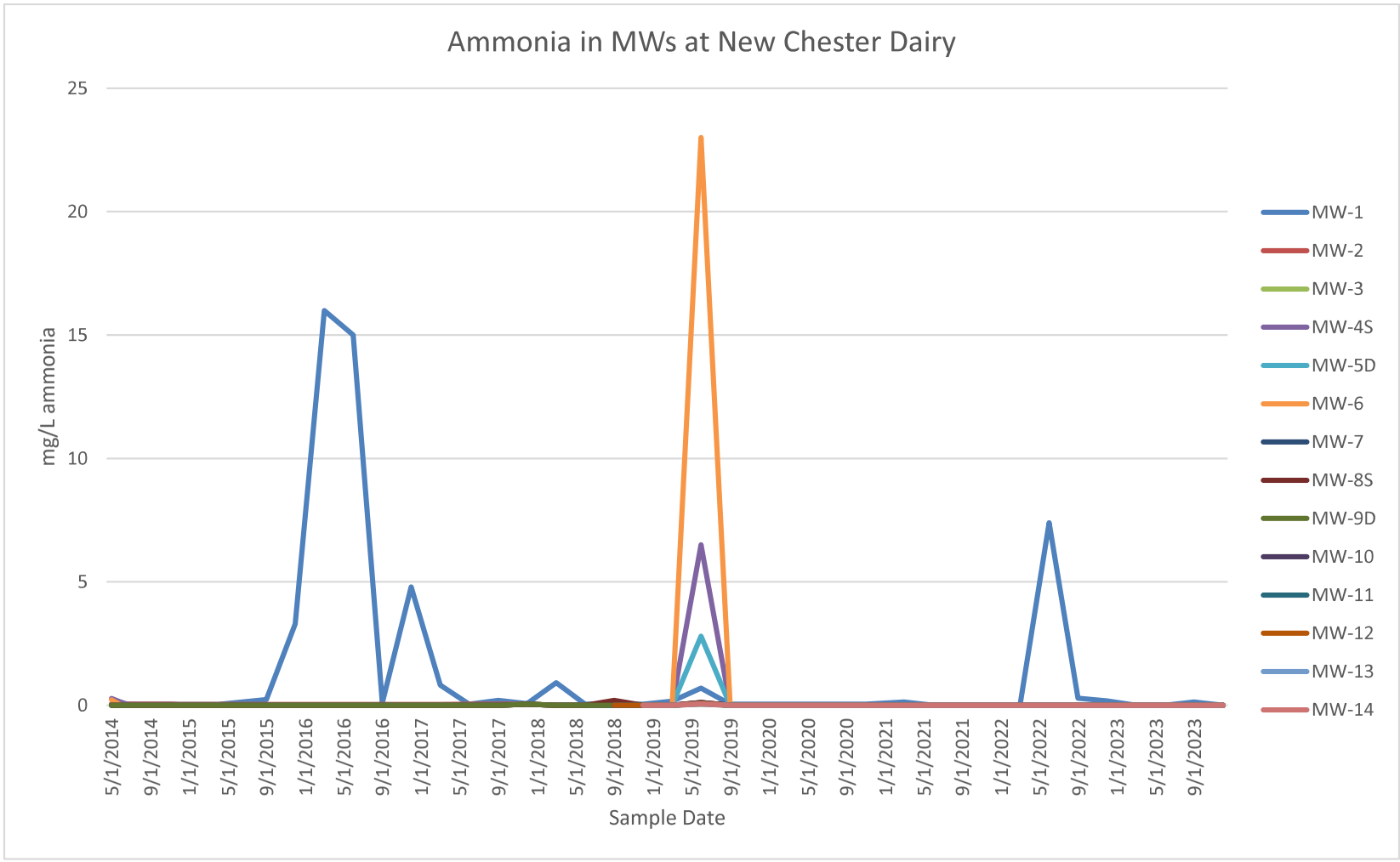


Figure 12 - Time series of ammonia concentrations from groundwater monitoring wells at New Chester Dairy production area.

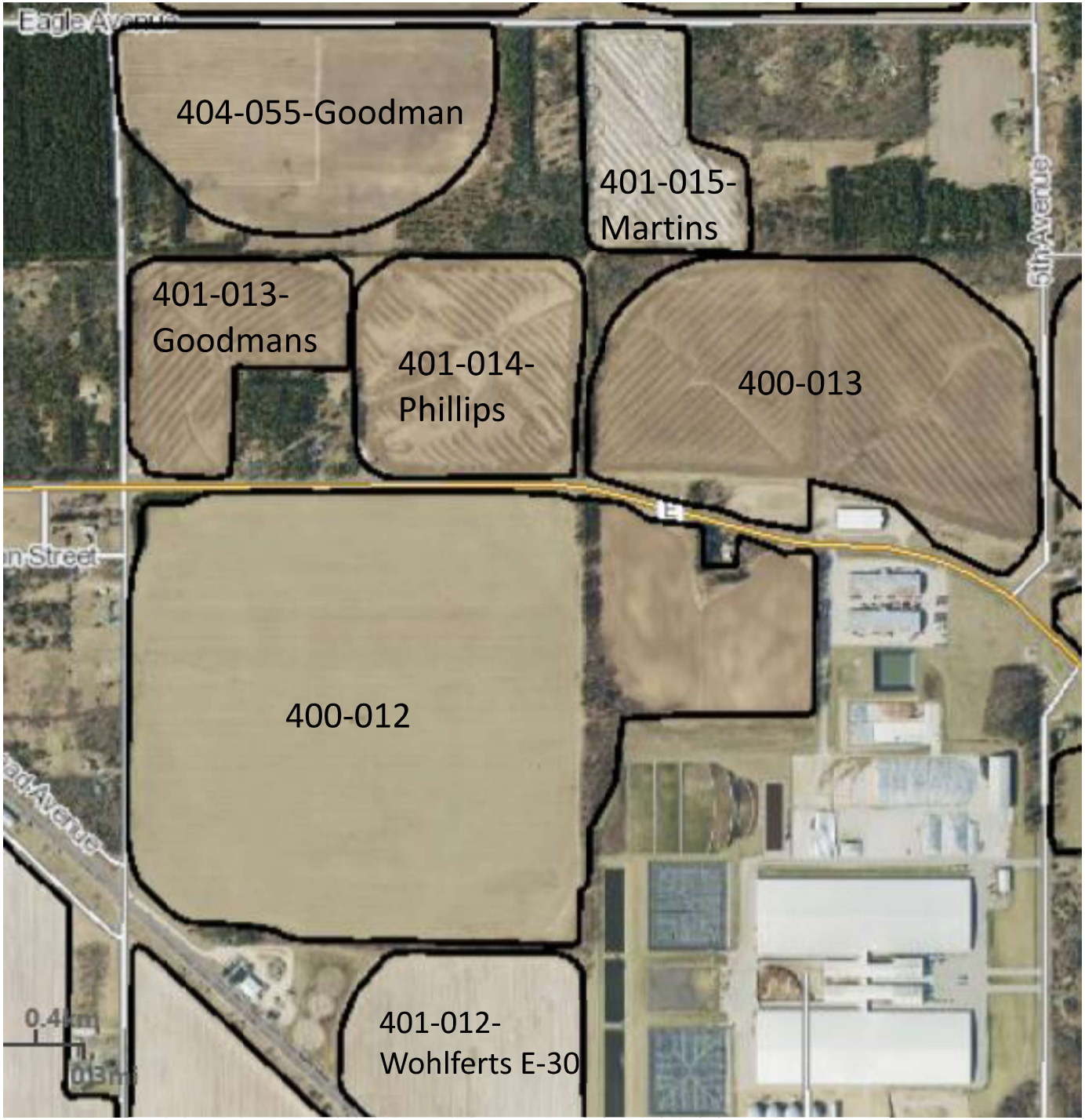


Figure 13 - - Aerial photo with New Chester Dairy NMP fields labeled

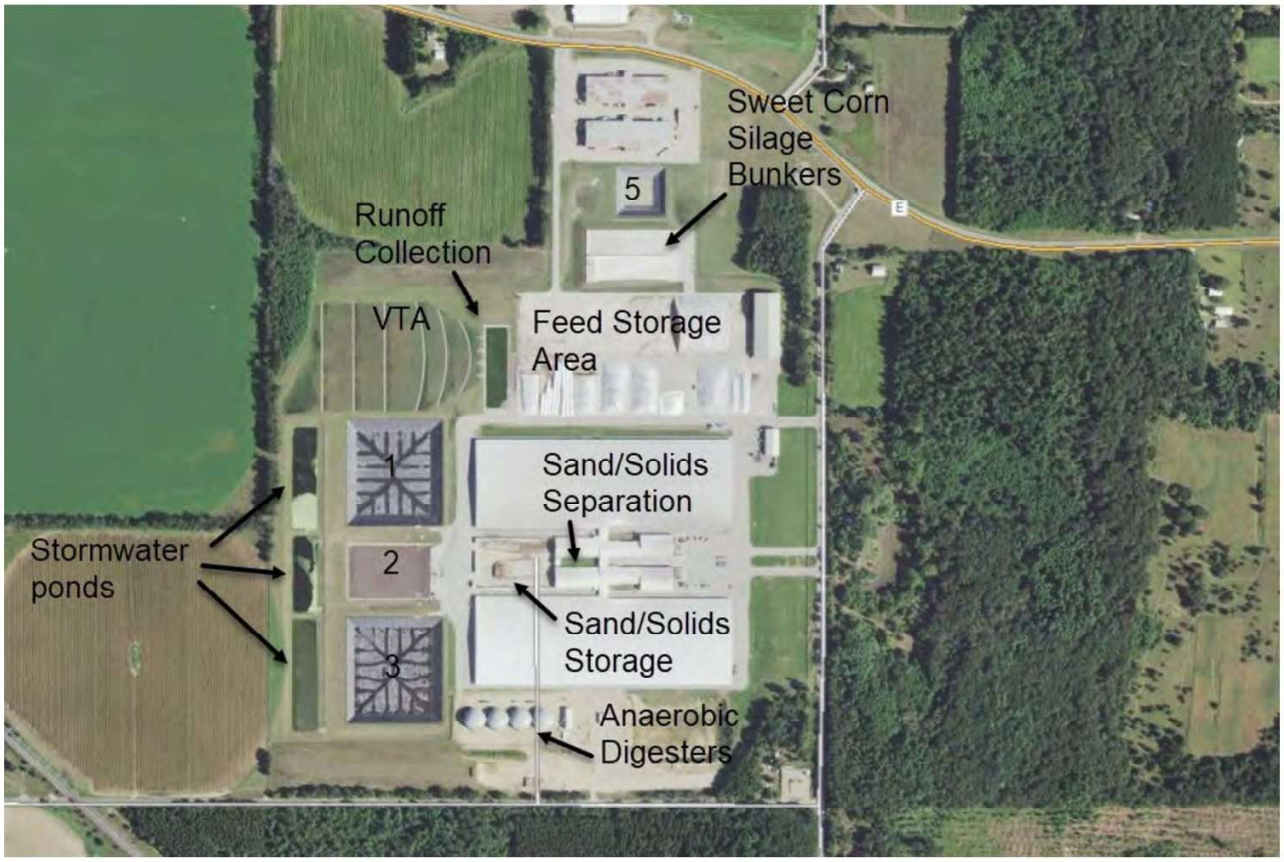
Field	2018/9 crop	soil test avg P	2018 application	2020/1 crop	soil test avg P	2020 application	2021/2 crop	soil test avg P	2021 application	2022/3 crop	soil test avg P	2022 application
400-012	alfalfa seeding	154	comm	alfalfa	136	comm	alfalfa	136	comm	corn silage/cover	136	8.3ton/ac spring
400-013	N/A	N/A	N/A	corn grain/cover	135	comm	corn silage	135	16100gal/ac spring	alfalfa seeding	197	30ton fall, 11ton spring
401-014-Phillips	corn grain	101	comm	corn grain	58	16500gal/ac spring	corn silage/cover	58	16900gal/ac spring	potatoes/cover	58	comm
401-013-Goodmans	soybeans/cover	101		corn grain	50	16800gal/ac spring	corn silage/cover	50	16900gal/ac spring	potatoes/cover	50	comm
404-055-Goodman	dry beans	44	8000gal/ac	potatoes/cover	44	comm	snap beans/cover	44	none	sweet corn/cover	61	12200gal fall, 13200gal spring
401-012-Wohlferts E-30	soybeans	112		corn grain	112	comm	corn silage/cover	127	15100gal/ac spring	alfalfa seeding	127	12000gal/ac spring
401-015-Martins	corn grain	101	12000gal/ac	corn grain	117	17200gal/ac spring	corn silage/cover	117	16900gal/ac spring	potatoes/cover	117	comm

Table 1 – Cropping, soil nutrient test results and nutrient applications for the seven fields nearest to the New Chester Dairy production area. Field names correspond to labels on Figure 12. Liquid manure applications are given as gallons per acre, solid manure applications are given as tons per acre. Soil test phosphorus values are given as parts per million. Applications labeled as "comm" denote commercial fertilizer applications only.

Below are the sampling data from the last 25 quarters from MW-10 at New Chester Dairy. MW-10 is upgradient from the production area and represents background groundwater quality. The calculations at the bottom of the sheet are to determine PALs for indicator parameters, which is standard practice during re-issuance. Methods are described in detail in NR 140.20(2)(c).

Date	Chloride	TDS	Potassium	TOC	COD	pH
9/12/2018	24	410	2.5	3.1	14	7.53
12/5/2018	12	310	2.2	0.8	14	7.72
3/12/2019	13	230	1.7	1	14	7.67
6/3/2019	5.3	230	1	1	14	7.82
9/4/2019	5.6	200	0.04	4.1	14	7.68
12/17/2019	10	270	1.2	0.63	14	7.67
3/3/2020	12	260	1.5	1.6	21	7.96
9/17/2020	26	290	3.5	1.8	14	7.77
11/18/2020	21	280	5.4	0.4	14	7.72
3/22/2021	19	290	5.6	2.3	18	7.62
6/29/2021	25	320	6.21	0.61	19	7.72
9/15/2021	33	310	7.3	0.9	18	7.9
12/20/2021	32	130	7.4	0.4	18	7.58
3/15/2022	32	230	7.7	0.6	18	8.42
6/9/2022	33	390	7.1	0.67	18	7.01
9/13/2022	19	210	6.9	0.9	22	7.17
12/7/2022	22	220	6.4	0.4	18	7.68
3/7/2023	20	240	5.9	0.4	18	8.09
6/6/2023	28	320	4.5	0.75	18	7.9
9/20/2023	21	290	5.8	0.4	18	8.03
12/5/2023	19	360	5.8	0.9	18	7.33
3/5/2024	17	310	5	0.4	18	9.17
5/29/2024	20	300	3.4	0.95	18	7.64
9/12/2024	16	320	1.83	0.4	18	7.44
12/3/2024	25	320	1.96	0.42	18	6.97
Mean	20.396	281.6	4.3136	1.0332	17.04	7.7284
STD Dev	7.803921	60.70782	2.342969	0.899594	2.288755	
3*STD Dev	23.41176	182.1235	7.028907	2.698783	6.866265	
BACK+3STD	43.80776	463.7235	**11.34251**	**3.731983**	23.90627	
BACK+TBL3		**481.6**	9.3136	2.0332	**42.04**	
PAL	**125**	**482**	**11**	**3.7**	**42**	**6.72-8.72**
ES	**250**					

New Chester Dairy—Site Map




New Chester Dairy
Write a description for your map.
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E
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E
W 4th Dr
4th Dr
5th Ave
Edgewood Ave
Edgewood Ave
Google Earth
N
2000 ft