

Permit Fact Sheet

General Information

Permit Number:	WI-0066133-02-0
Permittee Name:	Denmark Dairy LLC (Colfax)
Address:	E7455 County Road B
City/State/Zip:	Colfax WI 54730
Discharge Location:	E7455 County Road B, Colfax, WI 54730 (SE ¼ of the SW ¼ Sec. 24 T29N R12W)
Receiving Water:	Sinking Creek within the Wilson Creek Watershed, and groundwaters of the state
Stream Classification:	303(d) Listed Impaired Water

Animal Units					
Animal Type	Current AU		Proposed AU		
	Mixed	Individual	Mixed	Individual	Date of Proposed Expansion
Dairy Calves (under 400 lbs.)	45	0	45	0	-
Milking and Dry Cows	2660	2717	2940	3003	-
TOTAL	2705	2717	2985	3003	-

Facility Description

Denmark Dairy LLC (Colfax) is an existing Concentrated Animal Feeding Operation (CAFO) owned and operated by Karl Kragness. Denmark Dairy (Colfax) currently has a total of approximately 2,717 animal units (1,900 milking & dry cows, 225 calves) with plans for a potential increase to a total of approximately 3,003 animal units (2,100 milking & dry cows, 225 calves) within the five-year permit term. Based on the current herd size Denmark Dairy (Colfax) has approximately 187 days of liquid manure storage capacity with the existing waste storage facilities on site. Denmark Dairy (Colfax) also plans to construct an additional liquid manure storage facility as approved by the Department and in accordance with the schedules section of the proposed permit. With the addition of the proposed liquid manure storage facility, Denmark Dairy (Colfax) will then have an expected total of approximately 344 days of liquid manure storage capacity with the projected increased herd size. Denmark Dairy (Colfax) has approximately 4,372 acres included in their nutrient management plan (NMP) that are available for land application of manure and process wastewater, of which 4,349.7 are considered spreadable acres. Of the total acreage, approximately 1,264 are owned and approximately 3,108 are controlled through contracts, rental agreements, or are under manure agreements.

Substantial Compliance Determination

DENMARK DAIRY LLC (COLFAX) IS IN SUBSTANTIAL COMPLIANCE WITH THE CURRENT PERMIT

Compliance determination entered by Clare Freix, Agricultural Runoff Management Specialist on October 7, 2024
 (a summary of permit violations/noncompliance from the current permit term are outlined below)

1. Notice of Noncompliance: August 9, 2019

Permit Section 2.6 Permanent Markers – Installation: *Complete installation of permanent markers on WSF 1 and WSF 2 by July 2, 2017.*

- The operation did not install permanent markers to WSF 1 or WSF 2 by July 2, 2017.
- On November 11, 2019, the operation submitted documentation showing that permanent markers had been installed in both WSF 1 and WSF 2.

Permit Section 2.3 Feed Storage Runoff Control Upgrade: *Submit plans and specifications to permanently correct any adverse conditions identified as part of the engineering evaluation for the feed storage runoff controls by February 1, 2018 and complete construction of upgrades by November 1, 2018 (with post construction documentation submitted within 60 days of completion).*

- The operation submitted plans and specifications for a feed storage expansion which were later approved by the Department on October 12, 2017 with a condition that upgrades to the existing feed storage runoff control system still be completed in accordance with permit section 2.3. However, construction of the feed storage area expansion had been completed, but the plans and specifications for upgrades to the associated runoff control system had not been submitted by February 1, 2018.
- On January 20, 2020, the operation submitted an **engineering evaluation* of the existing feed storage area runoff control system.

**Note: The Department had no previous record of an engineering evaluation ever having been requested and/or completed for the feed storage area and associated runoff control system (either before or after the expansion took place). Therefore, the Department provided the operation the opportunity to first evaluate the existing runoff control system associated with the entire feed storage area, including the expanded portion, to determine whether additional upgrades to the runoff control system were in fact necessary.*

- On October 22, 2021 the Department sent an evaluation review letter to the operation stating that a revised evaluation of the existing feed storage area runoff control system would need to be resubmitted for review due to missing/insufficient information.
- On November 4, 2021 the Department and the operation had a conference call where it was determined that the operation would no longer pursue an engineering evaluation of the existing feed storage runoff control system and that the operation would proceed with submitting plans and specifications for upgrades to the existing runoff control system instead. The Department also sent the operation a compliance reminder letter on November 11, 2021 outlining the status of the noncompliance given the actions already taken by the operation along with the further required actions as discussed during the conference call.
- On March 25, 2022 the operation submitted plans and specifications for upgrades to the existing feed storage area runoff control system, which included proposed actions to permanently discontinue use of the existing vegetated treatment area, which will no longer be part of the upgraded runoff control system. The plans and specifications were later approved by the Department on May 23, 2022.

Compliance Demonstrated –

Close Out Date: May 3, 2022 – *The Department’s close out letter specified that construction of the feed storage runoff control system upgrades shall be completed as approved by the Department in accordance with the schedules to be included in the upcoming permit (see permit section 2.5 below).*

2. Notice of Noncompliance: July 14, 2021

Permit Section 1.7.1 Monitoring and Inspection Program – Weekly inspections of liquid storage and containment structures: *The level of material in all liquid storage and containment facilities shall be measured and recorded in feet or inches above or below the margin of safety level.*

- On January 26, 2021 the operation submitted its Annual Report for 2020. Upon review of the Annual Report, the Department determined that the operation did not record the level of material in any liquid storage or containment structures at any point in 2020. The Department later completed an onsite records review on June 24, 2021 during a routine inspection, at which point the Department found that the operation also did not measure or record the level of material in any liquid storage or containment structures at any point up to that date in 2021.
- On January 21, 2022 the operation submitted an updated monitoring and inspection program outlining the liquid storage and containment facilities where liquid measurements are required and specifies the person responsible for measuring and recording the level in each liquid storage and containment facility each week.
- On January 28, 2021 the operation submitted production site inspection records showing the level of material recorded in each liquid storage and containment facility each week between August 1, 2021 and October 30, 2021.

Compliance Demonstrated –
Close Out Date: May 3, 2022

Sample Point Designation For Animal Waste	
Sample Point Number	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	WSF 1 (East) - Sample point 001 is for liquid waste storage facility one (WSF 1). WSF 1 is a HDPE lined waste storage facility that was constructed in 2006. WSF 1 is located directly east of WSF 2 (sample point 002) and has an approximate maximum operating level capacity of 2,916,691 gallons. WSF 1 primarily accepts leachate and feed storage runoff (process wastewater) from the feed storage area (sample point 008) as well as contaminated runoff from the solid manure stacking pad (sample point 004). WSF 1 also accepts liquid manure on occasion which overflows from WSF 2 (sample point 002) through a connecting transfer pipe when WSF 2 approaches capacity. An engineering evaluation of WSF 1 shall be completed in accordance with the schedules section of the permit (permit section 2.4).
002	WSF 2 (Middle) - Sample point 002 is for liquid waste storage facility two (WSF 2). WSF 2 is a HDPE lined waste storage facility with a concrete floor and is located directly west of WSF 1 (sample point 001) and will also be located east of proposed WSF 3 (sample point 003). WSF 2 has an approximate maximum operating level capacity of 7,921,877 gallons and will accept liquid manure directly from WSF 3 (sample point 003) once WSF 3 is constructed. Until WSF 3 has been constructed and is operational, liquid manure and wastewater generated within the freestall barns and milking parlor is transferred to the separation building (sample point 005) where it is then transferred to WSF 2 after sand and manure solids are separated out. Plans and specifications for WSF 2 were approved by the Department in 2013 and construction was completed the same year.
003	WSF 3 (West) - Sample point 003 is for proposed liquid waste storage facility three (WSF 3). WSF 3 is a concrete lined waste storage facility that will be located west of WSF 2 (sample point 002). WSF 3 is expected to have an approximate maximum operating level capacity of 16,129,287 gallons. Liquid manure and wastewater generated within the freestall barns and milking parlor is transferred to the separation building (sample point 005) where it will then be transferred to WSF 3 after sand and manure solids are separated out. Plans and specifications for WSF 3 were approved by the Department in 2022, and in part were submitted and approved to provide additional storage capacity needed to accommodate the proposed

Sample Point Designation For Animal Waste	
Sample Point Number	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
	upgrades to the feed storage runoff control system (sample point 008). The Department’s plan approval expired prior to construction of WSF 3 having commenced and updated plans and specifications for WSF 3 shall be submitted for Department approval in accordance with the schedules section of the permit (permit section 2.3). Construction of WSF 3 shall also be completed as approved by the Department in accordance with the schedules section of the permit (permit section 2.3).
004	Solid Stacking Pad - Sample point 004 is for the solid manure stacking pad located on the south side of WSF 1 (sample point 001). The solid stacking pad accepts solid calf manure generated within the calf barn along with other miscellaneous sources of solid manure. The stacking pad is a concrete lined pad with concrete walls surrounding the outer perimeter of the pad. The stacking pad and surrounding concrete area are sloped toward WSF 1 so that leachate and contaminated runoff flow into WSF 1. Plans and specifications for upgrades to the feed storage runoff control system (sample point 008) were approved by the Department in 2022 and included a proposed concrete transfer swale which runs through the solid manure stacking pad that surface flows directly into WSF 1. The proposed transfer swale will also serve as a runoff control system for the stacking pad to better direct contaminated runoff from the stacking pad into WSF 1. The approved plans also included modifications to the stacking pad to increase the height of the concrete walls around the perimeter of the pad. The Department’s approval for the plans which included the transfer swale and modifications to the stacking pad walls expired prior to construction having commenced and updated plans and specifications shall be submitted for Department approval in accordance with the schedules section of the permit (permit section 2.6). Construction of the runoff transfer swale and modifications to the stacking pad walls shall also be completed as approved by the Department in accordance with the schedules section of the permit (permit section 2.6).
005	Separated Solids - Sample point 005 is for manure solids and sand bedding that are separated out and staged within the solid separation building. Separated sand is returned to the freestall barns to be reused for bedding and remaining liquids are transferred to WSF 3 (sample point 003). Representative samples shall be taken for separated manure solids, manure laden bedding, or recycled sand which are directly land applied from the separation building. Plans and specifications for the separation building were approved by the Department in 2014 and construction was completed the same year.
006	Misc. Solids - Sample point 006 is for miscellaneous sources of solid manure, separated manure solids, solids removed from liquid waste storage facilities, manure laden bedding, recycled sand, waste feed, etc. which are directly land applied. Representative samples shall be taken for each solid source that is directly land applied.
007	Headland Stacking Sites - Sample point 007 is for solid manure land applied from approved headland stacking sites. Representative samples shall be taken from each stacking site prior to land application. Stacking sites are defined as part of the production area and therefore are subject to the Production Area Discharge Limitations section of the permit. Weekly inspections of stacking sites are required and shall be recorded according to the Monitoring and Inspection Program.
008	Feed Storage Area & Runoff Controls - Sample point 008 is for visual monitoring and inspection of the feed storage area and associated runoff control system. The feed storage area was initially constructed around 2006 without a runoff control system in place. Plans and specifications for a feed storage runoff control system were later approved by the Department in 2012 and construction was completed in 2013. Plans and specifications for a feed storage expansion were approved by the Department in 2017, with a condition that the existing runoff control system be upgraded, and the expansion was completed the same year. Plans and specifications for upgrades to the feed storage runoff control system were later approved by the Department in 2022. The Department’s plan approval for the feed storage runoff control system

Sample Point Designation For Animal Waste	
Sample Point Number	Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
	upgrades expired prior to construction having commenced and updated plans and specifications shall be submitted for Department approval in accordance with the schedules section of the permit (permit section 2.5). The proposed upgraded runoff control system is designed for total containment of leachate and feed storage area runoff for a minimum of a 25 year 24 hour storm event. Leachate and feed storage runoff will be captured within a reception tank at the southwest corner of the feed storage. The contents of the reception tank will then be pumped to a concrete transfer swale that will run through the solid manure stacking area (sample point 005) and surface flow directly into WSF 1 (sample point 001). Proper operation and maintenance are required to ensure discharges meet permit requirements. Weekly inspections are required and shall be recorded according to the Monitoring and Inspection Program. Construction of the runoff control system upgrades, along with the actions to permanently discontinue use of the existing vegetated treatment area that will no longer be part of the upgraded runoff controls, shall also be completed as approved by the Department in accordance with the schedules section of the permit (permit section 2.5).
009	Storm Water Runoff Controls - Sample point 009 is for visual monitoring and inspection of all production site storm water conveyance systems. This includes roof gutters and downspout structures, drainage systems, storm water ponds, grassed waterways and any other diversion systems which transport uncontaminated storm water. Proper operation and maintenance are required to keep uncontaminated runoff diverted away from manure and process wastewater handling systems. Weekly inspections are required and shall be recorded according to the Monitoring and Inspection Program.

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 be 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 be submitted to the Department for approval.

The permittee currently has right around 180 days of storage for liquid manure given the current herd size. The permittee must maintain 180 days of storage, unless temporary reductions in required storage are approved by the Department. The permittee is expected to have approximately 344 days of storage for liquid manure with the current herd size once additional storage is constructed as approved by the Department in accordance with the schedules section of the permit (permit section 2.3).

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 3,003 animal units (2,100 milking & dry cows, 225 calves), it is estimated that approximately 28,634,304 gallons of manure and process wastewater will be produced per year. The permittee owns *approximately* 1,264 acres of cropland and rents about 3,108. Given the rotation commonly used by the permittee, approximately 2,500 acres are planned 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 of 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 permittee 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 ($\geq 12\%$ solids) on frozen or snow-covered ground during February and March.

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 Liquid Sample Points

Sample Point Number: 001- WSF 1 (East); 002- WSF 2 (Middle); 003- WSF 3 (West)

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	

1.2 Solid Sample Points

Sample Point Number: 004- Solid Stacking Pad; 005- Separated Solids; 006- Misc. Solids; 007- Headland Stacking Sites

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	

1.3 Runoff Control Sample Points (No Sampling Required)

Sample Point Number: 008- Feed Storage & Runoff Controls and 009- Storm Water Runoff Controls

1.4 Changes from Previous Permit

Sample Point: 001

No Changes – Sample point 001 is still applicable to the east waste storage facility (WSF 1).

Sample Point: 002

No Changes – Sample point 002 is still applicable to the middle waste storage facility (WSF 2).

Sample Point: 003

Previous Permit: Solid Stacking Pad

Proposed Permit: Waste Storage Facility (West)

Explanation: The solid manure stacking pad is now covered under sample point 004 and sample point 003 is applicable to the west waste storage facility (WSF 3).

Sample Point: 004

Previous Permit: Separated Solids

Proposed Permit: Solid Stacking Pad

Explanation: Separated solids are now covered under sample point 005 and sample point 004 is applicable to the solid manure stacking pad.

Sample Point: 005

Previous Permit: Removed Solids

Proposed Permit: Separated Solids

Explanation: Solids removed from liquid waste storage facilities are now included under miscellaneous sources of solid manure which is covered under sample point 006 and sample point 005 is applicable to the solid separation building and separated manure solids.

Sample Point: 006

Previous Permit: Storm Water Runoff Control System

Proposed Permit: Miscellaneous Solids

Explanation: The storm water runoff control systems are now covered under sample point 009 and sample point 006 is applicable to miscellaneous sources of solid manure.

Sample Point: 007

Previous Permit: Feed Storage Area & Associated Runoff Control System

Proposed Permit: Headland Stacking Sites

Explanation: The feed storage area and associated runoff control system is now covered under sample point 008 and sample point 007 is applicable to solid manure stacked within approved headland stacking sites.

Sample Point: 008

Previous Permit: N/A

Proposed Permit: Feed Storage Area & Associated Runoff Control System

Explanation: Sample point 008 has been added to the permit and is now applicable to the feed storage area and the associated runoff control system

Sample Point: 009

Previous Permit: N/A

Proposed Permit: Storm Water Runoff Control System

Explanation: Sample point 009 has been added to the proposed permit and is now applicable to Storm water runoff controls.

2 Schedules

2.1 Emergency Response Plan

Required Action	Due Date
Develop Emergency Response Plan: Develop a written Emergency Response Plan within 30 days of permit coverage, available to the Department upon request.	12/31/2024

2.2 Monitoring & Inspection Program

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 60 days of the effective date of this permit.	01/30/2025

2.3 Waste Storage Facility - Installation

Applicable to WSF 3 (sample point 003) and the associated waste transfer system. Department plan approval for WSF 3 under DNR Project # R-2022-0077 has expired and updated plans & specifications must be submitted and approved prior to construction.

Required Action	Due Date
Plans & Specifications: Submit updated plans and specifications for Department review and approval in accordance with Chapter 281.41, Wis. Stats., and Chapter NR 243, Wis. Adm. Code for the proposed manure storage facility to provide additional storage capacity needed to permanently correct adverse runoff conditions. (See Standard Requirements for plan content information.)	01/01/2025
Construction & Post Construction Documentation: Complete construction of the manure storage facility that provides additional storage capacity needed to permanently correct adverse runoff conditions in concurrence with and approval by the Department by the specified date due. Submit post construction documentation within 60 days of completion of the project.	08/31/2025

2.4 Waste Storage Facility - Engineering Evaluation

Applicable to WSF 1 (Sample Point 001).

Required Action	Due Date
Engineering Evaluation: Submit a written report evaluating the existing manure storage facility's ability to meet the conditions in the Production Area Discharge Limitations and Manure and Process Wastewater Storage subsections and s. NR 243.15, Wis. Adm. Code. (See Standard Requirements for report details.)	08/31/2025
Plans & Specifications: Submit plans and specifications for Department review and approval in accordance with Chapter 281.41, Wis. Stats., and Chapter NR 243, Wis. Adm. Code to permanently	08/31/2026

correct any adverse manure storage conditions. (See Standard Requirements for plan content information.)	
Construction & Post Construction Documentation: Complete construction of the improvements to the manure storage facility that permanently correct any adverse conditions in concurrence with and approval by the Department by the specified date due. Submit post construction documentation within 60 days of completion of the project.	08/31/2027

2.5 Feed Storage - Runoff Control Upgrades & Vegetated Treatment Area (VTA) Closure

Applicable to the Feed Storage Runoff Controls (sample point 008). Department plan approval for runoff control upgrades and actions to discontinue use of the VTA under DNR Project # R-2022-0077 has expired and updated plans & specifications must be submitted and approved prior to construction.

Required Action	Due Date
Plans & Specifications: Submit updated plans and specifications for Department review and approval in accordance with Chapter 281.41, Wis. Stats., and Chapter NR 243, Wis. Adm. Code for the proposed runoff control system upgrades to permanently correct adverse runoff conditions along with the proposed actions to permanently discontinue use of the existing Vegetated Treatment Area. (See Standard Requirements for plan content information.)	01/01/2026
Construction & Post Construction Documentation: Complete construction of the upgrades to the feed storage area runoff control system that permanently correct adverse runoff conditions in concurrence with and approval by the Department by the specified date due. Submit post construction documentation within 60 days of completion of the project.	08/31/2026
Permanent Closure (VTA): Complete the necessary actions as approved by the Department to permanently discontinue use of the existing Vegetated Treatment Area and submit documentation within 60 days of completion.	08/31/2026

2.6 Manure Stacking Pad - Modifications

Applicable to the solid manure stacking pad (sample point 004). Department plan approval for modifications to the stacking pad under DNR Project # R-2022-0077 has expired and updated plans & specifications must be submitted and approved prior to construction.

Required Action	Due Date
Plans & Specifications: Submit updated plans and specifications for Department review and approval in accordance with Chapter 281.41, Wis. Stats., and Chapter NR 243, Wis. Adm. Code for the proposed modifications to increase the height of the solid manure stacking pad walls to address potential adverse runoff conditions. (See Standard Requirements for plan content information.)	01/01/2026
Construction & Post Construction Documentation: Complete construction of the modifications to increase the height of the solid manure stacking pad walls to address potential adverse runoff conditions in concurrence with and approval by the Department by the specified date due. Post construction documentation shall be submitted within 60 days of completion of the project.	08/31/2026

2.7 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.	01/31/2025
Submit Annual Report #2: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2026
Submit Annual Report #3: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2027
Submit Annual Report #4: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2028
Submit Annual Report #5: To include monitoring and inspection results from the previous 12 months, consistent with the requirements of department form 3400-025E.	01/31/2029
Ongoing Annual Reports: Continue to submit Annual Reports until permit reissuance has been completed.	

2.8 Nutrient Management Plan

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

Required Action	Due Date
Submit NMP Update #1: To include actual cropping, tillage, and nutrient application data from the previous calendar or crop year, consistent with the requirements of department form 3400-025D.	03/31/2025
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 form 3400-025D.	03/31/2026
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 form 3400-025D.	03/31/2027
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 form 3400-025D.	03/31/2028
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 form 3400-025D.	03/31/2029
Ongoing NMP Annual Updates: Continue to submit Annual Updates to the Nutrient Management Plan until permit reissuance has been completed.	

2.9 Submit Permit Reissuance Application

Required Action	Due Date
Reissuance Application: Submit a complete permit reissuance application 180 days prior to permit expiration.	06/01/2029

2.10 Explanation of Schedules

Permit Section 2.3, 2.5, & 2.6

The operation was required to submit plans and specifications for Department approval for upgrades to the existing feed storage runoff control system and complete construction as approved by the Department in accordance with the schedules section of the previous permit. Completion of these schedule requirements for upgrades to the existing runoff control system was also a condition of the Department's plan approval to expand the feed storage. The operation completed the feed storage expansion, however, did not complete the schedule requirements to upgrade the existing feed storage runoff control system by the deadlines provided in the previous permit.

The operation was then issued a notice of noncompliance for not completing the schedule requirements to upgrade the existing feed storage runoff control system. To address the outstanding schedule requirements, the Department provided the operation with the opportunity to first evaluate the existing feed storage runoff control system to determine whether upgrades were in fact necessary, and the operation then submitted an engineering evaluation to the Department for review. The Department later determined that a revised evaluation would be required due to missing/insufficient information, at which point the operation decided to proceed with submitting plans and specifications for upgrades to the existing feed storage runoff control system instead of continuing to pursue the engineering evaluation.

The operation submitted plans and specifications for upgrades to the existing feed storage runoff control system which were approved by the Department on May 23, 2022. These plans also included construction of a new liquid waste storage facility (WSF 3), which was necessary to accommodate the additional feed storage runoff proposed to be collected by the upgraded runoff control system and would also significantly increase the amount of liquid manure storage capacity available to the operation overall. Following the submittal of the plans and specifications, the Department proceeded to close out the notice of noncompliance related to the previous schedule requirements for upgrades to the feed storage runoff controls. The Department's close out letter specified that the operation would be required to complete construction of the feed storage runoff control upgrades and new waste storage facility as approved by the Department in accordance with the schedules to be included in the upcoming permit.

Therefore, the schedules under permit sections 2.3, 2.5, & 2.6 have been included in the proposed permit as they are related to construction of the feed storage runoff control upgrades and new waste storage facility. These schedules also include a requirement to submit updated plans and specifications for Department review and approval prior to construction since the Department's previous plan approval dated May 23, 2022 has now expired.

Permit Section 2.4

Due to its age, an engineering evaluation of the east waste storage facility (WSF 1) has been included in the schedules section of the proposed permit.

In addition to its age, construction of this waste storage facility was completed prior to the operation obtaining WPDES permit coverage, and therefore plans and specifications had not been approved by the Department prior to construction (as Department plan approval was not required at the time). However, an engineering evaluation of this waste storage facility was never completed and reviewed by the Department once the operation had obtained permit coverage.

Furthermore, when it was first constructed, this waste storage facility was intended primarily for the storage of liquid manure. With the addition of the existing feed storage runoff control system, which provides partial collection of leachate and feed storage runoff (process wastewater), use of this waste storage has changed. This waste storage is now intended primarily for the storage of process wastewater, the amount of which is expected to increase with the proposed upgrades to the runoff control system that are designed to provide total containment of leachate and feed storage runoff. Therefore, in addition to not having been previously evaluated, the transition of this waste storage from a liquid manure storage facility to a process wastewater storage facility is further reason for the Department to require that an engineering evaluation be completed.

Attachments:

Sample Point Map

Reissuance Inspection Report

Five-Year NMP Conditional Approval Letter

180 Day Liquid Manure Storage Review Letter
Public Notice

PERMIT APPLICATION (*links provided – or search at the following webpage using the codes listed below:*
<https://permits.dnr.wi.gov/water/SitePages/Permit%20Search.aspx>)

- **WPDES Permit Application:** [AG-APP-WC-2022-17-X03-28T15-52-41](#)
- **Five-Year Nutrient Management Plan:** [AG-NMP-WC-2022-17-X03-28T15-52-41](#)
 - **NMP Substantial Revision – New Fields:** [AG-NMP-WC-2023-17-X08-17T13-59-23](#)
- **180 Day Liquid Manure Storage Calculations:** [AG-PNS-WC-2022-17-X03-28T15-52-41](#)
- **Plans & Specifications (*expired) – Feed Storage Runoff Control Upgrades & Waste Storage Facility:**
[AG-PNS-WC-2022-17-X03-25T14-10-53](#)
** updated plans and specifications are required to be submitted for Department approval in accordance with the schedules section of the proposed permit prior to construction.*

Expiration Date:

November 30, 2029

Prepared By: Clare Freix, Agricultural Runoff Management Specialist

Date: October 18, 2024



July 27, 2023

FILE REF: R-2022-0129
 WPDES Permit #: WI-0066133

Karl Krangness
 Denmark Dairy LLC Colfax
 E7455 County Road B
 Colfax, WI 54730

Subject: Days of Storage Review for Denmark Dairy LLC Colfax SE¼ of T29N, R12W, Section 24 in Colfax Township, Dunn County – NO ADDITIONAL ACTION REQUIRED

Dear Mr. Krangness:

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 David McDaniel, Auth Consulting & Associates on March 28, 2022 on behalf of Denmark Dairy LLC Colfax.

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 Denmark Dairy LLC Colfax has **344 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 **3,008 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 full collection of the 25-yr, 24-hr storm event from the feed storage area and the stacking pad.

Total Annual Liquid Waste Volume (NRCS Table Values)	
Liquids Collected/Stored	Annual Gallons
Manure and Bedding:	16,029,589
Parlor Wastewater:	4,471,250
Total Feed Storage Leachate (47,000 tons):	175,780
Total Feed Storage Runoff Collected (160,00 SF):	3,178,920
Total Feedlot Runoff Collected:	0
Net Precipitation on Storage Surfaces (53,022 SF+105,396 SF+207,241 SF):	4,636,044
Stacking Pad Runoff Collected (7,000 SF):	142,725
Total Liquid Waste Stored Below the MOL	28,634,308

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	4,144,698	152,371 ⁽¹⁾	168,226	529,852	377,557	2,916,691
#2	9,015,004	0	334,397	0	758,730	7,921,877
#3	18,313,187	0	657,527	0	1,526,373	16,129,287
					Total MOL Vol.	26,967,856

⁽¹⁾ HDPE lined, 1 ft of solids

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, P.E.
CAFO Engineer Supervisor
Watershed Management Program



Jazmin Lara
Engineering Intern
Watershed Management Program

Email: Karl Kragness; Denmark Dairy
(715) 556-2432; mandersabc@hotmail.com

David McDaniel; Auth Consulting & Associates
(715) 232-8490; dmcdaniel@authconsulting.com

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

Matt Woodrow; DATCP
(920) 427-8505; matthew.woodrow@wisconsin.gov

Clare E Freix; DNR, West Central Region
(715) 492-4465; Clare.Freix@wisconsin.gov

Bradley A Johnson; DNR, West Central Region
(715) 340-5281; BradleyA.Johnson@wisconsin.gov

Chase Cummings; Dunn County
(715) 232-1496; chrcummings@co.dunn.wi.us

Jazmin Lara; DNR, Central Office
jazmin.lara@wisconsin.gov



March 13, 2023

Karl Kragness
Denmark Dairy LLC Colfax
E 7455 County Road B
Colfax, WI 54730

Dunn County
Approval

SUBJECT: Conditional Approval of Denmark Dairy LLC Colfax Nutrient Management Plan,
WPDES Permit No. 0066133-02-0

Dear Mr. Kragness:

After completing a review of the Denmark Dairy LLC Colfax 2022-2026 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 Denmark Dairy LLC Colfax review the NMP with individuals involved with manure applications to ensure all are familiar with the approved manure spreading practices, spreading map restrictions, required field verifications, record keeping requirements, and conditions of this approval. Specifically, some fields in Denmark Dairy LLC Colfax NMP may have:

- Soils with bedrock or seasonal perched water conditions within 24 inches of surface,
- Setback requirements due to streams, conduits to streams (such as man-made channels or road ditches), grassed waterways, wetlands, or wells,
- Evidence of soil erosion/flow channels.

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

DENMARK DAIRY LLC COLFAX CAFO PERMIT NMP REMARKS SUMMARY

- If not completed already, **soil sample fields 417-Wendt, TF-Maves, TF-Cronks, TF-Kohnke, and TF-Slaby Gunther before making planned manure applications in 2023.**
- Great job of reducing calculated phosphorus losses and soil erosion by using no-till and cover crops.
- Many fields contain large areas of “P” (permeable) soils that are a high risk for nitrogen loss. If these fields receive fall manure applications, the following practices can reduce nitrogen losses:
 - Apply manure late in the season when soil temperatures are below 50 degrees F (after mid-October).
 - Target fall manure injection rates to supply less than 90 lbs./acre nitrogen (6000 gallons/acre) without a cover crop and 120 lbs./acre nitrogen with a cover crop (8,500 gallons/acre).
- Maintain total nitrogen from planned applications and credits under 200 pounds per acre for corn. University of Wisconsin and Wisconsin Discovery Farms research has shown greater nitrate-nitrogen losses and reduced profitability when approaching or exceeding this application rate.

FINDINGS OF FACT

The Department confirms that:

1. The farm has a current dairy herd size of 2,985 animal units (2,100 milking & dry cows, 225 calves). No expansion in animal units is planned during the next permit term.
2. Reissuance application Days of Storage engineering documents (March 28, 2022) indicate total annual liquid waste volume based on book value estimates for your herd is approximately 28,634,308 gallons of manure/process wastewater. This matches the 5-year NMP narrative estimate. Historical volumes provided in past spreading logs average 18,847,000, which is less than the amount planned for field applications in this NMP. Any solid manure is added to existing storage structures and not directly field applied.
3. Application restrictions for Surface Water Quality Management Areas (SWQMA):
 - Option 1 (tillage in rotation - annual crop) - no manure within 25 feet of navigable water or conduit, inject or immediately incorporate within remaining SWQMA area.
 - Option 2 (no-till) - no manure within 25 feet, surface apply at a maximum rate of 7500 gallons within remaining SWQMA area.
 - Option 5 (tillage in rotation – annual crop) - no surface application within 100 feet of surface water or conduit to surface water.
 - Please note: Dunn County manure application restrictions are also required to be met by the farm.
4. The phosphorus management method to minimize field loss is the P Index.
5. Denmark Dairy LLC Colfax currently has 4,237.0 acres (1,264.0 owned and 2,973.0 controlled through contracts, rental agreements, or leases, or under manure agreements) of which 4,214.7 acres are available for spreading with Option 1 SWQMA restrictions.
6. Some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to a 303(d) impaired water (Red Cedar River – WBIC 2063500 – listed in 2012 for “Total Phosphorus”, Old Elk Lake – WBIC 1871400 – listed in 1998 for “Total Phosphorus” and “Sediment/Total Suspended Solids”).
7. Some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to streams classified as an outstanding/exceptional water resource (Big Elk Creek – WBIC 2121900).
8. No fields included in the NMP are located within a well head protection area.
9. The following fields are known to contain drain tile.

Hainstock						
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10. All fields will be checked for the following features prior to/during manure or process wastewater applications:
 - soil areas with possible perched water conditions within 24 inches of surface (“W” soils) at the time of manure application
 - required setbacks associated with wells, navigable waters, conduits to navigable waters, grassed waterways, and wetlands
 - soil erosion/flow channels.
11. 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 2022-2026 Denmark Dairy LLC Colfax 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 in Snap Plus, evaluated for nutrient needs, and approved by the Department.
2. The following fields are prohibited from receiving **mechanical** applications of manure or process wastewater, unless the condition listed is corrected prior to proposed applications:
 - **No soil test, out-of-date soil tests over 8 years old, or out-of-date soil tests taken during last 8 years and soil test phosphorus levels above 50 ppm (as of September 15, 2021)**

360-Johnson	417-Wendt	TF-Cronks	TF-Konke	TF-Maves	TF-Slaby Gunther	TF-South Rossler
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If Denmark Dairy LLC Colfax wishes to use these fields for mechanical 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.

3. If existing fields soil test phosphorus levels are 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.
4. At a minimum, all liquid manure samples collected should be analyzed for percent dry matter, total nitrogen, percent NH₄-N, percent NO₃-N, phosphorus, potassium, and sulfur.
5. If manure sample results have a dry matter (DM) content less than 2.0% and the percent ammonium (NH₄⁺) is greater than 75% of the total N, Denmark Dairy LLC Colfax may use the following equation to adjust the first-year available nitrogen when applications are injected or incorporated within 1 hour:

$$\text{First-Year Available N} = \text{NH}_4\text{-N} + [0.25 \times (\text{Total N} - \text{NH}_4\text{-N})]$$

6. Denmark Dairy LLC Colfax shall record daily manure applications by using form 3200-123A or other documentation with equivalent information. This information shall be retained at the farm and provided to the department upon request.
7. Denmark Dairy LLC Colfax shall annually submit a spreading report that summarizes the land application activities listed under NR 243.19(3)(c)5., Wis. Adm. Code and contained in form 3200-123.

WINTER SPREADING

8. Liquid manure applications during winter conditions, as defined by NR 243.14(7), Wis. Adm. Code, are prohibited except for emergency applications.
9. The following fields have areas determined to have a low risk of runoff and are approved for winter spreading solid manure, emergency applications of liquid manure and frozen liquid manure:

Reds	128-Dairy	129-Dairy	401-Proc-DeLaitsch	410-Har	TF-Maves	
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10. Winter applications of liquid manure shall only occur under emergency situations, after notifying the Department and receiving verbal approval.
11. 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.
12. No manure applications may occur during the “high risk runoff period” of February 1 to March 31 pursuant to s. NR 243.14(6)(c) and NR 243.14(7)(c), respectively.

HEADLAND STACKING

13. The following sites are approved for non-winter and winter headland stacking with the following conditions:
 - The Harrison 1 and Harrison 2 sites should be placed a minimum of 100 feet away from the Highway 12 road ditch.
 - To minimize runoff/leaching risk, only one location of a closely paired stacking sites (e.g. Harrison 3 and Harrison 4, NM 4 and NM 5) should be used at the same time.
 - Typical solid manure contains at least 32% solids. Take manure samples to verify solids content.
 - Occasionally monitor stacking sites during snowmelt or precipitation events to detect and prevent unwanted runoff from stacks.

Harrison 1	Harrison 2	Harrison 3	Harrison 4	NM 1	NM 2	NM 3
NM 4	NM 5					

MANURE & PROCESS WASTEWATER IRRIGATION

14. No fields were requested for approval to receive manure or process wastewater from irrigation.

This conditional approval does not limit the Department's regulatory authority to require NMP revisions based upon new information or request additional information 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 local permits, zoning, and regulatory requirements.

If you have any questions regarding this approval, I can be reached at 715-214-8576 or Todd.Prill@Wisconsin.gov

Sincerely,



Todd Prill
Certified Crop Advisor (CCA)
WDNR Agricultural Runoff Specialist

cc: Haily Sand, crop consultant (Haily.Sand@VAS.com)
Chase Cummings, Dunn County LCD (chrcummings@co.dunn.wi.us)
Aaron O'Rourke, WDNR Nutrient Management Program Coordinator (Aaron.Orourke@Wisconsin.gov)
Chris Clayton, WDNR Ag Runoff Section Chief (Christopherr.Clayton@Wisconsin.gov)
File



July 14, 2021

WPDES Permit No. WI-006133-01-0

Karl Kragness
Denmark Dairy LLC (Colfax)
E9275 780th Ave
Colfax, WI 54730

Subject: June 24, 2021 Reissuance Inspection – Response Requested

Dear Mr. Kragness:

On June 24, 2021 the Department met with you at your operation, Denmark Dairy LLC (Colfax), located at E7455 County Highway B, Colfax, Wisconsin to conduct a full site inspection for permit reissuance. Department observations and a record of our conversation is included in the enclosed report. The Department believes your operation is not currently in substantial compliance with the permit. Please see the enclosed notice of noncompliance dated July 14, 2021 and the summary section of the enclosed report for details on the open notice of noncompliance dated August 9, 2019.

A complete permit reissuance application must be submitted through the Department's ePermitting System (<https://dnr.wisconsin.gov/permits/water>) no later than **November 1, 2021**. A list of materials required for a complete permit application have been provided within the summary section of the enclosed report. The summary section also includes a list of additional action items to be completed. Please refer to the enclosed report for a complete list of required action items and associated deadlines.

Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,

Clare Freix
Agricultural Runoff Specialist
Phone: (715) 492-4465
Email: Clare.Freix@Wisconsin.gov

Enc: June 24, 2021 Inspection Report
Notice of Noncompliance dated July 14, 2021

Cc: Ben Uvaas, Jill Schoen, Brad Johnson, Tony Salituro – WDNR
Haily Sand – AgSource
Dave McDaniel – Auth Consulting & Associates
Chase Cummings – Dunn County Land Conservation

CAFO Compliance Report (July 14, 2021)

Inspection Date: June 24, 2021

Inspection Type: Permit Reissuance Inspection

Operation Name: Denmark Dairy LLC (Colfax)

WPDES Permit No. 006133-01-0

Operation Address: E7455 County Road B, Colfax, WI 54730

On Site Representatives: Karl Kragness (Denmark Dairy LLC), Haily Sand (AgSource), Dave McDaniel (Auth Consulting & Associates)

DNR Staff/Report Writer: Clare Freix, Agricultural Runoff Specialist

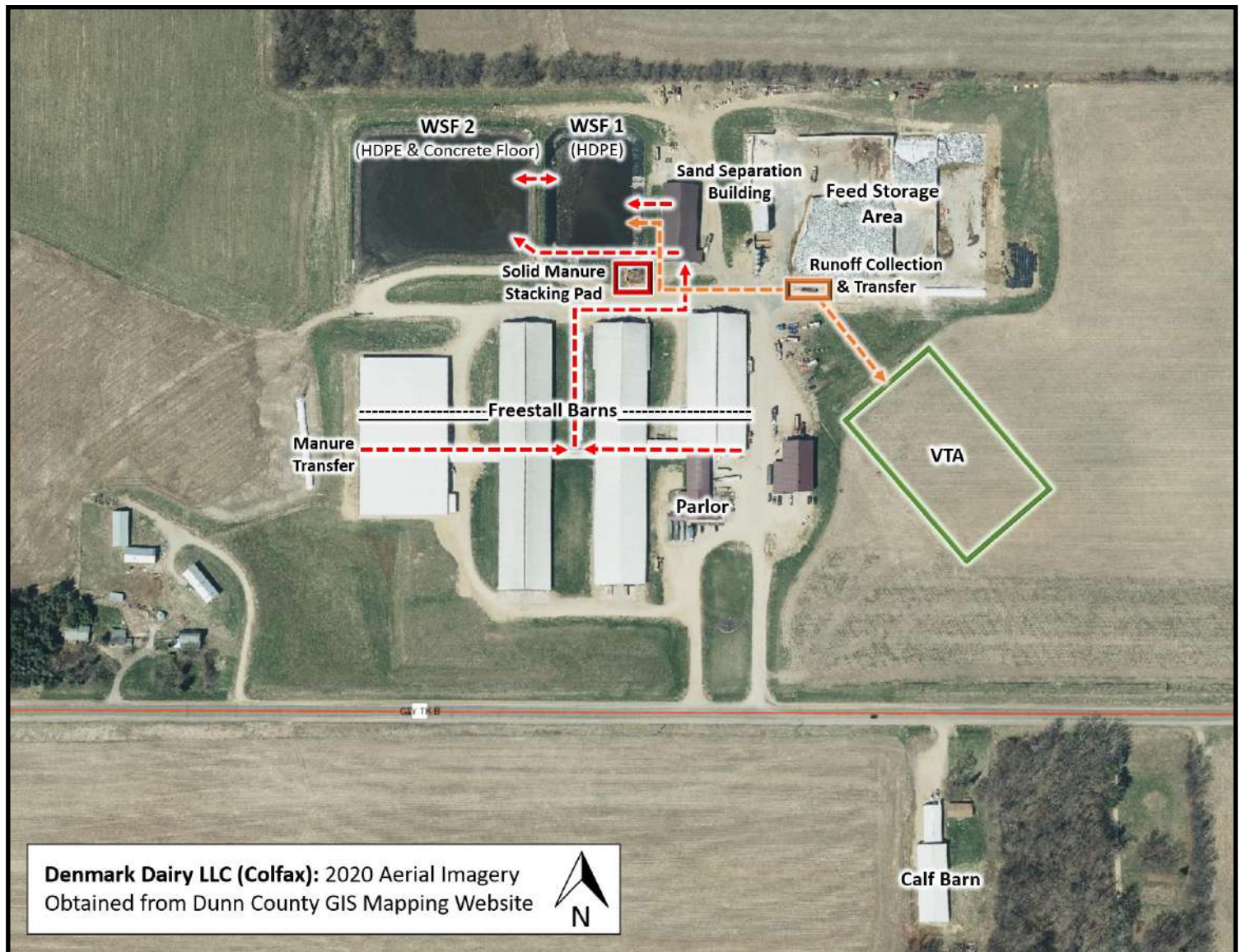


BACKGROUND

Denmark Dairy LLC (Colfax) was first issued WPDES permit coverage on September 16, 2013 under the general permit. The operation was reissued coverage under an individual WPDES permit on May 1, 2017 which is set to expire on April 30, 2022.

On June 24, 2021 at approximately 10 AM Freix met with Karl Kragness, Haily Sand, Dave McDaniel, Chase Cummings (Dunn County Land Conservation), and Bob Kaner (Dunn County Land Conservation) at the Denmark Dairy Colfax site. The purpose of the site visit was to conduct a full compliance inspection for permit reissuance. Weather conditions were overcast with temperatures in the mid 70s. No significant precipitation had occurred within 72 hours prior to the inspection.

SITE OVERVIEW



SITE OBSERVATIONS

Feedlot Runoff

All animals are housed within covered facilities under a roof.

Waste Storage Facilities

The operation utilizes two liquid manure waste storage facilities (WSF). WSF 1 is an HDPE lined liquid manure storage that was constructed in 2006 with an approximate maximum operating level (MOL) capacity of 3,457,836 gallons. WSF 1 was existing prior to the operation obtaining WDPES permit coverage, however there is no record of an engineering evaluation being completed. WSF 2 is an HDPE lined liquid manure storage with a concrete floor that was constructed in 2013 with an approximate MOL capacity of 7,887,283 gallons. Plans and specifications for WSF 2 were approved by the Department on September 17, 2013 and post construction documentation was submitted on January 21, 2014. The operation constructed a sand separation system in 2014. Plans and specifications for the sand separation building were approved by the Department on October 29, 2014, however there is no record of post construction documentation being submitted.

Sand laden liquid manure from the freestall barns and wastewater from the milking parlor is transferred to the sand separation building. The separated sand is staged within the separation building to be reused for animal bedding and the remaining liquids are transferred to WSF 2. Liquid manure in WSF 2 eventually overflows into WSF 1 through a connection pipe. WSF 1 also accepts the portion of leachate a feed storage runoff captured by the feed storage runoff control system.



Photo 1 (left): Looking north across WSF 1. A safety fence was observed around the entire perimeter of the storage.



Photo 2 (right): Looking at the concrete ramp in WSF 1. Permanent markers can be seen painted on the concrete in orange.



Photo 3 (top left): Looking south west across WSF 2. A safety fence was observed around the entire perimeter of the storage.

Photo 4 (right): Looking at the concrete ramp in WSF 2. Permanent markers can be seen painted on the concrete in orange.



Photo 5 (bottom left): Looking west across WSF 1 and WSF 2. The connection pipe between the storages can be seen pictured in WSF 1 and the sand separation building can also be seen pictured left.

The operation also utilizes a solid manure stacking pad located off the south east corner of WSF 1. The solid manure stacking pad was existing prior to the operation obtaining WPDES permit coverage, however there is no record of an engineering evaluation being completed. The solid manure stacking pad was constructed in 2006 and accepts solid manure from the calf barn and other miscellaneous sources of solid manure. Following the Department's midterm compliance inspection on August 1, 2019, the operation expanded the concrete around the stacking pad as recommended by the Department. A lip was also placed around the outer edge of the surrounding concrete to direct all runoff from the solid manure stacking pad into WSF 1.



Photo 6 (left): Looking north west at solid manure stacking pad located off of WSF 1. The concrete area around the pad has been expanded to direct manure runoff directly into WSF 1.



Photo 7 (right): Looking north along the western edge of the solid manure stacking pad pictured in photo 6. A concrete swale was installed along this edge of the pad to direct manure runoff into WSF 1. A clear path of black material from manure runoff can be seen within the swale leading into WSF 1.

The operation also utilizes headland stacking sites for solid manure.

Feed Storage Area Runoff

The operation utilizes a feed storage area that was constructed around 2006 and is approximately 3.5 acres in size. The feed storage area was existing prior to permit reissuance and there is no record of an engineering evaluation being completed. Plans and specifications for a feed storage runoff control system were approved by the Department on December 19, 2012 and post construction documentation was submitted on January 21, 2014. Permit section 2.3 of the current permit includes schedule items to complete necessary upgrades to correct any adverse conditions to the feed storage runoff control system. The Department approved plans and specifications on October 12, 2017 for an expansion of the existing feed storage area. The Department's plan approval letter stated the schedule items under permit section 2.3 must still be completed. On August 9, 2019 the Department issued a notice of noncompliance for failing to maintain the permit schedules under permit section 2.3 and provided Denmark Dairy the opportunity to evaluate the existing feed storage runoff control system to determine whether upgrades are in fact necessary. An engineering evaluation of the feed storage runoff control system was submitted on January 20, 2020 and is still pending Department review. Permit section 2.3 and the associated notice of noncompliance will be addressed once plans and specifications have been submitted for any upgrades determined as needed following the Department's review of the evaluation, or once the Department's review determines no further actions are required. Construction of any necessary upgrades will be moved into the schedules section of the reissued permit.

Leachate and feed storage runoff is directed toward a runoff control tank at the south west corner of the feed storage area. The contents of the tank gravity flow directly into WSF 1 and excess feed storage runoff that cannot be transferred to storage overflows onto the VTA.

Following the Department's midterm compliance inspection on August 1, 2019, the operation completed a number of maintenance actions

on the VTA as recommended by the Department. The operation removed contaminated runoff pooling below the outlet pipes and cleared other debris that had accumulated at the beginning of the VTA. Concrete was also poured at the base of each outlet pipe to prevent erosion and contaminated runoff from pooling at the outlets. The VTA had also been regraded and revegetated and gravel spreader bars were installed.

Photo 8 (left): Looking east into the feed storage runoff collection tank.



Photo 9 (right): Looking into the feed storage runoff collection tank pictured in photo 8. Leachate and feed storage runoff first flow into the concrete weir (pictured center) which gravity flows to WSF 1. Excess feed storage runoff overflows through the pipe inlet (pictured left) which gravity flows to the VTA.





Photo 10 (top left): Looking east along the outlets across the beginning of the VTA. Concrete has been poured at the base of each outlet pipe to prevent erosion and pooling of feed storage runoff.



Photo 11 (right): Looking at one of the outlets where feed storage runoff discharges out onto the VTA. Dried debris from feed storage runoff was observed at the base of some of the outlet pipes and was seen accumulating in the area between the outlets and the start of the VTA.



Photo 12 (bottom left): Looking south across the VTA. A gravel spreader bar has been placed at the start of the VTA and sufficient vegetative cover can be seen throughout. Only minimal vegetative burn out was observed near the beginning of the VTA.

During the midterm compliance inspection on August 1, 2019, the Department observed leachate flowing off the north end of the feed storage area. The operation has since extended the wall along the entire north end of the feed storage to correct the issue and no evidence of leachate leaving the feed pad was observed during the inspection.



Photo 13 (left): Looking along the northern end of the feed storage area. The wall has been extended along the entire north end to address past issues with leachate flowing off the end of the feed storage area. No evidence of leachate discharging from the north end of the feed storage was observed.

Animal Mortality Disposal

The operation utilizes a rendering company to pick up all animal mortalities as needed.

Ancillary Service & Storage Areas

An old pile of bagged feed has been sitting in a grassy area just west of the freestall barns. Black liquid and dead vegetation was observed near the base of the feed pile. The Department recommends the operation feed out the bagged feed in this area or dispose of it as soon as possible.



Photo 14 (right): Looking at an old pile of bagged feed placed within a grassy area just west of the freestall barns. Black material and dead vegetation can be seen around the end of the feed pile.

RECORDS REVIEW

Current WPDES Permit – Not provided on site.

Production Site Inspection Records – Provided on site.

The operation has not been measuring and recording the level of material in all liquid storage and containment structures each week.

Emergency Response Plan – Provided on site.

Monitoring & Inspection Plan – Provided on site.

NMP & Land Application Records – Not provided on site.

Documentation of 180 Days Liquid Manure Storage – Provided on site.

PERMIT SCHEDULE STATUS (Remaining Schedules)

Permit Section 2.1 Annual Reports

- Annual Report #1 (Due 01/31/2018) – Completed 01/25/2018
- Annual Report #2 (Due 01/31/2019) – Completed 01/30/2019
- Annual Report #3 (Due 01/31/2020) – Completed 01/23/2020
- Annual Report #4 (Due 01/31/2021) – Completed 01/26/2021
- **Annual Report #5** (Due 01/31/2022) – Upcoming

Permit Section 2.2 Nutrient Management Plan

- NMP Update #1 (Due 03/31/2018) – Completed 03/21/2018
- NMP Update #2 (Due 03/31/2019) – Completed 01/17/2019
- NMP Update #3 (Due 03/31/2020) – Completed 03/31/2020
- NMP Update #4 (Due 03/31/2021) – Completed 03/31/2021
- **NMP Update #5** (Due 03/31/2022) – Upcoming

Permit Section 2.3 Feed Storage Runoff Control Upgrade

An engineering evaluation was submitted on January 20, 2020 to determine whether the following schedules for feed storage runoff control system upgrades are in fact necessary (Department review still pending):

- **Plans & Specifications** (Due 02/01/2018) – Plans and specifications for any upgrades determined as needed following the Department's review of the evaluation will need to be addressed.
- **Corrections & Post Construction** (Due 11/01/2018) – Construction of any upgrades determined as needed following the Department's review of the evaluation will be move into the schedules section of the reissued permit.

Permit Section 2.4 Emergency Response Plan

- Emergency Response Plan (Due 06/01/2017) – Completed

Permit Section 2.5 Monitoring & Inspection Plan

- Monitoring & Inspection Plan (Due 06/01/2017) – Completed

Permit Section 2.6 Permanent Markers – Installation

- Install Permanent Markers (Due 07/01/2017) – Completed

Permit Section 2.7 Submit Permit Reissuance Application

- **Reissuance Application** (Due 11/01/2021) – Upcoming

SUMMARY

Areas of Concern

- Black material was observed leaching out of an old pile of bagged feed sitting in a grassy area just west of the freestall barns.
- The operation has not been measuring and recording the level of material in all liquid storage and containment structures each week. Weekly measurements must be taken and recorded in feet or inches above or below the Margin of Safety (MOS) level.

Action Items

October 31, 2021 – please complete the following:

- Submit an updated Monitoring & Inspection Plan that clearly outlines the liquid storage and containment facilities where weekly measurements are required and specify the person who is responsible for measuring and recording the level in each liquid storage and containment facility each week.
- Submit a copy of the operation's production site inspection records showing the level of material that was measured and recorded in feet or inches above or below the MOS level for each week between August 1, 2021, and October 30, 2021.

Note: The operation must continue measuring and recording the level of material in all liquid storage and containment structures on a weekly basis thereafter.

November 1, 2021 – submit a complete permit reissuance application that contains the following materials through the Department’s ePermitting system:

1. 3400-025 Livestock/Poultry Operation WPDES Permit Application
2. 3400-025A Animal Unit Calculation Worksheet
3. 3400-025B Nutrient Management Plan Checklist
4. 3400-025G CAFO Reviewable Facilities and Systems for Livestock/Poultry Operation WPDES Permit
5. Aerial map labelling all the existing and proposed facilities and systems at the production area
6. Soil survey map of the production area
7. Five year nutrient management plan
8. 180 day liquid manure storage calculations & supporting documentation

Within 90 days after the Department’s review of the engineering evaluation of the feed storage runoff control system has been completed (DNR Number R-2020-0010) – please submit plans and specifications for any actions/upgrades determined as needed from the review of the evaluation.

Items for Next Permit

- Construction of any necessary upgrades determined as needed from the evaluation of the feed storage runoff control system.
- The Department intends to reissue permit number 0049492-04-1 for Denmark Dairy LLC (Ridgeland) at the same time as permit number 006133-01-0 for Denmark Dairy LLC (Colfax).

Substantial Compliance

Denmark Dairy LLC (Colfax) is not currently in substantial compliance with the permit. Please see the notice of noncompliance dated July 14, 2021 (enclosed).

Furthermore, the notice of noncompliance issued to Denmark Dairy LLC (Colfax) on August 9, 2019 for failing to meet permit section 2.3 has not been addressed to date. Demonstrating compliance with permit section 2.3 is dependent on the Department’s review of the engineering evaluation of the feed storage runoff control system and submittal of plans and specifications for any upgrades thereafter (if required).

Denmark Dairy LLC (Colfax) - Sample Points: 2024
Aerial Imagery Obtained From Google Earth

● 003
(WSF 3)
approximate location

● 002
(WSF 2)

● 001
(WSF 1)

○ 006
Misc. Solids— Various Locations)

● 005
(Separate Solids)

● 008
(Feed Storage Area & Runoff Controls)

● 004
(Solid Stacking Area)

○ 007
Headland Stacking Sites— Various Locations)

○ 009
(Storm Water Controls — Various Locations)

● Liquid Sample Point

● Solid Sample Point

● Runoff Control Sample Point

