# Permit Fact Sheet

## General Information

| | |
|---|---|
| Permit Number | WI-0065170-03-0 |
| Permittee Name and Address | Krueger Dairy LLC<br>W8371 Oak Ave, Shawano, WI 54166 |
| Permitted Facility Name and Address | Krueger Dairy LLC<br>W8371 Oak Avenue Shawano |
| Permit Term | July 01, 2025 to June 30, 2030 |
| Discharge Location | Krueger Dairy: W8371 Oak Ave, Shawano WI 54166 ; NW ¼ Section 27, T27N, R15E<br>Riverside Dairy: N6446 Hickory Road, Shawano, WI 54166 ; NW ¼ Section 17, T27N R15E<br>Schultz Farm: N5257 County Rd D, Leopolis, WI 54948 ; NE ¼ Section 36, T 27N R13E<br>Hartleben Farm: N6561 Hartleben Lane, Wittenberg, WI 54499 ; SW ¼ of SW ¼ Section 9, T27N R12E |
| Receiving Water | Red River, the Middle Branch Embarrass River & the North Branch Embarrass River within the Wolf River Watershed and groundwaters of the state |
| Discharge Type | Existing |

| **Animal Units** | | | | | |
|---|---|---|---|---|---|
| | **Current AU** | | **Proposed AU**<br>**(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 | 4537 | 4635 | 13580 | 13871 | 03/21/2026 |
| Heifers (800 lbs. to 1200 lbs.) | 121 | 110 | 330 | 300 | 03/21/2026 |
| Total | 4658 | 4635 | 13910 | 13871 | |

## Facility Description

Brief Facility Description Krueger Dairy LLC is an existing Concentrated Animal Feeding Operation (CAFO). Krueger Dairy LLC is owned and operated by members of the Krueger family. During the permit term Krueger Dairy LLC is planning to expand to 13,910 animal units (9,700 cows, 300 heifers). Based on proposed herd size, Krueger Dairy LLC will have approximately 189 days of available liquid waste storage and will generate approximately 136,315,152 gallons of manure and process wastewater annually. Krueger Dairy LLC has a total of 14,371 acres available for land application of manure and process wastewater. Of this acreage, 2,258 acres are owned and 12,113 acres are controlled through

contracts, rental agreements, leases, or manure agreements. Of this acreage, 13,969 are considered spreadable acres. As part of the expansion, Krueger Dairy LLC plans to construct new freestall barns, parlor, feed storage area, waste storage facilities, sand separation facilities, & anaerobic digesters. 2 new sites are also being added to the permit, the Schultz Farm & the Hartleben Farm.

# Substantial Compliance Determination

**Enforcement During Last Permit:**

Krueger Dairy LLC was issued 3 Notice of Noncompliance during the previous permit term. All 3 of these NON's were related to improper implementation of the farm's nutrient management plan. The facility has completed all previously required actions as part of the enforcement process.

After a desk top review of all annual reports, land app reports, compliance schedule items, and a site visit on 9/7/2023, this facility has been found to be in substantial compliance with their current permit.

**Compliance determination made by Brian Hanson on 5/6/2025.**

| Sample Point Designation For Animal Waste | | |
|---|---|---|
| **Sample Point Number** | **Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)** | |
| 001 | Sample point 001 is for liquid Waste Storage Facility # 1 (WSF #1) located at the Krueger Dairy site. WSF # 1 is a concrete lined impoundment located in the northeast corner of the production site between the original freestall barns and WSF #2. The facility has a total capacity of 1.1 million gallons and a maximum operating capacity of 0.8 million gallons and was constructed in 2007. This storage currently accepts manure and process wastewater from the original freestall barns & outdoor Lot to the west of the storage. This facility has not been evaluated since the time of construction. | |
| 002 | Sample point 002 is for liquid Waste Storage Facility # 2 (WSF #2) located at the Krueger Dairy site. WSF # 2 is a concrete lined impoundment located in the northeast corner of the production site on the east side of WSF #1. The facility has a total Capacity of 10.0 million gallons and a maximum operating capacity of 9.2 million gallons and was expanded in 2017. This storage currently accepts manure and process wastewater from the existing free stall barns to the east of the storage and overflow from WSF #1. This facility has not been evaluated since the expansion occurred in 2017. | |
| 003 | Sample point 003 is for liquid Waste Storage Facility # 3 (WSF #3) located at the Riverside Dairy site. WSF # 3 is a concrete lined impoundment located south of the freestall barns & west of WSF #4. The facility has a total capacity of 4.8 million gallons and a maximum operating capacity of 4.3 million gallons and was constructed in 2012. This storage currently accepts manure and process wastewater from the existing free stall barns. This facility has not been evaluated since the time of construction. | |
| 004 | Sample point 004 is for liquid Waste Storage Facility # 4 (WSF #4) located at the Riverside Dairy site. WSF # 4 is a concrete lined impoundment located south of the freestall barn & east of WSF #3. The facility has a total capacity of 9.2 million gallons and a maximum operating capacity of 8.3 million gallons and was constructed in 2015. This storage currently accepts manure and process wastewater from the existing free stall barns via overflow channel from WSF #3. | |
| 005 | Sample point 005 is for solid manure sources that are directly land applied and not stored in a waste storage facility. This includes solid sources such as calf hutch manure, maternity pen bedpack, heifer bedpack, steer manure, etc. Representative samples shall be taken for each manure source type. | |
| 006 | Sample point 006 is for manure solids removed from the bottom of all liquid waste storage facilities. This | |

| Sample Point Designation For Animal Waste | | |
|---|---|---|
| **Sample Point Number** | **Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)** | |
| | includes manure-laden sand solids, manure fiber solids, etc. Representative samples shall be taken from each waste storage facility. | |
| 007 | Sample point 007 is for visual monitoring and inspection of the feed storage area (FSA) and associated runoff control system located at the Krueger Dairy site. The FSA is located in the northwest corner of the production area is approximately 9.5 acres in size. The Proper operation and maintenance is required to ensure to ensure discharges meet permit requirements. Weekly inspections are required and shall be recorded according to monitoring program. | |
| 008 | Sample point 008 is for visual monitoring and inspection of the outdoor feedlot and associated runoff control system located at adjacent to the northernmost freestall barn at the Krueger Dairy site. Feedlot runoff flows into WSF #1. Proper operation and maintenance is required to ensure discharges meet permit requirements. Weekly inspections are required and shall be recorded according to monitoring program. | |
| 009 | Sample point 009 is for liquid Waste Storage Facility #5 (WSF #5) located at the Krueger Dairy site. WSF #5 is a concrete lined impoundment south of the FSA. The facility has a total capacity of 4.5 million gallons and a maximum operating capacity of 3.3 million gallons and was constructed in 2017. This storage accepts process wastewater from the existing feed storage area to the north. WSF 5 was last evaluated in 2018 and met permit requirements. | |
| 010 | Sample point 010 is for the proposed liquid Waste Storage Facility #8 (WSF #8) to be located at the Krueger Dairy site. Plans and Specifications were received and were approved by the department on 6/12/2024. WSF #8 is a proposed concrete lined impoundment to be located on the west side of the production area south of the Feed Storage Area. This facility is proposed to have a total capacity of 36.4 million gallons and a maximum operating capacity of 32.4 million gallons. | |
| 011 | Sample point 011 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 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. | |
| 012 | Sample point 012 is for the existing liquid Waste Storage Facility #6 (WSF #6) located at the Schultz Farm site. Plans and Specifications to rebuild & expand the facility were received and were approved by the department on 5/9/2024. WSF #6 is a proposed clay lined impoundment to be located on the west side of the production area. This facility is proposed to have a total capacity of 7.6 million gallons and a maximum operating capacity of 6.3 million gallons. | |
| 013 | Sample point 013 is for liquid Waste Storage Facility # 7 (WSF #7) located at the Hartleben Farm site. WSF # 7 is a concrete lined impoundment located in the northeast corner of the production site. The facility has a total capacity of 3.2 million gallons and a maximum operating capacity of 2.8 million gallons and was constructed in 2014. This storage currently accepts manure and process wastewater from the animals at the Hartleben Farm and from the two Krueger dairy sites via tanker trucks and unloaded into this facility prior to land application. This facility was last evaluated in 2025 and requires further action. See schedules section. | |
| 014 | Sample point 014 is for existing liquid Waste Storage Facility #9 (WSF #9) is located at the Krueger Dairy site and was constructed in 2024. WSF #9 is a concrete lined impoundment located on the south side of the Feed Storage Area east of WSF #5 Leachate Old. This facility has a total capacity of 4.7 million | |

| Sample Point Designation For Animal Waste | | |
|---|---|---|
| **Sample Point Number** | **Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)** | |
| | gallons and a maximum operating capacity of 3.4 million gallons. This storage accepts process wastewater from the existing feed storage area to the north. This facility has not been evaluated since time of construction. | |
| 016 | Sample point 016 addresses all digested liquids located within the 4 proposed digester cells at Krueger Dairy site. Manure will be pumped from a proposed manure processing building to the digesters and then returned to the manure processing buildings (for solids removal) after the digestion is completed. Liquids will then be transferred to a waste storage facility for long term storage. 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. Plans and Specifications were received and were approved by the department on 3/12/2025. | |
| 017 | Sample point 017 addresses all digested liquids located within the proposed digester cell at Riverside Dairy site. Manure will be pumped from a proposed manure processing building to the digester. Liquids will then be transferred to a waste storage facility for long term storage. 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. Plans and Specifications were received and were approved by the department on 4/14/2025. | |
| 018 | Sample Point 018 is for the solid stacking pad located at the Krueger Dairy site. The solid stacking pad is located on the east side of WSF #9 Leachate New and was constructed in 2024. The solids stacking pad is approximately 21,000 sq ft is area and runoff drains to WSF #9. Seperated manure solids will be stored on this facility prior to land application or distribution. | |
| 019 | Sample Point 019 is for the sand separation building located at the Krueger Dairy site. This facility was constructed in 2024 and is located in the center of the production site east of WSF #9. The recycled sand will typically be reused as bedding in the freestall barns. Sampling for nutrient content will only be required if the separated sand is directly land applied. | |
| 020 | Sample Point 020 is for the proposed sand separation building located at the Riverside Dairy site. This facility will be located east of the parlor and temporarily store the recycled sand bedding. The recycled sand will typically be reused as bedding in the freestall barns. Plans & Specifications were received on 4/8/2025 and will need to be approved by the department prior to construction and use. Sampling for nutrient content will only be required if the separated sand is directly land applied. | |
| 021 | Sample point 021 is for solid manure land applied from approved headland stacking sites. Representative samples must be taken prior to land application. Stacks are defined as part of the production area and therefore subject to the production area discharge limitations of this permit. Weekly inspections of stack runoff controls are required and shall be recorded according to monitoring. | |

# 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 will have approximately 189 days of storage for the proposed liquid manure production. 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 a proposed herd of 13,910 animal units (9,700 cows, 300 heifers), it is estimated that approximately 136,315,152 gallons & 3,212 tons of manure and process wastewater will be produced per year. The permittee owns *approximately* 2,258 acres of cropland and 12,113 acres are controlled through contracts, rental agreements, leases, or manure agreements. Given the rotation commonly used by the permittee, 13,969 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.

**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- WSF #1; 002- WSF #2; 003- WSF #3; 004- WSF #4; 009- WSF #5-Leachate Old; 010- WSF 6 - Proposed Main Farm; 012- WSF#6-Schultz; 013- WSF #7-Hartleben; 014- WSF #9-Leachate New; 016- Krueger Digester; 017- Riverside Digester

| 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, | | lb/1000gal | 2/Month | Calculated | |

| Monitoring Requirements and Limitations | | | | | |
|---|---|---|---|---|---|
| **Parameter** | **Limit Type** | **Limit and Units** | **Sample Frequency** | **Sample Type** | **Notes** |
| Available | | | | | |
| Solids, Total | | Percent | 2/Month | Grab | |

### 1.1.1 Changes from Previous Permit

**Sample point language was updated to more accurately describe existing facilities. Sample points 012, 013, 014, 016 & 017 were added to the permit to account for waste directly land applied from existing facilities added to the permit, recently constructed facilities, or proposed facilities that are part of the farm's 2024-2026 expansion plan.**

### 1.1.2 Explanation of Operation and Management Requirements

**Liquid manure & process wastewater must be properly stored and land applied according to the permit and nutrient management plan.**

## 1.2 Sample Point Number: 005- Misc. Solid; 006- WSF Solids; 018- Seperated Solids; 019- Krueger Sand; 020- Riverside Sand, and 021- Headland Stacks

| 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

**Sample point language was updated to more accurately describe existing facilities. Sample points 018, 019, 020 & 021 were added to the permit to account for waste directly land applied from recently constructed facilities, or proposed facilities that are part of the farm's 2024-2026 expansion plan.**

### 1.2.2 Explanation of Operation and Management Requirements

**Solid manure sources must be properly sampled and land applied according to the permit and nutrient management plan.**

## 1.3 Sample Point Number: 007- Feed Storage Area; 008- Outdoor Lot, and 011- Storm Water Runoff

### 1.3.1 Changes from Previous Permit

**Sample point language was updated to more accurately describe existing facilities.**

### 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 Schedules

## 2.1 Emergency Response Plan

| Required Action | Due Date |
|---|---|
| Develop Emergency Response Plan: Update the written Emergency Response Plan within 30 days of permit coverage, and submit to the department. | 08/01/2025 |

## 2.2 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 60 days of the effective date of this permit. | 09/01/2025 |

## 2.3 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. | |

## 2.4 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 any necessary updates to the Nutrient Management Plan to meet the conditions outlined in this permit (see conditions in the Livestock Operational and Sampling Requirements section). | |
| 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 for 3400-025D. | 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. | |

## 2.5 Manure Storage Facility - Installation- Krueger Dairy

Applicable to Sample Point 010 - WSF #8 and Sample Point 016 - Krueger Digester

| Required Action | Due Date |
|---|---|
| Complete Installation: Complete construction of the manure storage facility & digester. The facilities shall be functional and in operation by the specified Date Due. Post construction documentation shall be submitted within 60 days of completion of the project. | 12/31/2026 |

## 2.6 Manure Storage Facility - Installation Riverside Dairy

Applicable to Sample Point 017 - Riverside Digester

| Required Action | Due Date |
|---|---|
| Complete Installation: Complete construction of the digester facility. The facility shall be functional and in operation by the specified Date Due. Post construction documentation shall be submitted within 60 days of completion of the project. | 12/31/2026 |

## 2.7 Manure Storage Facility - Installation - Schultz

Applicable to Sample Point 012 - WSF #6-Schultz

| Required Action | Due Date |
|---|---|
| Complete Installation: Complete construction of the manure storage facility. The facility shall be functional and in operation by the specified Date Due. Post construction documentation shall be | 12/31/2026 |

| | |
|---|---|
| submitted within 60 days of completion of the project. | |

## 2.8 Manure Storage Facility - Installation - Hartleben

Applicable to Sample Point 013 - WSF #7-Hartleben

| Required Action | Due Date |
|---|---|
| Complete Installation: Complete required upgrades of the manure storage facility as outlined in the 4/11/2025 Further Action Required letter, Project # R-2023-0118a. The facility shall be functional and in operation by the specified Date Due. Required documentation shall be submitted within 60 days of completion of the project. | 12/31/2025 |

## 2.9 Permit Application Submittal

The permittee shall file an application for permit reissuance in accordance with NR 200, Wis. Adm. Code.

| Required Action | Due Date |
|---|---|
| Permit Application Submittal: Submit a complete permit application to the Department no later than 180 days prior to permit expiration. | 01/01/2030 |

## 2.10 Explanation of Schedules

**Emergency Response Plan, Monitoring and Inspection Program – Schedules consistent with permit requirements**

**Annual Reports, Nutrient Management Plan, Submit Permit Reissuance Application - Schedules consistent with permit requirements**

**Schedules 2.5 through 2.8 are needed to for proposed facilities to maintain 180 days of liquid manure storage as part of the farm's 2024-2026 expansion plan**

# Attachments

9/22/2023 Reissuance Inspection Report

4/25/2025 Conditional NMP Approval

8/23/2024 Days of Storage Review

Plan Approval & Acknowledgement Letter(s)

- R-2023-0118a : Hartleben WSF Evaluation
- R-2024-0048 : Schultz Farm WSF
- R-2024-0078 & R-2024-0078a : Krueger Dairy Farm expansion
- R-2024-0298 : Krueger Dairy Digester
- R-2025-0029 : Riverside Dairy Digester
- R-2025-0077 : Riverside Sand Separation

Public Notice

**Prepared By: Brian Hanson Wastewater Specialist Date: 5/6/2025**

**State of Wisconsin**
**DEPARTMENT OF NATURAL RESOURCES**
**101 S. Webster St., PO Box 7921**
**Madison, WI 53707**

**Tony Evers, Governor**
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

April 25th, 2025

Shawano County
Approval

Brad Krueger
Krueger Dairy, LLC
W8371 Oak Ave
Shawano, WI 54166

SUBJECT: Conditional Approval of Krueger Dairy, LLC Nutrient Management Plan, WPDES Permit No. 0065170-03-0

Dear Brad Krueger:

After completing a review of Krueger Dairy, LLC 2025-2029 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 Krueger 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.

## FINDINGS OF FACT

The Department confirms that:

1. A current dairy herd size of 8,846 animal units (6,201 milking & dry cows, 110 heifers). A planned herd size of 13,910 animal units (9,700 milking & dry cows, 300 heifers) by 2027.
2. Manure generation and spreading records indicate your herd will annually generate approximately 97,225,641 gallons of manure and process wastewater and 4,500 tons of solid manure in the first year of the permit term. Approximately 13,068,165 gallons of feed leachate and runoff is collected and managed separately, and 2,100,000 gallons of manure is accounted for from NON-CAFO sources that have land agreements with the farm and are tracked within the NMP. Once full expansion has been reached in 2027, it is projected that the farm will generate approximately 136,315,152 gallons of manure and process wastewater and 3,212 tons of solid manure.
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 Krueger Dairy, LLC currently has 14,370.5 acres (2,257.8 owned and 12,112.7 controlled through contracts, rental agreements or leases, or under manure agreements) of which 13,968.5 are spreadable acres.
6. 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.

7. 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 2025-2029 Krueger 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:

| OBJECTID * | Farm Name | Field Name | FACILITY_NAME | SITE_NAME | FIELD_NAME |
|---|---|---|---|---|---|
| 47 | Krueger Dairy | Townline ROBERT 1 | ESSITY PROFESSIONAL HYGIENE NORTH AMERICA LLC | KHF | 2 |
| 42 | Krueger Dairy | Stienke 15 Grass | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 14 |
| 33 | Krueger Dairy | R-5 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | 9 |
| 38 | Krueger Dairy | Stienke 115 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 12 |
| 39 | Krueger Dairy | Stienke 115 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 13 |
| 36 | Krueger Dairy | Stienke 11 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 13 |
| 27 | Krueger Dairy | Onesti South 3 | ST PAPER LLC | OT | 2 |
| 10 | Krueger Dairy | Fred Home 3-9-16-17 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | 7 |
| 15 | Krueger Dairy | H-3 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 15 |
| 41 | Krueger Dairy | Stienke 15 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 14 |
| 37 | Krueger Dairy | Stienke 115 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 11 |
| 23 | Krueger Dairy | Kyle 25 | LITTLE HOUSE SEPTIC, INC. | DB | 1 |
| 35 | Krueger Dairy | Stienke 11 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 12 |
| 25 | Krueger Dairy | Mikes | LITTLE RAPIDS CORP SHAWANO PAPER MILL | MK | 30 |
| 34 | Krueger Dairy | Stienke 10 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | 13 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 14 | Krueger Dairy | H-1-2 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BK | | 15 |
| 12 | Krueger Dairy | Fred Home 6-8A | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 8 |
| 8 | Krueger Dairy | Fred Home 20A-21 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 7 |
| 21 | Krueger Dairy | Kyle 23 | LITTLE HOUSE SEPTIC, INC. | DB | | 1 |
| 28 | Krueger Dairy | Onesti South 8 | SUSSEX WASTEWATER TREATMENT FACILITY | 125 | | 2 |
| 26 | Krueger Dairy | Onesti Townline | ST PAPER LLC | OT | | 3 |
| 49 | Krueger Dairy | ROBERT 2 | LITTLE HOUSE SEPTIC, INC. | JU | | 1 |
| 1 | Krueger Dairy | Below | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 20 |
| 43 | Krueger Dairy | T-Fields | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 6 |
| 18 | Krueger Dairy | Hart Brady-303 | BRADY'S SEPTIC SERVICE INC. | WB 2 | <Null> | |
| 9 | Krueger Dairy | Fred Home 20B | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 7 |
| 30 | Krueger Dairy | R-1 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 9 |
| 20 | Krueger Dairy | Kyle 22 | LITTLE HOUSE SEPTIC, INC. | DB | | 1 |
| 31 | Krueger Dairy | R-3 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 9 |
| 32 | Krueger Dairy | R-4 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 9 |
| 29 | Krueger Dairy | Pieper | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 5 |
| 17 | Krueger Dairy | Hart Brady-302 | BRADY'S SEPTIC SERVICE INC. | WB | | 6 |
| 13 | Krueger Dairy | Fred Home 8 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 8 |
| 16 | Krueger Dairy | Hart Brady-301 | BRADY'S SEPTIC SERVICE INC. | WB | | 5 |
| 19 | Krueger Dairy | Kyle 21 | LITTLE HOUSE SEPTIC, INC. | DB | | 1 |
| 11 | Krueger Dairy | Fred Home 4 | LITTLE RAPIDS CORP SHAWANO PAPER MILL | BRAD | | 8 |
| 7 | Krueger Dairy | Eds Rickies | LITTLE RAPIDS CORP SHAWANO PAPER MILL | EK | | 1 |
| 22 | Krueger Dairy | Kyle 24 | LITTLE HOUSE SEPTIC, INC. | DB | | 1 |

Prior to any manure applications on these fields Krueger 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 Krueger 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: Krueger 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:
   - Blanks-2 (>200 ppm P)
   - Brei Buckoski 1 (default)
   - Brei Buckoski 2 (default)
   - Brei Buckoski 3 (default)
   - Brei Buckoski 4 (default)
   - Brei Buckoski 5 (default)
   - Brei Buckoski 6 (default)
   - Brei Buckoski 7 (default)
   - Brei Otto 01 (default)
   - Brei Otto 02 (default)
   - Britzke 2 (default)
   - Britzke Breitenenfeldt (default)
   - Britzke Kersten (default)
   - Britzke Kreuger 1 (default)
   - Britzke Krueger 2 (default)
   - Britzke Krueger 3 (default)
   - Brizke Mark Buss (default)
   - Fred Oak 1 (default)
   - Fred Oak 3 (default)
   - Fred Oak 4-6 (default)
   - Fred Oak 7 (default)
   - Fred Oak 8 (default)
   - Hart Felts-01 (default)
   - Hart Felts-02 (default)
   - Hart Felts-03 (default)
   - Hart Geise-128 (default)
   - Hart Opperman (default)
   - Hart Westphal-313A (default)
   - Hart Westphal-313B (default)
   - Hart Yellow Shed (default)
   - K4 (>200 ppm P)
   - L Lindner East (default)
   - L Lindner West (>200 ppm P)
   - Lee M4 (>200 ppm P)
   - Murdocks (>200 ppm P)
   - Tim Burr (default)
   - Brei Otto 03 (default)
   - Brei Otto 04 (default)
   - Brei Otto 05 (default)
   - Brei Otto 06 (default)
   - Brei Otto 07 (default)
   - Brei Otto 06 (default)
   - Brei Tony 01 (default)
   - Brei Tony 2 (default)
   - Brei Otto 07 (default)
   - Brei Tony 3 (default)
   - Brei Tony 4 (default)
   - Britzke 14 (default)
   - Britzke Josh Own (insufficient soil sample density)
   - Lindner Southeast (insufficient soil sample density)

   If Krueger 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, Krueger 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. Krueger Dairy, LLC shall record daily manure applications by using the 'Daily Log' as generated by Snap Plus. These forms shall be retained at the farm and provided to the department upon request.

8. Krueger 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 DNR Form 3200-123 or 'CAFO Annual Spreading Report' as generated by Snap Plus.

WINTER SPREADING

9. Liquid manure applications during winter conditions, as defined by NR 243.14(7), Wis. Adm. Code, are prohibited except for emergency applications.

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

| | | |
|---|---|---|
| - Bartz South | - Behnke | - Below |
| - BO 4-5-6 | - Bob Middle | - Bowers Home 1 |
| - Bowers Schmidt 1 | - Burr 1 | - Dillenburg 1-8 |
| - H Dillenburg 1,2 | - H Dillenburg 2-4 | - H Dillenburg 4 |
| - Habeck One Mile | - Habecks | - Hohnsee |
| - Kuhn | - Lee 1-2-3 Dil Ln | - Lunds |
| - Roy Habeck | - S-1-2 | - Steinke 115 |
| - T-Fields | - Townline S5 | - Townline S6 |
| - Townline S7 | - Townline S8 | - Townline S10 |
| - Wruck 1 | - Wruck 2 East | - Wruck 2 West |

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. The following headland stacking sites are rejected due to not meeting requirements in NRCS 313 for Hydrologic Soil Group:
    - Riverside West
    - Riverside East

15. These headland stacking sites are approved for use with the following criteria during February and March, or any period of the year when the ground is not frozen, or snow covered.
    - Solids content of manure must be >32% solids.
    - Site can be used for 1 year out of every 2 years.
    - Sites can be used to stack for a maximum period of 8 months and should not exceed 40,000 cubic feet in size. Sites must remain a minimum of 100' apart when in active use.

| | | |
|---|---|---|
| - South of Leachate | - North of Barn | - North of Pit |

MANURE & PROCESS WASTEWATER IRRIGATION

16. Irrigation of manure or process wastewater is prohibited.

SUBMITAL AND RECORDKEEPING REQUIREMENTS

17. 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.

FOLLOW UP REQUESTS

18. Please submit a plan about how the farm will make sure applications are made in compliance with the farm NMP and meet all application restrictions.

19. Please revise the manure planning values with Riverside solids from last fall to be reflected into the future planning for that source. Submit back to the department a revised compliance check, sorted by crop reports, nutrient mass balance, and 590 assessment.

20. Please submit the revised narrative with updated manure chart confirming CAFO to CAFO transfers vs. manure agreement acre one-time distributions.

Please submit all items in #18-#20 by no later than May 5th, 2025.

COMPLIANCE REMDINERS

21. Any manure applicated by the farm or on behalf of the farm by a custom applicator are required to meet all compliance restrictions and maintain application rates in accordance to the farm NMP.

22. Manure sampling is required to be completed at the following intervals to meet permit requirements:
    - One quarterly sample per solid manure source when hauling takes place.
    - Two liquid samples per month for each source when hauling takes place.

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 608-212-8460 or Ashley.Scheel@Wisconsin.gov.

Sincerely,

Ashley Scheel, CCA
WDNR Nutrient Management Plan Reviewer
Wisconsin Department of Natural Resources

cc: Brian Hanson, WDNR Agricultural Runoff Management Specialist (Brian.Hanson@Wisconsin.gov)
Joe Baeten, WDNR Watershed Field Supervisor (Brian.Hanson@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)
Tony Salituro, WDNR CAFO Engineer (Anthony.Salituro@Wisconsin.gov)
Scott Frank, Shawano County (scott.frank@co.shawano.wi.us)
Brian Haase, Waupaca County (brian.haase@co.waupaca.wi.us)
Kyle Much, Much Crop Consulting, Inc (much.kyle@gmail.com)
File

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

**Tony Evers, Governor**
**Karen Hyun, Ph.D., Secretary**
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April 11, 2025

FILE REF: R-2023-0118a
WPDES Permit #: WI-0065170

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Evaluation Review for Satellite Waste Storage Facility at Krueger Dairy LLC (Hartleben Site)
Shawano County - FURTHER ACTIONS ARE REQUIRED

Dear Mr. Krueger:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) received on June 12, 2023 an evaluation certified by Doug Gatrell, P.E., GHD (Engineer) submitted on behalf of Krueger Dairy LLC in accordance with s. NR 243.16(1), Wis. Adm. Code. Revisions to the evaluation were received on March 21, 2025.

**Evaluated Facilities**: The evaluation included the following reviewable facilities: Concrete Waste Storage Facility (Hartleben WSP)

The Engineer evaluated the above referenced reviewable facility based on applicable NRCS Standards and ch. NR 243 Wis. Adm. Code. The engineering report below summarizes the evaluation's findings, lists standards that apply, and provides a compliance analysis.

The Department reviewed the evaluation above and agreed with the Engineer's conclusion that the reviewable facilities will meet ch. NR 243, Wis. Adm. Code requirements after the following further actions are completed.

**Required Actions**: The following actions are required in accordance with s. NR 243.16(3), Wis. Adm. Code based on the Department's review of the submitted evaluation:

- Submit photo documentation to the regional CAFO specialist that repairs to the crack in the WSP concrete liner have been completed.
- Submit photo documentation to the regional CAFO specialist that MOL markers have been installed in the WSP in accordance with s. NR 243.15(3)(e), Wis. Adm. Code.
- Submit documentation to the regional CAFO specialist indicating that well 8EB668 has been abandoned in accordance with ss. NR 243.17(7)(c), Wis. Adm. Code.

Submittal due dates are contained in your WPDES permit Schedules section(s). The DNR CAFO Specialist will contact you to discuss next steps. Questions concerning permit requirements should be directed to the DNR CAFO Specialist. Questions concerning the review may be directed to the review engineer Tony Salituro (contact information is at the end of this letter).

## 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

Enclosures:
1. Wisconsin DNR Engineering Report

Email: Brad Krueger; Krueger Dairy LLC
(715) 853-5871; Kruegerdairy@yahoo.com

Doug Gatrell; GHD Services Inc
(734) 645-4851; Doug.Gatrell@ghd.com

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

Scott Frank; Shawano County
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Brian Hanson; DNR-Northeast Region
(920) 366-3302; brian.hanson@wisconsin.gov

Joe B Baeten; DNR-Northeast Region
(920) 366-2072; Joseph.Baeten@wisconsin.gov

Anthony Salituro; DNR-Central Office
(608) 444-2869; anthony.salituro@wisconsin.gov

**WISCONSIN DEPARTMENT OF NATURAL RESOURCES ENGINEERING REPORT**

**GENERAL INFORMATION**

| | |
|---|---|
| **Farm Name:** Krueger Dairy LLC | **WPDES Permit#:** WI-0065170 |
| **Location Address:** N6561 Hartleben Lane, Morris (Hartleben) | **DNR Project #:** R-2023-0118a |
| **Engineering Certification by:** Doug Gatrell, P.E. | |

**Evaluated Facilities:**

**Hartleben WSP:** Designed by Shawano County and constructed in 2014. A measuring wheel was used to survey the top dimensions of the WSF and found them to be approximately 265 ft x 175 ft. Provided post construction documentation show the WSF to be 13 ft deep with 2.5:1 interior side slopes and 20 ft wide berms. The storage has a total and MOL capacity of 3,225,919 gallons and 2,763,327 gallons respectively. The runoff from the Hartleben outdoor concrete lot and small portion of feed storage area is captured in the storage. The 25yr – 24hr storm from both are included in the MOL calculation.

The WSF is a concrete with waterstop liner, with waterstop joints spaced at minimum every 95 ft of concrete length. The concrete is 7-inches thick on the floor/ramp and 5-inches thick on the side slopes. Rebar spacing matches the minimum joint separation in Table A of NRCS 313 (1/14). The concrete floor is designed to handle a front end loader and other heavy equipment. Soils beneath the concrete are clean coarse sands that have <20% fines. Four (4) soil test pits from the original design work found saturation at a minimum of 4 ft beneath the WSF floor, meeting the 2 ft separation requirement in NRCS 313 (1/14).

- Assessment References: NRCS Standard 313 (1/14) and ss. NR 243.15(3), Wis. Adm. Code.
- The WSF was emptied in May 2023 and photo documentation of visible cracks was provided. The evaluation states, “GHD recommends completing a repair process to the crack with visible seepage in the southwest interior berm of the WSP. The crack repair should include cleaning the crack completely with wired angle grinder and air blower, using an anchoring epoxy, and completing the repair with a sealer.”
  - Submit photo documentation that repairs on WSP liner have been completed to the regional CAFO specialist.
- The evaluation states, “GHD has advised the Farm to install permanent markers indicating freeboard (1-ft) at elevation 1111.0 ft and the 25-year, 24-hour storm event volume (1.37 ft) at elevation 1110.63 ft (also indicating the MOL).”
  - Submit photo documentation to the regional CAFO specialist that MOL markers have been installed at the correct elevation.
- A well (8EB668) is located within 250 ft of the Hartleben WSP and is proposed to be abandoned to install a replacement greater than 250 ft from the WSP. Documentation shall be submitted to the regional CAFO specialist indicating that the well has been abandoned in accordance with ss. NR 243.17(7)(c), Wis. Adm. Code.

**DECISION RECOMMENDATION:** Based on my review completed on April 11, 2025, the reviewable facilities identified above require further actions.

Anthony Salituro

Tony Salituro, E.I.T.
Water Resources Engineer
Watershed Management Program

**State of Wisconsin**
**DEPARTMENT OF NATURAL RESOURCES**
**101 S. Webster Street**
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**Tony Evers, Governor**
---
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May 9, 2024

FILE REF: R-2024-0048
WPDES Permit #: WI-0065170

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Conditional Approval of Plans & Specifications for a Waste Storage Facility and Transfer Pipeline at, Krueger Dairy LLC, (Schultz Farm) at NE¼ of T27N, R13E, Section 36 in Seneca Township, Shawano County

Dear Mr. Krueger:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the above referenced plans and specifications, submitted under certification by Doug Gatrell, GHD and received on February 28, 2024 with revisions received on May 1, 2024 and May 9, 2024. The review was conducted in accordance with s. 281.41, Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The attached engineering report describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the assigned regional staff or the review engineer Tony Salituro (contact information is at the end of this letter).

**Proposed Project:** The proposed project includes the following facilities that are reviewable under s. NR 243.15, Wis. Adm. Code: An In-Place Earth waste storage facility, with clay lined embankment walls, abandonment of the existing waste storage facility, and existing waste transfer pipeline extension.

**Conditions of Approval:** The plans and specifications for project number R-2024-0048 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

1. Lab testing of clay liner soil: Proposed liner material shall have complete laboratory testing for all properties specified in Wisconsin Construction Specification 300 (Spec 300). The required number of lab tests for clay liner soil to be compliant with Spec 300 Table 1 must be provided to review engineer Tony Salituro prior to liner placement for review and approval.
2. Revisions: If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. Note: This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
3. Approval Period: In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the approval date, the approval is void, and a new approval must be obtained prior to commencing construction.
4. Notification: Prior to construction and when construction is complete, notify the Department's regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
5. Inspection: During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
6. Post-Construction Documentation: In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (http://dnr.wi.gov/permits/water) within 60 days of

completing construction. The report must include documentation specified by s. NR 243.15(10), Wis. Adm. Code.

**Limitation of Approval:** The Department reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website http://www.revenue.wi.gov/.

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STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Bernie Michaud

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

Enclosures: Wisconsin DNR Engineering Report

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Aaron O'Rourke; DNR, Eau Claire
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**WISCONSIN DEPARTMENT OF NATURAL RESOURCES ENGINEERING REPORT**

**GENERAL INFORMATION**

**Farm Name:** Krueger Dairy LLC **WPDES Permit#:** WI-0065170

**Location Address:** N5257 County Road D, Leopolis **DNR Project #:** R-2024-0048

| **Engineering Plans Certified by:** | **Initial Submittal:** | **Revised Submittal(s):** |
|---|---|---|
| Doug Gatrell, P.E.<br>Lexie Ludtke | February 28, 2024 | May 1, 2024 and May 9, 2024 |

**Site Assessment:** Geographical features of the site include soils that are Sandy Loams. The nearest stream is the North Branch Embarrass River approximately 2,000 ft to the south of the proposed project area. Nearby wetlands consist of an emergent wet meadow approximately 700 ft to the west and forested wetlands approximately 1,000 ft south of the project area. Clean runoff will be diverted around waste handling areas to existing waterways. No karst features are known to exist within 1,000 ft of the proposed facilities or systems. No ground water supply wells are located within 250 feet of the proposed facilities or systems.

Soil investigations were performed in July 2023 consisting of eight soil borings in the proposed project area, which found the primary subsoils consist of clays with trace gravel and sands with a fines content in the range of 73.8 – 85.1% and plasticity index of 10 – 16. Neither bedrock nor saturation were found in any test pits.

**Proposed Facilities:**

**Waste Storage- 1 Modification (WSF1):** The proposed design was submitted to meet NRCS 313 (10/17R), NRCS 360 (06/21), NRCS 520 (10/17). The storage will be installed west of the existing WSF1. That storage is proposed to be abandoned. The design is compliant with s. NR 243.15(3), Wis. Adm. Code. The Below is a summary of what is proposed.

- The proposed WSF1 will be rectangular shaped with interior top dimensions of 450 ft x 175 ft x 20 ft deep. The embankment walls and floor are designed with a 5 ft thick In-Place Earth soil and 3 ft thick subliner. Below the existing ground level, the top one foot of the In-Place Earth soil will be recompacted to WCS 300 Clay Liner criteria. A 4-inch thick concrete scour protection will be placed along the bottom of the WSF and 3-ft vertically up the side slopes.
- For embankment walls above the existing ground surface, the liner will be placed in accordance with NRCS 520, with all 5 ft of the clay liner being compacted to WCS 300 Clay Liner criteria. Should any in place material soils be found that do not meet in-place earth criteria listen in NRCS 313, Table 1, Column 2 for PIs or P200s, the soils will be replaced with placed materials meeting NRCS 520.
- The proposed storage will have a total and maximum operating level (MOL) volume of 7,605,195 and 6,267,086 gallons respectively.
- The floor elevation will be 951.0 ft and the MOL elevation will be 968.6 ft. An additional 1 ft of freeboard was included to account for potential settlement of the embankment walls. Interior and exterior embankment slopes will be 2.5:1 and 3:1 respectively with a berm width of 12 ft.
- A sump will be 12 ft x 12 ft x 2 ft deep in the north portion of the WSF with a 5-inch thick concrete slab. Two agitation pads will be present along 20 ft of the north and west embankment of the WSF with 5-inch thick concrete slab.
- Core trenches will be placed along the south embankment of the storage and half of the east and west embankment where the effective height is 10 ft or greater in depth. The core trench will be a minimum of 2 ft deep with an 8 ft wide bottom.
- A pipe penetration will occur through the earthen liner with a 2 ft long bentonite plug placed at the penetration. No pipe bends or tees will be present within 10 ft of the pipe penetration. Concrete scour protection will be at the pipe outlet to protect the liner.

**Waste Transfer System:** The proposed design was submitted to meet with NRCS Standard 634 (11/22). The design is compliant with s. NR 243.15(4), Wis. Adm. Code.

- The existing 6-inch PVC pressure pipeline is proposed to be modified to transfer to the new WSF1 from the freestall barn. The existing pipeline outlet will be field verified and then extended towards the new WSF. The previous pump will still be used and the system will match previous operating conditions.

**Abandonment:** The existing WSF1 (175 ft x 110 ft) will be abandoned as it is no longer needed.

- All waste and a minimum of 6-inches of the existing soil liner will be removed and spread according to an approved nutrient management plan. The surrounding soils will then be investigated for potential contamination and any additional contaminated soils or liner will be removed. Backfill from the construction of the proposed WSF1 will be used to abandon the structure. An existing waste transfer pipeline from the freestall barn penetrates the liner and will be cut and re-routed to the proposed WSF1. Following closure, topsoil will be incorporated and seeded to establish vegetation in the area.

**DAYS OF AVAILABLE LIQUID WASTE STORAGE:** The submitted information states that the Krueger Dairy LLC Schultz Farm will have 770 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 420. The liquid waste volumes are based on the NRCS spreadsheet and other estimated or calculated values for a collection period of 365 days.

| Waste Storage | Total Vol. from Settled 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 | 7,605,195 | 0 | 206,182 | 0 | 1,131,927 | 6,267,086 |
| | | | | | **Total MOL Vol:** | 6,267,086 |
| | | | | | **Days of Storage:** | **770** |

| Liquids Collected/Stored | Annual Gallons |
|---|---|
| Manure, Bedding, and Parlor Wastewater | 1,971,000 |
| Net Precipitation on Storage Surfaces | 998,440 |
| **TOTAL:** | **2,969,440** |

**PURPOSE OF THIS REPORT:** This report documents review of plans and specifications for each structure or practice indicated below, including findings regarding the structure or practice's compliance with applicable standards. The reviewer considered if management and site assessment were conducted, documented, and reflected in the final design, and if proper construction and related plans (operation and maintenance, inspection, erosion control if applicable) were provided, and demonstrated compliance with applicable rules standards.

**DECISION RECOMMENDATION:** Based on my review completed on May 9, 2024, the proposed plans and specifications meet ch. NR 243, Wis. Adm. Code, and applicable NRCS Standards. Therefore, I recommend the plans and specifications be approved. The following condition is recommended to be added to the approval letter:

- Lab testing of clay liner soil: Proposed liner material shall have complete laboratory testing for all properties specified in Wisconsin Construction Specification 300 (Spec 300). The required number of lab tests for clay liner soil to be compliant with Spec 300 Table 1 must be provided to review engineer Tony Salituro prior to liner placement for review and approval.

Anthony Salituro

Tony Salituro, EIT
Water Resources Engineer

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

**Tony Evers, Governor**
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WISCONSIN DEPT. OF NATURAL RESOURCES

August 23, 2024

FILE REF: R-2024-0069
WPDES Permit #: WI-0065170

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Days of Storage Review for Krueger Dairy LLC, NW¼ of T27N, R15E, Section 27 in Richmond Township, Shawano County – NO ADDITIONAL ACTION REQUIRED

Dear Mr. Krueger:

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 Doug Gatrell, GHD on March 6, 2024 on behalf of Krueger 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 Krueger Dairy LLC has 189 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 maximum number of animal units provided after expansion for the calculation is 13,910. The liquid waste volumes are based on the NRCS spreadsheet and other estimated or calculated values for a collection period of 365 days. All runoff, up to the 25yr – 24hr storm, from the feed storage area and solid stacking pads is collected to storage.

| **Liquids Collected/Stored** | **Annual Gallons** |
|---|---|
| Manure, Bedding, and Parlor Wastewater | 112,967,500 |
| Feed Storage Leachate | 374,000 |
| Feed Storage Runoff Collected | 11,046,581 |
| Feedlot Runoff | 486,372 |
| Net Precipitation on Storage Surfaces | 11,440,699 |
| **TOTAL:** | **136,315,152** |

| Waste Storage | Total Vol. from Settled 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. |
|---|---|---|---|---|---|---|
| WSP1 - Riverside | 4,769,747 | 0 | 127,040 | 0 | 357,584 | 4,285,123 |
| WSP2 – Riverside | 9,187,435 | 0 | 231,784 | 0 | 618,367 | 8,337,284 |
| WSP1 – Home | 1,075,137 | 0 | 60,312 | 10,839 | 172,403 | 831,583 |

| | | | | | | |
|---|---|---|---|---|---|---|
| WSP2 - Home | 10,062,760 | 0 | 228,304 | 0 | 633,210 | 9,201,246 |
| WSP3 – Home | 36,440,410 | 0 | 1,058,518 | 0 | 2,991,304 | 32,390,588 |
| LMP1 | 4,539,485 | 0 | 173,521 | 591,016 | 473,963 | 3,300,985 |
| LMP2 | 4,667,844 | 0 | 176,925 | 591,016 | 486,017 | 3,413,886 |
| WSP – Schultz | 7,605,195 | 0 | 554,465 | 206,182 | 577,464 | 6,267,084 |
| WSP - Hartleben | 3,255,919 | 0 | 121,410 | 0 | 338,719 | 2,795,790 |
| | | | | | **Total MOL Vol:** | 70,823,569 |
| | | | | | **Days of Storage:** | **189** |

Should you have any questions, please contact Tony Salituro, 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

Anthony Salituro

Tony Salituro
CAFO Review Engineer
Watershed Management Program

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June 12, 2024

FILE REF: R-2024-0078
WPDES Permit #: WI-0065170

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Conditional Approval of Plans & Specifications for a waste storage facility, solid stacking area, leachate collection pond, feed pad, Stjernholm sand separation system, and various waste transfer system at, Krueger Dairy LLC, (Main Site) at NW¼ of T27N, R15E, Section 27 in Richmond Township, Shawano County

Dear Mr. Krueger:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the above referenced plans and specifications, submitted under certification by Doug Gatrell, GHD and received on March 29, 2024 with revisions received on May 29, 2024 and June 11, 2024. The review was conducted in accordance with s. 281.41, Wis. Stats., chs. NR 151, NR 213, and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The attached engineering report describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the assigned regional staff or the review engineer Tony Salituro (contact information is at the end of this letter).

**Proposed Project:** The proposed project includes the following facilities that are reviewable under s. NR 243.15, Wis. Adm. Code: A liquid tight (ACI-350) concrete waste storage facility, concrete solid stacking area, concrete feed storage area and associated runoff management pond, freestall barn with a Stjernholm sand separation system, and waste transfer systems including transfer pipelines, concrete channels, and reception tanks.

**Conditions of Approval:** The plans and specifications for project number R-2024-0078 are hereby approved and subject to chs. NR 151, NR 213, and NR 243, Wis. Adm. Code, and the conditions listed below:

1. Wetland Fill Authorization: A wetland delineation was conducted in the project footprint and found delineated wetlands in the footprint of the proposed Freestall Barn 5 and various waste transfer pipelines. Krueger Dairy LLC cannot proceed with construction of those proposed facilities which would result in wetland fill based on this conditional approval alone. All other wetland fill permits or exemptions needed to commence construction of those facilities must be obtained before construction begins. Should review of the wetland exemption request or fill permit application by the Department result in required changes to the design of reviewable facilities, plans for those facilities must be resubmitted for Department approval.
2. Revisions: If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. Note: This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
3. Approval Period: In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the approval date, the approval is void, and a new approval must be obtained prior to commencing construction.

4. Notification: Prior to construction and when construction is complete, notify the Department's regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
5. Inspection: During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
6. Post-Construction Documentation: In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (http://dnr.wi.gov/permits/water) within 60 days of completing construction. The report must include documentation specified by s. NR 243.15(10), Wis. Adm. Code.

**Limitation of Approval:** The Department reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website http://www.revenue.wi.gov/.

## 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
For the Secretary

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

Enclosures: Wisconsin DNR Engineering Report

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**WISCONSIN DEPARTMENT OF NATURAL RESOURCES ENGINEERING REPORT**

## GENERAL INFORMATION

**Farm Name:** Krueger Dairy LLC **WPDES Permit#:** WI-0065170

**Location Address:** W8371 Oak Ave, Shawano, WI **DNR Project #:** R-2024-0078

| Engineering Plans Certified by: | Initial Submittal: | Revised Submittal(s): |
|---|---|---|
| Doug Gatrell, P.E.<br>Jen Keuning | March 29, 2024 | May 29, 2024 and June 11, 2024 |

**Site Assessment:** Geographical features of the site include soils that are sandy loams and loams. The nearest stream is the Red River approximately 2,300 ft to the north of the production area. A wetland delineation was conducted by assured wetland delineator Ann Key and found two wetlands on the production area (wetland 1 is 0.85 ac. and wetland 2 is 4.4 ac.). Portions of the wetlands will be impacted by the proposed freestall barn and waste transfer pipelines transferring to the future digester. A wetland fill permit was submitted on May 6, 2024. A condition of approval to resolve any wetland permitting with the WDNR waterways and wetlands program is recommended. Clean runoff will be diverted around waste handling areas to existing waterways. No karst features are known to exist within 1,000 ft of the proposed facilities or systems. No ground water supply wells are located within 250 feet of the proposed facilities or systems.

Soil investigations were performed in July 2023 and June/October 2016 consisting of seventy-three soil borings in the proposed project area, which found the primary subsoils consist of lean clays and clayey sands (CL) overlaying poorly graded sands (SP). Soil analysis of the sandy clay soils found a fines content in the range of 50.2 – 66.1% and plasticity index in the range of 7 – 14. Bedrock was not found in any test pits. Subsurface saturation was found in various test pits around the facilities. Saturation elevation was found to be at a limiting elevation of 847.7 ft in the vicinity of the proposed WSF3 and LMP2. An isolated saturation elevation of 853.8 ft was found around the proposed LMP2. It is proposed to remove the wet soils during construction.

**Proposed Facilities:**

**Waste Storage Facility 3 (WSF3):** The proposed design was submitted to meet NRCS 313 (10/17R), NRCS 522, Table 3, Column A (06/21). The ACI 350 liner design was selected because soil samples were not available to confirm an alternative liner type. A request to modify the liner design to a concrete soil composite liner design later is anticipated. The design is compliant with s. NR 243.15(3), Wis. Adm. Code. The WSF is proposed to be at the west edge of the production area. Below is a summary of what is proposed.

- The proposed WSF3 will be irregular shaped with interior top area of 404,295 sq. ft x 14 ft 2 in deep. The embankment walls and floor are designed with 6-inch thick ACI-350 concrete reinforced with #5, grade 60 rebar spaced 10 in center each way. The concrete shall have a design strength of 4,500 psi and water/cement ratio of 0.42. PVC waterstop joints are proposed every 175 ft of length of the WSF.
- The proposed storage will have a total and maximum operating level (MOL) volume of 36,440,410 and 32,390,588 gallons respectively.
- The floor elevation will be 851.6 ft and the MOL elevation will be 864.4 ft. Interior and exterior embankment slopes will be 2.5:1 and 3:1 respectively with a minimum berm width of 15 ft.
- Two 20 ft x 20 ft x 1 ft deep sumps will be placed in the southwest corner of the WSF and the southeast corner. A 20 ft wide ramp will extend down the northwest side of the proposed storage pond to allow access for scraping manure solids from the concrete floor.

**Leachate Collection Pond 2 (LMP2):** The proposed design was submitted to meet NRCS 313 (1/17R), NRCS 522, Table 2, Column B (06/21), and ch. NR 213, Wis. Adm. Code. The design is compliant with s. NR 243.15(3), Wis. Adm. Code. The LMP will be located east of the existing LMP1 and south of the existing feed storage area. The LMP2 will capture runoff from the proposed solid stacking area. Below is a summary of what is proposed.

- The proposed LMP2 will be rectangular shaped with interior top dimensions of 265 ft x 250 ft x 12 ft deep. The embankment walls and floor are designed with 5-inch and 6-inch thick steel reinforced concrete respectively. Neither the bottom or side slopes are designed for vehicular loading. A 3 ft thick combined soil liner and sub-liner will be placed below the concrete consisting of soils with a P200 ≥ 20% and a PI ≥ 7.
- The proposed storage will have a total and maximum operating level (MOL) volume of 4,667,844 and 3,413,886 gallons respectively.
- The floor elevation will be 853.8 ft and the MOL elevation will be 864.4 ft. Interior embankment slopes will be 2.5:1 with a berm width of 10 ft. No exterior embankment slopes will be needed for the LMP2 as it will match existing grade.
- No agitation pads, ramps, or sumps are proposed as part of the LMP. A concrete overflow channel will be located in between the storage and the existing LMP1 to allow transfer between the two storages. The overflow will be at an elevation of 863.1 ft. The overflow channel will match the LMP2 liner design.

**Feed Storage Expansion:** The proposed design was submitted to meet with NRCS Standard 561 Table 4, Column 2 (11/22). The design is compliant with s. NR 243.15(9), Wis. Adm. Code. The existing feed storage area will be expanded along the east and west edges. Below is a summary of what is proposed.

- The proposed rectangular feed storage pad expansion will have two sections. The west section will be 473 ft x 351.25 ft and the east section will be 69.3 ft x 348.75 ft, for a total feed storage area of 430,190 sq. ft. The feed storage area will have a concrete-soil composite liner, with 6-inch or 8-inch thick steel reinforced concrete designed for the expected loads from a John Deere Payloader. The soil liner will be 1.5 ft thick with soils that meet a P200 ≥ 20% and a PI ≥ 7.
- The proposed feed pad will connect to the existing feed pad with drilled rebar dowels with a bead of hydrophilic waterstop placed at the existing to proposed concrete connection. There will be no leachate drainage layer or drain tile present.

**Solids Stacking Pad:** The proposed design was submitted to meet with NRCS Standard 313 (10/17) and NRCS 522 Table 2, Column B (06/21). The design is compliant with s. NR 243.15(3), Wis. Adm. Code. The stacking pad will be located east of the proposed LMP2. Below is a summary of what is proposed.

- The proposed manure stacking pad will be 120 ft x 177.3 ft with a 6-inch thick steel reinforced concrete floor designed for the expected loads from a John Deere payloader. A 3 ft thick combined soil liner and sub-liner will be placed below the concrete consisting of soils with a P200 ≥ 20% and a PI ≥ 7.
- All runoff, up to the 25yr – 24hr storm, will be transferred via gravity flow to the LMP2. The solid stacking area is sloped west towards the proposed LMP2 0.5% through a 10 ft wide scrape alley.

**Waste Transfer System:** The proposed design was submitted to meet with NRCS Standard 634 (11/22). The design is compliant with s. NR 243.15(4), Wis. Adm. Code. Below is a summary of each transfer system proposed as part of the plans and specifications.

**Existing Freestall Barn 2 Waste Transfer System:**

- A two cell cast in-place concrete reception tank will be installed east of the existing freestall barn 2, The wet cell will be 16 ft x 16 ft x 10 ft deep and the dry cell will be 12 ft x 16 ft x 10 ft deep. The concrete tank floor and walls will be 12-inch thick steel reinforced concrete with PVC waterstop at the floor to wall connection to create a liquid tight connection. Manure from freestall barns 1 and 2 will be scraped to the wet cell and transferred to the Stjernholm system.
- A 10-inch diameter DR17 HDPE pressure pipeline (Pipeline A: 695LF) will transfer manure from the reception tank to the Stjernholm system. The dry cell will house a 7.5 HP GEA Electromix piston pump that will provide an operating velocity of 1.41 ft/sec and pressure of 0.7 psi respectively.

**Existing Freestall Barn 3 & 4 Waste Transfer System:**

- A 10-inch diameter DR17 HDPE pressure pipeline (Pipeline B: 395LF) will transfer manure from the Freestall Barn 3 to the Stjernholm system. A proposed dry cell reception tank will house a 7.5 HP

Tundra Pro piston pump that will provide an operating velocity of 1.06 ft/sec and pressure of 0.5 psi respectively.

- A 6-inch diameter DR17 HDPE pressure pipeline (Pipeline C: 350LF) will transfer manure from the Freestall Barn 4 to the Stjernholm system. A proposed dry cell reception tank will house a 7.5 HP Tundra Pro piston pump that will provide an operating velocity of 1.79 ft/sec and pressure of 3.2 psi respectively.

**Freestall Barn 5 Waste Transfer System:**

- A precast Wieser W18000 reception tank will be installed in the proposed freestall barn 5. The reception tank will have total dimensions of 30 ft x 12 ft x 9 ft deep. The reception tank will meet the design requirements of the NRCS preapproval in AWMFH Notice 65. Pumps will be located on the freestall barn pump room floor.
- A 10-inch diameter DR17 HDPE pressure pipeline (Pipeline D: 337LF) will transfer manure from the proposed Freestall Barn 5 reception tank to the Stjernholm system. The pump room floor will house a 40 HP Greenline pump that will provide an operating velocity of 3.53 ft/sec and pressure of 8.8 psi respectively.
- An 18-inch diameter N12 HDPE gravity pipeline (Pipeline E: 663LF) will act as a flume line along the west edge of the proposed freestall barn. Flume drops will be spaced along the length of the pipe consisting of five 18-inch HDPE riser pipes installed into the concrete floor. The flume pipe will slope north towards the Wieser precast tank. All pipe penetrations into the floor and reception tank will be made liquid tight via a bead of hydrophilic waterstop.
- An 8-inch DR17 HDPE pressure pipeline (Pipeline F: 691LF) will be a flush pipeline transferring waste from the Freestall Barn 5 reception tank for the Pipeline E gravity pipeline. The pump room floor will house a 40 HP Greenline pump that will provide an operating velocity of 4.74 ft/sec and pressure of 9.4 psi respectively.

**Milking Parlor and Holding Area Transfer System:**

- A precast Wieser WEHD10000 reception tank will be installed in the proposed milking parlor and holding area. The reception tank will have total dimensions of 10 ft x 16 ft x 10 ft – 8 in deep. The reception tank will meet the design requirements of the NRCS preapproval in AWMFH Notice 65. Pumps will be located on the holding area pump room floor.
- A 6-ft diameter precast manhole meeting ASTM C468 will be present in the rotary parlor to capture recycled wash water from the parlor. A series of drain lines will be present throughout the parlor floor to direct the wash water to the manhole. Wash water from the manhole will be pumped through a parlor pump manifold feeding three 6-inch diameter flush valves on the parlor deck and the twelve flush valves in the holding area.
- The prefabricated Biolynk Water Silo will be installed to filter manure solids out of the waste and operate the holding area flush valves. The flush lines will be twelve individual flush valves located in the holding area that total to 384 ft of 12-inch diameter HDPE pipelines.
  - The parlor system will utilize two 40 HP Greenline pumps used in the other flume systems.
- A 12-inch diameter DR17 HDPE gravity pipeline (Pipeline G: 383LF) will transfer separated wastewater and manure solids from the Biolynk Water Silo to the gravity flume Pipeline E.
- An 18-inch diameter HDPE gravity pipeline (Pipeline H: 119LF) will act as a flume line along the east edge of the proposed parlor. Flume drops will be spaced along the length of the pipe consisting of five 18-inch HDPE riser pipes installed into the concrete floor. The flume pipe will slope south towards the Wieser precast tank. All pipe penetrations into the floor and reception tank will be made liquid tight via a bead of hydrophilic waterstop.
- An 8-inch diameter DR17 HDPE pressure pipeline (Pipeline I: 133LF) will be a flush pipeline transferring liquid waste from the Parlor reception tank for the Pipeline H gravity pipeline. The pump room floor will house a 40 HP Greenline pump that will provide an operating velocity of 14.1 ft/sec and pressure of 13.1 psi respectively. A VFD will be used to regulate the velocity of the pump to prevent potential scouring of the pipe.

- An 8-inch diameter DR17 HDPE pressure pipeline (Pipeline J: 352LF) will transfer wastewater collected in the reception tank to a proposed Biolynk Water Silo to be installed. The pump room floor will house a 40 HP Greenline pump, or engineer approved equivalent, that will provide an operating velocity of 3.53 ft/sec and pressure of 7.4 psi respectively.

**Stjernholm Sand Separation/Storage/Manure Processing Building:** The proposed building floor design was submitted to meet NRCS Standards 313 (10/17) and NRCS 522 Table 2, Column B (06/21). The design is compliant with NR s. 243.15(4), Wis. Adm. Code. The proposed sand separation building will be connected to freestall barns 3, 4, and 5. Below is a summary of what is proposed.

- The proposed sand separation system will be a Stjernholm Sand Separation system in the proposed barn. The total dimensions of the building will be 264 ft wide x 104 ft long. The sand stacking area portions will be 264 ft x 61 ft.
- The floor of the sand stacking area will be constructed from either 6-inch thick or 8-inch thick steel reinforced concrete. A 3 ft thick combined soil liner and sub-liner will be placed below the concrete consisting of soils with a P200 ≥ 20% and a PI ≥ 7. The concrete walls around the building will be 12-inch thick double mat steel reinforced concrete. Waterstop will be placed at the concrete floor to wall connection to create a liquid tight seal.
- The floor of the sand stacking area will be graded towards two trench drains in the floor to capture any leakage from the separated sand and transfer back to the wet cell of the Discharge Tanks.

**Sand Separation Improvement:** The proposed design was submitted to meet with 634 (11/22). The design is compliant with NR s. 243.15(4), Wis. Adm. Code. Three individual Stjernholm systems are proposed, with plans to add a fourth in the future. Below is a summary of what is proposed.

- **Raw Manure Tanks**: Two reception tanks are cast-in-place "pill shaped" concrete structure with an approximate length and width of 30 ft x 14 ft and 12 ft deep. The reception tank floor and walls are 1.5 ft thick and 1 ft thick steel reinforced concrete respectively. Hydrophilic caulk waterstop is placed in all concrete joints to create a liquid tight connection. All pipe penetrations for the reception tank will be made liquid tight with a link-seal or engineer approved equivalent.
- **Stjernholm Dry Tank**: Two dry cell cast in-place concrete tank will be 29 ft x 25 ft x 12 ft deep below the sand separation floor. Six total (Two for each Stjernholm) 7.5 HP Electromix piston pumps will transfer manure from the Raw Manure Tank to the Stjernholm system. The tanks floors and walls will be 1.5 ft and 1 ft thick double mat steel reinforced concrete respectively.
- **Stjernholm Flush/Solid Tank:** Two cast in-place concrete tanks will be installed for usage of the Stjernholm system. Both tanks will have two wet cells, each 16 ft x 10 ft x 12 ft deep. The tanks floors and walls will be 1.5 ft and 1 ft thick double mat steel reinforced concrete respectively. The flush tank will recirculate manure throughout the sand separation system. The solid tank will transfer liquids out of the tank back to the Stjernholm tank to transfer to the future Digester or Digestate return tank. There will be eight total tanks installed (four Flush and Solid tanks).
    - A 12-inch diameter DR11 HDPE balancer pipeline (32LF) will be installed between the Solid Tanks to keep the manure levels between the two tanks consistent.
- Six 8-inch HDPE DR11 suction lines will transfer manure from the proposed raw manure reception tank to the Stjernholm sand separation system. The transfer lines will utilize 7.5 HP Electromix piston pumps in place at the sand separation building.
- Two 4-inch and one 6-inch HDPE DR11 gravity pipelines will transfer overflow or reject manure from the sand separators back to the proposed pill reception tank. There will be three sets of all the pipelines for the individual separation systems.
- Two 8-inch diameter DR17 HDPE pressure pipelines (Pipeline L: 83LF | Pipeline M: 66LF) will be installed between the two Raw Manure Tanks to allow for transfer between the two Stjernholm systems. A 20 HP Stick pump, or engineer approved equivalent, will provide an operating pressure and velocity of 5.3-6.3 psi and 7-9 ft/sec respectively. A VFD will be used to regulate the velocity of the pump to prevent potential scouring of the pipe.
- Two 10-inch diameter DR11 HDPE pressure pipelines (Pipelines N & O) will transfer manure from the Stjernholm dry cells to the future digester. A 10 HP Flygt pump, or engineer approved equivalent,

will be used to provide an operating pressure and velocity of 5.7 psi and 2.0 ft/sec respectively. Waste pumped through the pipeline will be constantly moving to prevent sedimentation of the pipeline.

- Two 10-inch diameter DR11 HDPE pressure pipelines (Pipelines S & T) will transfer manure from the Stjernholm dry cells to a proposed digestate return tank should the digester ever be out of operation. A 10 HP Flygt pump, or engineer approved equivalent, will be used to provide an operating pressure and velocity of 5.1-6.0 psi and 6 ft/sec respectively.

**Digestate Return Transfer System:** The proposed design was submitted to meet with 634 (11/22). The design is compliant with NR s. 243.15(4), Wis. Adm. Code. Below is a summary of what is proposed.

- **Digestate Return Tank**: A 10 ft x 20 ft x 10 ft deep concrete reception tank will be installed to collect digestate return for additional processing. The reception tank floor and walls are 1.5 ft thick and 1 ft thick steel reinforced concrete respectively. Hydrophilic caulk waterstop is placed in all concrete joints to create a liquid tight connection. All pipe penetrations will be made liquid with a link seal or engineer approved equivalent.
- **Solids Tanks**: A 24 ft x 20 ft and 10 ft deep concrete reception tank. The reception tank floor and walls are 1.5 ft thick and 1 ft thick steel reinforced concrete respectively. Hydrophilic caulk waterstop is placed in all concrete joints to create a liquid tight connection. A slope screen separator will be present in the solids tank to capture the separated solids and liquids to transfer to a screw press manifold.
- **WSP Discharge Tank**: A 10 ft x 20 ft x 10 ft deep concrete reception tank will be installed to collect liquid waste from the screw press manifold to transfer to permanent storage. The reception tank floor and walls are 1.5 ft thick and 1 ft thick steel reinforced concrete respectively. Hydrophilic caulk waterstop is placed in all concrete joints to create a liquid tight connection. All pipe penetrations will be made liquid with a link seal or engineer approved equivalent.
- A 10-inch diameter DR17 HDPE pressure pipeline (Pipeline P) will transfer waste from the future digester to the digestate return tank. The pump has not been selected yet as the digester has not been designed or approved yet, but the operating pressure and velocity is estimated to be 9.6 psi and 4.0 ft/sec respectively.
- Two 10-inch diameter DR17 HDPE pressure pipelines will transfer waste from the WSP Discharge Tank to the existing WSF (Pipeline Q: 885LF) or the proposed WSF (Pipeline R: 495LF). A 20 HP Gorman pump, or engineer approved equivalent, will provide an operating pressure and velocity of 4.5 psi and 0.8 ft/sec respectively. Waste pumped through the pipeline will be constantly moving to prevent sedimentation of the pipeline.

**DAYS OF AVAILABLE LIQUID WASTE STORAGE:** The submitted information states that Krueger Dairy LLC will have 189 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 expansion includes the number of animal units provided for the calculation is 13,190. The liquid waste volumes are based on the NRCS spreadsheet and other estimated or calculated values and based upon a collection period of 365 days. All runoff, up to the 25yr – 24hr storm, from the feed storage area and solid stacking pads.

| Liquids Collected/Stored | Annual Gallons |
|---|---|
| Manure, Bedding, and Parlor Wastewater | 112,967,500 |
| Feed Storage Leachate | 374,000 |
| Feed Storage Runoff Collected | 11,046,581 |
| Feedlot Runoff | 486,372 |
| Net Precipitation on Storage Surfaces | 11,440,699 |
| **TOTAL:** | **136,315,152** |

| Waste Storage | Total Vol. from Settled 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. |
|---|---|---|---|---|---|---|
| WSP1 - Riverside | 4,769,747 | 0 | 127,040 | 0 | 357,584 | 4,285,123 |
| WSP2 – Riverside | 9,187,435 | 0 | 231,784 | 0 | 618,367 | 8,337,284 |
| WSP1 – Home | 1,075,137 | 0 | 60,312 | 10,839 | 172,403 | 831,583 |
| WSP2 - Home | 10,062,760 | 0 | 228,304 | 0 | 633,210 | 9,201,246 |
| WSP3 – Home | 36,440,410 | 0 | 1,058,518 | 0 | 2,991,304 | 32,390,588 |
| LMP1 | 4,539,485 | 0 | 173,521 | 591,016 | 473,963 | 3,300,985 |
| LMP2 | 4,667,844 | 0 | 176,925 | 591,016 | 486,017 | 3,413,886 |
| WSP – Schultz | 7,605,195 | 0 | 554,465 | 206,182 | 577,464 | 6,267,084 |
| WSP - Hartleben | 3,255,919 | 0 | 121,410 | 0 | 338,719 | 2,795,790 |
| | | | | | **Total MOL Vol:** | 70,823,569 |
| | | | | | **Days of Storage:** | **189** |

**PURPOSE OF THIS REPORT:** This report documents review of plans and specifications for each structure or practice indicated below, including findings regarding the structure or practice's compliance with applicable standards. The reviewer considered if management and site assessment were conducted, documented, and reflected in the final design, and if proper construction and related plans (operation and maintenance, inspection, erosion control if applicable) were provided, and demonstrated compliance with applicable rules standards.

**DECISION RECOMMENDATION:** Based on my review completed on June 12, 2024, the proposed plans and specifications meet ch. NR 243, Wis. Adm. Code, and applicable NRCS Standards. Therefore, I recommend the plans and specifications be approved with specific conditions.

Anthony Salituro

Tony Salituro, EIT
Water Resources Engineer

**State of Wisconsin**
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**Madison WI 53707-7921**

**Tony Evers, Governor**
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August 22, 2024

FILE REF: R-2024-0078a
WPDES Permit #: WI-0065170

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Conditional Approval of Plans & Specifications for a sand separation system modification at, Krueger Dairy LLC, (Main Site) at NW¼ of T27N, R15E, Section 27 in Richmond Township, Shawano County

Dear Mr. Krueger:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the above referenced revised plans and specifications, submitted under certification by Doug Gatrell, GHD. The original project was approved on June 12, 2024, with the modifications received via email on August 15, 2024. The review was conducted in accordance with s. 281.41, Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The engineering report below describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the assigned regional staff or the review engineer Tony Salituro (contact information is at the end of this letter).

**Proposed Project:** The proposed project includes the following revisions to the previous approval facilities that are reviewable under s. NR 243.15, Wis. Adm. Code. The remainder of the approval letter dated June 12, 2024 is still relevant to the project:

**Sand Separation/Storage/Manure Processing Building:** The proposed building floor design was submitted to meet NRCS Standards 313 (10/17) and NRCS 522 Table 2, Column B (06/21). The design is compliant with NR s. 243.15(4), Wis. Adm. Code. The proposed sand separation building will be connected to freestall barns 3, 4, and 5. Below is a summary of what is proposed.

- The proposed sand separation system was modified to a Komro Sand Separation system in the proposed barn. The total dimensions of the building will shrink to 25,090 sq. ft. The building will also act as the solid stacking area for separated sands.
- The floor of the sand stacking area will remain as either a 6-inch thick or 8-inch thick steel reinforced concrete. A 3 ft thick combined soil liner and sub-liner will be placed below the concrete consisting of soils with a P200 ≥ 20% and a PI ≥ 7. The concrete walls around the building will be 12-inch thick double mat steel reinforced concrete. Waterstop will be placed at the concrete floor to wall connection to create a liquid tight seal.
- The floor of the sand stacking area will be graded towards a trench drain and wedge pit in the floor to capture any leakage from the separated sand and transfer back to the sand separation system. The wedge pit is a 22 ft, 10 inch x 9 ft x 1.5 ft deep reception tank with 1 ft thick steel reinforced concrete walls. The wedge pit concrete floor will match the building floor. Waterstop will be present at the floor to wall connection to create a liquid tight connection.
- Various reception tanks located in the stacking building have changed dimensions and locations, but a depth of 10 ft remains the same for the tanks. A total of five reception tanks are present in the stacking building, three being Weiser reception tanks (two W18000 and one W12000), the wedge pit, and a reception tank to transfer waste to the sand separator. The reception tank is a 20 ft, 4 inches by 11 ft wide x 10 ft deep with 1 ft thick steel reinforced walls and floor. Hydrophilic caulk waterstop is

placed in all concrete joints to create a liquid tight connection. All pipe penetrations for the reception tanks will be made liquid tight with a link-seal or engineer approved equivalent.

**Fiber Separation Building:** The proposed building floor design was submitted to meet NRCS Standards 313 (10/17) and NRCS 522 Table 2, Column B (06/21). The design is compliant with NR s. 243.15(4), Wis. Adm. Code. The proposed sand separation building will be located on the proposed stacking pad east of the leachate management pond 2. Below is a summary of what is proposed.

- The proposed fiber separation system was modified to be in a separate building. The total dimensions of the building will be 42 ft x 45 ft.
- The floor of the fiber separation building will match solid stacking pad and be 6-inch thick or 8-inch thick steel reinforced concrete. A 3 ft thick combined soil liner and sub-liner will be placed below the concrete consisting of soils with a P200 ≥ 20% and a PI ≥ 7. The concrete walls around the building will be 12-inch thick double mat steel reinforced concrete. Waterstop will be placed at the concrete floor to wall connection to create a liquid tight seal.
- The fiber building will house five (5) screw presses and deposit any separated solids out onto the solid stacking pad. A Precast Wieser W12000 reception tank will receive the digestate from the proposed digester development to feed the screw press manifold.

**Waste Transfer System:** The proposed design was submitted to meet with NRCS Standard 634 (11/22). The design is compliant with s. NR 243.15(4), Wis. Adm. Code. Below is a summary of the transfer system changes proposed as part of the plans and specifications.

- Various pipeline routes and additional pipelines are proposed as part of the Komro system. A total of 41 pipelines will be used in the system, with 7 being gravity transfer lines and the other 34 being pressure lines. All pipeline materials are HDPE pipelines with pressures below 20 psi and velocities between 14.1 and 1.1 ft/sec. All pipe penetrations into the floor and reception tanks will be remain liquid tight via a bead of hydrophilic waterstop.

**Conditions of Approval:** The modified plans and specifications for project number R-2024-0078a are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

1. Revisions: If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. Note: This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
2. Approval Period: In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the approval date, the approval is void, and a new approval must be obtained prior to commencing construction.
3. Notification: Prior to construction and when construction is complete, notify the Department's regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
4. Inspection: During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
5. Post-Construction Documentation: In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (http://dnr.wi.gov/permits/water) within 60 days of completing construction. The report must include documentation specified by s. NR 243.15(10), Wis. Adm. Code.

**Limitation of Approval:** The Department reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or

31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website http://www.revenue.wi.gov/.

**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
For the Secretary

Bernie Michaud

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

Anthony Salituro

Tony Salituro, EIT
Water Resources Engineer

Enclosures: Wisconsin DNR Engineering Report

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March 12, 2025

FILE REF: R-2024-0298
WPDES Permit #: WI-0065170

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Conditional Approval of Plans & Specifications for a Digester Facility at, Krueger Dairy LLC, (Main Site) at NW¼ of T27N, R15E, Section 27 in Richmond Township, Shawano County

Dear Mr. Krueger:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the above referenced plans and specifications, submitted under certification by Charles D Slavin, Burns & McDonnell Engineering Inc and received on December 19, 2024 with revisions received on February 9, 2025. The review was conducted in accordance with s. 281.41, Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The attached engineering report describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the assigned regional staff or the review engineer Tony Salituro (contact information is at the end of this letter).

**Proposed Project:** The proposed project includes the following facilities that are reviewable under s. NR 243.15, Wis. Adm. Code: Four Concrete Digester structures and associated waste transfer systems.

**Conditions of Approval:** The plans and specifications for project number R-2024-0298 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

1. Additional Soil Investigation: Additional soil investigations will be completed at the location of the five reception structures during construction. Should saturation be found above the bottom of the structure, anti-float measures, including concrete slabs or other standard industry practices, shall be implemented. All soil investigations shall be provided in the post construction documentation.
2. Revisions: If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. Note: This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
3. Approval Period: In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the approval date, the approval is void, and a new approval must be obtained prior to commencing construction.
4. Notification: Prior to construction and when construction is complete, notify the Department's regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
5. Inspection: During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
6. Post-Construction Documentation: In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (http://dnr.wi.gov/permits/water) within 60 days of completing construction. The report must include documentation specified by s. NR 243.15(10), Wis. Adm. Code.

**Limitation of Approval:** The Department reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website http://www.revenue.wi.gov/.

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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
For the Secretary

Bernie Michaud

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

Enclosures: Wisconsin DNR Engineering Report

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**WISCONSIN DEPARTMENT OF NATURAL RESOURCES ENGINEERING REPORT**

## GENERAL INFORMATION

**Farm Name:** Krueger Dairy LLC **WPDES Permit#:** WI-0065170

**Location Address:** W8371 Oak Ave, Shawano, WI **DNR Project #:** R-2024-0298

| Engineering Plans Certified by: | Initial Submittal: | Revised Submittal(s): |
|---|---|---|
| Charles D Slavin, P.E.<br>JB Randolph | December 19, 2024 | February 9, 2025 |

**Site Assessment:** Geographical features of the site include soils that are sandy loams. The nearest stream is the Red River approximately 4,000 ft to the north of the proposed digester facility. A wetland delineation was completed by professionally assured delineator Chad Fradette and found that six wetlands are in the proposed area, consisting of 333,154 sq. ft of combined wetlands. The proposed digester facilities and operation buildings are proposed to be located outside all wetland areas. Clean runoff will be diverted around waste handling areas to existing waterways. No karst features are known to exist within 1,000 ft of the proposed facilities or systems and the site is not defined as a sensitive environmental setting (SES). No ground water supply wells are located within 250 feet of the proposed facilities or systems.

Soil investigations were performed in March 2024 consisting of twelve (12) Standard Penetration Test soil borings in the proposed project area. The primary subsoil was consistent and the general profile included 3 to 10 inches of topsoil, over 4 to 21 ft of native silty to lean clays, followed by loose to very dense silt and/or sand. No bedrock was found in any of the soil investigations.

Water was visually observed in 3 of the 12 soil borings, but no Munsell colors were recorded for the borings as required by NRCS 313 and 634. No saturation was observed in the proximity of the proposed digester facility and the digester vessels are proposed to be installed at or above grade. Of the soil borings nearest to the reception structures, visually observed saturation during drilling was found at a water level of approximately 844 ft, with no water found upon completion of the drilling. The reception tanks are pre-approved W18000 Weiser Tanks and two HDPE condensate tanks, which can withstand the potential hydrostatic forces. Additional test pits are proposed to be dug during construction to collect Munsell colors and verify saturated soil conditions for the reception structures and is recommended to be a condition of approval.

**Proposed Facilities:**

**Manure Digesters:** The proposed design was submitted to meet NRCS 313 (10/17R), and 522 (10/17R), and ACI-350 floor slabs. The floor slabs are designed to ACI-350 to be a more robust design and is not located in a sensitive environmental setting (SES). The design is compliant with s. NR 243.15(3), Wis. Adm. Code. The digester facilities will be located south of the main production area. Below is a summary of what is proposed.

- Four total proposed digester tanks will be 100 ft in diameter and 27 ft tall. The tank base consists of the floor slab, foundations and footings and will be constructed of cast-in-place reinforced concrete meeting ACI-350 (4,500 psi compressive strength). The floor slab will be 6-inches thick. The tank walls will be made of precast reinforced concrete panels 10-inches thick and approximately 7 ft wide. The precast walls are designed to have a specified compressive strength of 6,000 psi. The wall panels will fit into a keyway formed around the perimeter of the base. The panels will be bound together with steel cable “tendons” which run through conduits inside the panels and are tensioned. The keyway and voids between the panels will be filled with combinations of concrete, grout, and sealants to provide a liquid tight vessel.
- Each proposed digester will have a total and maximum operating level (MOL) volume of 1.57 MG and 1.46 MG gallons respectively. The digesters are designed to be operated with 2 ft of freeboard. The digester tank does not provide active liquid manure storage. All tank floor elevations will be 854.0 ft and the MOL elevation will be 879.0 ft. All tanks will be covered.

- The tank structural design calls for the sub-base to provide a 2,500 psf bearing capacity. The sub-base is to be prepared as recommended in the Geotech report prepared by CGC, Inc dated March 1, 2024. The tank will be hydrostatically tested for liquid losses as specified in the construction quality assurance plan prior to use.
- The digesters are operated with a SCADA system which monitors liquid flows and liquid levels. The digester is also equipped with a flammable gas detection system and flare to release gas if necessary. Emergency overflow pipelines will be installed and direct manure back to the digestate pit should the structures be overfilled. An emergency response plan detailing how to handle a manure spill and overtopping event has been made as well.

**Primary Operations Building**: The proposed design was submitted to meet with NRCS Standards NRCS 313 and 522 (10/17R). The design is in compliance with s. NR 243.15(4), Wis. Adm. Code. The Primary Operations building will be North of the digester tank. Below is a summary of what is proposed.

- The Primary Operations Building will be 60-ft long by 100-ft wide. The floor slab will be 8-inch thick reinforced concrete and will have floor drains to collect potential spills. Potential spills will be directed back to the digestate tank.

**Waste Transfer System:** The proposed design was submitted to meet with NRCS Standard 634 (11/22). The design is compliant with s. NR 243.15(4), Wis. Adm. Code.

- There will be three Wieser W18000 18,000 gal. pre-cast concrete reception tanks located north of the Primary Operations Building. One tank will be for raw manure settling (TK-1100), one for raw manure (TK-1101), and the other for digestate (TK-4101). The tanks will be 30 ft long x 12 ft wide by 9.3 ft deep. The walls will be 6-inches thick and the floor 3.5-inches thick (9-inch rib depth). The floor elevations will be 844.2 ft. This tank is NRCS pre-approved and is expected to withstand hydrostatic loads in saturated conditions. If the saturated conditions are greater than 6.36 ft above the bottom of the tanks, anti-flotation base extensions should be provided to prevent flotation.
- Two 7 ft diameter x 12 ft deep HDPE condensate tanks will located in between the Primary Operations Building and digester facilities. The bottom elevation will be at 841.5 ft. The condensate tank is currently located outside saturation conditions based on visual observations. Should saturation be observed at a higher elevation during construction, specific anti-flotation measures should be taken to withstand the buoyant forces.
- The Krueger Farms manure digester system has many liquid waste transfer pipelines (including liquid manure and digestate) in the digester project area. This system is complicated, and pipelines can be either above or below ground. The plans include pipe profile drawings for 21 of the main below ground pipes with details for bedding, cleanout access, and thrust control. Pipe material is specified as either Sch. 80 PVC, SDR-11 HDPE, or stainless steel pipe. Design pumping pressures range from 10 to 60 psi. Most design flow velocities range from 1.5 to 4.5 fps. Plans include details for above ground pipe hangers and thrust blocks at angled fittings. Cleanout access will be provided for underground manure transfer pipelines.

**DAYS OF AVAILABLE LIQUID WASTE STORAGE:** The digester facility will not increase waste generation or storage on site and will have no effect on Krueger Dairy LLC's available manure storage.

**PURPOSE OF THIS REPORT:** This report documents review of plans and specifications for each structure or practice indicated below, including findings regarding the structure or practice's compliance with applicable standards. The reviewer considered if management and site assessment were conducted, documented, and reflected in the final design, and if proper construction and related plans (operation and maintenance, inspection, erosion control if applicable) were provided, and demonstrated compliance with applicable rules standards.

**DECISION RECOMMENDATION:** Based on my review completed on March 12, 2025, the proposed plans and specifications meet ch. NR 243, Wis. Adm. Code, and applicable NRCS Standards. Therefore, I recommend the plans and specifications be approved with specific conditions (justification provided). The following condition is recommended to be added to the approval letter:

- A Condition of Approval includes a requirement to dig additional soil borings to confirm subsurface saturation conditions near the five reception structures. During installation of the condensate tank, should saturation be present above the bottom of the structure, anti-float measures, including concrete slabs or other standard industry practices, shall be implemented.

Anthony Salituro

Tony Salituro, EIT
Water Resources Engineer

**State of Wisconsin**
**DEPARTMENT OF NATURAL RESOURCES**
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April 14, 2025

FILE REF: R-2025-0029
WPDES Permit #: WI-0065170

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Conditional Approval of Plans & Specifications for a Digester Facility at, Krueger Dairy LLC, (Riverside Site) at NW¼ of T27N, R15E, Section 17 in Richmond Township, Shawano County

Dear Mr. Krueger:

This letter is to inform you that the Wisconsin Department of Natural Resources (Department) has reviewed and conditionally approves the above referenced plans and specifications, submitted under certification by Charles D Slavin, Burns & McDonnell Engineering Inc and received on February 6, 2025 with revisions received on February 19, 2025. The review was conducted in accordance with s. 281.41, Wis. Stats., chs. NR 151 and NR 243, Wis. Adm. Code, and applicable NRCS Standards. The attached engineering report describes the project, lists standards that apply and provides compliance analysis. Questions may be directed to the assigned regional staff or the review engineer Tony Salituro (contact information is at the end of this letter).

**Proposed Project:** The proposed project includes the following facilities that are reviewable under s. NR 243.15, Wis. Adm. Code: One concrete digester structure and associated waste transfer systems.

**Conditions of Approval:** The plans and specifications for project number R-2025-0029 are hereby approved and subject to chs. NR 151 and NR 243, Wis. Adm. Code, and the conditions listed below:

1. Additional Soil Investigation: Additional soil investigations will be completed at the location of the four reception structures during construction. Should saturation be found above the bottom of the structure, anti-float measures, including concrete slabs or other standard industry practices, shall be implemented. All soil investigations shall be provided in the post construction documentation.
2. Revisions: If revisions are made to the approved plans and specifications, revised plans and specifications shall be submitted for approval modification, in accordance with ss. NR 108.03 and NR 108.04, Wis. Adm. Code, and s. 281.41(1)(c), Wis. Stats. Submit revised plans and specifications via the Department's e-Permitting System. Note: This includes revisions for local permitting. If a formal approval modification may not be warranted, contact the review engineer to confirm.
3. Approval Period: In accordance with ss. NR 243.15(1)(a)1., and NR 108.04(2)d., Wis. Adm. Code, if construction is not commenced within 2 years from the approval date, the approval is void, and a new approval must be obtained prior to commencing construction.
4. Notification: Prior to construction and when construction is complete, notify the Department's regional contact and county contact provided a copy of the approval (contact information is at the end of this letter).
5. Inspection: During the construction of critical components, inspection shall be performed by a Wisconsin registered professional engineer or other qualified third party (excludes the owner and construction contractor and their employees).
6. Post-Construction Documentation: In accordance with the permit, a post-construction report must be submitted to the DNR's e-Permitting website (http://dnr.wi.gov/permits/water) within 60 days of completing construction. The report must include documentation specified by s. NR 243.15(10), Wis. Adm. Code.

**Limitation of Approval:** The Department reserves the right to order changes or additions should conditions arise making this necessary. This approval is not to be construed as a determination on the issuance of a Wisconsin Pollutant Discharge Elimination System Permit or opinion as to the ability of the proposed system to comply with effluent limitations in such a permit, approval of an Environmental Impact Statement that may be prepared, or approval for any activities requiring a permit under chs. 30 or 31, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services or other state or local agencies to ensure conformance with applicable codes or regulations of such agencies.

**Tax Treatment:** Tangible personal property, that becomes part of a waste treatment of pollution abatement plant or equipment, may be exempt from sales tax under s. 77.45(26), Wis. Stats. Similarly, property purchased or constructed as a waste treatment facility and used for industrial waste treatment may be exempt from general property taxes under s. 70.11(21), Wis. Stats. A prerequisite to exemption is filing a statement on prescribed forms. To obtain the forms, and information about this sales tax exemption, please contact the Department of Revenue, P.O. Box 8933, Madison, WI 53708, or check their website http://www.revenue.wi.gov/.

**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
For the Secretary

Bernie Michaud

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

Enclosures: Wisconsin DNR Engineering Report

email: Brad Krueger; Krueger Dairy LLC
(715) 853-5871; Kruegerdairy@yahoo.com

Charles D. Slavin; Burns & McDonnell Engineering, Inc.
(720) 612-8439; cslavin@burnsmcd.com

Matt Woodrow; DATCP
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Scott Frank; Shawano County
(715) 526-4820; scott.frank@co.shawano.wi.us

Brian Hanson; DNR-Northeast Region
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Joe B Baeten; DNR-Northeast Region
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Anthony Salituro; DNR-Central Office
(608) 444-2869; anthony.salituro@wisconsin.gov

**WISCONSIN DEPARTMENT OF NATURAL RESOURCES ENGINEERING REPORT**

## GENERAL INFORMATION

**Farm Name:** Krueger Dairy LLC **WPDES Permit#:** WI-0065170

**Location Address:** N6466 Hickory Road, Shawano, WI **DNR Project #:** R-2025-0029

| Engineering Plans Certified by: | Initial Submittal: | Revised Submittal(s): |
|---|---|---|
| Charles D Slavin, P.E.<br>JB Randolph | February 6, 2025 | February 19, 2025 |

**Site Assessment:** Geographical features of the site include soils that are fine sandy loams. The nearest stream is the Red River approximately 2,000 ft to the east of the proposed digester facility. A wetland delineation was completed by professionally assured delineator Chad Fradette in October 2023 and found that seven wetlands are in the surrounding area, consisting of 32,837 sq. ft of total wetland area. The proposed digester facilities and operation buildings are proposed to be located outside all wetland areas. Clean runoff will be diverted around waste handling areas to existing waterways. No karst features are known to exist within 1,000 ft of the proposed facilities or systems and the site is not defined as a sensitive environmental setting (SES). No ground water supply wells are located within 250 feet of the proposed facilities or systems.

Soil investigations were performed in January 2025 consisting of six (6) Standard Penetration Test soil borings in the proposed project area. The primary subsoil was consistent and the general profile included 6 to 12 inches of topsoil, over 16.5 to 23 ft of native silty to lean clays, followed by loose to medium dense sand. No bedrock was found in any of the soil investigations.

Water was visually observed in the soil borings during drilling, but no Munsell colors were recorded for the borings as required by NRCS 313 and 634. Visually observed saturation during drilling was found consistently at 23.5 ft, with water found upon completion of the drilling in a single test pit at a similar elevation (855 ft). Apparent perched water was noted at shallower depths during drilling. Digester vessels are proposed to be installed at or above grade at an elevation of 878.5 ft where potential saturation will not impact the design. The reception tanks are pre-approved W18000 Weiser Tanks and two HDPE condensate tanks, which can withstand the potential hydrostatic forces. Additional test pits are proposed to be dug during construction to collect Munsell colors and verify saturated soil conditions for the reception structures and is recommended to be a condition of approval.

**Proposed Facilities:**

**Manure Digesters:** The proposed design was submitted to meet NRCS 313 (10/17R), and 522 (10/17R), and ACI-350 floor slabs. The floor slabs are designed to ACI-350 to be a more robust design and is not located in a sensitive environmental setting (SES). The design is compliant with s. NR 243.15(3), Wis. Adm. Code. The digester facilities will be located south of the Riverside production area. Below is a summary of what is proposed.

- A proposed digester tanks will be 100 ft in diameter and 27 ft tall. The tank base consists of the floor slab, foundations and footings and will be constructed of cast-in-place reinforced concrete meeting ACI-350 (4,500 psi compressive strength). The floor slab will be 6-inches thick. The tank walls will be made of precast reinforced concrete panels 10-inches thick and approximately 7 ft wide. The precast walls are designed to have a specified compressive strength of 6,000 psi. The wall panels will fit into a keyway formed around the perimeter of the base. The panels will be bound together with steel cable “tendons” which run through conduits inside the panels and are tensioned. The keyway and voids between the panels will be filled with combinations of concrete, grout, and sealants to provide a liquid tight vessel.
- The proposed digester will have a total and maximum operating level (MOL) volume of 1.57 MG and 1.46 MG gallons respectively. The digester is designed to be operated with 2 ft of freeboard and will not provide active liquid manure storage. The tank floor elevation will be 878.5 ft and the MOL elevation will be 903.5 ft. The tank will be covered with a cast-in-place concrete cover.

- The tank structural design calls for the sub-base to provide a 2,500 psf bearing capacity. The sub-base is to be prepared as recommended in the Geotech report prepared by CGC, Inc dated January 9, 2025. The tank will be hydrostatically tested for liquid losses as specified in the construction quality assurance plan prior to use.
- The digester is operated with a SCADA system which monitors liquid flows and liquid levels. The digester is also equipped with a flammable gas detection system and flare to release gas if necessary. Emergency overflow pipelines will be installed and direct manure back to the digestate pit should the structures be overfilled. An emergency response plan detailing how to handle a manure spill and overtopping event has been made as well.

**Primary Operations Building**: The proposed design was submitted to meet with NRCS Standards NRCS 313 and 522 (10/17R). The design is in compliance with s. NR 243.15(4), Wis. Adm. Code. The Primary Operations building will be North of the digester tank. Below is a summary of what is proposed.

- The Primary Operations Building will be 50-ft long by 71-ft wide. The floor slab will be 8-inch thick reinforced concrete and will have floor drains to collect potential spills. Potential spills will be directed back to the digestate tank.
- The building structural design calls for the sub-base to provide a 3,000 psf bearing capacity. The sub-base is to be prepared as recommended in the Geotech report prepared by CGC, Inc dated January 9, 2025.

**Waste Transfer System:** The proposed design was submitted to meet with NRCS Standard 634 (11/22). The design is compliant with s. NR 243.15(4), Wis. Adm. Code.

- There will be two Wieser W18000 18,000 gal. pre-cast concrete reception tanks located north of the Primary Operations Building. One for raw manure (TK-1101), and the other for digestate (TK-4101). The tanks will be 30 ft long x 12 ft wide by 9.3 ft deep. The walls will be 6-inches thick and the floor 3.5-inches thick (9-inch rib depth). The floor elevations will be 868.7 ft. This tank is NRCS pre-approved and is expected to withstand hydrostatic loads in saturated conditions. If the saturated conditions are greater than 6.36 ft above the bottom of the tanks, anti-flotation base extensions should be provided to prevent flotation.
- Two 7 ft diameter x 12 ft deep HDPE condensate tanks will located in between the Primary Operations Building and digester facilities. The bottom elevation will be at 865.7 ft. Condensate tanks will primarily hold water from the washdown process in the building and condensate from the gas processing, but may have times where residual manure enters the tank during cleanup. The tanks will route to the digestate tank (TK-4101) to combine the waste with process manure.
    - The condensate tank is currently located outside saturation conditions based on visual observations. Should saturation be observed at a higher elevation during construction, specific anti-flotation measures should be taken to withstand the buoyant forces.
- The Krueger Farms manure digester system has many liquid waste transfer pipelines transferring a combination of liquid manure and digestate. This system is complicated, and pipelines can be either above or below ground. The plans include pipe profile drawings for eight of the main below ground pipe sections with details for bedding, cleanout access, and thrust control. All below ground pipelines will extend to an above ground pipeline with a flange connection. All pipeline penetrations in manure transfer tanks and digesters will be above ground. Plans include details for above ground pipe hangers and thrust blocks at angled fittings.
    - Pipe material is specified as either Sch. 80 PVC, SDR-11 HDPE, or stainless steel pipe. Design pumping pressures range from 10 to 60 psi. Most design flow velocities range from 1.5 to 4.5 fps. Redundant pumps will be provided for most transfer lines.

**DAYS OF AVAILABLE LIQUID WASTE STORAGE:** The digester facility will not increase waste generation or storage on site and will have no effect on Krueger Dairy LLC's available manure storage.

**PURPOSE OF THIS REPORT:** This report documents review of plans and specifications for each structure or practice indicated below, including findings regarding the structure or practice's compliance with applicable standards. The reviewer considered if management and site assessment were conducted,

documented, and reflected in the final design, and if proper construction and related plans (operation and maintenance, inspection, erosion control if applicable) were provided, and demonstrated compliance with applicable rules standards.

**DECISION RECOMMENDATION:** Based on my review completed on April 14, 2025, the proposed plans and specifications meet ch. NR 243, Wis. Adm. Code, and applicable NRCS Standards. Therefore, I recommend the plans and specifications be approved with specific conditions (justification provided). The following condition is recommended to be added to the approval letter:

- A Condition of Approval includes a requirement to dig additional soil borings to confirm subsurface saturation conditions near the five reception structures. During installation of the condensate tank, should saturation be present above the bottom of the structure, anti-float measures, including concrete slabs or other standard industry practices, shall be implemented.

Anthony Salituro

Tony Salituro, EIT
Water Resources Engineer

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**DEPARTMENT OF NATURAL RESOURCES**
**PO Box 7185**
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**Madison WI 53707-7185**

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**TTY Access via relay - 711**

April 8, 2025

File Ref: R-2025-0077

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

Subject: Acknowledgment of Receipt

The Wisconsin Department of Natural Resources (the Department) received a plan and specifications submittal on behalf of Krueger Dairy LLC by Douglas Gatrell, GHD Services, Inc. on April 8, 2025 for Design RPT-SSB (reception tank, transfer pipe and sand separation), to be reviewed by the Department in accordance with s. 281.41 Wis Stats. A preliminary review to assess whether or not the submitted plans and specifications are complete is pending.

In accordance with s. NR 243.15(1)(a) and s. NR 108.03(1), an owner or operator may not commence or cause to be commenced, construction of a proposed reviewable facility or system until plans and specifications have been approved by the department in writing. Also, s. NR 108.04(5) states, "The Department may not approve plans and specifications for any project for which construction has commenced. The department may review the plans and specifications and require changes to components which may adversely affect public health, the operation of the proposed or existing facility and the determination of permit compliance. This review does not prohibit the department from taking enforcement action under s. NR 108.03."

If the submitted plans and specifications are deemed complete, then the 90 day start date will be based on the date the submittal was deemed substantially complete. If the submittal is not complete then the review process will be terminated and the submittal will have to be resubmitted, in its entirety, at a later date.

Please contact Tabatha A Davis (contact information below) should you have any questions.

Sincerely,

Arianna Taylor

Arianna Taylor
Watershed Management Program

EC: Douglas Gatrell; GHD Services, Inc.
(248) 893-3411; doug.gatrell@ghd.com

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Tabatha A Davis; DNR-Central Office
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9/22/2023

Brad Krueger
Krueger Dairy LLC
W8371 Oak Ave
Shawano, WI 54166

WPDES Permit No. WI-0065170-02-0
Shawano County

**Subject: 9/7/2023 Permit Compliance Inspection**

Dear Mr. Krueger:

On September 7, 2023 the Department of Natural Resources met with the representatives of Krueger Dairy LLC to conduct a full compliance inspection of your facility for the purpose of permit reissuance. Department observations, including photographs, and a record of our conversations are included in the enclosed report.

The final pages of the report include a summary section identifying areas of concern which you should address.

If you have any questions regarding this letter or your WPDES permit requirements, please contact me at 920-366-3302 or brian.hanson@wisconsin.gov.

Sincerely,

Brian Hanson

Brian Hanson
Agricultural Runoff Management Specialist
920-366-3302
brian.hanson@wisconsin.gov

Enc: 9/22/2023 Inspection Report

Electronic copy: Scott Frank -Shawano LCD
Kyle Much – Much Crop Consulting
Joe Baeten, Falon French - DNR

**CAFO Compliance Inspection Report**

Inspection Date: 9/7/2023 Report Final Date: 9/22/2023

Operation Name: Krueger Dairy LLC

WPDES Permit #: WI-0065170-02-0

Farm Address: **Home Farm - W8371 Oak Avenue, Shawano WI**

**Riverside Dairy - N6446 Hickory Road, Shawano WI**

**Schultz Farm—N5257 County Road D, Leopolis, WI**

**Hartleben Farm—N6561 Hartleben Lane, Wittenberg, WI**

On-Site Representative(s): Brad Krueger (Owner & Operator)

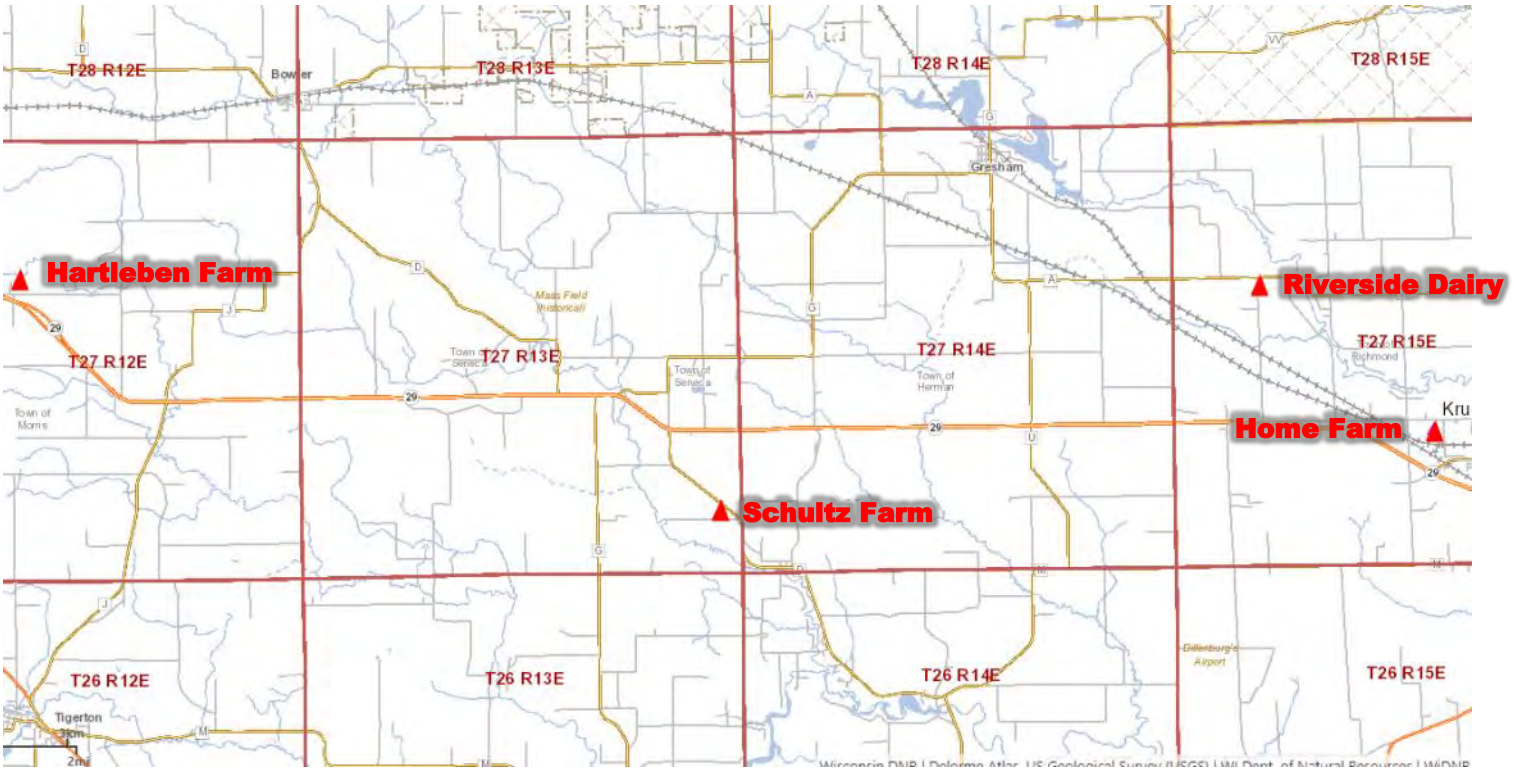
Report Author: Brian Hanson: DNR Agricultural Runoff Specialist

Other Participating Agencies: Kyle Much—Much Crop Consulting

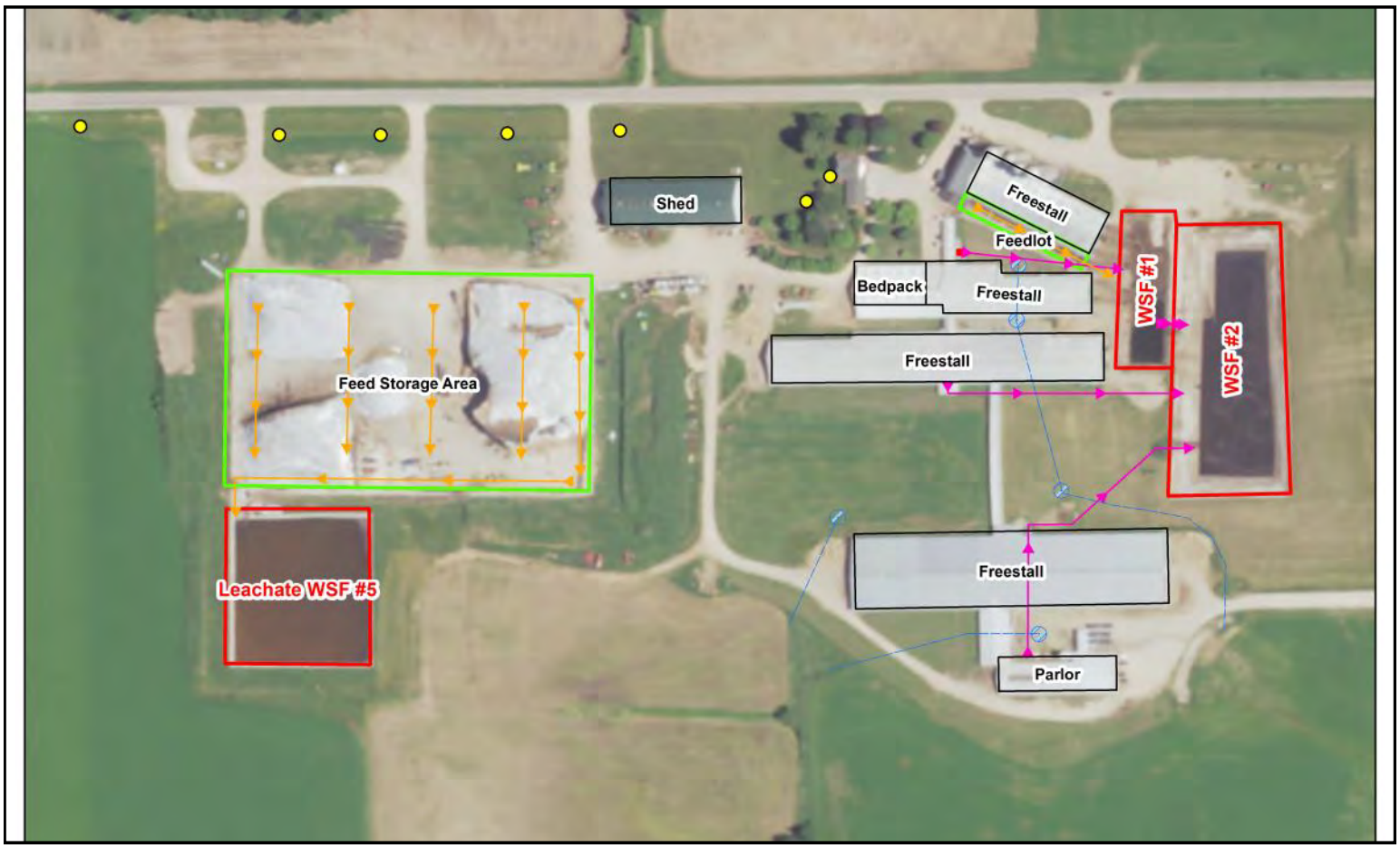
**Introduction**

On Thursday, September 7, 2023, Hanson met with Krueger & Much at 9:00 at Krueger Dairy LLC site to conduct a permit reissuance walkover inspection. Krueger Dairy LLC (Home Farm) & Riverside Dairy sites are currently covered by the permit and both were inspected. After these 2 sites, Hanson proceeded to inspect the Hartleben Farm & Schultz Farm by himself. Krueger is looking at the possibility of adding these sites to his next permit. No liquid precipitation had fallen recently and the temperature was in the 60's and cloudy. No permit violations were observed, and no water samples were collected. Hanson finished the inspection at approximately 13:00.

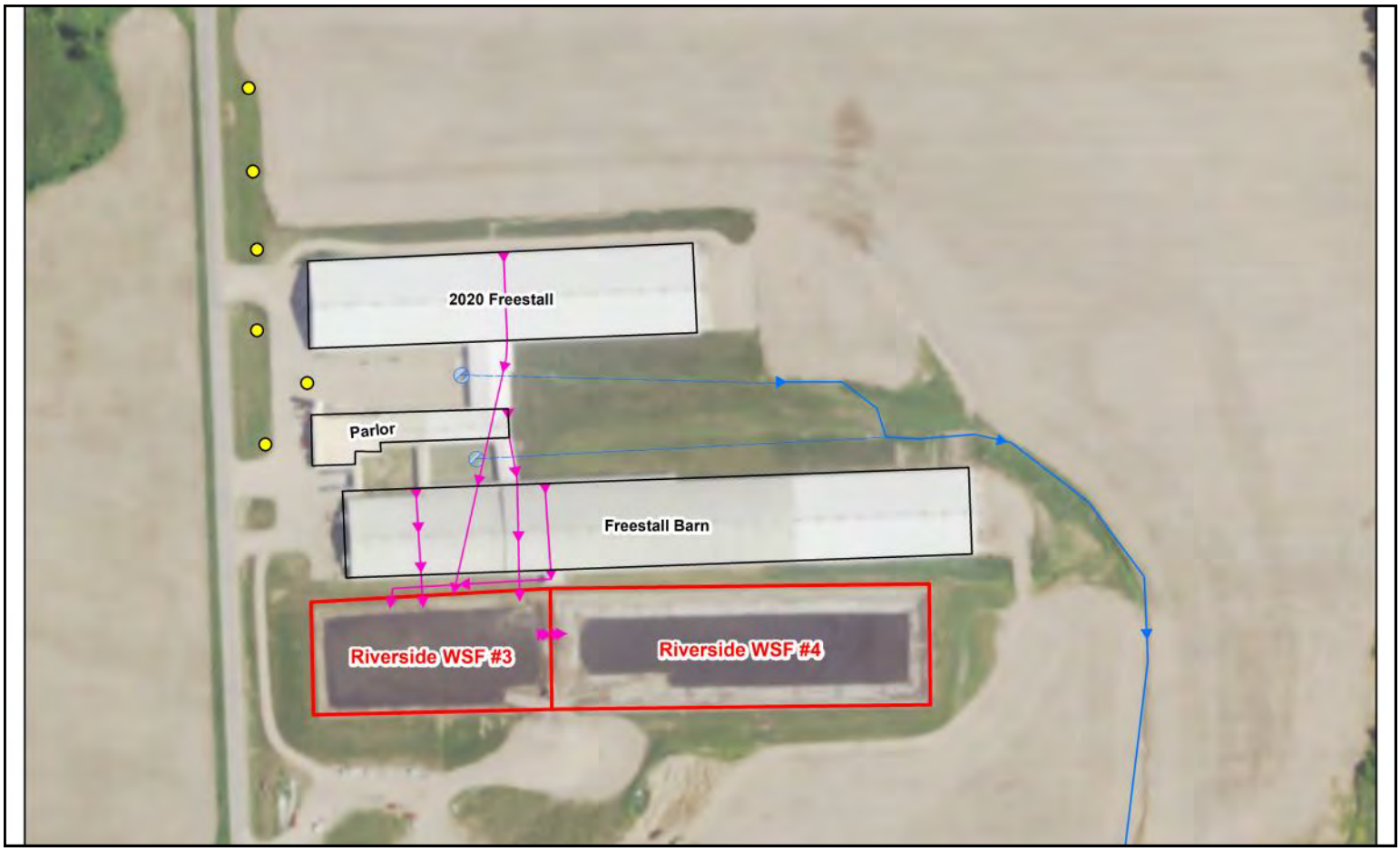
**Site Overview Diagram (Krueger Dairy, Riverside Dairy, Schultz Farm, Hartleben Farm)**



**Site Overview Diagram (**Krueger Dairy Home Farm: orange lines = Potential contaminated runoff flow path, blue lines = stormwater flow path, pink lines = waste transfer system, yellow =well locations)

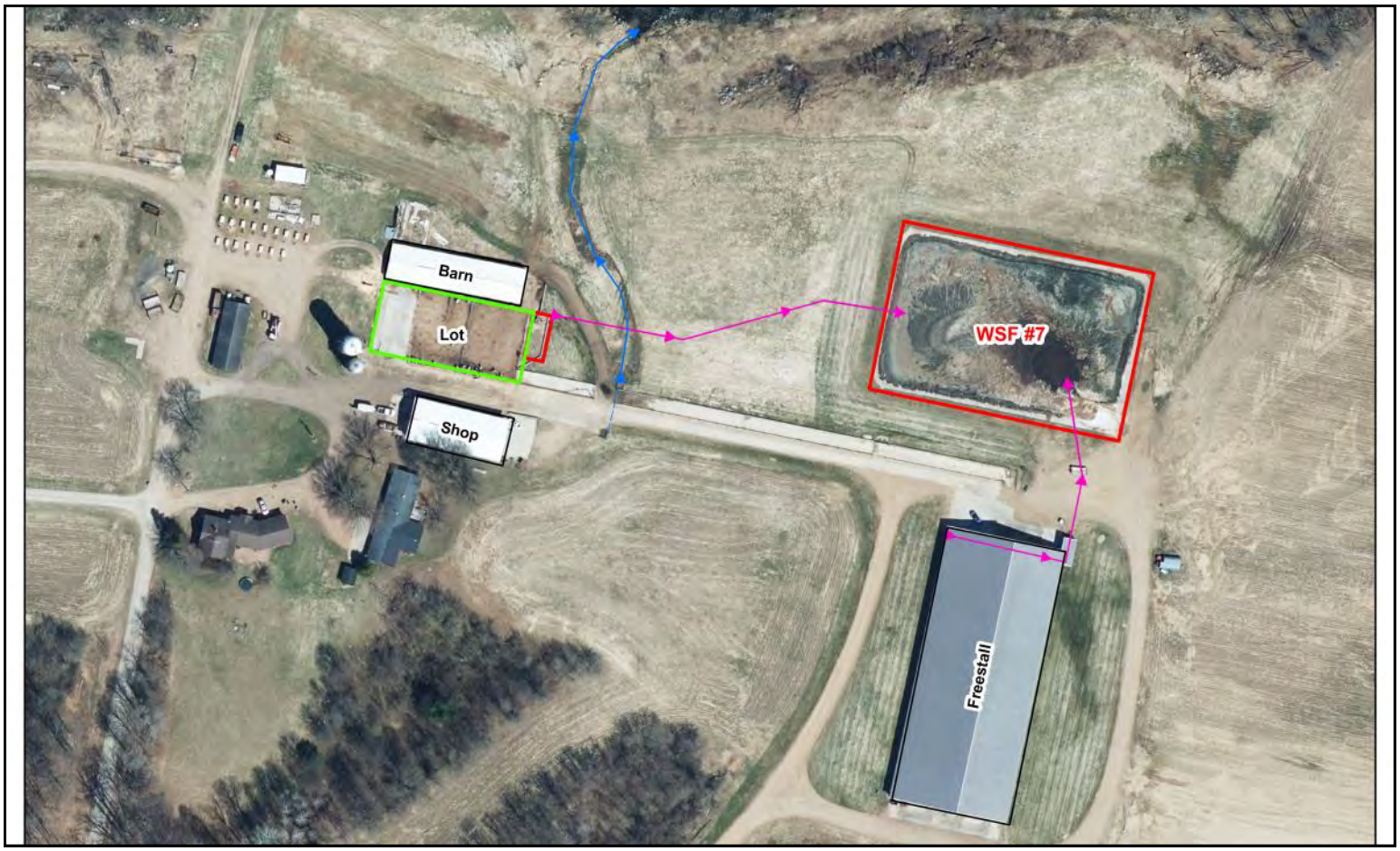



**Site Overview Diagram (**Riverside Dairy : orange lines = Potential contaminated runoff flow path, blue lines = stormwater flow path, pink lines = waste transfer system, yellow =well locations)



**Site Overview Diagram (**Schultz Farm: orange lines = Potential contaminated runoff flow path, blue lines = stormwater flow path, pink lines = waste transfer system, yellow =well locations)


**Site Overview Diagram (**Hartleben Farm : orange lines = Potential contaminated runoff flow path, blue lines = stormwater flow path, pink lines = waste transfer system, yellow =well locations)



**SITE OBSERVATIONS :**

Feedlot Runoff

There is 1 feedlot runoff system located on the farm. This site is located at the Home Farm on the south side of the northern most freestall barn. Manure & feedlot runoff from the lot is scraped or gravity flows to the east directly into WSF #1 Feedlot runoff control system is well-maintained, in good repair and in compliance with permit requirements.

Calf Hutch Areas

There was previously a small calf hutch area on the south side of the outdoor lot. Most calves and youngstock are raised by a separate custom heifer raising facility. At the time of the inspection the calf hutches were not in use.

Waste Storage Facilities

Home Farm:

There are 3 liquid waste storage facilities located on this farm. WSF #1 & 2 store liquid manure & WSF #5 stores leachate and runoff from the feed storage area. Solid manure is stacked on a concrete slab on the west side of WSF #1.

WSF #1 is a concrete-lined impoundment located directly east of the freestall barns that was constructed in 2007. Manure from the northern 2 barns and the outdoor lot is scraped directly into WSF #1. There is also a tank and pump available to transfer liquids from the old parlor to WSF #1, but that has not been used the last few years since the new parlor was built. This facility has a concrete access ramp located in the northeast corner to aid in the removal of sand-laden manure solids. WSF #1 is connected to WSF #2 via a concrete overflow channel

WSF #2 is a concrete-lined impoundment located directly east of WSF #1 that was constructed in 2009 & expanded in 2017. This facility accepts manure & process wastewater from the southern 2 freestall barns & new parlor. This facility has a concrete access ramp located in the northwest corner to aid in the removal of sand-laden manure solids. WSF #2 is connected to WSF #1 via a concrete overflow channel

WSF #5 is a concrete-lined impoundment located south of the feed storage area that was constructed in 2017. This facility accepts leachate and runoff from the feed storage area.

Riverside Dairy:

There are 2 liquid waste storage facilities located on this site.

WSF #3 is a concrete-lined impoundment located directly south of the freestall barns that was constructed in 2006 & concrete lined in 2012. This facility accepts manure and process wastewater from the northern 2 freestall barns & parlor via multiple waste transfer systems. This facility has a concrete access ramp located in the southeast corner to aid in the removal of sand-laden manure solids. WSF #3 is connected to WSF #4 via a concrete overflow channel

WSF #4 is a concrete-lined impoundment located directly south of the freestall barns & east of WSF #3 that was constructed in 2014-2015. This facility accepts manure and process wastewater from WSF #3 via concrete overflow channel. This facility has a concrete access ramp located in the southwest corner to aid in the removal of sand-laden manure solids.

Schultz Farm:

WSF #6 is an earthen impoundment located on the west side of the freestall barns that was built in the 1980's. This facility accepts manure & process wastewater from the freestall barns. There is a concrete access ramp in the southeast corner. This facility has not been evaluated and is currently not part of the permit. Long term plans are to rebuild and expand this facility. Plans & Specs or an evaluation for this facility will need to be submitted if this site is to be added to the permit during reissuance.

Hartleben Farm:

WSF #7 is a concrete lined impoundment located north of the freestall barn. This facility accepts manure & process wastewater from the freestall barn and runoff from outdoor lot. Long term plans are to use this as a satellite facility for Krueger Dairy LLC. Manure from Krueger Dairy LLC will be transferred to this facility via semi truck and stored in the facility until land application. An evaluation of this facility has been submitted to the department and is under review.

Feed Storage Area Runoff

All feed storage areas and runoff controls are located at the Home Farm. Surface drainage of leachate and runoff generally flows south & west to a single collection point in the southwest corner of the pad. This runoff then gravity flows directly into WSF #5 for long term storage.

Feed storage areas and runoff control systems are well-maintained, in good repair and in compliance with permit requirements.

Animal Mortality Disposal

Mortalities are moved to central location and picked up daily as needed by OJ Krull.

Ancillary Service Areas

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.). At the time of the inspection, all stormwater channels were well vegetated and other areas were free of manure & feed solids. Farm should continue to manage these areas to minimize the chance of runoff from the production area.

The farm does not have any CAFO outdoor vegetated areas as part of their operation.

RECORDS REVIEW

The permittee has current WPDES Permit and Nutrient Management Plan onsite, located in the office.

The permittee provided complete production site inspection records that are required to be retained. Daily hauling logs, CAFO calendar for required inspections, and manure pit volume logs were all available for inspection.

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 has 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.

Water Supply Wells

The Home Farm currently has 7 known wells on the property. 6 wells are used to supply water for the dairy operation and considered a high-capacity well. The 7th well is located near the farmhouse and only supplies water to the house. Riverside Dairy currently has 6 wells on the property. All 6 wells are used to supply water for the dairy operation. Records indicated a 7th well, but it had been abandoned in 2017. A complete well search of the Schultz Farm & Hartleben farm did not occur, but while onsite, 1 well was located at the Schultz Farm & 2 at the Hartleben Farm. See photo log & map for further details.

Expansion Plans:

During the inspection Krueger discussed a possible farm expansion for the next permit term. Krueger stated he is looking at increasing animal units at the Home Farm. This expansion would include new barns, expanded feed storage, new waste storage facilities, sand separation system, anaerobic digesters & Renewable Natural Gas (RNG) collection. Wastewater treatment with discharge is also in the long rang plans. Most of these facilities would be constructed at the home farm, but some such as sand separation & Anaerobic Digesters may be at Riverside Dairy as well.

| | |
|---|---|
| **Photo #:** | 8510 |
| **Date/Time of Photo:** | 9/7/2023 10:25 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Outdoor Lot |

**Photo Description:**

Standing at the east end of the feedlot looking northwest: View of outdoor feedlot.


| | |
|---|---|
| **Photo#:** | 8511 |
| **Date/Time of Photo:** | 9/7/2023 10:26 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Outdoor Lot |

**Photo Description:**

Standing at the east end of the feedlot looking northwest: View of outdoor feed rail. Notice unused calf hutches in grassy area.

| | |
|---|---|
| **Photo #:** | 8513 |
| **Date/Time of Photo:** | 9/7/2023 10:26 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Outdoor Lot |

**Photo Description:**

Standing on the south side of feedlot looking east: View of east end of feedlot. Runoff flows directly into WSF #1. Arrows indicate runoff flow.


| | |
|---|---|
| **Photo #:** | 8500 |
| **Date/Time of Photo:** | 9/7/2023 10:24 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #1 |

**Photo Description:**

Standing on the northeast corner of WSF #1 looking south: View of east side of WSF #1 that is a shared berm with WSF #2.

| | |
|---|---|
| **Photo #:** | 8502 |
| **Date/Time of Photo:** | 9/7/2023 10:24 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #1 |

**Photo Description:**

Standing on the northside of WSF #1 looking west: View of north end of WSF #1.


| | |
|---|---|
| **Photo #:** | 8514 |
| **Date/Time of Photo:** | 9/7/2023 10:26 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #1 |

**Photo Description:**

Standing on the west side of WSF #1 looking northeast: View of middle section of WSF #1.

| | |
|---|---|
| **Photo #:** | 8519 |
| **Date/Time of Photo:** | 9/7/2023 10:27 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #1 |

**Photo Description:**

Standing on the west side of WSF #1 looking east: View of south end of WSF #1.


| | |
|---|---|
| **Photo #:** | 8484 |
| **Date/Time of Photo:** | 9/7/2023 10:20 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #2 |

**Photo Description:**

Standing on the south side of WSF #2 looking northwest: View of southwest corner of WSF #2.

| | |
|---|---|
| **Photo #:** | 8488 |
| **Date/Time of Photo:** | 9/7/2023 10:21 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #2 |

**Photo Description:**

Standing on the east side of WSF #2 looking west: View of the southern edge of WSF #2.


| | |
|---|---|
| **Photo #:** | 8490 |
| **Date/Time of Photo:** | 9/7/2023 10:21 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #2 |

**Photo Description:**

Standing on the east side of WSF #2 looking north: View of east edge of WSF #2.

| | |
|---|---|
| **Photo #:** | 8495 |
| **Date/Time of Photo:** | 9/7/2023 10:23 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #2 |

**Photo Description:**

Standing at the northeast corner of WSF #2 looking south: View of the east edge of WSF #2.


| | |
|---|---|
| **Photo #:** | 8498 |
| **Date/Time of Photo:** | 9/7/2023 10:23 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #2 |

**Photo Description:**

Standing on the north side of WSF #2 looking south: View of northwest corner of WSF #2 near access ramp.

| | |
|---|---|
| **Photo #:** | 8525 |
| **Date/Time of Photo:** | 9/7/2023 10:39 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #3 |

**Photo Description:**

Standing on the north side of WSF #3 looking east: View of north edge of WSF #3.


| | |
|---|---|
| **Photo #:** | 8529 |
| **Date/Time of Photo:** | 9/7/2023 10:39 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #3 |

**Photo Description:**

Standing on the west side of WSF #3 looking north: View of west edge of WSF #3.

| | |
|---|---|
| **Photo #:** | 8536 |
| **Date/Time of Photo:** | 9/7/2023 10:41 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #3 |

**Photo Description:**

Standing at the southeast corner of WSF #3 looking west: View of access ramp into WSF #3.


| | |
|---|---|
| **Photo #:** | 8541 |
| **Date/Time of Photo:** | 9/7/2023 10:41 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #4 |

**Photo Description:**

Standing at the southwest corner of WSF #4 looking east: View of southwest corner of WSF #4 near access ramp. Notice sand & solids stacked on ramp.

| | |
|---|---|
| **Photo #:** | 8543 |
| **Date/Time of Photo:** | 9/7/2023 10:42 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #4 |

**Photo Description:**

Standing on the south side of WSF #4 looking northeast: View of middle section of WSF #4.


| | |
|---|---|
| **Photo #:** | 8547 |
| **Date/Time of Photo:** | 9/7/2023 10:42 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #4 |

**Photo Description:**

Standing on the south side of WSF #4 looking east: View of east 1/2 of WSF #4.

| | |
|---|---|
| **Photo #:** | 8553 |
| **Date/Time of Photo:** | 9/7/2023 10:44 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #4 |

**Photo Description:**

Standing on east side of WSF #4 looking west: View of southeast corner of WSF #4.


| | |
|---|---|
| **Photo #:** | 8556 |
| **Date/Time of Photo:** | 9/7/2023 10:44 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy WSF #4 |

**Photo Description:**

Standing on east side of WSF #4 looking west: View of northeast corner of WSF #4.

| | |
|---|---|
| **Photo #:** | 8464 |
| **Date/Time of Photo:** | 9/7/2023 10:12 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #5 |

**Photo Description:**

Standing on north side of WSF #5 looking east: View of north edge of WSF #5.


| | |
|---|---|
| **Photo #:** | 8465 |
| **Date/Time of Photo:** | 9/7/2023 10:12 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #5 |

**Photo Description:**

Standing on north side of WSF #5 looking west: View of north edge of WSF #5.

| | |
|---|---|
| **Photo #:** | 8466 |
| **Date/Time of Photo:** | 9/7/2023 10:12 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm WSF #5 |

**Photo Description:**

Standing at northeast corner of WSF #5 looking southwest: View of WSF #5.


| | |
|---|---|
| **Photo #:** | 8601 |
| **Date/Time of Photo:** | 9/7/2023 13:02 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Schultz Farm WSF #6 |

**Photo Description:**

Standing at the southeast corner of WSF #6 looking west: View of south edge of WSF #6. Notice earthen berm is overgrown with vegetation.

| | |
|---|---|
| **Photo #:** | 8604 |
| **Date/Time of Photo:** | 9/7/2023 13:02 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Schultz Farm WSF #6 |

**Photo Description:**

Standing on the south side of WSF #6 looking north: View of east edge of WSF #6. Notice earthen berms are covered in vegetation.


| | |
|---|---|
| **Photo #:** | 8610 |
| **Date/Time of Photo:** | 9/7/2023 13:03 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Schultz Farm WSF #6 |

**Photo Description:**

Standing on the east side of WSF #6 looking south: View of east edge of WSF #6. Notice earthen berms are covered in vegetation.

| | |
|---|---|
| **Photo #:** | 8574 |
| **Date/Time of Photo:** | 9/7/2023 12:40 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Hartleben Farm WSF #7 |

**Photo Description:**

Standing on the west side of WSF #7 looking east: View of the south edge of WSF #7.


| | |
|---|---|
| **Photo #:** | 8576 |
| **Date/Time of Photo:** | 9/7/2023 12:41 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Hartleben Farm WSF #7 |

**Photo Description:**

Standing on the west side of WSF #7 looking east: View of the north edge of WSF #7.

| | |
|---|---|
| **Photo #:** | 8584 |
| **Date/Time of Photo:** | 9/7/2023 12:42 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Hartleben Farm WSF #7 |

**Photo Description:**

Standing on the north side of WSF #7 looking south: View of east edge of WSF #7.


| | |
|---|---|
| **Photo #:** | 8592 |
| **Date/Time of Photo:** | 9/7/2023 12:43 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Hartleben Farm WSF #7 |

**Photo Description:**

Standing on the east side of WSF #7 looking west: View of access ramp in southeast corner of WSF #7.

| | |
|---|---|
| **Photo #:** | 8593 |
| **Date/Time of Photo:** | 9/7/2023 12:43 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Hartleben Farm WSF #7 |

**Photo Description:**

Standing at the southeast corner of WSF #7 looking northwest: View of safety wall along access ramp. Example of depth marker highlighted.


| | |
|---|---|
| **Photo #:** | 8507 |
| **Date/Time of Photo:** | 9/7/2023 10:25 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Solids Stacking |

**Photo Description:**

Standing on the west side of WSF #1 looking south: View solid manure stacking area on west side of WSF #1. Arrows indicate direction of runoff flow.

| | |
|---|---|
| **Photo #:** | 8509 |
| **Date/Time of Photo:** | 9/7/2023 10:25 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Solid Stacking |

**Photo Description:**

Standing on the west side of WSF #1 looking south: alternate view of solid manure stacking area on west side of WSF #1. Arrows indicate direction of runoff flow.


| | |
|---|---|
| **Photo #:** | 8439 |
| **Date/Time of Photo:** | 9/7/2023 10:07 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on east side of FSA looking south: View of east edge of FSA. Arrow indicated direction of runoff flow.

| | |
|---|---|
| **Photo #:** | 8476 |
| **Date/Time of Photo:** | 9/7/2023 10:14 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on the east side of FSA looking north: View of east edge of FSA. Arrows indicate direction of runoff flow.


| | |
|---|---|
| **Photo #:** | 8474 |
| **Date/Time of Photo:** | 9/7/2023 10:14 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on the south side of FSA looking west: View of runoff collection channel on south side of FSA. Arrows indicate direction of runoff flow.

| | |
|---|---|
| **Photo #:** | 8470 |
| **Date/Time of Photo:** | 9/7/2023 10:13 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on the south side of FSA looking west: View of runoff collection channel on south side of FSA. Arrows indicate direction of runoff flow.


| | |
|---|---|
| **Photo #:** | 8458 |
| **Date/Time of Photo:** | 9/7/2023 10:11 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing at southwest corner of FSA looking east: View of runoff collection channel along south side of FSA. Arrows indicate direction of runoff flow.

| | |
|---|---|
| **Photo #:** | 8456 |
| **Date/Time of Photo:** | 9/7/2023 10:10 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on west side of FSA looking south: View of southwest corner of FSA where runoff enters leachate pond. Arrows indicate direction of runoff flow.


| | |
|---|---|
| **Photo #:** | 8440 |
| **Date/Time of Photo:** | 9/7/2023 10:07 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on the north side of FSA looking west: View of northern edge of FSA.

| | |
|---|---|
| **Photo #:** | 8447 |
| **Date/Time of Photo:** | 9/7/2023 10:08 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on the north side of FSA looking south: View of central part of FSA.


| | |
|---|---|
| **Photo #:** | 8454 |
| **Date/Time of Photo:** | 9/7/2023 10:10 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Feed Storage |

**Photo Description:**

Standing on the west side of FSA looking north: View of western edge of FSA. Arrows indicate direction of runoff flow.

| | |
|---|---|
| **Photo #:** | 8521 |
| **Date/Time of Photo:** | 9/7/2023 10:27 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Stormwater |

**Photo Description:**

Standing on the south side of WSF #1 looking southwest: View of grassy area between freestall barns used to convey stormwater.


| | |
|---|---|
| **Photo #:** | 8560 |
| **Date/Time of Photo:** | 9/7/2023 10:47 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy Stormwater |

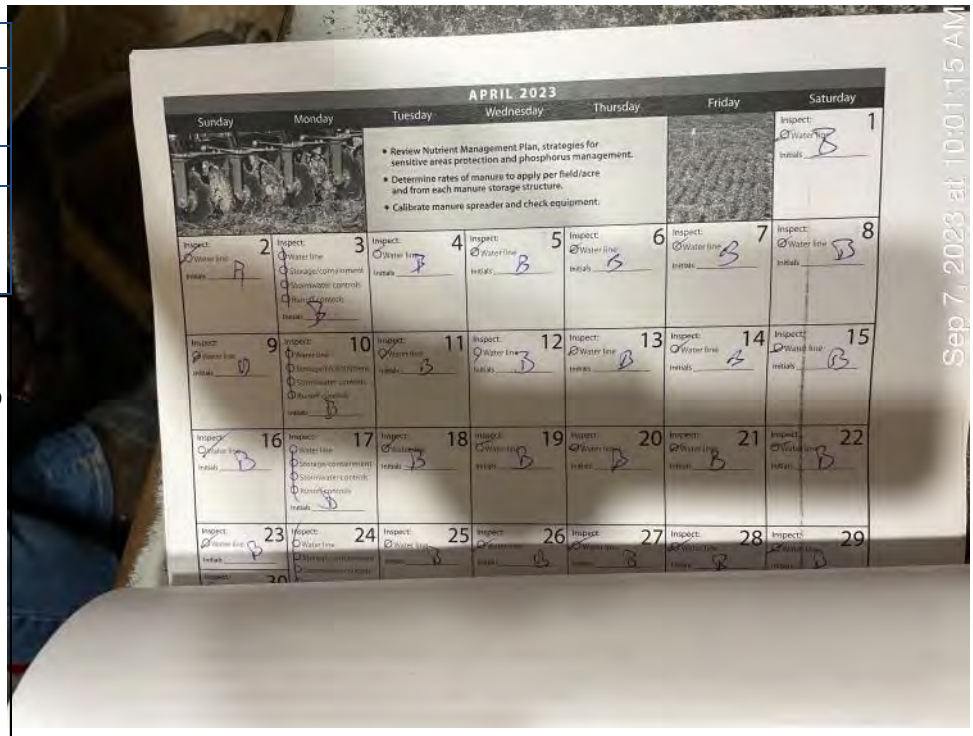
**Photo Description:**

Standing on the east side of freestall barns looking west: View of stormwater channel between the freestall barns.

| | |
|---|---|
| **Photo #:** | 8434 |
| **Date/Time of Photo:** | 9/7/2023 10:01 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Farm Records |

**Photo Description:**

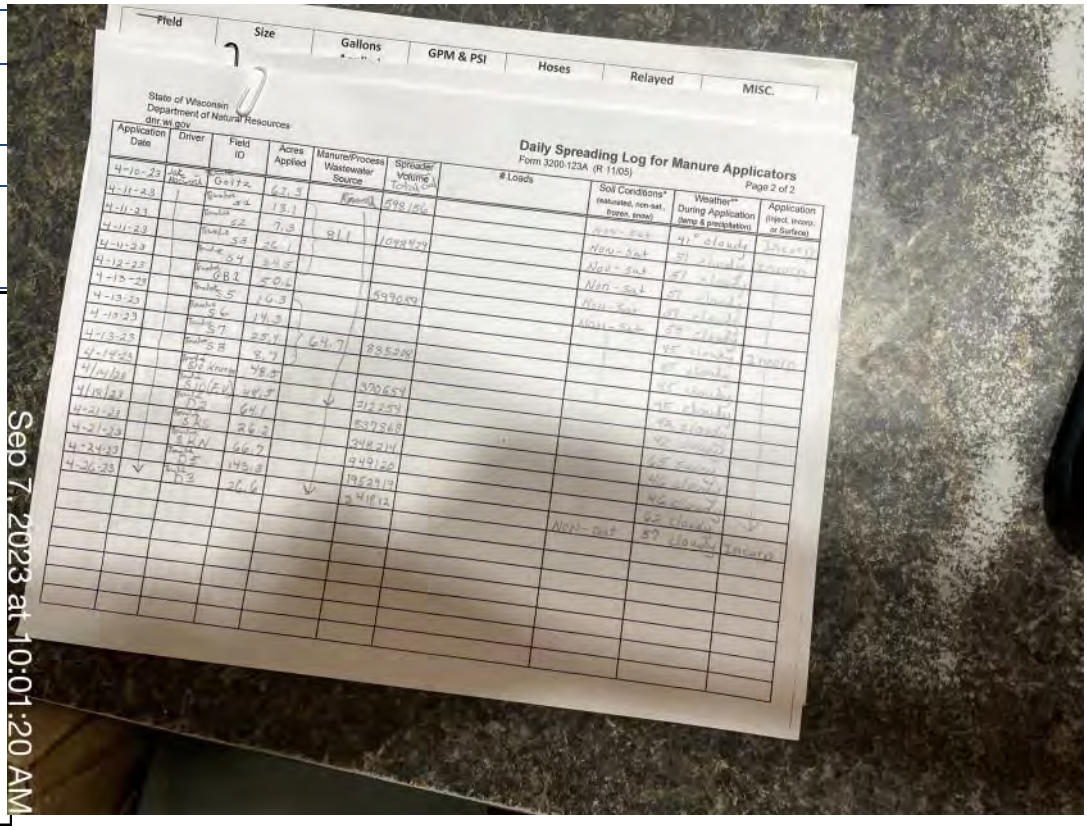
View of CAFO Calendar used to document daily, weekly, & quarterly inspections.




| | |
|---|---|
| **Photo #:** | 8435 |
| **Date/Time of Photo:** | 9/7/2023 10:01 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Farm Records |

**Photo Description:**

View of Daily spreading log used by farm.



| | |
|---|---|
| **Photo #:** | 8437 |
| **Date/Time of Photo:** | 9/7/2023 10:05 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Wells |

**Photo Description:**

Standing on the west side of the house looking east: View of water supply well. Well only serves the house.

Well ID: 8ED206


| | |
|---|---|
| **Photo #:** | 8436 |
| **Date/Time of Photo:** | 9/7/2023 10:04 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Wells |

**Photo Description:**

Standing on the east side of shed looking east: View of water supply well:

ID: UP496

Hi Cap: 91822

| | |
|---|---|
| **Photo #:** | 8438 |
| **Date/Time of Photo:** | 9/7/2023 10:06 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Home Farm Wells |

**Photo Description:**

Standing on north side of shed looking west: View of additional wells along Oak Ave. Series of 5 wells along road north of feed storage & shed.


| | |
|---|---|
| **Photo #:** | 8566 |
| **Date/Time of Photo:** | 9/7/2023 10:51 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy Wells |

**Photo Description:**

Standing on west side of north freestall barn looking south: View of water supply well.

ID:XS686

Hi Cap #91533

| | |
|---|---|
| **Photo #:** | 8565 |
| **Date/Time of Photo:** | 9/7/2023 10:51 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy Wells |

**Photo Description:**

Standing on west side of free stall barn looking north: View of water supply wells along Hickory Road.

ID: XS687 , XS689 , XS688

Hi Cap #91536 , 91535 , 91534


| | |
|---|---|
| **Photo #:** | 8568 |
| **Date/Time of Photo:** | 9/7/2023 10:52 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy Wells |

**Photo Description:**

Standing on west side of parlor looking southwest: View of water supply well being protected by concrete blocks.

ID XS690

Hi Cap #91537

| | |
|---|---|
| **Photo #:** | 8567 |
| **Date/Time of Photo:** | 9/7/2023 10:51 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Riverside Dairy Wells |

**Photo Description:**

Standing northwest of parlor looking southeast: View of water supply well protected by concrete blocks.

ID: WV178

Hi Cap #91492


| | |
|---|---|
| **Photo #:** | 8597 |
| **Date/Time of Photo:** | 9/7/2023 12:44 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Hartleben Farm Well |

**Photo Description:**

Standing at southwest corner of WSF #7 looking west: View of water supply well location.

Believed to be Well ID: QW045

| | |
|---|---|
| **Photo #:** | 8599 |
| **Date/Time of Photo:** | 9/7/2023 13:00 |
| **Photo By:** | Brian Hanson |
| **Photo Location:** | Schultz Farm Well |

**Photo Description:**

Standing on south side of house looking east: View of water supply well location.

**SUMMARY:**

Substantial Compliance

- The permittee is currently in substantial compliance with the permit.

Areas of Concern

- A review of nutrient management plan records indicated multiple nitrogen overapplications and lack of manure samples during the current permit term. The farm should continue to improve manure management strategies to reduce or eliminate these concerns.
- Accumulated solids on inside of WSF #1 has lead to vegetation growth on top of concrete liner. Remove these solids & vegetation and check liner for any damage.

Permit Violations

- No violations were observed during the inspection.

Action Items

- Submit permit reissuance application in compliance with permit schedule. Application due 3/4/2023

Materials Required as part of the Permit Application

Required materials must be submitted together as a complete permit application through the ePermitting System: http://dnr.wi.gov/permits/water/. The system will not allow you to electronically sign and submit your application until all of the following are included:

• 3400-025 form (Livestock/Poultry Operation WPDES Permit Application)

• 3400-025A form (Animal Units Calculation Worksheet)

• 3400-025G form (Evaluated Facilities of Systems Checklist)

• 3400-025C form (Reviewable Facilities of Systems Checklist)

• A soil survey map of the dairy's production area

• A labeled aerial map showing the existing and proposed features and structures of the dairy's production area

• Calculations documenting days of liquid manure and process wastewater storage

• Supporting documentation for days of storage calculations

• A complete 5-year Nutrient Management Plan (NMP). If necessary, include a description of permanent spray irrigation systems and any other landspreading or treatment systems (proposed or active)

• Plans and specifications for any proposed facilities