Permit Fact Sheet

General Information

Permit Number:	WI-0065935-02-0
Permittee Name:	Manthe Grain Farms LLC
Address:	3827 Mueller Road
City/State/Zip:	DeForest WI 53532
Discharge Location:	**Jackie's Main Facility:** 3827 Mueller Road, DeForest, WI 53532, NW ¼, NE ¼, Section. 15, T9N, R10E **Drew's Facility:** 7053 Portage Road, DeForest, WI 53532, SW ¼, NW ¼, Section 22, T9N, R10E
Receiving Water:	Unnamed tributaries of Token Creek within the Yahara River Watershed, and groundwaters of the state.
Discharge Type:	Existing

Animal Units					
	Current AU		**Proposed AU** **(Note: If all zeroes, expansions are not expected during permit term)**		
Animal Type	**Mixed**	**Individual**	**Mixed**	**Individual**	**Date of Proposed Expansion**
Dairy Calves (under 400 lbs.)	129	0	0	0	
Heifers (400 lbs. to 800 lbs.)	783	1305	0	0	
Heifers (800 lbs. to 1200 lbs.)	220	200	0	0	
Total	1132	1505	0	0	

Facility Description

Manthe Grain Farms, LLC is an existing Concentrated Animal Feeding Operation (CAFO). Manthe Grain Farms, LLC is owned and operated by Dean and Drew Manthe. The farm currently has 1,505 animal units (1,305 heifers 400-800 lbs. and 200 heifers 800-1,200 lbs.). Manthe Grain Farms, LLC has a total of 1,373.3 acres available for land application of manure and process wastewater. Of this acreage, 668 acres are owned and 732 acres are rented or controlled through manure agreements. Manthe Grain Farms, LLC has no large expansions planned during the proposed permit term. Approximately 4,546,657 gallons of manure and process wastewater and 1,337 tons of solid manure is predicted to be generated in first year of the permit term. The farm has approximately 247 days of liquid manure storage and at least 59 days of solid manure storage.

Two facilities are currently covered under Manthe Grains Farms, LLC WPDES Permit. Jackie's Main Facility is located at 3827 Mueller Road, DeForest, WI 53532 and is composed of two animal barns, feed storage area, leachate collection basin, solid manure loadout structure, and an under-barn waste storage facility. Drew's Facility is located at 7053 Portage

Road, DeForest, WI 53532 and is composed of two animal barns, outdoor feedlots with runoff controls, a solid manure storage, and a liquid waste storage facility. All production areas were inspected the day of the inspection.

Manthe Grain Farms, LLC has submitted an application for reissuance of their Wisconsin Pollutant Discharge Elimination System (WPDES) Permit. The application is complete, and the facility has been determined to be in substantial compliance. This will be the second permit reissuance for this facility. Manthe Grain Farms, LLC has an approved Nutrient Management Plan (NMP) that is written according to WPDES Permit and Chapter NR 243 Wisc. Admin. Code requirements. Manthe Grain Farms, LLC was also found to have at least 180 days of liquid manure storage.

Substantial Compliance Determination

Enforcement During Last Permit: During the last permit term, Manthe Grain Farms, LLC received a compliance reminder for a land application violation. The facility has completed all previously required actions as part of the enforcement process.

After a desk top review of all compliance schedule items and pertinent documents, and a site visit on August 29, 2023, this facility has been found to be in substantial compliance with their current permit.

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 manure and process wastewater land applied from waste storage facility 1 (WSF 1). WSF 1 is a concrete-lined, liquid-tight underbarn storage located under the southern barn at Jackie's Main Facility; 3827 Mueller Road, DeForest. The facility is a 103 ft x 26 ft x 12 ft deep and has the capacity of 175,272 gallons and was constructed in 2001, evaluated in 2015, and a well waiver was granted in 2024.	
002	Sample point 002 is for solid manure source that is directly land applied from the solid manure loadout structure (WSF 2). WSF 2 is a three walled concrete structure located east of the northern barn at Jackie's Main Facility; 3827 Mueller Road, DeForest that receives semi-solid heifer manure from the northern barn. The facility is 35 ft x 35 ft x 4 ft tall, and was replaced in 2021.	
003	Sample point 003 is for process wastewater land applied from the feed storage runoff collection tank (WSF 5). WSF 5 is a concrete-lined, liquid-tight storage located at Jackie's Main Facility; 3827 Mueller Road, DeForest. Collected feed leachate will either be land applied according to the farms approved NMP or hauled to Drew's WSF 3 when conditions for landspreading are not appropriate. The facility is 45 ft x 90 ft x 8 ft deep and was constructed in 2021.	
005	Sample point 005 is for the visual monitoring and inspection of the feed storage area and associated runoff control system (sample point 003 – WSF 5) located at Jackies's Main Facility; 3827 Mueller Road, DeForest. Proper operation and maintenance is required to ensure discharge of process wastewater to waters of the state do not occur. Weekly inspections are required and shall be recorded according to monitoring program.	
006	Sample point 006 is for liquid manure and process wastewater land applied from waste storage facility 3 (WSF 3). WSF 3 is a concrete lined, liquid manure storage facility located east of the manure stacking pad (WSF 4) at Drew's Facility; 7053 Portage Road, DeForest. The facility has the capacity of 2,343,435 gallons and was constructed in 2012 and evaluated in 2015.	

Sample Point Designation For Animal Waste		
Sample Point Number	**Sample Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)**	
007	Sample point 007 is for solid manure source that is directly land applied from the bottom of WSF 3 located at Drew's Facility; 7053 Portage Road, DeForest. This includes manure-laden sand solids, manure fiber solids, etc. Representative samples shall be taken from any removed solids.	
008	Sample point 008 is for solid manure source that is directly land applied from the manure stacking pad - waste storage facility 4 (WSF 4). WSF 4 is a liquid-tight concrete stacking pad located west of WSF 3 located at Drew's facility; 7053 Portage Road, DeForest. WSF 4 can also provide extra capacity for WSF 3 when needed. The facility has the capacity of 561,050 gallons of liquid manure and it also has the capacity to store at least 60 days' worth of solid manure produced. WSF 4 was constructed in 2015 and was last evaluated in 2016.	
009	Sample point 009 is for liquid waste directly land applied from WSF 4 located at Drew's Facility; 7053 Portage Road, DeForest. WSF 4 can provide extra liquid waste capacity for WSF 3 when needed and has the capacity to hold 561,050 gallons.	
010	Sample point 010 is for visual monitoring and inspection of the concrete feedlots and associated runoff control system located at Drew's Facility; 7053 Portage Road, DeForest. All of the captured feedlot runoff is collected in a reception tank and pumped into WSF 3. Proper operation and maintenance is required to ensure discharges to waters of the state do not occur. Weekly inspections are required and shall be recorded according to the monitoring and inspection program. The feedlot and runoff control system were approved and constructed in 2016.	
011	Sample point 011 is for miscellaneous solid manure sources from either Jackie's or Drew's Facilities that are directly land applied and not stored in a waste storage facility. Representative samples shall be taken for each manure source type. This includes pen manure, bedding pack, or other solid manure sources.	
012	Headland Stacking Solids; Sample point 012 is for solid manure stacked in approved headland stacking locations. Representative samples shall be taken of this manure prior to land application. Note: Headland stacking sites are subject to production site discharge limitations; weekly visual monitoring is required during use of stacking sites to ensure discharges to waters of the state do not occur.	
013	Storm Water Runoff Control System: Sample point 013 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.	

1 Livestock Operations - Proposed Operation and Management

Production Area Discharge Limitations

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

Runoff Control

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

Manure and Process Wastewater Storage

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

The permittee currently has approximately 247 days of storage for liquid manure. The permittee must maintain 180 days of storage, unless temporary reductions in required storage are approved by the Department.

Solid Manure Stacking

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

Ancillary Service and Storage Areas

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

Nutrient Management

With 1,505 animal units (1,305 heifers 400-800 lbs. and 200 heifers 800-1,200 lbs.), it is estimated that approximately 4,546,657 gallons of manure and process wastewater and 1,335 tons of solid manure will be produced per year. The permittee owns *approximately* 668 acres of cropland and rents about 732 acres. Given the rotation commonly used by the permittee, 1,373.3 acres are available (or open) to receive manure and process wastewater on an annual basis. The permit requires all landspreading of manure and process wastewater be completed in accordance with an approved nutrient management plan. The permit will require sampling and analysis of manure and process wastewater that will be landspread. Landspreading rates must be adjusted based on sample analysis. The permit requires the permittee to maintain a daily log that documents landspreading activities. The permit also requires the submittal of an annual report that summarizes all landspreading activities. Plans must be updated annually to reflect cropping plans and other operational changes. Among the requirements, the plans must include detailed landspreading information including field by field nutrient budgets.

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

wastewater applications on soil test phosphorus levels or the Wisconsin Phosphorus index. Additional phosphorus application restrictions apply to fields that are high in soil test phosphorus (>100 ppm).

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

In addition, the permittee must comply with restrictions on land application of manure and process wastewater on frozen or snow-covered ground. Included in these restrictions is a prohibition on surface applications of solid manure (≥12% solids) on frozen or snow-covered ground during February and March. Beginning October 1, 2024, non-emergency surface applications of liquid manure (<12%) on frozen or snow-covered ground are prohibited.

Monitoring and Sampling Requirements

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

Sampling Points

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

Sample Point Number: 001- WSF 1 - Jackie's Underbarn ; 003- WSF 5 - Jackie's Feed R/O Tank; 006- WSF 3 - Drew's Liquid Waste; 009- WSF 4 - Add. Liquid Storage

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

1.1.1 Changes from Previous Permit

Sample points 001 - WSF 1 - Jackie's Underbarn, 003 - WSF 5 – Jackie's Feed R/O Tank, 006 - WSF 3 – Drew's Liquid Waste, & 009 - WSF 4 – Add. Liquid Storage were edited to include a more accurate description of the facilities and current operations.

1.1.2 Explanation of Operation and Management Requirements

Wastes shall be sampled, stored, and land applied according to permit and nutrient management plan requirements per NR 243, Wis. Admin. Code.

Sample Point Number: 002- WSF 2 Solids Loadout Structure; 007- Solids from WSF3 - Drew's; 008- WSF 4 - Drew's Solid; 011- Miscellaneous Solid Manure; 012- Headland Stacking

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	

1.1.3 Changes from Previous Permit

Sample points 002 - WSF 2 Solids Loadout Structure, 007 - Solids from WSF 3 – Drew's, 008 - WSF 4 – Drew's Solid, & 011 - Miscellaneous Solid Manure were edited to include a more accurate description of the facilities and current operations.

1.1.4 Explanation of Operation and Management Requirements

Wastes shall be sampled, stored, and land applied according to permit and nutrient management plan requirements per NR 243, Wis. Admin. Code.

Sample Point Number: 005- Feed Storage Area - Jackies; 010- Drew's Feedlot Runoff Controls, and 013- Stormwater Runoff Control

1.1.5 Changes from Previous Permit

Sample point 005 – Feed Storage Area – Jackies and 010 – Drew's Feedlot Runoff Controls were edited to include a more accurate description of the facilities and current operations.

1.1.6 Explanation of Operation and Management Requirements

There is no required sampling for the runoff controls. Rather, there is required inspection and routine maintenance that should be recorded on a monitoring and inspection form or calendar. A copy of the inspection records shall be submitted with the Annual Report.

2 Schedules

2.1 Emergency Response Plan

Required Action	Due Date
Develop Emergency Response Plan: Develop a written Emergency Response Plan within 30 days of permit coverage, available to the Department upon request.	10/31/2024

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 30 days of the effective date of this permit.	10/31/2024

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

2.4 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).	
Management Plan Annual 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.	03/31/2025
Management Plan Annual 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.	03/31/2026
Management Plan Annual 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.	03/31/2027
Management Plan Annual 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.	03/31/2028
Management Plan Annual 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.	03/31/2029
Ongoing Management Plan Annual Updates: Continue to submit Annual Updates to the Nutrient Management Plan until permit reissuance has been completed.	

2.5 Submit Permit Reissuance Application

Required Action	Due Date
Reissuance Application: Submit a complete permit reissuance application 180 days prior to permit expiration.	04/03/2029

2.6 Explanation of Schedules

Schedules are included in the permit to ensure compliance with NR 243, Wis. Admin. Code, requirements.

Most of the Schedule items are typical for a large heifer facility like this one. The schedules contained in 2.1, 2.2, 2.3, 2.4, and 2.5 are standard permit schedules.

Special Reporting Requirements

N/A

Other Comments:

None

Attachments:

Inspection Report with maps

Nutrient Management Plan Approval Letter

Days of Storage Approval Letter

Public Notice

Proposed Expiration Date:

September 30, 2029

Justification Of Any Waivers From Permit Application Requirements

N/A

Prepared By: Josie Hanrahan Agricultural Runoff Management Specialist **Date: 8/15/2024**

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
3911 Fish Hatchery Road
Fitchburg WI 53711-5397

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

November 7, 2023

Dean Manthe
Manthe Grain Farms, LLC
3827 Mueller Road
DeForest, WI 53532

Subject: Site Inspection Summary Letter

Dear Mr. Manthe:

On August 29, 2023, the Department of Natural Resources conducted a permit reissuance inspection for Manthe Grain Farms, LLC in DeForest, Dane County. A site inspection report including photographs of your site is attached for your review and convenience.

The current permit for Manthe Grain Farms, LLC expires on June 30, 2024. A complete permit reissuance application needs to be submitted to the e-Permitting system by January 1, 2024. Materials needed for a complete permit application are listed below.

1. Livestock/Poultry Operation WPDES Permit Application Form 3400-025
2. Animal Unit Calculation Worksheet Form 3400-025A
3. Nutrient Management Plan Checklist 3400-025B
4. Reviewable Facilities of Systems Checklist 3400-025C
5. Soil survey maps for each site managed by your operation
6. Labeled aerial maps showing the features and structures located at each site managed by your operation (clearly delineate what is existing and proposed)
7. Calculations documenting a minimum of 180 days liquid manure (and process wastewater) storage
8. Supporting documentation for 180-day storage calculations
9. A complete 5-year Nutrient Management Plan (NMP). If necessary, include a description of permanent spray irrigation systems and any other land spreading or treatment systems (proposed or active)
10. Environmental Analysis Questionnaire

No engineering evaluations were determined to be necessary during the site inspection. If you have additional questions regarding the inspection report or the permitting process, please contact me at josie.hanrahan@wisconsin.gov or (608)598-0026.

Sincerely,

Josie Hanrahan

Josie Hanrahan
Agricultural Runoff Management Specialist

ecc: Laura Bub, Tabatha Davis Falon French; WDNR
Drew Manthe; Manthe Grain Farms, LLC
Dave Buss; NuSolutions Agronomy, LLC
Amy Piaget; Dane County

CAFO Compliance Report

Inspection Date: August 29, 2023

Inspection Type: Reissuance Inspection

Operation Name: Manthe Grain Farms, LLC

WPDES Permit No. WI 0065935-01-0

Operation Address: Jackie's Main Facility – 3827 Mueller Road, De Forest, WI 53532

Drew's Facility – 7053 Portage Road, De Forest, WI 53532

On-Site Representative: Dean and Drew Manthe – Owners, Dave Buss – Crop Consultant

DNR Staff/Report Writers: Tabatha Davis & Josie Hanrahan, Agricultural Runoff Management Specialists

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At approximately 1:00PM on August 29, 2023, Tabatha Davis and Josie Hanrahan (WDNR) met with Dean and Drew Manthe – Manthe Grain Farms, LLC and Dave Buss – Nu Solutions Agronomy to conduct a permit reissuance site inspection. All facilities currently covered under Manthe Grain Farms, LLC's WPDES permit were inspected. Facilities at Jackie's Main Facility were inspected first, and then facilities at Drew's Facility. Animal unit numbers provided the day of the inspection were as follows: 500 Heifers 800-1,200 lbs., 990 Heifers 400-800 lbs., and 300 Calves under 400 lbs., totaling 1,204 mixed animal units. The weather was sunny, dry, and 80°F at the time of the site inspection. The inspection concluded at approximately 2:30PM and no water samples were taken.

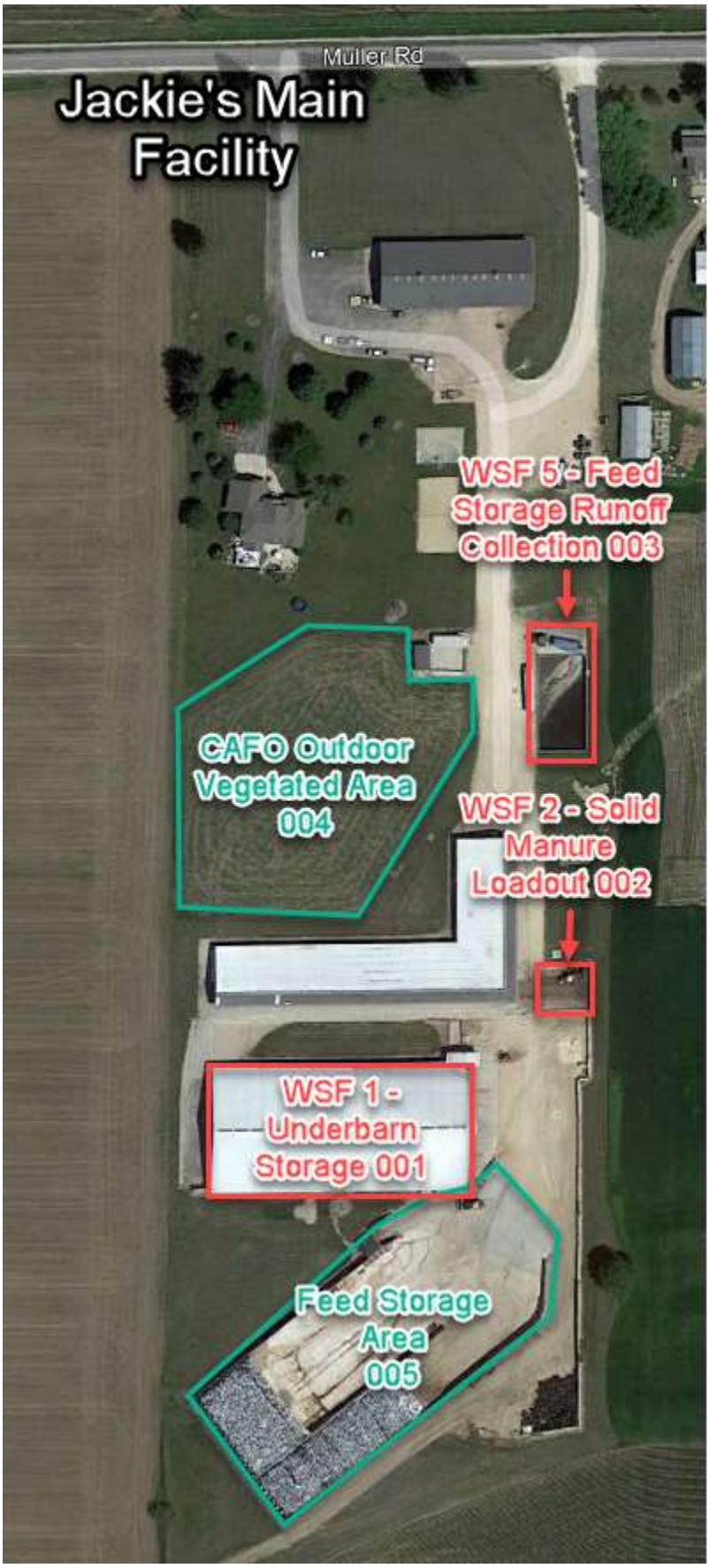

Figure 1. Aerial overview of Manthe Grain Farms, LLC – Jackie's Main Facility. Photo obtained from Google Earth October 2023.

Figure 2. Aerial overview of Manthe Grain Farms, LLC - Drew's Facility. Photo obtained from Google Earth October 2023.

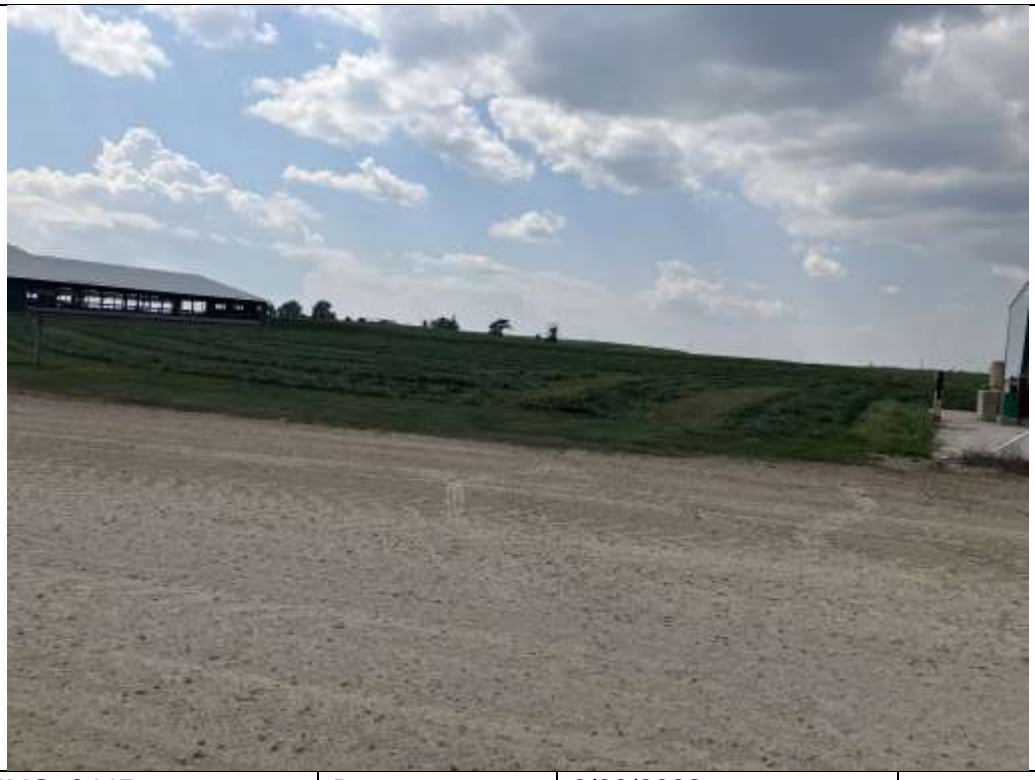

Photo #:	IMG_0445		Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Jackie's Farm: East edge of outdoor vegetated area looking west		
Description:	The outdoor vegetated area is used for cropping and does not house animals at this time.				

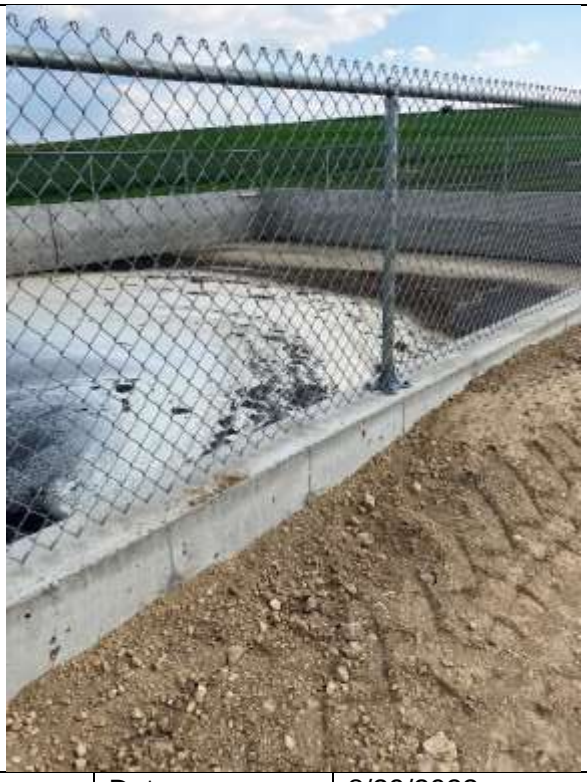

Photo #:	IMG_0448		Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Jackie's Farm west edge of feed storage tank looking southeast		
Description:	Feed storage tank.				

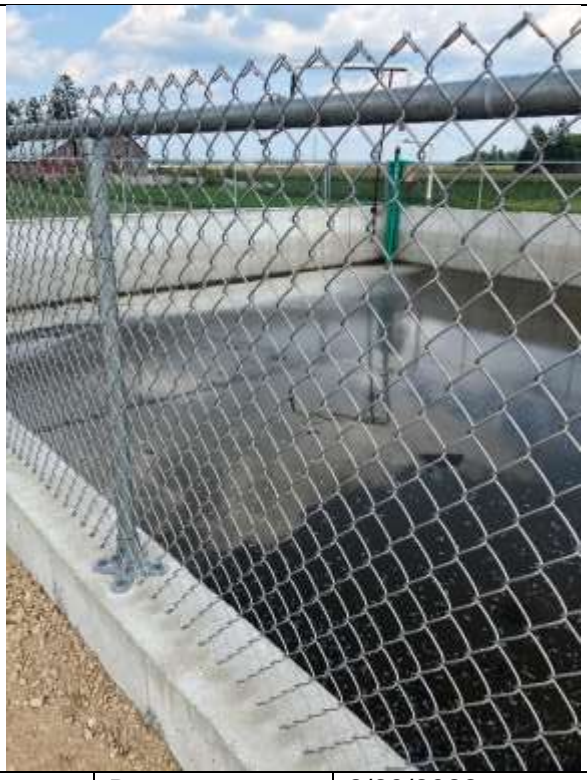

Photo #:	IMG_0449	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Jackie's Farm west edge of feed storage tank looking northeast	
Description:	Feed Storage tank (pump in top of photo)			

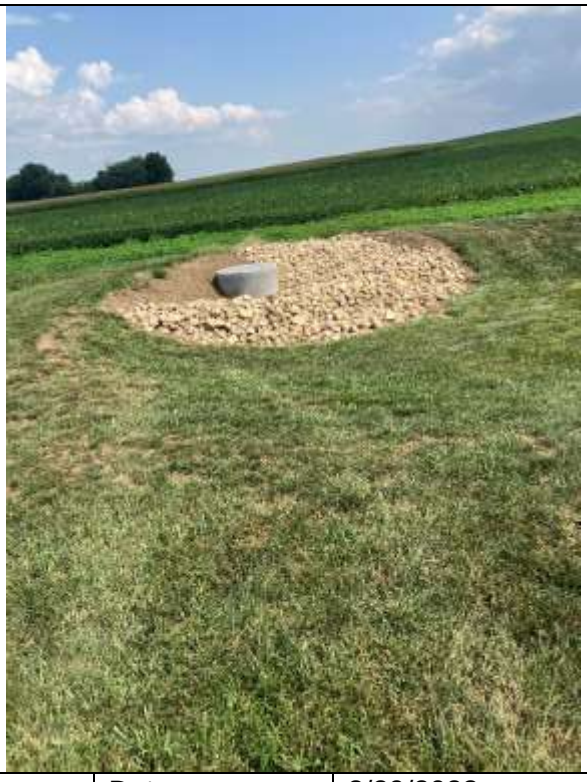

Photo #:	IMG_0451	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Jackie's Farm: North end of stormwater channel	
Description:	Feed storage collection system cleanout			

Photo #:	IMG_0454		Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Jackie's Farm: Solid manure collection east of freestall barns		
Description:	Area near manure pushout where mortalities are placed for pick-up.				

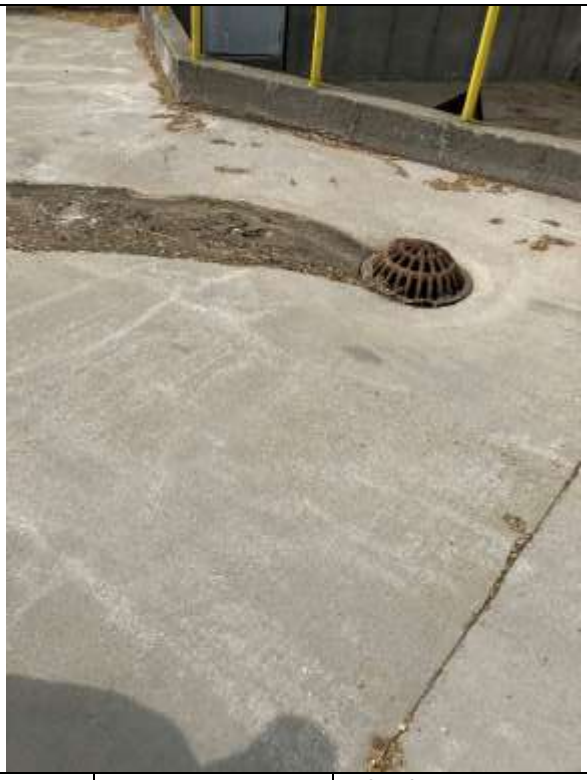

Photo #:	IMG_0455		Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Jackie's Farm: Inlet on northern corner of feed storage area.		
Description:	Leachate entering collection system inlet.				

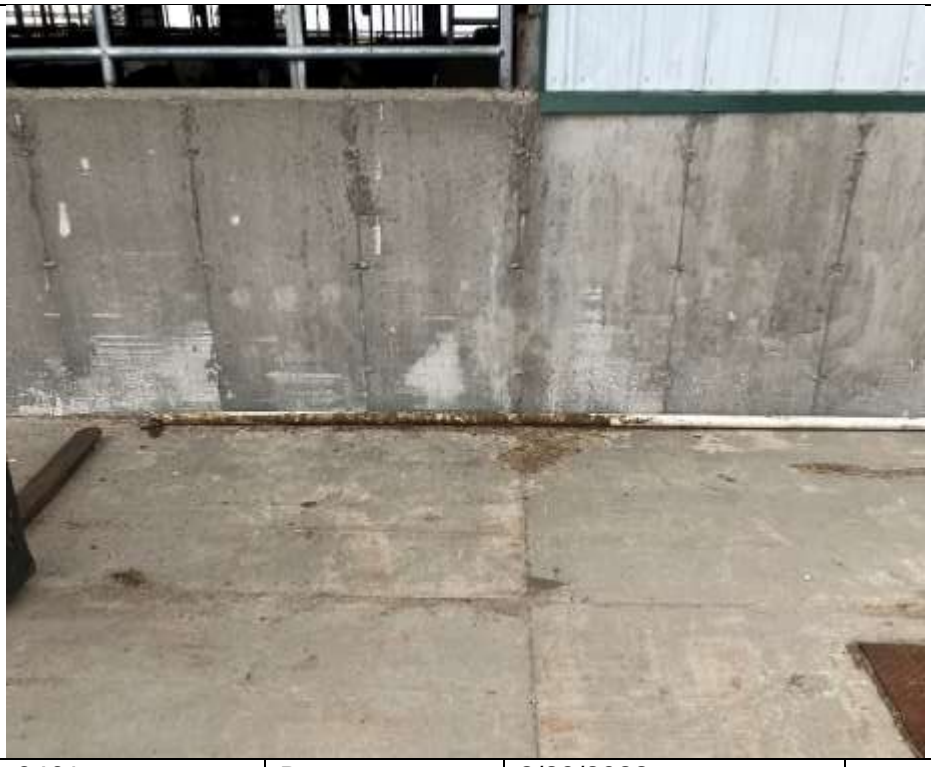

Photo #:	IMG_0461	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Jackie's Farm: East side of south freestall above underbarn tank	
Description:	Stick used for pit level measurements of south freestall.			

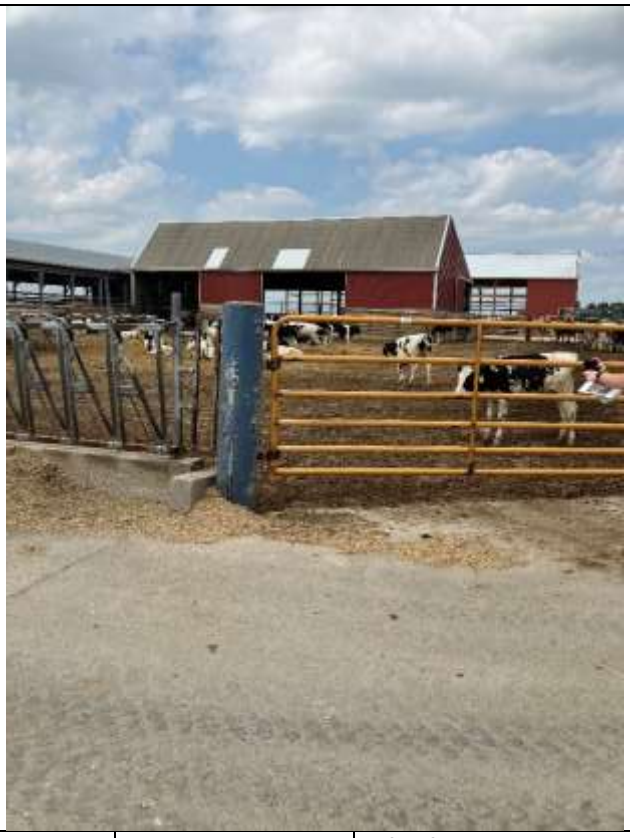

Photo #:	IMG_0464	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew's Farm Northwest corner of feedlot (lot 30) facing east	
Description:	Outdoor feedlot at Drew's farm.			

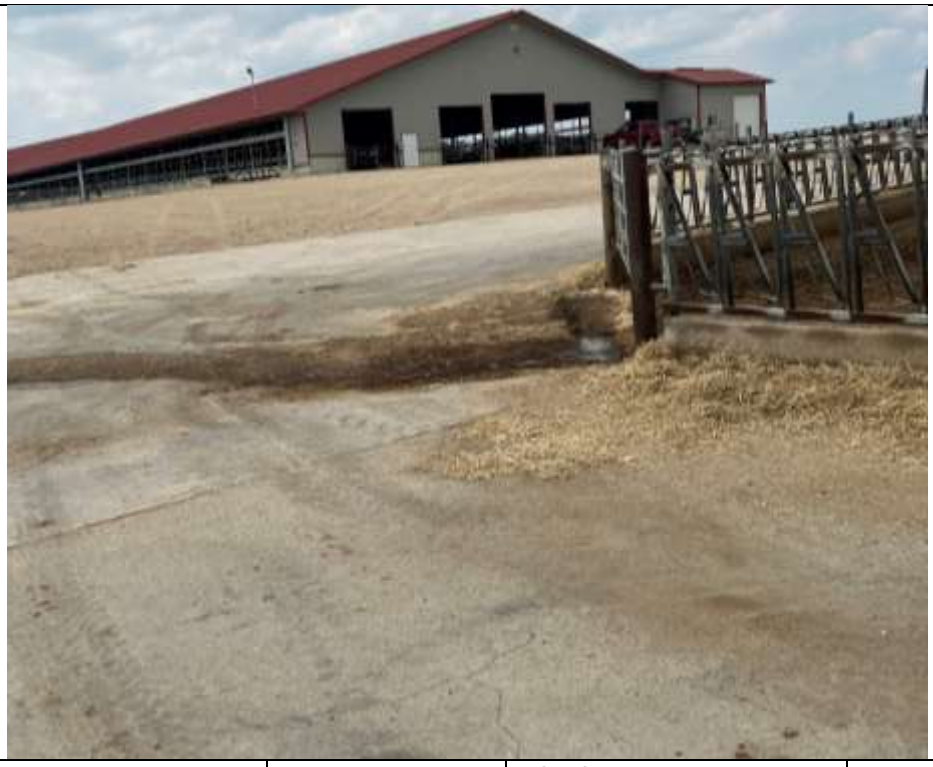

Photo #:	IMG_0465	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew's Farm southwest corner of feedlot	
Description:	Southwest of feedlot. Runoff outside of feedlot flowing towards runoff collection tank.			

Photo #:	IMG_0466	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew' Farm outdoor lot runoff tank	
Description:	Outdoor lot runoff collection system			

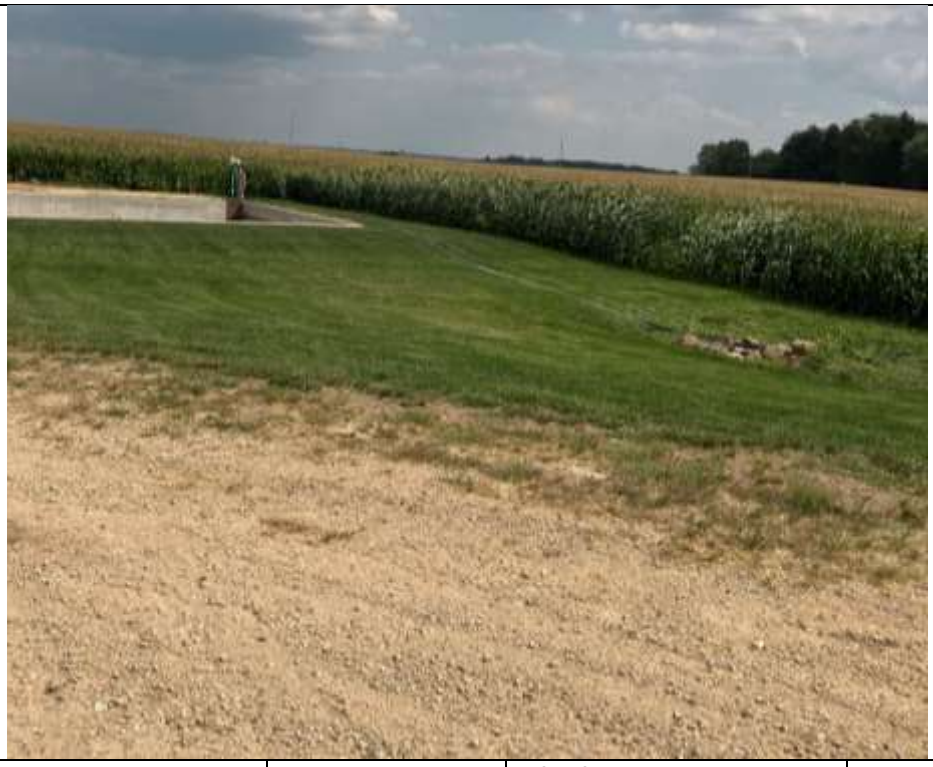

Photo #:	IMG_0468	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew's Farm southwest corner of feedlot runoff tank	
Description:	Stormwater system west of the feedlot runoff collection system.			

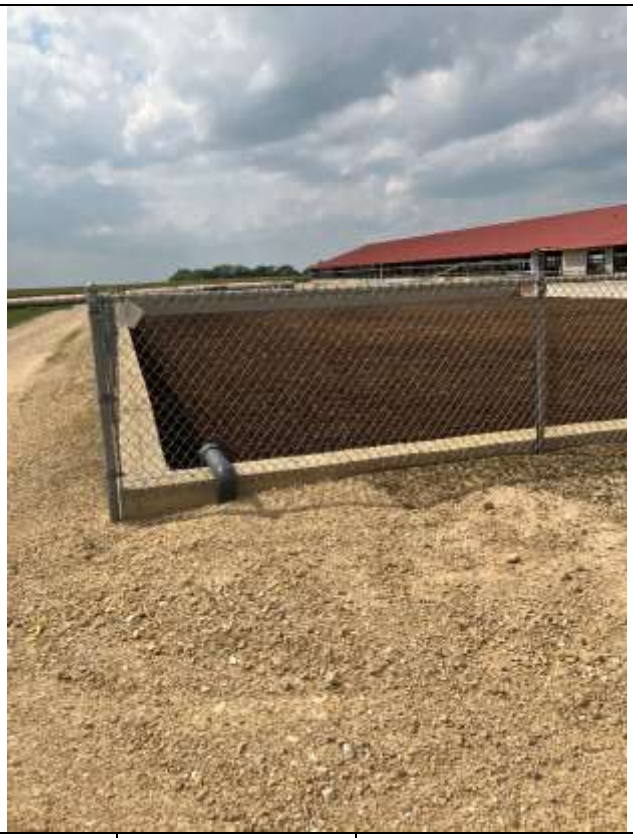

Photo #:	IMG_0469	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew's Farm southeast corner of manure pit	
Description:	Looking west at outlet pipe that pumps outdoor feedlot runoff into WSF 3			

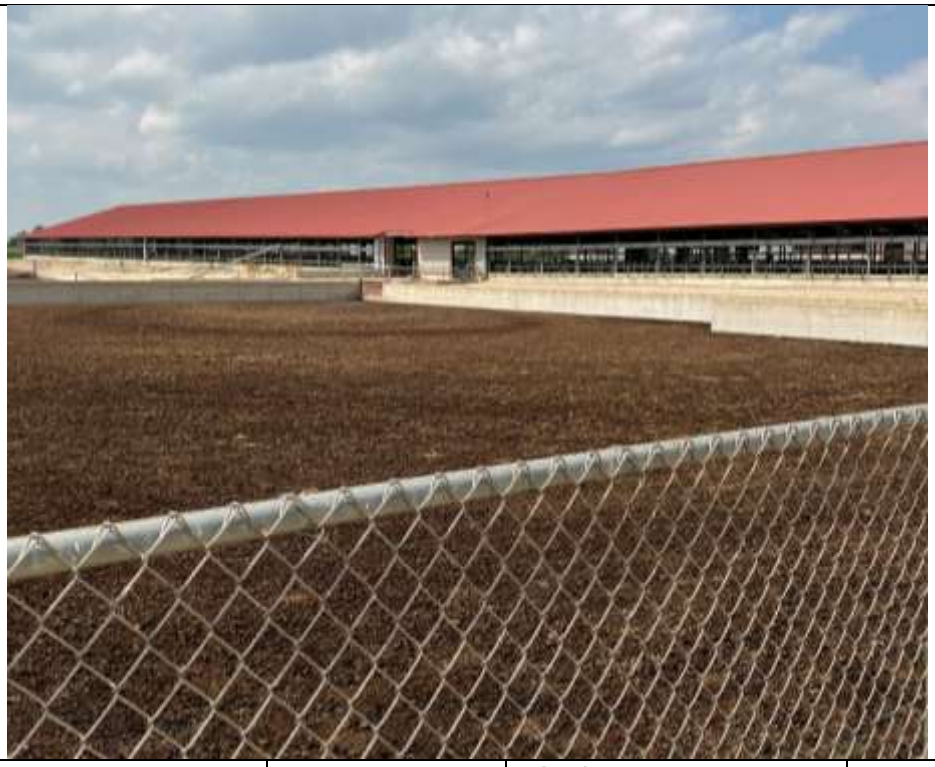

Photo #:	IMG_0472	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew's Farm. East edge of manure pit looking north	
Description:	WSF 3 - Liquid manure storage with ramp on the right side.			

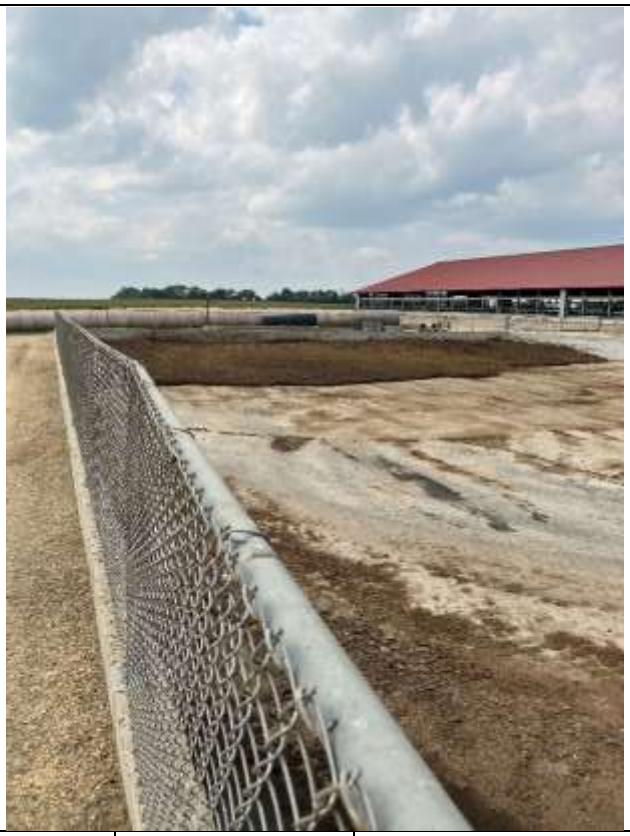

Photo #:	IMG_0475	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew' Farm South edge of Stacking pad looking northwest.	
Description:	WSF 4 - Stacking pad and overflow storage for WSF 3			

Photo #:	IMG_0477	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew's Farm: Northeast corner of stacking pad looking west.	
Description:	WSF 4 - Stacking pad with access ramp from freestall barn.			

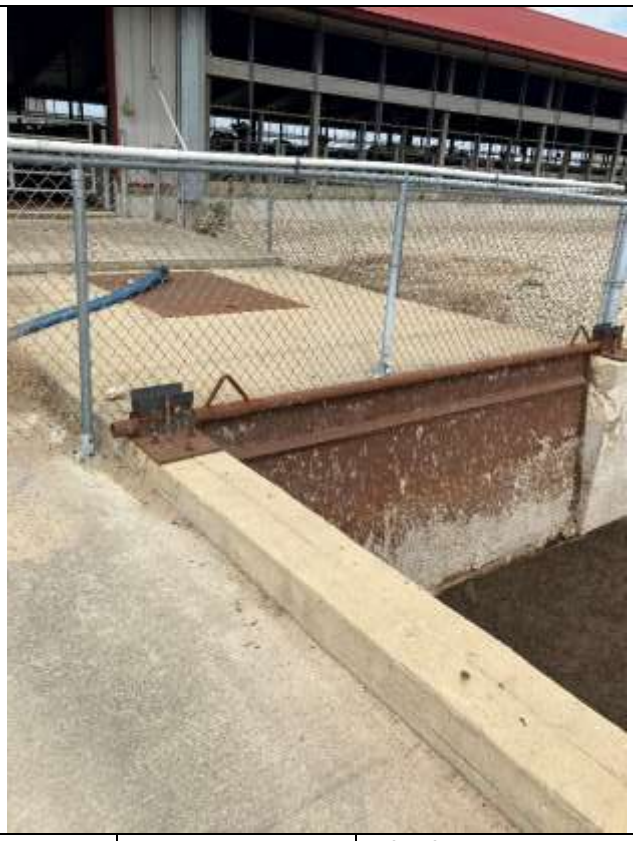

Photo #:	IMG_0479	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew' Farm Freestall reception trench	
Description:	Reception trench from freestall to manure pit.			

Photo #:	IMG_0480	Date:	8/29/2023	
Photo taken by:	T. Davis	Photo Location	Drew's Farm: Freestall Reception Trench Inlet	
Description:	Inside freestall barn - grate into reception trench			

SITE OBSERVATIONS

Waste Storage Facilities

Manure and process wastewater are stored in three waste storage facilities (WSF) at Jackie's Main Facility, and two waste storage facilities and a reception tank at Drew's Facility.

WSF 1, (Sample Point 001) is a concrete lined 103 ft x 26 ft x 12 ft deep underbarn manure storage located under the south most barn at Jackie's Main Facility. The facility has a capacity of 174,140 gallons and was constructed in 2001, and last evaluated in 2015.

WSF 2, (Sample Point 002) is a concrete 35 ft x 35 ft x 4 ft tall, 3 walled solid manure loadout structure located east of the north most barn at Jackie's Main Facility. The structure was replaced in 2021.

WSF 3, (Sample Point 006) is a concrete lined liquid waste storage facility with the capacity of 2.3 million gallons located at Drew's Facility. The structure was constructed in 2012 and last evaluated in 2015. WSF 3 accepts manure and process wastewater from the barns and the outdoor feedlot runoff control system.

WSF 4, (Sample Point 009) is a concrete lined liquid-tight waste storage located west of WSF 3 at Drew's Facility. WSF 4 is used for solid stacking and has the capacity of 562,645 gallons for liquid manure to provide extra capacity for WSF 3. The structure was built in 2015 and last evaluated in 2016.

Drew's Facility Feedlot Runoff Controls Reception Tank, (Sample Point 010). Runoff from the outdoor feed lots located at Drew's Facility is collected in a reception tank that gets pumped to WSF 3.

Feed Storage Area Runoff
All feed is stored on a designated concrete pad and bunker system and covered with plastic at Jackie's Main Facility. Runoff from the feed storage area is conveyed to WSF 5 located north of the barns.

WSF 5, (Sample Points 003) is a 45 ft x 90 ft x 8 ft deep liquid-tight concrete feed storage runoff tank located northeast of the barns at Jackie's Main Facility. The plans and specifications for the structure were approved by the department in 2018, and it was constructed in 2021.

Animal Mortality Disposal
Animal mortalities are kept in the manure loadout area at Jackie's Main Facility and are collected by Red Granite.

Ancillary Service Areas
Gutters are placed on several buildings. Driveways and walkways appeared to be maintained to prevent contamination of clean water from manure.

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

SUMMARY

Areas of Concern
N/A

Permit Violations
N/A

Action Items
N/A

Items for Next Permit Term
N/A

RECORDS REVIEW

The permittee **has** current WPDES Permit and Nutrient Management Plan onsite.
The permittee **provided** complete production site inspection records that are required to be retained.
The permittee **provided** adequate documentation that the facility has a minimum of 180 days of liquid manure storage capacity.
The permittee **provided** land application records to demonstrate compliance with nutrient management plan requirements.
The permittee **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.

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DEPARTMENT OF NATURAL RESOURCES
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Madison, WI 53707

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April 17th, 2024

Dane County
Approval

Dean Manthe
Manthe Grain Farms, LLC
3827 Mueller Rd
DeForest, WI 53532

SUBJECT: Conditional Approval of Manthe Grain Farms, LLC Nutrient Management Plan, WPDES Permit No. 0065935-02-0

Dear Dean Manthe:

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

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

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

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

FINDINGS OF FACT

The Department confirms that:

1. A current dairy herd size of 1,505 animal units (1,305 heifers 400-800#, 200 heifers 800-1,200#). Currently there are no planned expansions in the next permit term.
2. Manure generation and spreading records indicate your herd will annually generate approximately 4,546,657 gallons of manure and process wastewater and 1,337 tons of solid manure in the first year of the permit term.
3. The use of application restriction options 1, 2 & 5 within surface water quality management areas.
4. The use of phosphorus delivery method P Index.
5. That Manthe Grain Farms, LLC currently has 1,400 acres (668 owned and 732 controlled through contracts, rental agreements or leases, or under manure agreements) of which 1,373.3 are spreadable acres.

6. That some fields included in the NMP are directly adjacent to or have high potential to deliver nutrients and sediment to Yahara River (listed 303(d) impaired water by 'total phosphorus'), Maunesha River (listed 303(d) impaired water by 'sediment/total suspended solids' & 'total phosphorus').
7. That no fields are directly adjacent to or have high potential to deliver nutrients and sediment to outstanding/exceptional waters.
8. That 4 fields are tiled.
   - EB3 - EB4 - SS1 - SS2

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

CONDITIONAL NUTRIENT MANAGEMENT PLAN APPROVAL

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

FIELD AND MANURE MANAGEMENT

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

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

Field Name	Other Permittee Name	Other Permittee Field Name	DNR #
HK1	Madison Metropolitan Sewerage District WWTF	6	15214
HK1	Madison Metropolitan Sewerage District WWTF	8	15215
SS2	Madison Metropolitan Sewerage District WWTF	G5	77925

   Prior to any manure applications on these fields Manthe Grain Farms, 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 Manthe Grain Farms, 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: Manthe Grain Farms, LLC is responsible for obtaining nutrient content values for all other wastes spread on any field in their NMP.

3. 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.

4. 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.

5. 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, Manthe Grain Farms, LLC may use the following equation to adjust the first-year available nitrogen when applications are injected or incorporated within 1 hour:

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

6. Manthe Grain Farms, LLC shall record daily manure applications by using form 'Daily Spreading Log for Manure Applicators'. These forms shall be retained at the farm and provided to the department upon request.

7. Manthe Grain Farms, 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 'CAFO Annual Spreading Report' as generated by Snap Plus.

WINTER SPREADING

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

9. The following field(s) are approved for winter spreading solid manure, emergency applications of liquid manure and frozen liquid manure:
   - FK2
   - FR1
   - FR2
   - FR3
   - Q1
   - EB5*
   - Buchner
   - DM1
   - DM2
   - J1
   - SS1*
   - T1*
   - T2*
   - H2
   - BW1
   - BW2
   - BW3
   - BW4

   ***Indicates that field has W soils which are not permitted to be spread on during winter.**

10. The following field(s) are denied for winter spreading solid manure, emergency applications of liquid manure and frozen liquid manure:
    - SS2 (due to no spreadable area largely due to W soils)

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 approved for use with 16-32% solids or >32% solids with the following conditions listed below:
    - Site 2
    - Site 3
    - Site 4
    - Site 5
    - Site 6
    - Site 7
    - Site 8a
    - Site 8b
    - Site 8c

Conditions for Stacking:

16-32% Solids:	**>32% Solids:**
- Can stack 1 year out of 2	- Can Stack 1 year out of 3
- Can stack no longer than 8 months	- Can stack no longer than 8 months
- Can stack in February and March only	- Can stack in February and March, or any period of the year when the ground is not frozen, or snow covered.
- No maximum number of sites per 40 ac	- Maximum number of 2 sites per 40 ac

MANURE & PROCESS WASTEWATER IRRIGATION

15. Irrigation of manure or process wastewater is prohibited.

SUBMITAL AND RECORDKEEPING REQUIREMENTS

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

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:
Josie Hanrahan, WDNR Agricultural Runoff Management Specialist (Josie.Hanrahan@Wisconsin.gov)
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File

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WISCONSIN DEPT. OF NATURAL RESOURCES

April 10, 2024

FILE REF: R-2024-0075
WPDES Permit #: WI-0065935

Dean Manthe
Manthe Grain Farms LLC
3827 Mueller Road
DeForest, WI 53532

Subject: Days of Storage Review for Manthe Grain Farms LLC in T09N, R10E, Section 15, Village of Windsor, Dane County – NO ADDITIONAL ACTION REQUIRED

Dear Mr. Manthe:

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 completed by Jamie Brandt, P.E., TEAM Engineering and submitted on March 19, 2024, with revisions and clarifications received on April 8, 2024, on behalf of Manthe Grain Farms 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 Manthe Grain Farms LLC has 247 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 1,505. The liquid waste volumes are based on manure hauling logs. The liquid waste volumes are based upon a collection period of 365 days. There is separate full collection of the 25-yr, 24-hr storm event provided for the feed storage area at Jackie's Main Facility. There is also separate full collection provided for the outdoor feedlot at Drew's Facility.

Total Liquid Waste Storage:	3,662,747 gallons
Total Solids Storage:	18,132 gallons
Total 25-yr, 24-hr Precipitation on Storage:	166,369 gallons
Total 25-yr, 24-hr Collected Runoff:	0 gallons
Total Freeboard Volume:	398,490 gallons
Total MOL Liquid Waste Storage:	**3,079,756 gallons**

Based on hauling log data:

Year	Gallons Applied	Yearly AUs	Gallons/AU
2019	4,731,527 gallons	1,490	3,176
2020	4,969,687 gallons	1,490	3,335
2021	3,896,459 gallons	1,490	2,615
2022	4,629,014 gallons	1,490	3,107
2023	4,280,020 gallons	1,490	2,872
Average Gallons/AU			**3,021**
Volume for Current AU	**4,546,657**		

Should you have any questions, please contact Rob Davis, 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

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CAFO Engineer Supervisor
Watershed Management Program

Rob Davis, P.E.
Water Resources Engineer
Watershed Management Program

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