



PETITION FOR CONTESTED CASE HEARING

Permit or Application No: (On permit or application as assigned by MDEQ) MI0060245

The procedural authority for a contested case hearing is the Michigan Administrative Procedures Act, 1969 PA 306, as amended, MCL 24.201 et seq. Information requested on this form may be provided in an alternative written format or additional pages may be attached.

<input checked="" type="checkbox"/> PETITIONER'S NAME	or	<input type="checkbox"/> AGENT'S NAME
Reviving Our American Democracy		
STREET ADDRESS		
10115 Dunewood Drive		
CITY	STATE	ZIP CODE
Montague	MI	49437
TELEPHONE NO.		
(231) 946-0044		
E-MAIL ADDRESS		
lydia@envlaw.com (copies to karla@envlaw.com)		

MAILING ADDRESS (If different from street address)		
Olson, Bzdok & Howard, PC		
420 East Front Street		
CITY	STATE	ZIP CODE
Traverse City	MI	49686

Statement of Authority:	
I petition a contested case hearing be initiated under the authority of:	
<input checked="" type="checkbox"/>	Part 31 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, MCL 324.101 et seq.
<input type="checkbox"/>	Part of the Public Health Code, 1978 PA 368, as amended, MCL 333.1101 et seq.
<input checked="" type="checkbox"/>	Other statute: See attached addendum.
<i>{Identify statute by popular name, the public act year and number, MCL, and if applicable, the part of the statute}</i>	
<input type="checkbox"/>	Administrative Rule, R ; Title:
<input type="checkbox"/>	Order No. ; Title:
Statement of matters asserted, including the site location and other pertinent facts: See attached addendum.	
Petitioner's relationship/interest to the activity or proposed project: See attached addendum.	
Relief sought by Petitioner: See attached addendum.	
SIGNATURE OF PETITIONER/AGENT	DATE
	July 2, 2018

Submit this completed petition and attachments to:
 MICHIGAN ADMINISTRATIVE HEARING SYSTEM
 OTTAWA BUILDING, SECOND FLOOR
 611 WEST OTTAWA STREET
 P.O. BOX 30695
 LANSING, MI 48909-8195
 TELEPHONE: 517-335-2484

NOTICE:
 A COPY OF MDEQ'S FINAL ACTION ON AN APPLICATION OR PERMIT **MUST BE** ATTACHED TO THIS OR ANY ALTERNATIVE WRITTEN PETITION.

ADDENDUM TO PETITION FOR CONTESTED CASE

The following is an addendum to a petition for a contested case filed by Reviving Our American Democracy. This addendum is attached to and supplements a Michigan Department of Environmental Quality Petition for Contested Case Hearing completed and signed by counsel for Petitioner.

Petitioner:

Reviving Our American Democracy
10115 Dunewood Drive
Montague, MI 49437

Attorney for Petitioner:

Lydia Barbash-Riley (P81075)
Olson, Bzdok & Howard, P.C.
420 East Front Street
Traverse City, MI 49686
(231) 946-0044 (phone)
lydia@envlaw.com

Statement of Authority:

Petitioner Reviving Our American Democracy, on behalf of its members, respectfully requests that a contested case hearing be initiated pursuant to the Administrative Procedures Act, 1969 PA 306, as amended (MCL 24.201 *et seq.*), and the rules promulgated thereunder (R 324.1 *et seq.*), and under the authority of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended (MCL 324.101 *et seq.*), including, but not limited to, Part 31, MCL 324.3101 *et seq.* and MCL 324.3113(3), and the rules promulgated thereunder (R 323.2101 *et seq.*), and Part 17, MCL 324.1701 *et seq.*

Statement of Matters Asserted, Including the Site Location and Other Pertinent Facts:

PARTIES

1. Petitioner Reviving Our American Democracy (“ROAD”) is a non-partisan grassroots citizen action domestic nonprofit corporation based in Montague, Michigan. ROAD and its members advocate for the protection of the environment in West Michigan’s White Lake area.

2. The Michigan Department of Environmental Quality (“DEQ”) is the administrative agency responsible for issuing National Pollutant Discharge Elimination System (“NPDES”) permits to concentrated animal feeding operations (“CAFO”) in the State of Michigan under Part 31 of the NREPA and the rules promulgated thereunder (R 323.2101 *et seq.*).

SITE LOCATION

3. Flower Creek Swine, LLC (“Permittee”) has proposed to locate the CAFO that is the subject of this petition on Flower Road approximately 0.3 miles west of South 56th Avenue, Montague, MI 49437. This property is located less than one half mile from Flower Creek, a designated trout stream, and less than two miles from Lake Michigan. The proposed CAFO facility will be located within the Flower Creek HUC12 watershed, a direct drainage watershed of Lake Michigan, its coastal wetlands, and critical dune areas. Permittee proposes to manifest all CAFO waste to be applied to off-site farm fields by third parties rather than treating and disposing of the waste at the CAFO itself. Typically, CAFO waste is distributed 5 miles or less from the facility location. This manifested waste would potentially impact the Bigsbie Lake-Frontal Lake Michigan and Stony Creek HUC12 watersheds in addition to the Flower Creek watershed.

THE PROPOSED CAFO FACILITY AND MDEQ PERMIT

4. Permittee seeks to construct and operate a “wean-to-finish” Large CAFO facility consisting of one enclosed 341’ x 102’ production barn housing up to 4,000 hogs on-site at one time and cycling through either 2.9 or 1.7 turns per year, depending on which number in Permittee’s Production Calculations worksheet is accurate. Permittee’s facility would generate over 1.5 million gallons of manure and wash water annually.

5. Permittee originally submitted an application for a Certificate of Coverage (COC) under General Permit No. MIG010000 under the names Marsh Swine Farm and Jacob Marsh on October 26, 2017. DEQ proposed to issue the COC on October 31, 2017 and circulated a Draft Permit for public notice with a 15-day comment deadline. On December 10, 2017, after multiple requests from concerned stakeholders, DEQ extended the original public comment deadline to January 17, 2018 and announced it would hold a combined public meeting and public hearing on January 10, 2018. ROAD members provided both written and oral comments to DEQ raising a number of concerns about the proposed permit, including, but not limited to, the location of the proposed CAFO adjacent to tributaries of Flower Creek, water quality impairment from *E. coli* and other pollutants, impacts to threatened species, lack of available farmland to absorb manifested waste, errors in the application, the First Amendment rights of Claybanks United Methodist Church members, and the ability of the applicants to manage a large CAFO.

6. On April 27, 2018, DEQ staff informed Jacob Marsh by email that DEQ was extending the permit issuance until he provided DEQ with documentation clarifying ownership and control of the proposed CAFO. On May 1, 2018, Jacob Marsh provided DEQ with a lease agreement between him and Flower Creek Swine, LLC, a company he manages, allowing Flower Creek Swine to operate the CAFO on his land.

7. On May 10, 2018, DEQ issued a NPDES individual permit to Flower Creek Swine, LLC. On May 14, 2018, DEQ issued a modified permit to correct the expiration date and the date of application for permit reissuance. See Exhibit A.

8. In a letter dated May 15, 2018, DEQ transmitted a summary of comments and responses regarding this application. DEQ stated that it issued Permittee an individual permit as opposed to a COC for six reasons raised by commenters, including:

- (1) proximity to Flower Creek (a designated trout stream);
- (2) proximity to Big Flower Creek, and an extensive network of tributaries;
- (3) proximity to Lake Michigan;
- (4) area field topography;
- (5) the significant amount of manifested manure; and
- (6) current elevated levels of *E. coli* in the watershed.

Exhibit B, p 2.

PETITIONER'S CLAIMS

9. ROAD is aggrieved by DEQ's decision to issue an individual NPDES permit to Flower Creek Swine, LLC for its proposed Large CAFO facility because the permit terms are not protective of the water quality in Flower Creek, Little Flower Creek, Lake Michigan, or their respective tributaries and watersheds.

10. ROAD takes the position that, given the sensitivity of the surrounding aquatic ecosystem and the inherent limitations of DEQ's permitting authority under the Clean Water Act, DEQ cannot lawfully issue a NPDES permit to any Large CAFO as defined at R 323.2103(g) that would be sited in Permittee's proposed location.

11. The permit decision violates NREPA Part 31 by, among other reasons:

a. Failing to comply with the agency's responsibilities to administer the NPDES program under the federal Clean Water Act and associated federal regulations and guidance. MCL 324.3103(3).

b. Failing to protect and conserve Michigan's water resources and to control pollution of the state's surface or underground waters or Lake Michigan. MCL 324.3103(1).

c. Failing to "take all appropriate steps to prevent any pollution the department considers to be unreasonable and against public interest in view of the existing conditions in any lake, river, stream, or other waters of the state." MCL 324.3106.

12. Specifically, the authorized discharges from storage structures and runoff from land application areas and non-production area storm water management may cause or contribute to a violation of a state water quality standard in Flower Creek.

13. The permit decision also fails to sufficiently consider the impact on water resources of the state and Lake Michigan of manifested waste that is no longer under Permittee's control and that will be sent to unknown locations.

14. Multiple individuals expressed concern in comments on the original COC application that DEQ has little oversight over the manure manifested from Permittee's facility. As noted above, according to the application, which remains unchanged except for Permittee's name, all 1.5 million gallons of waste produced a year will be sent off-site and out of both Permittee's control and the permit's regulatory control.

15. DEQ provided several responses to comments regarding the extent of its control (or lack thereof) over the fate of manifested waste that appear to be intended to assuage commenters' concerns. DEQ stated that the individual permit "includes specific requirements when manifesting occurs[;]" includes land application requirements that the permittee must follow "regardless of the field location[;]" includes setbacks from surface waters and wetlands when manure is applied; prohibits manure application prior to or during specific rain events and on saturated, snow-covered, or frozen ground; and regulates the amount of manure applied to fields. Exhibit B.

16. DEQ's responses overstate the extent to which the individual permit and the Part 31 rules actually allow for regulation of the manifested waste. For example, the Manifest Form requires recipients to declare that "the large CAFO waste described above and in the nutrient analysis will be **properly land applied in accordance with Part I. Section B.3. (Pages 6-11 of the permit as summarized on the back of this manifest form)** and that the destination information provided below is accurate." Exhibit C, emphasis in original. However, DEQ's summary on the manifest form does not – nor could it realistically – incorporate all of the protective measures of Part I.B.3.

17. Most of the restrictions on spreading may still only effectively apply to waste under the CAFO owner or operator's control and are identical to the requirements of CAFO General Permit No. MI0010000 instead of tailored to the environment receiving the CAFO waste – perhaps because DEQ does not know where the waste will be manifested.

18. DEQ's attempt to regulate manifested waste is still insufficiently protective of water quality because it relies too heavily on compliance by parties not subject to the permit. As Permittee is proposing to manifest 100% of the CAFO waste, DEQ is in effect depending on unknown and unregulated entities to comply with the permit terms that are the most critical for protecting human health and the environment.

19. DEQ staff expressed doubts about how far the permit requirements extended to the manifestees. In an April 23, 2018 internal email, a senior DEQ analyst wrote:

The land application limits are defined by the permit and the permittee is upheld to follow the permit requirements, but I don't know if we can extend that to the recipient. If the soil test values were reported at over 300 lbs/acre P, what enforcement authority would I have? I think we need to be careful about how far we are extending permit requirements to the manifest -ee.

Exhibit D.

20. Even if the recipients – who are not regulated by the permit – provide completely accurate information on the manifest form and in the soil phosphorous level test results they submit to Permittee, spreading the manifested waste on farm fields in the watersheds at issue is likely to cause unreasonable pollution that is against the public interest.

21. ROAD is also aggrieved by multiple errors and omissions in the application and the permit itself, including, but not limited to:

- a. The permit authorizes discharges from existing swine facilities. Permittee's CAFO is a new swine facility.
- b. The permit lists Little Flower Creek as a receiving water for the Flower Creek Swine production area. While Little Flower Creek is likely to be impacted by manifested waste, this particular creek is located almost two miles from the proposed CAFO facility, and is not a receiving water for the production area. Furthermore, DEQ incorrectly stated in the response to comments that the proposed CAFO will be located proximate to Big Flower Creek, a waterbody which does not exist.
- c. DEQ incorrectly characterizes Flower Creek as potentially impaired for *E. coli*. While studies of Little Flower Creek have indicated that it has elevated levels of *E. coli*, no such determination has been made for Flower Creek.
- d. DEQ should have required Permittee to conduct an antidegradation demonstration in light of the sensitivity and importance of the surrounding aquatic ecosystem. DEQ may require an antidegradation demonstration if it determines "on a case-by-case basis that the application of the procedures in this rule are required to adequately protect water quality. . . ." R 323.1098(8).
- e. DEQ's permitting decision fails to adequately account for elevated nitrate levels from the existing adjacent cattle farm.
- f. DEQ added crops to the Maximum Annual Land Application Rates crop table without adequate consideration of supporting evidence.
- g. DEQ failed to specify the type of swine that Permittee will raise despite referencing the sex of Permittee's swine as justification for why this facility is an appropriate size. See Exhibit B, p 3. DEQ cannot ensure that this facility has sufficient space to hold manure from the number of animals listed in Permittee's application if Permittee changes swine breed or from female to male swine. For the same reason, DEQ cannot count on all of the waste manifested from Permittee's facility being safely absorbed by surrounding farms.

h. The Comprehensive Nutrient Management Plan (“CNMP”) was not updated to incorporate the restrictions of the Individual Permit. Exhibit E; Exhibit F. The DEQ cannot accurately determine whether this Permit will cause or contribute to a violation of Michigan’s Water Quality Standards without an accurate CNMP.

22. The permit decision also violates NREPA Part 17, the Michigan Environmental Protection Act, because, for the reasons stated above, among others:

a. Flower Creek Swine’s Large CAFO will or is likely to pollute, impair, or destroy the natural resources of the state and the public trust therein due to causes including but not limited to runoff contaminated by CAFO waste and atmospheric deposition of manure particulate. MCL 324.1705.

b. Flower Creek Swine failed to submit, and DEQ failed to consider, feasible and prudent alternatives to the proposed Large CAFO. MCL 324.1705.

23. ROAD reserves the right to raise additional claims and bases for its objection to the permit at issue as they arise and are discovered.

Petitioner’s Relationship and Interest in the Proposed CAFO and Individual Permit

24. ROAD’s primary objective in this matter is to protect the quality of Flower Creek and Lake Michigan and their watersheds in Oceana and Muskegon Counties, and to improve the water quality of Little Flower Creek.

25. ROAD members live near and recreate in Flower Creek, its tributaries, and in and along the area of Lake Michigan likely to be impacted by Permittee’s proposed facility. As described above, the proposed CAFO would adversely impact these waters and their adjacent wetlands, thereby adversely impacting ROAD members. This impact includes, but is not limited to, impacts to the health, recreational, aesthetic, riparian, and real property interests (including property values) of ROAD members.

Relief Sought by Petitioner

26. ROAD respectfully requests that this tribunal reverse DEQ’s decision to issue a NPDES permit to Flower Creek Swine, LLC, find that DEQ’s issuance of the permit violates Part 17 of NREPA, and grant or order any other relief authorized by law.

OLSON, BZDOK & HOWARD, P.C.
Attorneys for Petitioner

Date: July 2, 2018

By: 
Lydia Barbash-Riley (P81075)

SWORN PETITION FOR CONTESTED CASE

I, Tracy A. Dobson, am the President of Reviving Our American Democracy (ROAD) and an individual having knowledge of the facts set forth in this Petition for Contested Case (Petition) with regard to the Michigan Department of Environmental Quality's (DEQ) issuance of National Pollutant Discharge Elimination System Individual Permit MI0060245 to Flower Creek Swine, LLC on May 10, 2018, which was modified by DEQ on May 14, 2018 in Permit MI0060245 v1.1. Pursuant to MCL 324.3113(3), I declare that I have reviewed the contents of the attached Petition, and that the information set forth in the Petition is true to the best of my knowledge, information, and belief. I submit the attached Petition in my capacity as President and on behalf of the Board of Directors and membership of ROAD.

Tracy A. Dobson
Tracy A. Dobson

STATE OF MICHIGAN)
COUNTY OF Muskegon) ss.

On this 29th day of June, 2018, Tracy A. Dobson personally appeared before me and executed this Sworn Petition for Contested Case in her capacity as President and on behalf of Reviving Our American Democracy, acknowledging her execution of same as her free act and deed.

Clinton Thomas Wood
_____, Notary Public
Oceana County, State of Michigan
Acting in Muskegon County
My Commission Expires on: 4-14-2025

Clinton Thomas Wood

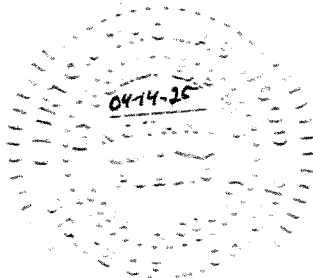



Exhibit A

PERMIT NO. MI0060245

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY



**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Water Pollution Control Act, 33 U.S.C., Section 1251 *et seq.*, as amended; Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA); Part 41, Sewerage Systems, of the NREPA; and Michigan Executive Order 2011-1,

Flower Creek Swine, LLC
2922 Holton Road
Twin Lake, MI 49437

is authorized to discharge from the Flower Creek Swine facility located at

Flower Road, approximately 0.3 miles west of S. 56th Avenue
Montague, Michigan 49457

designated as **Flower Creek Swine-CAFO**

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in this permit.

This permit is based on a complete application submitted on October 26, 2017, and as amended on April 23, 2018.

This permit takes effect on June 1, 2018. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules.

This permit and the authorization to discharge shall expire at midnight on October 1, 2022. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application that contains such information, forms, and fees as are required by the Michigan Department of Environmental Quality (Department) by April 4, 2022.

Issued May 10, 2018. Based on a request, this permit was **modified (minor) on May 14, 2018**.

Original signed by Christine Alexander
Christine Alexander, Manager
Permits Section
Water Resources Division

PERMIT NO. MI0060245

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PERMIT FEE REQUIREMENTS

In accordance with Section 324.3120 of the NREPA, the permittee shall make payment of an annual permit fee to the Department for each October 1 the permit is in effect regardless of occurrence of discharge. The permittee shall submit the fee in response to the Department's annual notice. The fee shall be postmarked by January 15 for notices mailed by December 1. The fee is due no later than 45 days after receiving the notice for notices mailed after December 1.

Annual Permit Fee Classification: Agricultural Purpose Permit (IP)

ANTIDEGRADATION

The Department has determined that the permittee is exempt from Antidegradation per Subrule (4) of R323.1098. This determination is solely for the purpose of satisfying state water quality regulations and is not intended to supplant local requirements, including land use or zoning laws. It is not, and should not be construed as, a finding by the Department that the proposed development meets local requirements or ordinances.

CONTACT INFORMATION

Unless specified otherwise, all contact with the Department required by this permit shall be made to the Grand Rapids District Office of the Water Resources Division. The Grand Rapids District Office is located at State Office Building, Fifth Floor, 350 Ottawa Ave NW, Unit 10, Grand Rapids, MI, 49503-2341, Telephone: 616-356-0500, Fax: 616-356-0202.

CONTESTED CASE INFORMATION

Any person who is aggrieved by this permit may file a sworn petition with the Michigan Administrative Hearing System within the Michigan Department of Licensing and Regulatory Affairs, c/o the Michigan Department of Environmental Quality, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department of Licensing and Regulatory Affairs may reject any petition filed more than 60 days after issuance as being untimely.

PART I

Section A. Limitations and Monitoring Requirements

1. Authorized Discharges and Overflows

During the period beginning on the effective date of this permit and lasting until the expiration of this permit, the permittee is authorized to discharge the following, provided that the discharge does not cause or contribute to an exceedance of Michigan's Water Quality Standards:

- a. CAFO waste in the overflow from the storage structures for cattle, horses and sheep, and existing swine, poultry, and veal facilities identified in Part I.B.1. below, when all of the following conditions are met:
 - 1) These structures are properly designed, constructed, operated, and maintained.
 - 2) Precipitation events cause an overflow of the storage structures to occur.
 - 3) The production area is operated in accordance with the requirements of this permit.
- b. Precipitation caused runoff from land application areas and areas listed in Part I.B.3.h. that are managed in accordance with the NMP (see Part I.B. below).

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the Michigan Act.

2. Monitoring Discharges and Overflows from Storage Structures

The discharge authorized in Part I.A.1.a., above, shall be monitored four (4) times daily, every six (6) hours, by the permittee as specified below on any day on which a discharge occurs:

<u>Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Overflow Volume (at storage structure)	MGD	Report Total Daily Volume
Discharge to Surface Waters Volume	MGD	Report Total Daily Volume
Overflow Observation (at storage structure)	---	Report Visual Condition of the Overflow
Discharge to Surface Waters Observation	---	Report Physical Characteristics (see below)

Any physical characteristics of the discharge at the point of discharge to surface waters (i.e., unnatural turbidity, color, oil film, odor, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported concurrently with the discharge reporting required in Part II.C.6. and included in the discharge report required by Part I.C.1. Receiving waters for the Flower Creek Swine production area are the Flower Creek and the Little Flower Creek.

3. Prohibited Discharges

During the period beginning on the effective date of this permit and lasting until the expiration of this permit, the permittee is prohibited from having any dry-weather discharge or discharging any CAFO waste and/or runoff that fails to meet the requirements of Part I.A.1. Discharges due to overflows from storage structures at new swine, poultry, or veal facilities are prohibited. Discharges from land application activities that do not meet the requirements of Part I.A.1. or that cause an exceedance of Michigan's water quality standards are prohibited.

PART I

Section B. Nutrient Management Plan

The permittee shall implement the following requirements.

1. CAFO Waste Storage Structures

a. Volume Design Requirements

The permittee shall have CAFO waste storage structures in place and operational at all times that are adequately designed, constructed, maintained, and operated to contain the total combined volume of all of the following:

1) All CAFO waste generated from the operation of the CAFO in a six-month or greater time period (including normal precipitation and runoff in the production area during the same time period). This is the operational volume of the storage structure.

2) New (populated on or after January 20, 2009) swine, poultry, and veal facilities shall be designed to have all contaminated areas of the production area, including waste storage structures, totally enclosed and not subject to precipitation and, therefore, not needing room for the emergency volume in their storage structures.

3) An additional design capacity of a minimum of 12 inches of freeboard for storage structures that are subject to precipitation caused runoff. For storage structures that are not subject to precipitation-caused runoff, the freeboard shall be a minimum of 6 inches. This is the freeboard volume.

4) Records documenting the current design volume of any CAFO waste storage structures, including volume for solids accumulation, design treatment volume, total design volume, volumes of the operational, emergency, and freeboard volumes, and approximate number of days of storage capacity shall be included in the permittee's CNMP.

b. Physical Design and Construction Requirements

1) Depth Gauge

CAFO waste storage structures shall include an easily visible, clearly marked depth gauge. Clear, major divisions shall be marked to delineate the operational and freeboard volumes as specified above in Part I.B.1.a. The top mark of the gauge shall be placed level with the lowest point on the top of the storage structure wall or dike. The elevation for the gauge shall be re-established as necessary but not less than every five (5) years to adjust for any movement or settling. Materials used must be durable and able to withstand freezing and thawing (examples: large chain, heavy-duty PVC, steel rod). Any depth gauges that are destroyed or missing must be replaced immediately. Under-barn storages may be measured with a dip-stick or similar device. For solid stackable CAFO waste storage, depth gauge levels may be permanently marked on sidewalls.

2) Structural Design

Records documenting or demonstrating the current structural design as required below, including as-built drawings and specifications, of any CAFO waste storage structures, whether or not currently in use, shall be kept with the permittee's CNMP until such structure is permanently closed in accordance with Part I.C.3. Included in the CNMP submitted to the Department shall be a short description of the structural design of each structure (type of structure; dimensions including depth; liner material, thickness, and condition; depth from the design bottom elevation to the seasonal high water table). Except as otherwise required by this permit, CAFO waste storage structures shall, at a minimum, be constructed in accordance with NRCS 313 2014.

a) New Storage Structures (constructed after the effective date of this permit)

Except as otherwise required by this permit, CAFO waste storage structures shall, at a minimum, be constructed in accordance with NRCS 313 2014.

c. Inspection Requirements

The permittee shall develop a Storage Structure Inspection Plan and inspect the CAFO waste storage structures a minimum of one (1) time weekly year-round. The inspection plan shall be included in the CNMP and results of the inspections shall be kept with the CNMP on a form provided by the

Department. Individual results shall be kept for a period of five (5) years. The plan shall include all of the following inspections:

- 1) the CAFO waste storage structures for cracking, inadequate vegetative cover, woody vegetative growth, evidence of overflow, leaks, seeps, erosion, slumping, animal burrowing or breakthrough, and condition of the storage structure liner;
- 2) the depth of the CAFO waste in the storage structure and the available operating capacity as indicated by the depth gauge; and
- 3) the collection system, lift stations, mechanical and electrical systems, transfer stations, control structures, and pump stations to ensure that valves, gates, and alarms are set correctly and all are properly functioning.

d. **Operation and Maintenance Requirements**

The permittee shall implement a Storage Structure Operation and Maintenance Program that incorporates all of the following management practices. The permittee shall initiate steps to correct any condition that is not in accordance with the Storage Structure Operation and Maintenance Program. A copy of the program shall be included in the CNMP. Specific records below shall be kept with the CNMP unless specified otherwise below.

- 1) In the event that the level of CAFO waste in the storage structure rises above the maximum operational volume level and enters the emergency volume level, the Department shall be notified. The level in the storage structure shall be reduced within one (1) week, unless a longer time period is authorized by the Department (the removed CAFO waste shall be land-applied in accordance with this permit or the Department shall be notified if another method of disposal is to be used) and the emergency volume shall be restored. Descriptions of such events shall be recorded in the CNMP.
- 2) At some point in time during the period of November 1 to December 31 of each year, there shall be an available operational volume in the CAFO waste storage structures equal to the volume of CAFO waste generated from the operation of the CAFO within a six (6)-month or greater time period (including normal precipitation and runoff in the production area during the same time period). The date on which this occurs shall be recorded in the CNMP and reported to the Department in accordance with Part II.C.5, Compliance Dates Notification.
- 3) Vegetation shall be maintained at a height that stabilizes earthen CAFO waste storage structures, provides for adequate visual inspection of the storage structures, and protects the integrity of the storage structure liners. The vegetation shall have sufficient density to prevent erosion. Woody vegetation shall be removed promptly from waste storage berms and other areas where roots may penetrate or disturb waste storage facility liners or waste treatment facilities.
- 4) Dike damage caused by erosion, slumping, or animal burrowing shall be corrected immediately and steps taken to prevent occurrences in the future.
- 5) The integrity of the CAFO waste storage structure liner shall be protected. Liner damages shall be corrected immediately and steps taken to prevent future occurrences.
- 6) Problems with the collection system, lift stations, mechanical and electrical systems, transfer stations, control structures, and pump stations shall be corrected as soon as possible. Records of these inspections and records documenting any actions taken to correct deficiencies shall be kept with the CNMP for a minimum of five (5) years. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors causing the delayed correction.
- 7) CAFO waste shall be stored only in storage structures as described above, except for solid stackable manure collected in-barn prior to transfer to storage.

2. Best Management Practices Requirements

The following are designed to achieve the objective of preventing unauthorized discharges to waters of the state from production areas and land application activities.

a. **Conservation Practices**

The permittee shall maintain specific conservation practices near or at production areas, land application areas, and heavy-use areas within pastures associated with the CAFO that are sufficient to control the runoff of pollutants to surface waters of the state in quantities that may cause or contribute to a violation of water quality standards. These practices shall be consistent with NRCS Conservation Practices and in compliance with the requirements of this permit. The permittee shall include within the

CNMP a list of conservation practices used near or at production areas and land application areas. This list does not need to include temporary practices or other practices already required by this permit.

- b. **Divert Clean Water**
The permittee shall design and implement structures and management practices to divert clean storm water to prevent contact with contaminated portions of the production areas. Clean storm water may include roof runoff, runoff from adjacent land, and runoff from feed or silage storage areas where such runoff has not contacted feed, silage, or silage leachate. Describe in the CNMP the structures and management practices used to divert clean water from the production area and/or beneficial uses of diverted water if it will be collected for reuse.
- c. **Prevent Direct Contact of Animals with Waters of the State**
There shall be no access of animals to surface waters of the state at the production area of the CAFO. The permittee shall develop and implement appropriate controls to protect water quality by preventing access of animals to waters of the state and shall describe such controls in the CNMP.
- d. **Animal Mortality**
The permittee shall handle and dispose of dead animals in a manner that prevents contamination of waters of the state. Mortalities must not be disposed of in any liquid CAFO waste or storm water storage structure that is not specifically designed to treat animal mortalities. A description of mortality management practices shall be included in the CNMP. Records of mortality handling and disposal shall be kept with the permittee's CNMP for a minimum of five (5) years.
- e. **Chemical Disposal**
The permittee shall prevent introduction of hazardous or toxic chemicals (for purposes of disposal) into CAFO waste storage structures. Examples of hazardous and toxic chemicals are pesticides and petroleum products/by-products. The permittee shall identify, in the CNMP, appropriate practices that ensure chemicals and other contaminants handled at the CAFO are not disposed of in any CAFO waste or storm water storage or treatment system.
- f. **Inspection, Proper Operation, and Maintenance**
The permittee shall develop and implement an Inspection, Operation, and Maintenance Program that includes periodic visual inspections, proper operation, and maintenance of all CAFO waste-handling equipment including piping and transfer lines, and all runoff management devices (e.g., cleaning separators, barnyards, catch basins, screens) to prevent unauthorized discharges to surface water and groundwater. A copy of the program shall be included in the CNMP. Specific inspection requirements include, but are not limited to, all of the following:
 - 1) Weekly visual inspections of all clean storm water diversion devices and outlets;
 - 2) Daily visual inspections of water lines, including drinking water and cooling water lines, and above-ground piping and transfer lines, or an equivalent method of checking for water line leaks that incorporates the use of water meters, pressure gauges, or some other monitoring method;
 - 3) All CAFO waste-handling equipment including piping and transfer lines, and all runoff management devices shall be accessible such that required visual inspections may occur. This may necessitate frequent removal of vegetation, snow, or other obstructions;
 - 4) Any deficiencies shall be corrected as soon as possible; and
 - 5) Records of these inspections and records documenting any actions taken to correct deficiencies shall be recorded on a form provided by the Department and shall be kept in the CNMP for a minimum of five (5) years. Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors causing the delayed correction.

3. Land Application of CAFO Waste

- a. **Field-by-Field Assessment**
The permittee shall conduct a field-by-field assessment of all land application areas. Each field shall be assessed prior to use for land application of CAFO waste. The assessment shall include field maps with location information, and identify field-specific conditions including, but not limited to, slopes, soil type, locations of tile outlets, tile risers and tile depth, conservation practices, and offsite conditions such as

buffers and distance or conveyance to surface waters. The assessment shall also identify areas which, due to topography, activities, or other factors, have a potential for erosion. The results of this assessment, along with consideration of the form and source of the CAFO waste and all nutrient inputs in addition to those from large CAFO waste, shall be used to ensure that the amount, timing, and method of application of CAFO waste:

- 1) does not exceed the capacity of the soil to assimilate the CAFO waste;
- 2) is in accordance with field-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the CAFO waste;
- 3) does not exceed the maximum annual land application rates specified in Part I.B.3.c., below; and
- 4) will not result in unauthorized discharges.

All assessments shall be kept in the CNMP. An assessment for a particular field can be deleted from the CNMP once that field is no longer used for land application.

Any new fields shall be assessed prior to their use for land application activities. The Department shall be notified of the new fields prior to their use through submittal of a permit modification request that includes the field-by-field assessment, a map showing the entire field, its size in acres, location information, planned crops, and realistic crop yield goals. The request will be public noticed. The permittee may use the field 18 calendar days after submittal of the request unless notified otherwise by the Department.

b. Field Inspections

Prior to conducting land application of CAFO waste to fields determined to be suitable under Part I.B.3.a. above, the permittee shall perform the following inspections at the indicated frequency to ensure that unauthorized discharges do not occur as a result of the land application of CAFO waste. Records of inspections, monitoring, and sampling required by this section shall be recorded in the Land Application Log required by Part I.B.3.d.

- 1) CAFO waste shall be sampled a minimum of once per year to determine nutrient content, and analyzed for total Kjeldahl nitrogen (TKN), ammonium nitrogen, and total phosphorus. CAFO waste shall be sampled in a manner that produces a representative sample for analysis. Guidance for CAFO waste sampling protocols can be found in Bulletin NCR 567 available from Michigan State University Extension. Analytical methods shall be as required by Part II.B.2. The CAFO waste test results shall be used to determine land application rates as described in Part I.B.3.c. below. The permittee shall record the nutrient levels and analysis methods in the Land Application Log and include this in the CNMP.
- 2) Soils at land application sites shall be sampled a minimum of once every three (3) years, analyzed to determine phosphorus levels, and the soil test results shall be used to determine land application rates as described in Part I.B.3.c. below. Soil shall be sampled using an 8-inch vertical core, and 20 or more cores shall be taken in a random pattern spread evenly over each uniform field area. A uniform field area shall be no greater than 20 acres, or it can be up to 40 acres if that field has one soil map unit and has been managed as a single field for the last ten (10) years. The 20 cores shall be composited into one sample and analyzed using the Bray P1 method. Alternate methods may be used upon approval of the Department. The permittee shall record the phosphorus levels in the Land Application Log and in the CNMP. Additional information on soil sampling can be found in Michigan State University Extension Bulletins E2904 and E498.
- 3) The permittee shall inspect each field no earlier than 48 hours prior to each land application of CAFO waste to that field, to evaluate the current suitability of the field for application. This inspection shall include, at a minimum, the state of all tile outlets, evidence of soil cracking, the moisture-holding capacity of the soil, crop maturity, and the condition of designated conservation practices (e.g., grassed waterways, buffers, diversions, etc.). Results and findings of all inspections shall be recorded in the Land Application Log.
- 4) The permittee shall visually inspect all tile outlets draining a given field immediately prior to the land application of CAFO wastes to that field. Tile outlets shall be inspected again upon completion of the land application to the field, or at the end of the working day should application continue on that field for more than one (1) day. The permittee shall include in the Land Application Log written descriptions of tile outlet inspection results, and observe and compare color and odor of tile outlet effluents before and after land application.
- 5) All tilled fields to which CAFO wastes have been applied in the prior 30 days shall be visually inspected within 24 hours after the first rain event of one-half inch or greater, for signs of a discharge of CAFO waste. Written descriptions of tile inspection results shall be retained in the Land Application

Log. If an inspection reveals a discharge with color, odor, or other characteristics indicative of an unauthorized discharge of CAFO waste, the permittee shall immediately notify the Department of the suspected unauthorized discharge in accordance with the reporting procedures contained in Part II.C.6 and record such findings in the Land Application Log.

6) The permittee shall inspect all land application equipment daily during use for leaks, structural integrity, and proper operation and maintenance. Land application equipment shall be calibrated annually to ensure proper application rates. Written records of inspections and calibrations shall be retained in the Land Application Log.

c. Maximum Annual Land Application Rates

The permittee may choose to use the Bray P1 numerical limits or the Michigan Phosphorus Risk Assessment (MPRA) tool (Version 2.0, Nov. 2012) to determine application rates. The permittee must use one (1) system for its entire land application area for the life of the permit. For purposes of this permit, the MPRA is for rate calculations only and "Distance to surface water and/or surface inlets" is interpreted as described in Part I.B.3.g. below. The permittee shall comply with all of the following maximum annual land application rates:

1) Land Application Rate Prohibitions

All of the following land application rate prohibitions apply:

- a) If the Bray P1 soil test result is 150 parts per million (ppm) or more, CAFO waste applications shall be discontinued until nutrient use by crops reduces the Bray P1 soil test result to less than 150 ppm phosphorus, including when MPRA is used.
- b) Fields where the MPRA risk is HIGH, CAFO waste shall not be applied.
- c) The application rate shall not exceed the nitrogen fertilizer recommendation (or removal value for legumes) for the first crop-year grown after the CAFO waste is applied as specified in 2) b) below.
- d) The application rate shall not exceed four (4) years of phosphorus for each of the four (4) crops planned for the next four (4) years as calculated using the formula in 2)b) below.
- e) The total amount of nitrogen and phosphorus, regardless of source (manure, organic waste, commercial fertilizer, etc.), shall not exceed the first crop-year nutrient requirements unless applying multiple crop-years of phosphorus as allowed in 2) below. However, only one (1) year of nitrogen can be applied as stated in c) above, unless samples or other relevant data show additional nitrogen is needed for or will be beneficial to the crop. Documentation justifying additional nitrogen must be kept with the farm's CNMP.

2) Phosphorus Levels

a) If the Bray P1 soil test result is 75 ppm phosphorus or more, but less than 150 ppm phosphorus or a MPRA risk of MEDIUM, application rates shall be based on the maximum rates of phosphorus in annual pounds per acre as calculated using the following formula:

The realistic yield goal per acre, using the units specified in the table below, for the planned crop, multiplied by the number in the phosphorus column for that crop. The maximum annual application rates as calculated above shall be achieved by using the CAFO waste test results for phosphorus to determine the amount of CAFO waste that may be land-applied per acre per year.

The result is the maximum annual pounds per acre of phosphorus that may be applied for the first crop planned after application of CAFO waste. If the one (1)-year rate is impractical due to spreading equipment or crop production management, the permittee may apply up to two (2) years of phosphorus at one time, but no phosphorus may be applied to that field for the second year. The two (2)-year phosphorus application rate shall be the results calculated using the formula above for each of the two (2) crops planned for the next two (2) years and those two (2) annual results shall be added together to determine the maximum phosphorus application rate. In no case may the application rate exceed the nitrogen application rate as specified below.

b) If the Bray P1 soil test result is less than 75 ppm phosphorus or a MPRA risk of LOW, the annual rate of CAFO waste application shall not exceed the nitrogen fertilizer recommendation (or removal value for legumes) for the first crop-year grown after the CAFO waste is applied. (Information to determine nitrogen fertilizer recommendations or removal values can be found in Michigan State University Extension Bulletin E2904.) In no case may the application rate exceed four (4) years of phosphorus calculated using the formula in a) above for each of the four (4) crops planned for the next four (4) years and those four (4) annual results shall be added together to determine the maximum application rate. The maximum annual application rates as calculated above shall be achieved by using the CAFO waste test results for nitrogen to determine the amount of CAFO waste that may be land applied per acre per year.

Crop	Harvest Form	Unit of Realistic Yield Goal per Acre	P	
			-- lb/unit of yield --	
			P	P ₂ O ₅ *
Alfalfa	Hay	ton	5.72	13.1
Alfalfa	Haylage	ton	1.41	3.2
Apple	Fruit	ton	0.19	0.44
Asparagus	Shoots	ton	1.1	2.51
Barley	Grain	bushel	0.17	0.38
Barley	Straw	ton	1.41	3.2
Beans (dry edible)	Grain	cwt	0.53	1.2
Beans (green, fresh)	Pods	ton	1.22	2.8
Blueberry	Fruit	ton	0.20	0.46
Bromegrass	Hay	ton	5.72	13
Buckwheat	Grain	bushel	0.11	0.25
Canola	Grain	bushel	0.40	0.91
Carrots	Root	ton	0.79	1.81
Cherries (sour)	Fruit	ton	0.3	0.69
Cherries (sweet)	Fruit	ton	0.37	0.85
Clover	Hay	ton	4.4	10
Clover-grass	Hay	ton	5.72	13
Corn	Grain	bushel	0.16	0.37
Corn	Stover	ton	3.61	8.2
Corn	Silage	ton	1.45	3.3
Corn	Sweet	ton	1.23	2.8
Cucumbers	Fruit	ton	0.47	1.1
Fescue	Hay	ton	4.6	10.5
Grapes	Fruit	ton	0.26	0.6
Millet	Grain	bushel	0.11	0.25
Mint	Hay	Ton	3.81	8.72
Oats	Grain	bushel	0.11	0.25
Oats	Straw	ton	1.23	2.8
Orchardgrass	Hay	ton	7.48	17
Peaches	Fruit	ton	0.24	0.55
Pears	Fruit	ton	0.23	0.53
Peppers, Green	Fruit	Ton	0.6	1.37
Plums	Fruit	ton	0.2	0.46
Potato	Tubers	cwt	0.06	0.13
Rye	Grain	bushel	0.18	0.41
Rye	Straw	ton	1.63	3.7
Rye	Silage	ton	0.66	1.5
Sorghum	Grain	bushel	0.17	0.39
Sorghum-Sudangrass	Hay	ton	6.6	15
Sorghum-Sudangrass	Haylage	ton	2.02	4.6
Soybean	Grain	bushel	0.35	0.8
Spelts	Grain	bushel	0.17	0.38

Crop	Harvest Form	Unit of Realistic Yield Goal per Acre	P	P ₂ O ₅ *
			-- lb/unit of yield --	
Squash	Fruit	ton	0.76	1.74
Sugar beets	Roots	ton	0.57	1.3
Sunflower	Grain	bushel	0.53	1.2
Teff	Hay	ton	4.4	10
Timothy	Hay	ton	7.48	17
Tomatoes	Fruit	ton	0.57	1.3
Trefoil	Hay	ton	5.28	12
Wheat	Grain	bushel	0.28	0.63
Wheat	Straw	ton	1.45	3.3

*P₂O₅ values are included for reference purposes.

Crops not listed in the table above may be proposed by the permittee during the term of the permit. The Department will review the request to add additional crops. The request shall include crop type, harvest form, and unit and rate of realistic goal yield (i.e., P and P₂O₅). The permittee may also propose alternate land application rates and methodologies. The Department will review the alternate proposal. The addition of crops, acceptable rates and methods to the table above will necessitate a modification of the permit.

Methodology and calculations consistent with this Part, and their results, shall be recorded in the Land Application Log.

d. Land Application Log

The results of land application inspections, monitoring, testing, and recordkeeping shall be recorded in a Land Application Log, which shall be kept up-to-date and retained with the CNMP. Log records shall be kept for a minimum of five (5) years. At a minimum, the permittee shall provide written documentation in the Land Application Log of all records required by Part I.B.3., and all of the following information and inspection results in the specified document:

- 1) Daily Land Application Record
 - a) The time, date, quantity, method, location, and application rate for each location at which CAFO wastes are land applied;
 - b) A written description of weather conditions, based on visual observation, at the time of application and for 24 hours prior to and following application; and
- 2) Annual Report Form
 - a) The crop, the realistic yield goal, and actual yield for each location at which CAFO wastes are land applied;
 - b) Methodology and calculations showing the total nitrogen and phosphorus to be applied to each field receiving CAFO waste, identifying all sources of nutrients, including sources other than CAFO waste; and
 - c) The total amount of nitrogen and phosphorus actually applied to each field receiving CAFO waste, irrespective of source, including documentation of calculations for the total amount applied.
- 3) Printouts of weather forecasts from the time of land application. Weather forecasts may also be saved as electronic files, in which case the files do not need to be physically located in the Land Application Log, but the log shall reference the location where the files are stored.

e. Prohibitions

Appropriate prohibitions, in compliance with the following, shall be included in the CNMP:

- 1) CAFO waste shall not be applied on land that is flooded or saturated with water at the time of land application.
- 2) CAFO waste shall not be applied during rainfall events.
- 3) CAFO waste shall not be surface-applied to frozen or snow-covered ground.
- 4) CAFO waste shall not be transferred to another person (a recipient as described in Part I.C.7.) where such waste will be surface-applied to frozen or snow-covered ground.
- 5) CAFO waste application shall be delayed if rainfall exceeding one-half inch, or less if a lesser rainfall event is capable of producing an unauthorized discharge, is forecasted by the National Weather Service (NWS) during the planned time of application and within 24 hours after the time of the planned

application. Forecast models to be used can be found on the internet at <http://www.nws.noaa.gov/mdl/synop/products/bullform.mex.php>. Model data to be used for one-half inch shall be:

GFS MOS (MEX) Text Message by Station Forecast: If the Q24 is 4 and the P24 is 70 or more for the same time period, or the Q24 is 5 or greater (with any P24 number), then CAFO waste land application shall be delayed until the Q24 is less than 4 or both the Q24 is less than 5 and the P24 is less than 70 for the same time period. The station to be used shall be that which is closest to the land application area. If no station is close, then use the closest 2 or 3 stations.

Different model data shall be used if it is determined that rainfall less than one-half inch on a particular field is capable of causing an unauthorized discharge. For example: using a Q24 rating of 3 or greater may be appropriate on higher-risk fields. If the NWS Web site is revised and the required forecast models are not available, the permittee shall contact the Department for information on which forecast models to use. Instructions for using this Web site are available from the Department. Other forecast services may be used upon approval of the Department.

f. **Methods**

CAFO waste shall be subsurface-injected or incorporated into the soil within 24 hours of application. The following exception applies:

1) Injection or incorporation may not be feasible where CAFO wastes are applied to pastures, perennial crops such as alfalfa or wheat stubble, or where no-till practices are used. CAFO waste may be applied to pastures or perennial crops such as alfalfa or wheat stubble, or where no-till practices are used, only if the CAFO waste will not enter waters of the state. CAFO waste shall not be applied if the waste may enter waters of the state.

g. **Setbacks**

The permittee shall comply with the following setback requirements:

1) CAFO waste shall not be applied closer than 100 feet to any ditches that are conduits to surface waters, including wetlands, surface waters, including wetlands except for up-gradient surface waters, open tile line intake structures, sinkholes, or agricultural well heads.

2) The permittee may substitute the 100-foot setback required in 1) above, with a 35-foot wide vegetated buffer. CAFO waste shall not be applied within the 35-foot buffer.

3) CAFO waste shall not be applied within grassed waterways and swales that are conduits to surface waters, including wetlands.

Setbacks shall be measured from the ordinary high water mark, where applicable, or from the upper edge of the bank if the ordinary high water mark cannot be determined. Setbacks for each field shall be shown on the CNMP field maps.

h. **Non-Production Area Storm Water Management**

The permittee shall implement practices including preventative maintenance, good housekeeping, and periodic inspections of at least once per year, to minimize and control pollutants in storm water discharges associated with the following areas:

1) immediate access roads and rail lines used or traveled by carriers of raw materials, waste material, or by-products used or created by the facility;

2) sites used for handling material other than CAFO waste including new sand to be used as bedding (not sand previously used as bedding);

3) refuse sites;

4) sites used for the storage and maintenance of material handling equipment; and

5) shipping and receiving areas.

Records and descriptions of non-production area storm water management practices shall be kept in the CNMP.

4. Comprehensive Nutrient Management Plan (CNMP)

The CNMP shall apply to both production areas and land application areas and shall be a written document that describes the practices, methods, and actions the permittee takes to meet all of the requirements of the Nutrient Management Plan, Part I.B.

- a. **Approval**
The CNMP shall be approved by a Certified CNMP Provider.
- b. **Submittal**
The CNMP shall be submitted to the Department with the application for coverage under this permit. The permittee must submit all or parts of the CNMP in electronic form. Electronic form means a digital file in a standard, common format provided on a compact disc or other media readily readable by a Windows-based personal computer.
- c. **Contents**
The CNMP submitted to the Department shall include all of the information and requirements specified in the NMP Section, Part I.B., and a map of the production area that includes all of the items specified in the permit application and that shows all clean-water and production-area waste flow paths, pipes, control structures, valves, etc.
- d. **Annual Review and Report**
The permittee shall annually review the CNMP and update the CNMP as necessary to meet the requirements of Part I.B.

The permittee shall submit an annual report for the preceding January 1 through December 31 (reporting period) to the Department by April 1 of each year. The annual report shall be submitted on a form provided by the Department. The annual report shall include, but is not limited to, all of the following:

- 1) the average number of animals, maximum number of animals at any one time, and the type of animals, whether in open confinement or housed under roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);
- 2) the estimated amount of total CAFO waste generated by the CAFO during the reporting period (tons or gallons);
- 3) the estimated amount of total CAFO waste transferred to other persons (manifested waste) by the CAFO during the reporting period (tons or gallons);
- 4) the total number of acres for land application covered by the CNMP developed in accordance with this permit;
- 5) the total number of acres under control of the CAFO that were used for land application of CAFO waste during the reporting period;
- 6) a field-specific spreading plan which identifies where and how much CAFO waste will be applied to fields for the upcoming 12 months, what crops will be grown on those fields, and the realistic crop yield goals of those crops. The plan must account for all CAFO waste expected to be generated in the upcoming 12 months including waste to be transferred under manifest;
- 7) the following land application records for the reporting period for each field harvested during the reported period which utilized nutrients from previously-applied CAFO waste: actual crops planted, crop yield goals, actual crop yields, actual nitrogen and phosphorus content of land-applied CAFO waste, calculations conducted and data used in accordance with Part I.B.3.c., quantity of CAFO waste land applied (application rate), soil testing results, the amount of any supplemental fertilizer applied, nitrogen credits from previous crops, total amount of nitrogen and phosphorus applied (all sources), and the basis for the application rate;
- 8) a statement indicating whether the current version of the CAFO's CNMP was developed or approved by a certified CNMP provider;
- 9) a summary of all CAFO waste discharges from the production area that have occurred during the reporting period, including date, time, and approximate volume; and
- 10) the retained self-monitoring certification as required by Part II.C.3.

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e. CNMP Revisions

Prior to a significant change in the operation of the CAFO, whenever there is an unauthorized discharge (see Parts I.A.1. and I.A.3.) where future discharges could be prevented by revisions to the CNMP, or if the Department determines that the CNMP is inadequate in preventing pollution, the CNMP shall be revised and the revisions approved by a Certified CNMP Provider. Within 90 days of a significant change in operation, an unauthorized discharge, or a Department-requested revision; the revised portions of the CNMP shall be submitted to the Department with a copy of the Certified CNMP Provider certification that the revised CNMP has been approved. Revisions to the CNMP, especially due to a significant change in operation, may result in a permit modification, after opportunity for public comment.

A significant change in the operation of the CAFO includes, but is not limited to, any of the following:

- 1) an increase in the number of animals that results in a greater than or equal to 10 percent increase in the volume of either the manure alone or the total CAFO waste generated per year as compared to the volumes identified in the application, as a cumulative total over the life of the permit;
- 2) an increase in the number of animals that results in a decrease in the waste storage capacity time, as identified in the application, by 10 percent or greater, as a cumulative total over the life of the permit;
- 3) an increase in the number of animals, where the CAFO waste generated by the livestock requires more land for its application than is available at the time of the increase;
- 4) a decrease in the number of acres available for land application, where the CAFO waste generated requires more land for application than will be available after the decrease; and/or
- 5) the construction of a new animal housing facility or waste storage facility.

PART I

Section C. Other Requirements

1. Reporting of Overflows and Discharges from CAFO Waste Storage Structures and Land Application

If, for any reason, there is an overflow from CAFO waste storage structures and/or a discharge of pollutants to a surface water of the state, including wetlands, from CAFO waste storage structures, production areas, or land application areas, the permittee shall report the overflow and/or discharge to the Department in accordance with the reporting procedures set forth in Part II.C.6. Discharges to surface waters, including wetlands, shall also be reported to the Clerk of the local unit of government and the County Health Department. In addition, the permittee shall keep a copy of the report together with the approved CNMP. The report shall include all of the following information:

- a. a description of the overflow and/or discharge and its cause, including a description of the flow path to the surface water of the state;
- b. the period of overflow and/or discharge, including exact dates and times, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the overflow and/or discharge;
- c. monitoring results as required by Part I.A.2.;
- d. in the event of a discharge through tile lines, the permittee shall identify and document, for field(s) from which the discharge occurred, the location of tile and depth of tile. The permittee shall also document field conditions at the time of the discharge, determine why the discharge occurred, and how to prevent future discharges; and
- e. if the permittee believes that the discharge is an authorized discharge, the permittee shall include a demonstration that the discharge meets the requirements of Part I.A.1.a. and/or Part I.A.1.b., as appropriate.

2. Construction of New Waste Storage Structures or Facilities

Before the construction or alteration of a waste storage structure, facility, or portions thereof, written notification shall be submitted to the Department. New waste storage and transfer structures shall be built to NRCS 313 2014 standard. Complete as-built plans, specifications, drawings, etc. shall be kept at the farm with the CNMP. As-built plans must be signed and stamped by a licensed professional engineer, and state that the structure was built to the NRCS 313 2014 standard. Signed and stamped design drawings do not constitute as-built plans. Required supporting documentation may include soils reports documenting suitability of liner material, groundwater investigations reports, pictures, survey notes, concrete batch tickets, etc.

3. Closure of Structures and Facilities

The following conditions shall apply to the closure of lagoons, CAFO waste storage structures, earthen or synthetic-lined basins, other manure and wastewater facilities, and silage facilities (collectively referred to as "structure(s)" for the remainder of this Part):

No structure shall be permanently abandoned. Structures shall be maintained at all times until closed in compliance with this Part. All structures must be properly closed if the permittee ceases operation. In addition, any structure that is not in use for a period of 12 consecutive months must be properly closed, unless the permittee intends to resume use of the structure at a later date and either: (a) maintains the structure as though it were actively in use, to prevent compromise of structural integrity and ensure compliance with final effluent limitations, or (b) removes CAFO waste to a depth of one foot or less and refills the structure with clean water to preserve the integrity of the synthetic or earthen liner. In either case, the permittee shall conduct routine inspections, maintenance, and recordkeeping in compliance with this permit as though the structure were in use. The permittee shall notify the Department in writing prior to closing structures, or upon making a determination that the structures will be maintained as specified in (a) or (b) above. Prior to restoration of the use of the structure, the permittee shall notify the Department in writing and provide the opportunity for inspection.

The permittee shall accomplish closure by removing all waste materials to the maximum extent practicable. This shall include agitation and the addition of clean water as necessary to remove the waste materials. The permittee shall utilize as guidance the closure techniques contained in NRCS Conservation Practice Standard

No. 360, Waste Facility Closure. All removed materials shall be utilized or disposed of in accordance with the permittee's approved CNMP, unless otherwise authorized by the Department.

Unless the structure is being maintained for possible future use in accordance with the requirements above, completion of closure for structures shall occur as promptly as practicable after the permittee ceases to operate or, if the permittee has not ceased operations, 12 months from the date on which the use of the structure ceased, unless otherwise authorized by the Department.

4. Standards, Specifications and Practices

The published standards, specifications, and practices referenced in this permit are those which are in effect upon the effective date of this permit, unless otherwise provided by law. NRCS Conservation Practice Standards referred to in this permit are currently contained in Section IV, Conservation Practices and Michigan Construction Specifications, of the Michigan NRCS Field Office Technical Guide.

5. Facility Contact

The "Facility Contact" was specified in the application. The permittee may replace the facility contact at any time, and shall notify the Department in writing within 10 days after replacement (including the name, address, and telephone number of the new facility contact). The Department shall be notified in writing within 10 days after a change in any of the contact information (such as address or telephone number) from what was specified in the application.

- a. The facility contact shall be any of the following (or a duly authorized representative of this person):
 - For a corporation or a company, a principal executive officer of at least the level of vice president, or a designated representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the permit application or other NPDES form originates
 - For a partnership, a general partner
 - For a sole proprietorship, the proprietor
 - For a municipal, state, or other public facility, either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee
- b. A person is a duly authorized representative only if both of the following requirements are met:
 - The authorization is made in writing to the Department by a person described in paragraph a. of this section.
 - The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility (a duly authorized representative may thus be either a named individual or any individual occupying a named position).

Nothing in this section obviates the permittee from properly submitting reports and forms as required by law.

6. Duty to Maintain Permit Coverage

No later than 180 days before the expiration date of this permit, the permittee must submit an application to renew its permit. The permittee need not seek continued permit coverage or reapply for a permit if both of the following apply:

- a. The facility has ceased operation or is no longer a CAFO.
- b. The permittee has demonstrated to the satisfaction of the Department that there is no remaining potential for a discharge of large CAFO waste that was generated while the operation was a CAFO.

7. Requirements for Land Application Not Under the Control of the CAFO Permittee

In cases where CAFO waste is sold, given away, or otherwise transferred to another person (recipient) such that the land application of that CAFO waste is no longer under the operational control of the CAFO owner or operator that generates the CAFO waste (generator), a manifest shall be completed and used to track the transfer and use of the CAFO waste.

- a. Prior to transfer of the CAFO waste, the CAFO owner or operator shall do all of the following:
- 1) Utilize the manifest form "Manifest for Large CAFO Waste from Flower Creek Swine" (last page of this permit) provided by the Department for tracking the CAFO waste before transferring the CAFO waste; and
 - 2) designate on the manifest the recipient of the CAFO waste.
- b. The generator shall use the manifest form provided by the Department and which provides for the recording of all of the following information:
- 1) a manifest document number;
 - 2) the generator's name, mailing address, and telephone number;
 - 3) the name and address of the recipient of the CAFO waste;
 - 4) the generator shall provide to the recipient, the nutrient content of the CAFO waste to be transferred, in sufficient detail to be used in determining the appropriate land application rates;
 - 5) the total quantity, by units of weight or volume, and the number and size of the loads or containers used to transfer that quantity of CAFO waste;
 - 6) a statement that informs the recipient of his/her responsibility to properly manage the land application of the CAFO waste as necessary to ensure there is no illegal discharge of pollutants to waters of the state;
 - 7) the following certification by the generator: "I hereby declare that the CAFO waste is accurately described above and is suitable for land application;"
 - 8) other certification statements as may be required by the Department;
 - 9) the address or other location description of the site or sites used by the recipient for land application or other disposal or use of the CAFO waste; and
 - 10) signatures of the generator and recipient with dates of signature.
- c. Prior to manifesting CAFO waste, the generator shall receive from the recipient, the soil phosphorus levels using the Bray P1 test method, no older than three years, that the recipient will use to determine the appropriate land application rates of the CAFO waste. The soil test results will be kept on-site with the CAFO generator's CNMP for minimum of five (5) years.
- d. The generator shall do all of the following with respect to the manifest:
- 1) sign and date the manifest certification prior to transfer of the CAFO waste;
 - 2) obtain a dated signature of the recipient on the manifest and the date of acceptance of the CAFO waste;
 - 3) retain a copy of the signed manifest;
 - 4) provide a signed copy to the recipient; and
 - 5) advise the recipient of his or her responsibilities to complete the manifest and, if not completed at time of delivery, return a copy to the generator within 30 days after completion of the land application or other disposal or use of the CAFO waste.
- e. One manifest may be used for multiple loads or containers of the same CAFO waste transferred to the same recipient. The manifest shall list separately each address or location used by the recipient for land application or other disposal or use of the CAFO waste. Each separate address or location listing shall include the quantities of CAFO waste transferred to that location and dates of transfer.
- f. The generator shall not sell, give away, or otherwise transfer CAFO waste to a recipient if any of the following are true:
- 1) the recipient fails or refuses to provide accurate information on the manifest in a timely manner;
 - 2) the use or disposal information on the manifest indicates improper land application, use, or disposal; Therefore, the form must provide enough information to be able to make that determination.
 - 3) the generator learns that there has been improper land application, use, or disposal of the manifested CAFO waste; and/or
 - 4) the generator has been advised by the Department that the Department or a court of appropriate jurisdiction has determined that the recipient has improperly land applied, used, or disposed of a manifested CAFO waste.
- g. If the generator has been prohibited from selling, giving, or otherwise transferring CAFO waste to a particular recipient under Part I.C.7.e, above, and the generator wishes to resume selling, giving, or otherwise transferring CAFO waste to that particular recipient, then one of the following shall be accomplished:
- 1) For improper paperwork only, such as incomplete or inaccurate information on the manifest, the recipient must provide the correct, complete information.
 - 2) For improper land application, use, or disposal of the CAFO waste by the recipient, the generator must demonstrate, in writing to the Department, that the improper land application, use, or

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disposal has been corrected, and the Department has responded to the demonstration with its approval of the demonstration.

- h. Completed manifest forms shall be submitted to the Department within 30 days from each quarter ending March 31, June 30, September 30, and December 31 of each year. All manifests shall be kept on-site with the CAFO owner or operator's CNMP for a minimum of five (5) years.
- i. The requirements of Part I.C.7. do not apply to quantities of CAFO waste less than one (1) pickup truck load, one (1) cubic yard, or one (1) ton per recipient per day.

8. Water Quality Standards

There shall be no violation of water quality standards in the receiving waters as a result of CAFO waste runoff from fields or any CAFO activity. This requirement includes but is not limited to, the following conditions:

- a. In accordance with R 323.1050 of the Part 4 Rules promulgated pursuant to Part 31 of the NREPA, the receiving waters shall not have any of the following unnatural physical properties as a result of this discharge in quantities that are, or may become, injurious to any designated use: turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, or deposits.
- b. Any unusual characteristics of the discharge (i.e. unnatural turbidity, color, oil, film, floating solids, foams, settleable solids, suspended solids, or deposits) shall be reported within 24 hours to the Department, followed by a written report within five (5) days detailing the findings of the investigation and the steps taken to correct the condition.

9. Document Availability

Copies of all documents required by this permit, including the CNMP, Land Application Log, inspection records, soil tests received by the recipient of manifested CAFO waste, etc., shall be kept at the permitted farm and made available to the Department upon request.

PART II

Part II may include terms and /or conditions not applicable to discharges covered under this permit.

Section A. Definitions

Animal Feeding Operation (AFO) means a lot or facility that meets both of the following conditions:

1. Animals, other than aquatic animals, have been, are, or will be stabled or confined and fed or maintained for a total of 45 calendar days or more in any 12-month period; and
2. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over the portion of the lot or facility where animals are confined.

Two or more AFOs under common ownership are considered to be a single AFO if they adjoin each other or if they use a common area or system for the disposal of wastes. Common area includes land application areas.

Concentrated Animal Feeding Operation (CAFO) means any AFO that requests coverage under this permit and which the Department determines that this permit is appropriate for the applicant's operation. A CAFO includes both production areas and land application areas.

CAFO Process Wastewater means water directly or indirectly used in the operation of a CAFO for any of the following:

1. Spillage or overflow from animal or poultry watering systems
2. Washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities
3. Direct contact swimming, washing, or spray cooling of animals
4. Dust control
5. Any water which comes into contact with, or is a constituent of, any raw materials, products, or byproducts, including manure, litter, feed, milk, eggs, or bedding

CAFO Waste means CAFO process wastewater, manure, production area waste, effluents from the properly and successfully operated treatment system, or any combination thereof.

Certificate of Coverage (COC) is a document, issued by the Department, which authorizes a discharge under a general permit.

Certified CNMP Provider is a person that attains and maintains certification requirements through a program approved by the United States Department of Agriculture Natural Resources Conservation Service (NRCS).

CNMP means Comprehensive Nutrient Management Plan and is the plan developed by the permittee to implement the requirements of the NMP.

Department means the Michigan Department of Environmental Quality.

Discharge as used in this permit means the addition of any waste, waste effluent, wastewater, pollutant, or any combination thereof to any surface water of the state.

Grassed Waterway means a natural or constructed channel for storm water drainage that originates and is located within a field used for growing crops, and that is used to carry surface water at a non-erosive velocity to a stable outlet and is established with suitable and adequate permanent vegetation.

Incorporation means a mechanical operation that physically mixes the surface-applied CAFO waste into the soil so that a significant amount of the surface-applied CAFO waste is not present on the land surface within one hour after mixing. Incorporation also means the soaking into the soil of "liquids being used for irrigation water" such that liquids and significant solid residues do not remain on the land surface. "Liquids being used for irrigation water" are contaminated runoff, milk house waste, or liquids from CAFO waste treated to separate liquids and solids. "Liquids being used for irrigation water" does not include untreated liquid manures.

Land Application means spraying or spreading of biosolids, CAFO waste, wastewater and/or derivatives onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids, CAFO waste, wastewater and/or derivatives can either condition the soil or fertilize crops or vegetation grown in the soil.

Land Application Area means land under the control of an AFO owner or operator, whether it is owned, rented, leased, or subject to an access agreement to which CAFO waste is or may be applied. Land application area includes land not owned by the AFO owner or operator but where the AFO owner or operator has control of the land application of CAFO waste.

Large CAFO is an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories:

1. 700 mature dairy cattle (whether milked or dry cows)
2. 1,000 veal calves
3. 1,000 cattle other than mature dairy cows or veal calves. Cattle include heifers, steers, bulls, calves, and cow/calf pairs
4. 2,500 swine each weighing 55 pounds or more
5. 10,000 swine each weighing less than 55 pounds
6. 500 horses
7. 10,000 sheep or lambs
8. 55,000 turkeys
9. 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system
10. 125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system
11. 82,000 laying hens, if the AFO uses other than a liquid manure handling system

Large CAFOs are required to obtain NPDES permits under Michigan Rule No. 323.2196.

Manure means animal excrement and is defined to include bedding, compost, and raw materials, or other materials commingled with animal excrement or set aside for disposal.

Maximum Annual Phosphorus Land Application Rate means the maximum quantity, per calendar year, of phosphorus (usually expressed in pounds per acre) that is allowed to be applied to crop fields where CAFO waste is spread, including the phosphorus contained in the CAFO waste.

MGD means million gallons per day.

New CAFO means a CAFO that is newly built and was not in production (i.e., animals were not on site) prior to January 30, 2004. New CAFO also means existing facilities where, due to expansion in production, the process or production equipment is totally replaced or new processes are added that are substantially independent of an existing source at the same site, after February 27, 2004. This does not include replacement due to acts of God or upgrades in technology that serve the existing production. This definition does not apply to "New" as used for swine, poultry, and veal facilities in Part I.B.1.a.2) on page 6.

NMP means Nutrient Management Plan and is the section in this permit that sets forth requirements and conditions to ensure that water quality standards are met.

No-Till Practices means where the field will not receive tillage from time of land application until after harvest of the next crop.

NRCS means the Natural Resources Conservation Service of the United States Department of Agriculture.

NRCS 313 (date) means the NRCS Michigan Statewide Technical Guide, Section IV, Conservation Practice No. 313, Waste Storage Facility, dated either June 2003, November 2005 or August 2014.

Overflow means a release of CAFO waste resulting from the filling of CAFO waste storage structures beyond the point at which no more CAFO waste or storm water can be contained by the structure.

Pasture Land is land that is primarily used for the production of forage upon which livestock graze. Pasture land is characterized by a predominance of vegetation consisting of desirable forage species. Sites such as loafing areas, confinement areas, or feedlots which have livestock densities that preclude a predominance of desirable forage species are not considered pasture land. Heavy-use areas within pastures adjacent to, or associated with, the CAFO are part of the pasture and are not part of the production area. Examples of heavy-use areas include livestock travel lanes and small areas immediately adjacent to feed and watering stations.

Perennial means a plant that has a life cycle of more than two years.

Production Area is the portion of the CAFO that includes all areas used for animal product production activities. This includes, but is not limited to: the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement area includes open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milk rooms, milking centers, cow yards, barnyards, medication pens, walkers, animal walkways (not within pasture areas), and stables. The manure storage area includes lagoons, runoff ponds, storage sheds, stockpiles, under-house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes feed silos, silage bunkers, and bedding materials [new sand to be used as bedding (not sand previously used as bedding) is excluded from this definition]. The waste containment area includes settling basins and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of "production area" is any egg washing or egg processing facility and any area used in the storage, handling, treatment, or disposal of mortalities. Production areas do not include pasture lands or land application areas.

Production Area Waste means manure and any waste from the production area and any precipitation (e.g., rain or snow) which comes into contact with, or is contaminated by, manure or any of the components listed in the definition for "production area." Production area waste also includes contaminated runoff from digester and treatment system areas. Production area waste does not include clean water that is diverted nor does it include water from land application areas.

Realistic Crop Yield Goals means expected crop yields based on soil productivity potential, the crop management practices utilized, and crop yield records for multiple years for the field. Yield goals shall be adjusted to counteract unusually low or high yields. When a field's history is not available, another referenced source shall be used to estimate yield goal. A realistic crop yield goal is one which is achievable in three out of five crop years. If the goal is not achieved in at least three out of five years, then the goal shall be re-evaluated and revised.

Regional Administrator is the Region 5 Administrator, United States Environmental Protection Agency (USEPA), located at R-19J, 77 West Jackson Boulevard, Chicago, Illinois 60604.

Silage Leachate means a liquid containing organic constituents that results from the storage of harvested plant materials, which usually has a high water content.

Solid Stackable Manure means manure and manure mixed with bedding that can be piled up or stacked and will maintain a piled condition. It will also have the characteristic that it can be shoveled with a pitchfork.

Swale means a shallow, channel-like, linear depression within a field used for growing crops that is at a low spot on a hillslope and is used to transport storm water. It may or may not be vegetated.

Waste Storage Structure means both pond-type storage structures and fabricated storage structures.

Tile means a conduit, such as corrugated plastic tubing, tile, or pipe, installed beneath the ground surface to collect and/or convey drainage water.

Vegetated Buffer means a narrow, permanent strip of dense perennial vegetation, established parallel to the contours of and perpendicular to the dominant slope of the field, for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters.

Water Quality Standards means the Part 4 Water Quality Standards developed under Part 31 of Act No. 451 of the Public Acts of 1994, as amended, being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.

25-year, 24-hour rainfall event or **100-year, 24-hour rainfall event** means the maximum 24-hour precipitation event with a probable recurrence interval of once in 25 years or 100 years, respectively, as defined by the "Rainfall Frequency Atlas of the Midwest," Huff and Angel, Illinois State Water Survey, Champaign, Bulletin 71, 1992, and subsequent amendments, or equivalent regional or state rainfall probability information developed

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 – Guidelines Establishing Test Procedures for the Analysis of Pollutants), unless specified otherwise in this permit. **Test procedures used shall be sufficiently sensitive to determine compliance with applicable effluent limitations.** Requests to use test procedures not promulgated under 40 CFR Part 136 for pollutant monitoring required by this permit shall be made in accordance with the Alternate Test Procedures regulations specified in 40 CFR 136.4. These requests shall be submitted to the Manager of the Permits Section, Water Resources Division, Michigan Department of Environmental Quality, P.O. Box 30458, Lansing, Michigan, 48909-7958. The permittee may use such procedures upon approval.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Department.

PART II

Section C. Reporting Requirements

1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Department within 14 days following the effective date of this permit, and then 60 days prior to the commencement of the discharge.

2. Submittal Requirements for Self-Monitoring Data

Part 31 of the NREPA (specifically Section 324.3110(7)); and R 323.2155(2) of Part 21, Wastewater Discharge Permits, promulgated under Part 31 of the NREPA, allow the Department to specify the forms to be utilized for reporting the required self-monitoring data. Unless instructed on the effluent limitations page to conduct "Retained Self-Monitoring," the permittee shall submit self-monitoring data via the Department's MiWaters system.

The permittee shall utilize the information provided on the MiWaters website, located at <https://miwaters.deq.state.mi.us>, to access and submit the electronic forms. Both monthly summary and daily data shall be submitted to the Department no later than the 20th day of the month following each month of the authorized discharge period(s). The permittee may be allowed to submit the electronic forms after this date if the Department has granted an extension to the submittal date.

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page (or otherwise authorized by the Department in accordance with the provisions of this permit) to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Department. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Department, on or before January 10th (April 1st for animal feeding operation facilities) of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge. With this annual certification, the permittee shall submit a summary of the previous year's monitoring data. The summary shall include maximum values for samples to be reported as daily maximums and/or monthly maximums and minimum values for any daily minimum samples.

Retained self-monitoring may be denied to a permittee by notification in writing from the Department. In such cases, the permittee shall submit self-monitoring data in accordance with Part II.C.2., above. Such a denial may be rescinded by the Department upon written notification to the permittee. Reissuance or modification of this permit or reissuance or modification of an individual permittee's authorization to discharge shall not affect previous approval or denial for retained self-monitoring unless the Department provides notification in writing to the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

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Monitoring required pursuant to Part 41 of the NREPA or Rule 35 of the Mobile Home Park Commission Act (Act 96 of the Public Acts of 1987) for assurance of proper facility operation shall be submitted as required by the Department.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a *written* notification to the Department indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Federal Act, Parts 31 and 41 of the NREPA, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

- a. **24-Hour Reporting**
Any noncompliance which may endanger health or the environment (including maximum and/or minimum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance. A written submission shall also be provided within five (5) days.
- b. **Other Reporting**
The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times, or, if not yet corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any release of any polluting material which occurs to the surface waters or groundwaters of the state, unless the permittee has determined that the release is not in excess of the threshold reporting quantities specified in the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code), by calling the Department at the number indicated on the second page of this permit (or, if this is a general permit, on the COC); or, if the notice is provided after regular working hours, call the Department's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from **out-of-state** dial 1-517-373-7660).

Within ten (10) days of the release, the permittee shall submit to the Department a full written explanation as to the cause of the release, the discovery of the release, response (clean-up and/or recovery) measures taken, and preventive measures taken or a schedule for completion of measures to be taken to prevent reoccurrence of similar releases.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset, shall notify the Department by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

- a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. that the permitted wastewater treatment facility was, at the time, being properly operated and maintained (note that an upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation); and
- c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

9. Bypass Prohibition and Notification

- a. **Bypass Prohibition**
Bypass is prohibited, and the Department may take an enforcement action, unless:
 - 1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and
 - 3) the permittee submitted notices as required under 9.b. or 9.c. below.
- b. **Notice of Anticipated Bypass**
If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Department, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Department. The Department may approve an anticipated bypass, after considering its adverse effects, if it will meet the three (3) conditions listed in 9.a. above.
- c. **Notice of Unanticipated Bypass**
The permittee shall submit notice to the Department of an unanticipated bypass by calling the Department at the number indicated on the second page of this permit (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

- d. **Written Report of Bypass**
A written submission shall be provided within five (5) working days of commencing any bypass to the Department, and at additional times as directed by the Department. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Department.
- e. **Bypass Not Exceeding Limitations**
The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to ensure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.11. of this permit.
- f. **Definitions**
- 1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
 - 2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

10. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of R 323.1098 and R 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

11. Notification of Changes in Discharge

The permittee shall notify the Department, in writing, as soon as possible but no later than 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application (see the first page of this permit, for the date(s) the complete application was submitted). Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

12. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Department by a) submission of an increased use request (application) and all information required under R 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.10.; and 4) the action or activity will not require notification pursuant to Part II.C.11. Following such notice, the permit or, if applicable, the facility's COC may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

13. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall submit to the Department 30 days prior to the actual transfer of ownership or control a written agreement between the current permittee and the new permittee containing: 1) the legal name and address of the new owner; 2) a specific date for the effective transfer of permit responsibility, coverage and liability; and 3) a certification of the continuity of or any changes in operations, wastewater discharge, or wastewater treatment.

If the new permittee is proposing changes in operations, wastewater discharge, or wastewater treatment, the Department may propose modification of this permit in accordance with applicable laws and rules.

14. Operations and Maintenance Manual

For wastewater treatment facilities that serve the public (and are thus subject to Part 41 of the NREPA), Section 4104 of Part 41 and associated Rule 2957 of the Michigan Administrative Code allow the Department to require an Operations and Maintenance (O&M) Manual from the facility. An up-to-date copy of the O&M Manual shall be kept at the facility and shall be provided to the Department upon request. The Department may review the O&M Manual in whole or in part at its discretion and require modifications to it if portions are determined to be inadequate.

At a minimum, the O&M Manual shall include the following information: permit standards; descriptions and operation information for all equipment; staffing information; laboratory requirements; record keeping requirements; a maintenance plan for equipment; an emergency operating plan; safety program information; and copies of all pertinent forms, as-built plans, and manufacturer's manuals.

Certification of the existence and accuracy of the O&M Manual shall be submitted to the Department at least sixty days prior to start-up of a new wastewater treatment facility. Recertification shall be submitted sixty days prior to start-up of any substantial improvements or modifications made to an existing wastewater treatment facility.

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15. Signatory Requirements

All applications, reports, or information submitted to the Department in accordance with the conditions of this permit and that require a signature shall be signed and certified as described in the Federal Act and the NREPA.

The Federal Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

The NREPA (Section 3115(2)) provides that a person who at the time of the violation knew or should have known that he or she discharged a substance contrary to this part, or contrary to a permit, COC, or order issued or rule promulgated under this part, or who intentionally makes a false statement, representation, or certification in an application for or form pertaining to a permit or COC or in a notice or report required by the terms and conditions of an issued permit or COC, or who intentionally renders inaccurate a monitoring device or record required to be maintained by the Department, is guilty of a felony and shall be fined not less than \$2,500.00 or more than \$25,000.00 for each violation. The court may impose an additional fine of not more than \$25,000.00 for each day during which the unlawful discharge occurred. If the conviction is for a violation committed after a first conviction of the person under this subsection, the court shall impose a fine of not less than \$25,000.00 per day and not more than \$50,000.00 per day of violation. Upon conviction, in addition to a fine, the court in its discretion may sentence the defendant to imprisonment for not more than 2 years or impose probation upon a person for a violation of this part. With the exception of the issuance of criminal complaints, issuance of warrants, and the holding of an arraignment, the circuit court for the county in which the violation occurred has exclusive jurisdiction. However, the person shall not be subject to the penalties of this subsection if the discharge of the effluent is in conformance with and obedient to a rule, order, permit, or COC of the Department. In addition to a fine, the attorney general may file a civil suit in a court of competent jurisdiction to recover the full value of the injuries done to the natural resources of the state and the costs of surveillance and enforcement by the state resulting from the violation.

16. Electronic Reporting

Upon notice by the Department that electronic reporting tools are available for specific reports or notifications, the permittee shall submit electronically all such reports or notifications as required by this permit, on forms provided by the Department.

PART II

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit, more frequently than, or at a level in excess of, that authorized, shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the NREPA and/or the Federal Act and constitutes grounds for enforcement action; for permit or Certificate of Coverage (COC) termination, revocation and reissuance, or modification; or denial of an application for permit or COC renewal.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Department, as required by Sections 3110 and 4104 of the NREPA. Permittees authorized to discharge storm water shall have the storm water treatment and/or control measures under direct supervision of a storm water operator certified by the Department, as required by Section 3110 of the NREPA.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

- a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or
- b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of polluting materials in accordance with the requirements of the Part 5 Rules (R 324.2001 through R 324.2009 of the Michigan Administrative Code). For a Publicly Owned Treatment Work (POTW), these facilities shall be approved under Part 41 of the NREPA.

7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, filter backwash, scrubber water, ash, grit, or other pollutants or wastes) removed from or resulting from treatment or control of wastewaters, including those that are generated during treatment or left over after treatment or control has ceased, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the NREPA, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Right of Entry

The permittee shall allow the Department, any agent appointed by the Department, or the Regional Administrator, upon the presentation of credentials and, for animal feeding operation facilities, following appropriate biosecurity protocols:

- a. to enter upon the permittee's premises where an effluent source is located or any place in which records are required to be kept under the terms and conditions of this permit; and
- b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (R 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit, shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the NREPA.

10. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or the facility's COC, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the NREPA.

2. POTW Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities at a POTW. Approval for the construction or modification of any physical structures or facilities at a POTW shall be by permit issued under Part 41 of the NREPA.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other Department of Environmental Quality permits, or approvals from other units of government as may be required by law.

Exhibit B



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



C. HEIDI GREYER
DIRECTOR

May 15, 2018

To All Interested Parties:

Subject: National Pollutant Discharge Elimination System (NPDES)
Permit Number MI0060245; Flower Creek Swine-CAFO

Please find attached, information regarding NPDES Permit No. MI0060245. An application and draft Certificate of Coverage (COC) under the name of Marsh Swine Farm and Jacob Marsh were placed on public notice from October 31, 2017 through January 17, 2018, and a public hearing was held on January 10, 2018, to provide the public an opportunity to submit comments on the proposed Concentrated Animal Feeding Operation (CAFO).

Based on site specific information and additional information obtained during the public notice and comment period, a decision was made to issue an individual permit to the facility. On April 23, 2018, the Department received notification that a Limited Liability Corporation (LLC) was created for Flower Creek Swine, LLC as the applicant. A legal agreement exists for the Flower Creek Swine, LLC to operate a CAFO facility on land owned by Jacob Marsh. All other aspects of the application were unchanged.

The Individual Permit to Flower Creek Swine, LLC was issued on May 14, 2018, and is effective on June 1, 2018. The individual permit was issued with specific requirements regarding manifesting, including requirements to report manifesting information to the Department and submit the information into the MiWaters Database system. A copy of the summary of comments and responses received during the public comment period and public hearing are attached to this email. This document, as well as the individual NPDES permit and manifest form can also be viewed by accessing the MiWaters database system at <https://miwaters.deq.state.mi.us>.

Thank you for your interest and participation in the processing of this permit for the Flower Creek Swine-CAFO. If you have any questions please feel free to contact me at 517-230-3442, or mcmahonm1@michigan.gov.

Sincerely,

Megan McMahon
Environmental Quality Analyst
Water Quality and Aquatic Nuisance Control
Permits Unit
Permits Section
Water Resources Division
517-230-3442

cc: Ms. Christine Alexander, DEQ
Ms. Sylvia Heaton, DEQ
Mr. Michael Worm, DEQ

MAY 21 2018

**Responsiveness Summary
NPDES PERMIT No. MI0060245
For
Flower Creek Swine**

Below is a summary of comments received by the Michigan Department of Environmental Quality (DEQ), Water Resources Division (WRD), during the National Pollutant Discharge Elimination System (NPDES), public comment period from October 31, 2017 through January 17, 2018, and a public hearing held on January 10, 2018 relating to NPDES Permit No. MIG010293. The purpose of the public notice period and public hearing was to take written and verbal comments regarding the draft Certificate of Coverage (COC) for the Flower Creek Swine (MIG010293) under the NPDES General Permit (MIG010000) for Concentrated Animal Feeding Operations (CAFOs). An informational question and answer session was held prior to the hearing. Approximately 225 individuals were in attendance at the public hearing with 29 of the attendees providing statements for the record. Comments were summarized and consolidated where possible. Responses to the comments are addressed immediately following a specific comment(s).

The original application and draft COC were under the name of Marsh Swine Farm and Jacob Marsh. Since that time, the Flower Creek Swine, LLC was created, and the permit application revised so that Flower Creek Swine, LLC is the applicant. The applicant has an agreement to operate the Flower Creek Swine CAFO on Jacob Marsh's land. All other aspects of the application are unchanged. A final decision was made to issue an individual permit to Flower Creek Swine, LLC based on information obtained during the public notice and comment period.

1. Comment: The CAFO should be issued an Individual Permit; farm should be considered a large CAFO and require a ground water permit.

Response: The Flower Creek Swine, LLC is being issued an Individual Permit based on the following: (1) proximity to Flower Creek (a designated trout stream), (2) proximity to Big Flower Creek, and an extensive network of tributaries, (3) proximity to Lake Michigan; (4) area field topography; (5) the significant amount of manifested manure; and (6) current elevated levels of *E. coli* in the watershed.

The Flower Creek Swine-CAFO is considered a Large CAFO per Part 21 "Waterwater Discharge Permits". The number of animals at a site is based on the current numbers, not past or future animal levels.

A groundwater permit is not required for this site per Part 22 "Groundwater Quality" R323.2210 due to the size of the facility.

2. Comment: The Marsh family has complied with the state requirements and the project should be allowed.

Response: An administratively complete application has been submitted and an individual permit has been issued to the Flower Creek Swine LLC to operate the Flower Creek Swine-CAFO.

3. Comment: Denying the permit is the only way to protect public health, emphasize risk management, and support a sustainable environment and healthy community. Waiting for a violation to happen would be against the DEQ Mission Statement.

Response: The Water Resources Division protects and monitors Michigan's waters. The issuance of the DEQ NPDES CAFO permit is a protective tool. We do not issue permits with an assumption of violation of the permit requirements.

4. Comment: The application is not clear on the ownership and permittee.

Response: The application has been revised so that the permittee is Flower Creek Swine, LLC. Flower Creek, LLC has a lease agreement to operate on the land owned by Jacob Marsh. Therefore, Flower Creek Swine, LLC is responsible for meeting the permit requirements of the individual permit. If Flower Creek Swine intends to apply on fields owned by David Marsh, the permit requirements for land application under the control of the permittee must be followed.

5. Comment: The Flower Creek Swine, LLC estimated the finish weight of the swine at 255 pounds while the industry standard is 280-300. Therefore, the amount of manure generated and land needed is underestimated.

Response: The industry standard of a finished weight of 280-300 pounds applies to hogs going to market. The Flower Creek Swine is raising "breeding" (i.e., replacement) sows which would have a finish weight of approximately 255 pounds. Therefore, the manure generated, waste storage utilized, and land base utilized for application of manure are appropriate for the amount of waste generated.

6. Comment: Request delay of permit processing/approval until an environmental impact study be conducted

Response: An environmental impact study is not a requirement for the NPDES permit.

7. Comment: The church, neighbors, and community were not properly notified by Marsh of the intent to establish a CAFO. Is this legal? What are the guidelines to notify neighbors if there is a spill and if they should test their well water?

Response: While COC's are not required by statute to be put on public notice, the legal notification requirements have been met when the DEQ posted the draft Certificate of Coverage on public notice (October 31, 2017 through January 17, 2018); when the public hearing notice was posted (December 10, 2017); and when the public hearing was held (January 10, 2018). In addition to being posted on the DEQ MiWaters website, the notices were also published (December 10, 2017) in the Oceana Press and the White Lakes Beacon. The DEQ does not require a permittee to provide advance notice of their intent to submit an application to obtain coverage under an NPDES permit.

If, for any reason, there is an overflow from CAFO waste storage structures and/or a discharge of pollutants to a surface water of the state from CAFO waste storage structures, production areas, or land application areas, the permittee shall report the overflow and/or discharge to the Department in accordance with the reporting procedures contained in Part II.C.6 of the permit. Discharges to surface

waters shall also be reported to the Clerk of the local unit of government and the County Health Department. Contact your local Health Department and municipality to request their procedures for alerting residents of such issues.

8. The rights of an individual should not outweigh the rights of a community.

Response: The NPDES program has been initiated by the federal Congress through the enactment of the Federal Water Pollution Control Act amendments of 1972, (33 U.S.C. §1251 et seq.). The promulgation of Rule 21, Wastewater Discharge Permits, in association with Part 31 of Act 451, provides sufficient authority to the state, upon approval by the United States Environmental Protection Agency, to issue permits for waste or wastewater discharges under the NPDES program. The DEQ is the state agency designated by state law to administer this program.

9. Comment: Local municipal input doesn't have a role in oversight and ordinances.

Response: The issuance of an NPDES permit does not authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits, including any other DEQ permits, or approvals from other units of government as may be required by law. The NPDES permit only regulates those requirements specified in the permit.

10. Comment: The Constitution states that Government cannot select non-religion over religion. This is selecting against religion (i.e. the interest of the United Methodist Church); the Right To Farm permitting process violates United States and Michigan Constitutional first amendment protections.

Response: The DEQ is required by statute to issue a permit to any applicant that satisfies statutory requirements. The DEQ has initially determined that applicant Flower Creek Swine has satisfied the requirements of the applicable statute, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and administrative rules and is entitled to issuance of an NPDES Permit for CAFOs. The permit application record does not include evidence sufficient to establish that the activities to be authorized under the permit will prohibit or create any unreasonable interference for anyone conducting any activities off-site, including the practice of any religious activities.

There is a separate process administered by the Michigan Department of Agriculture and Rural Development (MDARD) under the Right to Farm Act (Act 93 of 1981), with standards that if satisfied afford protection from nuisance claims. Right To Farm (RTF) is a voluntary program based on the development and adoption of Generally Accepted Agricultural and Management Practices (GAAMPs). There are several practices which fall under the GAAMPs, including Site Selection; however, although RTF evaluates if a farm is complying with the GAMMPs, it is not a permitting program. The RTF Act also allows for local citizens and authorities to challenge any protections from nuisance claims obtained under the Act. You may contact the MDARD-RTF Unit at 877-632-1783 for additional information.

11. Comment: The DEQ should take steps to limit the uncontrolled manifest of the production area waste in the watershed.

Response: An individual permit has been issued to Flower Creek Swine, LLC for the Flower Creek-CAFO that includes specific requirements when manifesting occurs.

12. Comment: The manifest records should be available to the public either posted in MiWaters or through the Freedom of Information Act (FOIA)

Response: The individual permit has been issued to include provisions for completing and submitting manifest records to the DEQ that will be uploaded and made available to the public in the MiWaters database system.

13. Comment: The land in the Flower Creek watershed is already over saturated with Nitrogen and Phosphorus; there is not enough land in the area to handle the volume of waste and nutrients that will be applied.

Response: Land application requirements of waste are specified in the individual permit. The permittee must follow those requirements when applying waste to land, regardless of the field location. The permit requirements include, but are not limited to, calculations based on nutrients in the soil and manure, and the expected crop uptake of nutrients. In response to the comment related to possible existing oversaturation of nutrients, the DEQ encourages local efforts to address any past and current non-point source pollution concerns related to agricultural practices.

14: Comment: There is plenty of land elsewhere and ask that the farm be located farther away from Lake Michigan and tourism areas. This site is too close to Lake Michigan. Do not locate a strong possibility for pollution or contamination right on a pathway directly into Lake Michigan.

Response: The permittee has met the requirements of the permit application. By law, a permit must be issued if the permit application meets applicable regulatory requirements. The waste storage structures are required to be built to the Natural Resources Conservation Service (NRCS) Standard 313. This Standard is protective of water resources. The statute does not require any minimum setbacks from the production area to bodies of water. However, the individual permit has been issued with conditions that require setback distances from surface waters, including wetlands, when manure waste is applied.

15: Comment: Will the DEQ inspect the fields, including those rented by others?

Response: Yes. The DEQ has the authorization to inspect fields regulated by the permit or in response to a potential discharge to surface waters. In addition, the DEQ's current objective is to inspect every CAFO three times in a five-year period. This would include two reconnaissance inspections and one full inspection.

16. Comment: Water quality monitoring should be conducted by DEQ or accepted from an outside source.

Response Water Quality monitoring is not required by the permit. However, the DEQ conducts water quality monitoring throughout the state. The DEQ encourages local communities to participate in monitoring their local watersheds as well. The WRD may accept monitoring results from outside sources which utilize appropriate Quality Control/Quality Assurance methods as part of the sampling protocol. It is DEQ's understanding that Grand Valley State University is planning to conduct water quality sampling in the Big Flower Creek watershed in 2018.

17. Comment: The DEQ has not issued State Standards for Total Maximum Daily Loads (TMDLs) Nitrogen and Phosphorus which must be corrected immediately.

Response: Water Quality Standards (WQS) define the goals for a waterbody by designating its uses, setting criteria to protect those uses, and establishing provisions to protect waterbodies from pollutants. The State of Michigan's Part 4 Rules, WQS, promulgated under Part 31, Water Resources Protection, of the NREPA, specify a narrative WQS for nutrients that have been used to establish targets for specific waterbodies. When a waterbody does not meet WQS, a study must be completed to determine the amount of a pollutant that enters a waterbody from point sources and nonpoint sources and still meet applicable WQS. The results of the study are used to develop a Total Maximum Daily Load (TMDL) once a waterbody has been designated and listed as impaired. Currently, the WRD does not plan to develop a statewide TMDL for nutrient impaired waters as the comment suggests.

18. Comment: The Flower Creek watershed is already polluted with *E. coli* from agricultural runoff, resulting in closures of Meinart Park Beach. High density farming will only exacerbate the unacceptable situation. Existing studies show elevated levels of *E. coli* in Big Flower Creek and its likely connection to upstream agricultural practices. Flower Creek already shows a sediment plume after a rain event. We fear the addition of the CAFO would add *E. coli*, antibiotics, nitrates, and heavy metals to the flow. The addition of the CAFO will only make the water quality worse.

Response: The individual permit to Flower Creek Swine, LLC has been issued to be protective of surface water quality. The permit prohibits the discharge of any hazardous or toxic chemicals (e.g. pesticides, petroleum by-products) for purposes of disposal, into CAFO waste storage structures. The CAFO permit includes a specific precipitation forecast model and prohibitions of manure application prior to a specified rain event. The prohibition also includes no manure applications during a rain event, nor on saturated ground. The DEQ has not developed water quality standards for antibiotics; however, you may contact the MDARD, Animal Industry Division as well as your local Health Department if you have concerns.

The DEQ supports local efforts to remediate the on-going sources of sediment into (Big) Flower Creek. Agricultural livestock facilities that are not regulated under a DEQ CAFO permit are considered nonpoint source pollution and may be a source of sediment and other pollutants to the

watershed. If you have complaints of farm methods utilized by an unpermitted farm, you may contact the MDARD-RTF at 877-632-1783.

19. Comment: The report “Preliminary Analysis of Proposed CAFO in the Flower Creek Watershed (Hyndman, D, A. Kendall; Jan10, 2018) demonstrates the construction and operation of a CAFO poses a high risk to the watershed.

Response: The report conclusions do not consider the requirements of the CAFO individual permit or the practices described in the CNMP. The individual permit issued to Flower Creek Swine, LLC includes additional controls over the land application of manure.

20. The analyses of some private drinking wells show high levels of nitrates/nitrites (from on-going agricultural over-application of fertilizers) indicating more can't be tolerated. Sandy soils in the area will allow the manure to flow into drinking water and the creeks. Manure will run-off clay soils.

Response: In discussions with the District 10 Health Department, Oceana County, the staff indicated that there are historical pockets of high (i.e., greater than 10 mg/l) nitrates in well water. These have been associated with heavy chemical fertilizer use by area fruit orchards. It was further indicated, that as the cost of fertilizers became more limiting, the historical nitrate levels in the drinking water wells are decreasing very slowly. The DEQ permit addresses nutrients applied to fields by the Flower Creek Swine and the recipients of manifested waste.

21. Comment: The amount of water used by the operation may reduce our well water availability.

Response: If the owner intends to use large amounts of water (e.g. irrigation, cleaning) controls are required through the DEQ Water Use Program. The Water Use Program is responsible for registering large quantity withdrawals, collecting annual water use data, making determinations on the potential impacts to water resources as the result of a proposed withdrawal, and issuing water withdrawal permits. This information can be accessed at the following link www.mi.gov/wateruse.

22. Comment: The setback of waste storage structures from drinking water wells is 800'; the application states they are 200'. Was there a variance from the Health Department?

Response: The application states they propose an isolation distance of 200 feet. The Natural Resources Conservation Service (NRCS) 313 Standard, to which they must design and construct their waste storage structures, specifies the isolation distances which the permittee must follow. The CNMP stated that the well isolation distance proposed is 200 feet or greater, as necessary by the health department and well isolation distance standards.

23. Comment: The storage capacity is to hold 1.5 million gallons. This is not enough and does not provide the capacity to contain all CAFO waste. Adequate containment should include solids and freeboard. Does the DEQ require a professional engineer's evaluation of storage structure design?

Response: The permit requires that the waste storage structures be sized to hold at least six months of production area waste. The structures are required to be designed and built to the NRCS Standard 313 which specifies the operational volume and (for structures built under ground and not subject to precipitation) six inches of freeboard. The design and construction must be signed and stamped by a professional engineer.

24. Comment: If CAFO waste is exceeded, the swine farm will have to dispose of it during the winter, increasing the chance of runoff.

Response: The individual permit requires that the waste storage structures be sized to hold at least six months of production area waste (Flower Creek Swine-CAFO has 12 months of waste storage capacity). Furthermore, on a date from November 1 to December 31 the permittee is required to report they have at least the six months of storage capacity. The individual permit also specifies that CAFO waste is prohibited from being applied on frozen or snow-covered ground by the permittee or by recipients of waste manifested from the Flower Creek Swine-CAFO.

25. Comment: The location of the storage tank beneath the building will result in settling, cracking and likely a discharge to groundwater.

Response: The waste storage structures at the site are required to be built to the NRCS Standard 313. This Standard was developed so that structures would be constructed, operated, and maintained to adequately hold manure waste. Furthermore, the permit requires that the permittee develop a Storage Structure Inspection Plan which is included in the CNMP and reviewed by DEQ. As part of that plan, the permit requires the permittee to inspect the waste storage structures at least once a week, including but not limited to, structure cracking, seeps, depth of waste in the structure and available operating capacity, the collection system, lift stations, mechanical and electrical systems, transfer and waste conveyances, and alarms. These records must be maintained in a CNMP and made available to the WRD upon request.

26. Comment: Explosions and fires occur during manure transfer, especially if feed contains brewers grains.

Response: Although this is very rare, an explosion may occur when there is a build-up of foam in the storage which may explode when transferring the manure out of the waste storage structure. The operation and maintenance of the waste storage structures is the responsibility of the permittee. The permit requires the development of a Storage Structure Inspection Plan which requires, but is not limited to, at least weekly inspections of storage structures and the depth of CAFO waste in the storage structure and the available operating capacity. In addition, the permit requires the permittee to implement a Storage Structure Operation and Maintenance Program which requires, but is not limited to, alerting the DEQ if CAFO waste in the storage structure rises above the maximum operations volume level and enters the emergency volume level and to reducing that level within one week. Problems with the collection system, transfer stations, and pump stations shall be corrected as soon as possible, per requirements of the permit. The Storage Structure Inspection Plan and the Storage Structure Operation and Maintenance Program, and all corresponding records must be kept with the CNMP.

27. Comment: The 1997 report indicated the lower end of Flower Creek was an Environmental Area. Does this require any restrictions?

Response: The Environmental Area described in the report "Documentation of Proposed Environmental Areas: Lower End of Big Flower Creek, Muskegon/Oceana County; Kogge, S.; June, 1997" was an area to be considered for designation. However, further review did not designate the area as an Environmental Area as defined under Part 323, Shorelands Protection and Management, of the NREPA, and therefore, does not require additional restrictions.

28. Comment: What about the endangered Sand Pipers, Blanchard's Cricket Frog, and Pitcher's Thistle in the area?

Response: In reviewing the presence or absence of an endangered or threatened species, the DEQ Water Resources Division utilizes the Michigan Natural Features Inventory (MNFI). The MNFI maintains the only database that records locations and numbers of endangered and threatened species, and some species of concern, as well as documenting threatened rare communities in the state. At the time of this review, the listings for Oceana and Muskegon Counties did not list the presence of Blanchard's Cricket Frog or Sand Pipers; the site of the Pitcher's Thistle is on the lakeward side of a dune and is not located in the proposed production area building site.

29. Comment: The West MI Nature Conservancy purchased Dunes through which Flower Creek flows

Response: These are considered Critical Dunes Areas. A Critical Dune designation is regulated under Part 353 of NREPA, regulating uses of the dune (e.g. contour changes).

30. Comment: If the site is permitted, it needs a soil survey, wastewater management plan, and an agricultural management plan.

Response: Regular soil samples, manure nutrient analysis, and a Comprehensive Nutrient Management Plan (CNMP) are all required as part of the permit.

31. Comment: Not enough evaluation of hydrolysis of land and possible contamination with Lake Michigan water.

Response: The amount of manure applied to fields is regulated by the permit. Application manure calculations are based on nutrients in the soil and manure, and nutrient up-take by cover crops. Furthermore, the permit prohibits manure applications before specified weather forecasts, during a rain event, or if soils are saturated.

32. Comment: Diversion of rain water from production area is not gaurenteed; an example is the 100 yr rainfall event in October 2017

Response: The facility, including animals, waste storage, and feed are all enclosed. Therefore, stormwater will not be subject to production area contamination.

33. Comment: Do not allow runoff from fields to enter waters of the State of Michigan.

Response: Runoff from agricultural fields may not violate water quality standards.

The permit prohibits discharges from land application activities that do not meet the requirements of an Authorized Discharge or that cause an exceedance of the State of Michigan's water quality standards.

34. Comment: Not allow application of waste to fields without adequate and responsible consideration of weather, soil conditions, proximity to wells and watersheds.- CAFO is 2 miles from Lake Michigan.

Response: The permit requires following specific weather forecasting models; the evaluation of soil conditions prior to manure applications; and manure application setbacks from surface waters, conveyances to surface waters, and wetlands. The permit does not allow a discharge to groundwaters.

35. Comment: Disposal of waste is subject to RCRA.

Response: Manure used for crop nutrients is not considered to be "waste" as defined by the Resource Conservation and Recovery Act (RCRA) and is therefore, not subject to RCRA.

36. Comment: The DEQ provides inadequate oversight and regulation; the DEQ is under staffed and not able to inspect this facility often enough; the DEQ had over 4500 CAFO violations in over 20 years of the program.

Response: The WRD's current objective is to inspect every CAFO three times in a five-year period. This would include two reconnaissance inspections and one full inspection. The DEQ has had approximately 1700 CAFO violations (of various types, including late paperwork submittals) in the 20 years of the program.

37. Comment: DEQ can't respond to complaints in real time. DEQ suggested citizens could report violations, yet citizens are not aware of what constitutes a violation.

Response: For the NPDES program, it is the permittee's responsibility to comply with permit conditions. Once a permit is issued, compliance with the permit is evaluated. The permit requires records be kept, verifying permit compliance. Federal and state law establishes the NPDES program as a self-monitoring program. The DEQ conducts periodic compliance inspections to verify permit compliance, including a review of records. However, the DEQ also relies on public observations of activities that are viewable without trespassing. If a citizen has a question or a concern for a particular activity from the CAFO, they may contact the DEQ-Water Resource Division, Grand Rapids District office at 616-356-0500 or, if after business hours, phone the Pollution Emergency Alert System at 800-292-4706.

38. Comment: The current regulatory system is not sufficient. Why aren't there more laws to regulate how close a CAFO can be to lakes and streams?

Response: The current framework for regulating CAFOs was developed consistent with federal regulations and as part of the legislative process.

39. Comment: How does the permittee store records that are not available to the public or authorities?

Response: Records required by the permit to be submitted to the DEQ are stored and available to the public via the MiWaters database. Records that are required to be maintained by the permittee must be kept (as hard copy or in digital form) at the production site as required by the permit.

40. Comment: Make anaerobic digester requirement of permit

Response: While permitted facilities may incorporate digestors into their treatment stream, the permit and State Rules do not require digesters be installed.

Exhibit C

MANIFEST for LARGE CAFO WASTE from FLOWER CREEK SWINE PERMIT No. MI0060245

This form shall be used where Flower Creek Swine waste is sold, given away or otherwise transferred to another person (recipient) such that the land application of that large CAFO waste is no longer under the operational control of the large CAFO owner or operator that generates the large CAFO waste (generator). Once completed, this form shall be submitted to the Department within 30 days from each quarter ending March 31, June 30, September 30, and December 31 of each year. All manifests shall be kept on-site with the generator's CNMP for a minimum of five years.

GENERATOR INFORMATION: Name: _____ Phone Number: (____) _____

Address: _____ City: _____ State: _____ Zip: _____

Waste Type: _____ (solid, liquid, beef, dairy, swine, poultry, compost, etc.)

"I hereby declare that the large CAFO waste is accurately described above and is suitable for land application. I further certify that the **current nutrient analysis containing the necessary information for land application at agronomic rates for the waste described above has been provided to the recipient.**"

Signature: _____ Date: _____

RECIPIENT INFORMATION: Name: _____ Phone Number: (____) _____

Address: _____ City: _____ State: _____ Zip: _____

"I hereby declare that the large CAFO waste described above and in the nutrient analysis will be **properly land applied in accordance with Part I. Section B.3. (Pages 6-11 of the permit as summarized on the back of this manifest form)** and that the destination information provided below is accurate. I may not land apply CAFO Waste on Frozen or Snow-Covered Ground."

Signature: _____ Date: _____

DESTINATION/DISPOSAL INFORMATION:

Field location or other destination/disposal information: _____

_____ Date	_____ Quantity	_____ Date	_____ Quantity	_____ Date	_____ Quantity	No. of Acres: _____
---------------	-------------------	---------------	-------------------	---------------	-------------------	------------------------

Field location or other destination/disposal information: _____

_____ Date	_____ Quantity	_____ Date	_____ Quantity	_____ Date	_____ Quantity	No. of Acres: _____
---------------	-------------------	---------------	-------------------	---------------	-------------------	------------------------

Field location or other destination/disposal information: _____

_____ Date	_____ Quantity	_____ Date	_____ Quantity	_____ Date	_____ Quantity	No. of Acres: _____
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Field location or other destination/disposal information: _____

_____ Date	_____ Quantity	_____ Date	_____ Quantity	_____ Date	_____ Quantity	No. of Acres: _____
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Daily Manure Application Summary

Date	Field ID:	Field size (acres)
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Weather

Forecast less than 70% of ½ inch rain? <input type="checkbox"/> Yes <input type="checkbox"/> No (DO NOT SPREAD)
Weather conditions during spreading ¹ <input type="checkbox"/> Sunny <input type="checkbox"/> Partly Cloudy <input type="checkbox"/> Cloudy <input type="checkbox"/> Rain (DO NOT SPREAD)
<small>¹ If differing conditions exist within 24 hours prior to or after application, check multiple conditions and note timing.</small>

Field Inspection (0 to 48 hours before land inspection) Inspector: _____

Tile(s) flowing immediately prior to spreading? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Describe flow color and odor (multiple outlets on back if necessary)
Soil cracking evident? <input type="checkbox"/> Yes <input type="checkbox"/> No Field Condition: <input type="checkbox"/> Residue <input type="checkbox"/> Growing Crop <small>If yes, correct (till) prior to spreading on tilled land.</small> <input type="checkbox"/> No-till <input type="checkbox"/> Frozen or Snow-covered ² <small>² Do Not apply or manifest</small>
Describe soil moisture <input type="checkbox"/> Dry <input type="checkbox"/> Moist <input type="checkbox"/> Saturated (DO NOT SPREAD)
Are conservation practices ³ functioning and in good condition? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA <small>³ Includes grassed waterways, buffer strips, diversions, etc.; If "no" describe on back and DISCONTINUE SPREADING.</small>

Application Information

spreader name/ID	application method	capacity	time am pm
Daily Equipment Insp ⁴ : <input type="checkbox"/> No problems with leaks, structural integrity, or proper O&M <small>⁴DO NOT SPREAD if the box above is not checked. Record any corrective actions necessary on back.</small>			
Manure source	Loads		
Goal application rate/acre			
Actual application rate/acre	Total volume or weight applied	Acres covered	
Manure incorporation date or no incorp. Explanation ⁵ <small>⁵ incorp. within 24 hrs unless on a forage crop</small>		Manure incorporation method	
Tile(s) flowing at end of daily spreading? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA			
Describe flow color and odor (multiple outlets on back if necessary)			Inspector:
Tile(s) flowing after first 1/2" rain w/in 30 days of application? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA			
Date of inspection	Describe flow color and odor (multiple outlets on back if necessary)		Inspector:

Exhibit D

From: McMahon, Megan (DEQ)
To: Sandborn, Melissa (DEQ)
Subject: RE: National Pollutant Discharge Elimination System NPDES Individual Permit No. MI0060245 Designated Name: Marsh Swine Farm- CAFO
Date: Monday, April 23, 2018 8:31:36 AM

Syl is setting up a pre-meeting for us to discuss with you.

Thanks!!!

From: Sandborn, Melissa (DEQ)
Sent: Monday, April 23, 2018 8:28 AM
To: McMahon, Megan (DEQ) <MCMAHONM1@michigan.gov>
Subject: RE: National Pollutant Discharge Elimination System NPDES Individual Permit No. MI0060245 Designated Name: Marsh Swine Farm- CAFO

Megan,

Thanks! I'm wondering though, what would I do with the soil test information? The land application limits are defined by the permit and the permittee is upheld to follow the permit requirements, but I don't know if we can extend that to the recipient. If the soil test values were reported at over 300 lbs/acre P, what enforcement authority would I have? I think we need to be careful about how far we are extending permit requirements to the manifest -ee.

Also, I think having them submit soil tests quarterly might get tricky. If they go to the same fields regularly, and they only need soil tests every 3 years, do we want them to send the same information in up to 4 times a year?

This may need some more thought...

Melissa Sandborn

Senior Environmental Quality Analyst
Grand Rapids District Office
DEQ – Water Resource Division
616-401-1396
Sandbornm1@michigan.gov

From: McMahon, Megan (DEQ)
Sent: Monday, April 23, 2018 8:23 AM
To: Sandborn, Melissa (DEQ) <SandbornM1@michigan.gov>
Subject: RE: National Pollutant Discharge Elimination System NPDES Individual Permit No. MI0060245 Designated Name: Marsh Swine Farm- CAFO

Good questions and I hope we can sort it out today.

Let's go with what would work for you to be able to know this is being applied correctly

Perhaps the soil tests submitted with the quarterly manifesting form? Yes, we'll have to adjust the manifesting form to remove the language but we have a bit of time to get that done (although I will stay on the form review process to make sure it doesn't get lost). I'm waiting for the conf call in number and will send that to you as soon as possible. Thanks!!

From: Sandborn, Melissa (DEQ)
Sent: Monday, April 23, 2018 8:19 AM
To: McMahon, Megan (DEQ) <MCMAHONM1@michigan.gov>
Subject: RE: National Pollutant Discharge Elimination System NPDES Individual Permit No. MI0060245 Designated Name: Marsh Swine Farm- CAFO

Megan,

First, I want to clarify something: are we asking the soil tests be turned into us, or just that the farm needs to have them? As the permit is written right now, the farm just needs to have them. The current language doesn't say anything about having to submit them to us. And I'm okay with this, but I think we need to clarify.

If we are expecting soil tests to be turned in, then we would need to indicate that on the form. Even if we aren't, we should probably adjust the manifest form for this farm to include in the statement from the generator that soil tests were provided. We should probably also adjust the statements to reflect that waste can't be manifested on frozen or snow covered ground, and that the manifested will be submitted to the DEQ quarterly.

Melissa Sandborn

Senior Environmental Quality Analyst
Grand Rapids District Office
DEQ – Water Resource Division
616-401-1396
Sandbornm1@michigan.gov

From: McMahon, Megan (DEQ)
Sent: Monday, April 23, 2018 8:11 AM
To: Sandborn, Melissa (DEQ) <SandbornM1@michigan.gov>
Subject: RE: National Pollutant Discharge Elimination System NPDES Individual Permit No. MI0060245 Designated Name: Marsh Swine Farm- CAFO

Hey Melissa,

I've looked at this Marsh permit so long I may be missing something so I'm asking you to look at the draft permit and see if we are asking for any additional info on the manifest form. We are asking for soil tests, but those can be submitted as any other soil tests are turned in. Perhaps I should make that more clear?

Thanks

FYI, Marsh's just called and they were confused about the meetings so we're back on for 10 this morning. Sorry about that and really hope you can be here on it.

From: James DeYoung <cjdfarmconsulting@gmail.com>

Sent: Friday, April 20, 2018 8:53 PM

To: Heaton, Sylvia (DEQ) <HEATONS@michigan.gov>

Cc: Jacob Marsh <marshjacob59@gmail.com>; Alexander, Christine (DEQ) <ALEXANDERC2@michigan.gov>; McMahon, Megan (DEQ) <MCMAHONM1@michigan.gov>; Sandborn, Melissa (DEQ) <SandbornM1@michigan.gov>

Subject: Re: National Pollutant Discharge Elimination System NPDES Individual Permit No. MI0060245 Designated Name: Marsh Swine Farm- CAFO

I am going to request that the deq develop a new manifest form that will meet your new requirements for this draft permit. There are some significant changes in the required information and this way the deq can make sure that all of the pertinent information is displayed on the form in the way that makes sense to them. We would be happy to assist in this process, but since the deq knows what they want I would prefer that they take the first crack at it.

Thanks

James DeYoung

On Fri, Apr 20, 2018, 18:10 Heaton, Sylvia (DEQ) <HEATONS@michigan.gov> wrote:

Hello Jacob,

Please find attached, the draft National Pollutant Discharge Elimination System (NPDES) permit for the Marsh Swine Farm – CAFO facility. Please review the draft permit carefully as there are specific requirements regarding manifesting, reporting requirements, and the application of waste to frozen ground. We would like to follow up with you on Monday regarding any questions you may have on the draft permit.

Thank you and we look forward to speaking with you on Monday.

Best Regards,

Sylvia

*Sylvia Heaton, Supervisor
Water Quality and Aquatic Nuisance Control Permits Unit
Permits Section
Water Resources Division
Department of Environmental Quality
517-449-6307
heatons@michigan.gov*

Exhibit E

From: James DeYoung
To: [McMahon, Megan \(DEQ\)](#); [Jacob Marsh](#)
Cc: [Sandborn, Melissa \(DEQ\)](#)
Subject: Re: Marsh application
Date: Wednesday, May 2, 2018 10:11:02 AM

Ok, the changes you requested have been made.

Please let me know if there is anything else you need to process this application.

Thanks

On 5/2/2018 9:48 AM, McMahon, Megan (DEQ) wrote:

Hey James,

Can you go in and update the Marsh Swine Farm application to reflect the new facility and permittee information as "Flower Creek Swine, LLC".

We will be requesting an update in the CNMP to reflect the individual permit requirements but as land and animal numbers are not changing, this can be addressed by working with compliance staff after the permit is issued.

Thanks

Megan McMahon
Environmental Quality Analyst
MDEQ- Water Resources Division
E-mail: mcmahonm1@michigan.gov
Cell: 517-230-3442
Constitution Hall
525 West Allegan Street
P.O. Box 30458
Lansing, Michigan 48909-7958

Exhibit F

**NPDES PERMIT CNMP FOR
Marsh Swine Farm, 2017**

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Marsh Swine Farm CNMP System Plan 2017

CNMP Purpose

The Comprehensive Nutrient Management Plan (CNMP) describes the production practices, equipment, and structure that the owner/operator of an agricultural operation now uses and/or will implement to sustain livestock and/or crop production in a manner that is both environmentally and economically sound. It combines conservation practices and management activities into a system that addresses animal production operations from feed inputs through use of animal manure and other organic by-products. The CNMP is a planning tool as well as a record of decisions in that it details the activities that the landowner/operator implements. The CNMP applies to both production areas and land application areas and that describes the practices, methods and actions the farm takes to meet all of the requirements of the Nutrient Management Plan. The objectives of the CNMP include protecting water quality, obtaining beneficial use from animal manure and organic by-products of the operation, and minimizing impacts to the environment and public health from animal feeding operations.

This CNMP has been prepared according to the format of the Michigan Department of Environmental Quality (DEQ) National Pollutant Discharge Elimination System (NPDES) general permit (MIG010000).

Annual Review and Report

The permittee shall annually review the CNMP and update the CNMP as necessary according to the schedule in the permit. The permittee shall submit an annual report for the preceding January 1 through December 31 (calendar year) to the Department by April 1 of each year. The annual report shall be submitted on a form provided by the Department.

CNMP Revisions

Prior to a significant change in the operation, whenever there is an unauthorized discharge, or if the DEQ determines that the CNMP is inadequate in preventing pollution, the CNMP shall be revised and the revisions approved by a Certified CNMP Provider. Within ninety days, the revised portions of the CNMP shall be submitted to the DEQ with a copy of the Certified CNMP Provider certification that the revised CNMP has been approved.

Significant change includes, but is not limited to, any of the following:

1. An increase in the number of animals that is greater than or equal to 10% of the number identified in the CNMP.
2. An increase in the number of animals that results in a decrease in the waste storage capacity time by one month or greater.
3. An increase in the number of animals.
4. A decrease in the number of acres available for land application.
5. The construction of a new animal housing facility or waste storage facility.

Farm Overview

Farm Name: Marsh Swine Farm
COC or Permit: MIG010000

Mailing Address: 9105 South 56 th Ave. Montague, MI 49437 Phone: (231) 578-9774 Farm Address: Lat. 43.480030, Lon. -86.422671	Owner: Jacob Marsh Farm Contact: Jacob Marsh Phone Number: (231) 578-9774
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------

Total Animals (CAFO Categories.)

Animal Type	Total Number
Swine > 55 lbs	4,000 (3,675 avg)

This proposed hog finishing facility will be located in Claybanks Township, Section 35, of Oceana County. This farm will be constructed in 2017 consisting of one production barn (341' x 102') housing a maximum of 4,000 hogs. The barn will have a 7.5' deep under barn manure storage. All manure produced by this farm will be manifested off site to local farmers to be used as a crop fertilizer. Swine arrive at 15 lbs and leave after 120 days on feed weighing 255 lbs (135 avg weight). Barns are empty for 10 days between turns for cleaning. The animals are all confined to the buildings at all times and do not have access to waters of the state.

Confinement Synopsis

Barn/Lot/Pasture Name	Animal Type	Number	Annual Manure Production (gallons)
Hog Barn 1	Wean-to-Finish Hogs	4,000	1,516,546

The barn is designed with reinforced concrete under-barn tanks according to the NRCS 313, 2014 standard. Barn and manure storage designs were completed by Hamilton Distributing. When the construction of the building is completed, P.E. signed as-built documentation will be provided to the farm. Based on estimated manure and wastewater inputs the manure storages facilities have the capacity to store up to 12.0 months of waste production. A copy of the As-Built documentation is included in Section 8, Appendix B-1.

Records documenting or demonstrating the current structural design of all storage structures including as-built drawings (if available) and specifications, of any CAFO waste storage structures, whether or not currently in use, will be kept on-farm with the permittee's CNMP in Appendix B-1 until structures are permanently closed in accordance with Part I.B.2 of the farm's permit.

List of Important Contacts:

DEQ District Office	Grand Rapids Office (616-356-0500).
DEQ Pollution Emergency Line (PEAS)	(800) 292-4706
CNMP Provider- CJD Farm Consulting	(616) 608-5022

Expansion Plans: None.

CAFO Waste Storage Structures

Current Waste Storage Structure Synopsis

Total Number of Storage Structures: 1

Total Operational Storage Volume of All Structures Combined: 1,519,211 gallons

Total CAFO waste produced in a six month Time Period: 758,273 gallons

Total Days of Storage Capacity: 365

Date by which six months of storage must be obtained: December 31

Is all CAFO Waste directed to storage structures? Yes

Records documenting or demonstrating the current structural design of all storage structures including as-built drawings and specifications, of any CAFO waste storage structures, whether currently in use or not, will be kept on-farm with the permittee's CNMP in **Appendix C-1** until structures are permanently closed in accordance with **Part I.C.3** of the farm's permit.

Pig Barn

Structure Name: Pig Barn

Structure Type: Under Barn Concrete Storage

Collects CAFO waste from: Pig Barn

Date Constructed: 2017

Dimensions (L x W x D in feet): 341 x 102.8 x 7.5

Liner Material and Thickness: Reinforced concrete 8"

Liner Condition: New Fall 2017

Depth from bottom elevation to seasonal high water table: Greater than 2 feet

Subject to runoff or direct precipitation? No

Total Design Volume: 1,899,014 gallons

Unusable Volume (i.e. solids accumulation): 379,803 gallons

Freeboard: 6 inches

Emergency Volume: 0 gallons. The waste storage facility is totally enclosed and not subject to precipitation and, therefore, does not need room for the emergency volume.

Operation Volume: 1,519,211 gallons

Approximate Days of Storage: 365

Describe type and location of depth gauge: Metal pipe with 6" freeboard marked lowered into storage and depth measured with tape measure.

Does the depth gauge clearly delineate the top of the freeboard, emergency volume, and operational volume? Yes

When was the depth gauge last re-established to account for settling? Weekly

Status of Engineering Documentation or Engineering Evaluation: Complete- As-built documentation from a P.E. will be provided to the farm after construction has been completed.

Results of the documentation/evaluation: This structure will meet the 2014 NRCS 313 Standard.

Isolation distance from well(s): Proposed 200 feet or greater, as necessary by the health department and well isolation distance standards.

Additional Commentary on this Structure (transfer equipment, treatment, safety information, etc.): Manure falls through slatted floor in the barn and is stored in the under barn storage structure. The storage is cleaned every 6 months. All manure produced on the farm is stored in this structure and is manifested to neighboring farms for use as a crop fertilizer.

Future Storage Structures

Any storage structures constructed before April 1, 2020 will at a minimum, be constructed in accordance with NRCS standards, set forth in Conservation Practice Standard No. 313, Waste Storage Facility, and dated August 2014.

New swine, poultry, and veal facilities will be designed to have all contaminated areas of the production area, including waste storage structures, totally enclosed and not subject to precipitation and, therefore, not needing room for the emergency volume in their storage structures.

Storage Structure Inspection Plan

All storage structures at Marsh Swine Farm will be inspected a minimum of one time weekly year-round. The results of the inspections will be kept with the CNMP in **Appendix A-3** and retained for a period of five years. All weekly inspections will include visual inspection of each of the following:

- a) The CAFO waste dikes for cracking, inadequate vegetative cover, woody vegetative growth, evidence of overflow, leaks, seeps, erosion, slumping, animal burrowing or breakthrough, and condition of the storage structure liner
- b) The depth of the CAFO waste in the storage structure and the available operating volume as indicated by the depth gauge
- c) The collection system, lift stations, mechanical and electrical systems, transfer stations, control structures, and pump stations to assure that valves, gates, and alarms are set correctly and all are properly functioning.

Storage Structure Operation & Maintenance Program

Marsh Swine Farm will initiate steps to correct any condition that is not in accordance with this Storage Structure Operation and Maintenance Program. Specific records of each item below will be kept in the Appendices as noted below.

- a) If CAFO waste rises above the maximum operational volume level, the Grand Rapids DEQ office will be notified. The emergency volume will be restored within one week and removed CAFO waste will be land applied in accordance with permit conditions. The DEQ will be notified if either of these it not achievable. Descriptions of such events will be recorded in the CNMP in **Appendix A-2**.
- b) At some point in time during the period of November 1 to December 31 of each year, there will be a minimum available operational volume in the CAFO waste storage structures equal to the volume of CAFO waste generated from the operation of the CAFO in a six-month or greater time period (including normal precipitation and runoff in the production area during the same time period). The date of this occurring shall be recorded in the CNMP in **Appendix A-1** and reported to the Department in accordance with Part II.C.5, Compliance Dates Notification. This requires notification **within 14 days** of achieving this milestone.
- c) Dike damage caused by erosion, slumping, or animal burrowing will be corrected immediately and steps taken to prevent occurrences in the future. Records will be stored in **Appendix A-3**.
- d) The integrity of the CAFO waste storage structure liner will be protected. Liner damages will be corrected immediately and steps taken to prevent future occurrences. Records will be stored in **Appendix A-3**.
- e) Problems with the collection system, lift stations, mechanical and electrical systems, transfer stations, control structures, and pump stations will be corrected as soon as possible. Records of these inspections and records documenting any actions taken to correct deficiencies will be kept with the CNMP for a minimum of five years in **Appendix**

- A-3.** Deficiencies not corrected within 30 days must be accompanied by an explanation of the factors causing the delayed correction.
- f) CAFO waste will be stored only in storage structures as described above, except for solid stackable manure collected in-barn, prior to transfer to storage.

Best Management Practices Requirements

Marsh Swine Farm has implemented all of the following Best Management Practices (BMPs) with the objective of preventing unauthorized discharges to waters of the state from production areas.

Conservation Practices

Marsh Swine Farm maintains the following conservation practices at or near the production area and land application areas within the CAFO; Heavy Use Area Protection, Buffer Strips and Nutrient Management. These practices are consistent with the intent of NRCS Conservation Practices; in compliance with the requirements of the farm's permit; and sufficient to control the runoff of pollutants to surface waters of the state in quantities that may cause or contribute to a violation of water quality standards. The following is a list of practices. Specific locations are identified on the production area map on **Section 3**.

Divert Clean Water

Clean water is diverted from the production area by the barn roofs. The final grade established following building construction ensures that clean water drains away from the manure storage and buildings and is carried away from the farm site by the naturally existing topography at this site. Clean storm water may include roof runoff, runoff from adjacent land, and runoff from feed storage areas where such runoff has not contacted feed. The hog production area is under roof. The manure storage is not susceptible to precipitation.

Records of weekly clean water and floodwater diversions (if applicable) shall be kept in **Appendix A-3**

Prevent Direct Contact of Animals with Waters of the State

Marsh Swine Farm prevents access of animals to surface waters of the state at the production area of the CAFO. The following is a description of the existing implemented controls, which prevent access of animals to waters of the state: Animals are confined to the barn and do not have access to the waters of the state.

Animal Mortality

Marsh Swine Farm handles and disposes of dead animals in a manner that prevents contamination of waters of the state. Mortalities are not disposed of in any liquid CAFO waste or storm water storage structure that is not specifically designed to treat animal mortalities. Records of mortality handling and disposal are kept with this CNMP in **Appendix C-2** for a minimum of five years. Dead animals are taken off the farm within 24 hours for disposal according to the Bodies of Dead Animals act No. 239, Public Acts 1982, as amended, **Appendix D**.

Animal Veterinary Wastes

Syringes and other vet waste sharps are to be placed in a puncture proof container, recommended is an empty liquid laundry detergent bottle as it is tough plastic and it has a screw on lid. It must be labeled with the words "sharps." When the container is full, it shall be sealed closed and may be disposed of with other farm-produced refuse or given to the farm's veterinarian for disposal. Used vials shall be placed in a dumpster with other refuse and carried to a landfill by a licensed waste hauler. For all vet wastes, burying, burning on the farm, disposal in a manure storage, compost pile, or a dead animal hole is not allowed.

Chemical Disposal

Marsh Swine Farm prevents introduction of hazardous or toxic chemicals (for purposes of disposal) into CAFO waste storage structures. This includes pesticides, petroleum products/by-products, etc. Chemicals are not disposed of into any production area, CAFO process wastewater, or storm water storage or treatment system. Unused chemicals are disposed of by licensed waste handlers with other farm produced refuse.

Inputs to Animals

Feed phosphorus levels in the animal rations are monitored to minimize waste phosphorus while maintaining the health of the animals and profitable production. This practice minimizes excess phosphorus in the manure. Feeding large amounts of P can result in high P levels in the manure.

Waste Feed

Calculations for manure nutrient production totals include up to 5% feed waste. Waste feed falls through the slatted floor and handled with manure. The waste feed and manure is then applied to cropland at agronomic rates by manifests.

Inspection, Proper Operation, and Maintenance Program

Marsh Swine Farm will conduct periodic visual inspections, proper operation, and maintenance of all CAFO waste-handling equipment (including piping and transfer lines, and all runoff management devices (e.g., cleaning separators, barnyards, catch basins, screens) to prevent unauthorized discharges to surface water and groundwater. These activities will be conducted at the frequencies noted below. Records of inspections and corrective actions will be kept in **Appendix A-3** for a minimum of five years. All deficiencies will be corrected as soon as possible. Any deficiencies not corrected within 30 days must be accompanied by an explanation of the factors causing the delayed correction.

Activity/Description	Frequency
Visual inspection of all clean storm water diversion devices	Weekly
Visual inspection of water lines, including drinking water and cooling water lines	Daily
Visual inspection of above ground waste piping and transfer lines	Daily

Land Application of CAFO Waste

Marsh Swine Farm does not currently have any land under the farm’s control. All of the CAFO waste will be transferred off the farm and manifested to neighboring farms for land application to cropland. The farm shall sample the manure a minimum of once annually to determine nutrient content and the manure shall be analyzed for total Kjeldahl nitrogen (TKN), Ammonium nitrogen, and total phosphorus. Nutrient levels shall be recorded in the CNMP, in Appendix B-3.

It is Marsh Swine Farm’s responsibility to identify and cease all manifests to any entity that is conducting land application that is not in accordance with all conditions in Part I. Section B.3. of the NPDES Permit. The farm is familiar with the land application requirements that are discussed in this section of the CNMP. The farm has the ability to identify misapplications by parties that are manifested to.

Field-by-Field Assessment

Marsh Swine Farm will conduct field-by-field assessments of all land application areas. All fields will be inspected by CJD Farm Consulting prior to inclusion in the CNMP.

The assessments identify the following field-specific conditions:

- Slopes
- Soil types
- Locations of tile outlets, tile risers
- Tile depth
- Conservation practices
- Offsite conditions, such as buffers and distance or conveyance to surface waters.
- Areas that have a potential for erosion due to topography, activities, or other factors,
- Fields, or portions of fields, that will be used for surface application of CAFO waste without incorporation to frozen or snow-covered ground in accordance with the Department 2005 Technical Standard for the Surface Application of CAFO Waste on Frozen or Snow-Covered Ground Without Incorporation or Injection.

These assessments, along with consideration of land application and fertilization practices are utilized to ensure land applications:

- Do not exceed the capacity of the soil to assimilate the CAFO waste
- Are in accordance with field-specific nutrient management practices that ensures appropriate agricultural utilization of the nutrients in the CAFO waste
- Do not exceed the maximum annual land application rates specified in Part I.B.3.c. of the farm's permit.
- Will not result in unauthorized discharges

New fields may not receive manure applications until all of the following are complete:

1. **A permit modification request is submitted to the DEQ that includes: The field-by-field assessment, a map showing the entire field, its size in acres, location information, planned crops, a CAFO waste spreading plan, and realistic crop yield goals.**
2. **The request is public noticed.**
3. **The assessment is incorporated into this CNMP.**
4. **Marsh Swine Farm may use the field eighteen (18) calendar days after submittal of the request unless notified otherwise by the Department.**

Field Assessment Results

1. Environmentally sensitive areas such as streams, water bodies, wells, and surface inlets are noted on the field maps for each crop field. Pink highlighted areas denote 100-foot manure spreading setbacks.
2. Buffer strips and waterways protect surface water by helping to remove phosphorus and filter polluted runoff from surface applied manure. Green highlight areas denote location of existing waterways and buffer strips for each field on the aerial field maps. These practices are consistent with the intent of NRCS practice standards even though they may not be designed to NRCS standards.
3. Soil survey maps for all of the crop production areas.
4. The Revised Universal Soil Loss Equation (RUSLE2) index was computed for each of the soil types represented on this farm using a worst-case scenario for each soil type (steep slope, low residue, aggressive tillage). The RUSLE is used to compute the expected soil loss from a field given factors such as soil type, tillage practices, crop rotations, conservation practice, etc. The T value is the maximum of soil loss that can be tolerated and still maintain the productivity of the soil.

The soil loss was computed for various crop rotations as provided by the farmer.

Factors used in soil loss equations:

R: Factor based on location in the country and slope gradient.

- K: Factor based on soil erodibility
- Ls: Length – Slope factor
- C: Crop rotation and tillage factor
- P: Erosion control effectiveness of support practices such as contouring, strip cropping, ripping or terracing.
- A: Soil loss in tons/acre/year
- SY: Sediment yield in tons/acre/year.

5. Fields are identified for winter spreading risk by the use of an indexing system called MARI (Manure Application Risk Index). This farm is committed to no winter spreading.

Field Inspections

Prior to conducting land application of CAFO waste to fields determined to be suitable in the field-by-field assessment, Marsh Swine Farm will perform the following inspections at the indicated frequency to ensure that unauthorized discharges do not occur as a result of the land application of CAFO waste. Records of inspections, monitoring, and sampling required by the “Field Inspections” will be retained in **Appendix B: The Land Application Log**.

Activity/Description	Frequency
CAFO waste sampled and analyzed for: TKN, ammonium, total phosphorus. The results will be used to determine land application rates. Results and analysis methods will be recorded in Appendix B-3 .	Annually
Soils at land application sites sampled and analyzed for phosphorus levels (Bray P1). The results will be used to determine land application rates. Results recorded in Appendix B-4 .	Every 3 Years
Daily Land Applications: Inspect each field for soil cracking, moisture-holding capacity, crop maturity, and the condition of conservation practices. Results recorded in Appendix B-7	0-48 hours prior to each land application
Tile Outlet Inspections: Inspect all tile outlets draining a given field. Record written descriptions of tile outlet inspection results, and observe compare color and odor of tile outlet effluents in Appendix B-7	<ul style="list-style-type: none"> • Immediately prior to land application • Immediately at the conclusion of each day’s land application • Within 24 hours of the first ½ inch rain event in the 30 days after land application
Land Application Equipment Inspections: Inspect all equipment for leaks, structural integrity, and proper operation and maintenance. Record inspections in Appendix B-7 .	Daily during use
Land Application Equipment Calibration: Record results and date in Appendix B-9	Annually

* If an inspection reveals a discharge with color, odor, or other characteristics indicative of an unauthorized discharge of CAFO waste, Marsh Swine Farm will immediately notify the DEQ of the suspected unauthorized discharge in accordance with the reporting procedures contained in Part II.C.6 of the farm’s permit and record the findings in the **Appendix B-7**.

Maximum Annual Land Application Rates

Marsh Swine Farm will not exceed the maximum annual land application rates calculated as described in Part I.B.3.c. of the farm's permit. Rates will be calculated using realistic crop yield goals, the most recent soil samples, and the most recent CAFO waste samples. Methodology, calculations, and their results, will be recorded in **Appendix B-6**. In general terms, rates will be consistent with the following:

Bray P1 = 0-150 lbs of P: Annual CAFO waste application shall not exceed the lesser of these:

- 1 year N recommendation for next cropping year (MSU Extension Bulletin E2904) or 1 year N removal rate for legumes.
- 4 year phosphorus removal rates as calculated using the Table on Pages 11 & 12 of Permit No. MIG010000. This must be calculated using the removal rate for the planned crop rotation specific to each field.

Bray P1 = 150-299 lbs of P: Annual CAFO waste application shall not exceed the lesser of these:

- 1 year phosphorus removal rates as calculated using the Table on Pages 11 & 12 of Permit No. MIG010000 **OR** 2 year phosphorus removal rates as calculated using the Table on Pages 11 & 12 of Permit No. MIG010000. If the 2 year rate is utilized, the land application log will specify the 2nd year crop to be grown, and the reason why the 1 year rate is impractical.
- 1 year N recommendation for next cropping year (MSU Extension Bulletin E2904) or 1 year N removal rate for legumes.

Bray P1 > 300 lbs of P: No land applications of CAFO waste will occur.

Variation from these methods of calculating the maximum annual land application rates must be authorized in Marsh Swine Farm's Certificate of Coverage (COC), and will require that the farm request a permit modification from the DEQ if not already authorized.

Land Application Log

Marsh Swine Farm will retain **up-to-date** records of land application inspections, monitoring, testing, and recordkeeping with this CNMP in **Appendix B** "Land Application Log". These records will be retained for a minimum of five years. Some records are required to be retained in the CNMP as noted below. All of the following are required records to be retained for all land applications:

Description of Activity/Record	Record Location
The time, date, quantity, method, location, and application rate for each location at which CAFO wastes are land applied	Appendix B-5
The crop, the realistic yield goal, and actual yield for each location at which CAFO wastes are land applied	Appendix B-6
Statement whether the land was frozen or snow-covered at the time of application	Appendix B-5
Methodology and calculations showing the total nitrogen and phosphorus to be applied to each field receiving CAFO waste, identifying all sources of nutrients, including sources other than CAFO waste	Appendix B-6

The total amount of nitrogen and phosphorus actually applied to each field receiving CAFO waste, irrespective of source, including documentation of calculations for the total amount applied	Appendix B-6
A written description of weather conditions at the time of application and for 24 hours prior to and following application based on visual observation	Appendix B-7
Printouts of weather forecasts from the time of land application. Weather forecasts may also be saved as electronic files, in which case the files do not need to be physically located in the Land Application Log, but the log shall reference the location where the files are stored.	Appendix B-78

Prohibitions on Spreading

Marsh Swine Farm will not apply CAFO waste under any of the following conditions:

- On land that is flooded or saturated with water.
- During rainfall events.
- Surface applied without incorporation to frozen or snow-covered ground, except in accordance with the Department 2005 Technical Standard for the Surface Application of CAFO Waste on Frozen or Snow-Covered Ground Without Incorporation or Injection.
- If rainfall exceeding ½ inch, or less if a lesser rainfall event is capable of producing an unauthorized discharge, is forecasted by the National Weather Service (NWS) during the planned time of application and within 24 hours after the planned application.
<http://www.weather.gov/mdl/synop/products.php>

The following NWS station(s) are closest to the land application areas and will be utilized for forecasting: Muskegon (KMKG)

GFS MOS (MEX) Text Message by Station Forecast Examples:

- No Spreading: Q24 = 4 & P24 is ≥ 70
- No Spreading: Q24 ≥ 5

Land Application Methods

Marsh Swine Farm will subsurface inject or incorporate CAFO waste into the soil within 24 hours of application. CAFO waste subsurface injected into frozen or snow-covered ground will have substantial soil coverage of the applied CAFO waste. The following exceptions apply:

- Injection or incorporation may not be feasible where CAFO wastes are applied to pastures, perennial crops such as alfalfa, wheat stubble, or where no-till practices are used. CAFO waste may be applied to pastures or perennial crops such as alfalfa, wheat stubble, or where no-till practices are used, only if the CAFO waste will not enter waters of the state. CAFO waste shall not be applied if the waste may enter waters of the state.
- On ground that is frozen or snow-covered, CAFO waste may be surface applied and not incorporated within 24 hours only if there is a field-by-field demonstration, in accordance with the Department 2005 Technical Standard for the Surface Application of CAFO Waste on Frozen or Snow-Covered Ground Without Incorporation or Injection (last page of this permit), showing that the land application will not result in a situation where CAFO waste may enter waters of the state.

Demonstrations will be kept in **Appendix B-2**. Acceptable demonstrations will include documentation of all of the following:

- Approval by a certified CNMP provider

- o NRCS MARI Score of 37 or lower
- o An on-site inspection
- o Topographic maps designating areas where runoff will not flow to surface waters as the only authorized areas to apply manure to frozen and snow covered ground without incorporation.

The following limitations apply to applications to frozen and snow covered ground without incorporation:

- o Demonstrations will be submitted to the Department prior to use of the field.
- o CAFO waste surface applied to ground that is frozen or snow-covered shall be limited to no more than 1 crop year of P per winter season, including pastures, perennial crops, and no-till fields.

Note: Only land with low or very low MARI scores approved by CJD Farm Consulting will be used if winter spreading is needed. The farm will attempt to avoid spreading during winter if possible. A list of the MARI scores is listed in **Appendix B-2** to use when developing your list of fields to apply on in the winter. In order to reduce the risk of discharges of manure during the winter months, CJD Farm Consulting has made recommendations for winter spreading based on the current field conditions, the upcoming weather forecast, and following a discussion of the farm's actual spreading needs.

Land Application Setbacks

Marsh Swine Farm will comply with all of the following setback requirements.

CAFO waste will not be applied closer than 100 feet to any ditches that are conduits to surface waters, surface waters except for up-gradient surface waters, open tile line intake structures, sinkholes, or agricultural well heads.

- The 100-foot setback required above may be reduced with a 35-foot wide vegetated buffer. CAFO waste shall not be applied within the 35-foot buffer.
- CAFO waste shall not be applied within grassed waterways and swales that are conduits to surface waters.
- Setbacks are measured from the ordinary high water mark, where applicable, or from the upper edge of the bank if the ordinary high water mark cannot be determined.

Non-Production Area Storm Water Management

Marsh Swine Farm has implemented practices including preventative maintenance, good housekeeping, and periodic inspections of at least once per year, to minimize and control pollutants in storm water discharges associated with the following areas:

- Immediate access roads and rail lines used or traveled by carriers of raw materials, waste material, or by-products used or created by the facility
- Sites used for handling material other than CAFO waste including new sand to be used as bedding (not sand previously used as bedding)
- Refuse sites
- Sites used for the storage and maintenance of material handling equipment
- Shipping and receiving areas

Records and descriptions of non-production area storm water management practices are kept in **Appendix A-3**.

Nutrient Management Plan

Nutrient Balance

All manure nutrients produced by this farm will be manifested off site to local farmers to be used as a crop fertilizer.

Overview

Manure and nutrient management includes managing the source, rate, form, timing, placement, and utilization of manure, other organic by-products, sludge, and other nutrients in the soil and in crop residues. The goal of this nutrient management plan is to use the nutrient resources produced on the farm efficiently to supply nutrients to plants for the production of food, forage, fiber, and cover while minimizing the transport of nutrients to ground and surface water, which leads to environmental degradation.

Manure and nutrient management are important components of this CNMP. Nutrient management is used in conjunction with crop rotation, residue management, pest management, conservation buffer practices, and/or other practices needed on a site-specific basis to address natural resource concerns and the farm's objectives.

Nitrogen, Phosphorus, and Water Quality

Nitrogen and phosphorus are the two nutrients most often identified as impairing the quality of our ground and surface water. Nitrogen leaching out of the root zone can enter tile and be transported to surface water or can leach to groundwater. Phosphorus leachate and runoff entering the surface water contributes to excessive algae growth resulting in low oxygen levels in surface water that impair aquatic life. The proper management of manure and crop nutrients minimizes the transport of nitrogen and phosphorus to surface and groundwater.

Manure Nutrient Utilization

The manure produced on this farm is manifested to local farmers to be used as a nutrient source for the crops grown. Credits for nutrients applied in the manure shall be taken into account and fertilizer applications shall be adjusted accordingly.

Nutrient and fertilizer recommendations are developed using winMSUNM, which follows MSUE and Tri-State fertilizer recommendations for the crops grown on this farm. Residual nitrogen credits may be given for the manure applied in the previous three years if up-to-date and complete records are used to calculate residual N (may be done using winMSUNM record keeping software).

Supplemental nitrogen may be applied in the row at planting or may be used as an herbicide carrier. The use of a PSNT (Pre-sidedress N test) to determine the proper amount of supplemental-N to apply is encouraged. Phosphorus and potassium may be top dressed on hay ground and pastures between cuttings.

On fields that have soil phosphorus (Bray P1) levels over 300 pounds per acre, neither manure nor phosphorus fertilizer may be applied. Fields are identified by their soil P levels in the Field Summary (**Section 7**) and in the Soil Test P Level Report (**Section 8**). As the crops remove phosphorus from the soil profile, the soil test level of these fields can be expected to be reduced. For every 10-15 pounds of P₂O₅ removed in the crops, the soil test P (lbs./acre) can be expected to drop by one pound.

Manure Analysis

Each type of manure produced by the farm shall be tested annually. Changes in animal diets, manure handling, or storage may result in changes to manure characteristics. The manure shall be analyzed for the following: percent solids, Total N, Organic N, NH₄ (Ammonia N), P₂O₅, and K₂O.

Unless an analysis is available from just prior to application, manure application rates will be based on the average/trend of the three most current analyses. Individual manure samples from each type of manure produced at the farm will be mixed well, placed in one-pint sample containers (or zipper bags for solid manures), and frozen for shipping. The best time to ship samples is early in the week, so that the samples are not delayed in a warm building/shipping container over a weekend or holiday. These sampling methods will help to ensure that representative samples are collected and tested. If questions arise regarding sampling methods, contact your CNMP provider (CJD Farm Consulting, 616-608-5022). Current manure test results can be found in **Appendix D, Section 15**.

Soil Testing

A fundamental component of farm nutrient management is soil fertility. A thorough understanding of fertility in the root zone helps landowners apply the proper amount of inorganic fertilizer, lime, organic residue, and manure. Correctly applying these inputs, helps to optimize crop yield while minimizing nutrient losses to the air, surface water, and below the root zone. The fertility status of the soil in a field can be determined from soil samples collected that are representative of the field or areas within the field. Soil samples shall be taken every three years. Current soil phosphorus levels are reported in the field summary.

Michigan State University, the Land Grant University in Michigan, has published three publications providing guidance for technicians sampling soils. The primary document is Extension Bulletin 498, revised in January 1998. Sampling Soils for Fertilizer and Lime Recommendations is written by Dr. Darryl Warncke, MSU Crop and Soil Sciences Department. Soil sampling topics discussed include, Sampling Uniform Areas, Soil Sampling Tools, Sample Collection, When to Sample and Test, Frequency of Sampling, and Intense (grid) Soil Sampling.

The Sampling Uniform Areas category is summarized below:

Composite soil samples that represent no more than 15 acres of a uniform soil area are more likely to be representative of that soil than samples that represent larger areas. Given that large fields may have uniform soil areas that amount to more than 15 acres, one composite sample may be representative of a larger acreage. However, soils in most Michigan fields are not uniform; therefore use 15 to 20 acres per composite sample as a general guide unless field variability or uniformity suggests more or less intense sampling is appropriate.

Two other publications provide similar soil sampling information: MSU Extension Bulletin 1616, Soil Sampling for No-Till and Conservation Tillage Crops, and MSU Extension Bulletin 550A, Fertilizer Recommendations for Field Crops in Michigan.

Odor Management Plan

Farm odors are very subjective. What one person finds offensive, another may find tolerable. Be aware of the farm's neighbors' concerns and work to address them as soon as possible. Items in this section are to be utilized as much as is possible and practical to help reduce odor complaints by neighbors.

1. Develop good relationships with non-farm neighbors and encourage them to discuss their concerns with the farm first.

2. Use available weather information to best advantage. Turbulent breezes dissipate and dilute odors. Hot and humid weather tends to concentrate and intensify odors, particularly in the absence of breezes. Rain will remove the odor from the air.
3. Use natural vegetation barriers and windbreaks to help dissipate and filter odors.
4. Establish vegetated air filters by planting conifers and shrubs as windbreaks and visual screens between cropland and residential developments.
5. Clean up spills on driveways and roads.
6. Take care not to over-fill spreaders to prevent losing part of the load when transporting on the road.
7. Ask employees and regular visitors to the farm to notify the owners of significant odor events. Make note of these events and the probable causes for future reference.
8. Other nuisance factors such as flies, excessive manure applications, and blowing trash may result in an increased perception of farm odors by farm neighbors. By fostering good relationships with neighbors, they will be more likely to bring their concerns to the farm to be addressed.

Deficiencies and Remedies

This is a new farm; there are no deficiencies at this time.

Schedule of Implementation

Item:

Review CNMP
Update CNMP
Collect Soil Samples
Collect Manure Samples

Completed by:

Annually
Every three years
Every three years
Before manure is applied