Moniteau County MCNA Neighbors Alliance

Supporting community health and economic well-being through education and advocacy

https://mcnamissouri.org mcnamissouri@gmail.com

DATE: June 1, 2025

TO: Missouri Natural Resources Department (DNR) Water Protection Program

FROM: Moniteau County Neighbors Alliance (MCNA), Susan Williams, President

REGARDING: SECTION 1 - Concentrated Animal Feeding Operations (CAFO) Permit Applications in Southwest Missouri, Lawrence and Newton Counties

Permit Denial

In this Section 1 of the non-profit Moniteau County Neighbors Alliance (MCNA) Public Comment, MCNA opposes the siting of any new or modified CAFOs in southwestern Missouri until the Missouri Department of Natural Resources (DNR) revises ***Form W- Concentrated Animal Feeding Operation (CAFO) Operating Permit Application (Form W).*** In Section 2 of this Public Comment, MCNA provides examples of the types of revisions needed to close regulatory loopholes. We are most concerned about Part 4.2 defined in both Section 1 and Section 2, which currently asks whether this permit is an **"export-only operation."** If the answer is yes, *it eliminates the need to conduct CAFO animal waste tracking.*

The omission of CAFO animal waste tracking, where it is land applied, and in what quantities is detrimental to Missouri. It makes it impossible to make decisions such as what has been requested in this public comment. The permits must track all land applications of CAFO animal waste by field receiving waste, preferably by GPS coordinates in real time. Unfortunately, the Form W as its written does not do this. Until such a time that a Revised CAFO Application Permit Form W can be adopted, MCNA requests a **MORATORIM** on siting CAFOs in questionable areas like southwest Missouri, including denial of these permit applications by DNR.

What is an "export-only operation."

In the current Form W https://dnr.mo.gov/document-search/form-w-concentrated-animal-feeding-operation-cafo-operating-permit-application-mo-780-2112**,** Part 4.2, it asks if this

facility is an ***"export-only operation."*** The applicants under review in southwest Missouri all answered *yes*, which means the CAFO animal waste is given or sold to a ***third-party recipient*** without waste tracking. This results in the transfer of waste responsibility to land not owned by the CAFO owner, operator or continuing authority, which in turn relieves any of the original parties from waste liability.

DNR is unsure how long the ***export-only operation*** *has* been in Form W, but over the years more and more CAFOs are choosing it because of prohibitive costs associated with CAFO animal waste management. It is prohibitive to own all the land needed to land apply CAFO animal waste. In Form W, Part 4.2, almost all CAFOs opt for "yes," including all the current applicants. According to DNR, '***export-only'*** simply means the waste is being applied to land not owned by the CAFO. There is no place in DNRs rules and regulations where '***export-only'*** has been defined. However the words began to develop meanings over the years and today, they represent nothing close to protecting the Waters of the State or the health of Missouri citizens.

Unofficial Definitions for "Export Only" and "Third Party Recipients"

- Checking the current Form W, Part 4,2, ***Export Only Operation*** first and foremost means the ownership of the waste changes hands to a **third-party recipient** from a CAFO owner, operator, or continuing authority, which in turn shifts the waste liability.

- **Export Only** saves huge costs, recordkeeping, and liability for CAFOs.

- **Third-party recipients** are not required to track and report to DNR on the location of land application sites, the amount applied, or information on soil tests/slope/runoff or application rates.

- Animal waste may be applied at any location and at any rate determined by the **third-party recipient.**

- **Third-party recipients** have no regulations to follow that ensure the waste be applied in a manner that would be protective of Missouri Waters of the State or the health of Missouri citizens, such as a Nutrient Management Plan (NMP) designed by a certified engineer and associated Nutrient Management Technical Standard (NMTS) published by the Missouri University Extension and used for over 15 years.

- **Export-only** CAFO waste applied to the land without soil testing can result in excess nutrients and harmful pathogens running off into surface water, groundwater and private wells; a situation exacerbated with lack of setbacks to protect sensitive features such as

homes, springs, and karst topography.

The Revised Form W (see Section 2)

The Revised Form W as suggested in this Section 2 of MCNA's Public Comment addresses the regulation loopholes such as:

1) Monitoring waste locations and volume by specific HUC 12 when Part 4.2 is changed to ***"Does this operation plan to export any of its waste?"*** (page 6),

2) Comparing these specific application sites locations with potential pollutant entry into water sources,

3) Utilizing setbacks for sensitive features during land application of waste,

4) Requiring the "***third-party recipient"*** *to utilize* a real Nutrient Management Plan, instead of the CAFO just checking boxes in Parts 5 - 11 as in the current Form W, and

5) Following the Nutrient Technical Management Standards when receiving CAFO animal waste.

Until such a time that a Revised CAFO Application Permit Form W can be adopted, MCNA requests a MORATORIUM on siting CAFOs in questionable areas like southwest Missouri.

Questions Needing Answers

- There are 7 new or expanding CAFO permits being considered in the Spring HUC-8 Watershed. How will DNR determine when there are too many CAFOs in the Watershed without waste tracking occurring?

- How will DNR protect the ground and surface water near the proposed southwest Missouri CAFO sites without requiring **third-party recipients** of poultry litter to have a real Nutrient Management Plan that adheres to the Nutrient Management Technical Standard (NMTS)?

- How can DNR ensure that the groundwater and surface water won't be polluted by over application of poultry litter without accurate waste tracking?

During the rulemaking process for 10 CSR 20-6.015, a component has been added to the permit that requires soil samples of proposed land application fields to assure that nutrients are not over applied to the land. Without this type of information for land application of CAFO waste, it is impossible to know if the land can absorb more nutrients.

- The area under consideration in southwest Missouri has many karst features including, springs, sinkholes, losing streams and shallow groundwater. The geohydrologic evaluations conducted by Missouri Geologic Survey report that "*Based on the geologic and hydrologic characteristics observed, the site's potential for contamination of groundwater is significant. In the event of wastewater treatment failure, the local, shallow, and regional groundwater and the surface waters ..... may be adversely impacted"*[1] How can such a statement be disregarded?

MCNA Historical Experience

MCNA founders were devastated when they experienced the permitting of Tipton East Swine Farrowing CAFO in 2018. They learned that no environmental protection was provided in the neighborhood when a CAFO sought an operating permit; no protection for private wells, streams and homes. Waste could be spread without consideration for the impact that waste could have on the local water resources and the health of the community members.

This same problem continues today in communities across Missouri. Our groundwater, surface water and the health of communities are in jeopardy. ***Export-Only*** is a regulatory loophole that must be fixed. Although calling for a **moratorium** on permitting additional CAFOs until Form W is revised is a dramatic move, Missouri cannot continue down the trajectory of not knowing where animal waste is piling up on the landscape. No additional CAFOs should be permitted until this regulatory loophole is removed.

Southwest Missouri and Two Decades of No Waste Tracking

For over two decades, the area in southwest Missouri has received unknown quantities of CAFO animal waste, wastewater residuals from various food, animal, and animal food processing plants, and domestic wastewater biosolids applied to the land. This corner of the state with Barry, Lawrence, McDonald and Newton Counties has a multitude of permitted (Class 1) and unpermitted (Class II) CAFOs causing potential nutrient saturation of the land. Regrettably, this situation is unmonitored and unknown in large part because the Class 1 CAFOs are termed **"Export-Only Operations"** on the Permit Application Form W, Part 4-2. This situation can and should be remedied by implementing revisions to Form W, as proposed with MCNA's Section 1 and Section 2 Public Comment. Thank you for considering our thoughts.

[1] Missouri Geological Survey, Geohydrologic evaluation, Project ID#LWE25079, Newton County ,MO

DATE: June 1, 2025

TO: Missouri Department of Natural Resources (DNR) Water Protection Program

FROM: Moniteau County Neighbors Alliance (MCNA)

REGARDING: SECTION 2 - Suggestions for Changes *Form W - Concentrated Animal Feeding Operation (CAFO) Operating Permit Application* (MO 780-2112 (12-22) and Proposed Amendment to 10 CSR 20-6.300 for Reducing Pollution from Application of Animal Waste by Third Parties

Form W Revisions

The Moniteau County Neighbors Alliance (MCNA) recommends changes to the current Form W for CAFO Operating Permit Application as outlined in Missouri's 10 CSR 20-6.300(2)(E), which sets forth the application process and requirements for Concentrated Animal Feeding Operation (CAFO) operating permits. Additionally, MCNA suggests that the Missouri Department of Natural Resource (DNR) amend Missouri's Concentrated Animal Feeding Operations regulations, found at 10 CSR 20-6.300, to add:

(1) a requirement that third-party operations applying animal waste obtained from CAFOs prepare and follow Nutrient Management Plans (NMPs); and

(2) to enact in a regulation the setback provisions of 640.760 Rev. Stat.. Mo. which establishes the setback distances of third parties that surface apply animal waste obtained from CAFOs.

These provisions will clarify DNR's authority to track and regulate the application of animal waste by all parties in the interest of protecting the environment and public health.

MCNA is a 501(c)(3) non-profit Missouri corporation that supports community health in rural areas of Missouri and economic well-being through education and advocacy. Specifically, MCNA empowers local residents to make informed decisions about CAFOs and other issues affecting rural Missouri, educates public about environmental and economic issues posed by CAFOs, and advocates for community health and community conservation through addressing these issues. MCNA formed in response to the proposed Tipton East Swine Farrowing CAFO in rural Missouri in 2018, after concerned neighbors gathered to learn about the potential environmental and health risks. Thus, MCNA has an interest in the CAFO operating permit process and requirements for Third Parties to provide their own NMPs and set-back establishments.

We hope to collaborate with DNR on the issue of CAFO third-party waste tracking for the betterment of the quality of Missouri's waters and the health of rural citizens living near CAFOs. Excessive application of animal waste on agricultural fields can introduce excess nutrients and harmful pathogens into surface water and private wells. Because many if not most CAFOs export their waste to third-party companies to land apply as fertilizer, monitoring waste volume, the HUC 12 and specific application sites, and potential pollutant entry into water sources is crucial.

In our following proposal, we propose a series of potential amendments to the current Form W General Permit application that are designed to better track the waste that is land-applied in large volumes in Missouri. In particular, we ask for changes to section 4 and Section 9 that would require:

Part 4

- CAFO operators to report if they will export waste and if so, the specific application sites to where waste is exported – by adding new Questions 4.2 and 4.3 Monitoring waste (Part 4.2 is changed to ***"Does this operation plan to export any of its waste?"*** **– <u>not</u> is it an "*export-only operation*")**
- CAFO operators to include their NMPs in their permit application – by adding new Questions 4.4 and 4.5.
- Information about the usage of antibiotics and hormones its facility if there is any –by adding new Questions 4.6 and 4.7

Part 9

- CAFO operators to report if a 303(d) water flows through or is adjacent to its facility and the HUC 12 it belongs to – by adding new Questions 9.1.1 and 9.1.2
- Testing results of the Waters of the State that flows through or is adjacent to its facility – by adding new Question 9.2
- CAFO operators to report lagoons that are located upgradient from Waters of the State – by adding new Question 9.3
- Establishing a baseline for the soil testing and soil quality to receive the waste –by adding new Question 9.4
- Highlighting the connections between land-application and waters of the state – by adding new Questions 9.5, 9.6, 9.7, 9.8 and 9.9
- Establish a baseline for soil testing and soil quality to receive the waste.

These revisions will facilitate the identification of pollution sources. They will also enhance DNR's capacity to effectively formulate and enforce total maximum daily loads[2] (TMDLs) in

[2] Section 303(d) of the Clean Water Act (CWA) requires states to identify waters that are impaired by pollution, even after application of pollution controls. For those waters, states must establish a total maximum daily load

state waters, improve efforts in pinpointing the precise locations of where the fertilizer is being utilized, and improve efforts in being able to identify potential pollutants impacting the environment and local communities. Finally, it would streamline the process for DNR and the public to ensure compliance with Mo. Rev. Stat. § 640.760 setback requirements for third-party land application of the waste.

We propose that third parties handling CAFO waste should be required to prepare, submit and follow a Nutrient Management Plan, as is similarly done in Michigan and Minnesota via Manifest Forms and Manure Management Plans. Such a requirement would further reduce pollution and improve the quality of our state water if followed properly by third parties who land-apply CAFO waste.

Form W – Concentrated Animal Feeding Operation (CAFO) Operating Permit

DNR requires prospective CAFO operators to use Form W when seeking construction approval before commencing operations. The current form does not address buffer zones, antibiotic use, waste nutrient content, or impaired waters. Likewise, Form W does not require the submission of an NMP-equivalent document or soil testing. MCNA advocates for Form W amendments to address these gaps and enhance water protection in Missouri.

A. **Proposed Changes to Part 4 of Form W: Operational Information**

1. Add Question 4.2 and Question 4.3 to Form W.

MCNA first proposes new Question 4.2 to Part 4 of Form W. Question 4.2 would read as follows: ***Does this operation plan to export any of its waste?*** The available answers would be yes or no, If the answer was yes, then the applicant would answer Questions 4.3: ***If answered yes to 4.2, please indicate where the waste is exported.*** If the answer was no, then the applicant would move to the next section.

Current CAFO permits require the CAFO operator to provide basic information about the recipient of waste, but not the location where it will be applied, or the practices used to apply it. Knowing this information will help DNR ensure that waste is applied responsibly and make it easier for DNR to keep track of the watersheds in which waste is applied. It will also facilitate the creation of TMDLs.

2. Add Questions 4.4 and 4.5 to Form W.

(TMDL) of pollutants to ensure that water quality standards can be attained. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://environmentamerica.org/wp-content/uploads/2022/08/AccidentsFactsheet-ManureLagoons-1.pdf.

MCNA proposes adding new Question 4.4 to Part 4 of Form W. Question 4.4 would read as follows: ***Does the proposed facility have a nutrient management plan? (Note: a nutrient management plan is required for applying for a CAFO operating permit).*** The available answers would be yes or no, If the answer was yes, then the applicant would answer Questions 4.5. New Question 4.5 would read: ***If Yes, please attach the Nutrient Management Plan signed by a certified nutrient management planner.*** If the answer was no, then the applicant would need to prepare its nutrient management plan first before its application would be complete.

The Nutrient Management Plan is DNR's means of ensuring that CAFO operators land apply waste properly. Under Missouri's current regulations, CAFOs that land apply manure, litter, or process wastewater must develop and implement a NMP under 10 CSR 20-6.300(3)(G)1. Specifically, 10 CSR 20-6.300(3)(G)2 requires that manure, litter, and process wastewater applied to the land application area minimize the phosphorus and nitrogen transport from the field to surface waters.
Currently operators are not required to submit the NMP to DNR with their application. However, by incorporating these questions into Form W and requiring that the NMP is included with the application, DNR can proactively ensure compliance with the proper completion of the NMP.

3. Add Question 4.6 and Question 4.7 to Form W.

MCNA proposes adding new Question 4.6 to Part 4 of Form W. Question 4.6 would read as follows: ***Does the proposed facility plan to use antibiotics or hormones in its process?*** The available answers would be yes or no. If the answer was yes, then the applicant would answer Question 4.7. ***Question 4.7 would read as follows: If yes, please list the antibiotics or hormones to be used: Antibiotic or Hormone?***

If the answer was no, then the applicant would move to next section.

Both antibiotics resistance and hormone disruptions are significant public health problems, and both can be exacerbated by CAFO operation and land application of waste. Antibiotics may be used in CAFOs to treat or prevent diseases in animals. Manure from CAFO animals treated with antibiotics can carry drug residues which can enter the environment through runoff or leaching, negatively impacting soil quality, water quality and aquatic ecosystems, and increased antibiotic resistance.

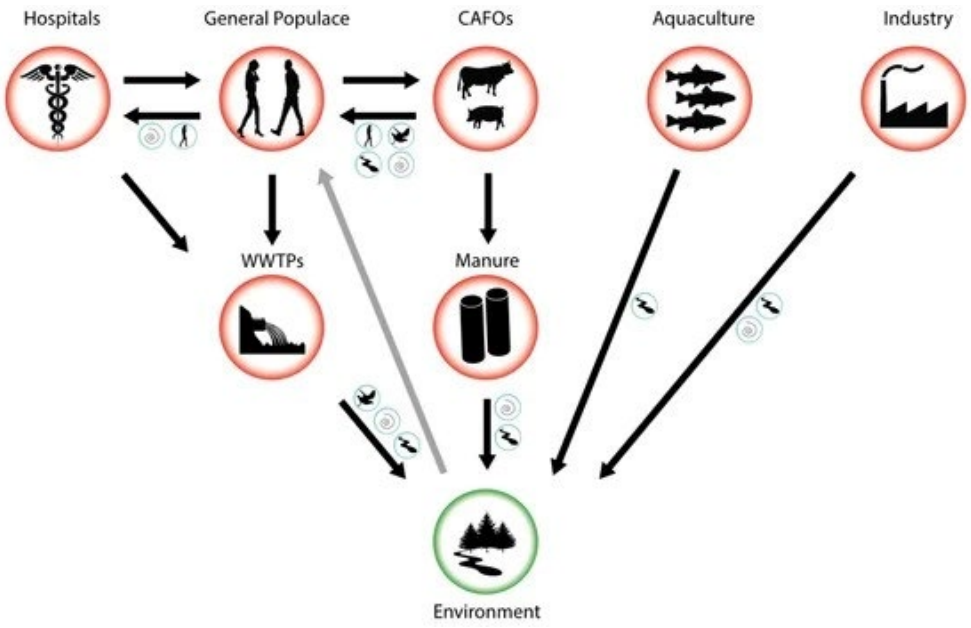

Figure 1. Schematic flow of antibiotic resistance-carrying bacteria and antibiotic resistance genes from hotspots of evolution and transmission (red circles) to the environment (green circle)[3].

Hormones are used in animal raising facilities to promote growth and improve feed efficiency in livestock. Like antibiotics, excessive hormone residues can flow into the aquatic environment through runoff or leaching, and disrupt animals' natural hormonal balance

By asking for this information, DNR can better monitor, regulate and manage the use of these potentially impactful substances.

B. Proposed Changes to Part 9 of Form W: Testing Information

1. Add Question 9.1.1 and Question 9.1.2 to Form W.

MCNA proposes that DNR add new Question 9.1.1 to Part 9 of Form W. Question 9.1.1 would read as follows: ***Does a 303(d) listed water flow through or adjacent to your property?*** The available answers would be yes or no.

MCNA also proposes that DNR add new Questions 9.1.2 to Part 9 of Form W. 9.1.2 would read as follows: ***Is the facility located in a watershed of a 303(d) listed waterbody and if so, which watershed (HUC 12) is the facility located?***

[3] Data source: Susanne A. Kraemer, Arthi Ramachandran, Gabriel G. Perron: Antibiotic Pollution in the Environment: From Microbial Ecology to Public Policy. https://www.mdpi.com/2076-2607/7/6/180.

Manure, litter, and process water from CAFOs are major pollutants and responsible for the impairment of many Missouri streams. Adding these two questions to Form W helps flag nonpoint source contributions to impairment.

2. Add Question 9.2 to Form W.

MCNA proposes that DNR add new Question 9.2 to Part 9 of Form W. Question 9.2 would read as follows: ***For any Waters of the State adjacent to and/or flowing through the property, please provide testing results for the following parameters: Total Nitrogen (mg/L); Total Phosphorus (mg/L); E. Coli***

Nitrogen and phosphorus found in CAFO manure, litter, and process water can lead to local water pollution issues like eutrophication and harmful algae blooms. *E. coli* found in animal waste can cause severe illness among local residents, especially children and those with compromised immune system, and render waters unsafe for recreation.

Providing information about these pollutants will allow for early detection of potential exceedances of water quality standards, parameters valuable insights for DNR in evaluating the environmental impact of a specific CAFO to the local watershed, and help DNR to better plan, monitor, regulate, and manage specific CAFO's waste management operations.

3. Add Question 9.3 to Form W.

MCNA proposes that DNR add new Question 9.3 to Part 9 of Form W. Question 9.3 would read as follows: ***Will any proposed waste storage lagoons be upgradient from a Water of the State? (Waters of the State are defined in MO- 10 CSR 20-7.015)***

This question will also provide information about pollutants from CAFOs potentially entering Waters of the State, as defined in MO-10 CSR 20-7.015. It will enable DNR to identify CAFOs which have a high potential risk of causing pollution and impairment.

4. Add Question 9.4 to Form W.

MCNA proposes that DNR add new Question 9.4 to Part 9 of Form W. Question 9.4 would read as follows: ***Please attach a report of the property's initial soil test results for fields used for land application. Testing must have been completed within the last year. Results must include but are not limited to: Soil test P^2; Soil Test P rating; CEC (meq/100g); Organic Matter (%)***

Soil testing provides valuable information about the nutrient content, pH levels, and organic matter of the soil, which is essential for determining appropriate nutrient management strategies,

and also impacts nutrient management and runoff potential. Knowing the soil characteristics and content helps in determining appropriate nutrient application rates. By mandating the submission of recent soil test results, DNR can ensure that CAFOs are applying nutrients in a responsible and targeted manner, minimizing the risk of over-application and nutrient runoff during precipitation events or season.

5. Add Question 9.5, Question 9.6, Question 9.7, Question 9.8, and Question 9.9 to Form W.

MCNA proposes that DNR add new Question 9.5 and Question 9.6 to Part 9 of Form W. Question 9.5 would read as follows: ***When was ground water last tested?*** 9.6 would read as follows: ***Please report the following parameter values from all groundwater testing conducted during the last five year's reporting period (for permit renewal) or of the current year (for new permit): Total Nitrogen (mg/L); Total Phosphorus (mg/L); E. Coli (present or not); Nitrates (mg/L); Ammonia (mg/L)***

MCNA also proposes that DNR add new Question 9.7 and Question 9.8 to Part 9 of Form W. Question 9.7 would read as follows: ***Is a well that is used for potable domestic water located onsite?*** If the response to Question 9.7 is yes, there will be two follow-up Questions. Question 9.8 would read as follows: ***If yes, has the onsite drinking water well been tested?*** Question 9.9 would read as follows: ***If yes, were any parameters above permissible drinking water limits according to the Federal Safe Drinking Water Act?***

Groundwater provides drinking water for millions of people and supports agriculture, industry, and ecosystems. Adding questions 9.5 and 9.6 to Form W, inquiring about the last groundwater test, helps track changes in groundwater quality over time, thereby enabling early detection of potential issues and prompt remedial actions. It will also provide a pre-CAFO baseline.

Questions 9.7 and 9.8 address onsite wells used for potable domestic water which may be such at a higher risk of contamination from nutrient runoff, pathogens, and other. If such a well is near to a CAFO operation, it is essential to monitor it, since violation of federal Safe Drinking Water Act limits can indicate potential contamination and the need for corrective actions to prevent imminent harm, allowing for early detection and mitigation efforts.

I. NMP Requirements for Third Parties that are Land-Applying CAFO Waste

A. Introduction to Third Party Waste Tracking

The NMP is DNR's method for ensuring proper application of CAFO waste which in turn protects soil fertility, crop vitality, and water quality. But CAFO operators are required to provide an NMP only if they land apply waste themselves. If the operator sells or gives waste to a third-party, the third-party is not bound by provide an NMP, meaning that those third parties are under no obligation to apply waste in an appropriate and agronomically sound manner.

The current regulations do require CAFO operators to report certain information about the third-party land-appliers receiving CAFO waste. Operators must file the Concentrated Animal Feeding Operation Annual Report MO 780-1953 and provide the receiving watershed (HUC12), the volume of exported waste, the state of matter of the waste (solid or liquid), and the manure type.[4] However, the annual report does not require the operators to provide any details on how the waste is managed, including application methods, nutrient levels, and application locations, are not required to be reported by CAFO operators or third parties.

Review of permit applications and general permits indicates that most CAFO waste is applied by third parties. In order to protect Missouri waters from the negative consequences of runoff from land applied CAFO waste, third-party land appliers should be subject to the same rules as CAFO operators who land apply. MCNA proposes that DNR require third-party recipients of CAFO waste to develop an NMP or an equivalent. Alternatively, MCNA proposes that DNR should require third parties to create a manifest-type document as required in Michigan or have the third parties participate in the development of a manure management plan, as is required in Minnesota. Given the volume of waste applied annually and the condition of Missouri waters, ensuring proper waste management practices is imperative.

B. Existing Regulations in MO and Current Practice

1. 10 CSR 20-6.300 Concentrated Animal Feeding Operations requires CAFO operator, but not third parties that land applies exported CAFO waste, to provide NMP, which is inadequate for tracking and evaluating the impact of the exported waste on the water of the state.

Missouri's current CAFO regulations, found at 10 CSR 20-6.300(3)(G)1, direct all CAFO operators—both those operating under an NPDES general permit and those operating under a

[4] Missouri Department of Natural Resources. (2023). *Concentrated Animal Feeding Operation Annual Report MO 780-1953*. CAFO Forms and Applications. https://dnr.mo.gov/document-search/concentrated-animal-feeding-operation-annual-report-mo-780-1953

state no-discharge general permit—to have an NMP. Specifically, Section (3)(G)(2) provides that "manure, litter, and process wastewater applied to the land application area" must

- Comply with the Nutrient Management Technical Standard as described further in 10 CSR 20-6.300(3)(G) and (5)(G), (H) and (I)
- Ensure adequate storage of manure, litter and process wastewater
- Ensure proper management of mortalities
- Ensure that clean water is diverted from the production area
- Provide for proper management of stormwater runoff
- Prevent direct contact of animals with waters of the state
- Ensure that chemicals/contaminants are not disposed of in a manure storage or treatment system[5]

However, current regulations do not track or regulate the manure once it leaves the CAFO ("is exported") and is applied as fertilizer by anyone other than the CAFO operator. The lack of manure tracking once it leaves a CAFO makes it difficult for DNR or the public to determine the locations where it is being applied and poses risks of water pollution from run-off which is caused by misapplication or overapplication.

2. Senate Bill No. 391 grants DNR the authority to regulate third party land application practices.

In 2019, Senate Bill No. 391 became law. It repealed sections 192.300, 640.715, and 640.745, RSMo and replaced them with five new sections related to CAFOs and agricultural operations. Importantly, the portion of Senate Bill No. 391 codified in Mo. Rev. Stat. § 640.760, grants DNR the authority to establish setback requirements for third parties other than CAFO owners and operators that land apply animal waste from CAFOs.

Section 640.760 provides:

> All liquified manure from a CAFO that is purchased or received by a third party and is surface-applied shall maintain an application setback of at least 50 feet from a property boundary, 300 feet from any public drinking water lake, 300 feet from any public drinking water well, 300 feet from any public drinking water intake structure, 100 feet from any perennial and intermittent streams without vegetation abutting such streams, and 35 feet from any perennial and intermittent streams with vegetation abutting such streams.[6]

[5] 10 CSR 20-6.300(3)(G) and (5).

[6] Senate Bill No. 391 as codified in Section 640.760, RSMo.

This statute recognizes that land-application by anyone, CAFO owner/operator or third-party, creates a risk of contamination of waters through runoff. The third-party land appliers are required to apply waste in a manner that keeps it away from neighbors, and neighboring waterbodies thereby mitigating the potentially damaging effects of CAFO animal waste. The statute gives DNR the authority to enforce the setback requirements for third parties, which necessarily includes tracking the land application of waste by third parties. DNR has the authority to require an NMP-equivalent, manifest-document, or manure management plan in order to ensure that third-party waste appliers are not misapplying.

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C. Other States' Waste-Tracking Processes Regarding Third-Party Land Application

Requiring third parties to keep track of and report the amount of CAFO waste they land apply, as well as where and when they apply it, its constituents, and other relevant information is not a novel idea. Three other midwestern agricultural states have similar waste-tracking provisions in their laws and regulations.

Under Minn. R. Part 7020.0505.4 (10)[7], Minnesota mandates the completion of a Manure Management Plan. The MMP must be filed along with a CAFO owners' application for an NPDES permit or SDS (state disposal system) permit when a CAFO exports some or all of its generated CAFO waste to third parties.[8] The development of a Manure Management Plan requires CAFO operator and third-party recipients to provide land application details, which encompasses land application sites, application methods, nutrient rate limits, manure application setbacks, nutrient management method. It also sets forth the record-keeping requirements for CAFO operators (manure generators) and third-party recipients (commercial applicators) when part or all of the generated waste are exported.

Michigan's CAFO regulation practices also delineate similar requirements for CAFO operators and third-party land appliers. Under Mich. Admin. Code R. 323.2196 (5) (e)[9], both CAFO operators ***and*** third-party recipients must present specified information to create a manifest form, detailing recipient information, destination/disposal information, and daily manure application

[7] See Appendix 3 and Appendix 4, Minnesota's regulations regarding third-party recipient waste tracking and land application activities requirements.

[8] When a feedlot owner (CAFO operator) applies for a permit, Minnesota requires that they must develop and maintain a manure management plan (MMP). The guidance document (See Exhibit 3) provided by Minnesota Pollution Control Agency specifically gives feedlot owners clear explanation of the difference between manure application planning, recordkeeping, and reporting, particularly those under the NPDES or State Disposal System (SDS) permits. MMP require a feedlot owner to detail application locations, rates, and to ensure compliance with environmental regulations. https://www.pca.state.mn.us/business-with-us/feedlot-construction-operation-and-technical-requirements

[9] See Appendix 2, Michigan's regulations regarding third-party recipient waste tracking requirements. A copy of this manifest form is attached to this letter.

summaries.[10] Both CAFO operator and third-party recipients are obligated to finish the manifest form and fullfill the record-keeping requirement as set forth under the rule.

A chart outlining the requirements from Michigan and Minnesota can be found in Appendix A.

D. Recommendations for DNR

MCNA proposes an amendment to 10 CSR 20-6.300(5), mandating third-party recipients to directly submit NMPs to DNR, which is an equivalent practice to the Manure Management Plan requirement of Minnesota. This direct submission policy will enhance DNR's capacity to monitor CAFO waste trajectories and uphold Mo. Rev. Stat. § 640.760. Enacting this regulation will not only elevate the responsibility of entities engaged in waste application but will also facilitate more effective environmental stewardship and public health safeguarding by streamlining compliance verification processes.

While requiring third-party recipients of CAFO waste to prepare and submit NMPs would be the most effective way to monitor their land application activities, MCNA recognizes that such a requirement may be politically sensitive. In the alternative, MCNA recommends adopting a practice similar to that of Michigan. This alternative approach would involve mandating both CAFO operators and third-party recipients to utilize a manifest form providing information about the transferred animal waste and where and how it is applied. This measure could serve as a viable solution to address the current regulatory gaps in third-party land application activities, ensuring a minimum level of oversight and accountability.

In addition to this requirement that third parties prepare an NMP, MCNA proposes that DNR should require CAFO operators to provide a CAFO waste transfer form to DNR while applying for a CAFO permit if the operation exports part or all of the generated CAFO waste to third party recipients. MCNA asks that the waste sales or transfer forms currently described in 10a CSR 20-6.300(3)(E)1.G to include the following additional information to be submitted to the Department by CAFO owners/operators in order to implement Mo. Stat. Rev. § 640.760:

- Name and address of the third-party recipient
- Anticipated Quantity of waste exported

[10] Rule 323.2196 under the Act 451 of 1994 Natural Resources and Environmental Protection Act stipulates CAFO permits general requirements, application process, form requirements which specifies a standard set of operating conditions and practices that CAFO operations have to comply with, of which (5)(e) provides that, when CAFO waste is sold, given away, or otherwise transferred to others persons (recipient) and the land application of the waste is not under the control of the CAFO operator that generates the waste, a manifest shall be used to track the transfer and use of the waste.

- Anticipated Nutrient Content (Nitrogen, Phosphorous, and Potassium)
- Location of application field and number of acres where waste will be applied
- Planned crop schedule and optimum crop yields
- Planned waste application methods and timing of waste application
- Planned manure application rate
- Phosphorus index of each field receiving waste
- CAFO operator's signature on declaration of: (1) the accuracy of the description of exported waste and the suitability for land application. (2) having provided CAFO waste transfer form and NMP requirement statement to third-party recipient.
- Recipient's signature on declaration of: (1) the accuracy of the destination information, planned application methods and timing of waste application. (2) confirmation of the recipient of CAFO waste transfer form and NMP requirement statement provided by CAFO operator. (3) developing an NMP for its land application activities and sending it to DNR for yearly review

Second, MCNA also proposes that DNR require that each time a CAFO operator exports animal waste, the CAFO operator shall provide both a copy of the CAFO waste transfer form described above and containing real-time data of the exported CAFO waste. CAFO owner/operators must also inform the third-party recipients of the NMP requirement. The NMP-requirement documents should be signed by the operator and the third-party recipient and contain the following:

- A template NMP with instructions
- Minimum state requirements for applying CAFO waste on Nitrogen rate limits, Manure application setbacks, and Soil phosphorus management, manure recipient record keeping
- Best Management Practices (BMPs) for nutrient management plan as delineated in 10 CSR 20-6.300(3)(G)

The NMP template and list of best management practices would guide the third-party land applier in the preparation of an NMP or its equivalent. The document should include the

following additional information to be submitted to the Department in order to implement Mo. Stat. Rev. § 640.760:

- Waste sales or transfer documentation including quantity exported, and name and address of third-party recipient.

- Calculations to determine land area required for manure application

- Field Soil testing results

- Total nitrogen and total phosphorous (as P_2O_5) available to be applied—determine actual nitrogen and phosphorus content through laboratory analysis along with measured volume or weight of waste from waste storage structure.

- Optimum crop yield and crop schedule—Determine through soil survey interpretation record, USDA county crop yields, or other proven yield methods.

- CAFO waste application methods and timing—May include surface-apply dry with no incorporation, surface-apply liquids with no incorporation, surface-apply liquid or dry with incorporation within 24 hours, surface-apply liquid or dry with incorporation after 24 hours, knifed in or soil injection of liquids, or irrigated liquids with no incorporation.

- Location of waste application—Include a copy of each written agreement executed with the owner of the land where waste will be applied.

- Estimate of total annual animal production and manure volume or weight that will be received and applied in the current year

- Methods to reduce soil loss and potential surface water pollution—Indicate crop rotation, tillage, and other practices.

- Irrigation methods/equipment

MCNA recommends that DNR require that the third-party recipient send one copy of its NMP or equivalent to DNR for annual review, send one copy of its NMP to the CAFO operator for the operator's annual report to DNR, and keep one copy itself for a minimum of 5 years.

Improving the informational gap by requiring CAFO operators ***and*** third-party recipients to send to DNR their NMPs, including waste sales and transfer information, will further ensure compliance with requirements for waste that is land applied and reduce run-off pollution from animal agriculture.

Conclusion

MCNA hopes to work together with DNR to help incorporate the above-listed comments and concerns into the Form W for CAFO General Permits, third party NMPs, and the amendment to 10 CSR 20-6.300(5). Each of the above sections has what we consider to be improved requirements for reporting/recordkeeping and monitoring on third-party waste application and NMPs.

MCNA believes that the potential changes to Form W will be pivotal pieces of data to help the Clean Water Commission protect the waters of the state and avoid downstream health problems. Its proposed changes to enforce Mo. Stat. Rev. § 640.760 will also help DNR address CAFO-related issues faced by rural communities in Missouri, protect state waters from nutrient and E. coli pollution, and help alleviate downstream public health problems.

Sincerely,

Susan Williams, President
Moniteau County Neighbors Alliance

Appendix 1. Michigan and Minnesota's Third-Party Waste Tracking Requirements

State's Third-Party Waste Tracking Requirements	Michigan	Minnesota
Who is covered	CAFO operator and third-party recipient are both required to provide specified information to develop a manifest form	CAFO operator and third-party recipient are both required to provide specified information to complete a Manure Management Plan
What documents are required	A manifest form must be prepared by CAFO operator before actually transferring CAFO waste to third party Third party is required to complete required section of manifest form and return it to CAFO operator after actually receiving CAFO waste	A MMP is required for CAFO operator to apply for a permit under NPDES or State Disposal System (SDS) permits When ownership of manure is transferred, a specific MMP (Form named as wq-f8-12) is required to be completed by CAFO operator through working collaboratively with third party recipients to provide waste application details. When manure of 300 or more animal units is transferred, a further detailed MMP form (Form named as wq-f6-43) is required to be completed by CAFO operator through working with third party recipients to provide waste application details Third party is required to complete required section of MMP and keep record in place
What process is required	CAFO operator shall: -prepare a manifest form -get approval from state -sign and obtain signature from waste recipient -advise recipient of its responsibilities to complete manifest -retain 1 copy and give remaining copies to recipient Recipient shall: -complete manifest form	CAFO operator shall: -complete MMP -provide minimum state requirements guidance for recipient -keep one record after completion of step #1 Owner of stockpile shall: (if a short-term stockpiling occurred)

	-return 1 copy to CAFO operator within 30 days	-complete stockpiling section of MMP Recipient shall: -complete manure application section of MMP -keep one record after completion of step #3 -return one record to CAFO operator after completion of step #3 -cropland manager must keep records for at least three years
What specific information is required	-Recipient Information including name, address, contact information of the third party -Recipient signature declaration on a proper storage, application method, and accurate information provided -Field Destination/Disposal Information including all the fields/locations third party applies waste upon -Daily Manure Application Summary including weather, field inspection, tile line, and inspector details -Application Information including application method, manure source, goal application rate/acre, actual application rate/acre, total volume or weight applied, manure incorporation data, manure incorporation method	-Manure Generation, Storage, and Testing Information including manure storage areas, yearly manure generation, storage capacity, anticipated amount to be transferred, anticipated nutrient content on Nitrogen, Phosphorus, and Potassium, manure type, and testing frequency -Land Application Information including anticipated land application methods, anticipated land application timing, details on how to ensure enough land availability under allowable rates, minimum state requirements guidance -Animal Mortality Management Information -Attachment A (minimum state requirements for applying manure to be provided to third party recipient by CAFO operator) including nitrogen rate limits, manure application setbacks requirements, soil phosphorus management, manure recipient record keeping requirements, short-term stockpiling practices requirements

Appendix 2. Mich. Admin. Code R. 323.2196 (5) (e)

(e) Unless the department determines otherwise, in cases where production area waste or CAFO process wastewater is sold, given away, or otherwise transferred to other persons (recipient) and the land application of that production area waste or CAFO process wastewater is not under the operational control of the CAFO owner or operator that generates the production area waste or CAFO process wastewater (generator), a manifest shall be used to track the transfer and use of the production area waste or CAFO process wastewater.

(i) The CAFO owner or operator shall do all of the following:

(A) Prepare a manifest for tracking the production area waste or CAFO process wastewater before transferring the production area waste or CAFO process wastewater.

(B) Designate on the manifest the recipient of the production area waste or CAFO process wastewater.

(ii) The generator shall use a manifest form which is approved by the department and which has locations for recording all of the following information:

(A) A manifest document number.

(B) The generator's name, mailing address, and telephone number.

(C) The name and address of the recipient of the production area waste or CAFO process wastewater.

(D) The nutrient content of the production area waste or CAFO process wastewater to be used in determining the appropriate land application rates.

(E) The total quantity of production area waste or CAFO process wastewater by units of weight or volume and the number and size of the loads or containers used to transfer that quantity of production area waste or CAFO process wastewater.

(F) A statement that informs the recipient of his or her responsibility to properly manage the land application of the manure and/or wastewater to minimize the discharge of pollutants to waters of the state.

(G) The following certification: "I hereby declare that the production area waste or CAFO process wastewater is accurately described above and is suitable for land application."

(H) Other certification statements as may be required by the department.

(I) Address or other description for the final destination of the production area waste or CAFO process wastewater.

(J) Locations for dates and signatures.

(iii) The generator shall do all of the following with respect to the manifest:

(A) Sign the manifest certification by hand.

(B) Obtain the handwritten signature of the recipient and the date of acceptance on the manifest.

(C) Retain 1 copy of the manifest.

(D) Give the remaining copies to the recipient.

(E) Advise the recipient of his or her responsibilities to complete the manifest and return a copy to the generator within 30 days after completion of the land application or other disposal or use of the production area waste or CAFO process wastewater.

(iv) One manifest may be used for multiple loads or containers of the same production area waste or CAFO process wastewater transferred to the same recipient.

(v) The generator shall not sell, give away, or otherwise transfer production area waste or CAFO process wastewater to a recipient if any of the following occurs:

(A) The recipient has previously not returned a copy of the completed manifest to the generator.

(B) The returned manifest indicates improper land application, use, or disposal.

(C) 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 production area waste or CAFO process wastewater.

(D) The recipient fails or refuses to provide accurate information on the manifest in a timely manner.

(vi) If the generator has been prohibited from selling, giving, or otherwise transferring large CAFO waste to a particular recipient under paragraph (v), above, and the generator wishes to resume selling, giving, or otherwise transferring large CAFO waste to that particular recipient, then the one of the following shall be accomplished:

(A) For improper paperwork only, such as incomplete or inaccurate information on the manifest, the recipient must provide the correct, complete information.

(B) For improper land application, use, or disposal of the large CAFO waste by the recipient, the generator must demonstrate, in writing, to the department that the improper land application, use, or disposal has been corrected, and the department has provided approval of the demonstration.

(vii) All copies of manifests shall be kept with the CAFO owner or operator's CNMP for a minimum of 5 years.

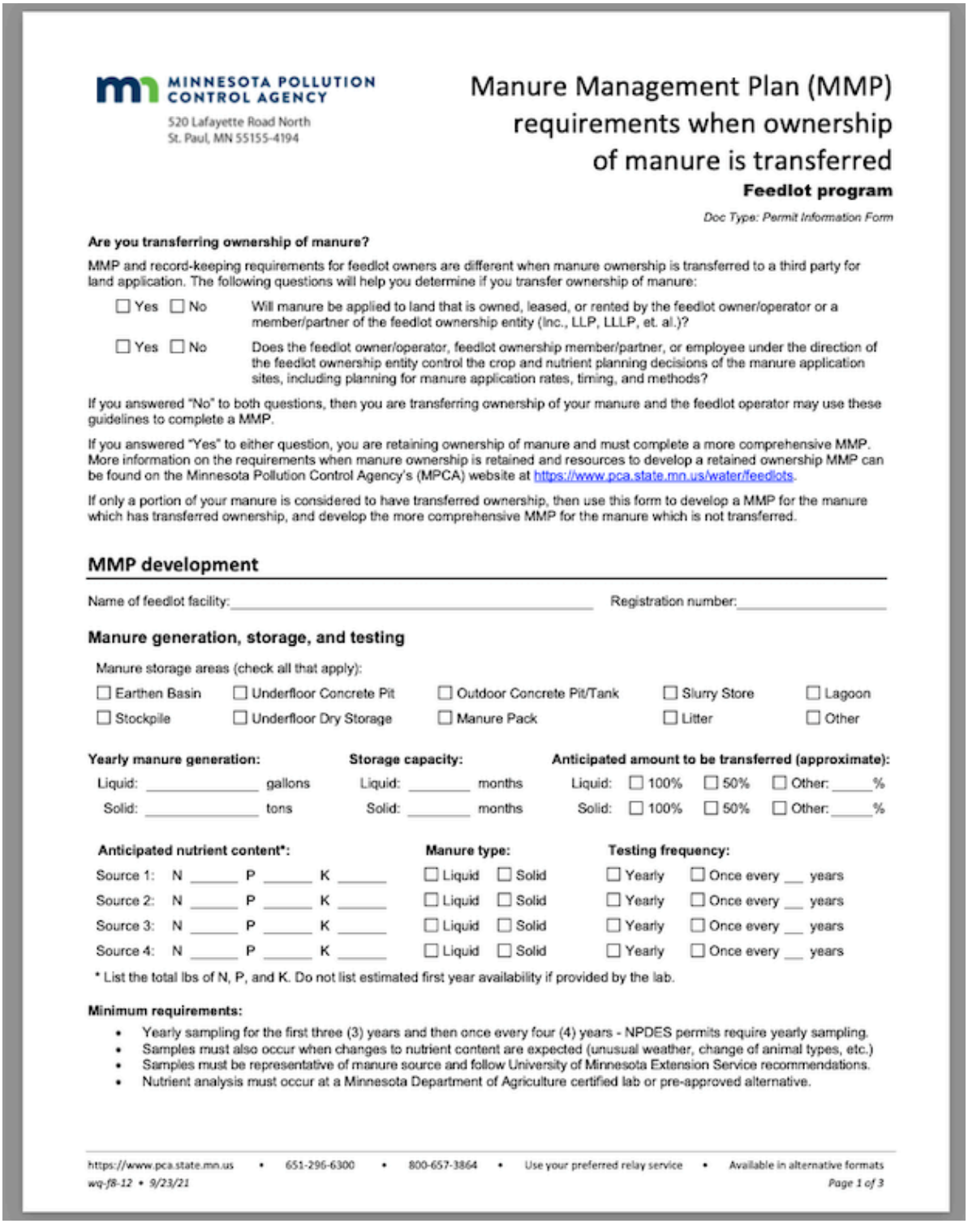
(viii) The requirements of this rule do not apply to quantities of production area waste or CAFO process wastewater less than 1 pick-up truck load, 1 cubic yard, or 1 ton per recipient per day.

Appendix 3 – Minn. R. Part 7020.0505.4

A. An application for a permit must contain the following:

(1) the names and addresses of the owners and the signature of at least one of the owners;
(2) the legal name and business address of the facility, if different than the owner;
(3) the location of the facility by county, township, section, and quarter section;
(4) a list of all animal types, and the maximum number of animals of each animal type that can be confined within each lot, building, or area at the animal feedlot;
(5) a list of all existing and proposed manure storage areas, including plans and specifications as required in part 7020.2100 for proposed liquid manure storage areas and part 7020.2125 for permanent stockpile sites;
(6) the total number of animal units the facilities listed in subitems (4) and (5) will be capable of holding after completing construction or expansion;
(7) the soil type or texture and depth to saturated soils at the facility as identified in the most recent published soil survey for the applicable county or a site-specific soils investigation. Soil surveys are incorporated by reference under part 7020.0205. If applicable, submittal of the soils investigation information required in parts 7020.2100 to 7020.2225 meets this requirement;
(8) an aerial photograph showing the location of all wells, buildings, surface tile intakes, lakes, rivers, and watercourses within 1,000 feet of the proposed facility;
(9) the number of acres available for land application of manure;
(10) if applying for an SDS or NPDES permit or interim permit under part 7020.0405, subpart 1, item C, subitem (2), a manure management plan that meets the requirements under part 7020.2225, subpart 4; and
(11) if applicable, a description of all conditions that make the facility a pollution hazard and a description of the corrective and protective measures proposed to correct the pollution hazard.

Appendix 4 – Minnesota's Manure Management Plan (MMP) Form When Ownership of Manure is Transferred



MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North
St. Paul, MN 55155-4194

Manure Management Plan (MMP) requirements when ownership of manure is transferred

Feedlot program

Doc Type: Permit Information Form

Are you transferring ownership of manure?

MMP and record-keeping requirements for feedlot owners are different when manure ownership is transferred to a third party for land application. The following questions will help you determine if you transfer ownership of manure:

☐ Yes ☐ No Will manure be applied to land that is owned, leased, or rented by the feedlot owner/operator or a member/partner of the feedlot ownership entity (Inc., LLP, LLLP, et. al.)?

☐ Yes ☐ No Does the feedlot owner/operator, feedlot ownership member/partner, or employee under the direction of the feedlot ownership entity control the crop and nutrient planning decisions of the manure application sites, including planning for manure application rates, timing, and methods?

If you answered "No" to both questions, then you are transferring ownership of your manure and the feedlot operator may use these guidelines to complete a MMP.

If you answered "Yes" to either question, you are retaining ownership of manure and must complete a more comprehensive MMP. More information on the requirements when manure ownership is retained and resources to develop a retained ownership MMP can be found on the Minnesota Pollution Control Agency's (MPCA) website at https://www.pca.state.mn.us/water/feedlots.

If only a portion of your manure is considered to have transferred ownership, then use this form to develop a MMP for the manure which has transferred ownership, and develop the more comprehensive MMP for the manure which is not transferred.

MMP development

Name of feedlot facility:_____ Registration number:_____

Manure generation, storage, and testing

Manure storage areas (check all that apply):

☐ Earthen Basin ☐ Underfloor Concrete Pit ☐ Outdoor Concrete Pit/Tank ☐ Slurry Store ☐ Lagoon
☐ Stockpile ☐ Underfloor Dry Storage ☐ Manure Pack ☐ Litter ☐ Other

Yearly manure generation:	**Storage capacity:**	**Anticipated amount to be transferred (approximate):**
Liquid: _____ gallons	Liquid: _____ months	Liquid: ☐ 100% ☐ 50% ☐ Other: ____%
Solid: _____ tons	Solid: _____ months	Solid: ☐ 100% ☐ 50% ☐ Other: ____%

Anticipated nutrient content*:	**Manure type:**	**Testing frequency:**
Source 1: N _____ P _____ K _____	☐ Liquid ☐ Solid	☐ Yearly ☐ Once every ___ years
Source 2: N _____ P _____ K _____	☐ Liquid ☐ Solid	☐ Yearly ☐ Once every ___ years
Source 3: N _____ P _____ K _____	☐ Liquid ☐ Solid	☐ Yearly ☐ Once every ___ years
Source 4: N _____ P _____ K _____	☐ Liquid ☐ Solid	☐ Yearly ☐ Once every ___ years

* List the total lbs of N, P, and K. Do not list estimated first year availability if provided by the lab.

Minimum requirements:

- Yearly sampling for the first three (3) years and then once every four (4) years - NPDES permits require yearly sampling.
- Samples must also occur when changes to nutrient content are expected (unusual weather, change of animal types, etc.)
- Samples must be representative of manure source and follow University of Minnesota Extension Service recommendations.
- Nutrient analysis must occur at a Minnesota Department of Agriculture certified lab or pre-approved alternative.

Land application

Anticipated land application methods (check all that apply):

☐ Broadcast with incorporation ☐ Broadcast without incorporation ☐ Injection ☐ Unknown

Anticipated land application timing (check all that apply):

☐ Fall ☐ Spring ☐ Winter* ☐ Summer (cover crop required) ☐ Unknown

*For NPDES permitted sites only, transfer of manure is prohibited when…

a) liquid manure will be surface applied to frozen or snow covered soils after November 30, or

b) solid manure will be surface applied to frozen or snow covered soils during the month of March.

How will you ensure that there is enough land available for spreading manure in accordance with allowable rates; and that land owners are willing to accept/purchase the manure?

☐ Land application agreements Approximate acreage under agreements _____

☐ Other (describe below) Approximate acreage available via other methods _____

Minimum requirements:

- Attachment A - *Minimum state requirements for applying manure* must be provided to manure recipient.
  - The nutrient content of the transferred manure must be indicated on Attachment A.
- Records of manure transfer activities will be kept utilizing *Records when manure ownership is transferred 300 or more animal units* (wq-f6-43), which is available on the MPCA website: www.pca.state.mn.us/feedlots.

Animal mortality management (NPDES and SDS permitted sites only)

The following best management practices (BMP)s should be employed to assist in compliance with BAH and MPCA requirements.

Rendering - Carcass pick-up point BMPs

- Kept in an animal-proof, enclosed area.
- At least 200 yards from a neighbor's buildings.
- Picked up within 72 hours (seven [7] days if refrigerated to less than 45 degrees).

Composting - Composting area BMPs

- Built on an impervious, weight-bearing pad that is large enough to allow equipment to maneuver.
  Note: Class V gravel material is not considered to be impervious.
- Covered with a roof to prevent excessive moisture on the composting material and eliminate runoff concerns.
- Built of rot-resistant material that is strong enough to withstand the force exerted by equipment.
- Large enough to handle each day's normal mortality through the endpoint of the composting which consists of a minimum of two (2) heat cycles.

Burial – Burial site BMPs

- Stay five (5 feet above seasonal high water table.
- Stay 1000 feet away from lakes and 300 feet away from rivers, streams, ditches, etc.
- Be covered immediately with enough soil to keep scavengers out (three feet is sufficient).
- Not be placed in sandy or gravelly soil types.
- Maintain at least 10 feet vertical separation between dead animals and bedrock.

Incineration – Incineration BMPs

- Capable of producing emissions not to exceed 20 percent opacity.
- Fitted with an afterburner that maintains flue gases at 1,200 degrees Fahrenheit for at least 0.3 seconds.
- Ash from the incinerator must be handled in such a manner as to prevent particulate matter from becoming airborne.

Other Method (describe below)

Attachment A – Minimum state requirements for applying manure

Provide this information to the manure recipient

Manure analysis

N _____ **P** _____ **K** _____

I. Nitrogen rate limits

Limit rates so that estimated plant-available N from all manure and fertilizer sources combined does not exceed the nitrogen recommendations of the University of Minnesota. For corn crops, rates should be consistent with the MRTN.

- 195 lbs/N for corn following corn (as of 2020)
- 150 lbs/N for corn following soybeans (as of 2020)

All sources of nitrogen must be considered when calculating nitrogen application rates. This includes residual nitrogen from alfalfa grown two years ago, commercial fertilizer (starter or supplemental), nitrates in groundwater, and manure applied last year.

Crop-available manure N applied to legumes cannot exceed legume nitrogen removal rates; 3.5 lbs N per bushel of soybeans, 50 lbs N per ton of alfalfa, 27 lbs N per ton grass hay.

Summer applications – Plant a cover crop where manure is applied in June, July, or August to harvested fields that would otherwise remain without crop cover for the rest of the growing season.

Calculating N available this year from manure applied to the previous crop

Application rate last year (tons or gal/acre)	÷	1000 Liquid only	X	Availability factor 0.15 for swine 0.25 for all others	X	N Test last year	=	N available this year (lbs/acre)
_____	÷	1000	X	_____	X	_____	=	_____

Calculating a manure application rate for the upcoming crop

Desired amount of N from manure	÷	Availability factor (# from table 1/100)	÷	Manure N Test	X	1000 Liquid only	=	Application Rate (tons or gal/acre)
_____	÷	_____	÷	_____	X	1000	=	_____

Calculating N available from manure applied for the upcoming crop

Application rate (tons or gal/acre)	÷	1000 Liquid only	X	Availability factor (# from table 1/100)	X	N Test this year	=	N available this year (lbs/acre)
_____	÷	1000	X	_____	X	_____	=	_____

II. Manure application setbacks

Manure application must comply with the following setbacks. County setbacks may be more restrictive.

Feature	Surface application	Incorporation within 24 hrs
Lakes, streams	300'*	25'
Wetlands (10+ ac)	300'*	25'
Drainage ditches w/o berms	300'*	25'
Open Tile Intakes	300'	0'
Sinkholes w/o berms		
Downslope	50'	50'
Upslope	300'	50'
Wells and quarries	50'	50'

** 100' vegetated buffer can be used instead of 300' setback for non-winter applications (50' buffer for wetlands/ditches)*

Table 1. Percent of total manure nitrogen available the first year

Animal Type	Broadcast: Incorporation after 4 days	Broadcast: Incorporation 12 - 96 hrs	Broadcast: Incorporation within 12 hrs	Injection: Knife	Injection: Sweep
Beef	25	45	60	50	60
Dairy	20	40	55	50	55
Swine	35	55	75	70	80
Poultry	45	55	70	70	70

If you have a manure spill contact the state duty officer at 1-800-422-0798

III. Soil phosphorus (P) management

Soil P testing – Test soils for P at least once every four years.

*Avoid P build-up within 300 feet of waters** – Where soils test P levels exceed 21 Bray P-1 or 16 Olsen, the rate and frequency of manure applications must not allow soil phosphorus build-up over a six year period, unless a 50-100' vegetative buffer is established along the waters. Single year applications can be based on nitrogen if the remaining phosphorus is removed by subsequent crops.

Avoid extremely high P soils – Avoid manure application onto fields where soils exceed:

- 150 ppm Bray P-1 or 120 ppm Olsen
- 75 ppm Bray P-1 or 60 ppm Olsen within 300 feet of water or tile intakes.

** "waters" refers to lakes, streams, intermittent streams, wetlands over 10 acres, and drainage ditches without protective berms.*

IV. Manure recipient record keeping requirements

The cropland manager must keep records of the following for at least three years (six years if applying near waters):

- Manure test dates and results
- Field ID and acreage
- Soil P test dates and results
- Crop grown and yield goal
- Previous crop grown
- N recommendation for the crop grown
- N from irrigation water
- Carry-over N from previous manure applications
- Date and rate of manure application
- Method of application and incorporation timing
- Manure N and P_2O_5 available
- Fertilizer N and P_2O_5 applied
- Total lbs N available/acre (all sources)
- Total lbs P_2O_5 available/acre (all sources)

V. Short-term stockpiling practices

Follow all stockpiling setbacks for waters and conduits to waters (ranging from 50 to 300 feet); avoid sandy soils and high water table soils (<2'); avoid slopes over 6%; use diversions if slopes exceed 2%; and keep records as required in Minn. R. 7020.2125. The stockpile size must not exceed the amount of manure needed to supply nutrient needs to the tract of land where applied.

More information: For more information, contact the MPCA or visit the website at https://www.pca.state.mn.us/water/feedlots.

Appendix 5 – Suggested Parts 3, 4, and 9 of Form W Permit Application

PART 3- DESIGN CAPACITY FOR MANURE STORAGE AND ANIMALS OF EACH CAFO FEATURE

3.1 Anticipated Storage structure types, amount of storage, and amount of manure generated per year.

List all manure storage structures at each proposed CAFO feature				Proposed dry manure handling system		Proposed Wet Manure Handling System			
Permitted Feature	Storage Structure Type(s)	Distance of Storage Structure from Drinking Water Source* (feet)	Distance of Storage Structure from Habitable Structure (feet)	Design Dry Process Waste	Days of Storage	Total Storage Capacity (gal)	Design Wastewater per Year(gal/yr)	Days of Storage	Design Flow (MGD)
001									
002									
003									
004									
005									

*a "drinking water source" refers to a private or public drinking water well that provides potable water for human consumption

PART 3.2- LIST EACH TYPE OF ANIMAL IN CONFINEMENT AND THE NUMBER OF EACH ANIMAL TYPE

Permitted Feature	Animal Category #1	Animal Numbers	Animal Category #2	Animal Numbers	Animal Category #3	Animal Numbers
001						
002						
003						
004						
005						
	Animal Category #4	**Animal Numbers**	**Animal Category #5**	**Animal Numbers**	**Animal Category #6**	**Animal Numbers**
Permitted Feature						
001						
002						
003						
004						
005						

3.3 Is the proposed facility designed in accordance with 10 CSR 20-8.300?

- ☐ YES
- ☐ NO

PART 4- OPERATIONAL INFORMATION	
4.1 Operational Information (See instructions) SIC Code(s) CAFO Class Size	
4.2 Does this operation plan to export any of its waste?	
☐ Yes	☐ No
4.3 If answered yes to 4.2, please indicate: Volume exported annually (gal): Percentage of total annual generated waste exported:	
4.4 Does the proposed facility have a nutrient management plan? ☐ YES ☐ NO	
4.5 If Yes, please attach the Nutrient Management Plan signed by a certified nutrient management planner.	
4.6 Does the proposed facility plan to use antibiotics or hormones in its process? ☐ YES ☐ NO	
4.7 If yes, please list the antibiotics or hormones to be used:	
Name	Antibiotic or hormone?

PART 9- TESTING

9.1.1 Does a 303(d) listed water flow through your property?

9.2.1 Is the facility located in a watershed of a 303(d) listed waterbody?

9.2 For any Waters of the State adjacent to and/or flowing through the property, please provide testing results for the following parameters:

Total Nitrogen (mg/L)	
Total Phosphorus (mg/L)	
E. Coli	

9.3 Will any proposed lagoons be upgradient from a Water of the State?

- ☐ YES
- ☐ NO

Waters of the State are defined in MO- 10 CSR 20-7.015

9.4 Please attach a report of the property's initial soil test results for fields used for land application. Testing must have been completed within the last year. Results must include but are not limited to:

Soil test P^2
Soil Test P rating
CEC (meq/100g)
Organic Matter (%)

9.5When was groundwater last tested?

9.6 Is a well used for potable domestic water located onsite?

- ☐ YES
- ☐ NO

9.7 If yes, were any parameters above permissible drinking water limits according to the Federal Safe Drinking Water Act?

9.8 Please report the following parameter values from all groundwater testing conducted during the reporting period:

Total Nitrogen (mg/L)	
Total Phosphorus (mg/L)	
E. Coli (present or not)	