Comprehensive Nutrient Management Plan

Operator Name
Mailing Address
City, State
Phone Number

Farm Address
City, State

Prepared in Cooperation with the

USDA – Natural Resources Conservation Service

and the

_____ Soil Conservation District

Address
City, State
Phone Number

Plan Written:

Type of Plan: ☐ Land ☐ No-Land

**Concentrated Animal Feeding Operation (CAFO) or Maryland Animal Feeding Operation (MAFO) – provide the numbers below (if applicable)

AI Number: _____

AFO-Registration Number: _____

CNMP Purpose and Agreement

The Comprehensive Nutrient Management Plan (CNMP) is an important part of the conservation management system (CMS) for your Animal Feeding Operation (AFO). This CNMP documents the planning decisions and operation and maintenance for the AFO.

This CNMP is valid as long as there are no major changes to the operation. A CNMP plan revision will be needed when the number of animals deviates by 10% from the planned amount or when the operation changes from one type of livestock to another. Nutrient management plan revisions will be needed based on Maryland Department of Agriculture Nutrient Management regulations.

This CNMP was developed paying special attention to the USEPA's required nine minimum practices for water quality protection. This plan when implemented by the farmer will ensure clean runoff is diverted from manure storage and production areas and livestock are prevented from making direct contact with waters.

Owner/Operator

As the owner/operator of this AFO, I, as the decision maker, have been involved in the planning process and agree that the items/practices listed in each element of the CNMP are needed. I understand that I am responsible for keeping all necessary records associated with implementation of this CNMP. It is my intention to implement/accomplish this CNMP in a timely manner as described in the plan.

Signature: _____ Date: _____

Name:

Certified Comprehensive Nutrient Management Plan (CNMP) Planner

As a Certified Comprehensive Nutrient Management Plan (CNMP) Planner, I certify that I have reviewed the *Comprehensive Nutrient Management Plan* and that the elements of the documents are technically compatible, reasonable and can be implemented.

Signature: _____ Date: _____

Name:

Title: Planner Certification: _____
Agency:

County Soil Conservation District (OPTIONAL)

As the County District Manager, I certify that I have reviewed this CNMP and concur that the plan meets the District's conservation goals.

Signature: _____ Date: _____

Name:

FARMSTEAD (Production Area)

This element addresses the components and activities associated with the production facility, feedlot or animal loafing facilities, manure and wastewater storage and treatment structures and areas, animal mortality facilities, feed and other raw material storage areas, and any areas used to facilitate transfer of manure and wastewater.

Description of Operation/Additional Information

Watershed and Water Quality Information

1. Distance of the farmstead to, and the name of, the nearest regulatory waters/waterbody:

2. Maryland watershed number (12-digit) and watershed name (8-digit, or 12-digit name if available) where the farmstead is located. *This information can be found at* https://mde.maryland.gov/programs/Water/TMDL/DataCenter/Pages/12DigitWatershed.aspx. *Also available in Conservation Desktop. Note this is NOT the federal 12-digit watershed.*

3. Water quality status of the watershed:
   Is there is a TMDL for bacteria, nitrogen, phosphorus, and/or sediment?

   ☐ Yes, TMDL is identified for: ☐ Bacteria ☐ Nitrogen ☐ Phosphorus ☐ Sediment

   OR ☐ No TMDL for the above impairments (no information)

   This information can be found at https://mdewin64.mde.state.md.us/WSA/IR-TMDL/index.html. *To determine the TMDL status of the watershed, turn on (check) the appropriate data layers (i.e., bacteria, nutrients – nitrogen, nutrients – phosphorus, sediments). Uncheck the Integrated Report (IR) layers. Turn on the TMDL layers, and uncheck any layers that include Tidal Water. On the map, click on the farmstead` property to bring up a popup box with the TMDL information. If there is none, "No information" will appear. Note: For purposes of the CNMP, MDE is concerned about localized impairments of nontidal streams and impoundments that currently have a TMDL.*

4. Is the farmstead located in a Tier 2 watershed? ☐ Yes ☐ No
   This information can be found at https://mdewin64.mde.state.md.us/WSA/TierIIWQ/index.html

Sensitive Environmental Areas and Resource Concerns

*Attach a completed copy of **MDE's AFO Resource Concerns Evaluation Worksheet**. Briefly note below any additional descriptions that are needed for sensitive environmental areas and resource concerns on the farm, including streams, wetlands, HEL land, hydric soils, 100 year floodplain, cultural resources, emissions of particulates or objectionable odors, or a statement that none were found. Is the farm located in the Chesapeake Bay Critical Area?*

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MDE's AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Animal Production

Poultry

Bird Type		
Number of Houses - Existing		
Number of Houses – Proposed (if applicable)		
Total # of Birds (all houses)		
Number of Flocks per year		
Average Bird Weight*		
Manure Generated/Produced in-house (tons/yr)*		
Manure Available for Utilization/Removed (tons/yr)*		

*See poultry litter quantity estimation sheets in the "Nutrient Management" section of this plan.

Livestock

Animal Type			
Average Weight			
Total # of Animals			
Total Day Equivalents Confined per year*			
Total Day Equivalents Unconfined per year*			
Collected Solid Manure (tons)*			
Uncollected Solid Manure (tons)*			
Volume of Collected Liquid (cubic feet)*			

*See manure quantity estimation sheets in the "Nutrient Management" section of this plan.

Operators must keep records of the actual:

- Quantity estimate of litter removed from production and/or storage facility; and
- Date of removal of litter from production and/or storage facility.

Manure Collection

Briefly describe the manure collection system, timing, and manure management methods.

Manure Storage

Briefly describe the current storage capacity (if any exists) and whether it is adequate and/or if additional storage is needed.

Current/Proposed Manure Storage Conditions

Animal Type	Storage Structure	Size of Structure	Storage Capacity (cubic ft)	Date of Construction

IMPORTANT! Manure should not be stockpiled or staged anywhere in the production area other than permanent manure storage structure for any length of time.

Animal Mortality Disposal

Animals die because of disease, injury, or other causes in any confined livestock operation. The mortality rate is generally highest for newborn animals because of their vulnerability.

Catastrophic mortality can occur if an epidemic infects and destroys a large portion of the herd or flock in a short time, or if a natural disaster, such as a flood or excessive heat strikes. There are also incidences when an entire herd or flock must be destroyed to protect human health or other farms in the area.

Methods for managing mortality include:

1. Rendering
2. Composting
3. Incineration*

*NOTE: Incineration may only be used with proper equipment and permits must be obtained by the producer.

4. Sanitary landfills
5. Burial*
6. Disposal pits*

*NOTE: Burial and Disposal pits should only be considered for catastrophic mortality if all other methods are not possible. The operator will follow local and state guidance if it is determined that burial is an acceptable means of disposal.

Typical Mortality Management

List the type of normal disposal method used on the operation.

Current Typical Mortality Disposal Method(s)

Animal Type	Disposal Method	Capacity of Structure (# of bins, length of channels, etc.)	Location of Disposal Facility

Catastrophic Mortality Management

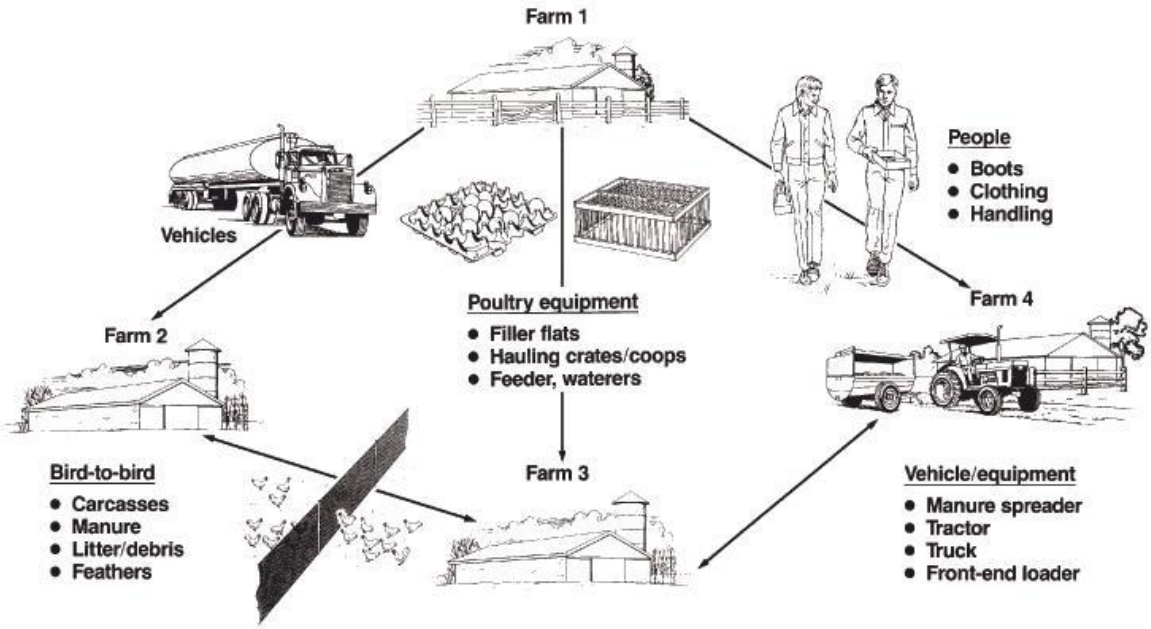
Briefly describe the type of catastrophic disposal method used on the operation.

In the event of catastrophic mortality, the operator will...

Biosecurity

An outbreak of animal disease could not only harm your livestock, it could affect other nearby animals and quickly spread through your area.

How Diseases Spread (Example – Poultry Operation)



Steps to Take to Avoid Disease Spread

To reduce the risk of introducing disease entering into an animal feeding operation, maintain a biosecurity barrier (physical barrier, personal hygiene, and equipment sanitation) between wildlife, animals, animal containment areas, and other commercial facilities. Some examples of good biosecurity practices include:

1. Permit only essential workers and vehicles on the premises.
2. Give Germs the Boot
    a. Keep a pair of shoes or boots to wear only around your animals.
    b. Clean and disinfect your shoes often.
    c. Always ask visitors and employees to clean their boots and shoes.
3. Don't Haul Home Disease
    a. Always clean and disinfect vehicles used for moving animals.
    b. Limit traffic of incoming people, products and vehicles that could bring in a disease.
    c. Clean and disinfect all equipment that comes in contact with your animals.

4. Keep Your Farm Secure
    a. Restrict access to your property and animals.
    b. Keep doors and gates locked.
    c. Have tracking records on animals.

5. Give Germs Space – Newly acquired animals should be isolated for at least two weeks to ensure you don't introduce disease to your main herd or flock.

6. Look for Signs
    a. Unusual animal health symptoms or behavior
    b. Sudden, unexplained death loss in the herd or flock
    c. Severe illness affecting a high percentage of animals
    d. Blisters around an animal's mouth, nose, teats or hooves
    e. Staggering, falling or central nervous system disorders that prevent animals from rising or walking normally.
    f. Large number of dead insects, rodents or wildlife

7. Don't Wait – Call in Signs of Disease Immediately
    Do not self-diagnose. Seek veterinary services, as early detection is your best protection. If you have animals with signs of suspect disease, call your local veterinarian, extension agent or the state veterinarian. Rapid response and investigation are the only ways to control and eliminate disease and stop large numbers of casualties or damage to our economic system.

REMOVE THIS PAGE

TAKE THIS PAGE OUT AND INSERT THE FOLLOWING FOR THE **FARMSTEAD (PRODUCTION AREA)**:

- CONSERVATION PLAN
- PLAN MAP
- SOILS MAP
- SOILS DESCRIPTIONS
- WATER CONVEYANCE MAP
- OPERATION & MAINTENANCE FOR ENGINEERING PRACTICES

Implementation Schedule for Farmstead

This element addresses the need for and implementation of appropriate conservation practices to meet the quality criteria for soil erosion, air and water quality.

IMPORTANT! ***The table below is your Conservation Practice and Facility Implementation Schedule.*** *The practices listed in this schedule must be implemented no later than the indicated dates.*

Practice and Facility Implementation Schedule

Complete the table below with those practices that are required to address identified resource concerns. If there are no identified resource concerns that need to be addressed, check the box indicating that no practices are recommended.

If outdoor air quality (e.g., particulates, objectionable odors) is a resource concern, indicate the appropriate NRCS practice standards that are used to address it.

For poultry operations that have "poultry pasture," include appropriate vegetative establishment/management practices as needed and note the pasture location(s) on the plan map.

Identified Resource Concern	Practice Code	Description of Practice	Date to be Implemented

** If additional space is needed to document practices, please add a separate sheet of paper.

☐ **All resource concerns have been addressed and no additional best management practices are recommended or required at this time.**

The schedule of conservation practices presented here has been reviewed by the person responsible for compliance with the requirements of the agricultural farm operation.

As the owner/operator, I certify that as the decision-maker, I have been involved in the planning process and agree that the items/practices listed in the table above are needed on my farm operation. I understand that I am responsible for implementing these practices according to the schedule above. Should I not be able to implement any of the above items according to the schedule, I will contact NRCS or my Technical Service Provider and have the schedule revised.

Signature: _____ Date: _____

Name:

LAND TREATMENT AREA

(Crop and/or Pasture)

This element addresses the evaluation and implementation of appropriate conservation practices on sites proposed for land application of manure and organic by-products from an Animal Feeding Operation (AFO). On fields where manure and organic by-products are applied as beneficial nutrients, it is essential that runoff and soil erosion be minimized to allow for plant uptake of these nutrients.

The following documents are located in this section:

1. **Conservation Plan**
2. **Plan Map**
3. **Soils Map**
4. **Soils Descriptions**
5. **RUSLE2 Soil Loss Calculations**
6. **Implementation Requirement/Certification Worksheets for Agronomic/Ecological Science Practices**
7. **Operation & Maintenance for Engineering Practices**

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Land Treatment Area
(Crop and Pasture):

- CONSERVATION PLAN
- PLAN MAP
- SOILS MAP
- SOILS DESCRIPTIONS
- RUSLE2 CALCULATIONS
- OPERATION & MAINTENANCE FOR ENGINEERING PRACTICES

Implementation Schedule for Land Treatment Area

This element addresses the need for and implementation of appropriate conservation practices to meet the quality criteria for soil erosion, air quality, and water quality.

IMPORTANT! The table below is your Conservation Practice and Facility Implementation Schedule. The practices listed in this schedule must be implemented no later than the indicated dates.

Practice and Facility Implementation Schedule

Complete the table below with those practices that are required to address identified resource concerns. If there are no identified resource concerns that need to be addressed, check the box indicating that no practices are recommended.

Identified Resource Concern	Practice Code	Description of Practice	Date to be Implemented

** If additional space is needed to document practices, please add a separate sheet of paper.

☐ **All resource concerns have been addressed and no additional best management practices are recommended or required at this time.**

The schedule of conservation practices presented here has been reviewed by the person responsible for compliance with the requirements of the agricultural farm operation.

As the owner/operator, I certify that as the decision-maker, I have been involved in the planning process and agree that the items/practices listed in the table above are needed on my farm operation. I understand that I am responsible for implementing these practices according to the scheduled above. Should I not be able to implement any of the above items according to the schedule, I will contact NRCS or my Technical Service Provider and have this schedule revised.

Signature: _____ Date: _____

Name:

Nutrient Management

This element addresses the Nutrient Management component of the CNMP. The nutrient management plan is developed by a Maryland Department of Agriculture certified nutrient management consultant.

Soil Sampling and Testing

Maryland Department of Agriculture regulations require up-to-date soil analyses be included in the Nutrient Management Plan. To fulfill this requirement you must follow these guidelines:

- Soil test(s) are required to be taken every 3 years or sooner for each management unit
- It is recommended that soil sampling be conducted consistently at the same time of the year
- Soil sampling depth for P and K shall be 8 inches; pH testing sampling depth for no-till is only 4 inches

Soil testing shall include analysis for any nutrients for which specific information is needed to develop the plan. The minimum analysis for Maryland is to include: pH, organic matter, phosphorus, potassium, calcium, magnesium, and CEC.

Manure and Wastewater Testing/Analysis

Maryland Department of the Environment and the Environmental Protection Agency require an analysis of manure generated on your operation be obtained to meet conditions in a General Discharge Permit for Animal Feeding Operations under CAFO regulations. If you land-apply manure, it is a required component of your NMP according to MDA regulations. To fulfill this requirement you may do one of the following:

1) collect a sample of manure and obtain an analysis, OR
2) if exported, obtain a copy of the manure analysis from one of the farmers who will be receiving the manure from your operation.

Manure should be analyzed on an annual basis from each storage structure for: % Solids or % Moisture, Total N, Organic N, NH_4 or NH_3, P_2O_5, K_2O, and pH. These analyses are part of the recordkeeping requirement.

Chemical Handling

Check all that apply or add additional statement(s) to describe operation:

√	*Measure*
☐	All chemicals are stored in proper containers. Expired chemicals and empty containers are properly disposed of in accordance with state and federal regulations. Pesticides and associated refuse are disposed of in accordance with the FIFRA label.
☐	Chemical storage areas are self-contained with no drains or other pathways that will allow spilled chemicals to exit the storage area.
☐	Chemical storage areas are covered to prevent chemical contact with rain or snow.
☐	Emergency procedures and equipment are in place to contain and clean up chemical spills.
☐	Chemical handling and equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.
☐	All chemicals are custom applied, and no chemicals are stored at the operation.
☐	Other:

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NUTRIENT MANAGEMENT PLAN

Documentation of Records

Operators should maintain the following records to document plan implementation, as applicable.

Record	Description	Agency Requiring
Animal Mortality & Disposal	Date and number of dead animals collected and disposal method.	MDE
Documentation of Manure Storage Conditions	Design volume and days of capacity; any deficiencies in the manure handling system and actions taken to correct (for example: damage due to fire or storm, date occurred, how damage was fixed and date of repair)	MDE
Documentation of Discharges	Date, time, and estimated quantity of any discharges and steps taken to correct	MDE
Manure Available for Use and/or Removal	Estimate of removal of manure from poultry house (crust-out, total cleanout, center cut, etc) and destination (manure shed or export)	MDA/MDE
Manure Analysis	Copy of laboratory nutrient analysis of sample of manure produced on-farm (taken annually)	MDA/MDE
Animal Information	Type and number of animals kept on-farm and any changes in animal numbers	MDA/MDE
Manure Export/Transfer	Record of manure that leaves the farm – date, quantity (tons/gallons), and destination (Name/Address)	MDA/MDE
Comprehensive Nutrient Management Plan (CNMP)	Retain approved CNMP and documentation related to updates or changes to your CNMP	MDA/MDE
Nutrient Management Plan (NMP)	Retain certified Maryland NMP and documentation related to updates or changes to your NMP for a minimum of 3 years.	MDA/MDE
Calibration Record for Spreading Equipment	Time of year, calibration method used (load area, weight area). Must calibrate annually.	MDA
Soil test results	Who collected the samples and when, appropriate mgt. units	MDA/MDE
Results of Pre-Side Dress Nitrogen, Fall Nitrate Test, and/or Tissue Testing	Any alternative sampling technique used to address specific crop requirements that lead to a change in the applied amounts should be documented.	MDA
Crop records	Crops planted and planting/harvesting dates by field.	MDA
Nutrient Application Summary by Field	Nutrient Application records for each application event, including commercial fertilizers that are applied to supplement manure.	MDA
Reviews by third parties	Records associated with any reviews by NRCS, third-party consultants, or representatives of regulatory agencies.	MDE
Annual Implementation Report	Annual reports which summaries nutrient application activities	MDA/MDE