MARYLAND DEPARTMENT OF THE ENVIRONMENT

Land and Materials Administration • Resource Management Program
1800 Washington Boulevard • Suite 610 • Baltimore Maryland 21230-1719
410-537-3314 • 800-633-6101 x3314 • www.mde.maryland.gov

AI- 156879

NOTICE OF INTENT

General Discharge Permit for Animal Feeding Operations (AFOs) (19AF, MDG01)
Land and Materials Administration – Resource Management Program
Issued Pursuant to Title 9, Environment Article, *Annotated Code of Maryland*, and Code of Maryland Regulations (COMAR) 26.08.04

Submission of this Notice of Intent (NOI) constitutes notice that the person identified in this form intends to operate under and comply with all terms and conditions of the State/NPDES General Discharge Permit for AFOs (AFO Permit). The discharge of animal waste, including manure, poultry litter, and process wastewater to waters of the State is prohibited unless an AFO has been registered under the AFO Permit by the Maryland Department of the Environment ("MDE"). A person shall hold a CAFO discharge permit issued by MDE before beginning construction on any part of a new CAFO.

Please submit this completed NOI Form to the following address:

Maryland Department of the Environment
Land and Materials Administration/AFO Division
1800 Washington Boulevard, Suite 610
Baltimore, Maryland 21230-1719

RECEIVED
AUG 18 2020
AFO DIVISION

RECEIVED
AUG 15 2024
AFO DIVISION

General Information

AI Number: 156879

1. **LEGAL Name of Applicant** *(must match name on required plan)*:
Silver Bullet Farm, LLC

2. **AFO Type** *(circle one)*: (CAFO) / MAFO

3. **Applying for** *(check one)*:
- ☐ New Coverage *see column 'A' in Question 4*
- ☑ Continuation of Coverage (renewal) *see column 'B' in Question 4*
- ☐ Modification of 19AF Coverage *see column 'C' in Question 4*

4. **Reason for NOI** *(please fill out corresponding column)*:

A. New Coverage	B. Continuation of Coverage (renewal)	C. Modification of 19AF Coverage
☐ New owner/operator	☑ No changes in operation	☐ Expanding
☐ Proposed operation *(NO construction may begin until permit coverage is obtained)*	☐ There has been a change in one or more of the following *(please indicate)*:	☐ Change in animal number, resulting in change of size category
• Date of anticipated start of AFO operation: _____	o Size or number of houses	☐ Change from CAFO to MAFO
	o Animal number, resulting in change of size category	☐ Change from MAFO to CAFO
	o CAFO to MAFO, MAFO to CAFO	☐ Change from no-land to land
	o No-Land to Land, Land to No-Land	☐ Change from land to no-land
	o Conventional operation to organic	☐ Change from conventional to organic operation

Applicant (Owner/Operator Information)

5. Mailing Address of Applicant: 3646 Sheephouse Rd.
City: Pocomoke State: MD Zip Code: 21851

6. Telephone Number(s) of Applicant: (Home) none
(Cell)

7. Email of Applicant:

Farm Information

Please attach a topographic map including the production area as well as the land application area (if applicable)

8. Farm Name: ☑ Same as Legal Name
Silver Bullet ☐ Other *(please specify)*:

9. Farm Address: 3590 Sheephouse Rd.
City: Pocomoke County: Worchester Zip Code: 21851

10. Watershed/Hydrologic Unit Code (HUC) (12-digit):

11. Latitude/Longitude of Production Area (Deg/Min/Sec): ___ - ___ - ___ / ___ - ___ - ___

12. Animal Information:

A. Animal Type(s) *(from AFO size chart)*	B. Maximum Number of Animals *at any given time* *(For poultry, please indicate bird type and number per flock)*	C. Operation Size *(consult AFO size chart)*	D. Animal Confinement Type *(e.g. house, feedlot, barn, milking parlor, pen)*
Chickens	broilers [redacted]	Large	houses
	[redacted]		
	120,000		

**For poultry only (13-16):*

13. *Number of poultry houses: 3

14. *Combined square footage of *all* poultry houses: 108,000

15. *Date(s) poultry houses constructed: August 2018

16. *Integrator *(check one)*:
☐ Allen-Harim ☐ Mountaire
☐ Amick ☑ Perdue
☐ Coleman ☐ Tyson
☐ Other *(please specify)*: _____

Contact Information:
Phone No.: _____
Address: _____

Manure/Mortality Management

17. Total Manure/Litter/Wastewater generated *annually*: 1,122 *circle one:* (tons) / lbs / gallons)

18. Total Manure/Litter/Wastewater transported offsite *annually*: 0 *circle one:* (tons) / lbs / gallons)

19. **Total number of acres controlled by applicant available for land application of manure/litter/process wastewater: *Owned:* 0 *Leased:* 0

***40 CFR Parts 122.23(b)(3) and 412.2(e) define "land application area" as all land under the control of the AFO owner/operator, whether by ownership, lease, or agreement, to which manure, litter or process wastewater is or may be applied.*

20. Manure Storage *(please list individually)*:

A. Type *(e.g. shed, lagoon, pit)*	B. Capacity *(ft³, gal)*	C. Solid/Liquid
Shed	521 Ton	Solid

21. Mortality Management Method:

- ☑ Compost
- ☐ Freeze
- ☐ Render
- ☐ Incinerate
- ☐ Other *(please specify)*: _____

CAFOs Only - Fees

Once a completed NOI is received by MDE and processed, MDE will invoice the applicant for any permit fees owed pursuant to COMAR 26.08.04.09-1.

Required Plan

CAFO permit application requirements at 40 CFR §122.21(i)(1)(x) specify that applications for coverage (including NOIs) must include nutrient management plans (NMPs) that at a minimum satisfy the requirements specified in 40 §122.42(e). Comprehensive Nutrient Management Plans (CNMPs), as defined in the General Discharge Permit for Animal Feeding Operations (AFOs) (19AF, MDG01), satisfy these requirements. An application will not be processed until a completed NOI form and a current CNMP are received. A CNMP must be developed by a certified and licensed plan writer, and in addition to the federal requirements, must satisfy the nutrient management requirements in COMAR 15.20.07 and 15.20.08.

Certification

By signing this form, I the applicant or duly authorized representative, do solemnly affirm under the penalties of perjury that the contents of this application are true to the best of my knowledge, information, and belief. I hereby authorize the representatives of MDE to have access to the AFO and associated lots/facilities (farms) for inspection and to records relating to this application at any reasonable time. I acknowledge that depending on the type of permit applied for, other permits or approvals may be required. The personal information requested on this form is intended to be used in processing your NOI. This Notice is provided pursuant to Title 4 of the General Provisions Article, Annotated Code of Maryland. Your NOI may not be processed if you fail to provide all requested information. You have the right to inspect, amend, or correct this form. MDE is a public agency and subject to the Maryland Public Information Act (Md. Code Ann., Gen. Prov. §§ 4-101, et seq.). This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not otherwise protected by federal or State law.

Keith Bydelotte — Signature of Applicant / duly authorized representative

8-11-2020 — Date

Keith Bydelotte — Printed Name of Applicant / duly authorized representative

[redacted] member — Title

AFO Size Chart

Animal Type	Circumstances under which Animal Feeding Operations Require Permit Coverage		
	CAFO or MAFO Registration Required	CAFO/MAFO Registration Required under Certain Circumstances	Registration Needed Only if Designated
	Large	Medium	Small
Cattle (includes heifers)	1000 or more animals	300—999 animals	less than 300 animals
Dairy cattle	700 or more animals	200—699 animals	less than 200 animals
Horses	500 or more animals	150—499 animals	less than 150 animals
Veal	1000 or more animals	300—999 animals	less than 300 animals
Swine ≥ 55 pounds	2500 or more animals	750—2499 animals	less than 750 animals
Swine < 55 pounds	10,000 or more animals	3,000—9,999 animals	less than 3,000 animals
Sheep and lambs	10,000 or more animals	3,000—9,999 animals	less than 3,000 animals
Ducks with liquid manure handling+	5,000 or more animals	1,500—4,999 animals	less than 1,500 animals
Chickens with liquid manure handling	30,000 or more animals	9,000—29,999 animals	less than 9,000 animals
Ducks with dry manure handling	30,000 or more animals	10,000—29,999 animals	less than 10,000 animals
Laying hens with dry manure handling	82,000 or more animals	25,000—81,999 animals	less than 25,000 animals
Chickens (other than laying hens) with dry manure handling	125,000 or more animals or greater than or equal to total house size of 100,000 ft^2	37,500—124,999 animals *and* less than total house size of 100,000 ft^2	less than 37,500 animals
Turkeys	55,000 or more animals	16,500—54,999 animals	less than 16,500 animals

+A separate discharge permit is required for large category duck CAFOs

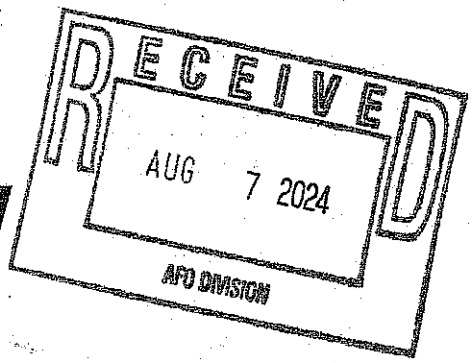
Comprehensive Nutrient Management Plan

For:

Silver Bullet Farm, LLC
Keith Aydelotte
3646 Sheephouse Road
Pocomoke, MD 21851

Prepared by:

Todd A. Keen
Certified Comprehensive
Nutrient Management Planner
NRCS TSP# 05-4996



KEEN CONSULTING

26229 Prettyman Road
Georgetown, DE 19947
(302) 684-5270
(302) 684-5273 FAX

Plan Developed: April 2017

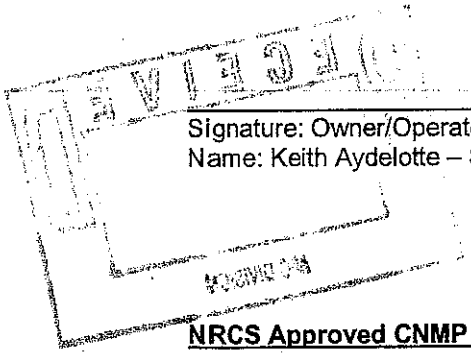
KEEN CONSULTING

CNMP Compliance Agreement

It is understood that the certified Natural Resources Conservation Service (NRCS) CNMP Planner has developed this Comprehensive Nutrient Management Plan based upon information obtained through observations made, and through information obtained by the farm owners, employees or other individuals.

It is understood that compliance with this Comprehensive Nutrient Management Plan by Silver Bullet Farm, LLC is voluntary, not mandatory unless compliance is deemed mandatory to comply with applicable Federal and/or State regulations. However, certain components of the plan, such as the Practice and Facility Implementation Schedule, were developed based on resource concerns that were identified during development of this plan and must be implemented according to state and federal regulation. In addition, if any practices are funded or cost-shared through arrangements with NRCS or the Maryland Department of Agriculture (MDA), they may have to be installed and maintained as directed as a condition for receiving those funds.

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



Signature: Owner/Operator — Date

Name: Keith Aydelotte – Silver Bullet Farm, LLC

NRCS Approved CNMP Planner

As an approved CNMP Planner, I certify that I have reviewed this CNMP for technical adequacy and that the elements of the CNMP are technically compatible, reasonable, and able to be implemented.

Todd A Keen — 4/20/2017

Signature: NRCS Approved CNMP Planner — Date

Todd A. Keen

CNMP Compliance Agreement

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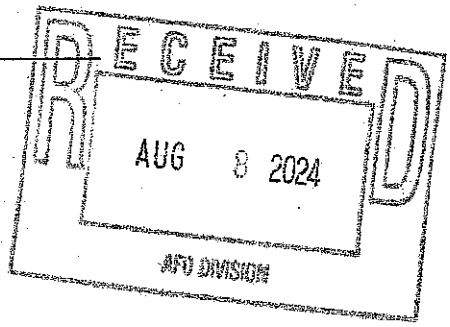
Signature: Owner/Operator
Name: Keith Aydelotte – Silver Bullet Farm, LLC

Date



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Signature: NRCS Approved CNMP Planner
Todd A. Keen

4/20/2017
Date

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SECTION 1: CNMP Purpose and Special Conditions

Purpose of the Comprehensive Nutrient Management Plan (CNMP)

A CNMP is a conservation plan that is unique to your animal feeding operation (AFO). This plan is a grouping of conservation practices and management activities which, when implemented as part of a conservation system, will help to ensure that both production and natural resource protection goals are achieved for your operation. A CNMP incorporates practices to utilize animal manure and organic by-products as a beneficial resource. Your CNMP addresses natural resource concerns dealing with soil erosion, manure, and organic by-products and their potential impacts on water quality, which may derive from an AFO. A CNMP is developed to assist an AFO owner/operator in meeting all applicable local, tribal, State, and Federal water quality goals or regulations. For nutrient impaired stream segments or water bodies, additional management activities or conservation practices may be required to meet local, tribal, State, or Federal water quality goals or regulations.

The conservation practices and management activities planned and implemented as part of a CNMP must meet NRCS technical standards. For those elements included by an owner and/or operator in a CNMP for which NRCS currently does not maintain technical standards (i.e., feed management, vector control, air quality), producers should meet criteria established by Land Grant Universities, industry, or other technically qualified entities. Within each state, the NRCS State Conservationist has the authority to approve non-NRCS criteria established for use in the planning and implementation of CNMP elements. Nutrient management and waste utilization manage the source, rate, form, timing, placement, and utilization of manure, rather than disposing of it as a waste residual. The goal is to effectively and efficiently use nutrient resources derived from animal waste to adequately supply soils and plants to produce food, forage, fiber, and cover while minimizing environmental impacts.

Nitrogen and Phosphorus vs. Water Quality

The two major nutrients of concern are phosphorus and nitrogen because they can impact water quality, human health, and animal health. Nitrogen as nitrate is water soluble and has the potential to leach out of the root zone where it can contaminate ground water or enter subsurface drains and be transported directly to surface waters. Nitrate-N above 10 parts per million (ppm) in water is a health risk. Concentrations above this level can cause fatality in infants and older adults, and also cause cattle abortion. Surface applied nitrogen that isn't incorporated can be lost to the atmosphere as gaseous ammonia nitrogen and nitrous oxide, which can lead to a loss of valuable crop nutrients, contributing to the greenhouse effect and to acid rain.

The primary way phosphorus can get into water bodies is through runoff and erosion, because phosphorus is attached to eroded soil particles. This is especially true if excess phosphorus is surface applied, as either manure or commercial fertilizer, or if heavy rains occur just after spreading. Controlling erosion limits the amount of phosphorus lost to the environment, keeping it available for crop needs. Phosphorus can also get into surface water by being carried in solution as soluble phosphorus. This soluble form is highly bioavailable and can contribute significantly to eutrophication even at low levels. Phosphorus also tends to accumulate in the soil. This reserve increases each year that phosphorus is applied at rates in excess of the agronomic needs of the crops. This CNMP is designed to minimize the transport of nitrogen and phosphorus to surface waters, to maximize the efficient use of valuable nutrient resources, and to assure compliance with state legislation.

CNMP Update Requirements

Your CNMP is valid as long as there are no significant changes to the operation. However, the CNMP should be reviewed periodically (every 5 years minimum) and updated if necessary. A plan revision will be needed when the number of animals deviates by 10% from the planned amount or a change in the operation that results in significant changes in management or conservation practices or a section of the CNMP

expires. If the operator is unsure whether or not a plan update is needed, please contact Keen Consulting.

CNMP Special Conditions

Maryland State Nutrient Management Regulations

Under the State of Maryland, farm operators are required to obtain and implement a nutrient management plan under Maryland Department of Agriculture Nutrient Management Regulations (COMAR 15.20.07). The content of this plan meets the required "Content and Criteria for a Nutrient Management Plan Developed for an Agricultural Operation" under COMAR 15.20.08. The Maryland Nutrient Management Plan criteria are integrated within this CNMP and therefore also meet USDA Natural Resource Conservation Service (NRCS) Maryland Nutrient Management Standard 590 of the Field Office Technical Guide.

In order to be in compliance with the MDA's Nutrient Management Regulations, it is the responsibility of the farm operator to implement his/her plan according to the way it was developed. In addition, certain information must to be submitted to your MDA's Nutrient Management Regional office to verify compliance. As part of the requirements for implementation, MDA requires each farm operator to complete and submit a Nutrient Management Annual Implementation Report (AIR) for all farm operations. Please contact the Nutrient Management Regional office in your area for further information or call 410-841-5959.

Confined Animal Feeding Operation (CAFO) or Maryland Animal Feeding Operation (MAFO) Permit Information

CAFO/MAFO Permit Reference: **AI# 156879**

The Maryland Department of the Environment (MDE) may require your farm operation to have a Confined Animal Feeding Operation (CAFO) or Maryland Animal Feeding Operation (MAFO) permit based on the number of animals in the operation and whether or not waste generated at your farm is being discharged to waters of the State.

According to MDE, every concentrated animal feeding operation (CAFO) in Maryland shall have a discharge permit issued by the Department under both State and federal permitting authority. Medium and large Animal feeding Operations (AFOs) are CAFOs if they discharge or propose to discharge animal waste, including manure, poultry litter, or process wastewater (including runoff from stored manure or poultry litter) to surface waters of the State. Medium or Large AFOs where contact of confined animals with surface waters occurs are included in the definition of CAFOs and require a discharge permit. All others will be required to have an up-to-date Nutrient Management Plan and integrated Conservation Plan for the farm operation. This Comprehensive Nutrient Management Plan meets the requirements set by MDE for your farm operation if implemented accordingly.

Section 2: Operation and Site Information

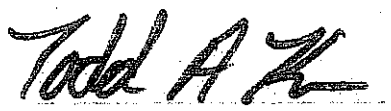
Operator Information:

Name: Silver Bullet Farm, LLC
Contact: Keith Aydelotte
Address: 3646 Sheephouse Road
City State: Pocomoke, MD 21811
Phone:
Premis
Address: 3590 Sheepnouse Road
City State: Pocomoke, MD 21811

Consultant Information:

Todd A. Keen
Keen Consulting, Inc.
26229 Prettyman Road
Georgetown, DE 19947
(302) 684-5270 Office
(302) 236-3722 Cell

MDA Nutrient Management Certification #: 1557
MDA Nutrient Management License #: 2025



Todd A. Keen

Plan Duration

This plan is valid indefinitely however it is suggested that it be reviewed periodically to ensure that it adequately addresses current operations of the facilities. See the aforementioned section on CNMP Update Requirements.

Description of Operation

The Silver Bullet Farm is a proposed facility of 3 broiler (poultry) production houses with a total capacity of 150,000 broilers. There is also a proposed 50'X120' on-site waste storage structure with an attached 2 channel animal mortality facility (composter). Production activities are anticipated to commence in summer/fall 2017.

Farm Identification Summary

Farm/Facility Name	Farm/Facility Address	FSA Farm/Tract #	Tax Account ID Numbers	Total Account ID Acres	Watershed Location Code
Silver Bullet Farm	3590 Sheephouse Road Pocomoke, MD 21851	2774/249		28.27	0202

Total Cropland Acres Managed In Plan = 0 acres (No-Land)

Comprehensive Nutrient Management Plan (CNMP)
Addendum

Operation: Keith Aydelotte
Silver Bullet Farm, LLC
3436 Sheephouse Road
Pocomoke, MD 21851

MDE AI #: 156879

Site Address: Same

Nearest Waterbody (Name):	Wagram Swamp Branch
Distance From Production Facility (Approx):	2300 Feet
Watershed Code (12 Digit):	021302020631
Watershed Name:	Lower Pocomoke River
Watershed Quality Status - TMDL Impairment(s) (i.e Bacteria, Nitrogen, Phosphorus, Sediment):	Bacteria, Nitrogen, Sediment
Facility Located in a Tier 2 Watershed (Yes/No):	No
Outdoor Air Quality Concern (Yes/No):	No
Organic Poultry Facility (Yes/No)*:	No

*If Yes, show pasture on facility map

Completed AFO Resource Concern Evaluation Sheet Attached

Todd A Keen 1/10/2022

CNMP Plan Writer: Todd A. Keen Date

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AFO DIVISION

Operator Date 1/10/22

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Sensitive Environmental Areas

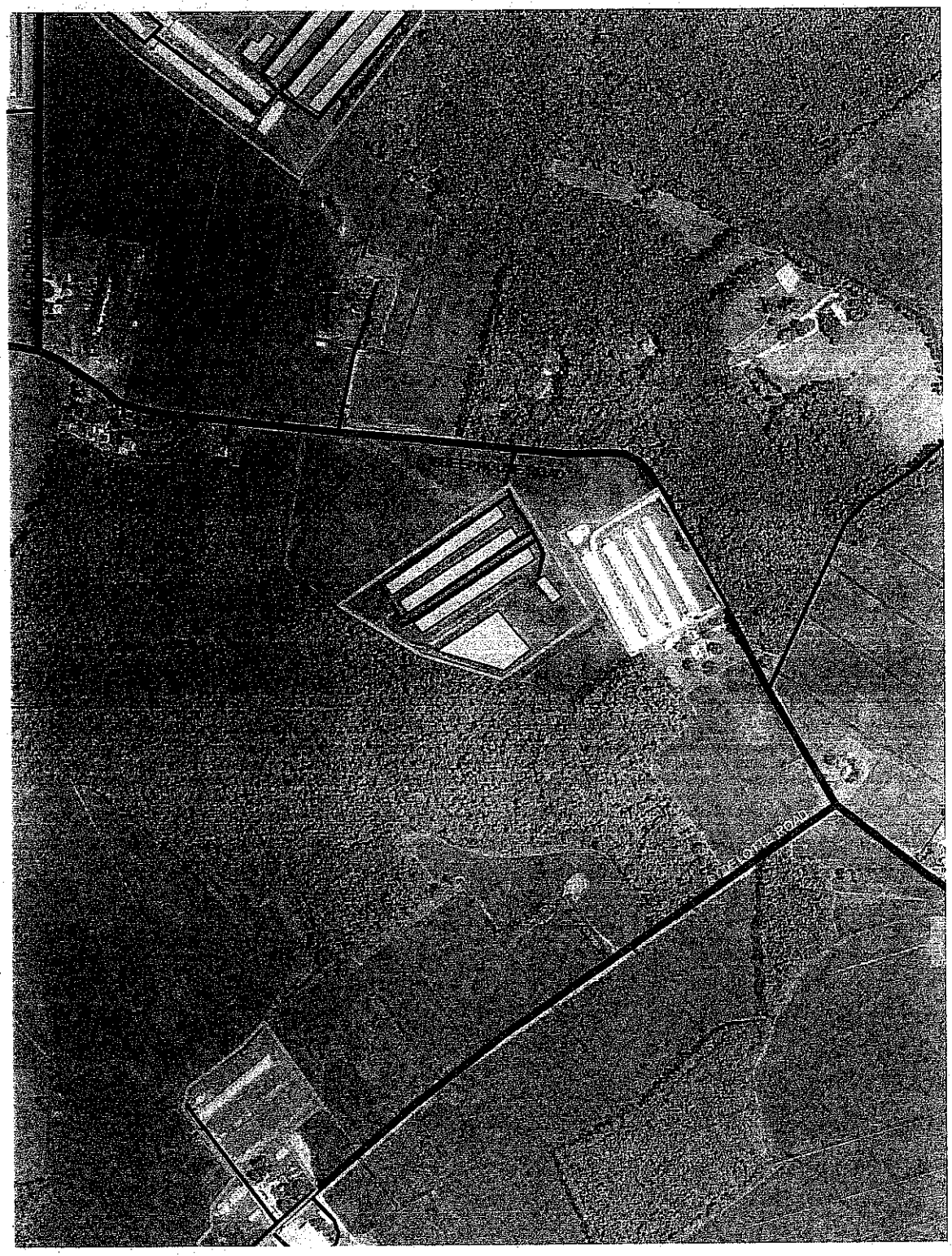
The main areas of environmental sensitivities are hydric soils and the proximity of the animal production facilities to surface waters (drainage ways, streams). The production area does not fall within the 100 year floodplain or the Maryland Critical Areas. There are no wetlands associated with the animal production areas.

Operator Objectives

The purpose of having this Comprehensive Nutrient Management Plan (CNMP) developed for this farm operation is to implement a technically sound, economically feasible farm plan, along with site-specific practices, which will minimize the impacts of his animal feeding operation on water quality and public health. The basic objective of developing this CNMP is to ensure the proper storage, handling and application of animal manures to the land and to minimize the potential for excess nutrients to migrate into surface or ground waters.

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.

Operation Location Map



Section 3: Manure and Animal Waste Handling and Storage

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.

Production

Poultry

Bird Type	Broiler
Number of Houses	3
Total # of Birds (all houses)	150,000
Number of Flocks per year	5.5
Average Bird Weight	6.8 lbs
Manure Generated/Produced in-house (tons/year)*	1,122 tons
Manure Available for Utilization/Removed (tons/year)**	+/- 500 tons

*See poultry litter quantity estimation sheets in the "Appendix" Section 10 of this plan.

***The "Manure Available for Utilization" quantity above was derived from an estimation calculation using the best available knowledge. However, 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.

Collection

Combination of windrowing in house and crustouts between flocks. All wastes removed during crustout operations are stored in waste storage structures until wastes can be exported.

Storage

Current waste storage sizing specifications indicate adequate storage capacities will exist for the proposed facilities

Current Storage Conditions

Storage Structure Receiving Manure	PWSS
Size of Structure	50' X 120'
Storage Capacity	521 Tons

IMPORTANT! Manure should not be stockpiled or staged anywhere in the production area other than permanent manure storage structures.

Transfer

At the time this plan was developed, the below individual/business is expected to receive manure removed from this operation. If the expected export destination changes, the operator must keep records of the actual destination of manure leaving the farm.

Expected Receiving Destination (Name and Address)
Aydelotte Farms, Inc. **3435 Aydelotte Road** **Pocomoke, MD 21851**

Manure/Litter Analysis

For the CAFO/MAFO Discharge Permit, Maryland Department of the Environment and the Environmental Protection Agency require that the poultry production operator possess a copy of the laboratory analysis report for the manure generated on each production operation in on-farm records. An operator may either collect a sample of manure before it is transported off-farm, and have an analysis completed or may obtain a copy of the manure analysis from one of the farmers who received the manure from the poultry operation. Manure should be analyzed on an annual basis from each operation for % solids or % moisture, N (total), NH_4-N, P_2O_5, and K_2O. For more information on how to collect a manure sample, please consult the University of Maryland Extension Publication NM-6 "Sampling Manure for Nutrient Content" available at http://www.anmp.umd.edu/files/NM-6.pdf.

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.

The purpose of this CNMP is to present options to manage normal, day-to-day mortalities and even catastrophic mortalities should this occur. Planning for a catastrophic mortality event should include the study of appropriate regulations, locating a site for disposal, and having insurance to cover the cost involved.

Mortality Management Methods

Mortality must be managed for at least three reasons:

1. Hygiene
2. Environmental protection
3. Aesthetics

Acceptable ways for managing mortality include:

1. Composting
2. Incineration
3. Sanitary landfills
4. Burial*

*NOTE: The method of Mortality Management for your operation has been indicated below and is based on you and your Integrator. Should the method of disposing of dead animals change, you should notify the County Health Department, Maryland Department of the Environment and USDA-NRCS.

Normal Mortality Management

Current Mortality Disposal Method(s)

Disposal Method	Composting
Number of Bins/Capacity	Channel
Location of Disposal/Facility	Attached to on-site waste storage structure

For guidance on mortality disposal methods procedure, see Section 8.

Catastrophic Mortality Plan

The operator will contact the integrator and will most likely utilize in-house composting or windrowing in PWSS, depending on the number of birds lost.

Production Area Management Guidelines – Poultry Operations

To provide environmental benefits, conservation practices must be operated and maintained as designed. The following list describes some common problems to look for in the production area of poultry operations. **It is VERY IMPORTANT that the production area (manure storage, composters, HUA pads, etc.) be kept clean and free from ANY manure that could come in contact with surface water.** Natural Resources Conservation Service (NRCS) and Soil Conservation District staff are available to provide follow-up assistance if needed.

Manure Storage Area

Manure removed from poultry houses should be stored in a covered shed until it can be applied to crops or otherwise used. The following are potential problems you may see that MUST be addressed to keep clean water on your farm, clean:

- Manure piled outside shed.
- Manure stacked too high against walls.
- Shed contains equipment or supplies that are not easily moveable (e.g., not on wheels).
- Obvious surface water conveyance near the open ends of the shed to a drainage ditch or swale.
- Structural damage to shed.
- Evidence of water or "puddling" in the storage shed.

Composters

Properly operated composters provide an environmentally sound method for disposing of normal mortality from poultry houses.

The following are potential problems you may see:

- Leakage.
- Excessive odor or flies.
- Dead birds visible.
- Evidence of animals feeding on dead birds.
- Thermometer not readily available (DE only).
- Recipe sign not posted (DE only).
- Missing or broken boards.
- Misuse and nonuse. Composter should be used for what it was intended for.

Concrete Pads

Concrete pads at the ends of poultry houses and manure sheds can reduce erosion and protect surface and ground water from contamination. Concrete pads should be properly installed, maintained, and kept clean of manure.

The following are potential problems you may see:

- Manure present on pads.
- Obvious surface water conveyance to a drainage ditch or swale near the open ends of poultry houses and manure sheds.
- Concrete cracking or breaking off.

Proper and maintained Vegetation Around Production Area and Between Houses

It is very important to have good grass cover around the farm buildings and between the poultry houses. Well established grasses also prevent soil erosion which in severe cases could result in damage to the house pad or the footing and foundation of the poultry house. Grass also helps reduce reflected heat which in turn helps keep house temperatures under control in hot weather. Grass should always be kept mowed and weeds should also be kept under control. Not only are un-mowed weeds and grass unsightly, but they can encourage rodents and can also reduce the effectiveness of natural ventilation. Tall weeds and grass provide rats and mice a place to hide that is close to the building. Most rodent control programs will stress the need to keep areas around buildings mowed frequently.

Standing puddles of water encourage mosquitoes and kill vegetation, so low spots should be filled to prevent such problems. Also, drainage ditches, drainage ways, and swales should be properly mowed and maintained to give storm water an easy exit. Any trash and debris should be removed from ditches and grass and weeds kept short to encourage water flow.

Windbreak/Shelterbelt

Windbreaks, or vegetative environmental buffers, are planted around poultry houses to provide shelter from winter winds; reduce particulates, ammonia, and other odors from tunnel fans; create visual screens; and provide shade to reduce extreme summer heat.

The following are potential problems you may see:

- Trees dead, dying, or damaged (e.g., broken off, mowed over, bagworms, etc.).
- Lack of weed control around trees or insect control.
- Irrigation system not functioning (e.g., major leaks, broken lines, etc.).
- No irrigation system (newly established trees should be irrigated for the first 2-3 years).

Other Concerns

Other issues that may result in environmental concerns include, but are not limited to:

- Manure scattered around the production area on roads, along the edge of concrete pads or building foundations.
- Manure runoff visible.
- Roof runoff that is creating erosion or drainage problems.
- Lack of good vegetative cover for filtering storm runoff between waste storage structures, composters, or ends of the poultry houses, and drainage outlets.
- Overall farm appearance (a farm that "looks good" is less likely to generate complaints from neighbors).
- **Potholes in travel ways or standing water in swales, near exhaust fans.**
- **Maintenance of storm water management structures or ponds.**

Section 4: Production Area Conservation Practices

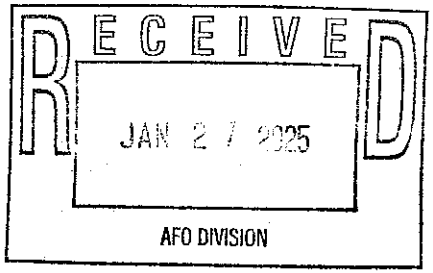
This element addresses evaluation and implementation of appropriate conservation practices on the production area to address resource concerns from the Animal Feeding Operation.

Conservation Plan

Client: ***Silver Bullet Farm, LLC***
Address: ***3646 Sheephouse Road***
City, State, Zip: ***Pocomoke, MD 21851***

KEEN CONSULTING

26229 Prettyman Road
Georgetown, DE 19947
(302) 684-5270



Conservation Plan

Farm Name(s): ***Silver Bullet Farm, LLC***
FSA Tract #(s): ***249 (HQ)***

Field(s)	Planned Amount	Planned Units	Practice (See Attached Practice Descriptions)	Comments	Month/Year Applied
HQ	1.0	item	Waste Storage Facility (313)	50' X 120' PWSS	Spring 2018
	1.0	acre	Animal Mortality Facility (316)	2 Channel attached PWSS	
	6.0	items	Heavy Use Area Protection (561)	Pads both ends of 3 houses	
	1.0	items	Heavy Use Area Protection (561)	Pads west end of 50' X 120' PWSS	
	640.0	feet	Underground Outlet (620)	Conduits installed in front of exhaust fans on poultry houses	

**Red font indicates practices planned but not applied.*

Keith Aydelotte - Silver Bullet Farm, LLC
Operator

Date

Todd A. Keen
NRCS Approved Conservation Planner

4/20/2017
Date

Section 5: Implementation Schedule

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

Note Important: The table below is your Conservation Practice and Facility Implementation Schedule. **The practices listed in this schedule must be implemented according to the dates indicated.** If these practices are not implemented according to schedule, please contact **Keen Consulting, Inc.**

Practice and Facility Implementation Schedule

Practice Code	Practice Description	Implementation Date
561 – Heavy Use Area Protection	The stabilization of areas frequently and intensively used by people, animals or vehicles by establishing vegetative cover, by surfacing with suitable materials, and/or by installing needed structures. Concrete pads needed at both ends of 3 poultry houses and west end of 50' X 120' PWSS (7 pads).	12/2018
620 – Underground Outlet	A conduit installed beneath the surface of the ground to collect surface water and convey it to a suitable outlet. Install conduit pipe in ditches/swales 10'+ beyond the exhaust fans at locations shown on the conservation plan map. Bring to grade and establish/maintain adequate vegetative cover (i.e. grass). See Conservation Plan Map.	

This Schedule of BMP 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 in 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.

Keith Aydelotte – Silver Bullet Farm, LLC

1/28/2025

Implementation Schedule items completed/implemented July 2019

Todd A K

RECEIVED
JAN 27 2025
AFO DIVISION

As an approved CNMP Planner, I certify that I have reviewed this CNMP for technical adequacy and that the elements of the CNMP are technically compatible, reasonable, and able to be implemented.

Todd A K

Todd A. Keen

4/20/2017
Date

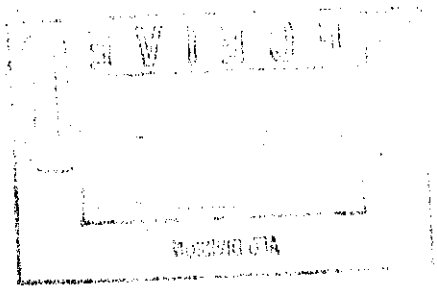
Maryland
Department of
the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

AFO RESOURCE CONCERNS EVALUATION WORKSHEET

Name:	Silver Bullet Farm - Keith Aydelotte			**Agency Interest #:**	156879
Planner:	Todd Keen - Keen Consulting			**Farm # / Tract #:**	2774/249
Site Visit Date:	3/2017			**Total Acres:**	28.27
County:	Worcester			**Production Area Acres:**	13.0
RESOURCE CONCERN		**YES**	**NO**	**ASSESSMENT**	
a.	Biosecurity measures		✔	Proper biosecurity measures being employed	
b.	Chemical handling		✔	No chemical handling on site	
c.	Cultural resources		✔		
d.	Feedlot area		✔	N/A	
e.	Floodplains		✔	Not within the 100 year floodplain	
f.	Gully erosion		✔		
g.	Livestock travel lanes		✔	N/A	
h.	Nutrient discharge		✔		
i.	Objectionable odors		✔	Normal odors associated with a poultry production facility	
j.	Particulate matter emissions		✔	Normal	
k.	Ponding, flooding, seasonal high water table		✔		
l.	Sediment		✔		
m.	Streambank/shoreline erosion		✔		
n.	Threatened/endangered species		✔		
o.	Waste storage		✔	Adequate waste storage and animal mortality facilities	
p.	Waterways		✔	Proper BMP's in place	
q.	Wetlands		✔	No wetlands associated with the production area	



Operation and Maintenance

This section addresses the operation and maintenance of the manure management system, conservation practices, soil testing, manure/compost testing, and equipment calibration.

Operation and maintenance of structural, non-structural, and land treatment measures requires effort and expenditures throughout the life of the practice to maintain safe conditions and assure proper functioning. Operation includes the administration, management, and performance of non-maintenance actions needed to keep a completed practice safe and functioning as planned. Maintenance includes work to prevent deterioration of practices, repairing damage, or replacement of the practice if one or more components fail. Listed below is the operation and maintenance for the structural, non-structural, and land treatment measures for your farm.

316 – Animal Mortality Facility	**An on-farm facility for the treatment or disposal of livestock and poultry carcasses.**	***Normal Mortality* - Animal mortality facilities will normally be operated or used on a daily basis. At each operation or use, the facility shall be inspected to note any maintenance needs or indicators of operation problems. Develop an operation and maintenance plan prior to design approval that is consistent with the purposes of the practice, its intended life, safety requirements, and the criteria for its operation.** **The plan must include but is not limited to the following:** **1. Objective of the landowner or operator and the operation requirements;** **2. The mix proportions, moisture requirements, and materials used;** **3. The sizing requirements;** **4. The timing of the disposal/utilization process including loading, unloading, and turning or aeration of the material;** **5. Temperature monitoring requirements, including a temperature log;** **6. What must be done to prevent scavenging animals and leachate problems;** **7. Bio-security requirements;** ***Catastrophic Mortality* - Possible locations for catastrophic animal mortality facilities shall be located during the planning process to be operated as needed. Burial of catastrophic mortality shall be timed to minimize the effects of mortality expansion during early stages of the decay process. Where possible and permitted by state law, mortality shall remain uncovered or lightly covered until bloating has occurred. Some topsoil shall be retained to re-grade the disposal site after the ground has settled as the decay process is largely completed.** **Where composting is used for catastrophic mortality disposal, the operation and maintenance plan shall identify the most likely compost medium, possible compost recipes, operational information, and equipment that will need to be readily available.**
561 – Heavy Use Area Protection	The stabilization of areas frequently and intensively used by people, animals or vehicles by establishing vegetative cover, by surfacing with suitable materials, and/or by installing needed structures.	• Inspect the Heavy Use Area at least twice a year; • Scrape the surface as needed to remove excess manure and/or sediment; • Repair paved areas by repairing holes and replacement of paving materials. • Replace loose surfacing material such as gravel, cinders, sawdust, tanbark etc. as needed when removed by livestock or equipment traffic or by scraping; Maintain all vegetation that is part of the plan by

		fertilization and liming according to soil test recommendations and reseeding or re-planting as necessary.
620 – Underground Outlet	A conduit installed beneath the surface of the ground to collect surface water and convey it to a suitable outlet.	Maintain underground outlets by: 1. Keeping inlets, trash guards, and collection boxes and structures clean and free of materials that can reduce the flow; 2. Repairing leaks and broken or crushed lines to insure proper functioning of the conduit; 3.. Checking outlet conduit and animal guards to ensure proper functioning of the conduit; 4. Keeping adequate backfill over the conduit; 5. Repairing any eroded areas at the pipe outlet.

Section 6: Farm Safety and Security

This element addresses the need for onsite guidance and procedures to be followed in the event of an emergency, or biosecurity concern.

Emergency Contact Information

Farm Name	**Silver Bullet Farm, LLC**
Farm Address	Sheephouse Road Pocomoke, MD 21851
Permit # (if applicable)	AI# 156879
Directions to Farm	Located on the south side of Sheephouse Road approximately 1,000 ft west of the intersection with Aydelotte Road.

Farm Contacts

	Name	Home/Farm Phone	Cell Phone
Farm Owner/Operator	Keith Aydelotte		
Fire/Ambulance		911	

Agency Contacts

Contact Agency	Day Phone	Emergency Number
Health Department		
Maryland Department of the Environment		**1-800-633-6101**
USDA Veterinary Services **State Veterinarian**	**1-866-536-7593** **410-841-5810**	**301-854-5699**
Sheriffs Office	**911**	**911**
NRCS	**410-632-2464**	
U of MD Extension	**410-632-1972**	
MDA Nutrient Management	**410-841-5959**	**1-800-492-5590**
MDA Nutrient Management	**410-677-0802**	
Integrator (if applicable)		

Emergency Action Plan

This plan will be implemented in the event that animal by-products from your operation are leaking, overflowing, running off site or there is imminent danger that such may occur from damage or failure of the system or a threatening natural occurrence, such as a hurricane. You should not wait until manure reaches surface waters or leaves your property to consider that you have a problem. You should make every effort to ensure that this does not happen. This plan should be posted in an accessible location for all employees at the facility. The following are some action items you should take in the event of an emergency.

In Case of an Emergency Spill, Leak, or Failure:

Threatening Natural Occurrences

Prevent or minimize damage caused by threatening natural occurrences, such as hurricanes or strong storms associated with approaching fronts - actions include:

1. Do not spread manure on fields just prior to an approaching storm.
2. Do not spread manure on fields that flood during high rainfall events.
3. Notify State Veterinary Office - Animal Emergency Response Coordinator (See Emergency Contact Information) or Local Animal Emergency Response Coordinator for relocation of animals if needed.

Personal injury

1. Stop all other activities to deal with the emergency.
2. Call for help (See Emergency Contact Information).

Catastrophic deaths – Disease Related

1. Notify integrator or State Veterinary Office.
2. Limit exposure to other animals.
3. Prevent visitation by unnecessary people.
4. Dead animals should be moved into a DHEC approved transport vehicle or a DHEC approved storage area or bin.
5. Record date of catastrophic deaths, number of deaths, method and location of disposal.

Catastrophic deaths – Disaster Related

1. Notify integrator or State Veterinary Office - Animal Emergency Response Coordinator immediately (See Emergency Contact Information).
2. Notify the farm manager to remove useable animals.
3. Remove mortality from the barns/houses.
4. Dispose of mortality in the manner given in this CNMP for emergency dead animal disposal.
5. Record date of catastrophic deaths, number of deaths, method and location of disposal.

Storage Facility Spill, Leak, or Failure Emergency

1. Stop all other activities to address the emergency.
2. Assess the extent of the emergency and determine how much help is needed.
3. Call for help from a contractor if needed.
4. Use a skid loader or tractor with blade to contain or divert spill or leak, if possible.
5. If containment material is needed, excavate soil from the area located at the storage facility.
6. If possible, begin pumping manure and spreading in the prescribed fields at the prescribed application rates.
7. Complete the clean up and repair the necessary components.
8. Initiate additional containment measures, corrective measures, or property restoration measures as directed by emergency agency officials.

Manure Removal

1. Place manure in stacking structure if available. Do not stack old manure next to new or wet manure next to dry.

2. Records should be kept for any manure which is transported off the farm site.

Fire

1. Stop all other activities to deal with the emergency.
2. Try to extinguish the fire with the appropriate rated fire extinguishers.
3. If fire cannot be contained, call for help (See Emergency Contact Information)

Assess the extent of the spill and note any obvious damages:

1. Did the by-product reach any surface waters?
2. Approximately how much was released and for what duration?
3. Any damage noted, such as employee injury, fish kills, or property damage?
4. Did the spill leave the property?
5. Did the spill have the potential to reach surface waters?
6. Could a future rain event cause the spill to reach surface waters?
7. Are potable water wells in danger (either on or off of the property)?
8. How much reached surface waters?

Provide the following information when reporting an emergency:

1. Your name and phone number.
2. Directions to the farm.
3. Description of emergency.
4. Estimate of the amounts, area covered, and distance traveled.
5. Has manure reached surface waters or major field drains?
6. Is there any obvious damage: employee injury, fish kill, or property damage?
7. What activities are currently in progress to contain situation?

Implement procedures as advised by MD NRCS and technical assistance agencies to rectify the damage, repair the system, and reassess the manure management plan to keep problems with release of manure from happening again.

Documentation

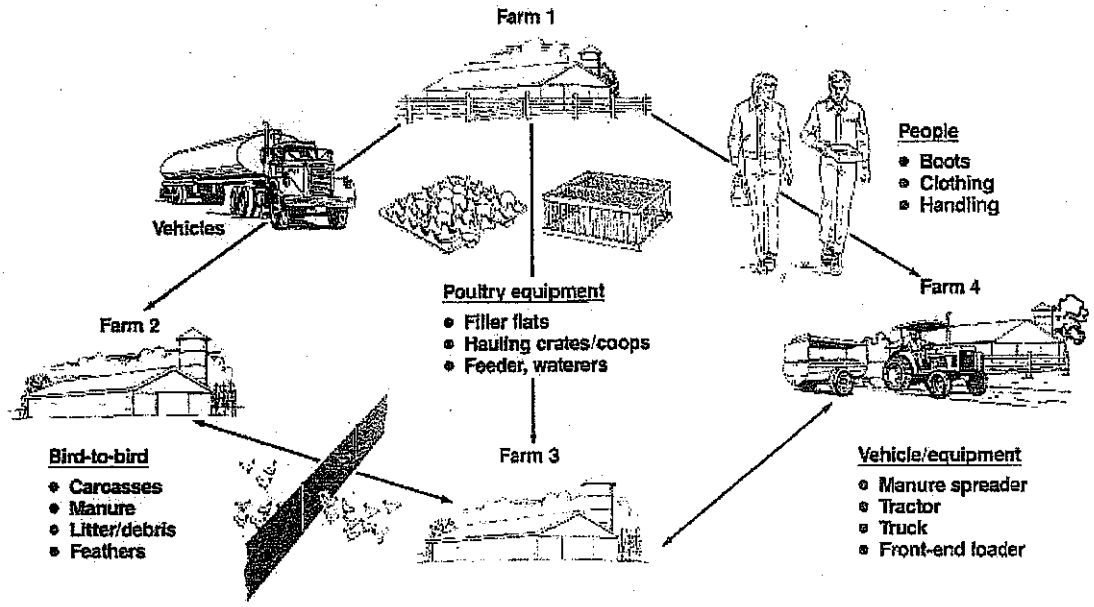
The following items shall be documented in writing and filed with your farm operation records for future reference and emergency response training:

1. Date and time, location of spill, affected landowners.
2. Affect of manure spill on any surface water body or potable water well.
3. Approximately how much manure was released and for what duration.
4. Amount of manure, if any, which left the farm property.
5. Any damage, such as personal injury, fish kill, property damage.
6. Cause of the spill.
7. Procedure to handle the emergency.
8. Clean up efforts.
9. List of authorities called, those that responded, and the time it took for them to respond.
10. Recommendations to prevent a reoccurrence

Biosecurity

Biosecurity means doing everything possible to protect the health of livestock by preventing the transmission of disease. An outbreak of animal disease could not only harm your livestock, it could effect other nearby animals and quickly spread through your area. The economic consequences of a disease outbreak could be devastating. Taking common sense precautions to prevent disease from coming onto your farm is the best investment you can make.

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. As an added protection, isolate and quarantine

new animals for 30 days before putting them with your other animals. Keep show animals segregated for at least two weeks after they've been to a fair or exhibit.

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.

Chemical Handling

This section contains information on using pesticides safely, emergency contact information, spill information and the proper disposal of pesticide containers. For further information, please contact the Maryland Department of Agriculture Pesticide Regulation Program.

USE PESTICIDES SAFELY

1. Check the label - Be sure the pest you need to control is listed on the label.
2. Buy only enough pesticide for one or, at most, two years. Pesticides stored longer may degrade and become less active.
3. Always wear long trousers, a long-sleeved shirt, socks, and shoes when applying any pesticide. Other protective equipment, such as a respirator, goggles, impermeable gloves and boots maybe necessary or desirable for extra protection.
4. Do not wear leather shoes, boots, or gloves while handling pesticides. Leather absorbs pesticides and cannot be decontaminated easily.
5. Take care to avoid pesticides coming into contact with your eyes, mouth, or skin.
6. Wash your hands with soap and water immediately after applying a pesticide. Shower as soon as possible.
7. Stand upwind while mixing and applying pesticides.
8. Unless the label specifically allows such use, never apply a pesticide where it could contact water sources, and avoid applying to bare ground.
9. Never apply a pesticide at a higher rate than the label directs.
10. Wash all clothing worn during mixing and application separately from household laundry. Use a heavy duty detergent and hot water. Dry the clothes in a hot dryer or outside in the sun.
11. Store pesticides only in their original containers. Keep them away from food, feed, seed, and fertilizers in a locked building or cabinet.
12. Dispose of empty pesticide containers in accordance with label directions and state and local requirements. See Disposal of Pesticide Containers

DISPOSAL OF PESTICIDE CONTAINERS

Pesticides (herbicides, insecticides, fungicides, etc.) are designed to be toxic. Improper disposal of pesticides or their containers can lead to environmental contamination and may incur both civil and criminal penalties. There is usually no safe and legal way to dispose of leftover pesticide; all of the chemical must be used up on registered sites or crops according to directions on the label. The Environmental Protection Agency (EPA) has accepted certain procedures, outlined below, which are designed to remove as much residue from the container as possible. Only after following these procedures may pesticide containers be deposited in a licensed sanitary landfill.

Containers of Liquid Formulations

1. Triple rinse the container immediately after emptying it into the spray tank:

Fill the container 1/4 full with the proper diluent (usually water or oil). Replace the closure or plug the opening. Rotate the container. Add rinsate to the spray tank. Repeat this procedure 2 more times
2. Puncture the top and bottom of the container to prevent its reuse.
3. Deposit the empty container in a licensed sanitary landfill.

Containers of Dry Formulations
1. Empty the contents into the tank, shaking the container to remove as much residue as possible. Take care not to inhale any dust.
2. Open both ends of the container to help remove residue and to prevent reuse.
3. Deposit the empty container in a licensed sanitary landfill.

Indicate measures below that will be taken to prevent chemicals and other contaminants from contaminating process waste water or storm water storage and treatment systems.

Check all that apply:

√	*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. Equipment wash areas are designed and constructed to prevent contamination of surface waters and waste water and storm water storage and treatment systems.
√	**No Agricultural chemicals are stored on-site.**

EMERGENCY CONTACTS:
For individuals exposed to chemicals the following are the telephone numbers for emergency treatment centers and the telephone number for the nearest poison control center.

1. Maryland Poison Control Center 1-800-222-1222
2. Maryland Department of Agriculture (Pesticide Section), 410-841-2721
3. Delaware Department of Agriculture (Pesticide Section), 302-698-4570
4. CHEMTREC Emergency Hotline, 1-800-424-9300
5. Local Police/Fire 911

6. National Pesticide Information Center (NPIC), 1-800-858-7387, Monday - Friday, 6:30 a.m. to 4:30 p.m. Pacific Time

EMERGENCY SPILLS:

1. Fires, spills or other incidents of pesticide release to the environment must be reported immediately to the Maryland Department of the Environment (MDE), Emergency Response at: 1-866-633-4686 or 1-866 MDE-GOTO (24 hours a day, 7 days a week)

2. Fires, spills or other incidents of pesticide release to the environment can also be reported immediately to the State of Maryland Department of Agriculture: 1-410-841-5710 or 1-800-492-5590 (8:00 AM to 4:30 PM - Monday through Friday)

3. The 24-hour CHEMTREC telephone number for emergency assistance is: 1-800-424-9300.

SECTION 7: Record Keeping

It is important that records are kept to effectively document and demonstrate implementation activities associated with CNMPs. Documentation of management and implementation activities associated with a CNMP provides valuable benchmark information for the producer that can be used to adjust his/her CNMP to better meet production objectives. It is the responsibility of AFO owners/operators to maintain records that document the implementation of CNMPs.

NRCS requires that the producer maintain these records for no less than 5 years. Maryland Department of Agriculture requires that the Nutrient Management Plan records be maintained for a minimum of 3 years. (see Maryland State Nutrient Management Requirements of this section). It is the producer's responsibility to ascertain the minimum time required for archiving the records listed below. In some cases, if certain USDA programs are in effect, the records may need to be kept as long as fifteen years. In addition, if this operation requires a CAFO/MAFO permit, annual reporting may be necessary Maryland Department of Environment.

Records may be kept in a number of ways:

- Record forms are available from the NRCS.
- Record forms may be obtained from University of Maryland Extension, MDA Nutrient Management Program, and/or Maryland Department of Environment (MDE).
- You may develop your own record keeping system provided that all necessary information is included.

The development of this Plan only applies to the areas and conditions stated in the Plan. If changes occur in your livestock operations or fields contact the NRCS/SWCD Office or your Technical Service Provider to get this Plan revised.

Documentation of Records

The Table below shows which of the CNMP records which may be required by MD NRCS. Operators should maintain these records to document plan implementation. As applicable, records include:

Record	Description	Agency Requiring	Notes
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	For animal waste impoundments EXCEPT poultry litter facilities, weekly inspections and records of manure or wastewater depth are required.
Documentation of Discharges	Date, time, and estimated quantity of any discharges and steps taken to correct	MDE	
Manure Available for Use/Removal	Estimate of removal of manure from poultry house (crust-out, total cleanout, center cut, etc) and destination (manure shed or export)	MDA; MDE	Forms available from University of Maryland and MDA
Manure Analysis	Copy of laboratory nutrient analysis of sample of manure produced on-farm (taken annually)	MDA*; MDE	*If the operator also farms cropland, a manure sample is also required by MDA and should be in your certified NMP.

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	Forms available from University of Maryland and MDA
Comprehensive Nutrient Management Plan (CNMP)	Retain approved CNMP and documentation related to updates or changes to your CNMP	MDA*; MDE	*CNMP includes NMP for that period, retain for MDA also
Nutrient Management Plan (NMP)	Retain certified Maryland NMP and documentation related to updates or changes to your NMP	MDA; MDE	Retain for 3 years for MDA inspection.

Maryland Department of Agriculture Nutrient Management Requirements

Plan Implementation Records

MDA may periodically schedule a review the records of your agricultural operation. Regulations supporting the *Water Quality Improvement Act of 1998* outline the process for the evaluation and implementation of a nutrient management plan. Maintaining records to document plan implantation is the responsibility of the operator. Listed below are items needed for a Maryland Nutrient Management (on-farm) inspection of your nutrient management plan:

Necessary Records (must be kept for 3 years):

From your nutrient management plan:

- Updated operation information used for required reporting to MDA
- All nutrient management plans prepared for the operation including
- Operation map or aerial photo

From your actual on-farm operation:

- Manure Management Information
  - Manure type
  - Date of removal from production facility and/or storage facility
  - Location stored or utilized or name and location of receiver if moved off-site
  - Quantity estimate
- Management changes in an agricultural operation that may have required the operator to modify or update their plan before its expiration to account for changes in the operation or unforeseen circumstance

Nutrient Management Plan Annual Implementation Report

The Maryland Department of Agriculture requires that all farm operators submit an Annual Nutrient Application Annual report on all farm(s) under the Nutrient Management Plan. For more information regarding the Annual Report submittal requirements and time-frame, contact Maryland's Nutrient Management Program at 410-841-5959.

Nutrient Applicator Voucher

If operator is an applicator of nutrients of 10 or more acres; the operator must posses a CURRENT Maryland Nutrient Applicator's Voucher or be a Certified Nutrient Management Consultant. For more

information regarding applicator voucher requirements, contact Maryland's Nutrient Management Program at 410-841-5959.

Section 8: Animal Feeding Operation Guidelines

Dead Poultry Composting

Composting is the controlled aerobic biological decomposition of organic matter into a stable, humus-like product, called compost. Decomposition is enhanced and accelerated by mixing organic waste with other ingredients in a manner that optimizes microbial growth. Composting mortality can be likened to aboveground burial in a biomass filter where most of the pathogens are killed by high temperatures.

As the microbial population consumes the most readily degradable material and grows in numbers, the temperature of the compost pile begins to rise. Efficient composting requires that the initial compost mix have:

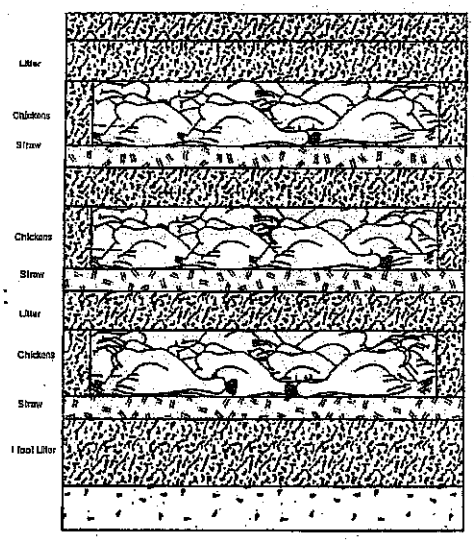
A balance source of energy (carbon) and nutrients (primarily nitrogen), typically with a carbon-to-nitrogen (C:N) ratio of 15:1 to 35:1.
Sufficient moisture, typically 40% to 60%.
Sufficient oxygen for an aerobic environment.
A pH in the range of 6 to 8.

For proper composting, correct proportions of carbon, nitrogen, moisture, and oxygen need to be present in the mix. Common carbon sources are sawdust or wheat straw. It is desirable because of its bulking ability, which allows entry of oxygen. Other carbon sources that could be used are peanut hulls, cottonseed hulls, sawdust, leaves, etc. If lab testing of the litter or experience indicates that the carbon/nitrogen ratio is adequate (20 - 35:1 ratio), then litter alone should be sufficient for composting mortality as long as desirable bulking ability is achieved and moisture is properly managed. Moisture management is critical and must be maintained between 40 and 55 percent (40% -does not leave your hand moist when squeezed, 55% - if more than two drops drip from your hand the material is too moist).

Recipe for composting broiler mortality

INGREDIENT	VOLUME	WEIGHTS
Straw	1.0	0.10
Carcasses	1.0	1.0
Litter	1.5	1.2
Water	0.5	0.75

Compost process
The first layer is one foot of litter.
A 4-6 inch layer of carbon amendment (sawdust is preferred) is added according to the recipe
A layer of carcasses is added. Carcasses shall be laid side-by-side and shall not be stacked on top of one another. Carcasses placed directly on dirt or concrete floors, or against bin walls will not compost properly.
Water is added (uniform spray).
Carcasses are covered with a 6-inch layer of litter.
Next layer of carcasses begun with carbon amendment and above steps repeated.
When composter is full, cap the 6-inch layer with four additional inches.



Maintain the moisture content at 40 to 55 percent during the composting process (40% - does not leave your hand moist when squeezed, 55% will allow about one drop of water to be released when squeezed, > 55% - if more than two drops drip from your hand the material is too moist, therefore add sawdust or dry carbon source).

Temperature is the primary indicator to determine if the composting process is working properly. A minimum temperature of 130 ° F shall be reached during the composting process. A temperature of 140 ° F is optimum; however, temperatures may range up to 160 ° F. If the minimum temperature is not reached, the resulting compost shall be incorporated immediately after land application or recomposted by turning and adding moisture as needed. Compost managed at the required temperatures will favor destruction of any pathogens and weed seeds.

Good carcass compost should heat up to the 140° range within a few days. Failure of the compost material to heat up properly normally results from two causes. First, the nitrogen source is inadequate (example wet or leached litter). A pound of commercial fertilizer spread over a carcass layer will usually solve this problem. Secondly, the compost fails when too much water has been added and the compost pile becomes anaerobic. An anaerobic compost bin is characterized by temperatures less than 120°, offensive odors, and black oozing compound flowing from the bottom of the compost bin. In this case a drier bulking / carbon amendment should be added to dry the mix. Then, the material should be remixed and composted.

It is possible, though unlikely, for the temperature to rise above the normal range and create conditions suitable for spontaneous combustion. If temperature rises above 170° F, the material should be removed from the bin and cooled, spread on the ground to a depth not to exceed six inches in an area away from buildings. Water should be added only if flames occur. If temperature falls significantly during the composting period and odors develop, or if material does not reach operating temperature, investigate piles for moisture content, porosity, and thoroughness of mixing.

After this first stage process, the material should be turned into a second bin and allowed to go through a second heat process. For larger birds, especially turkeys, a third turning may be necessary for complete degradation of the birds. Typically, the process can be considered "done" within 21-28 days from the time the compost is filled for broilers. For turkeys, the process usually requires about 60 days. After the heat process, curing period of one to three months is usually required before the material is stable. Compost may be land applied after the secondary or tertiary composting. If any animal parts are still in the mix, the material must be incorporated. If immediate application is not possible the material should be stored using the same requirements as that of stored litter in the Stacking Shed O&M statement.

Inspect compost structure at least twice annually when the structure is empty. Replace any broken or badly worn parts or hardware. Patch concrete floors and curbs as necessary to assure water tightness.

Examine roof structures for structural integrity and leaks. Inspections shall be documented on the attached worksheet.

The primary and secondary composters and the litter storage area should be protected from outside sources of water such as rain or surface runoff.

In order to assure desired operation of the composting facility, daily records should be kept during the first several compost batches. This can be helpful in identifying certain problems that may occur.

Vector Control and Abatement

Management and sanitation are the real keys to preventing or eliminating any vectors' problems. If these weaknesses are not addressed, the problems will recur. Pesticides are the final tools in controlling the problem.
Most problems with insects (such as flies), rodents (such as rats and mice) and scavenging animals, (such as dogs, cats, foxes, possums, raccoons, etc.) can be minimized by keeping the facility and surroundings clean and properly maintained. This includes:

- Removing all excess building materials.
- Removal of any excess feed from the houses or around bins.
- Keeping grass and weeds mowed
- Keeping all buildings free of trash and debris.
- The proper use and servicing of bait stations.
- Proper and timely disposal of dead animals.
- Keeping all manure cleaned up caused by spillage from around the houses. Keep all temporary stored manure covered and dry.
- Any spillage of feed should be cleaned as soon as possible and all feed will be kept dry. Covers on feed storage bins should be used. Drainage away from all feed storage containers should be provided to reduce moisture accumulation.

Actions to be taken for the abatement of an insect problem:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Check for leaks from waters, etc. and repair as needed.
- Remove any garbage or trash from the facility.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of a rodent problem:

- Mow vegetation around facility.
- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.
- Remove any garbage or trash from the facility.
- Check for damage or leaks from waters, etc. and repair as needed.
- Remove and dispose of all dead animals immediately and appropriately.
- Use approved baits, poisons, etc. as appropriate.

Actions to be taken for the abatement of scavenging animal problems:

- Remove and dispose of all dead animals immediately and appropriately.
- Mow vegetation around facility

- Clean up any spilled feed.
- Repair or replace equipment that is spilling feed.
- Use covers to prevent feed from getting wet.
- Dispose of any wet or contaminated feed.
- Remove all excess building materials.
- Remove any garbage or trash from the facility.
- Check for digging activities that could damage or weaken buildings and repair as needed.
- Contact the proper officials for additional control measures.

For more details on specifics (rats, filth flies, etc.) information may be obtained from the University of Maryland Extension Offices or the NRCS office.

Air Quality

NRCS does not have specific technical criteria for these considerations that are required for CNMPs. However, the following items may be considered when addressing Air Quality, most Air Quality issues are associated with odor.

Air quality in and around structures, waste storage areas, and treatment sites may be impaired by excessive dust, gaseous emissions such as ammonia, and odors. Poor air quality may impact the health of workers, animals, and persons living in the surrounding areas. Ammonia emissions from animal operations may be deposited to surface waters, increasing the nutrient load to these regions. Proper sitting of structures and waste storage facilities can enhance dispersion and dilution of odorous gases. Enclosing waste storage or treatment facilities can reduce gaseous emissions from AFO in areas with residential development in the region.

For an odor to be detected downwind, odorous compounds must be (a) formed, (b) released to the atmosphere, and (c) transported to the receptor site. These three steps provide the basis for most odor control. If any one of the steps is inhibited, the odor will diminish.

Odor problems can be prevented or reduced through adequate drainage, runoff management, proper care to keep animals and animal facilities clean and dry, and appropriate animal by-product removal, handling, and transport.

Locate animal by-product management facilities and utilization areas as far as practical from neighboring residences, recreational areas, or other conflicting land uses. Avoid sites where radical shifts in air movement occur between day and night, such as those near large bodies of water or steep topography. A component's location in relation to surrounding topography may also strongly influence the transfer of odor because of daily changes in temperature and resulting airflow. To provide optimum conditions, prevailing winds should carry odors away from nearby residences.

Providing conditions or design features that alter the microclimate around specific components can further mitigate odor. An abundance of sunlight and good ventilation helps keep livestock and poultry areas dry and relatively odor free. Southern exposure with adequate slope to provide drainage for runoff is a preferred condition. Keeping animal by-products aerated and at appropriate moisture and temperature levels slows the development of anaerobic conditions and reduces odor.

Mitigation of Odor

Odor-causing substances from animal by-products are frequently attracted to dust particles in the air. Collecting or limiting the transport of dust aids in reducing odor. Vegetation is very effective in trapping dust particles. For example, pine trees planted downwind trap odor-laden dust particles and can provide a visual barrier to the animal operation. In addition, vegetation, landform, and structures can channel wind to carry odors away from nearby residences.

Chemical additives for the control or reduction of odors may be added to the bedding in the house or during removal.

To reduce Odor Problems during Spreading

1. Avoid hauling or spreading when wind will blow towards populated areas.
2. Avoid transporting or spreading just before weekends and holidays when people are more likely to be outdoors.
3. Haul or spread in the morning when the air is warming and rising, rather than in the afternoon.
4. Animal waste applied to the soil surface should be incorporated within 24 hours of application to reduce odor, minimize surface runoff and maximize nutrient availability to the subsequent crop. Optimum incorporation time is 12 hours.
5. Injection of animal wastes beneath the soil surface is the preferred method of application.

Safety

1. Fencing should be provided to prevent livestock and people from entering the agriculture waste facility.
2. All waste storage structures must be posted with a ~caution~ sign Example- **DANGER - KEEP OUT.** If you do not have a sign, one can be provided.
3. Manure produces gases - caution should be taken so as not to be overcome by such gases *(Gas masks are not adequate protection).

Section 9: Online References

Maryland Department of the Environment (MDE) Regulations and General Permit for Animal Feeding Operations (AFO)

http://www.mde.state.md.us/Programs/LandPrograms/Solid_Waste/cafo/index.asp

Environmental Protection Agency (EPA) Concentrated Animal Feeding Operations (CAFO) - Final Rule

http://cfpub.epa.gov/npdes/afo/cafofinalrule.cfm

Crop Fertilizer Recommendations

"Soil Fertility Management," Maryland Cooperative Extension, SFM-1, Oct. 2002
http://www.anmp.umd.edu/Pubs/Pubs_Crops.cfm

Nutrient Management Information Sheets

http://www.anmp.umd.edu/Pubs/index.cfm

Manure Application Setback Features/Distances

COMAR 15.20.08.05
http://www.dsd.state.md.us/comar/subtitle_chapters/15_Chapters.htm#Subtitle20

Maryland Nutrient Management Manual
http://www.mda.state.md.us/resource_conservation/nutrient_management/manual/index.php

Manure Nutrient Availability

Maryland Department of Agriculture, COMAR 15.20.08.05
http://www.mda.state.md.us/resource_conservation/nutrient_management/manual/estimated_mineralization_rates.php

Calibrating Manure Spreaders

Maryland Cooperative Extension Fact Sheet 416
http://www.anmp.umd.edu/files/FS_419.pdf

Phosphorus Assessment

"The Maryland Phosphorus Site Index: An Overview," Maryland Cooperative Extension SFM-6, April 2005
http://www.anmp.umd.edu/files/NM-6.pdf

"The Maryland Phosphorus Site Index: Technical Users Guide," Maryland Cooperative Extension SFM-7, April 2005
http://www.anmp.umd.edu/files/SFM-7.pdf

Mid-Atlantic Nutrient Management Handbook
http://www.mawaterquality.org/Publications/manmh.htm

Maryland Pesticide Regulation
http://www.mda.state.md.us/plants-pests/pesticide_regulation/index.php

Maryland Practice Standards **Section IV — Practice Standards and Specifications**
http://www.nrcs.usda.gov/technical/efotg/

Section 10: Appendix

Other appropriate supporting documents not included in other parts of the plan (i.e. worksheets, forms, etc.)

This section contains the following:

Manure Generation Worksheet ....Appendix A
Soils Map, Data & Descriptions .....Appendix B
Waste Structure Sizing Worksheet .....Appendix C
Record Keeping Forms.....Appendix D

Appendix A

POULTRY LITTER QUANTITY ESTIMATE

KEEN CONSULTING
26229 Prettyman Road
Georgetown, DE 19947
(302) 684-5270

Name: **Silver Bullet Farm, LLC** Tract / Farm: **249** Date: **4/18/2017**

Houses included: **3** **Bird type:** **Broiler**

Average Bird Market Weight (lbs): **6.8**

A.	Years between total cleanouts:	5
B.	Total # of birds per flock (for all houses on this cleanout cycle):	**150,000**
C.	Flocks per year	**5.5**
D.	Number of flocks per cleanout cycle (A x C):	27
E.	Estimated tons of cake/crust per 1000 birds per flock: *	**0.2**
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	**1.38462**
G.	Tons cake/crust produced per flock (B x E/1000):	30
H.	Tons cake/crust produced per cycle (G x D)	810
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	5,608
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	4,798
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	960
L.	Tons of litter + cake/crust produced per year (I/A)	1,122

* 2007 Delmarva Poultry Litter Production Estimates, George W. Malone, University of Delaware, Georgetown Delaware.

Quantity of Poultry Litter, Cake/Crust Available per Year

Year	M Tons of litter remaining in the house from last year (N-P) + (R-S) (previous year)	N Total tons of litter present in the house this year (K) + (M, this year)	O % of partial or total litter to be removed this year in excess of cakeout/crustout (enter % of N removed)	P Tons of litter removed this year (N x O)/100	Q Flocks this Year	R *** Tons Cake/Crust Produced this Year (Q x G)	S Tons Cake/Crust removed this Year	T Tons litter + cake/crust removed this year (P + S)
1	0	960	**0**	0	5	150	150	150
2	960	1,919	**10**	192	6	180	180	372
3	1,727	2,687	**30**	806	5	150	150	956
4	1,881	2,840	**10**	284	6	180	180	464
5	2,556	3,516	**100**	3,516	5	150	150	3,666
				4,798	27	810	810	5,608

Wastes Storage Structure(s): ***50' X 120'*** ***On Site*** Animal Mortality Facilty: ***On Site - Attached***

Last Total Cleanout: **N/A**

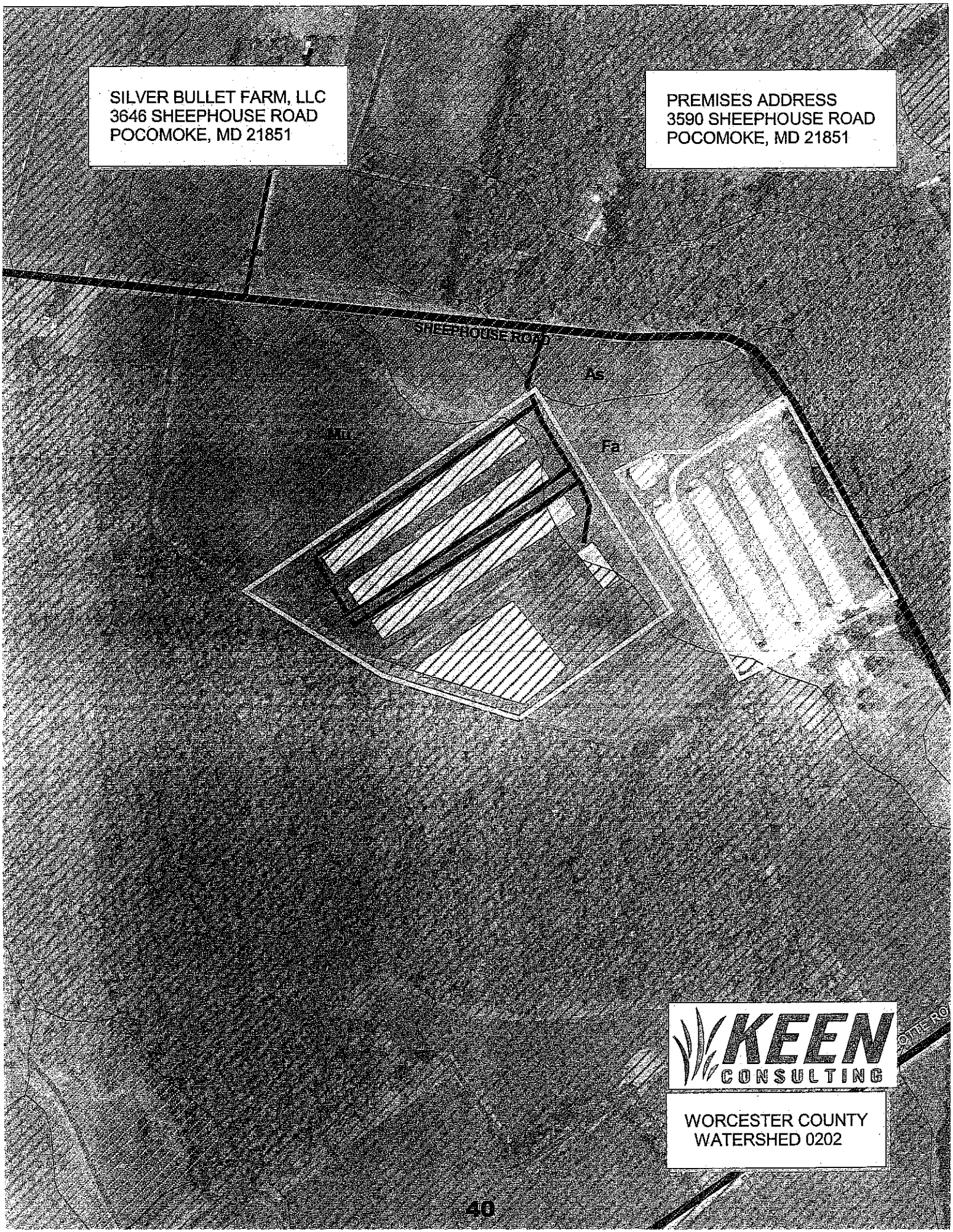
Animal wastes generated on this farm are stored in the waste storage structure(s) and/or transported/exported to the field as conditions warrant.

** This estimation is provided to comply with Nutrient Management Regulations. Manure amounts utilized within the NMP are from producer records and are not necessarily consistent with amounts shown in this estimation.*

Operators are advised to follow Best Management Practices (BMP's) when handling and storing manures. Please refer to the Comments on Plan Implementation, Updating and Maintenance Requirements (Manure Handling & Storage Guidelines Section) included in your Nutrient Management Plan (NMP).

*** Cake/Crust not removed due to windrowing, is added with the litter remaining in the house the following year. Windrowing may likely result in actual quantities of litter being less than the estimates shown here. The actual amount of Cake/Crust removed may also be less than the estimated amounts produced due to improved drinker systems, ventilation,

Appendix B


SILVER BULLET FARM, LLC
3646 SHEEPHOUSE ROAD
POCOMOKE, MD 21851
PREMISES ADDRESS
3590 SHEEPHOUSE ROAD
POCOMOKE, MD 21851
SHEEPHOUSE ROAD
As
Fa
KEEN
CONSULTING
WORCESTER COUNTY
WATERSHED 0202

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

Worcester County, Maryland

Map Unit: AsA—Askecksy loamy sand, 0 to 2 percent slopes

Component: Askecksy, undrained (45%)

The Askecksy, undrained component makes up 45 percent of the map unit. Slopes are 0 to 2 percent. This component is on lowlands, flats. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Askecksy, drained (30%)

The Askecksy, drained component makes up 30 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, lowlands. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3w. Irrigated land capability classification is 3w. This soil meets hydric criteria.

Component: Hurlock, undrained (10%)

The Hurlock, undrained component makes up 40 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of loamy fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Klej (5%)

The Klej component makes up 45 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats, uplands. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during February. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 3w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria.

Component: Galloway (5%)

The Galloway component makes up 35 percent of the map unit. Slopes are 0 to 5 percent. This component is on uplands, flats. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Mullica, undrained (5%)

The Mullica, undrained component makes up 15 percent of the map unit. Slopes are 0 to 2 percent. This component is on uplands, flats. The parent material consists of sandy and loamy fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 2 inches during January, February, March, April. Organic matter content in the surface horizon is about 66 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Map Unit: FadA—Fallsington sandy loams, 0 to 2 percent slopes, Northern Tidewater Area

Component: Fallsington, undrained (48%)

The Fallsington, undrained component makes up 48 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats on coastal plains. The parent material consists of loamy fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is occasionally ponded. A seasonal zone of water saturation is at 5 inches (depth from the mineral surface is 3 inches) during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. Nonirrigated land capability classification is 5w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Fallsington, drained (27%)

Generated brief soil descriptions are created for major components. The Fallsington soil is a minor component.

Component: Woodstown (9%)

Generated brief soil descriptions are created for major components. The Woodstown soil is a minor component.

Component: Hammonton (8%)

Generated brief soil descriptions are created for major components. The Hammonton soil is a minor component.

Component: Othello (8%)

Generated brief soil descriptions are created for major components. The Othello soil is a minor component.

Map Unit: MuA—Mullica-Berryland complex, 0 to 2 percent slopes

Component: Mullica, drained (25%)

The Mullica, drained component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on uplands, flats. The parent material consists of sandy and loamy fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 5 inches during January, February, March. Organic matter content in the surface horizon is about 16 percent. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 2w. This soil meets hydric criteria.

Component: Berryland, drained (25%)

The Berryland, drained component makes up 25 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 5 inches during January, February, March. Organic matter content in the surface horizon is about 11 percent. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 2w. This soil meets hydric criteria.

Component: Mullica, undrained (15%)

The Mullica, undrained component makes up 15 percent of the map unit. Slopes are 0 to 2 percent. This component is on uplands, flats. The parent material consists of sandy and loamy fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 2 inches during January, February, March, April. Organic matter content in the surface horizon is about 66 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Berryland, undrained (15%)

The Berryland, undrained component makes up 15 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, uplands. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 2 inches during January, February, March, April. Organic matter content in the surface horizon is about 68 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria.

Component: Klej (10%)

The Klej component makes up 45 percent of the map unit. Slopes are 0 to 5 percent. This component is on flats, uplands. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during February. Organic matter content in the surface horizon is about 0 percent. Nonirrigated land capability classification is 3w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria.

Component: Galloway (5%)

The Galloway component makes up 35 percent of the map unit. Slopes are 0 to 5 percent. This component is on uplands, flats. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 24 inches during February. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 2e. Irrigated land capability classification is 2e. This soil does not meet hydric criteria.

Component: Askecksy, drained (5%)

The Askecksy, drained component makes up 30 percent of the map unit. Slopes are 0 to 2 percent. This component is on flats, lowlands. The parent material consists of sandy eolian deposits and/or fluviomarine sediments. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is rarely ponded. A seasonal zone of water saturation is at 14 inches during January, February, March, April. Organic matter content in the surface horizon is about 1 percent. Nonirrigated land capability classification is 3w. Irrigated land capability classification is 3w. This soil meets hydric criteria.

Appendix C

KEEN CONSULTING

POULTRY WASTE STORAGE STRUCTURE SIZING WORKSHEET

50 Foot Truss Design

Revised 12/06

NAME: **Keith Aydelotte**
TRACT: **Silver Bullet Farm, LLC**

Bird Type : **Broiler**

Number of birds		150,000
Number of days per flock	(42 to 55 days)	52
Number of flocks per year	(5 to 7 flocks per year)	5.5
Brood chamber size as percent of house	(40% - 50%)	40
Years between total cleanouts		2
Required days storage period		180

TOTAL LITTER PRODUCTION = **2,136** tons/cycle

LITTER AND CAKE REMOVED PER YEAR
BROOD = **310** tons/year
CAKE = **330** tons/year

TOTAL CLEANOUT = **64,793** cubic feet

STORAGE **35,193** cubic feet

COMPUTED LENGTH OF ROOFED STRUCTURE = **120** feet

*** EXACT LENGTH OF ROOFED STRUCTURE = **120** feet

AUXILIARY STORAGE VOLUME = **29,600** cubic feet

TOTAL ANNUAL MANURE GENERATED = **73,045** cubic feet

Comments

Appendix D

Manure Exports off the Farm

Manure Source	Date	Amount Gal or Ton	Receiving Operation	Address	Contact	Phone

Monthly Animal & Mortality Count

Month	Animal Count and Weight	Mortality	Mortality %	Comments

Inspection/Monitoring Records

Date	Activity Description	Operator/ Inspector	Activity Data

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:

1. Soil test(s) are required to be taken every 3 years or sooner for each management unit;
2. It is recommended that soil sampling be conducted consistently at the same time of the year;
3. Soil sampling depth for P and K shall be 8 inches;
4. 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 required Record Keeping and are stored under the Record Keeping element of this CNMP.

Description of Chemical Handling:

1. All chemicals are custom applied and no chemicals are stored at the operation.

NUTRIENT MANAGEMENT PLAN

Prepared for

SILVER BULLET FARM, LLC
KEITH AYDELOTTE
3646 SHEEPHOUSE ROAD
POCOMOKE CITY, MD 21851

Prepared By

TODD A. KEEN
CERTIFIED NUTRIENT MANAGEMENT PLANNER
MD CERTIFICATION #: 1557
MD LICENSE #: 2025
TAKKEEN@COMCAST.NET

PLAN PERIOD: 1/2025 – 1/2028

KEEN CONSULTING

26229 PRETTYMAN ROAD
GEORGETOWN, DE 19947
(302) 684-5270

COMMENTS ON PLAN IMPLEMENTATION, UPDATING AND MAINTENANCE REQUIREMENTS

Maryland regulations require that certified nutrient management planners prepare Nutrient Management Plans (NMP) that meet guidance provided by University of Maryland and the Maryland Department of Agriculture. In so doing, this may result in NMP's that do not address nutrient management planning from the best economic viewpoint.

General:

Please review your Nutrient Management Plan (NMP) and contact us with any questions or concerns

Update Requirements:

This plan should be modified if any of the following occur:

- Changes in animal numbers (10% increase) or types
- Changes in manure handling or storage procedures

Manure Handling & Storage Guidelines:

Manure should be sampled annually to determine average nutrient content for each manure type utilized in the operation. A copy of the manure analysis is to be provided to any receivers of the manure.

Farm storage of manure (solid) must be:

- Placed on an impermeable surface (cement pad or compacted clay base) that is covered
- Contact your Soil Conservation District for advice on design and cost share programs for storage structures if you do not have storage or require additional storage capacity

Handling & Spreading:

- Reasonable effort should be made to minimize odors from the storage and transportation of manures
- **If your operation is subject to regulations governing Maryland Animal Feeding Operations (MAFO) or Concentrated Animal Feeding Operations (CAFO), then you may be subject to additional manure handling guidelines. Consult your CAFO/MAFO documentation for guidance.**

Erosion & Runoff Control:

Best Management Practices should be utilized to minimize soil erosion and runoff which can carry nutrients to surface waters (vegetative buffer strips around drainage ditches and surface waters are a good example). Advice on soil erosion control can be obtained through your Soil Conservation District

Record Keeping Requirements:

- Nutrient Management Plans (NMP)
- Animal waste generation estimations, measurements, and applications
- Documentation to justify any changes from the written nutrient management plan

KEEN CONSULTING

Information Summary

Operator: Silver Bullet Farm, LLC
Keith Aydelotte
3646 Sheephouse Road
Pocomoke City, MD 21851

Site Address: **3590 Sheephouse Road**
Pocomoke City, MD 21851

County: Worcester

Watershed: 0202

Account ID ***rcel Acres:*** 28.27 ***Tillable Acres:*** N/A

Plan Type: Animal Waste Management Plan ***(No land application plan)***

Animal Type: Poultry/Broiler

Animal Number: 120,000 per cycle, 600,000 annually (5 Flocks)

Manure Storage Facility: Shed 40' X 172'

Dead Animal Disposal Method: Animal Mortality Facility (24' Composter)

Manure Receivers: Poultry Litter Services, LLC
Thomas Hornsby
31350 Curtis Chapel Road
Westover, MD 21871

Ward Kelley
3267 Kelly Road
New Church, VA 23415

Manure Amount Transferred: All (See Estimation Sheet)

Notes: Producer exports all manure generated in this operation.

KEEN CONSULTING

POULTRY LITTER QUANTITY ESTIMATE

KEEN CONSULTING
26229 Prettyman Road
Georgetown, DE 19947
(302) 684-5270

Name: Silver Bullet Farm, LLC | Tract / Farm: 249 | Date: 8/14/2024

Houses included: 3 | Bird type: Broiler | Average Bird Market Weight (lbs): 7

A.	Years between total cleanouts:	7
B.	Total # of birds per flock (for all houses on this cleanout cycle):	120,000
C.	Flocks per year	5
D.	Number of flocks per cleanout cycle (A x C):	35
E.	Estimated tons of cake/crust per 1000 birds per flock: *	0.2
F.	Estimated tons of litter + cake/crust per 1000 birds per flock: *	1.4192
G.	Tons cake/crust produced per flock (B x E/1000):	24
H.	Tons cake/crust produced per cycle (G x D)	840
I.	Tons litter + cake/crust produced per cycle (B x D x F/1000):	5,961
J.	Tons of litter produced per cycle (less cakeout/crustout) (I - H):	5,121
K.	Tons of litter produced per year (less cakeout/crustout) (J/A):	732
L	Tons of litter + cake/crust produced per year (I/A)	852

* 2007 Delmarva Poultry Litter Production Estimates, George W. Malone, University of Delaware, Georgetown Delaware.

Quantity of Poultry Litter, Cake/Crust Available per Year

Year	M Tons of litter remaining in the house from last year (N-P) + (R-S) (previous year)	N Total tons of litter present in the house this year (K) + (M, this year)	O % of partial or total litter to be removed this year in excess of cakeout/crustout (enter % of N removed)	P Tons of litter removed this year (N x O)/100	Q Flocks this Year	R *** Tons Cake/Crust Produced this Year (Q x G)	S Tons Cake/Crust removed this Year	T Tons litter + cake/crust removed this year (P + S)
1	0	732	0	0	5	120	120	120
2	732	1,463	10	146	5	120	120	266
3	1,317	2,048	30	614	5	120	120	734
4	1,434	2,165	10	217	5	120	120	337
5	1,949	2,680	30	804	5	120	120	924
6	1,876	2,608	10	261	5	120	120	381
7	2,347	3,078	100	3,078	5	120	120	3,198
				5,121	35	840	840	5,961

Wastes Storage Structure(s): 40' X 172' | On Site

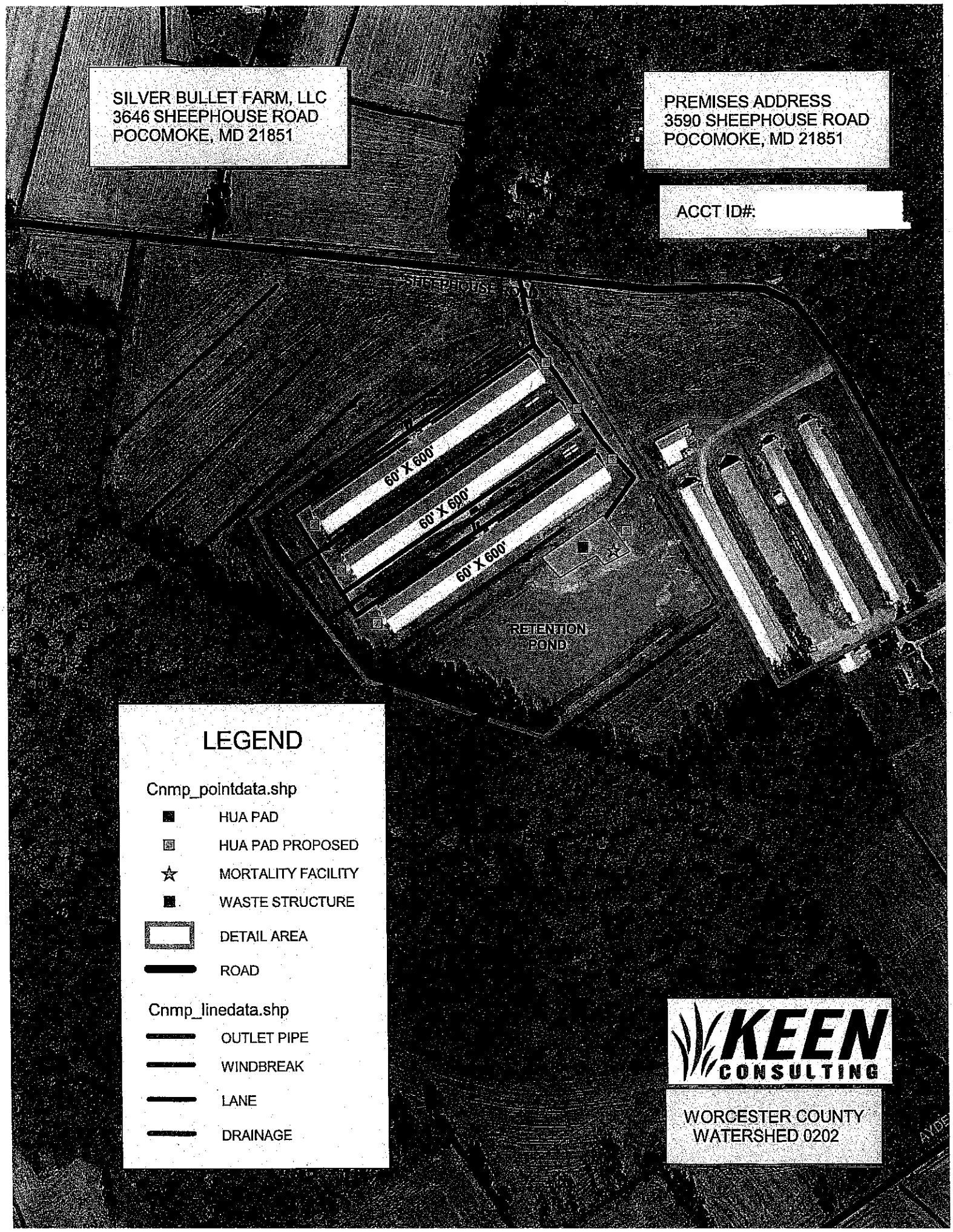
Animal Mortality Facilty: 24' Channel Attached to PWSS

Animal wastes generated on this farm are stored in the waste storage structure(s) and/or transported/exported to the field as conditions warrant.

** This estimation is provided to comply with Nutrient Management Regulations. Manure amounts utilized within the NMP are from producer records and are not necessarily consistent with amounts shown in this estimation.*

Operators are advised to follow Best Management Practices (BMP's) when handling and storing manures. Please refer to the Comments on Plan Implementation, Updating and Maintenance Requirements (Manure Handling & Storage Guidelines Section) included in your Nutrient Management Plan (NMP).

*** Cake/Crust not removed due to windrowing, is added with the litter remaining in the house the following year. Windrowing may likely result in actual quantities of litter being less than the estimates shown here. The actual amount of Cake/Crust removed may also be less than the estimated amounts produced due to improved drinker systems, ventilation, etc.


SILVER BULLET FARM, LLC
3646 SHEEPHOUSE ROAD
POCOMOKE, MD 21851
PREMISES ADDRESS
3590 SHEEPHOUSE ROAD
POCOMOKE, MD 21851
ACCT ID#:
SHEEPHOUSE
60' X 600'
60' X 600'
60' X 600'
RETENTION POND
LEGEND
Cnmp_pointdata.shp
HUA PAD
HUA PAD PROPOSED
MORTALITY FACILITY
WASTE STRUCTURE
DETAIL AREA
ROAD
Cnmp_linedata.shp
OUTLET PIPE
WINDBREAK
LANE
DRAINAGE
KEEN CONSULTING
WORCESTER COUNTY
WATERSHED 0202

MARYLAND DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard • Suite 605 • Baltimore, Maryland 21230-1719
410-537-3375 • 800-633-6101 x3375 • http://www.mde.state.md.us
Land Management Administration • Solid Waste Program

Maryland Setback Standards and Approved Alternatives Consistent with CAFO/MAFO Requirements

Introduction:
The Maryland Department of the Environment (MDE) current Regulations Governing the Control of Water Pollution to address permit requirements for Concentrated Animal Feeding Operations (CAFOs) and Maryland Animal Feeding Operations (MAFO) include options for manure application setback standards in the Code of Maryland Regulations (COMAR) 26.08.03.09b(1). These setbacks for CAFOs are also included in 40 CFR Part 412.4(c)(5).

As written in Part IVB8 of the General Discharge (GD) Permit for Animal Feeding Operations (NPDES Permit No. MDG01, Maryland Permit No 09AF), the current "Protocols for the Land Application of Manure and Wastewater" include, for both CAFOs and MAFOs, the following setback provisions:

a. A **setback** of at least 100' from waters of the State, including field ditches, other conduits, intermittent streams, and drinking water wells, shall be maintained; or an **approved alternative** may be substituted for the 100' setback.
b. A setback of at least 100' from property lines shall be maintained, unless an approved alternative setback for property lines is established with the consent of the adjacent property owner.

I. Alternative Setback Option Applicable to Poultry MAFOs ONLY which is included in the GD Permit:

For slopes of 2% or less, a MAFO may satisfy the land application setback and buffer requirements of this permit by maintaining: 1) a vegetated filter strip at least 10 feet wide along field ditches and in the final 35 feet of the field ditches (applicable to ditch embankments and, to the maximum extent practicable, the channel) adjoining the receiving waters or the facility boundary, whichever occurs first, 2) a 35' vegetated filter strip or 3) a 50' setback from all other surface waters of the State.

II. Approved Alternative Setback Options to the Requirement in COMAR 26.08.03.09B(1)(a) for all CAFOs and MAFOs.

The following are the approved alternatives to the 100-foot setback, which have been established by MDE in consultation with the Maryland Department of Agriculture (MDA), Natural Resources Conservation Service (NRCS) and the University of Maryland Extension (UME).

Option 1: A 35-foot vegetative buffer strip established in accordance with the NRCS Practice Standards 390, 391, or 393, or systems as approved by MDE in coordination with the MDA, NRCS and UME which is included in the GD Permit.

The buffer strip shall consist of a permanent vegetative planting that is not part of a cropland or pasture rotation. The location, layout, and density of the buffer strip shall reflect the intended purpose of the practice, conditions of the site, and the objectives of the land user. Site preparation and planting to establish the buffer strip shall be done at a time and manner to insure survival and growth of the selected species. Select plant species that are native to Maryland, or are introduced and are non-invasive (i.e., not likely to spread beyond the planted area and displace native species). See Maryland NRCS 390, 391, and 393 Conservation Practice Standards for more details. Existing naturally vegetated areas may also qualify as buffers if they meet the criteria in the applicable standard.

Date: March 30, 2011
TTY Users: 800-201-7165

Note: For any fields with slopes 8% or above, the NRCS approved soil loss prediction tool shall be used to determine risk. If significant risk (above tolerable soil loss) is determined, the appropriate Best Management Practices to reduce soil loss risk will be implemented according to NRCS standards.

Option 2: 10-foot no nutrient application zone from Surface Waters Plus One of Three Land Treatment Practices

The producer (CAFO or MAFO) shall maintain a minimum 10-foot setback from surface waters on which no manure, chemical fertilizer or any other nutrient containing soil amendments are applied AND must implement at least ONE additional of the following Best Management Practices:

Option 2A: Winter crop establishment including small grains, brassicas, or other species in accordance with MDA Nutrient Management Plan (NMP) requirements with no nitrogen or phosphorus applications before March 1st.

Such crops shall be planted during the fall in the year manure application took place. The winter crop shall be applied to the entire field that received manure.

Option 2B: Subsurface injection or surface application of manure with incorporation within three days (72 hours) of manure or wastewater surface application.

If vertical tillage is used to minimally incorporate manure with surface residue, soil loss needs to be "T" or less as determined by RUSLE 2. Plug or spike aerators (such as Aerway®), seed bed conditioners and vertical till (such as Turbotill ™) may be used for incorporation.

Option 2C: Dry Manure Injection.

Injection of poultry litter and dry manure application (Subsurfer®).

Option 3: Other – Must be approved in writing by MDE in coordination with NRCS, UME and MDA. Applicant must demonstrate to the satisfaction of MDE and the other agencies that this option conserves and protects public health, natural resources, and the environment of the State, and controls water and land pollution to at least the same extent as would be obtained by compliance with the applicable requirements.

Policy for Part IV B(8b) of the GD Permit for Animal Feeding Operations

In accordance with 40 CFR Part 412.4(c)(5), and Part IV B(8b) of the GD Permit for Animal Feeding Operations, which states: "Protocols for the Land Application of Manure and Wastewater ... the following requirements for setbacks shall be maintained: ... b. A setback of at least 100' from property lines shall be maintained, unless an approved alternative setback for property lines is established with the consent of the adjacent property owner."

Policy: If the property line is coincident with a hydrologic conveyance to the waters of the State, then the setback requirements of Part IV B(8a) apply: A setback of at least 100' from waters of the State, including field ditches, other conduits, intermittent streams, and drinking water wells shall be maintained; or an approved alternative including options 1 through 5 may be substituted for the 100' setback."

Maryland
Department of Agriculture

Agriculture | Maryland's Leading Industry

Office of Resource Conservation

Nutrient Management Program

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Joseph Bartenfelder, Secretary
Julianne A. Oberg, Deputy Secretary

The Wayne A. Cawley, Jr. Building
50 Harry S. Truman Parkway
Annapolis, Maryland 21401
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410.841.5959 Baltimore/Washington
410.841.5950 Fax
800.492.5590 Toll Free

Plan Implementation Review Process for Operators

(September 2007, updated October 2015)

This document explains the process of a nutrient management plan implementation review and provides the operator with information about preparing for a review.

Selection Method

Nutrient management specialists either randomly select an operation for a review, arrange a review in response to a complaint, schedule a follow-up to a previous review, and/or to discuss questions /concerns with submitted AIRs or other non-compliance issues.

Notification

Nutrient management specialists notify the selected operator by letter or telephone to schedule a plan implementation review. The letter may propose a given date and time to visit at the operation site. MDA may provide the operator the option to confirm or reschedule the meeting date and/or location for the operator's convenience.

Operator Requirements

A specialist from the MDA nutrient management program will conduct the review. The operator must make available for review the current **and** two prior years' nutrient management plans and any records associated with these plans. The specialist will randomly select one or more year's worth of plans and associated records, and compare them against nutrient application records and fertilizer receipts. The specialist will examine several fields or management units representative of the operation. P-Site Index calculations and implementation of any resulting best management practices will be verified. Following the review, the specialist will give the operator a copy of the plan implementation evaluation report which will include any necessary follow-up action.

Use these checklists to prepare for your Nutrient Management Plan Implementation Review.

Necessary Records (retain for 3 years):

From All Nutrient Management Plans for the Operation

- ☐ Updated operation information used for required reporting to MDA
- ☐ Operation map or aerial photo
- ☐ Soil analysis results (original lab test results)
- ☐ Manure analysis and management information (if applicable, original lab test results)
- ☐ Summary nutrient recommendations (by field and specific to the crop)
- ☐ Phosphorus Site Index calculations (if applicable)
- ☐ Required Best Management Practices (for P-Site Index only)

From Actual Implementation Records

- ☐ **Nutrient Type(s)** Type of nutrients applied such as fertilizer, animal manure, biosolid, etc.
- ☐ **Analysis/Nutrient content** N-P-K analysis of nutrients applied
- ☐ **Rates & Quantity** Pounds, gallons, or tons applied per acre and total amount applied per total crop acres per timing period
- ☐ **Application Timing & Method** Date(s) applied and method such as banded, sidedress, topdress, etc.
- ☐ **Manure Management Information:** Manure type, date of removal from production and/or storage facility, location stored, where applied, name and location of receiver if moved off-site, and quantity estimate
- ☐ **Actual Yield**: Specific field or management unit yield information **for the last 5 years**
- ☐ **Applicator voucher or certificate number**: Individual(s) applying or supervising application of nutrients on the operation
- ☐ **Receipts for nutrients purchased:** Receipts for all nutrients purchased and applied (all organic and inorganic sources)

Management Changes and Plan Modifications during Implementation

Management changes or unforeseen circumstance in an agricultural operation may require the operator to modify or update a plan before its expiration. Any revisions to the plan by a certified consultant or certified operator must be justified, documented and included in the records.

Questions?

Contact your local MDA regional office.

REGIONAL OFFICES

Region 1: ALLEGANY, GARRETT, and WASHINGTON COUNTIES
Keith Potter, Nutrient Management Specialist — keith.potter@maryland.gov
Tel: 301-777-1747 (x 3507) — Fax: 301-777-7632
12407 Naves Cross Road, N.E., Cumberland, MD 21502

Region 2a: CARROLL, and FREDERICK COUNTIES
Moana Himes, Nutrient Management Specialist — moana.himes@maryland.gov
Tel: 301-695-2803 (x8604) — Fax: 301-694-5744
92 Thomas Johnson Drive, Suite 110, Frederick, MD 21702

Region 2b: ANNE ARUNDEL, HOWARD, and MONTGOMERY COUNTIES
Kenny Favorite, Nutrient Management Specialist — kenny.favorite@maryland.gov
Tel: 301-695-2803 (x8605) — Fax: 301-694-5744
92 Thomas Johnson Drive, Suite 110, Frederick, MD 21702

Region 3a: Vacant

Region 3b: CALVERT, CHARLES, PRINCE GEORGE'S, and ST. MARY'S COUNTIES
Weylin Anderson, Nutrient Management Specialist — weylin.anderson@maryland.gov
Tel: 301-475-8402 (x 6410) — Fax: 301-475-8391
26737 Radio Station Way, Suite B, Leonardtown, MD 20650

Region 4: BALTIMORE, CECIL, and HARFORD COUNTIES
Darren Alles, Nutrient Management Specialist — darren.alles@maryland.gov
Tel: 410-638-4828 (x5220) — Fax: Not available at this time
3525 Conowingo Road, Suite 500, Street, MD 21154

Region 5a: KENT, QUEEN ANNE'S, and TALBOT COUNTIES
Howard Callahan, Nutrient Management Specialist — howard.callahan@maryland.gov
Tel: 410-822-8126 — Fax: 410-822-8353
28577 Mary's Court, Suite 4, Easton, MD 21601

Region 5b: CAROLINE, and DORCHESTER COUNTIES
Steve Szelestei, Nutrient Management Specialist — steve.szelestei@maryland.gov
Tel: 410-822-8120 — Fax: 410-822-8353
28577 Mary's Court, Suite 4, Easton, MD 21601

Region 6: WICOMICO, SOMERSET, and WORCESTER COUNTIES
Steven Dorsey, Nutrient Management Specialist — steve.dorsey@maryland.gov
Tel: 410-677-0802 (x 4) — Fax: 410-543-6660
27722 Nanticoke Road, Unit #2, Salisbury, MD 21801

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General Principles of Nutrient Management

Both farm profitability and water quality can be improved through efficient nutrient use. Manure and biosolids should be considered valuable fertilizer materials and managed in the same manner as commercial fertilizers. Soil testing is very important for the development of nutrient application rates.

Please refer to the appropriate issue of the *Nutrient Manager* (the newsletter of the ***University of Maryland Extension Agricultural Nutrient Management Program***) for more information on soil testing, nitrogen, phosphorus, potassium, sulfur, and pH and liming.

I. Nutrient Recommendations

A) *Nitrogen*:

1) Nitrogen recommendations for many crops are based on yield goals for those crops. It is important to establish realistic yield goals for each field based upon historical yield data (the average yield for the best 3 out of the last 5 years, 6 of 10, etc.).

2) Recommended application rates for nitrogen should not be exceeded.

3) The use of the Pre-Sidedress Nitrogen Test (PSNT) is recommended in the early summer after forage legumes or manure and biosolids applications to corn in order to determine if additional nitrogen is needed.

4) Residual values for nitrogen available from legumes in rotation or previous applications of manure or sludge are deducted from gross nitrogen recommendations.

5) Growing a winter cover crop is a very effective practice for reducing nitrate losses from cropland during a time of the year when leaching potential is high.

B) *Phosphorus and other nutrients*:

1) Recommendations for phosphorus, potassium and micronutrients are based on soil test values, yield goals and crop rotation. When soil test levels are high, additional nutrients, other than an in-row starter fertilizer, are not recommended for most crops.

2) Soil pH influences nutrient availability, particularly phosphorus. Soil pH should be adjusted to the level recommended for the crop to be grown.

II. Recommendations for application of all nutrient sources

A) Proper timing of nutrient applications is important. Apply nutrient sources as close to planting or nutrient demand as possible so that nutrients are taken up by plants quickly and not allowed to runoff into surface water or leach into ground water.

B) Avoid application of nutrient sources to frozen ground and during periods of high potential for leaching and runoff. Application in late fall or winter of any nitrogen source for a spring-planted crop should be avoided whenever possible.

C) Avoid application of nutrient sources to sensitive areas, wetlands, sinkholes, and steep slopes.

D) Calibrate nutrient application equipment accurately to insure that recommended rates are applied. Accurate and uniform applications of nutrients are necessary to maximize the nutrient potential of the fertilizer materials.

III. Recommendations for Manure Applications

A) *Testing*:

1) Manures vary tremendously in nutrient content depending upon animal species, rations, and storage conditions. The nutrient content of manure can be determined through laboratory testing.

2) Whenever possible manure should be sampled at least 6 weeks before planned application to allow time for analysis and plan development.

3) A consistent baseline for nutrient content may be established and based on analyses taken at least twice a year until a uniform value is confirmed, and then every second year thereafter to verify its consistency. If significant changes occur, including feed, management, animals, or storage, new samples should be collected for nutrient analysis.

B) *Application of manure*:

1) Nutrient applications should be made at times of the year that will minimize N and P losses to water and N volatilization loss to the atmosphere. Crop utilization of nutrients in manure and biosolids is maximized if these materials are applied in synchrony with periods of crop uptake. Storage of manure may be necessary to facilitate appropriate timing of nutrient applications.

2) **Nitrogen-based applications of manure will cause phosphorus soil test levels to increase over time.**

3) Winter application of manure is complicated. See the section on *MDA's Nutrient Application Guidelines*, which has information from Part I-D of the **Maryland Nutrient Management Manual** for details.

4) Application recommendations for daily haul operations include consideration of slope, crop and vegetative cover.

C) *Storage capacity:*

1) Optimal utilization of nutrients in manure and other nutrient sources is difficult without the ability to store manure for part of the year. Improving storage capacity available will minimize the potential for nutrient loss or runoff and will improve the possibility of proper timing of manure applications.

2) Contact your ***Soil Conservation District*** for advice on design and cost share programs for storage structures if you do not have manure storage capacity or if you need additional storage capacity.

IV. Erosion and Runoff Control

A) *Best Management Practices* should be used to minimize soil erosion and runoff, which can carry nutrients to surface waters. Advice on soil erosion control can be obtained from your ***Soil Conservation District***.

B) *Best Management Practices* around the barnyard area may need to be updated based on current regulations to reduce likelihood of nutrient loss from the area. Consult with your ***Soil Conservation District*** for details.

C) *Phosphorus Site Index*

The addition of any P-bearing material (fertilizer or manure) to fields whose P soil test levels are greater than or equal to FIV 150 will require evaluation of the risk of P movement.

The *Phosphorus Site Index* is a tool that is used to evaluate potential risk for phosphorus movement from agricultural land to surface waters. The *Phosphorus Site Index* includes determination of the limiting nutrient (nitrogen or phosphorus) and may also require additional restrictions of P fertilizer usage.

For a *Phosphorus Site Index* evaluation of your fields or for more information on the *Phosphorus Site Index* contact your Nutrient Management Advisor.

V. Record Keeping

The **Water Quality Improvement Act of 1998** legislation requires producers to keep the following records for at least 3 years (except for #2, crop yields).

1) Nutrient management plans
2) Record of crops planted and actual yield (**5** years of records needed in order to determine average)
3) Record of the timing, location and crop acreage of all nutrient applications
4) Analysis of the nutrient content of any fertilizer applied
5) Receipts related to the purchase of nutrients
6) Animal waste generation measurements and estimations
7) Documentation to justify any changes from the nutrient management plan as written

Combined NLP

Final Audit Report 2022-01-21

Created:	2022-01-20
By:	Anne-Meredith Webster (amw99@umd.edu)
Status:	Signed
Transaction ID:	CBJCHBCAABAAOKDBFEKt7Q7pEsyTPLKa_1TzQdVlKaAi

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