

## **Virginia Agricultural Waste Management System Plan Procedure**

The Agricultural Waste Management System (AWMS) Plan is a component of a Comprehensive Nutrient Management Plan (CNMP) for the operation. An Agricultural Waste Management System (AWMS) is a coordinated combination of management and structural practices to facilitate management of agricultural wastes in a manner that prevents or minimizes degradation of soil, water, air, plant, animal and human resources. A successful AWMS is the result of sound planning, design, construction, operation and maintenance. Individual waste management practices are components of the AWMS Plan. The owner or operator must understand that these practices are components of an overall AWMS, with the emphasis on management.

A complete Agricultural Waste Management System Plan will be developed for all conservation systems that require a CNMP or have practices that will be constructed under VA Practice Standard 313 – Waste Storage Facility, VA Practice Standard 359 – Waste Treatment Lagoon, VA Practice Standard 317 – Composting Facility, or VA Practice Standard 561 – Heavy Use Area Protection if this standard is used to address a resource concern dealing with concentrated livestock and animal waste. The AWMS Plan shall follow the format shown in the example below.

Agricultural waste, as used in this policy, includes livestock waste such as manure and urine; milkhouse and milk parlor wastes such as floor flushing and milking equipment washwater; polluted runoff such as silage leachate or feedlot runoff; and processing center wastes such as washwater and spoiled produce. It does not include disposal of pesticides or other hazardous materials.

A complete AWMS Plan will include a cover sheet, a system description, a section on the decisionmaker's responsibilities, a component installation schedule, narratives for each of the 6 basic functions, a plan map, documentation of existing components and documentation of storage requirements and sizing of the facility. The six basic functions of waste management systems that will be addressed in the AWMS Plan are:

1. Production
2. Collection
3. Storage
4. Treatment
5. Transfer
6. Utilization

For a specific AWMS, the 6 basic functions may be combined, repeated, eliminated or rearranged, as necessary. A description of these processes can be found in NEH 651, Agricultural Waste Management Field Handbook, Chapter 9.

A description of each of the sections of the AWMS Plan is given below.

- 1) **Cover Sheet** – The first page of the AWMS Plan. This page identifies who prepared, checked and approved the plan. It also includes the signature of the decisionmaker for the operation. This indicates that the decisionmaker has participated in preparing the plan and agrees to implement, operate and maintain the planned system.
- 2) **System Description** – A narrative that includes the type and size of operation and the basic components of the AWMS.
- 3) **Decisionmakers Responsibilities** - This section states that proper and safe system operation and maintenance within the applicable laws and regulations are the responsibility of the decisionmaker.
- 4) **Component Installation Schedule** – A schedule of planned installation for the major structural components. This section should consider the proper installation sequence of the components so that each component will function as intended in the system.
- 5) **Basic Functions** - Provide a brief narrative of each of the 6 functions. The narrative describes the planned approach for managing each of the 6 functions. Provide enough detail to define the management approach and the components needed. Provide enough numbers/quantities to identify the magnitude of the work.

#### **6) Attachments**

- a. A plan map showing the AWMS facilities, livestock use areas, and the major structural components of the system. The map should identify the layout of the existing facilities and the location of the proposed structural components. It shall be of sufficient detail and scale to show that the proposed facilities will fit the site. Also include homes, roads, prevailing wind direction, waterbodies, wetlands, watercourses, wells, a North arrow, distances as appropriate, and any other physical or cultural features that influenced the AWMS Plan decisions.
- b. Documentation of existing components that will be utilized as part of the AWMS Plan. See Virginia NRCS policy in NEH 651, Agricultural Waste Management Field Handbook beginning on p. VA-9-28(1).
- c. Documentation of volume and duration of storage required, how the storage values were calculated, and related engineering calculations. It is not necessary to include the planning and design documents in their entirety.

# Agricultural Waste Management System Plan

Operation Name:

Decisionmaker:

Address:

This Agricultural Waste Management System (AWMS) Plan is a component of the Comprehensive Nutrient Management Plan (CNMP) that has been developed for my operation. This AWMS Plan is based upon the functions and objectives of my operation. I have reviewed this plan and understand what is included. I certify that this plan accurately represents my decisions for installation, operation, maintenance and safety for my Animal Waste Management System. I understand it is my responsibility to obtain any and all permits required to implement this plan. If I intend to significantly alter the conditions on which this plan was based, I will contact the planner to determine if those changes are compatible with the plan or if a revised plan is needed.

Decisionmaker Signature

Date

This waste management system plan was prepared based on process and management information provided by the operator and resource information gathered in the field.

Prepared by:

Date:

Checked by:

Date:

\*Approved by:

Date:

Engineering Job Class:

- Approval by individual with appropriate I&E Engineering Job Approval Authority or PE  
(Operation Name)  
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VA-13-13E-6(3)

210-AWMFH, Amend. VA-1, March 2003

Example Narrative: *The AWMS was planned to accommodate waste from a herd of 400 Holstein dairy livestock, 100 Angus beef livestock, wastewater from the milking operation and feedlot runoff. The system is planned to safely store the agricultural waste so that it can be utilized according to the Nutrient Management Plan that has been developed for this operation. Based on the Nutrient Management Plan, the length of storage required is 180 days. The dairy herd utilizes a freestall barn with sand bedding and a loafing area. The beef herd is confined to a concrete feedlot. The system is planned to divert clean water from the system with roof gutters and downspouts, to collect the manure from the freestall barn, loafing area and feedlot by scraping into 2 reception pits and to store the manure, wastewater and runoff in a waste storage pond. The waste storage pond is an existing component and was designed and certified by NRCS in 2000. The pond is planned to be emptied by agitating and pumping into a liquid spreader where it will be applied at the locations, times and rates specified in the Nutrient Management Plan.*

### **Decisionmaker's Responsibilities**

Example Narrative: *Mr. Decisionmaker is responsible for the proper installation, operation and maintenance of the AWMS. Although the system was designed by the Natural Resources Conservation Service, the AWMS needs to be inspected and properly operated and maintained in a safe manner if it is to operate as planned and designed. Mr. Decisionmaker is responsible for obtaining all permits that are necessary to operate the system. The system must be operated and maintained in accordance with these permits and other laws and regulations that pertain to its operation. All personnel must be trained or informed of the safety and operation and maintenance requirements for the system.*

### **Component Installation Schedule**

Example Narrative: *The system components are planned to be installed according to the following schedule:*

<i>Component</i>	<i>Planned Installation Date</i>
<i>Roof Gutters and downspouts</i>	<i>5/2003</i>
<i>Solid/liquid separator</i>	<i>6/2003</i>
<i>Reception Pits (2) and transfer pipeline</i>	<i>7/2003</i>

### **Basic Functions**

**Production:** Example Narrative: *The system is planned to manage the waste from 200 - 1350 lb. dairy cows, 200 - 800 lb. replacements and 100 - 800 lb. beef cattle. Sand and straw are used for bedding. Approximately 500 gal./day of water is used in the parlor. The estimated amount of manure and bedding produced in this operation is 236,374 cu.ft./year.*

**Collection:** Example Narrative: *The dairy cows and replacements are housed in adjacent barns and the beef cattle are on open lots. The waste will be scraped into the reception pits. All clean surface water runoff will be diverted away from the storage facility.*

(Operation Name)  
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- Storage:** Example Narrative: *Waste will be stored in a waste storage pond with a capacity for 180 days of production. Estimated total volume of the pond is 209,640 cu. ft.*
- Treatment:** Example Narrative: *None required.*
- Transfer:** Example Narrative: *Waste will be transferred from the reception pits to the storage facility via pumps (designed and installed by others) and 6 inch underground pipes. The waste from the pond will be hauled using a V tank and flat bottom spreader.*
- Utilization:** Example Narrative: *All agricultural waste shall be utilized in accordance with the Nutrient Management Plan prepared by (Name) on (date).*

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## **Attachments**

1. A plan map showing the AWMS facilities, livestock use areas, and the major structural components of the system. The map should identify the layout of the existing facilities and the location of the proposed structural components. It shall be of sufficient detail and scale to show that the proposed facilities will fit the site. Also include homes, roads, prevailing wind direction, waterbodies, wetlands, watercourses, wells, a North arrow, distances as appropriate, and any other physical or cultural features that influenced the AWMS Plan decisions.
2. Documentation of existing components that will be utilized as part of the AWMS Plan. See Virginia NRCS policy in NEH 651, Agricultural Waste Management Field Handbook beginning on p. VA-9-28(1).
3. Documentation of volume and duration of storage required, how the storage values were calculated, and related engineering calculations. It is not necessary to include the planning and design documents in their entirety.

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## **Including Existing Components as Part of an Agricultural Waste Management System Plan**

Most livestock producers will have some existing animal waste management components that will need to be included in the Agricultural Waste Management System Plan for their operation. The following policy identifies the conditions under which existing components may be included in an Agricultural Waste Management System Plan.

Existing components may be included as part of an Agricultural Waste Management System Plan only if all of the conditions are met.

1. The existing component is consistent with the safety requirements of the waste management system.
2. An investigation of the existing component indicates it is consistent with sound engineering practice. The investigation shall be conducted by an individual with appropriate NRCS engineering job approval authority or a PE.
3. The existing component shall be consistent with Virginia state law.
4. The failure of the existing component will not impair the structural integrity of the new components.
5. The existing component is in good operating condition and has been maintained.
6. The existing component can be managed as part of the planned waste management system.

The investigation of the existing component should be commensurate with the risk associated with the failure of the component. For example, the investigation of an existing waste storage structure wall should be more thorough than the investigation of an existing manure stacker since the failure of the wall would potentially cause more damage than the failure of the stacker. **Including existing components in the Agricultural Waste Management System Plan does not imply that NRCS is certifying the existing components. NRCS will not certify existing components as meeting current NRCS standards and specifications.**

The investigation must be performed in a responsible manner and the results of the investigation must be documented. This means if the investigation indicates the existing component does not meet all of the conditions, the producer must be informed that the components cannot be included as part of the Agricultural Waste Management System Plan until the deficiencies are corrected.

Documentation of the investigation must be commensurate with the complexity of the investigation. The documentation may be a single sentence noting observations, a copy of as built construction drawings signed by a PE or a detailed structural analysis as appropriate when considering the risks and complexities. The documentation shall be maintained in the case file.

The operational history of the existing component should be a key element of both the investigation and the documentation. For example, if an existing waste storage facility has several years of safe operation and the investigator sees no indication of apparent problems, then the investigation and documentation may not need to be complex. If, however, problems are apparent such as a large crack in a wall, then a more complex investigation and documentation process may need to be followed.

Sometimes a producer wants to add onto or enlarge an existing component such as a waste storage facility. In those cases, the existing component must be consistent with current NRCS standards. For example, an existing waste storage pond would need to meet the current criteria in Waste Storage Facility (313) Practice Standard including the liner, sideslopes and water table separation. The investigation and documentation must clearly show how the component meets the current NRCS standard. If a component is providing the level of resource protection intended by the standard, but is not constructed exactly the way NRCS would do it, a variance to the standard may be granted. Requests for variances to NRCS practice standards must be directed to the State Resource Conservationist or the State Conservation Engineer, as appropriate, for approval.