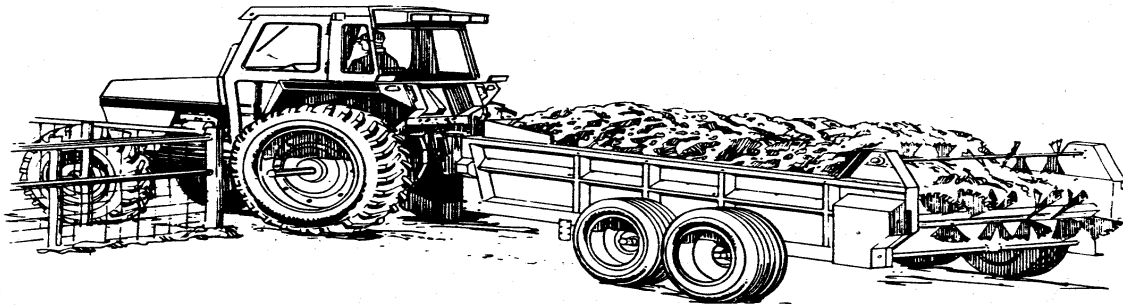


**DRAFT 6/2/2011**

# LAND APPLICATION OF MANURE

A supplement to Manure Management for Environmental Protection

## Manure Management Plan Standard Format and Instructions



361-0300-002



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION

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**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**Bureau of Watershed Management**

**DOCUMENT NUMBER:** 361-0300-002

**TITLE:** LAND APPLICATION OF MANURE, a supplement to Manure Management for Environmental Protection

**EFFECTIVE DATE:** \_\_\_\_\_, 2011

**AUTHORITY:** Section 5(b)(1) and Section 402 of the Pennsylvania Clean Streams Law, 35 P.S. Sections 691.5(b)(1) and 691.402; Section 1920-A of the Administrative Code of 1929, 71 P.S. Section 510-20, and 25 Pa. Code Section 91.36(b).

**POLICY:** The land application of animal manures and agricultural process wastewater must follow the standards for development and implementation of a plan to manage nutrients for water quality protection using standards outlined in the Manure Management Manual.

**PURPOSE:** The purpose of these revisions is to update the manual so that it can be used directly by farmers and to make the Manure Management Manual reflect changes to both Federal and State laws.

**APPLICABILITY:** The revisions to this technical guidance are applicable to all farming operations that land apply manure or agricultural process wastewater.

**DISCLAIMER:** The policies and procedures outlined in this guidance are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not adjudication or a regulation. There is no intent on the part of Department of Environmental Protection (DEP) to give the rules in these policies that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

**PAGE LENGTH:** \_\_\_\_\_ pages

**LOCATION:**

## GLOSSARY

The following terms, when used in this Manure Management Manual, have the following meanings, unless the context clearly indicates otherwise:

*Agricultural erosion and sediment control plan (Ag E&S Plan)* – A site specific plan identifying BMPs to minimize accelerated erosion and sedimentation from agricultural runoff required by 25 PA. Code Chapter 102. The agricultural erosion and sediment control components of a conservation plan meet this requirement if consistent with the requirements of Chapter 102 which became effective on November 19, 2010.

*Agricultural process wastewater* – Wastewater from agricultural operations, including from spillage or overflow from livestock or poultry watering systems, washing, cleaning or flushing pens, milkhouses, barns, manure pits, direct contact swimming, washing or spray cooling of livestock or poultry, egg washing or dust control.

*Animal Concentration Area (ACA)* – Barnyards, loafing areas, exercise lots or other similar animal confinement areas that will not maintain a growing crop, or where manure deposited by animals is in excess of crop nitrogen needs. The term does not include areas managed as pastures (when the pasture management provisions in Section 6 are followed) and cropland. Animal access ways, feeding areas, watering areas, and shade areas or walkways are not considered ACAs if they do not cause a direct flow of manure contaminated runoff to streams, lakes, ponds, or sinkholes. Animal Concentration Areas can also be referred to an “Animal Heavy Use Areas”.

*Best management practice (BMP)* – Activities, facilities, measures, planning or procedures that are effective and practicable to manage nutrients to protect, maintain, reclaim and restore the quality of waters and existing and designated uses of surface and ground water.

*Concentrated water flow area* – Natural or man made areas where runoff is channeled and conveyed directly to surface water or groundwater. The term includes ditches, waterways, gullies and swales.

*Crop group* – A crop with a given yield potential and consistent management approach. Appendix 1 of this document provides some examples of commonly used crop groups in Pennsylvania.

*Crop Rotation* – The process of changing the crops planted in a field in a planned sequence.

*Environmentally Sensitive Areas* – An area or feature on a farm, on or near which special care is needed to ensure water quality is protected. Examples include streams, lakes, sinkholes, active water wells, gullies, waterways, and above ground intakes to pipe outlet terraces

*Farmer* – The owner and/or operator of an agricultural operation and any person that land applies manure or agricultural process wastewater.

*Farm* – An agricultural operation or other land where there is land application of manure or agricultural process wastewater.

*Farmstead* – Buildings and adjacent surface areas of a farm

*Freeboard* – The vertical distance between the maximum designed surface elevation of manure or agricultural process wastewater in a liquid or semisolid manure storage facility and the top elevation of the facility.

*Improved stacking pad* – A permanent, improved, stabilized and compacted surface area with runoff controls to prevent a pollutional discharge used for the storage of solid manure which is capable of being stacked at least 4 feet high.

*Manure*- Animal excrement (urine and feces), including poultry litter and composted manure, which is produced at an agricultural operation. The term includes materials such as bedding, waste water and raw materials which are commingled with that excrement.

*Manure group* - A portion of the manure generated on an agricultural operation that is distinct due to factors including but not limited to: animal type(s), storage area, handling practices, manure consistency, anticipated nutrient content and application season.

*Manure Management Manual (MMM)* – The guidance manual published by the Pennsylvania Department of Environmental Protection that is entitled “Manure Management Manual for Environmental Protection” including its supplements and amendments. The manual describes approved manure management practices for all agricultural operations as required by regulations implemented by the Pennsylvania Department of Environmental Protection.

*Mehlich 3-P* – The soil test method required to be used to determine phosphorus levels in a field for purposes of the Manure Management Manual.

*Manure Management Plan (MMP)* – A site specific plan outlining the agreed upon and acceptable practices for the land application of manure and agricultural process wastewaters under the regulations implemented by the Pennsylvania Department of Environmental Protection. The term includes a plan established using the format contained in this Land Application of Manure Supplement to the Manure Management Manual.

*Mechanical application* – The application of manure by a person through any mechanical means such as a manure spreader, irrigation system, horse drawn equipment or a pitch fork. The term does not include direct application of manure by animals on pastures and/or in animal concentration areas.

*Nutrient Management Plan (NMP)* – A site specific plan outlining the agreed upon and acceptable practices for the handling and land application of all plant nutrient sources meeting the requirements established under Pennsylvania’s Nutrient Management Program implemented through the regulations of State Conservation Commission (25 Pa. Code Chapter 83).

*Pasture* – Land used for grazing animals that is managed:

1. under a grazing plan meeting the requirements of the Natural Resources Conservation Service Pennsylvania Technical Guide Practice Standard 528 for Prescribed Grazing or

2. by assuring that there is dense vegetation in the field during the growing season. Dense vegetation means that the pasture is managed to minimize bare spots and keep average vegetation height across the pasture to at least 3 inches high.

*Permanent vegetated buffer* – A permanent strip of perennial vegetation (existing or established) parallel to the contours of, and perpendicular to, the dominant slope of the field, located between the field and the protected land feature (stream, lake, pond, sinkhole) and has flow characteristics that are primarily sheet flow with no obvious concentrated flow (converging rills, ephemeral gullies, classic gullies) into/within/leaving the buffer.

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## PREFACE

This publication supersedes all previous *Field Application of Manure* supplements to the *Manure Management for Environmental Protection* manual published by the Pennsylvania Department of Environmental Protection (DEP). Due to changes in recommendations and practices, copies of the previous manuals should be discarded.

The Manure Management Manual for Environmental Protection and its supplements provide guidelines that comply with DEP regulations concerning animal manures and agricultural process wastewaters. The criteria established in this manual are required to be followed by all operations applying manure or agricultural process waste water, or managing an Animal Concentration Area (ACA). Farmers applying manure; operating an ACA; or pasture or who do not follow the criteria outlined in this manual or do not have a permit or approval from DEP will be in violation of state, and in some cases federal water pollution control laws.

The provisions of this Land Application of Manure Supplement work together with the Agricultural Erosion and Sediment Control Plan required for agricultural plowing and tilling and managing Animal Heavy Use Areas (also known as Animal Concentration Areas). Much of the information developed using this manual can be used as part of the Agricultural Erosion and Sediment Control Plan.

Some farmers may have operations that are Concentrated Animal Operations (CAOs) under the Nutrient and Odor Management Act Regulations, or Concentrated Animal Feeding Operations (CAFOs) under Pennsylvania's National Pollutant Discharge Elimination System (NPDES) CAFO program. These farmers must follow requirements different from those found in this manual.

**Commonwealth of Pennsylvania**  
**Department of Environmental Protection**  
**Bureau of Watershed Management**  
**Harrisburg, Pennsylvania**  
**June \_\_\_\_\_**

## TABLE OF CONTENTS

Requirements for Manure Management Plans.....	1
Manure Management Plan Forms and Instructions .....	2
Section 1 - General Information .....	3
Contact Information Page .....	3
Operational Information Page.....	4
Section 2 - Mechanical Manure Application .....	6
Environmentally Sensitive Areas .....	6
Winter Application of Manure .....	8
Manure Application Rates and Timing.....	10
Manure Management Plan Summary .....	11
Section 3 - Farm Map .....	13
Section 4 – Recordkeeping .....	15
Manure Application Rate Record .....	16
Crop Yield Record .....	17
Manure Transfer Record .....	17
Manure Storage Record .....	18
Section 5 - Managing Manure Storage in Structures and Stockpiling/Stacking Areas .....	19
Manure Storage Facilities .....	20
Manure Stockpiling/Stacking.....	21
Section 6 - Pasture Management.....	21
Section 7 - Animal Concentration Areas (ACAs).....	22
MANURE MANAGEMENT PLAN CHECKLIST .....	24
 Appendix 1 Manure Application Rate Charts and Instructions	

## REQUIREMENTS FOR MANURE MANAGEMENT PLANS

Every farm in Pennsylvania that land applies manure or agricultural process wastewater (generated on the farm or received from an importer), regardless of size, is required to have and implement a written Manure Management Plan. This includes manure and agricultural process wastewater application by various types of equipment and/or direct application of manure by animals on pastures and in animal concentration areas. In other words, farms that do not mechanically apply manure but which do have pastures or animal concentration areas still need a manure management plan.

**The Manure Management Plan format in this manual must be used for the written manure management plan unless the farmer gets approval from the DEP for an alternative plan format.**

In addition to developing a written plan, the farmer must also complete and maintain records to demonstrate compliance with the Manure Management Plan. The DEP has developed a Manure Management Plan Workbook for farmers to use that contains the forms described in this manual. Requests for approval of alternative formats should be directed to the DEP Division of Conservation Districts and Nutrient Management, PO Box 8465, Harrisburg, PA 17105-8465, phone number 717-787-5367.

Manure Management Plans can be prepared by the farmer although the farmer may benefit from obtaining assistance from individuals trained and experienced in developing these plans. Assistance may also be available from a variety of sources including certified nutrient management specialists, certified manure brokers and haulers, county conservation districts, Natural Resource Conservation Service (NRCS) staff, Penn State University staff and farm organizations.

Farms defined as Concentrated Animal Feeding Operations (CAFOs) and Concentrated Animal Operations (CAOs) are required to develop written plans as well. The nutrient management plans for these animal operations are required to follow a different more detailed process and must be developed by a Certified Nutrient Management Specialist.

In addition to obtaining approval from the DEP, animal operations that do not want to follow the planning process outlined in this manual may obtain the assistance of a certified planner and utilize the nutrient management planning process under Act 38 used by the CAFOs and CAOs. This alternative planning process may provide for some added flexibility in the application of manure on the farm.

## **MANURE MANAGEMENT PLAN FORMS AND INSTRUCTIONS**

The following Manure Management Planning forms and instructions serve as the standard plan format for farmers who own or manage operations where manure or agricultural process wastewater is land applied. Acceptable alternative formats include those approved for use under Pennsylvania's Nutrient and Odor Management Act (Act 38) and the Concentrated Animal Feeding Operations programs. Other planning formats and procedures require DEP approval.

Questions concerning the manure management plan should be directed to the DEP regional office serving the county or alternatively to the county conservation district. Requests for approval of alternative formats should be directed to the DEP Division of Conservation Districts and Nutrient Management, PO Box 8465, Harrisburg, PA 17105-8465, phone number 717-787-5367.

The Manure Management Plan has seven sections as outlined below. The first four sections are required for all manure management plans. Section 5 is required if the farm stores either liquid or solid manure. Sections 6 and 7 are required if the farm pastures animals or has animal concentration areas. This manual provides directions on how to complete each of the seven plan sections, the required criteria for developing and implementing a manure management plan, as well as an example of how to complete the forms. Appendix 1 includes the Manure Application Rate Charts that farmers can use to "look up" application rates for specific manure types and crops. In addition, the DEP has developed a Manure Management Plan Workbook for farmers to use that contains a blank copy of the forms.

Section 1 - General Information. This section includes general information about the farm. **This section is always required in a manure management plan.**

Section 2 – This section documents manure application rates and timing for mechanical application of manure. **This section is always required in a manure management plan.**

Section 3 – Farm Map. This section provides a farm map identifying the location of fields, structures, environmentally sensitive areas and manure application setbacks. **This section is always required in a manure management plan.**

Section 4 – Recordkeeping. This section provides a description of required recordkeeping and provides forms that can be used for recordkeeping. **This section is always required in a manure management plan.**

Section 5 - Managing Manure Storage in Structures and Stockpiling/Stacking Areas. **This section is only necessary if the farm has a manure storage facility or stockpiles or stacks manure.**

Section 6 - Managing Manure in Pastures. This section is **only necessary if the farm has one or more pasture fields.**

Section 7 - Managing Manure in Animal Concentration Areas (ACAs). **This section is only necessary if the farm has one or more Animal Concentration Areas** (such as barnyards, feedlots, animal exercise areas, etc.).

## Section 1 - General Information (All farms must complete this section)

This section includes a contact information page for the plan listing the farm name and address, the plan preparer name and address and the date the plan was developed or updated. The operation information page provides general information about the farm and, depending on the responses, directs the farmer to other sections of the plan that must be completed.

- Contact Information Page.** Insert the contact information for the farm, and the date of the plan below. If the plan is prepared by someone other than the farmer, include the name, address and phone number of the person that prepared the plan on the contact information page. The following is a sample of how the Contact Information Page may look for a given operation:

Farm name	<u>Sample Farm</u>
Name of Owner/Operator	<u>Mr. and Mrs. John Q. Public</u>
Operation Street address	<u>23 Sample Road</u>
City, State and Zip Code	<u>Farm City, PA. 12345</u>
Phone number (home/barn)	<u>717-123-4567</u>
(cell)	<u>717-012-3456</u>
Email address	<u>samplefarm@email.com</u>

### **Name of person preparing the Manure Management Plan (if other than owner/operator)**

Preparer name	<u>Mr. John Smith</u>
Preparer organization	<u>Fertilizer Sales Company</u>
Street address	<u>35 Spreader Lane</u>
City, State and Zip Code	<u>Spreader City, PA. 23456</u>
Phone number (business)	<u>601-123-4567</u>
(cell)	<u>601-012-3456</u>
Email address	<u>fertilizersales@sales.com</u>

**Date of Development** April 1, 2011

Note that the manure management plan must be evaluated by the owner/operator annually and updated when necessary to keep the plan consistent with farm management practices.

2. **Operation Information Page.** Fill in responses on the Operational Information Page on page 5.
- a. List the number of acres, owned and/or rented, available for **mechanical manure application**.
  - b. List the **animal information** in the spaces provided. Use additional sheets if necessary.
  - c. List the **crop rotation** used on the farm.
  - d. Identify any **environmentally sensitive areas** located on the farm and rented land or within 100 feet from the property boundary of the farm or rented land. If you identify any environmentally sensitive areas, you must complete the Environmentally Sensitive Areas Worksheet described on pages 6 and and mark these areas on the farm map to be used by the manure applicator.
  - e. Indicate whether there will be **winter application** of manure on the crop lands or other fields. If so, complete the winter application worksheet described on pages 8 and 9. Winter application is the mechanical application of manure from December 15 through February 28, or anytime the ground is frozen at least 4 inches, or anytime that the ground is snow covered.
  - f. If the farm has **manure storage facilities**, including concrete tanks, metal or other fabricated tanks, under-building structures or earthen and synthetically-lined manure storage ponds or lagoons, you must complete Section 5 described on pages 19 and 20.
  - g. Indicate whether the farm has **solid manure stockpiling/stacking areas**. If the farm has manure stockpiling/staking areas (either at the barn or in crop fields), you must meet the requirements in Section 5 on page 21.
  - h. If the farm pastures animals, list the number of acres, owned and/or rented, used for **pastures**. If the farm has or uses pasture areas, you must meet the requirements of Section 6 on page 21.
  - i. If the farm has **Animal Concentration Areas (ACAs)**, list whether they are located on owned or rented land. ACAs are barnyards, feedlots, loafing areas, exercise lots or other similar animal confinement areas as outlined in the definitions section of the manual. Farms with ACAs must complete Section 7 described on pages 22 and 23.

The following is a sample of how the Operation Information Page may look for a given operation

### Operation Information Page (Example)

a. **Acres of the operation:** Owned 120 Rented 50

b. **Animals on the operation:**

Animal type	Animal # (normal production day)	Days on farm per year
<i>Dairy cows</i>	100	365
<i>Dairy heifers</i>	45	365
<i>Dairy calves</i>	20	365
<i>Beef steers</i>	2	260

c. **Crop Rotation used on the Operation (use additional pages if necessary:** 4 years corn  
silage, 4 years mixed hay

d. **Environmentally Sensitive Areas:**

Private or public drinking water wells Yes  No   
Streams, lakes or ponds Yes  No   
Sinkholes Yes  No   
Areas of concentrated flow including swales, ditches, gullies, etc. Yes  No   
For winter application, above ground inlet to agricultural drainage system Yes  No

All farms containing environmentally sensitive areas must complete the Environmentally Sensitive Areas worksheet on pages 6 and 7 and develop a map of environmentally sensitive areas.

e. **Winter Application:** Is manure applied during the winter? Yes  No   
If yes, you must complete the Winter Application Worksheet on pages 8 and 9.

f. **Manure Storage Facilities.** Is manure stored in a manure storage facility (concrete tank, metal tank, under building structure, clay, or synthetic lined pond or lagoon, etc.)? Yes  No   
If yes, you must meet the requirements in Section 5 - Managing Manure Storage in Structures as described on pages 19 and 20.

g. **Solid Manure Stockpiling or Stacking**

Is manure stockpiled or stacked in outdoor areas? Yes  No   
If yes, you must meet the requirements in Section 5 - Managing Manure Stockpiling/Stacking Areas as described on page 21.

h. **Pasture Areas:** Yes  If yes list acres: Owned 20 Rented      No   
If yes, you must meet the requirements in Section 6 – Managing Manure in Pastures as described on page 21.

i. **Animal Concentration Areas (ACAs):** Yes  If yes: Owned  Rented  No   
If yes, you must meet the requirements in Section 7 – Managing Manure in ACA as described on pages 22 and 23.

## Section 2 – Mechanical Manure Application Rate and Timing (All farms must complete this section)

This portion of the plan identifies fields containing environmentally sensitive areas, plan requirements for winter application and the application rates and timing for each crop group. It also identifies fields containing environmentally sensitive areas, and includes plan requirements for winter application. The plan must include manure and agricultural process wastewater from all sources including both manure generated on the farm and manure imported to the farm.

The information developed under this section is placed on the Manure Management Plan Summary as shown on page 12. You need to follow your completed summary when you apply manure to be sure that you meet your Manure Management Plan requirements.

### 1. Environmentally Sensitive Areas Worksheet

Farmers may not mechanically apply manure within the following areas, regardless of the slope of the land or the ground cover:

1. Within 100 feet of the top of the bank of a stream which generally flows during the time of year when manure is being applied and within 100 feet of a lake or a pond. In other words, for a stream that only flows in the spring, the setback is only applicable to manure applications during that time of the year. In addition, a stream would not include a culvert outlet from a roadside swale that drains stormwater into a field where the stormwater infiltrates into the ground.

\* A farmer can reduce this setback to 50 feet where a soil test done within the last 3 years shows phosphorus levels (Mehlich 3-P levels) of less than 200 parts per million (ppm) and the farmer uses no-till practices and if residue is removed, plants a cover crop on the field .

\* The setback can be further reduced to 35 feet where the farmer establishes or maintains a permanent vegetated buffer along the stream.

The 100 foot setback cannot be reduced by use of the practices listed above for manure applied during the winter period. Winter applied manure requires a 100 foot setback from streams, lakes and ponds, regardless of conservation practices used within that 100 foot distance.

2. Within 100 feet of an existing open sinkhole.
3. Within 100 feet of an active private drinking water source such as a well or a spring.
4. Within, at a minimum, 100 feet of an active public drinking water source. In some cases state and federal laws may establish greater distances.
5. Within the channel of a non-vegetated concentrated water flow area such as a swale, gully or a ditch. For example, this would include a rock lined swale but would not include a grassed waterway.
6. For winter application, a setback of 100 feet from an above ground inlet to an agricultural drainage system (such as inlet pipes to piped outlet terraces) if surface water flow is toward the above ground inlet.

- a. Identify each field (both owned and rented) that contains or borders on an environmentally sensitive area.
- b. Identify the environmentally sensitive feature and setback distance for mechanical application of manure (see discussion above).
- c. These setback or restricted areas need to be shown on the farm map described in Section 3 on page 13. An excellent map to use is your Agricultural Erosion and Sediment Control Plan (or Conservation Plan) map. You can also use a US Geological Survey (USGS) map, “Pa. One-Stop” map or a “hand drawn” map.

The following is a sample of how the Environmentally Sensitive Areas Worksheet may look, in part, for a given operation:

### ENVIRONMENTALLY SENSITIVE AREAS WORKSHEET

#### Example

Field Identification (a)	Environmentally Sensitive Area (stream, lake, pond, sinkhole, drinking water source, concentrated flow area) (b)	Setback or restricted distance (see page 6) (b)	Is this setback restricted area shown on the plan map (yes/no) (c)
<i>1</i>	<i>Stream</i>	<i>50' (cover crop)</i>	<i>Yes</i>
<i>16</i>	<i>Home water well</i>	<i>100'</i>	<i>Yes</i>
<i>10</i>	<i>Stream</i>	<i>35' (buffer)</i>	<i>Yes</i>

## 2. Winter Application of Manure Worksheet

For purposes of this portion of the Manure Management Plan, winter includes any one of the following:

1. December 15 through February 28; **or**
2. Anytime the ground is frozen at least 4 inches; **or**
3. Anytime that the ground is snow covered.

Winter application can lead to significant environmental problems if manure is not prevented from getting into streams, lakes and ponds. Winter application is discouraged. DEP encourages farmers to seek other management solutions such as solid manure stacking, and liquid manure storage. Assistance may be available through NRCS or the county conservation district. Farmers that apply manure in the winter will need to meet the following criteria:

1. The maximum application rate **for the winter season** is 5,000 gallons per acre of liquid manure or 20 tons per acre of dry non-poultry manure per acre and 3 tons of dry poultry manure per acre. As an alternative maximum rate, a farmer can choose to calculate and apply manure to the phosphorus removal rate for the coming year's crops.
2. A setback of 100 feet from an above ground inlet to an agricultural drainage system (such as inlet pipes to piped outlet terraces) if surface water flow is toward the above ground inlet.
3. All fields must have at least 25% crop residue at application time or an established and growing cover crop. Hay fields, sod and pasture fields and fields with an established cover crop should be given highest priority for winter application.  
\*The 25% cover provision would generally exclude winter manure application to corn silage fields that do not have an established cover crop, corn grain fields where a significant portion of the fodder has been removed, and low yielding soybean fields.
4. Because slope is an important factor, all winter application must be done consistent with an agricultural erosion and sediment control plan meeting the DEP regulations. Manure may not be applied during winter on fields with slopes greater than 15%. NRCS soil survey slope designations of "A", "B" or "C" slopes are acceptable for winter application.
5. An application setback of 100 feet from the top of the bank of a stream which generally flows during the winter or spring, and within 100 feet of a lake or a pond, along with all the other application setbacks outlined earlier in this section.

Farmers using a Certified Nutrient Management Planner to develop a nutrient management plan for the farm under the Nutrient Management Act, (Act 38), or obtaining approval from the DEP or county conservation district, may be provided some added flexibility in the application of manure during the winter.

- a. Identify each field (both owned and rented) where there may be winter spreading by mechanical means.
- b. Identify whether the manure is liquid or solid.
- c. Identify the maximum application rate of manure for each application in the winter season for each field during the winter.
- d. For each field, identify the percentage of crop residue (or the previous year's crop and the chosen field management practices) or the type of cover crop that will be growing on the field in the winter.
- e. Identify the slope of the field where winter application will take place.  
 \*Field slope designations will generally be identified in your Agriculture Erosion and Sediment Pollution Control Plan (conservation plan). Further assistance may be available through your local National Resource Conservation Service (NRCS) office, conservation district, or a Certified Nutrient Management Planner.

In the Environmentally Sensitive Areas Work sheet chart on page 7, and in the plan map described in Section 3 on page 13, identify any environmentally sensitive features in the winter application fields. Also identify the applicable setbacks remembering that there is an additional winter application setback for above ground inlets to an agricultural drainage system (such as inlet pipes to pipe outlet terraces) if surface water flow is toward the above ground inlet.

The following is a sample of how the Winter Application Worksheet may look, in part, for a given operation:

**WINTER APPLICATION WORKSHEET**  
**Example**

<b>Field Identification (a)</b>	<b>Type of Manure (from the manure application charts) (b)</b>	<b>Winter Season Application Rate (c)</b>	<b>Percentage of Crop Residue (d)</b>	<b>Type of Cover Crop (if applicable) (d)</b>	<b>Field Slope Percentage (e)</b>
<i>22</i>	<i>Solid dairy</i>	<i>20 ton/acre</i>	<i>NA</i>	<i>Grass Hay</i>	<i>3-8%</i>

## 7. Manure Application Rates and Timing

This section of the plan must describe the manure application rate by crop group. It includes manure imported to the farm. The Manure Application Plan Summary Worksheet on page 12 is a summary sheet of the manure application amounts and timing developed using the process described below. This summary is used by the manure applicator to identify acceptable application rates. Farmers need to identify their fields by name or number in order to use the chart.

In determining manure application rates, farmers have three options.

1. Use the values from the Manure Application Rate Charts in Appendix 1 based on the crop group and manure type; **or**
2. Establish application rates based on the applicable Nitrogen or Phosphorus Balance Worksheets (not including the Pa. Phosphorus Index option); **or**
3. Have an individual qualified to implement the Pa Phosphorus-Index (such as a Certified Nutrient Management Planner or a Level 2 Certified Manure Broker) develop this section of the plan using the “Pa. Phosphorus – Index”.

As you move down this list of three options, the planning process and record keeping requirements are more detailed. However, these more detailed processes may provide additional flexibility to the farmer in the application of manure.

This section provides instructions for use of the Manure Application Charts. Using the charts is suitable for most farmers. However, if you import manure from a CAO or CAFO, grow a crop not listed in these charts, have animals not listed in the charts, or want additional precision in the calculation of application rates, you can use the Nitrogen or Phosphorus Nutrient Balance Sheets that are used by certified brokers and haulers and applicators. These Nutrient Balance Sheets and instructions for filling them out are available from the county conservation district office, through Certified Nutrient Management Specialist, and from Certified Manure Brokers. You can use a combination of approaches (charts for some fields and balance sheets for others).

- a. **Manure Application Rate and Timing Charts** – To use the charts in Appendix 1, you must know at least the type of manure, the timing, method of application, the crop to be grown and the realistic optimistic crop yield. These charts have only been developed for certain more common manure types and crops. For other manure types or other crops not included in the charts, the **Nitrogen or Phosphorus Nutrient Balance Sheet** (available from the DEP regional office, conservation district agricultural, Penn State Extension office, Certified Nutrient Management Specialist or on the internet) or the **Phosphorus Index (Option 3 on the Balance Sheet)** (developed by an authorized planner) must be used.
- b. If you have not done a soil test for phosphorus in the past 3 years or if the soil test results show phosphorus levels (Mehlich 3-P levels) greater than 200 ppm, you must use the phosphorus removal charts on pages 21 to 35 of Appendix 1. If you completed a soil test within the past 3 years which included an assessment of phosphorus levels in the soil and the results show phosphorus levels (Mehlich 3-P levels) of less than 200 ppm, you can use the nitrogen based charts on pages 5 to 19 of Appendix 1.

- c. Enter the application rate for each crop group on the **Manure Management Plan Summary** on page 12.

#### 4. **Manure Management Plan Summary**

The form described in this section provides a summary of the mechanical manure application rates by crop group for a given season. This form needs to be used by the individuals applying manure along with the application setback/restrictions shown on the farm map described in Section 3 on pages 13.

- a. List the crop groups (based on crop type and realistic expected yield) that are grown on the farm and any rented property in the first column.
  - \* Remember that if the farm uses more than one manure group on the crop, a separate crop listing needs to be provided for each manure group. In addition, if manure is split applied on grass hay fields in both spring and summer, the plan would show a line for grass hay application in the spring with the spring application listed and separate line for grass hay application in the summer, with the summer application rate listed.
- b. List the manure group to be used on the crop group (such as solid dairy, liquid dairy, liquid swine, solid layer, solid broiler, etc.).
- c. List the application season, Spring, Summer, Fall or Winter.
  - \* Each crop group where winter application is planned must be evaluated using the **Winter Application** worksheet provided on page 9.
- d. List the application rate for each application of manure on the field. For liquid manure the rate is expressed in gallons and for solid manure the rate is expressed in tons.
  - \* For liquid manure, the rate cannot exceed 9000 gallons per acre per application and where applicable the summary must include a note indicating that the manure application will be split with no one application exceeding 9000 gallons per acre. For split applications, there can be no evidence of manure pooling after the initial application, before the next application can take place.Also identify the method for calculating the application rate. Use “C” if the rate comes from the **Manure Application Rate Charts** in Appendix 1, “NBS” if the rate comes from a **Nitrogen or Phosphorus Nutrient Balance Worksheet** and “PI” if the rate was developed by an authorized planner using the **Phosphorus Index**
- e. List the application season and incorporation timing. Incorporation timing is the number of days after application of manure before the manure is mechanically incorporated using equipment such as an injector system, a disk, etc..
- f. List the commercial Nitrogen (and where applicable Phosphorus) fertilizer planned to be used to meet crop nutrient needs for the various crop groups.
- g. List the fields where the crop group may be used.

**SECTION 2 – MANURE APPLICATION RATES AND TIMING**  
**MANURE MANAGEMENT PLAN SUMMARY**  
 Use Additional Sheets as Necessary

<b>Crop Group and Yield (a)</b>	<b>Manure Group (b)</b>	<b>Application Season (c)</b>	<b>Planned Application Rate from C, NBS, PI * (d)</b>	<b>Incorporation Timing (e)</b>	<b>Commercial Fertilizer Application Rate (f)</b>	<b>Fields where this crop group can be used (g)</b>
<i>Corn silage 21 tons</i>	<i>Liquid dairy</i>	<i>Spring</i>	<i>9,000 gallons C</i>	<i>Unincorporated</i>	<i>110 lbs N</i>	<i>1-25</i>
<i>Corn silage after alfalfa 21 tons</i>	<i>Liquid dairy</i>	<i>Spring</i>	<i>9,000 gallons C</i>	<i>Unincorporated</i>	<i>18 lbs N</i>	<i>1-25</i>
<i>Corn silage 21 tons</i>	<i>Liquid dairy</i>	<i>Fall</i>	<i>9000 gallons</i>	<i>Unincorporated</i>	<i>110 lbs N</i>	<i>1-25</i>
<i>Corn silage 21 tons</i>	<i>Solid dairy</i>	<i>Fall</i>	<i>25 tons C</i>	<i>Unincorporated</i>	<i>110 lbs N</i>	<i>1-25</i>
<i>Grass Hay 5 tons</i>	<i>Liquid Dairy</i>	<i>Spring</i>	<i>7000 gallons C</i>	<i>Unincorporated</i>	<i>190 lbs N</i>	<i>1-25</i>
<i>Grass Hay 5 tons</i>	<i>Liquid Dairy</i>	<i>Fall</i>	<i>7000 gallons C</i>	<i>Unincorporated</i>	<i>190 lbs N</i>	<i>1-25</i>
<i>Grass Hay 5tons</i>	<i>Solid Dairy</i>	<i>Winter</i>	<i>20 tons C</i>	<i>Unincorporated</i>	<i>150 lbs N</i>	<i>22</i>

C – The application rate was taken from the charts in Appendix 1. **The first page of Appendix 1 contains an explanation and example of how to use the rate charts when filling out this Manure Management Plan Summary**

NBS – The application rate was calculated using Nutrient Balance Sheet

PI – The application rate was calculated by a Certified Nutrient Management Planner using the Phosphorus Index

**No single application can exceed 9,000 gallons. For applications rates greater than 9,000 gallons, the application must be split into multiple applications with no evidence of pooling between applications.**

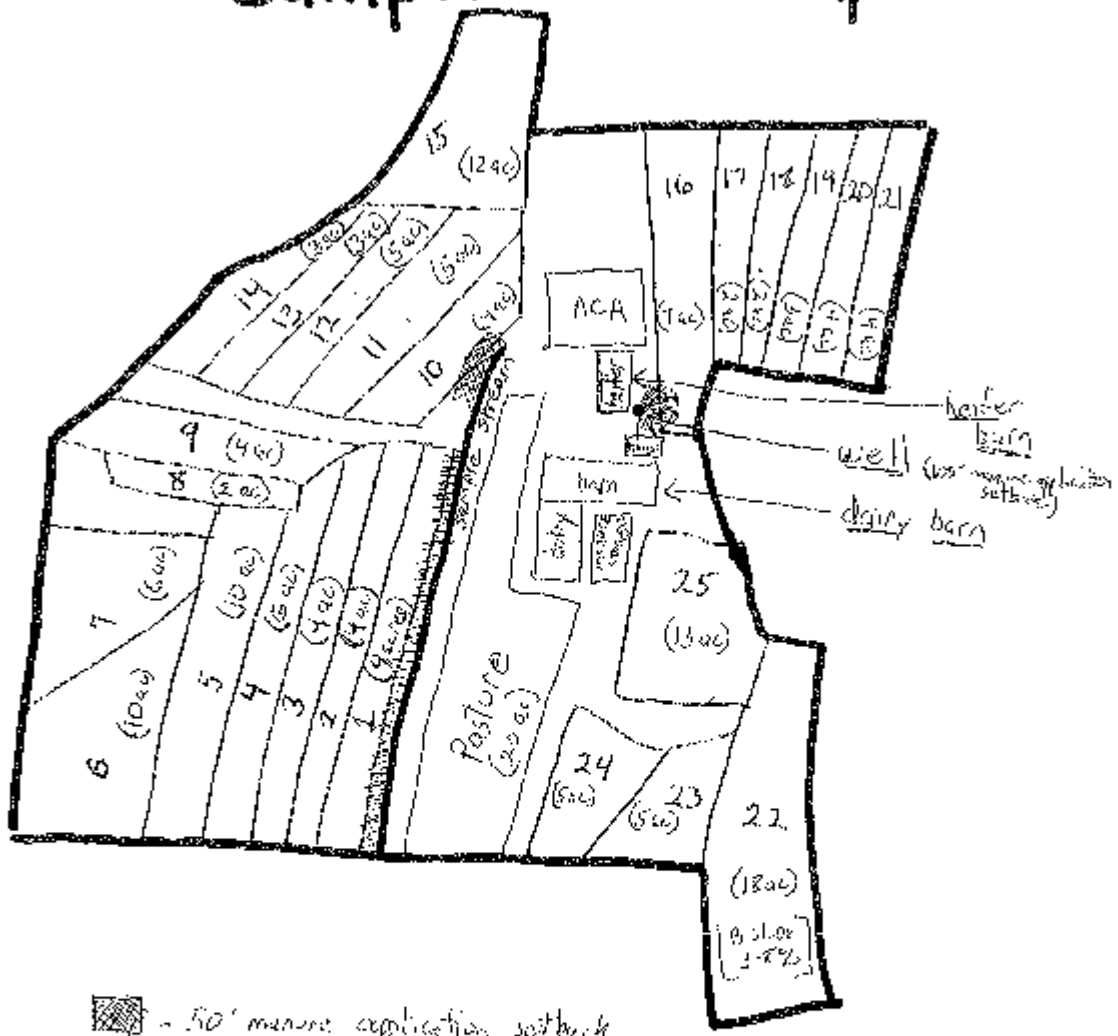
**COLUMN LETTERS REFER TO INSTRUCTIONS ON PAGE 11**




### **Section 3 – Farm Map (All farms must complete this section)**

The manure management plan must include a map or maps drawn to scale identifying the lands included in the plan. An excellent map to use is your Agricultural Erosion and Sediment Control Plan (or Conservation Plan) map. You can also use a US Geological Survey (USGS) map or a “hand drawn” map. If you have access to a computer, Penn State University has a “One Plan” mapping process which is available at [www.paonestop.org](http://www.paonestop.org). The map must identify:

1. The location and boundaries of the farm.
2. Individual field boundaries for all fields included in the plan.
3. Field descriptions and acreage of each field.
4. The identification of slopes on the agricultural operation and the NRCS slope designation for all fields being used for winter application. An NRCS soil survey map can be used to satisfy this requirement. These soil maps are available at the county conservation district or NRCS office.
5. The location of all environmentally sensitive and restricted areas identified on the Environmentally Sensitive Areas Worksheet.
6. The location of proposed or existing manure storage facilities.
7. The location of manure stockpiling or stacking areas.
8. The location of all pastures.
9. The location of all Animal Concentration Areas.
10. The location of all roads adjacent to or within the farm.

# Sample Farm Map



-  = 50' manure application setback
-  = 35' manure application setback
-  = 100' manure application setback

## Section 4 – Recordkeeping

Recordkeeping is an important part of every Manure Management Plan. Farmers are required to maintain two types of records. First, the worksheets completed as part of the development of the Manure Management Plan which must be retained and be made available to the DEP or the county conservation district or other authorized agencies upon request. Second, the farmer must maintain records to demonstrate that the Manure Management Plan has been implemented. Again, these records must be made available to the DEP or the county conservation district upon request.

The DEP has developed a Manure Management Plan Workbook for farmers to use that contains the forms described in this manual. Once completed, this Workbook will become your Manure Management Plan which must be implemented. The staff from the DEP or county conservation district will request to see a copy of this plan when they visit your farm. You should also provide a copy of the Manure Management Plan Summary Worksheet to the individual that land applies manure at your farm or on any rented land. Failure to follow the plan is a violation of state, and in some cases, federal law.

Section 3 of these instructions includes a sample farm map. This sample farm map was developed to demonstrate how to show the manure management requirements in this manual and the agricultural erosion and sediment pollution control plan requirements for agricultural plowing and tilling and animal heavy use areas (called Animal Concentration Areas in this manual). You need to include a farm map as part of your Manure Management Plan. That map must also be available for review by DEP or conservation district staff.

The Manure Management Plan Workbook also contains blank reporting forms that you can use to document that you are properly implementing the manure management plan requirements. You can use these forms, or you can design your own similar forms that would document these same requirements. The DEP recognizes that many farmers already have a system of recordkeeping that includes the same information as in the sample recordkeeping documents. Remember that you are required to keep manure application records and records documenting inspection of your manure storage facilities and stacking areas. Also, accurate records, such as crop yields and manure generation will assist in making future nutrient application recommendations for specific cropping rotations. The staff from the DEP or county conservation district will request to see a copy of these records when they visit your farm.

### 1. Manure Application Records

The following three sets of sample records are used to demonstrate that the field application requirements of the Manure Management Plan are being implemented. Each of these records covers one calendar year of manure application. These records must be retained for a period of at least three years and must be available for review by the DEP or the county conservation district upon request. Remember that you can also use an existing recordkeeping system if it includes the same type of information as the sample records.

**MANURE APPLICATION RATE RECORD**  
**JANUARY 1, 2011 THROUGH December 2011**

Use Additional Sheets as Necessary

**Example**

<b>Date</b>	<b>Field Identification</b>	<b>Acres</b>	<b>Manure Group</b>	<b>Crop Group</b>	<b>Application Rate</b>	<b>Notes</b>
4/22	1,3,5,7	24	Liquid dairy	Corn silage	9,000 gal	
4/25	2,4,6,8	22	Liquid dairy	Grass Hay	7,000 gal	
10/5	9,11,13	12	Solid dairy	Corn silage	25 tons	
10/15	10,12,14,16	29	Liquid dairy	Grass Hay	7,000 gal	
10/15	15,17,19	17	Liquid dairy	Corn silage	9,000 gal	

**CROP YIELD RECORD**  
**JANUARY 1, 2011 THROUGH December 31, 2011**

Use Additional Sheets as Necessary

Example

<b>Field Identification</b>	<b>Crop Group</b>	<b>Date Harvested</b>	<b>Yield Goal</b>	<b>Actual Yield Harvested</b>	<b>Notes</b>
<i>1,3,5,7,9,11,13 15,17,19,21, 23,25</i>	<i>Corn silage</i>	<i>9/10</i>	<i>21 tons</i>	<i>22 tons</i>	
<i>2,4,6,8,10,12, 14,16,18,20, 22,24</i>	<i>Grass hay</i>	<i>2 times/yr.</i>	<i>5 tons</i>	<i>4 tons</i>	

**MANURE TRANSFER RECORD**  
**JANUARY 1, 2011 THROUGH December 31, 2011**

Use Additional Sheets as Necessary

Example

<b>Date</b>	<b>Name of Importer/Broker</b>	<b>Address and Phone Number Importer/Broker</b>	<b>Manure Group</b>	<b>Amount of Manure Transferred</b>	<b>Crop Group and Application Rate</b>
<i>4/20</i>	<i>Bill Jones</i>	<i>55 Manure Road Manure Town 717-123-4567</i>	<i>Solid beef</i>	<i>20 tons</i>	<i>Unknown</i>
<i>10/5</i>	<i>Bill Jones</i>	<i>55 Manure Road Manure Town 717-123-4567</i>	<i>Solid Beef</i>	<i>15 tons</i>	<i>Unknown</i>

## 2. Manure Storage Records

In order to prevent discharges of manure from manure storage facilities, it is important to inspect these facilities on at least a monthly basis. The form below is used for these routine inspections. Whenever a problem is identified, you need to immediately take steps to resolve the problem.

### MANURE STORAGE FACILITY RECORD MONTHLY INSPECTION FORM Use Additional Sheets as Necessary Example

<b>Storage Name</b>	<b>Inspection Date</b>	<b>Manure Depth (liquid)</b>	<b>Depth to Freeboard (liquid)</b>	<b>Leak Detection System Inspections. Are there any leaks, overflows, or seapages. Describe.</b>	<b>Structural Integrity. Are there cracks, erosion, slope failures, liner deterioration, rodent holes, large vegetation, excessive or lush vegetation, fencing issues, loading area issues? Describe.</b>
<i>Liquid dairy</i>	<i>1/1/2010</i>	<i>3.5 feet</i>	<i>7.5 feet</i>	<i>None</i>	<i>No problems observed</i>
<i>Same</i>	<i>2/1/2010</i>	<i>5 feet</i>	<i>6 feet</i>	<i>None</i>	<i>Same</i>
<i>Same</i>	<i>3/1/2010</i>	<i>6.5 feet</i>	<i>4.5 feet</i>	<i>None</i>	<i>Same</i>
<i>Same</i>	<i>4/1/2010</i>	<i>8 feet</i>	<i>3 feet</i>	<i>None</i>	<i>Same</i>
<i>Same</i>	<i>5/1/2010</i>	<i>1 foot</i>	<i>10 feet</i>	<i>None</i>	<i>Same</i>
<i>Same</i>	<i>6/1/2010</i>	<i>2.5 feet</i>	<i>8.5 feet</i>	<i>None</i>	<i>Same</i>

## **SECTION 5 – MANAGING MANURE STORAGE IN STRUCTURES AND STOCKPILING/STACKING AREAS (All farms with manure storage or stacking must complete this section)**

The manure management plan must assure that manure and agricultural process wastewater not immediately applied is properly stored. Manure storage facilities are used for safely containing manure and agricultural process wastewater until it is able to be properly applied or processed. Manure storage facilities include structures such as earthen ponds or lagoons with various liners such as concrete, bentonite, and/or membrane products like HDPE, concrete tanks located outside or under the barn, above ground steel tanks and roofed stockpiling/stacking facilities. If agricultural process wastewater (such as milkhouse waste, wash down water, egg wash water, etc.) is stored in the manure storage facility this added agricultural process wastewater volume must be included in the plan. If the agricultural process wastewater is stored separately, the plan must describe the storage facility for this wastewater.

The plan must list all existing manure storage facilities and any planned expansion or additions. For liquid or semi-solid manure storage facilities, the plan must document the type, date of construction, estimated capacity, and documentation of the environmental evaluation of the structure as outlined below. For constructed solid manure stacking pads/facilities, the plan must document the type, size, date of installation and any problems identified with the structure.

Liquid or semi-solid manure storage facilities must be evaluated by the farmer, on at least a monthly basis, to assure that they are not producing potential discharges. Specifically, for liquid or semi-solid manure storage facilities, the operator must document that there is:

1. No evidence of overtopping or leakage from the manure storage facility. The operator must maintain a minimum 12-inch freeboard for all ponds and a minimum 6-inch freeboard for all other manure storage facilities at all times.
2. No visible cracking, rodent holes, tree or shrub growth on the berms or other problems with manure storage facilities that would lead to leakage.
3. No visible slope failures, visible deterioration or tears of any liner, or knowledge of any local water pollution issues associated with the storage facility.

No specific monthly documentation is required for constructed solid manure storage facilities.

Written records, as described in Section 4 on pages 15 to 18 must be maintained as part of the Manure Management Plan to demonstrate that these requirements are being met.

Any discharges or potential discharges of manure from the storage facility need to be addressed immediately. In addition, liquid or semi-solid manure storage facilities built in the year 2000 and later must be designed by a licensed Pennsylvania Professional Engineer, and the farmer must maintain a copy of a certification from the engineer indicating that the storage facility was built according to the appropriate standards.

**1. Manure Storage Facilities (for each facility provide):**

**Example**

Type of storage (concrete or metal tank, under building structure, earthen or clay or plastic lined pond or lagoon, exposed concrete pad, roofed solid manure stacking pad, etc.) and year of construction:

Concrete circular tank constructed in 1998

Manure stacking pad constructed in 2005

Size (length, width and depth (excluding required freeboard)) of existing manure storage, indicate if exposed to precipitation. Calculate storage volume for facilities storing liquid or semi-solid manure:

Concrete Tank 92' diameter, 11' deep (excluding freeboard of 6 inches) exposed to precipitation, 550,000 gallons capacity

Stacking pad 50' by 60'

Indicate if any additional materials are added to the manure including bedding, agricultural process wastewater (water system overflow, wash water, milkhouse waste, egg wash water, etc.).

Tank – 150 gallons per day of milkhouse water

Pad – straw bedding used for stacked manure

Manure storage related practices that need to be installed on the farm to address identified problems (such as inadequate storage volume, leaking facilities, inadequate maintenance, runoff from a stack that directly reaches a water body, etc):

Tank – No problems found with tank

Pad – Need to direct clean water from pad

NOTE – If you generate or import agricultural process wastewater at the farm, this wastewater must be included in your manure management plan. On many farms, this wastewater is mixed with manure within the manure storage facility. In that case, there is no separate planning requirement for the agricultural process wastewater. If the agricultural process wastewater is not mixed with manure in the manure storage facility, you should contact the county conservation district or the PADEP to discuss the process for managing that wastewater.

## 2. Manure Stockpiling/Stacking

Some operations typically have one or more stockpiling/stacking areas around the barn or in the field to handle situations when direct manure application is impractical. These conditions could be due to severe weather; limits due to application from other criteria set forth in this document or field conditions unsuitable for spreading equipment.

Manure stacking in the farmstead area must use an improved stacking pad or covered area. NRCS or the county conservation districts can provide assistance with this requirement.

The requirements relating to stacking of manure in other areas such as on crop fields are:

1. Keeping all stockpiles/stacks at least 100 feet from sensitive areas such as streams, lakes and ponds, 100 feet from any open sinkhole, 100 feet from any drinking water well (public or private). These stacks cannot be placed within an area of concentrated water flow such as a swale, ditch or waterway.
2. Stockpiling/stacking manure on properly constructed improved stacking pads whenever possible. When stockpiling/stacking on unimproved areas in crop fields, the stockpiles/stacks should **not** be in the same location each year.
3. Placing these areas at the top of a hill (this includes the area within 100 feet from the top of the slope), where possible, diverting upslope water away from stockpile/stacking areas.
4. Placing stacks on areas with less than 8% slope.
5. The manure must be dry enough to allow for stacking at least 4 feet in height. When stacked on the application field, the volume must be limited to the amount that can be spread on fields nearby to the stack.
6. When stacked on the application field, covering stockpiled/stacked manure with a plastic tarp or other similar water repellent cover if it will be in place for more than 120 days. Manure stacked on an improved stacking pad does not need to be covered.

Written records as described in Section 4 on pages 15 to 18 must be maintained as part of the Manure Management Plan to demonstrate that these requirements are being met.

## Section 6 – Pasture Management (Only farms pasturing animals must complete this section)

All pastures on the farm must be listed in the Manure Management Plan and identified on the farm map. Farms have several choices for managing pastures:

1. The farm can develop a grazing plan meeting the requirements of the Natural Resources Conservation Service Pennsylvania Technical Guide Practice Standard 528 for Prescribed Grazing, **or**
2. Farmers can manage pastures by assuring that there is dense vegetation in the pasture throughout the growing season. Dense vegetation means that the pasture is managed to minimize bare spots

and to maintain an average vegetation height across the pasture to at least 3 inches high.

Grazed fields that do not have an NRCS grazing plan which are overgrazed (as defined as not meeting the management requirements described above in bullet “2”) need either to be managed to restore dense vegetation or these areas will be defined as Animal Concentration Areas (“ACAs”) and will need to meet the requirements of Section 7 of this manual.

## **Section 7 – Animal Concentration Areas (Only farms with ACAs must complete this section)**

Animal Concentration Areas (ACAs) (also called “Animal Heavy Use Areas”) are barnyards, feedlots, loafing areas, exercise lots or other similar animal confinement areas that will not maintain the dense vegetation of a pasture. ACAs do not include areas managed as pastures, meeting the requirements of Section 6 above, or other cropland. However, ACAs may exist within areas maintained as a pasture and must be addressed. Animal access ways, feeding areas, watering areas, shade areas or walkways are not considered ACAs if water from or precipitation onto these areas does not result in runoff of manure or sediment to streams, lakes, ponds, or sinkholes.

ACAs need to be managed to:

1. Divert clean water flow from upslope fields, driveways, barn roofs, etc., away from the ACA.
2. Direct polluted runoff or allow it to flow from the ACA area into a storage facility or best management practice such as a correctly sized and well maintained vegetative filter strip,
3. Limit animal access to surface waters to only properly implemented livestock crossings. Animals may not have free access to streams adjacent to or within ACAs.
4. Minimize the size of denuded areas such as sacrifice lots.
5. Keep areas where animals congregate, such as feed racks and shade, as far away from a water body as practical.
6. Where appropriate, include relocation of movable structures creating ACAs such as hay rings at least annually where practical to minimize ACA development and manure concentration.
7. Routinely, generally four times per year, remove accumulated manure from ACAs, where practical, to minimize the potential for pollutorial discharges.

Farms that have ACAs must address the ACA in the Manure Management Plan. The plan needs to identify Best Management Practices (BMPs) that are currently being implemented to prevent pollution and, where necessary, include a schedule for obtaining assistance to develop and implement additional BMPs that require appropriate expertise in design or where additional time is needed to obtain the financial resources to implement the necessary BMPs.

Farmers working with a design professional (conservation district, Natural Resources Conservation Service (NRCS), Certified Nutrient Management Planner, etc.) can be provided up to 2 years from July 2011 to develop a plan and up to 3 years from the date the plan is developed to implement that plan. The DEP believes that most farms will be able to begin implementation on a much shorter time frame but recognizes that time may be needed for more costly BMPs.

The following is a sample of how the Animal Concentration Area Section may look, in part, for a given operation:

Some farms may need technical assistance in order to develop and implement BMPs on ACAs. The farmer has until July 2013 to develop the BMPs and no more than 3 years from the date of developing those BMPs, to implement the BMPs. The DEP believes that most farms will be able to begin implementation on a much shorter time frame but recognizes that time may be needed for more costly BMPs.

Farmers with ACAs requiring corrective actions need to immediately contact the local conservation district, Natural Resources Conservation Service office (NRCS), or a private consultant and must document that contact and the time frame for developing and implementing BMPs.

List date contact was made to the assisting agency/party to help in these efforts:

March 1, 2011

List who was contacted to assist in these efforts: John Brown, York County Conservation District

## ANIMAL CONCENTRATION AREA WORKSHEET

Example

Location of ACA (refer to Farm Map)	Divert clean water around ACA	If BMP has been implemented, list implementation date. If BMP is planned, list date for planned installation			
		Direct polluted water to storage or vegetated treatment area	Limit access to streams through stabilized crossings and watering areas	Limit size of denuded areas	Locate area where animals congregate (feed areas, shade, etc.) away from streams
<i>North side of heifer barn</i>	<i>Summer 2012</i>	<i>Summer 2012</i>	<i>Summer 2012</i>	<i>2005</i>	<i>2012</i>

### MANURE MANAGEMENT PLAN

## CHECKLIST

	Manure Management Manual Page No.	Completed or Reviewed	Not Needed
<b>Section 1 - General Information (Required)</b>	3		
Contact Information Page	3		
Operational Information Page	4		
<b>Section 2 - Manure Application Rates and Timing (Required)</b>	<b>6</b>		
Manure Management In Environmentally Sensitive Areas	6		
Winter Application	8		
Manure Application Rate and Timing	10		
Manure Management Plan Summary	11		
<b>Section 3 Farm Map (Required)</b>	13		
<b>Section 4 Recordkeeping (Required)</b>	15		
<b>Section 5 - Managing Manure Storage in Structures and Stockpiling Areas (If the farm has manure storage)</b>	19		
Manure Storage Facilities	20		
Manure Stockpiling and Stacking	21		
<b>Section 6 - Managing Manure in Pastures</b> Only use if the farm has pastures	21		
<b>Section 7 - Animal Concentration Areas (If the farm has ACAs) SEE NOTE BELOW</b>	22		
ACA Worksheet	23		
Please note that all farms with crops or ACAs must also have an Agricultural Erosion and Sediment Control Plan meeting the requirements of 25 Pa. Code Chapter 102. Additional information can be obtained from the county conservation district.			

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