



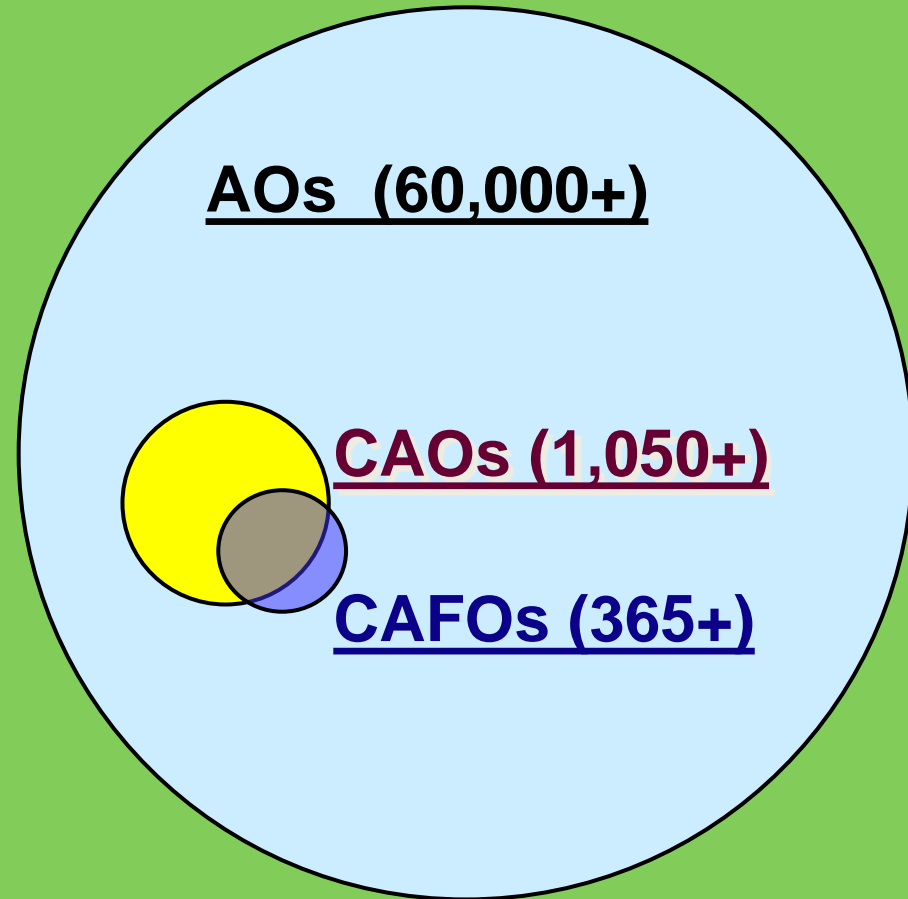
# BERKS COUNTY CONSERVATION DISTRICT

DEP Manure Management Manual

## **COMPLETING A MANURE MANAGEMENT PLAN – PART 1**

# Animal Operations in PA

- All Animal Operations (AOs)
  - All operations generating or utilizing manure
    - Regulated by PA DEP
- Concentrated Animal Operations (CAOs)
  - High animal density farms farms > 2,000 lbs/acre animal density
    - Regulated by PA SCC
- Concentrated Animal Feeding Operations (CAFOs)
  - Based on animal numbers and/or animal density
  - Farms > 1,000 AEUs, CAOs > 300 AEUs, EPA head #'s
    - Regulated by PA DEP (for US EPA)



Goodlander, SCC

# Manure Management Plan Requirements

- Every farm in PA that land applies on-farm or imported manure must have and implement a written Manure Management Plan
  - Includes pastures and animal concentration areas
- Manure Management Plans can be prepared by the farmer or by another trained individual
- The format and worksheets from the MMM must be followed unless an alternative is approved by DEP
- Manure Management Plans do not need to be submitted for approval but must be available to DEP or Conservation District staff on request for inspection
- Records of Manure Management Plan implementation must be kept on the farm

# Manure Management Manual

## LAND APPLICATION OF MANURE

A supplement to Manure Management for Environmental Protection

### Manure Management Plan Guidance

361-0300-002



- Part I
  - Requirements for Manure Management Plans
  - Manure Management Plan Instructions
    - Guidance and instructions
    - MMP worksheet examples
  - Glossary
- Part II
  - **Manure Management Plan Workbook**
    - Planning Checklist
    - MMP Worksheets
    - Recordkeeping Forms
- Part III
  - Appendix 1 – Manure Application Rate Tables

# Manure Management Plan

## LAND APPLICATION OF MANURE

A supplement to Manure Management for Environmental Protection

## MANURE MANAGEMENT PLAN

## WORKBOOK

To Be Completed, Implemented and Retained  
By All Farmers that Land Apply Manure



October 29, 2011

- Manure Management Plan Checklist
- **Manure Management Plan Worksheets**
  - Contact Information Page
  - Operation Information Page
  - Environmentally Sensitive Areas Worksheet
  - Winter Application Worksheet
  - Manure Management Plan Summary
  - Manure Storage Facilities Worksheet
  - Pasture Management Worksheet
  - Animal Concentration Areas Worksheet
- **Farm Map**
- Manure Management Recordkeeping Forms

# Manure Management Plan Checklist (p.1)

MANURE MANAGEMENT PLAN CHECKLIST			
	Manure Management Plan Page No.	Completed or Reviewed	Not Needed
<b>REQUIRED SECTIONS</b>			
Contact Information Page	2		
Operation Information Page	3		
Environmentally Sensitive Areas Worksheet	4		
Winter Application Worksheet	5		
Manure Management Plan Summary	6		
Farm Map	7		
Recordkeeping	11-15		
<b>Managing Manure Storage in Structures and Stockpiling Areas (If the farm has manure storage)</b>	19		
Manure Storage Facilities Worksheet	8		
Manure Stockpiling and Stacking	20 of Instructions		
<b>Managing Manure in Pastures (If the farm has pastures)</b>			
Pasture Management Worksheet	9		
<b>Animal Concentration Areas (If the farm has ACAs) SEE NOTE BELOW</b>			
ACA Worksheet	9-10		
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.			

# Contact Information Page (p.2)

- Required
  - Owner/operator contact information
  - Date of development
- Only if applicable
  - Preparer other than owner/operator
  - Contact information

**MANURE MANAGEMENT PLAN**  
**CONTACT INFORMATION PAGE**  
(See Page 3 of Manure Management Guidance Instructions)

Farm Name: \_\_\_\_\_

Name of Owner/Operator: \_\_\_\_\_

Operation Street Address: \_\_\_\_\_

City, State and Zip Code: \_\_\_\_\_

Phone number (Home/Barn): \_\_\_\_\_

(Cell): \_\_\_\_\_

Email Address: \_\_\_\_\_

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

Preparer Name: \_\_\_\_\_

Preparer Organization: \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State and Zip Code: \_\_\_\_\_

Phone Number (Business): \_\_\_\_\_

(Cell): \_\_\_\_\_

Email Address: \_\_\_\_\_

Date of Development: \_\_\_\_\_

when necessary to keep the plan consistent with farm management practices.

2

## Manure Management Plan Exercise

# COMPLETE CONTACT INFORMATION PAGE

### MANURE MANAGEMENT PLAN

#### CONTACT INFORMATION PAGE

(See Page 3 of Manure Management Guidance Instructions)

Farm Name: \_\_\_\_\_  
Name of Owner/Operator: \_\_\_\_\_  
Operation Street Address: \_\_\_\_\_  
City, State and Zip Code: \_\_\_\_\_  
Phone number (Home/Barn): \_\_\_\_\_  
(Cell): \_\_\_\_\_  
Email Address: \_\_\_\_\_

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

Preparer Name: \_\_\_\_\_  
Preparer Organization: \_\_\_\_\_  
Street Address: \_\_\_\_\_  
City, State and Zip Code: \_\_\_\_\_  
Phone Number (Business): \_\_\_\_\_  
(Cell): \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Date of Development: \_\_\_\_\_

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.



# Contact Information Page (p.2)

## CONTACT INFORMATION PAGE

Farm Name: Sample Farm

Name of Owner/Operator: Mr. and Mrs. John Q. Public

Operation Street Address: 3 Sample Road

City, State and Zip Code: Farm City, PA 12345

Phone Number (Home/Barn): 717-555-4567

(Cell): 717-555-3456

Email address: samplefarm@email.com

## MMP Instructions Example (p.3)

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

Preparer Name: Mr. John Smith

Preparer Organization: Fertilizer Sales Company

Street Address: 35 Spreader Lane

City, State and Zip Code: Spreader City, PA 23456

Phone number (Business): 601-555-4567

(Cell): 601-555-3456

Email Address: fertilizersales@sales.com

Date of Development: April 1, 2011

**Don't fill in date until  
plan is complete.**

# Operation Information Page (p.3)

- Acres on the operation available for manure application
  - Owned
  - Rented
- Animals on the operation
  - Animal type
  - Animal numbers
    - On a typical production day
  - Days on farm per year
- Crop rotation(s)

**OPERATION INFORMATION PAGE**  
(See Page 4 of Manure Management Guidance Instructions)

a. Acres of the operation available for manure application: Owned \_\_\_\_\_ Rented \_\_\_\_\_

b. Animals on the operation:

Animal type	Animal # (normal production day)	Days on farm per year

c. Crop Rotations used on the Operation (use additional pages if necessary): \_\_\_\_\_

d. **Environmentally Sensitive Areas:**

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

All farms containing environmentally sensitive areas must complete the Environmentally Sensitive Areas Worksheet on page 4 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 page 5.

f. **Manure Storage Facilities:** Is manure stored in a manure storage facility (concrete tank, metal tank, under building structure, earthen, clay, or synthetic lined pond or lagoon, etc.)? Yes ☐ No ☐  
If yes, you must complete the Manure Storage Facilities Worksheet on page 8.

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 on page 18 of the Instructions.

h. **Pasture Areas:**  
If yes, list acres: Owned \_\_\_\_\_ Rented \_\_\_\_\_ Yes ☐ No ☐  
All farms containing pastures must complete the Pasture Management Worksheet on page 9.

i. **Animal Concentration Areas (ACAs):** Yes ☐ No ☐  
If yes: Owned ☐ Rented ☐  
All farms containing ACAs must complete the ACA Worksheets on pages 9 and 10.

## Manure Management Plan Exercise

# COMPLETE OPERATION INFORMATION PAGE – PART 1

### OPERATION INFORMATION PAGE

(See Page 4 of Manure Management Guidance Instructions)

a. Acres of the operation available for manure application: Owned \_\_\_\_\_ Rented \_\_\_\_\_

b. Animals on the operation:

Animal type	Animal # (normal production day)	Days on farm per year

c. Crop Rotations used on the Operation (use additional pages if necessary): \_\_\_\_\_

d. **Environmentally Sensitive Areas:** Yes ☐ No ☐  
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 page 4 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 page 5.

f. **Manure Storage Facilities:** Is manure stored in a manure storage facility (concrete tank, metal tank, under building structure, earthen, clay, or synthetic lined pond or lagoon, etc.)? Yes ☐ No ☐  
If yes, you must complete the Manure Storage Facilities Worksheet on page 8.

g. **Solid Manure Stockpiling or Stacking:** Yes ☐ No ☐  
Is manure stockpiled or stacked in outdoor areas?  
If yes, you must meet the requirements in Section 5 - Managing Manure Stockpiling/Stacking Areas on page 18 of the Instructions.

h. **Pasture Areas:** Yes ☐ No ☐  
If yes, list acres: Owned \_\_\_\_\_ Rented \_\_\_\_\_  
All farms containing pastures must complete the Pasture Management Worksheet on page 9.

i. **Animal Concentration Areas (ACAs):** Yes ☐ No ☐  
If yes: Owned ☐ Rented ☐  
All farms containing ACAs must complete the ACA Worksheets on pages 9 and 10.

# Operation Information Page (p.3)

a. Acres of the operation available for manure application: Owned 120 Rented 50

b. Animals on the operation:

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

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

## Manure Management Plan Exercise

# COMPLETE OPERATION INFORMATION PAGE – PART 2

### OPERATION INFORMATION PAGE

(See Page 4 of Manure Management Guidance Instructions)

a. Acres of the operation available for manure application: Owned \_\_\_\_\_ Rented \_\_\_\_\_

b. Animals on the operation:

Animal type	Animal # (normal production day)	Days on farm per year

c. Crop Rotations used on the Operation (use additional pages if necessary): \_\_\_\_\_

d. **Environmentally Sensitive Areas:**

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

All farms containing environmentally sensitive areas must complete the Environmentally Sensitive Areas Worksheet on page 4 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 page 5.

f. **Manure Storage Facilities:** Is manure stored in a manure storage facility (concrete tank, metal tank, under building structure, earthen, clay, or synthetic lined pond or lagoon, etc.)? Yes ☐ No ☐  
If yes, you must complete the Manure Storage Facilities Worksheet on page 8.

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 on page 18 of the Instructions.

h. **Pasture Areas:**  
If yes, list acres: Owned \_\_\_\_\_ Rented \_\_\_\_\_ Yes ☐ No ☐  
All farms containing pastures must complete the Pasture Management Worksheet on page 9.

i. **Animal Concentration Areas (ACAs):** Yes ☐ No ☐  
If yes: Owned ☐ Rented ☐  
All farms containing ACAs must complete the ACA Worksheets on pages 9 and 10.

# Operation Information Page (p.3)

- Environmentally sensitive areas (check yes or no)

- Drinking water wells
  - Private and public
- Streams, lakes and ponds
- Sinkholes
- Areas of concentrated flow
  - Swales, ditches, gullies, etc.
  - See Glossary
- Above ground inlet to ag drainage system
  - Only for winter manure application
- **If yes, must complete Environmentally Sensitive Areas Worksheet (p.4)**

- Winter Application (check yes or no)

- Winter definition
  - December 15 through February 28; or
  - Anytime the ground is frozen at least 4 inches; or
  - Anytime that the ground is snow covered
- **If yes, must complete Winter Application Worksheet (p.5)**

**d. Environmentally Sensitive Areas:**

Private or public drinking water wells	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Streams, lakes or ponds	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
Sinkholes	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
Areas of concentrated flow including swales, ditches, gullies, etc.	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>
For winter application, above ground inlet to agricultural drainage system	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>

All farms containing environmentally sensitive areas must complete the Environmentally Sensitive Areas Worksheet on page 4 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 page 5.

**MMP Instructions Example (p.5)**

## Manure Management Plan Exercise

# COMPLETE OPERATION INFORMATION PAGE – PART 3

### OPERATION INFORMATION PAGE

(See Page 4 of Manure Management Guidance Instructions)

a. Acres of the operation available for manure application: Owned \_\_\_\_\_ Rented \_\_\_\_\_

b. Animals on the operation:

Animal type	Animal # (normal production day)	Days on farm per year

c. Crop Rotations used on the Operation (use additional pages if necessary): \_\_\_\_\_

d. **Environmentally Sensitive Areas:**

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

All farms containing environmentally sensitive areas must complete the Environmentally Sensitive Areas Worksheet on page 4 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 page 5.

f. **Manure Storage Facilities:** Is manure stored in a manure storage facility (concrete tank, metal tank, under building structure, earthen, clay, or synthetic lined pond or lagoon, etc.)? Yes ☐ No ☐  
If yes, you must complete the Manure Storage Facilities Worksheet on page 8.

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 on page 18 of the Instructions.

h. **Pasture Areas:**  
If yes, list acres: Owned \_\_\_\_\_ Rented \_\_\_\_\_ Yes ☐ No ☐  
All farms containing pastures must complete the Pasture Management Worksheet on page 9.

i. **Animal Concentration Areas (ACAs):** Yes ☐ No ☐  
If yes: Owned ☐ Rented ☐  
All farms containing ACAs must complete the ACA Worksheets on pages 9 and 10.

# Operation Information Page (p.3)

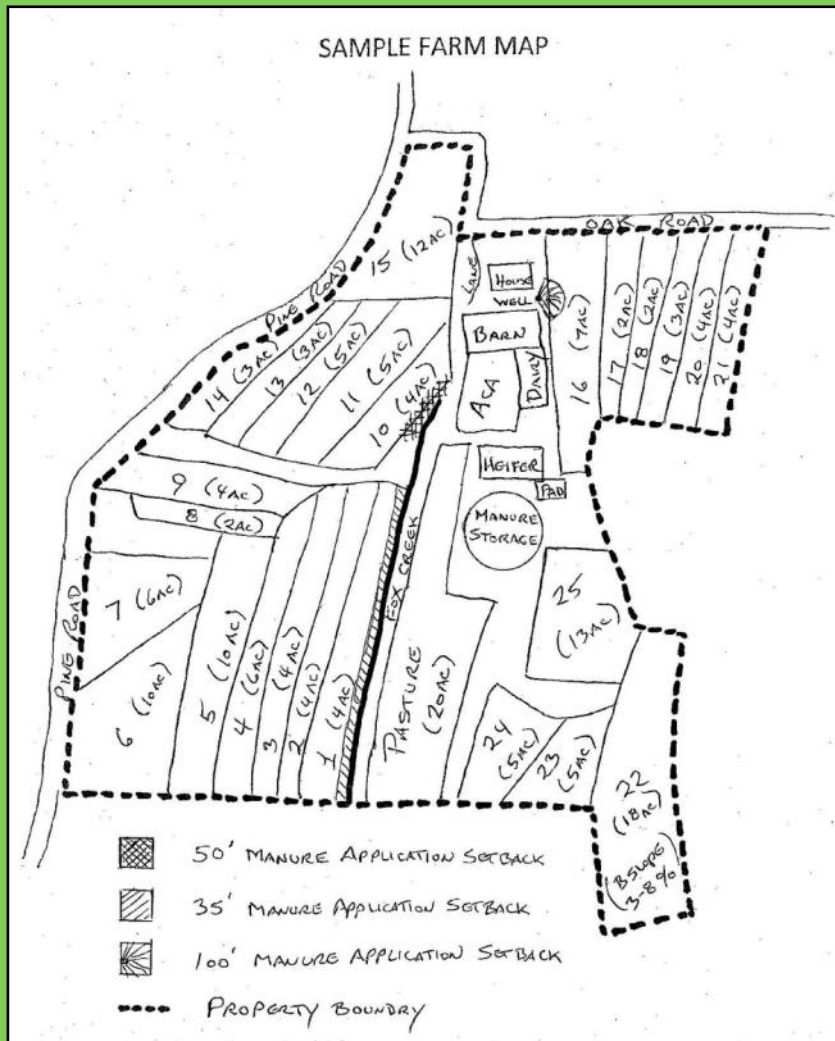
- Manure storage facilities (check yes or no)
  - **If yes, must complete Manure Storage Facilities Worksheet (p.8)**
- Solid manure stockpiling or stacking (check yes or no)
  - **If yes, must complete Manure Storage Facilities Worksheet (p.8)**
- Pasture areas (check yes or no)
  - List acres: owned and rented
  - **If yes, must complete Pasture Management Worksheet (p.9)**
- Animal concentration areas (check yes or no)
  - Check owned or rented
  - **If yes, must complete Animal Concentration Area Worksheets (pp. 9 & 10)**

f.	<b>Manure Storage Facilities:</b> Is manure stored in a manure storage facility (concrete tank, metal tank, under building structure, earthen, clay, or synthetic lined pond or lagoon, etc.)? If yes, you must complete the Manure Storage Facilities Worksheet on page 8.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
g.	<b>Solid Manure Stockpiling or Stacking:</b> Is manure stockpiled or stacked in outdoor areas? If yes, you must meet the requirements in Section 5 - Managing Manure Stockpiling/Stacking Areas on page 18 of the Instructions.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
h.	<b>Pasture Areas:</b> If yes, list acres: Owned <u>20</u> Rented _____ All farms containing pastures must complete the Pasture Management Worksheet on page 9.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
i.	<b>Animal Concentration Areas (ACAs):</b> If yes: Owned <input checked="" type="checkbox"/> Rented <input type="checkbox"/> All farms containing ACAs must complete the ACA Worksheets on pages 9 and 10.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**MMP Instructions Example (p.5)**



# Farm Map (p.7)



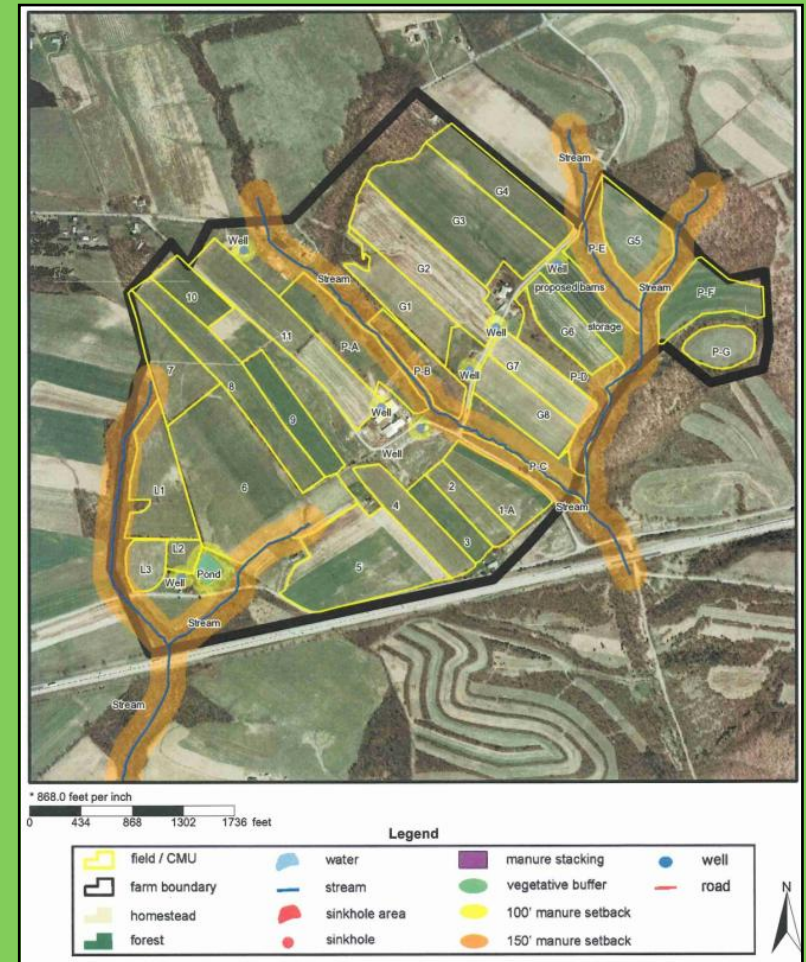
- Boundaries of the farm
- Field information for all fields included in the plan
  - Individual field boundaries
  - Identifiers (name or number)
  - Acreage
- Location and names of all roads adjacent to or within the farm

# Farm Map (p.7)

- Additional map information will be added as the plan is developed
- Field information for all fields being used for winter application
  - Identification of average slopes or the average NRCS slope designation
  - Can use a NRCS soil survey map
    - Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
    - Some counties have paper copies
      - Conservation district or NRCS office
- Location of all the following:
  - Environmentally sensitive areas and setbacks
    - Identified on the Environmentally Sensitive Areas Worksheet
  - Proposed or existing manure storage facilities
  - Manure stockpiling or stacking areas
  - Pastures
  - Animal concentration areas

# Farm Map Sources

- Maps can be hand drawn
- Best and recommended base map
  - Ag E&S or Conservation Plan map
- Computer generated map
  - PA One Stop
    - Free
    - Relatively simple
  - GIS Software



[www.paonestop.org](http://www.paonestop.org)