



BERKS COUNTY CONSERVATION DISTRICT

DEP Manure Management Manual

COMPLETING A MANURE MANAGEMENT PLAN – PART 2

Environmentally Sensitive Areas Worksheet (p.4)

ENVIRONMENTALLY SENSITIVE AREAS WORKSHEET

Use Additional Sheets as Necessary

(See Pages 6 and 7 of Manure Management Guidance Instructions)

[illegible]

- Environmentally sensitive areas
 - Streams, lakes, and ponds
 - Open sinkholes
 - Private drinking water sources
 - Public drinking water sources
 - Non-vegetated concentrated water flow areas
 - Above ground inlet to agricultural drainage system
- List associated fields
- Mechanical manure application setbacks are required
 - Regardless of the slope of the land or the ground cover
- Placed and described on the farm map

Environmentally Sensitive Areas



Sensitive Areas & Manure Application Setbacks

- No mechanical manure application within 100 feet of streams, lakes and ponds
 - Stream qualifications
 - Setback applicable only during the time of year when the stream generally flows
 - Not included are culvert outlets or a roadside swales that drain stormwater into a field where the stormwater infiltrates into the ground
- Options to reduce 100 foot setback; except for winter application
 - Option 1: Within 50 feet of streams, lakes and ponds if related fields:
 - Have soil tests current within the last three years
 - Soil test phosphorus (Mehlich 3-P) levels are less than 200 parts per million (ppm)
 - No-till practices are used
 - When residue is removed, a cover crop must be planted
 - Option 2: Within 35 feet of streams, lakes and ponds
 - A permanent vegetated buffer is established and maintained along the water body

Sensitive Areas & Manure Application Setbacks

100 ft Setback if:

- No BMPs

50 ft Setback if:

- Soil Test <200 ppm P
- No-till practices used
- Residue or cover crop

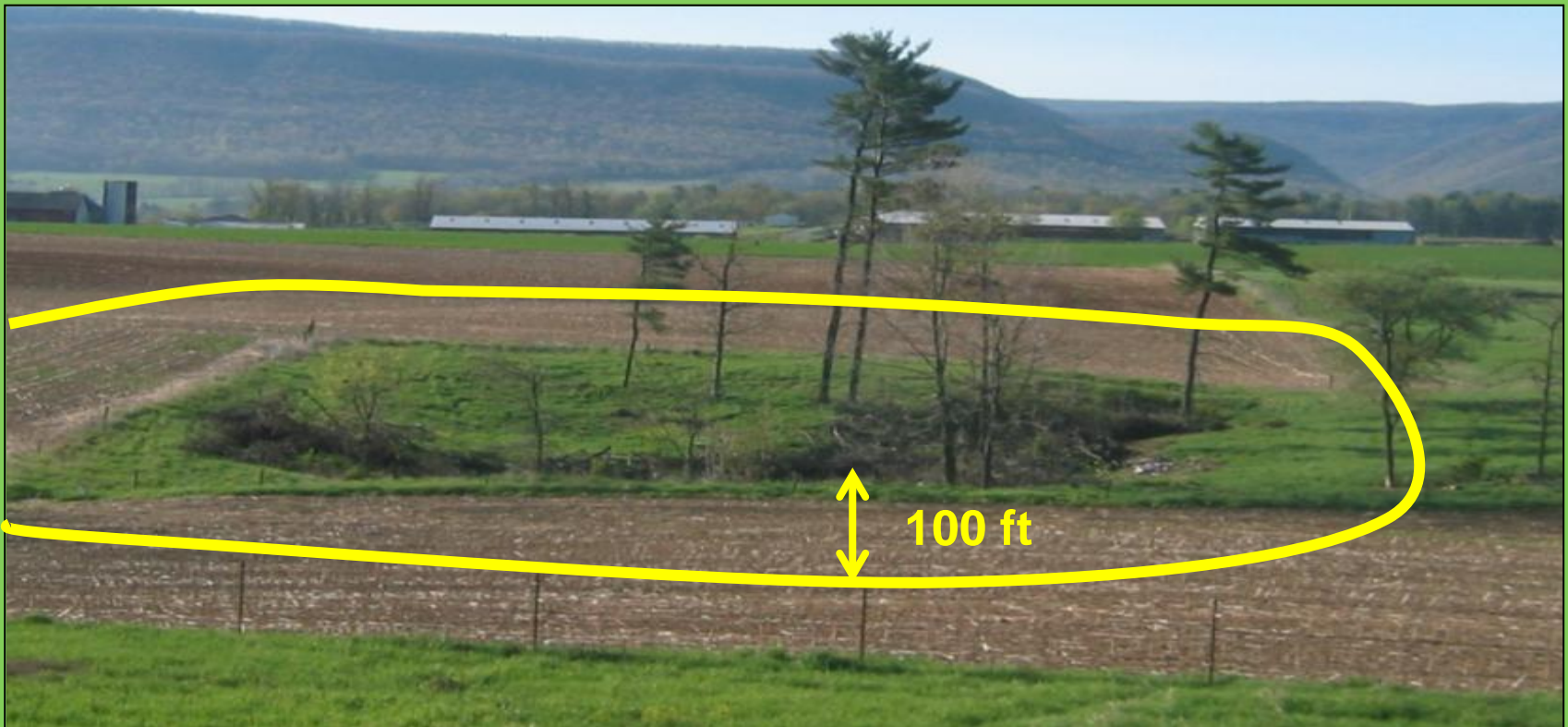
35 ft Setback if:

- Permanent vegetated buffer



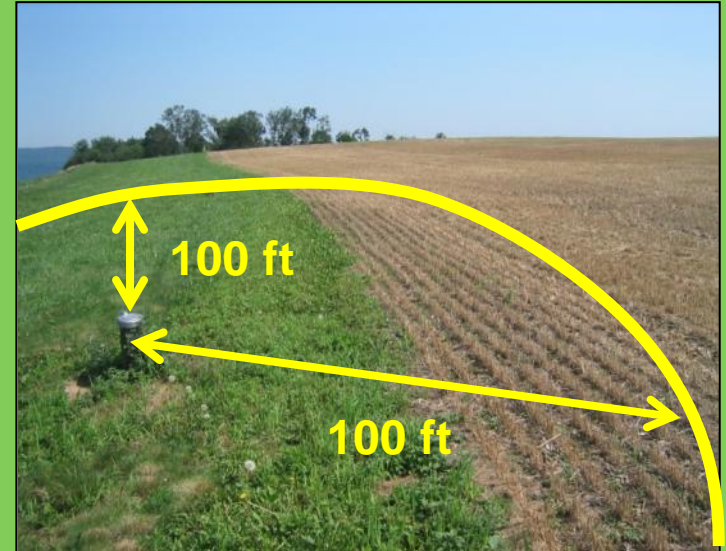
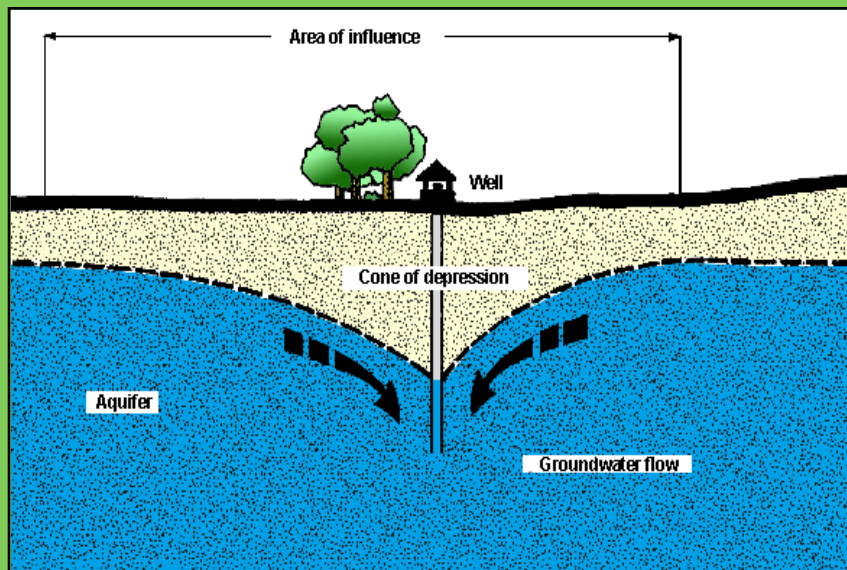
Sensitive Areas & Manure Application Setbacks

- No mechanical manure application within 100 feet of an existing open sinkhole



Sensitive Areas & Manure Application Setbacks

- No mechanical manure application:
 - Within 100 feet of an active private drinking water source
 - Well or a spring
 - Within 100 feet of an active public drinking water source
 - Unless authority requires greater distances



Sensitive Areas & Manure Application Setbacks

- No mechanical manure application within the channel of a non-vegetated concentrated water flow area
 - Swale, gully or a ditch



Sensitive Areas & Manure Application Setbacks

- No mechanical manure application for winter application within 100 feet from an above ground inlet to an agricultural drainage system
 - Such as inlet pipes to piped outlet terraces
 - Where surface water flow is toward the above ground inlet



Manure Management Plan Exercise

COMPLETE ENVIRONMENTALLY SENSITIVE AREAS WORKSHEET

ENVIRONMENTALLY SENSITIVE AREAS WORKSHEET

Use Additional Sheets as Necessary
(See Pages 6 and 7 of Manure Management Guidance Instructions)

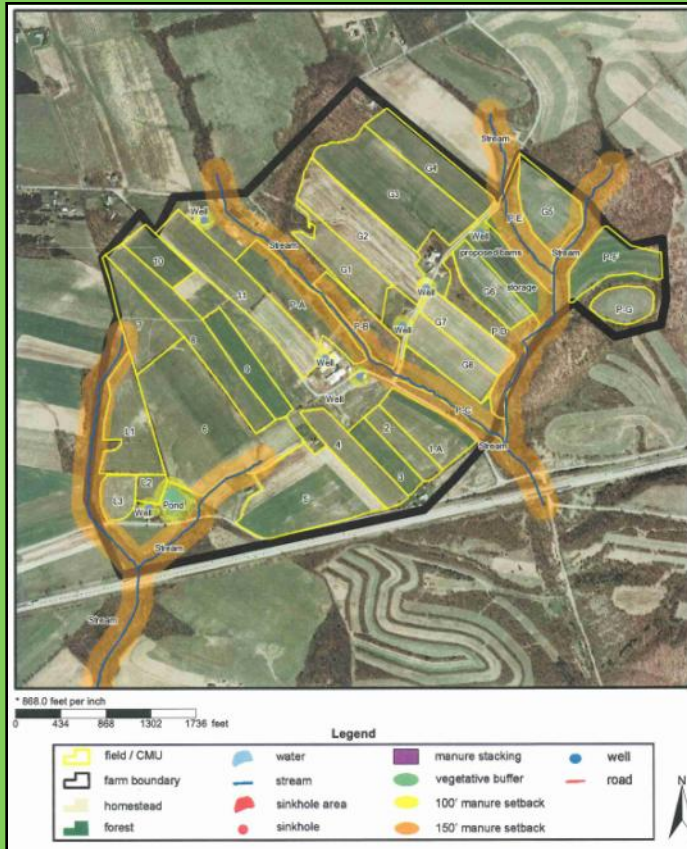
Field Identification	Environmentally Sensitive Area (stream, lake, pond, sinkhole, drinking water source, concentrated flow area)	Setback or restricted distance	Is this setback restricted area shown on the plan map (yes/no)

Environmentally Sensitive Areas Worksheet (p.4)

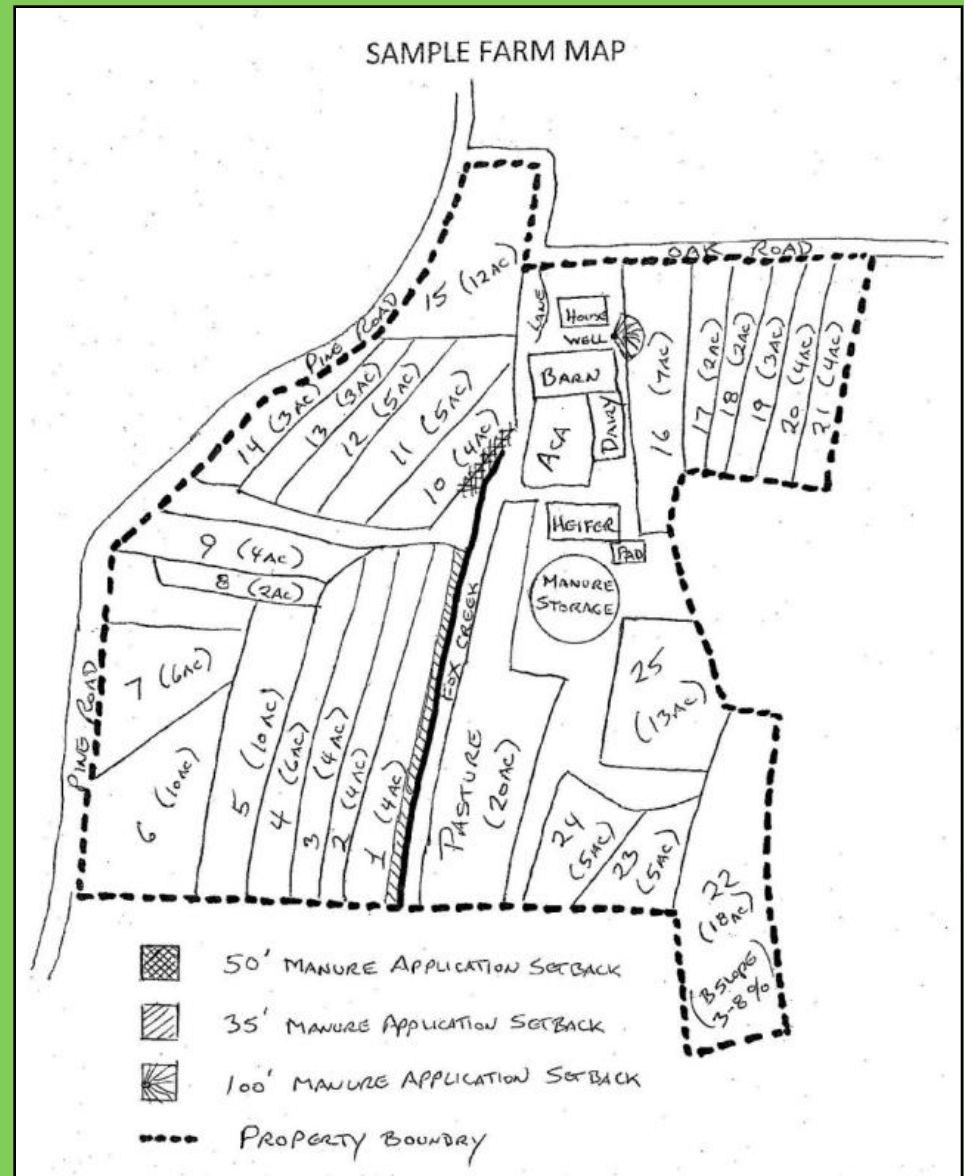
Field Identification	Environmentally Sensitive Area (stream, lake, pond, sinkhole, drinking water source, concentrated flow area)	Setback or restricted distance	Is this setback restricted area shown on the plan map (yes/no)
<i>1</i>	<i>Stream</i>	<i>50' (cover crop)</i>	<i>Yes</i>
<i>16</i>	<i>Home water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

MMP Instructions Example (p.7)

Environmentally sensitive areas and setbacks must be shown on the map



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Winter Application Worksheet (p.5)

- Winter application is discouraged
 - DEP encourages farmers to seek other management solutions
 - Solid manure stacking
 - Liquid manure storage
- For the MMP winter includes any one of the following:
 - December 15 through February 28; or
 - Anytime the ground is frozen at least 4 inches; or
 - Anytime that the ground is snow covered
- Individual fields must be identified
- Additional winter application flexibility may be obtained by:
 - Using a Certified Nutrient Management Planner to develop a nutrient management plan for the farm using the Act 38 plan format
 - Obtaining approval from DEP or county conservation district

[illegible]

Winter Manure Application = High Risk!



Winter Application Rate Limits

Farmers that apply manure in the winter will need to meet the following criteria:

- The maximum application rate for the winter season
 - 5000 gallons per acre of liquid manure
 - 20 tons per acre of dry non-poultry manure per acre
 - 3 tons of dry poultry manure per acre
 - An alternative maximum rate using Nutrient Balance Sheets
 - Calculate and apply manure to the phosphorus removal rate for the coming year's crop



Winter Application Cover Requirements

Farmers that apply manure in the winter will need to meet the following criteria:

- Must have at least 25% crop residue at application time or an established and growing cover crop
 - Highest priority should be given to:
 - Hay and sod fields
 - Fields with an established cover crop
 - Pasture fields
 - Where no cover crop is established the following will generally be excluded:
 - Corn silage fields
 - Corn grain fields where most of the fodder has been removed
 - Low yielding soybean fields



Cover Crops & Residue



NRCS Crop Residue



This level of residue might be expected from a fall chisel with twisted shanks, a deep spring disking, a field cultivation, and planting. *



This level of residue might be expected from a fall chisel with twisted shanks, a spring shallow disking, a field cultivation, and planting. *



This level of residue might be expected from one fall chisel with straight shanks, a shallow disking in the spring, a field cultivation, and planting. *



This level of residue might be expected from a fall shallow disking, one spring field cultivation, and planting. Paraplowing in the fall followed by a spring field cultivation and planting would be similar. *



This level of residue will be difficult to reach without using a no-till system. One tillage system that could produce 50 percent ground cover after planting is to field cultivate twice in the spring and plant. *

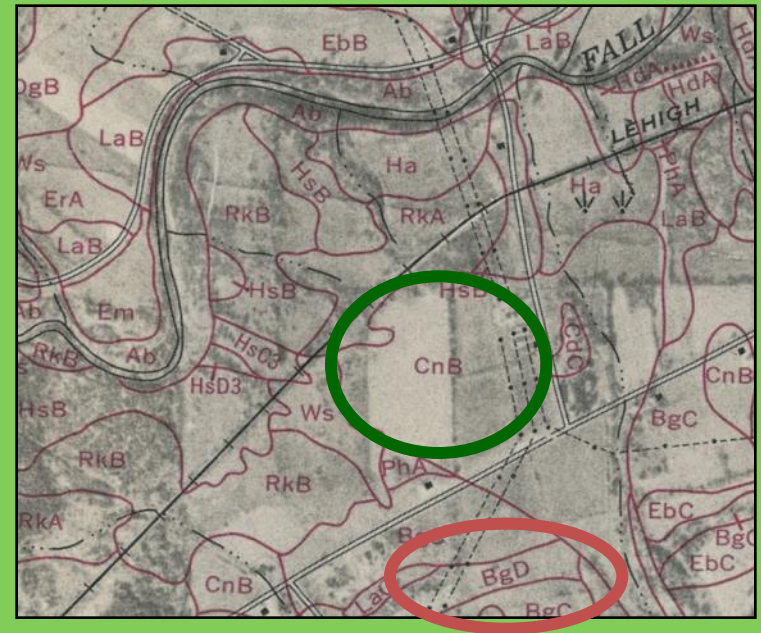


This level of residue might be expected from a no-till system where you plant directly into the existing residue. Another system is to field cultivate once in the spring and plant. *

Winter Application Slope Limits

Farmers that apply manure in the winter will need to meet the following criteria:

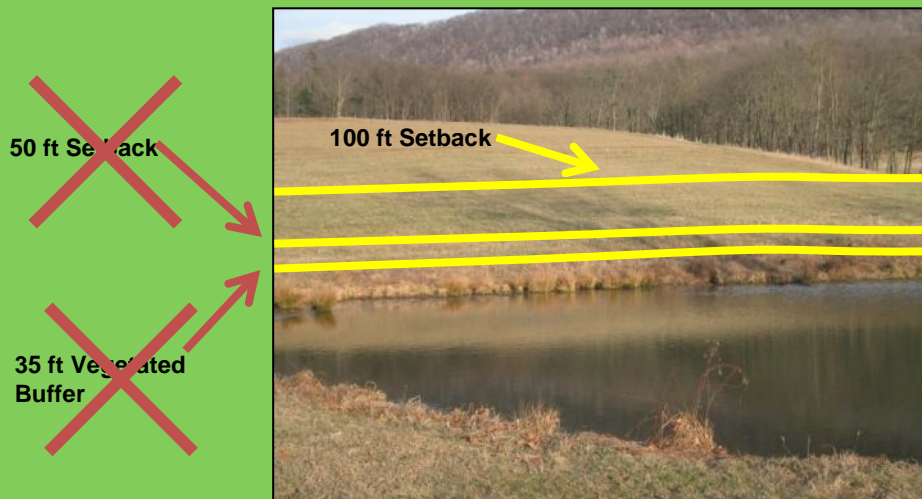
- Manure may not be applied on fields with slopes greater than 15%
 - NRCS soil survey slope designations of “A”, “B” or “C” slopes are acceptable for winter application determinations



Winter Application Setbacks

Farmers that apply manure in the winter will need to meet the following criteria:

- Specific application setbacks
 - 100 feet from the top of the bank of a stream which generally flows during the winter or spring
 - 100 feet of a lake or a pond
 - 100 feet from an above ground inlet to an agricultural drainage system
 - Such as inlet pipes to piped outlet terraces
 - Where surface water flow is toward the above ground inlet
 - Along with all the other application setbacks outlined earlier in this section



Manure Management Plan Exercise

COMPLETE WINTER APPLICATION WORKSHEET

Use Additional Sheets as Necessary
(See Pages 8 and 9 of Manure Management Guidance Instructions)

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Winter Application Worksheet (p.5)

Field Identification	Type of Manure (from the manure application charts)	Winter Season Application Rate	Percentage of Crop Residue	Type of Cover Crop (if applicable)	Field Slope Percentage
22			NA	Grass Hay	3-8%

MMP Instructions Example (p.9)

Don't complete these two columns now.
We will come back and fill this out later.