

Nutrient Management Plan Summary

The Nutrient Management Plan Summary is comprised of four components:

- Nutrient Management Plan
- Nutrient Management Plan Summary Notes
- Additional Nutrient Management Plan Requirements
- Operator Management Map

The purpose of this section is to summarize for the farmer all that is required to implement the nutrient management plan for this operation. The information generated by the planning process, such as manure and crop information, manure and stormwater management evaluations, and excess manure provisions, is summarized succinctly in the Nutrient Management Plan Summary. More detail is provided in the various appendices but everything required to be implemented is summarized here **to assist the farmer in easily discerning the plan requirements.**

Nutrient Management Plan Summary and Nutrient Management Plan Summary Notes

The plan shall include a summary of the nutrient application rates by field or crop management unit for the entire operation (owned and rented acres) except for uncollected manure on grazed pastures which are discussed below. The farmer should be able to tack this portion of the plan up on the wall of the barn, or carry it in the tractor cab. Using this information alone, the farmer should be able to direct manure and other nutrient applications to each field or crop group.

All pasture fields must show up on the Plan Summary. The Plan Summary chart columns for the pasture fields will all be filled in based on the inputs provided in Appendix 4, just like they are for all other crop fields addressed in the plan. Of special note is the "Planned Manure Rate" column for pasture fields which will not have a number in this column, but will instead include a note to direct the farmer to the Plan Summary Notes to outline the required pasture management practices. For pasture fields, the planner will list the following in the Plan Summary Notes for each of the pasture fields listed in the plan:

1. The animal group(s) using the pasture,
2. The number of animals in that group,
3. The grazing season(s),
4. The amount of hours/day animals are planned to spend on the pasture, and
5. Where the animals are fed and watered

This above information must be documented in the Plan Summary Notes section of the plan for easy reference by the farmer.

The plan must include a Plan Summary table and notes for each individual year that the plan will cover. These tables outline what is planned to occur on each field or CMU for each of the separate years covered by the plan. The development of one summary covering a number of crop years is not a valid submission unless there are extenuating circumstances on the farm such that the fields are not expected to change from year to year (such as a farm that is comprised of all pasture or hayland throughout the plan's

lifespan, etc). Also, the development of a plan which provides a plan summary covering all cropping options for each field on one summary is not a valid submission unless again there are extenuating circumstances with the farm and the Commission specifically approved this planning style for the farm. The plan summary is expected to document the farmer's decisions on what specifically is planned to be done on each individual field or CMU throughout the time period covered by the plan.

All nutrient sources that will be applied to the fields or crop management units in order to meet crop nutrient needs (these sources include manure, biosolids, starter fertilizer, other commercial fertilizer, dead animal compost, etc.) shall be included in the summary.

The standard plan format provides a chart to record this nutrient application information. The chart addresses manure and fertilizer application rates and manure application management (addressing manure incorporation practices) to address each crop management unit or field covered under the operator's nutrient management plan (owned and rented acres). The information provided in this chart is taken from Appendix 4 of the standard plan format, and transferred into this chart in order to provide an easy to read manure application schedule for the farmer's use.

This chart is to identify the crop year that is addressed with the listed application rates.

The sample nutrient management plan in Supplement 2 illustrates how this section of the plan should look when completed appropriately.

Nutrient Management Plan Summary Notes

This area of the summary is provided to help the farmer implement the plan. Generally (with two exceptions), there are no required elements to this section of the plan summary, this area is simply to provide additional direction to the farmer on the particular limitations, restrictions or allowances he may have relating to a particular Crop Management Unit (CMU).

Planners are encouraged (but not generally required) to explain here, any issues that may be confusing to a farmer relating to a particular CMU. **There are two scenarios where plan summary notes are required to be included in the plan.** The first scenario requiring plan summary notes is for pasture fields where the Plan Summary Notes is where the animal type, animal number, seasons grazed, number of hours per day grazed, and watering and feeding locations are required to be listed. The second scenario requiring plan summary notes is for winter application fields where the Plan Summary Notes is where the winter field conditions are to be described. These winter conditions would include the 25% cover requirement and may also include whether or not the field will be allowed to be used if it is snow or ice covered, additional setbacks proposed to be used for added water quality protection, etc.

Some of the issues that may be helpful to explain in more detail in these individual CMU notes include: manure application setbacks, the use of the PSNT or chlorophyll test, split application of manure (which needs to be addressed in the plan if more than 9,000 gallons of manure will be applied to an individual CMU), phosphorus banking, etc.

Manure Spreader Settings to Meet Planned Manure Application Rates

The Nutrient Management Plan Summary includes a Manure Rate Calibration Table. For each planned manure application rate listed in the nutrient management plan the equipment and settings used to obtain that calibrated rate must be recorded in the table. This Manure Rate Calibration Table provides an accessible reference for the farmer or other applicators to use to find the appropriate equipment and settings used to achieve the various manure application rates included in the nutrient management plan.

The following information is required to be included in the Nutrient Management Plan Summary “Manure Rate Calibration Table”. If a farmer uses more than one piece of equipment to achieve a particular application rate a separate line is needed for each piece of equipment used to meet a particular application rate:

1. Planned manure application rate
2. Manure spreader used
3. Spreader settings
4. Tractor used (if applicable)
5. Tractor settings (speed, gear, rpm, pto, etc.)

Two examples of completed Manure Rate Calibration tables, one using a tractor and one using horses

Example 1, tractor driven

Manure Application Rate	Manure Spreader Used	Spreader Settings	Tractor Used (if applicable)	Tractor Settings (speed, gear, rpm, pto, etc)
7850 gallons	Nuhn 6500		John Deere 8300	1.8 mph @ 1700 rpm
18 tons	Knight 8018 Pro-Twin		John Deere 8300	4.5 mph @ 1700 rpm
10 tons	Knight 8018 Pro-Twin		John Deere 8300	2.8 mph @ 1700 rpm

Example 2, horse driven

Manure Application Rate	Manure Spreader Used	Spreader Settings	Tractor Used (if applicable)	Tractor Settings (speed, gear, rpm, pto, etc)
4500 gallons	Stoltzfus 800 gal tank	valve fully open	horse driven	5 horses

When using Version 3.0 of the NMP Spreadsheet to develop an NMP, complete the Manure Rate Calibration table included with the NMP Summary. For Versions 2.0 and 2.1 of the NMP Spreadsheet, this manure spreader setting information is recommended (but not required) to be entered in the NMP Summary Notes.

If an operator uses a commercial applicator to apply their manure, the planner should indicate in the chart or plan notes that this plan element is not applicable (by indicating “NA, commercial applicator used”) for the given plan.

If manure spreader calibration is impractical at the time of plan development due to situations such as the operation being new and there is no manure to use to calibrate their equipment, the planner should indicate in the chart that calibration of equipment will be completed as soon as manure is available.

Winter Manure Application Season Requirements

The 'Nutrient Management Plan Summary' chart (under the "Application Season" column) indicates whether or not specific fields or crop groups are proposed to have manure applied to them in the winter. Winter is defined as a time when any one of the following conditions exists:

- 1) the date is on or between December 15 and February 28, **or**
- 2) the ground is frozen at least 4 inches, **or**
- 3) the ground is snow covered

All fields identified for winter manure application must be assessed using the most recent version of the Winter Manure Application Matrix (Supplement 10). A completed Winter Manure Application Matrix assessment, addressing each field proposed for winter application, must be submitted for review for any nutrient management plan that includes fields proposed for winter manure application. Along with the winter matrix, the P-Index will need to be submitted addressing winter manure application for any fields proposed for this practice. Lastly, the additional winter application setbacks will also need to be assessed for these fields.

This Winter Manure Application Matrix is a guidance tool developed to highlight the field characteristics that are most relevant for assessing a field for potential manure runoff during the winter season. The planner or reviewer may disagree with the results of the winter matrix based on specific understanding of how this particular farm site has, and is planned to be managed. Considerations that may affect whether or not the winter matrix can be fully relied on for assessing these fields can include: ground cover at the time of application, whether the fields will be snow or ice covered at time of application, whether there are environmentally sensitive areas adjacent to the application fields, or if the farmer is using some unique on-farm management practices to further address winter runoff from the application fields. For those situations where the results of this guidance tool are questioned due to additional site specific knowledge of the area, the results should be discussed with SCC staff to determine if the fields should be accepted for winter application or not.

Recognize that winter application of manure is generally not a preferred practice for addressing water quality, and therefore should only be considered for use where it is a necessary practice for operation of the farm, and where fields identified for winter manure application are situated in such a way as to minimize the potential for manure or nutrient runoff during the winter season.

On farms where winter manure application is a necessity, either planned or written as a contingency to the approved plan, these applications should be minimized as much as possible. This would include spreading only that amount of manure that is absolutely necessary to spread during the winter (such as not completely emptying the storage during the winter, but only drawing it down to a sufficient level to allow for storage of the manure through the remainder of winter). If the farm produces solid manure, winter application of this manure is easily avoided by stockpiling that manure during the winter, rather than applying the manure if fields and conditions are not fully suitable for this practice.

Manure application on snow or ice provides for the highest level of risk for runoff of the applied manure and therefore should only be approved for unique situations that have a very low risk of runoff to a water body. If winter application is proposed, the plan, if possible, should indicate that application will only take place at times when the ground is neither snow nor ice covered. Following this direction will open more fields up to the possibility of winter application and can help minimize manure runoff in the winter season.

Also, when it is necessary to apply manure in the winter, the application fields should primarily be those with a “growing” crop (either cover crop or hay crop) in order to minimize runoff of manure nutrients with this practice. The regulations allow for winter application on approved fields that do not have a growing crop, but have significant crop residue (greater than 25%), but these fields relying solely on residue to hold manure in place will generally need to be of a lower slope and further separated from water conveniences, than fields with a growing crop.

Lastly, significantly reducing the application rate for winter applied manure can help minimize manure runoff at these times of the year, and possibly allow for additional areas of the farm to be considered for winter application.

Plans that do not call for the winter application of manure, but due to unforeseen circumstances (such as problems spreading in the fall, or barn issues that generated a significantly higher volume of manure on a given year (such as water control problems)) this practice becomes necessary in a particular year, the plan can be amended by a certified planner to incorporate this practice for the given year. These plan amendments should be developed and submitted to the reviewing agency prior to spreading in the winter (for situations that are not related to acute situations requiring immediate action). It should be noted that this would only be relevant to liquid manures, as solid manures can be stockpiled on the emergency stacking areas until winter is over.

Manure Management and Stormwater BMP Implementation Summary

This chart is used to list the various stormwater and manure management BMPs required to be implemented on this operation, and when they are to be installed. The BMPs listed on this chart come from 1) the “BMPs to address Manure Management Problem Areas (Appendix 6)” and 2) the “BMPs to address Critical Runoff Problem Areas (Appendix 7)”.

This chart lists the structural and management practices necessary to be implemented, and when they are to be implemented, on this farm to provide runoff controls in the farmstead and crop fields. The nutrient application procedures described in the plan (such as application rates and timing, etc) are to be implemented as soon as the plan is approved and where the cropping sequence, available equipment and facilities allow.

This listing is not to include procedures that are already listed in the record keeping requirements under the plan. Required practices such as soil and manure testing are not to be listed in this section of the plan. Soil and manure testing are addressed in the record keeping requirements on the agreement and responsibilities page, and therefore they are not to be listed here. Conservation planning is a requirement addressed

elsewhere in the program (under the review and approval element of the program) and therefore is not to be included here.

The implementation times listed on this chart need not be more specific than the **season (Spring: April-May, Summer: June-August, Fall: September-November, or Winter: December-March) and year that the given practice is planned to be installed.**

A farmer needs to recognize the importance of the need to install these practices and the time frame provided for installation. If a farmer is not able to install a practice by the approved time frame, he/she will need to contact the plan review authority (generally the conservation district) to discuss the requirement to revise the plan or install a different or interim practice.

The structural BMPs outlined in the plan are to be implemented within 3 years. Certain BMPs, such as very severe manure runoff problem areas (i.e. severe barnyard problems) may not be appropriate to be held off for three years, and should be scheduled sooner so that future pollution is minimized.

The BMP summary **does not need to give dimensions or exact locations** for the BMPs to be installed. The plan summary just needs to list the type of BMP to be installed (name of practice and NRCS practice code) and where the BMP is to be installed (field number or location in farmstead). The plan map is required to provide a pictorial location of where the planned BMPs are to be located (as well as existing BMPs).

In-Field Manure Stacking Procedures

For operations that plan to stack manure on crop fields for later application to that field, this area of the plan would outline the criteria under which this stacking will be allowed. Information in this section needs to be site specific of how this farmer will manage his in-field stacks of manure. Only describe what direction is needed for this particular farm, and recognize that the locational issues will be addressed through the site selection on the map and do not need to be described here. This manual includes a guidance document (Supplement 17) which provides in-field manure stacking criteria for use when stacking manure on farms covered under the Act 38 program.

For farms that will be field stacking manure, this section of the plan would include a statement noting that field stacking of manure is planned to occur on locations as identified on the plan maps, and that the stacks will follow the appropriate shape, and timing of application. Example text could read:

“This operation will be field stacking manure on the locations identified on the plan maps. These stacks cannot be maintained on these crop fields for longer than 120 days without the stacks being covered with a watertight covering, [or the plan could read “stacks will be maintained on sites meeting the NRCS manure stacking pad standard”].

Stacks will be shaped in a cone or windrow shape to best shed rainwater falling on the stacks.

Stacks must be rotated every year, with a minimum 4-year rotation, to ensure that the stack is not located on the same footprint that it was on within the past 4 years.”

For farms that will not be field stacking manure, this section will still need to be completed and could read:

“No in-field stacking of manure will take place on this operation.”

Additional CAFO Requirements

This is the section of the plan where any additional CAFO program requirements would be listed. Those requirements may relate to:

- **Additional manure stacking requirements.** These additional requirements relate to shortening the time allowed for manure to be stacked uncovered on the CAFO’s application fields. This would be worded as follows: “Manure may not be stacked in crop fields on this operation for greater than 14 days without covering the stack with an impermeable cover to keep rainwater from falling on the pile.”
- Addressing the **Manure Storage Winter Capacity Planning Level** for the storage in the nutrient management plan: Addressing this issue in the nutrient management plan allows the CAFOs to handle this concern without having to do so through an NPDES permit condition. For CAFOs that will be storing their manure over winter, this section of the plan would state “The manure storage will be maintained such that there will be at least ? feet of usable space (measured from the top of the storage impoundment to the level of the manure) in the manure storage on December 15, of each year covered in the plan.”

Proposed Manure Storage Description

When construction of a new manure storage is proposed for the operation the following information must be listed here:

- Type of the proposed manure storage system such as above ground cylindrical concrete manure storage tank, under the barn concrete manure storage tank, or HDPE lined structure, etc.
- Dimensions of the proposed manure storage facility. If the facility is sloped sided; the top dimension and the bottom dimension, as well as the depth and the slope of the inside of the berm are to be listed.
- Calculated volume of the proposed manure storage facility such as 450,000 gallons, or 3,000 cubic feet, taking into account the appropriate freeboard for any liquid or semi-solid storage facility.
- Freeboard for the proposed facility such as 6” or 2’, etc.

The location of the proposed facility must be shown on the farm map.

- If the location is within the setback distance, and a waiver is applicable for the operation, the waiver is to be approved prior to, or at the same time as the approval of the plan. If a waiver is not available or not able to be approved, the location will need to be changed to ensure that the storage is in compliance with setback requirements.

Please note that this is the location in the plan where any **proposed** manure storage facilities would be described. This is **not** where existing manure storage facilities are documented. Existing manure storage facilities are documented in Appendix 2 (“*Operation Information*”), under the topic “Manure Storages and Capacity”.

Description of Planned Alternative Manure Technology Practices

If the operation is planning to implement alternative technologies to address manure management issues on the operation, this area of the plan is where those proposed practices would be listed.

Alternative manure technologies are those activities implemented by farmers to process raw manure in order to make it easier to transport and/or apply; as well as treatments that assist in segregating the nutrient content of the manure so that it will better address farm nutrient balance issues. Several alternatives include: composting, incineration, and solid/liquid manure separation (with and without binding agents).

For these situations, the plan would list what practice is planned, what volume of manure is to be processed annually with this practice, and the expected result of the implementation of the practice. Text for this section could read:

“The operation will be mechanically separating solids at the facility using a screw press system. All 1.2 million gallons of the manure coming from the dairy barn will be processed through this system. This process will remove a majority of the solids from the manure, taking the manure effluent coming out of the screw press down to 1% solids (99% liquid). This will also reduce the phosphorus in the dairy manure coming from the dairy barn, taking the manure content down from 13 lbs per 1,000 gallons to 1.5 lbs per 1,000 gallon (based on other operations using this system). The solids will be handled separately and exported off the operation to areas in need of phosphorus.”

Exported Manure Summary

The exported manure portion of the plan summary shall include a **general description** of how the operator plans to use manure for other than agricultural land application on the operation. This portion of the summary is not intended to provide a high level of detail, but to give a general concept of how much, where, and when manure will be utilized in this manner.

Some examples of how this might look include:

1. If the farmer were planning to export 200 tons to neighbor Jones in the spring, 300 tons to neighbor Robinson in the fall, and 500 tons to neighbor Zimmerman in the summer for agricultural land use, the summary would say:

"1,000 tons of manure will be exported to neighboring landowners various times throughout the year for agricultural land use."

2. If the farmer was planning to export 500 tons of manure to neighbor Mains for agricultural land use and 300 tons to Organo-King for bagging and use as a commercially sold fertilizer, the plan summary would say:

"500 tons of manure will be exported to a neighboring landowner for agricultural land use and an additional 300 tons of manure will be exported to a commercial company to process for use as a commercially sold organic fertilizer."

This information is a **concise summary** of the information contained in Appendix 8 (*Importer/Broker Agreements & Nutrient Balance Sheets*), which generally shall contain all the necessary documentation related to manure exported from the operation.

For operations that will be implementing an unusual exporting procedure, such as relying on small quantity importers (as may be the case with horse operations exporting less than 25 tons of manure per year for any given importer), this section of the plan will provide a brief description of what is being proposed. These unusual situations are generally not detailed in Appendix 8 and therefore need to be described here for review and approval. See Appendix 8 for further detail on what needs to be documented in this section of the plan for farms that export small quantities of manure, or if manure is exported or used on site for other than agricultural land application.

For the case of the small quantity exporter, the wording required in this section of the plan could look something like the following:

"This operation will export its manure to neighboring land owners who will use it to fertilize their gardens or other small parcels. No individual importer will receive more than 25 tons of manure during any calendar year. I recognize that I need to keep manure exporting records documenting who took manure, the date they took it, and how much they received. I also recognize that I will be required to maintain these records at my operation for at least three years."

"If an importer wishes to import more than 25 tons of manure during any calendar year, I recognize that I will be required to submit a signed agreement and Nutrient Balance Sheet(s) to address this importer taking more than 25 tons in a year's time, prior to the manure being exported to the importer."

Operator Management Map

There are three map types required in an Act 38 nutrient management plan. Those three types include 1) Topographic Map, 2) Soils Map, and 3) Operator Management Map. The Operator Management Map is to be included in the Nutrient Management

Plan Summary section to provide easy reference for the farmer. This is the map that is considered to be the most valuable to the farmer on a day-to-day basis for the implementation of the approved nutrient management plan. The Topographic and Soils maps described here belong in Appendix 9 (*Operations Maps*).

The operator map is to include the following:

1. farm boundary,
2. field boundaries,
3. field identification,
4. field specific acreage (this information can be shown directly on the map for each field, or can be included as part of the map legend indicating the field acreage for each individually identified field),
5. manure application setbacks and buffers (with an identification of the landscape feature that requires the setback, such as an indication of where the stream or sinkhole are),
6. location of existing and proposed structural BMPs (including manure storage facilities),
7. location of existing or proposed emergency manure stacking areas or in-field manure stacking areas, and
8. roads and road names adjacent to and within the operation.

The above items must be clearly identified on the operator management map, either by direct notation on the map, or through a clear legend. Manure application setbacks and vegetative buffers must be clearly identified on the map with an indication of the required setback or buffer width. The farmer and program staff need to be able to interpret the information provided on the legend, so the legend needs to identify the given feature using legible font sizes and easily understood words or symbols. Avoid using cryptic symbols or phrases that are not well understood by those using this map.

Only setback landscape features on the map that are relevant to actual setbacks or buffers required on this operation need to be identified. Landscape features on adjoining properties that do not require a setback should not be included on the farm map. For example, a neighbor's well which is beyond 100' from fields on the operation does not need to be included on the nutrient management plan operator management map.

To test if this map is adequate, just imagine if you were a new manure hauler brought into this operation to help them apply their manure. Would the direction given on this map, in conjunction with the application rates in the Nutrient Management Plan Summary, be adequate to allow someone new to find the field and apply manure properly on this operation.

Act 38 Manure Application Setbacks

Manure application setbacks, for the purposes of the Act 38 program, are defined as areas where manure will not be mechanically applied next to an environmentally sensitive area such as a stream or pond, for the purpose of minimizing the potential for applied manure (or nutrients associated with the applied manure) to run off into the environmentally sensitive area. This setback area has no cropping limitations on it

through Act 38, but where used to meet regulatory requirements, does have a mechanical manure application limitation.

The common setback distances used in the Act 38 program include a 100 foot manure application setback next to environmentally sensitive areas (where a buffer is not used), and a 150 foot setback for importing farms using Nutrient Balance Sheet options 1 or 2. In the case of the importing farms, this 150 foot setback serves as these importing operations' method for addressing phosphorus loss without having to run the full P-Index on the importing operation.

If this setback area is managed differently from the field area above it, this setback area will generally need to be broken out as a new field or sub field for the purposes of determining nutrient application rates and final nutrient balances.

Act 38 Buffers

The purpose of a buffer is to reduce runoff velocity, increase infiltration of runoff water, provide a filter area for manure contaminated water, and minimize the risk of nutrient pollution. This area is not restricted under Act 38 from being cropped to the extent that the crops and cropping practices used in this area are consistent with the below buffer criteria.

A permanent vegetative buffer, for use in the Act 38 program, is defined as:

- 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).
- Flow characteristics are primarily sheet flow with no obvious concentrated flow (converging rills, ephemeral gullies, classic gullies) into/within/leaving the buffer.

Pasture Buffer Criteria

If the field or crop management unit (CMU) being evaluated is a **grazed pasture**, then the following criteria must be met for the 35 foot area adjacent to the stream, lake, pond or sinkhole to be considered as a 35 foot buffer for the purposes of developing an Act 38 nutrient management plan.

If the following criteria cannot be met then no manure may be mechanically applied within 100 feet of the stream, lake, pond or sinkhole and the pasture must be assigned a "9" for the Contributing Distance factor in the Pennsylvania Phosphorus Index (P Index).

1. Duration, intensity, frequency and season of grazing in fields or CMUs adjacent to a stream, lake, pond or sinkhole will be planned and applied in such a manner that perennial vegetation and water quality are maintained or improved. The animal stocking rate and pasture usage practices called for in the nutrient management plan or associated grazing management plan, along with the restrictions outlined below, will provide this protection.

2. Fields with poor, somewhat poor, or very poor drainage characteristics shall have grazing limited on these areas during times of high water table.
3. Ground cover provided by perennial vegetation shall be maintained at a level of 80% or more to minimize soil erosion and nutrient runoff. Plants identified by PDA as noxious weeds must be eliminated and controlled in these areas. For a listing of noxious weeds refer to Pennsylvania's Weed Control list (<http://plants.usda.gov/java/noxious?rptType=State&statefips=42>).
4. All animal concentration areas (such as feeding, watering or shade areas) within the pasture shall be addressed in such a manner as to eliminate the direct discharge of runoff from these areas from entering any adjacent water bodies.
5. Livestock access to the 35 foot buffer area will be managed in such a way as to ensure at least an 80% vegetative cover at all times across the entire buffer area, other than on areas developed as stabilized stream crossings or stabilized watering areas.

Maintaining an 80% vegetative cover across the 35 foot area can involve fencing off the 35 foot buffer area, establishing alternate off-stream water sources or watering systems, and/or establishing stabilized stream access for crossings or watering access for livestock. Other alternative management systems, structural practices or management techniques can be used to maintain the necessary 80% minimum vegetative cover throughout the 35 foot buffer area.

6. No manure may be mechanically applied within the 35 foot buffer area.
7. Criteria 1 thru 5 must be met and implemented at the time the animals are grazing the pasture.

Cropland Buffer Criteria

If the field or CMU being evaluated is **cropped and not a grazed pasture**, then the following criteria must be met for the 35 foot area adjacent to the stream, lake, pond or sinkhole to be considered a 35 foot buffer in an Act 38 nutrient management plan. If the following criteria cannot be met then mechanical manure application must be setback 100 feet from a stream, lake, pond or sinkhole.

1. Thirty-five feet of perennial vegetation (woody, herbaceous or any combination). Plants identified by PDA as noxious weeds must be eliminated and controlled in these areas. For a listing of noxious weeds refer to Pennsylvania's Weed Control list (<http://plants.usda.gov/java/noxious?rptType=State&statefips=42>).
 - a. The vegetation must be maintained in a healthy condition such that it provides at least an 80% vegetative canopy across the 35 foot area during the growing season.

- b. Vegetation in these 35 foot buffer areas may be harvested periodically. This includes using buffer areas for hay production.
2. Manure may not be applied mechanically within the 35 foot buffer. Chemical fertilizer may be applied according to the nutrient management plan to maintain adequate plant growth for situations where the buffer vegetation is harvested, or when nutrients are required to establish or reestablish a non-harvested buffer.
3. Criteria 1 must be met and implemented at the time the manure will be mechanically applied to the field or CMU.