

Farm*A*Syst for Michigan Producers



Some agricultural practices at the farmstead can result in high risk to surface and/or groundwater — including your drinking water supplies — while others present low risk or virtually no risk at all. Your water supply is least likely to be contaminated if you follow appropriate management practices and dispose of hazardous and toxic wastes off the farm at a properly managed site.

The Farmstead Assessment System (Farm*A*Syst) will provide you with accurate, firsthand information about how your farmstead structures and activities, such as pesticide storage or manure handling, might be affecting water supplies.



Farmstead Improvement Action Plan

Risk question	List high-risk practice(s) from Farm*A*Syst and medium-risk practices that do not meet MAEAP requirements	Required for MAEAP verification?	Alternative low-risk practice (Include potential sources of technical and financial assistance.)	Action plan	
				Planned completion date	Indicate date when completed
3.05	(example) Pesticides stored on permeable floor surface.	yes	Install concrete pad with curbs for pesticide storage area. Technical assistance — NRCS & MSUE. Cost share — NRCS & MGSP.	Nov. 2007	(✓) Completed October 31, 2007

(continued after work sheets)

I understand that this farmstead assessment (Farm*A*Syst) and corresponding Farmstead Improvement Action Plan were developed on the basis that I have disclosed, to the best of my knowledge, all information pertaining to my farmstead operations.

Farmstead address: _____
 Street _____ Date _____
 City _____ MI, Zip code _____
 Watershed name: _____
 Producer's signature _____
 Farm*A*Syst conducted by: _____
 Name _____ Title _____
 Aerial map with farmstead boundaries is attached. _____ Date _____

Introduction

Farm*A*Syst has been updated several times since its introduction to Michigan producers in 1994. The latest version is designed to coordinate the **Michigan Groundwater Stewardship Program (MGSP)** and the **Michigan Agriculture Environmental Assurance Program (MAEAP)**. Farm*A*Syst also includes relevant Michigan Right-to-Farm generally accepted agricultural and management practices (GAAMPs).

The **Michigan Groundwater Stewardship Program** is a cooperative effort between the Michigan Department of Agriculture, Michigan State University Extension, the USDA Natural Resources Conservation Service, Michigan Conservation Districts and Michigan’s AmeriCorps. The program is funded through fees assessed on sales of pesticides and nitrogen fertilizers. MGSP-sponsored education, technical assistance and cost share help individuals reduce the risk of groundwater contamination associated with pesticide and nitrogen fertilizer use.

The **Michigan Agriculture Environmental Assurance Program** is a comprehensive, proactive and voluntary agricultural pollution prevention program. It takes a systems approach to assist producers in evaluating their farms for environmental risks. The three systems are Livestock, Farmstead and Cropping. Farm*A*Syst assesses the environmental risks of the Farmstead System. For additional information see: <http://www.maeap.org>.

The **Michigan Right-to-Farm Act**, P.A. 93, was enacted in 1981 to provide farmers with protection from nuisance lawsuits. This state statute authorizes the Michigan Commission of Agriculture to develop and adopt GAAMPs for farms and farm operations in Michigan. These voluntary practices are based on available technology and scientific research to promote sound environmental stewardship and help maintain a farmer’s right to farm. The current Right-to-Farm GAAMPs are posted on the Michigan Department of Agriculture Web site: <http://www.michigan.gov/mda>.

Producers who complete the Farm*A*Syst assessment will be able to determine what management, structural or equipment changes (if any) will be needed for the farmstead to be environmentally assured through the MAEAP.

Once the producer develops and implements a plan to address the risks indicated by the Farm*A*Syst assessment, he/she can contact the Michigan Department of Agriculture (MDA) to request farmstead system verification (517-373-9797). An MDA inspector will schedule a site visit to complete the verification process. The owner of a MAEAP-verified farmstead will be eligible for incentives and can enjoy the peace of mind that comes from knowing that farmstead practices are in conformance with the applicable Right-to-Farm GAAMPs. Verified farmstead systems are positioned to achieve regulatory compliance with state and federal environmental laws.

What is the Farmstead Assessment System?

The Farmstead Assessment System (Farm*A*Syst) is a series of risk questions that will help you assess how effectively your farmstead structures, management practices and site conditions protect your water resources. The risk questions are grouped in the following sections:

1	Farmstead soil evaluation	9	General livestock management
2	Water well condition	10	Livestock manure storage
3	Pesticide storage and handling	11	Livestock yard management
4	Pesticide handler and worker safety	12	Silage storage
5	Fertilizer storage and handling	13	Milking center wastewater treatment
6	Petroleum product storage and management	14	Other farmstead environmental risks
7	Waste management	15	Farmstead improvement action plan
8	Septic system management		

Farm*A*Syst

How does Farm*A*Syst Work?

- 1) Select all relevant sections for your farm.
- 2) Answer the risk questions by selecting the statement that best describes conditions on your farmstead. Indicate your risk level in the column to the right. Skip any questions that don't apply to your farmstead.
*Note: For MAEAP verification, complete the risk questions with a Farm*A*Syst trained individual (groundwater technician, MSU Extension agent or NRCS resource conservationist).*
- 3) After completing each section of the risk questions, list the practices that present a high risk of contaminating water resources in the Farmstead Improvement Action Plan. The plan is printed inside the front cover of the bulletin. Also include medium-risk practices that do not meet MAEAP verification requirements.
- 4) In the Farmstead Improvement Action Plan, list:
 - Alternative practices, structures or equipment that you plan to implement or install that will help reduce risks to water resources.

- Sources of technical and financial assistance.
- Target dates for accomplishing the changes.
- Target date for MAEAP verification of your Farmstead System.

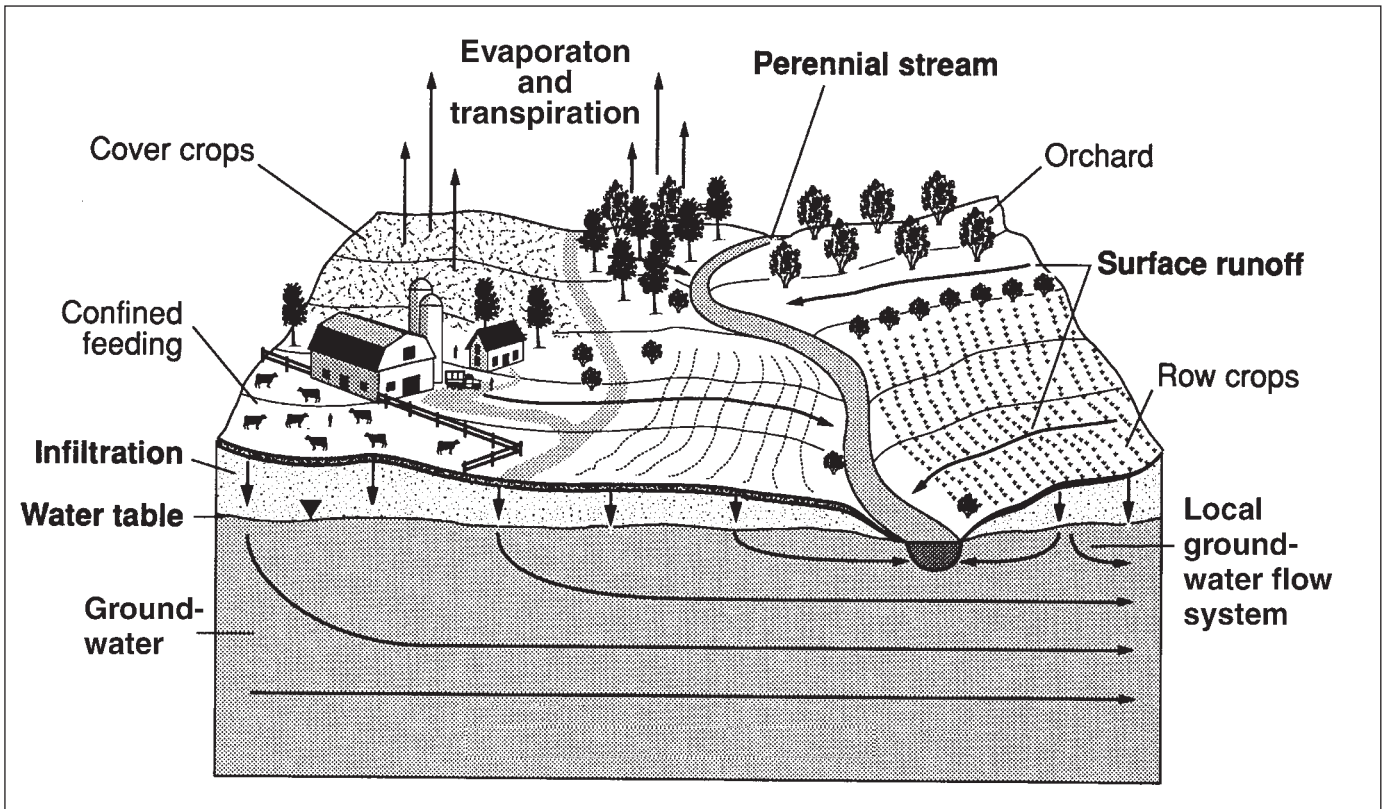
A Few Final Words

The key to Farm*A*Syst is that, once you have identified the risks to surface and groundwater, you implement a plan to reduce the risk(s).

Some of the stewardship practices that will reduce risks may cost very little and take very little time to implement. Other practices or structures may involve additional cost and may not be implemented for a few years. It is important, however, to have a plan to follow.

Once you have developed a plan and have implemented changes to address the risks on your farmstead, you are ready for MAEAP verification of your farmstead system.

Agriculture's Role in Protecting Surface and Groundwater



Farmstead Soil Evaluation

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
1.01 What is the texture of the dominant soil (0 to 5 feet deep) at the farmstead?	Very fine-textured soils: clay loam, silty clay loam, sandy clay, sandy clay loam and silty clay.	Medium-textured soils: loam, silt loam, sandy loam and silt.	Coarse-textured soils: sand, fine sand, very fine sand, loamy sand, loamy fine sand and loamy very fine sand.		
1.02 What is the depth of the top-soil and subsoil (A & B horizons)?	Greater than 40 inches.	30 to 40 inches.	Less than 30 inches.		
1.03 What is the depth to the seasonal high water table?	Greater than 6 feet.	3 to 6 feet.	Less than 3 feet.		
1.04 What is the soil organic matter content?	Greater than 4 percent.	1 to 4 percent.	Less than 1 percent.		
1.05 What is the makeup of the geological materials more than 5 feet underground?	Low-permeability materials: silt, clay, shale, claystone.		Highly permeable materials: sand, gravel, fractured rock, karst limestone.		
1.06 Is the farmstead site subject to visible soil erosion?	Site does not erode.	Slight or occasional erosion, with limited risk to surface water.	Significant erosion occurs annually.		No significant erosion present at farmstead.

Water Well Condition

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
2.01 How old is the farm well?	Less than 10 years old.	10 to 25 years old.	More than 25 years old, or age is unknown.		
2.02 What kind of well do you have?	Drilled and grouted.	Drilled and not grouted ¹ or driven point or water jetted.	Large diameter (12 to 48 inches) dug well, or construction is unknown.		
2.03 Is the farm well classified as a private or public water supply?	Private: potable water for drinking or domestic or farming purposes for family members only.	Public: water for drinking or household/farmstead purposes to persons other than the supplier (dairy farms or farms with employees).			

A boxed risk level indicates the level required for environmental assurance verification. **Bold print** indicates a violation of state or federal regulation. *Blue print (bold italic)* indicates conformance with Right-to-Farm guidelines.

Water Well Condition (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
2.04) What is the slope from the well to potential contamination sources?	Well is upgrade from all contamination sources.	Well is at grade from most contamination sources.	Well is downgrade or in a depression relative to contamination sources.		
2.05) What is the condition of the well casing and cap?	No holes or cracks. Cap tightly secured. Screened vent. Wellhead protected from equipment collisions.	No holes or cracks. Cap without gasket and/or screened vent.	Holes or cracks visible. Cap loose or missing. Water can be heard running into well. Exposed well casing bent.		
2.06) From the well installation record, is there a protective soil layer (confining material) in the soil formation?	Continuous clay or shale layer more than 10 feet thick. Or, Continuous clay mixture more than 20 feet thick.	Clay or shale layer less than 10 feet thick. Or, Clay mixture less than 20 feet thick.	No protective layer (unconfined aquifer).		
2.07) What is the depth of the well casing?	More than 100 feet. Or, Minimum of 60 feet with 10 feet of clay or 20 feet of clay mixture (confining material).	At least 25 feet, but no confining material.	Less than 25 feet, or no casing.¹		
2.08) What is the casing height above grade?	12 inches or more.	From grade level to less than 12 inches.¹	Below grade or in a pit or in a basement.¹		
2.09) What is the well pump capacity?	25 gallons per minute or less.	Greater than 25 gallons per minute.			
2.10) When was the last time the well was inspected by a professional well driller or pump installer?	Within the past 10 years.	Between 10 and 20 years.	More than 20 years, or don't know when the well was last inspected.		
2.11) How do you prevent backflow of fertilizer or pesticide mixtures into your water supply?	<i>Anti-backflow device installed and 6-inch air gap maintained above level of liquid in sprayer tank.</i>	No anti-backflow device, but <i>air gap maintained.</i> ^{1,6}	Neither an anti-backflow device nor air gap maintained.^{1,6}		Anti-backflow device or air gap present or demonstrated.
2.12) Is there an unused well located on the farmstead?	No unused well, or abandoned well properly sealed.		Unused, unsealed well at farmstead.¹		Unused well(s) properly sealed.

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Water Well Condition (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
2.13) How often do you test your drinking water for nitrates and bacteria?	Tested yearly.	Tested within the past 3 years.	No water testing done, or more than 3 years since last test.		Water tests for nitrates and coliform bacteria within the past three years.
2.14) What are the water test results?	No coliform bacteria or nitrate detected.	Water contamination detected. Public water well(s) test below health advisory limits.	Water contamination detected. Public water well(s) test above health advisory limits. ³		Water tests within health advisory limits for public wells.
2.15) Is your farm or portions of your farm included in a community wellhead protection area?	No.	Yes or don't know, and soil characteristics and farming operations pose minimal risks to groundwater.	Yes, and soil characteristics and/or farming operations pose significant risks to groundwater.		
2.16) If you have a frost-free yard hydrant connected to a water system, is the hydrant DEQ-approved?	DEQ-approved yard hydrant protects water supply from contaminated water back-siphoned into the hydrant's drain valve. Or, yard hydrant is not DEQ-approved ¹ , but an anti-backflow valve is installed between the hydrant and the water source.		Yard hydrant is not DEQ-approved ¹ , and there is no anti-backflow valve.		
2.17) If your drinking water well serves 25 or more people for 60 consecutive days (type IIb public water supply), has it been tested for arsenic?	Drinking water tested on a quarterly basis. Average arsenic level is less than 10 ppb.		Drinking water is not tested. ³		
2.18) If your groundwater and surface water pumps have a combined capacity to pump more than 70 gallons per minute for agricultural purposes, have you registered and reported water use to the state of Michigan?	Pump capacity is less than 70 gallons per minute (100,000 gallons per day). Or, Register and report annual water use to Michigan Department of Agriculture.		Pump capacity is greater than 70 gallons per minute (100,000 gallons per day) and water use is not reported to the state of Michigan. ¹³		Farm records indicate compliance with water use reporting.

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Table 1. Farm well description and isolation distances.

Farm Well Information		Isolation distance (in feet) from:									
Description	Private or public	Fuel storage	Pesticide storage	Fertilizer storage	Mix/load area	Liquid manure storage	Dry manure storage	Dirt animal lot	Other	Other	Other
1											
2											
3											
4											
5											
6											
7											
8											

Pesticide Storage and Handling

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
3.01 How far is your pesticide storage located from a water well?	For private wells: 150 feet or greater. Or, For public wells (dairy farms or farms with employees): More than 800 feet from the farm well. Or, Approved isolation distance deviation for the well. Or, Between 75 and 800 feet with approved storage and well and protective site features.*		For private wells: Less than 150 feet. ¹ For public wells (dairy farms or farms with employees): Less than 800 feet from the farm well. ³		Appropriate pesticide storage isolation distance for site characteristics.
3.02 How far is your pesticide storage located from surface water (drains, streams, ponds, catch basins on farmstead, etc.)?	200 feet or greater	Less than 200 feet with appropriate security measures.	Less than 200 feet.		Appropriate pesticide storage isolation distance from surface water.

*See groundwater technician for additional information on criteria for reduced isolation distances.

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Pesticide Storage and Handling (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
3.03 How are pesticides delivered to the farm?	Just-in-time delivery provided by dealer or farmer to mix/load site.	Responsible, trained farm employee or family member or dealer transports pesticides to storage.	Untrained farm employee or family member transports pesticides.		
3.04 What kind of structure is used for pesticide storage?	Separate long-term or seasonal structure especially designed for pesticide storage.	Pesticides stored in separate single-use structure not designed or retrofitted for pesticide storage.	Pesticides stored in farm building used for multiple purposes.		
3.05 What design features does your pesticide storage have to contain spills and leaks?	Impermeable floor surface does not allow spills to soak into soil. Curb installed on floor to contain leaks and spills or individual package containment.	Impermeable floor surface without curb.	Permeable floor surface (wood, gravel or dirt floor) or impermeable floor with cracks. Spills could contaminate soil. Drain in the floor that discharges to the environment. ⁴		Adequate secondary containment for pesticide storage.
3.06 What level of security is provided for your pesticide storage?	Fenced or locked area, secure from unauthorized access. Storage separate from all other activities.	Storage open to activities that could damage containers or spill chemicals.	Open access to pesticide storage could result in theft, vandalism, and injury to children, pets or wildlife. ¹⁷		Adequate pesticide storage security.
3.07 What signage is posted on your storage facility?	A highly visible, weatherproof sign indicates that pesticides are stored there. A "No Smoking" sign is also posted.	Pesticide storage sign is posted, but "No Smoking" is not posted.	The pesticide storage has no signs.		Pesticide storage signage present.
3.08 What kind of spill kit is available at the pesticide storage?	A complete spill kit is immediately available. A fire extinguisher approved for chemical fires is easily accessible and usable.	Spill kit is immediately available, but no fire extinguisher.	A spill kit is not available. ⁶ A fire extinguisher is not available.		Spill kit with fire extinguisher present at pesticide storage.
3.09 What total quantities of pesticides are stored on the farm?	No pesticides stored at any time, or only seasonal use storage.	1 gallon to 10 pounds of each pesticide in long-term storage.	More than 55 gallons or more than 550 pounds of each pesticide in long-term storage.*		
3.10 What quantities of liquid pesticides do you store?	No liquids — all dry formulations.	Some liquid formulations stored.	More than 55 gallons of liquid formulations stored.*		

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*Producers who store certain bulk pesticides in containers that exceed 10 gallons or 100 pounds capacity may be subject to additional regulations.⁴

Pesticide Storage and Handling (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
3.11 Do you store pesticides with high leaching potential?	No pesticides stored, or only pesticides with low leaching potential.	Pesticides with low and medium leaching potential stored.	Pesticides with high leaching potential stored.		
3.12 Have you reported extremely hazardous substances (EHS) to authorities?	No EHS stored or used. Anhydrous ammonia (EHS) is not used on the farm.	EHS stored or used on farm have been identified and reported to local and state authorities (if stored at or above threshold planning quantity).	EHS stored or used on farm have NOT been identified or reported. ¹⁸		Records that indicate EHS have been shared with authorities or that EHS are not used on the farm.
3.13 What is the condition of stored pesticide containers?	Original containers clearly labeled. No holes, tears or weak seams.	Old containers with hard to read labels. Patched containers, metal containers showing signs of rusting.	Containers have holes or tears that allow chemical to leak. Some containers have no labels. ¹⁷		Stored pesticides in satisfactory condition with labels attached.
3.14 How do you manage pesticide inventory control and disposal of unwanted products?	Pesticides accurately inventoried. Old product used first. Unusable product disposed of through Clean Sweep program.	Some inventory process maintained. Unsure of status of unusable product in storage.	No pesticide inventory maintained. Unusable product maintained in storage for indefinite time.		
3.15 Do you have a written emergency plan to deal with spills and other farm emergencies?	Up-to-date plan developed and shared with authorities (if required), employees and family members.	More than one-year-old plan or an incomplete plan is available.	An emergency farm plan has not been developed.		An up-to-date emergency plan.
3.16 Do you have a written pesticide drift management plan?	A written drift management plan available and utilized to minimize off-target drift.		No drift management plan available. ⁶		Drift management plan on file.
3.17 How far is your mixing and loading area from the water well?	For private wells: 150 feet or greater. For public wells (dairy farms or farms with employees): More than 800 feet from the farm well. Or, Approved isolation distance deviation for the well. Or Between 75 and 800 feet with approved storage and well and protective site features.*		For private wells: Less than 150 feet. ¹ For public wells (dairy farms or farms with employees): Less than 800 feet from the farm well. ³		Appropriate mixing and loading area isolation distance for site characteristics.

*See groundwater technician for additional information on criteria for reduced isolation distances. **A boxed risk level** indicates the level required for environmental assurance verification. **Blue print** indicates a violation of state or federal regulation. **Blue print (bold italic)** indicates conformance with Right-to-Farm guidelines.

Pesticide Storage and Handling (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk - 1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
3.18) How far is your mixing and loading area from surface water or catch basins?	More than 200 feet.	50 to 200 feet.	Less than 50 feet.		Appropriate mixing and loading area isolation distance from surface water.
3.19) How do you reduce the potential for surface and groundwater contamination at the mix/load area(s)?	Mixing and loading pad with curb keeps spills contained. Sumps allow collection and transfer to storage.	Mixing and loading in the field without mix/load pad. Different location every time reduces risks to groundwater. Or, mixing and loading on concrete pad without curbs.	No mixing and loading pad. Permeable soil. Spills soak into ground. Same location every time.		Satisfactory explanation of mixing and loading procedures. No evidence of burned vegetation.
3.20) How do you prevent backflow or backsiphoning of pesticide mixtures into your water supply?	<i>Anti-backflow device installed and 6-inch air gap maintained above level of liquid in sprayer tank.</i>	No anti-backflow device, but <i>air gap maintained.</i>	Neither an anti-backflow device nor air gap maintained. ^{1,6}		Anti-backflow device or air gap present or demonstrated.
3.21) How do you prevent tank overflows when filling the sprayer?	<i>Sprayer monitored when being filled.</i>		Sprayer seldom or never monitored when being filled.		Satisfactory explanation of spray tank filling procedures.
3.22) How do you measure pesticides, additives and water quantities when loading your sprayer system?	<i>Measuring devices labeled and kept in pesticide storage area. Devices rinsed and rinse water put into sprayer tank.</i> Tank capacities labeled.		A variety of unlabeled measuring devices used. Devices may be used for other purposes. Tank capacities not identified.		Set of dedicated measuring devices for pesticides. Spray tank capacities labeled.
3.23) How do you transfer pesticide products from their containers to your sprayer tank?	Closed system for all liquid and dry products transfers.	All liquid and dry products hand poured. Sprayer fill port easy to reach.	All liquid and dry products hand poured. Sprayer fill port hard to reach.		
3.24) What do you do with excess spray mixture?	<i>Spray mixture applied to labeled site at or below labeled rate of application.</i>		Spray mixture dumped at farmstead or in nearby field or pond. ^{4,6}		Satisfactory explanation of procedures for excess spray mixtures.
3.25) How do you rinse your sprayer system?	<i>Sprayer system rinsed on pad or in field. Rinse water applied to labeled site at or below labeled rate of application.</i>		Sprayer rinsed out at farmstead. Rinse water dumped at farmstead or in nearby field or pond. ^{4,6}		Satisfactory explanation of procedures for rinsing sprayer system.

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Pesticide Storage and Handling (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
3.26) How do you clean the exterior of the sprayer?	Sprayer washed on pad. Wash water collected and applied to labeled crop.	Sprayer washed in field. Different location each time.	Sprayer washed at farmstead. Rinse water dumped at farmstead or in nearby field or pond. ^{4,6}		
3.27) How do you rinse and dispose of empty pesticide containers?	Containers are triple-rinsed or power-rinsed, punctured and returned to dealer. Bags are returned to dealer or taken to licensed landfill.		Disposal of partially filled containers. Burning of containers on the farm property. ⁸		Rinsed jugs stockpiled for recycling or landfilling. No unrinsed jugs on farmstead.

Pesticide Handler and Worker Safety

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
4.01) How are pesticide handlers/workers trained on pesticide use and handling?	All handlers/workers are certified pesticide applicators or have had Worker Protection Standard (WPS) training.		Handlers/workers are not certified pesticide applicators and have not had WPS training. ¹⁹		Pesticide applicator certification or WPS training.
4.02) How do you inform handlers/workers of risks associated with pesticide applications?	Central notification of pesticide applications is provided. Display includes EPA-approved safety poster, emergency medical information and pesticide application information.	Central notification provided, although not all posting requirements are met. ¹⁹	No central notification provided. ¹⁹		
4.03) What supplies do you provide handlers/workers for pesticide decontamination?	Clean water, soap, disposable towels and clean coveralls (handlers) are available for all handlers/workers within ¼ mile of worksite.	A decontamination site is provided, although not all WPS requirements are met. ¹⁹	A decontamination site is not available. ¹⁹		

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Pesticide Handler and Worker Safety (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
4.04) How are workers notified of pesticide applications?	<i>Oral and/or posted warnings about pesticide application provided.</i>		No notice about pesticide application provided. ¹⁹		
4.05) Who provides and maintains personal protective equipment (PPE) and trains handlers on its use?	<i>All label-required PPE provided and maintained by employer. Training on use of PPE provided.</i>	WPS requirements for PPE partially met. ¹⁹	PPE not provided. ¹⁹		

Fertilizer Storage and Handling

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
5.01) How far is your fertilizer storage located from a water well?	For private wells: 150 feet or greater. For public wells (dairy farms or farms with employees): More than 800 feet from the farm well. Or, Approved isolation distance deviation for the well. Or, Between 75 and 800 feet with approved storage and well and protective site features.*		For private wells: Less than 150 feet. ¹ For public wells (dairy farms or farms with employees): Less than 800 feet from the farm well. ³		Appropriate fertilizer storage isolation distance for site characteristics.
5.02) How far is your fertilizer storage located from surface water (drains, streams, ponds, catch basins on farmstead, etc.)?	200 feet or greater.	Less than 200 feet with appropriate security measures.	Less than 200 feet.		Appropriate fertilizer storage isolation distance from surface water.
5.03) Is your fertilizer storage facility (both liquid and dry) identified with a sign?	Storage facility labeled "Fertilizer", or the fertilizer containers labeled with fertilizer analysis.	No sign.			

* See groundwater technician for additional information on criteria for reduced isolation distances.

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Fertilizer Storage and Handling (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk - 1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
5.04) What level of security is provided for your fertilizer storage?	<i>Fertilizer storage areas are secure when not in use. Fertilizer is not stored in the direct presence of fuel products or pesticides.</i>		Fertilizer storage facilities are not locked or secured by any means. Open access to theft, vandalism and children exists. Fertilizer is stored in the direct presence of fuel products and/or pesticides.		Adequate fertilizer storage security.
5.05) How often is the fertilizer storage area inspected for safety concerns?	<i>At least annually.</i>		No regular inspections of the storage facility.		Evidence fertilizer storage is inspected at least annually.
5.06) Do you have a written emergency plan to deal with fertilizer spills, discharges and other farm emergencies?	Up-to-date plan developed and shared with authorities (if required), employees and family members.	More than one-year-old plan or an incomplete plan is available.	An emergency farm plan has not been developed.		Up-to-date emergency plan.
5.07) What total quantities of liquid fertilizers are stored on the farm?	No liquid fertilizer stored at any time.	Less than 2,500 gallons.	More than 2,500 gallons.		
5.08) What quantities of dry fertilizers do you store?	No dry fertilizer stored at any time.	Less than 20 tons.	More than 20 tons.		
5.09) What kind of structure is used for dry fertilizer storage?	<i>A structure or device capable of preventing contact with precipitation and/or surface water.</i>		Storage allows fertilizer contact with precipitation and/or surface water.		Satisfactory dry fertilizer storage facilities.
5.10) What kind of container is used for liquid fertilizer storage?	<i>Stored in containers approved for and compatible with the fertilizer being stored.</i>		Liquid fertilizer stored in containers not approved for (or compatible with) the fertilizer being stored. Or fertilizer stored in underground tanks.		Satisfactory liquid fertilizer primary storage containers.
5.11) How long is liquid fertilizer stored on your farm?	Less than 60 days.	60 to 270 days.	More than 270 days.		
5.12) Do you have secondary containment for liquid fertilizer you store on your farm?	All liquid fertilizer is stored with secondary containment.	Containers with greater than 2,500-gallon capacity or all containers located at a single site with a combined total capacity of greater than 7,500 gallons have secondary containment.	Containers with greater than 2,500-gallon capacity or all containers located at a single site with a combined total capacity of greater than 7,500 gallons do not have secondary containment.		Satisfactory liquid fertilizer secondary storage containers, if required.

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Fertilizer Storage and Handling (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
<p>5.13) What is the condition of storage tanks, hoses, valves and fittings used for liquid fertilizer?</p>	<p><i>Tanks, hoses, fittings and valves are in good condition, well maintained and compatible with the fertilizer being stored.</i></p>	<p>Tanks, hoses, fittings and valves have some rust or signs of wear. Tanks were previously used for underground petroleum storage and are in fair condition.</p>	<p>Rusty, aged, worn, damaged or leaking storage tanks, hoses, fittings or valves.⁴</p>		<p>Satisfactory condition of liquid fertilizer storage system.</p>
<p>5.14) How do you manage precipitation and clean up leakage, if it occurs, in your on-farm liquid fertilizer secondary containment facility?</p>	<p>Leakage cleaned up immediately. Appropriate products are used to clean residual fertilizer off of the surface of the secondary containment structure. Contained precipitation/fertilizer mixture spread on field at or below agronomic rate.</p>	<p>Spilled fertilizer recovered, but secondary containment surface not cleaned up after a spill or leakage.</p>	<p>Contained leakage not recovered. Leakage discharged with accumulated precipitation.⁴</p>		<p>Satisfactory explanation of precipitation and leakage management in the secondary containment facility.</p>
<p>5.15) How do you prevent leakage when filling storage tanks, sprayers or mobile containers?</p>	<p>A permanent or temporary mix/load pad used during loading operations. Spills cleaned up immediately. Or, Fertilizer loaded in the field at different locations every time. Spills cleaned up immediately. Or, Dry couplers used to reduce spills and drips when loading liquid fertilizers. Spills cleaned up immediately.</p>	<p>Drips and leakage contained in buckets placed under couplers. Collected fertilizer reused. Spills cleaned up immediately.</p>	<p>No system in place to capture and prevent spills. Leakage from hose connections allowed to drain onto unprotected soils. Spills not cleaned up.⁴</p>		<p>Satisfactory explanation of tank filling procedures.</p>
<p>5.16) How do you prevent backflow or backsiphoning of fertilizer mixtures into your water supply?</p>	<p><i>Anti-backflow device installed and 6-inch air gap maintained above level of liquid in sprayer tank.</i></p>	<p>No anti-backflow device, but <i>air gap maintained.</i></p>	<p>Neither an anti-backflow device nor air gap maintained.^{1,4}</p>		<p>Anti-backflow device or air gap present or demonstrated.</p>
<p>5.17) What do you do with excess fertilizer when field operations are complete?</p>	<p>Fertilizer applied to cropland at or below agronomic rate. Or, Excess fertilizer returned to dealer.</p>	<p>Excess fertilizer stored until next year.</p>	<p>Excess fertilizer applied to cropland without agronomic considerations. Fertilizer dumped at farmstead or in nearby field or pond.^{4,6}</p>		

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Fertilizer Storage and Handling (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
5.18 How do you clean out your liquid fertilizer storage, transfer and application equipment?	Fertilizer equipment rinsed on pad or in field. Rinse water applied to cropland at or below agronomic rate.	Fertilizer equipment not rinsed.	Sprayer rinsed out at farmstead. Rinse water dumped at farmstead or in nearby field or pond. ^{4,6}		
5.19 How far is your mixing and loading area from the water well?	For private wells: 150 feet or greater. For public wells (dairy farms or farms with employees): More than 800 feet from the farm well. Or, Approved isolation distance deviation for the well. Or, Between 75 and 800 feet with approved storage and well and protective site features.*		For private wells: Less than 150 feet. ¹ For public wells (dairy farms or farms with employees): Less than 800 feet from the farm well. ³		Appropriate mixing and loading area isolation distance for site characteristics.
5.20 How far is your mixing and loading area from surface water?	More than 200 feet.	50 to 200 feet.	Less than 50 feet.		Appropriate mixing and loading area isolation distance from surface water.
5.21 When not in use, where do you park loaded planting and spray supply vehicles (trailers and trucks) to protect water resources from accidental fertilizer and pesticide spills and mischievous activities?	Supply vehicle returned to a secure location when not in use. Fertilizer and pesticides (including treated seed) properly stored more than 150 feet down gradient from any well.		Fertilizer and pesticide (including treated seed) supply vehicle left in an unsecured location. Or, Fertilizer and pesticides stored less than 150 feet from any well. ¹		Map showing where vehicles should not be parked adjacent. No evidence vehicles left in unsecured location.

*See groundwater technician for additional information on criteria for reduced isolation distances.

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Petroleum Product Storage and Management

This section is designed to help meet environmental concerns related to petroleum storage; it is not intended to represent all of the legal requirements for storage and handling of petroleum products on the farm.

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk - 1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
All petroleum storage facilities					
6.01 Are fuel storage tanks designed for the way they're being used and compatible with the material stored?	Each tank designed for the way it is being used and compatible with the material stored.		Belowground tank being used for aboveground petroleum storage, aboveground tank being used for underground petroleum storage or tank does not meet specifications for usage. ¹⁵		Fuel tanks used appropriately.
6.02 Are fuel storage piping, secondary containment and related equipment designed for the way they're being used and compatible with the material stored?	Fuel storage piping and equipment designed for the way they are being used and compatible with the material stored.		Fuel storage piping or equipment not designed for the way it is being used. Belowground piping on all underground tanks or aboveground tanks of greater than 1,100 gallon capacity, not corrosion protected. ¹⁵		Fuel storage equipment appropriate for use.
6.03 Do you monitor for and repair any leaks?	Owner and operator ensure that releases do not occur.		Tank and piping not monitored and repaired on aboveground tanks equal to or less than 1,100 gallons capacity. Tank and piping not monitored and repaired on all tanks greater than 1,100 gallons capacity. ¹⁵		No fuel leaks present.
6.04 What design features does your fueling station have to prevent spills from entering the groundwater, surface water or subsurface soils?	Impermeable surface for fuel transfer such as concrete without cracks.		Permeable surface such as asphalt surface for gasoline. ¹⁵		Impermeable surface present for fuel transfer.
6.05 Is your fill opening separate from your vent opening?	Yes.		No. ¹⁵		

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Petroleum Product Storage and Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
<p>6.06 How far is your fuel storage from a water well?</p>	<p>For private wells: 50 feet or greater for most storage tanks. 300 feet or greater for tanks greater than 1,100 gallon capacity or without secondary containment.</p> <p>For public wells (dairy farms or farms with employees): 800 feet or greater from the farm well.</p> <p>Or, Approved isolation distance deviation for the well.</p> <p>Or, Between 75 and 800 feet with approved storage and well and protective site features.*</p>		<p>For private wells: Less than 50 feet for most storage tanks.¹⁵ Less than 300 feet for tanks greater than 1,100 gallon capacity without secondary containment.¹⁵</p> <p>For public wells (dairy farms or farms with employees): Less than 800 feet from the farm well without an approved deviation, protective features or secondary containment.³</p>		<p>Appropriate fuel storage isolation distance from water well.</p>
<p>6.07 Does your tank have secondary containment?</p>	<p>Double-walled tank with continuous space between the two walls, tank in concrete vault or tank in diked area.</p>	<p>No secondary containment for tanks equal to or less than 1,100 gallons capacity.</p>	<p>No secondary containment when combined above-ground storage capacity is 1,320 gallons (55 gallon containers or larger)²⁰ or aboveground tank is greater than 1,100 gallons¹⁵.</p>		
<p>6.08 If you have a combined aboveground petroleum storage capacity of greater than 1,320 gallons (counting 55-gallon containers and greater) and could reasonably discharge into navigable waters of the United States, do you have a spill prevention control and counter-measure (SPCC) plan?</p>	<p>Plan developed and copy present at farm facility.</p>		<p>No plan.²⁰</p>		

*See Groundwater Technician for additional information on criteria for reduced isolation distances.

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Petroleum Product Storage and Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
Farm motor vehicle fuel storage tanks with capacity equal to or less than 1,100 gallons					
6.09 Do you have a lockable closure on each tank's fill opening?	Fill pipe equipped with lockable closure.		No lockable closure on fill pipe. ¹⁵		
6.10 How far is your tank from a storm drain, surface water or designated wetland?	Tank is more than 50 feet away or has some other engineering control present that would control or divert a spill from reaching a storm drain, surface water or designated wetland.		Tank 50 feet or less. ¹⁵		Appropriate fuel storage isolation distance from surface water.
6.11 How far is your (non-fire protected) tank from buildings and property lines?	- More than 40 feet from a building, structure or a property line. - More than 25 feet from a public way.		- 40 feet or less from a building, structure or a property line. - 25 feet or less from a public way. ¹⁵		
6.12 How many tanks (equal to or less than 1,100 gallons) do you have at each site at one facility?	Three or fewer.		More than three. ¹⁵		
6.13 How far apart are your fueling sites at your facility?	100 feet or greater.		Less than 100 feet. ¹⁵		
Aboveground Tanks					
6.14 Is your tank labeled according to its contents with letters 3 inches or more in height?	Yes, labeled according to contents (Gasoline or Diesel) and with the following: "FLAMMABLE" [or "COMBUSTIBLE"] and "KEEP FIRE AND FLAME AWAY". If tank is not a fire-protected type, it is also labeled: "KEEP 40 FEET FROM BUILDINGS".		Tank not labeled with contents. Tanks storing gasoline not labeled: FLAMMABLE — KEEP FIRE & FLAME AWAY. Tanks storing diesel not labeled: COMBUSTIBLE — KEEP FIRE & FLAME AWAY. ¹⁵		

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Petroleum Product Storage and Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
6.15 Is the tank elevated off the ground to protect from corrosion?	Tanks supported on steel or wood supports with adequate strength and stability, or elevated at least 6 inches on solid timbers or cement blocks.		Tank not elevated at least 6 inches. ¹⁵		Appropriate tank elevation.
6.16 Are siphons, manifolds or internal pressure discharge devices present on tank(s)?	Siphons not present on tank(s). Multiple tanks not connected together (no manifold). No internal pressure discharge device present.	Yes, manifold(s) present on tanks installed prior to 2003.	Yes, siphons or internal pressure discharge device(s) present. Yes, manifold(s) on tanks installed after 2003. ¹⁵		No siphons or internal pressure discharge devices present. No manifolds present on tanks installed after 2003.
6.17 Is your tank dispenser (top-opening tank) or discharge connection (gravity discharge tank) made inoperable when not in use?	Yes, locked or otherwise made inoperable.		No. ¹⁵		
6.18 Does your top-opening tank pump discharge or gravity discharge tank have a self-closing nozzle?	Yes.		No. ¹⁵		
6.19 If you have a single-walled tank in a dike with rain protection, is your roof or canopy and supports constructed of non-combustible material and designed so vapors don't collect?	Yes.		No, combustible materials used or design is such that vapors collect under the roof or canopy. ¹⁵		
6.20 If you have tank covered, are roof and canopy supports located on edge of dike or outside diked area?	Yes.		No. ¹⁵		
6.21 If you have tank covered, is the lowest elevation of the roof or canopy 6 feet or higher above the top of the tank?	Yes.		No. ¹⁵		

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Petroleum Product Storage and Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
6.22 If you have tank covered, does the normal tank vent extend through the roof or canopy?	Yes.		No. ¹⁵		
Underground storage tanks					
6.23 Has your fuel tank been tested for leaks within the past three years?	Yes. No leaks detected.		No.		Appropriate report indicates no leaks present.
6.24 Do you have corrosion protection on all parts of your tank(s) or piping that are in contact with the soil?	Yes, properly engineered, installed, maintained and inspected (every three years) corrosion protection provided for tank, piping or portions in contact with the soil.		No, tank or piping in contact with soil without corrosion protection or unmaintained protection. Not inspected at least once every three years. ¹⁵		
6.25 Do you have any unused fuel storage tanks on your farm?	If tank present, it has been emptied, cleaned of liquid and sludge, rendered vapor free and safeguarded from trespassing.		Tank present and not empty, clean and/or vapor free. Tank fill opening not secured to prevent trespassers from putting chemicals in tank. ¹⁵		
Farm motor vehicle fuel storage tanks with capacity greater than 1,100 gallons					
6.26 Is your tank registered and do you display proof of valid registration?	Yes.		No. ¹⁵		Proof of valid tank registration.
6.27 Do you have spill protection on tank fill pipe?	Spill protection (catch basin) installed and maintained on tank fill pipe.		Tank fill pipe does not have spill protection. ¹⁵		Catch basin installed on fuel tank.
6.28 Do you have an emergency control disconnect for electrically operated fueling systems?	Emergency control disconnect located 20 to 100 feet away from dispensing area.		No emergency control disconnect present. ¹⁵		Appropriate disconnect control present.
6.29 Do you have absorbent materials, a container with lid and a non-metallic shovel to deal with a petroleum spill?	Spill kit present.		No spill kit. ¹⁵		Spill kit present.

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Petroleum Product Storage and Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
6.30 Has your fuel tank been tested for leaks within the past three years?	Yes. No leaks detected.		No.		Appropriate report indicates no leaks present.
Aboveground storage tanks with capacity greater than 1,100 gallons					
6.31) Does your tank have secondary containment?	Yes, double walled tank or tank within diked area.		No. ¹⁵		Appropriate secondary containment.
6.32) How far is your tank from buildings, property lines and public ways? In-vault tank up to 15,000 gallons. Protected aboveground tank 6,000 gallons or less. 6,000 to 16,000 gallons or less. Other secondary containment tank up to 12,000 gallons.	From bldg. From lot line From public way 15 feet 15 feet 10 feet 5 feet 15 feet 5 feet 15 feet 25 feet 10 feet 40 feet 50 feet 25 feet		Less than distance indicated for type of tank.¹⁵		
6.33) Do you have a fence to prevent unauthorized entry?	Tank or property fenced or tank within vault with entry protected from unauthorized entry or vandalism.		Unprotected from unauthorized entry.¹⁵		
6.34) Do you have crash protection for your tank and piping?	Yes, guard posts or appropriate barrier installed for crash protection.		No.¹⁵		Crash protection present for fuel tank.
6.35) Is your tank labeled according to its contents with letters 3 inches or more in height?	Yes, labeled according to contents (Gasoline or Diesel) and with the following "FLAMMABLE [or COMBUSTIBLE] LIQUIDS" and "KEEP FIRE AWAY".		Tank not labeled.¹⁵		

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Petroleum Product Storage and Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
Underground tank with capacity greater than 1,100 gallons					
Do you have any unused fuel storage tanks on your farm?	If aboveground tank present, it has been emptied, cleaned of liquid and sludge, rendered vapor free and safe-guarded from trespassing.		Aboveground tank present and not empty, clean and/or vapor free. Tank fill opening not secured to prevent trespassers from putting chemicals in tank. ¹⁵		
6.37 Did you have a professional (trained and certified by the tank manufacturer) install your tank?	Professional installation.		No. ¹⁵		
6.38 Do you have insurance or can you demonstrate financial responsibility should you have a fuel release?	Yes, meet the \$500,000 financial responsibility level for tanks less than 10,000 gallons.		Unable to demonstrate financial responsibility for third party injury and property damage due to accidental release. ¹⁵		
6.39 Do you have any unused underground fuel storage tanks on your farm?	No, tanks have been removed from ground and the site. Excavation site checked for evidence of contamination (site assessment). Any contamination present was properly handled.	Underground tank removed or filled with inert solid material (where removal risked building damage). Excavation not checked for contamination. ¹⁵	In-ground tank has been left unused for 12 months, or removed tank still on site. ¹⁵		

Waste Management

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
7.01 How do you manage household waste and waste generated on the farm?	All waste recycled or disposed of in a licensed solid waste facility or incinerator.		Household waste burned on site (if allowed by local government). Farm waste burned on site. ⁸		
7.02 Do you have a farm dump?	No farm dump, or farm dump properly cleaned up and closed.	Farm dump exists but not being used.	Farm dump still in use.		

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Waste Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
7.03 If you have a household trash burn barrel or incinerator, what do you do with the ashes?	Ashes collected and disposed of in licensed landfill.	Ashes stored or disposed of on the farm more than 300 feet from a well or surface water.	Ashes stored or disposed of on the farm within 300 feet of a well or surface water.		
7.04 How do you dispose of hazardous product containers (treated seed bags, feed bags, feed additives, etc.)?	Recycled or reused appropriately, or disposed of at licensed landfill, or hazardous waste collection service used, or returned to the dealer.		Empty and partially filled containers burned or disposed of on the farm.⁸		
7.05 How do you dispose of waste oil?	Recycled.	Burned in approved waste oil heater or furnace.	Dumped on the farm.⁷		Evidence of proper oil recycling or disposal.
7.06 How do you dispose of used antifreeze?	Recycled.	Disposed of in municipal sewer (with municipality's approval).	Dumped on the farm.⁷		Evidence of proper antifreeze recycling or disposal.
7.07 How do you dispose of scrap tires?	Recycled.		Disposed of on the farm.¹¹		
7.08 How do you dispose of lead-acid batteries?	Recycled.		Disposed of or stored on the farm.⁷		Evidence of proper battery recycling.
7.09 How do you dispose of paints, solvents, cleaners?	Used up, taken to household hazardous waste collection or recycled.	Liquid evaporated in open air, sludge taken to licensed landfill.	Burned or disposed of or stored on the farm.⁷		Evidence of proper recycling or disposal.
7.10 How far from water wells are farm hazardous products stored?	For private wells: 150 feet or greater. Or, For public wells (dairy farms or farms with employees): More than 800 feet from the farm well. Or, Approved isolation distance deviation for the well. Or, Between 75 and 800 feet with approved storage and well and protective site features.*		For private wells: Less than 150 feet.¹ For public wells (dairy farms or farms with employees): Less than 800 feet from the farm well.³		

*See Groundwater Technician for additional information on criteria for reduced isolation distances.

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Waste Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk - 1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
7.11 Are used motor oil, new oil and hydraulic oil stored in acceptable containers and properly isolated from drinking water wells?	Oil in acceptable containers stored on impermeable floor or in secondary containment and with reasonable isolation from any well.	Oil stored in acceptable containers but with inadequate isolation from any well.	Oil stored in leaking containers. Evidence of oil soaking into the soil.		Acceptable oil storage demonstrated.
7.12 Are floor drains present in farm buildings?	No, or all drains go to an appropriate system designed for the materials drained.	Floor drains are made inoperable except when used for appropriate materials, or materials are stored in secondary containment to prevent leaks from entering drain	Floor drains are discharged to surface water,⁴ are vulnerable to spills, or drain hazardous materials to inappropriate systems.⁴		Quantities of hazardous materials stored in secondary containment or floor drains plugged to prevent spills or major losses from entering the drain.
7.13 Do you have a mercury manometer on the farm?	No.		Yes.		No mercury manometer gauges on the farm.
7.14 Do you have other mercury-containing devices on the farm? (Examples include thermostats, thermometers, irrigation switches, septic lift station switches and other switches.)	No	Some mercury-containing devices.	Yes, many mercury-containing devices.		

Septic System Management

Risk Question (recommended)	Low Risk - 3 (potential hazard)	Medium Risk - 2 (significant hazard)	High Risk - 1 Risk	Your Risk	Records or evidence for MAEAP verification
8.01 Is the bathroom in the farm building connected to a septic system to treat the waste?	Bathroom in farm building connected to septic tank and drainage field. Or, No bathroom in farm building.		Waste drains to manure or building pit.¹⁶ No septic system. Direct discharge of wastes to environment.⁴		If there is a bathroom in the barn, it must be connected to a functioning septic system.

Note: when there is a septic system for the bathroom in the farm building, complete the remainder of this section for both the farm building and house septic systems. If not, complete it for the house septic system.

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Septic System Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
8.02) Is your septic system adequately sized to treat wastewater generated in your house?	Tank and drainfield designed to handle more wastewater than required, based on number of bedrooms in house and soil characteristics.	Capacity just meets wastewater requirements.	Design capacity is much less than potential flow of wastewater. Or no septic system: direct discharge of wastes to environment. ⁴		
8.03) What is the age of your septic system?	Less than 5 years old.	6 to 20 years old.	More than 20 years old.		
8.04) What distance separates the septic tank and drainage field from water wells?	Greater than 50 feet from private wells (75 feet from public wells including dairy farms and farms with employees).		Less than 50 feet from a private well(s) ¹ (less than 75 feet from public wells, including dairy farms and farms with employees). ³		
8.05) When was the last time the septic tank was pumped out?	Within the past 5 years.	5 to 10 years.	More than 10 years ago.		
8.06) Who pumps out the septic tank?	Licensed contractor.		Farmer/self or unlicensed contractor. ⁹		
8.07) How is the drainfield protected from traffic, deep-rooted plants and structures?	Vehicles and other heavy objects or activities kept away from drainfield area. No deep-rooted plants, pavement or structures over the drainfield.		Vehicles, livestock, heavy objects or other disturbances permitted in area. Trees planted in or directly next to the drainfield.		
8.08) Are there any signs of trouble with the septic system?	Household drains flow normally. No sewage odors inside or outside. Soil over drainfield firm and dry. Well water tests negative for coliform bacteria.	Household drains run slowly or soil over drainfield is sometimes wet.	Sewage odors noticed in the house or near the drainfield. Drains plugged or back up. Soil wet or spongy in drainfield area. Well water tests positive for coliform bacteria.		
8.09) What records do you maintain on your septic system?	Good map and records of system repairs and maintenance are kept.	Some records maintained.	No map and maintenance records kept.		

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Septic System Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk - 1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
8.10 How frequently is the septic system used for grease and solid waste disposal from the kitchen?	Solid kitchen wastes and grease are not disposed of in the septic system.	Moderate use of the septic system for solids and grease disposal from the kitchen.	Frequent use of the septic system for solids and grease disposal from the kitchen.		
8.11 What kinds of farm cleaners, solvents and other chemicals are poured down the drain?	Moderate use of cleaning products that end up in wastewater. Hazardous chemicals never poured down drain or toilet.	Moderate use of cleaning products. Small amounts of hazardous chemicals poured down drain or toilet.	Heavy use of cleaning products. Septic system used to dispose of hazardous chemicals (solvents, degreasers, acids, oils, paints, disinfectants, pesticides). ⁴		
8.12 How do you conserve water in your household?	Water-conserving fixtures and practices used. Drips and leaks fixed immediately.	Some water-conserving steps taken (low-flow shower heads, fully loaded washing machine or dishwasher).	No water-conserving practices. High-volume standard bathroom fixtures used. Leaks not repaired.		
8.13 How is water softener recharge water handled?	Underground drainage separated at least 50 feet from well and septic systems (75 feet from the farm well for dairy farms or farms with employees).	Open ditch, farm field drain.	Septic system.		
8.14 How are discharges from footer drains, basement sumps and roof drainage handled?	Grassed area, open ditch, field drain.		Septic system.		

General Livestock Management

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk - 1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
9.01 Did you follow the Michigan Right-to-Farm site selection and odor control guidelines to site a new or expanding livestock production facility (after August 1, 2003)?	Yes, with MDA verification. Yes, and MDA verification is not required. Or, Not applicable.	Yes, followed siting GAAMP recommendations. Have not been verified by MDA.	No.		Conformance with site selection and odor control GAAMP.

Note: large, concentrated animal feeding operations (CAFOs) may be subject to additional regulations.^{20,4}

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General Livestock Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
9.02) Do you have a utilization plan for the manure nutrients generated on your farm?	Total nutrient production is known and sufficient crop acres available to use manure nitrogen and phosphorus safely. <i>Manure applications discontinued if the soil phosphorus test reaches 300 pounds per acre (150 ppm) of Bray P1 phosphorus.</i> Or other utilization plan safely uses manure nutrients.		Manure nutrient production is unknown, or nutrient production exceeds land capacity, or no plan exists for manure utilization.		
9.03) What livestock manure records do you maintain?	<i>Records kept of manure analysis, soil test reports and rates of manure application for individual fields.</i> Records maintained for 5 years.	Some manure management records maintained.	No written records available.		
9.04) Do you have an emergency action plan in the case of a manure spill?	Up-to-date written plan available and understood by all farm employees.	Incomplete or out-of-date action plan available.	No emergency action plan that deals with manure spills.		Up-to-date emergency farm plan.
9.05) How are bodies of dead animals handled?	Buried, incinerated, landfilled, placed in a compost pile or picked up by a rendering service within 24 hours of death, and meeting the requirements of the Bodies of Dead Animals Act. Or, Stored for a maximum of 7 days at 40 degrees F or a maximum of 30 days at 0 degrees F before proper disposal of the carcass, and meeting the requirements of the Bodies of Dead Animals Act.	Buried, incinerated, land-filled, placed in a compost pile or picked up by a rendering service after 24 hours of death. Or, Stored for more than 7 days at 40 degrees or more than 30 days at 0 degrees before disposal of the carcass. ¹⁴			Appropriate disposal of dead animal bodies demonstrated.

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General Livestock Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
9.06) How do you dispose of animal health care needles and syringes?	Sharps are put into a puncture-resistant container, labeled and taken to licensed landfill.		Disposal at landfill without protective containment, or disposed of on the farm. ²		Use of a labeled, puncture-proof container for sharps.
9.07) How do you dispose of unwanted or unusable animal medications and health care products?	Taken to licensed landfill or veterinarian or distributor for disposal.		Flushed down the drain, dumped on the farm or dumped in the manure pit. ⁴		
9.08) Do livestock waterers have backflow prevention to protect the well from contamination?	All waterers have backflow prevention built into the waterer or in the water line to the waterers, or an air gap.	Most waterers have backflow prevention.	No backflow prevention for livestock waterers. ¹		

Livestock Manure Storage

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
Liquid manure storage systems					
10.01) How far is your manure storage from any wells?	<p>For private wells: 150 feet or greater.</p> <p>For public wells (dairy farms or farms with employees):</p> <ul style="list-style-type: none"> -More than 800 feet from the farm well. <p>Or,</p> <ul style="list-style-type: none"> -Approved isolation distance deviation for the well. <p>Or,</p> <ul style="list-style-type: none"> -Between 200 and 800 feet with approved storage and well and protective site features.* 		<p>For private wells: less than 150 feet.¹</p> <p>For public wells (dairy farms or farms with employees): less than 800 feet from the farm well.³</p>		Appropriate well isolation distance for site characteristics.

*See groundwater technician for additional information on criteria for reduced isolation distances.

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Livestock Manure Storage (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk - 1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
<p>10.02 Is your manure storage located near any surface water?</p>	<p>System designed to NRCS or private engineering specifications and properly maintained. More than 300 feet from surface water.</p>	<p>System designed to NRCS or private engineering specifications and properly maintained. Less than 300 feet from surface water.</p>	<p>Storage constructed with no formal design standards or specifications. Facility not properly maintained. Evidence of previous discharge of manure or high potential for discharge. Less than 300 feet from surface water.</p>		<p>Appropriate manure storage design and isolation from surface water.</p>
<p>10.03 Are your liquid manure storage structures properly designed, installed and maintained?</p>	<p><i>Construction design for manure storage and treatment facilities meets specifications and guidelines found in the NRCS-FOTG, the Concrete Manure Storages Handbook (MWPS-36), Circular Concrete Manure Tanks Publication (Midwest Plan Service, 1998).</i> System properly maintained.</p>		<p>Evidence of overflow. Lining material integrity broken; coarse-textured soils. No specific design or specification followed. Medium-textured soil, no clay liner. Water table less than 2 feet from bottom of facility.</p>		<p>Appropriate manure storage design, installation and maintenance demonstrated.</p>
<p>10.04 How do you prevent overflow in liquid manure storage (maintain freeboard)?</p>	<p><i>All manure storage structures maintain a minimum of twelve inches of freeboard (six inches for fabricated structures) plus the additional storage volume necessary to contain the precipitation and runoff from a 25-year, 24-hour storm event.</i> No evidence that manure has been over the calculated safe freeboard level. Safe freeboard level known and is visible on tank or storage basin.</p>	<p>No evidence that manure overflowed storage. Safe freeboard level is known but not visibly marked on the tank.</p>	<p>Evidence that manure overflowed the storage facility. Safe freeboard level is unknown and not visibly marked on the tank.</p>		<p>Appropriate manure storage management demonstrated. Safe freeboard level indicated on storage.</p>

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Livestock Manure Storage (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
Solid-bedded manure systems					
10.05 Where do you temporarily stack manure at the farmstead?	Stacked on impermeable surface or fine-textured soil. Runoff does not reach surface water or pond in low areas.	Stacked on medium-textured soil. Runoff does not reach surface water or pond in low areas.	Stacked on coarse-textured soils, or earthen livestock yard receiving limited hoof traffic.		
10.06 How do you temporarily stack manure in relation to surface water?	Manure stacked downslope from surface water or more than 300 feet upslope. All manure runoff collected and periodically land applied. Storage is watertight and meets or exceeds recommended capacity.	Stacked at least 50 feet away from surface water. Runoff water is diverted to vegetated filter strips or other means to prevent runoff into surface water.	Manure stacked within 50 feet of surface water. No means of runoff or leachate control. Slope is toward surface water.		Appropriate temporary manure storage demonstrated. Adequate isolation from surface water.
10.07 How long do you allow stacked manure to remain in location?	Less than 90 days.	More than 90 days but less than 365 days.	More than 365 days.		Manure not stacked for more than 365 days.
10.08 How are your solid manure storage structures designed and constructed?	Constructed with a floor of impermeable material (concrete, asphalt) and with walls that prevent leachate from entering surrounding soils. Roof or cover prevents rainfall from entering storage.	Constructed with floor of fine- or medium-textured soils. Leachate will have direct contact with earthen floor or side walls. Leachate and rainfall/snowmelt runoff discharged into a designed system.	Earthen floor constructed with coarse-textured soils. Rainfall and leachate will have direct contact with the earthen floor or sidewalls. Runoff and leachate are uncontrolled. Structure floor is less than 2 feet above groundwater level.		Appropriate manure storage design and management for leachate/runoff.
10.09 How are your buildings with bedded manure packs designed and constructed?	Constructed with a floor of impermeable material or fine-textured soil. Adequate bedding is provided to maintain solid nature of manure. No rainfall or runoff enters the manure area. No waterers in the building. Floor is more than 2 feet above groundwater level.	Medium- to fine-textured soils, limited bedding provided, some rainfall or runoff enters manure area. Waterers in the building. Floor is more than 2 feet above groundwater level.	Building has an earthen floor on coarse-textured soil and is subject to runoff from the roof or adjacent land areas.		Appropriate manure storage design and management for leachate/runoff.

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Livestock Manure Storage (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
10.10) How are manure composting areas designed and constructed?	Constructed on fine-textured soils, packed clay, asphalt or concrete. Site surface is well drained with runoff diversions or filter strips in place. Alternatively, producer utilizes in-vessel composting system.		Composting is done on coarse-textured soils. Poorly drained diversions or filter strips.		Appropriate manure composting design and management.
10.11) Is runoff from manure storage area(s) directly discharging to surface or groundwater?	Provisions made to control and/or treat runoff from stored manure. A designed and maintained vegetative infiltration area or runoff storage basin effectively handles storage runoff.	Inadequate runoff control. Signs of manure runoff past perimeter of vegetated area or exceeding storage basin capacity.	Manure storage runoff adversely affecting surface and/or groundwater quality. ⁴		Appropriate runoff control from manure storage area(s).

Livestock Yard Management

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
11.01) How far is the livestock yard located from any well?	Fifty feet or more from residential wells (75 feet from the farm well for dairies or farms with employees).		Less than 50 feet from residential wells ¹ (less than 75 feet from the farm well for dairies or farms with employees). ³		Appropriate livestock isolation distance from water well(s).
11.02) How far is the livestock yard located from surface water?	Properly designed and maintained livestock yard is more than 300 feet from surface water. Runoff control protects neighboring land areas and prevents direct discharge to surface or groundwater.	Livestock yard is 75 to 300 feet from surface water. Runoff control protects neighboring land areas and prevents direct discharge to surface or groundwater.	Evidence that manure-contaminated runoff water flows from yard to surface water or to adjacent property. ⁴		Appropriate livestock isolation distance from surface water.

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Livestock Yard Management (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
11.03) What efforts are made to divert roof water and upslope watershed drainage from becoming contaminated with manure?	<i>Clean runoff diverted away from the livestock yard.</i>	Most <i>roof water and upslope watershed drainage is diverted around livestock yard. Water that contacts manure is treated or contained and applied to cropland.</i>	No clean water system in place. Most roof water and upslope watershed drainage runs through yard.		Appropriate clean water management for livestock yard(s).
11.04) How is livestock yard runoff managed to protect surface water and groundwater?	<i>All yard runoff directed to a properly designed and maintained runoff storage basin, or runoff is directed to a designed settling basin and vegetated infiltration area where vegetation is annually harvested. No evidence of runoff to surface water or ponding in low areas.</i>	<i>No evidence of runoff flow to surface water or ponding in low areas. Dense vegetation or cropland that is annually harvested exists between yard and surface water.</i>	Evidence of runoff flow to surface water or intermittent waterway.⁴		Appropriate runoff control for livestock yard(s).
11.05) How often is manure scraped and removed from livestock yards?	<i>Manure is scraped and removed periodically from livestock yard. Manure is scraped and removed from vicinity of feeding and watering areas when accumulation forms a volume that may be hauled.</i>		Manure is seldom scraped and removed from yard and feeding and watering areas.		Appropriate manure management in livestock yard(s).
11.06) What is the floor or base of the livestock yard?	Properly maintained concrete or compacted asphalt.	Continuous-use, compacted dirt yard. Minimal plant material growing.	Inadequate compaction layer. Plant growth visible.		Appropriate floor or base in livestock yard(s).

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Silage Storage

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
12.01 How far is your silage storage located from a water well?	More than 300 feet.	50 to 300 feet.	Less than 50 feet.		
12.02 How far is silage storage from surface water?	More than 300 feet.	50 to 300 feet.	Less than 50 feet.		
12.03 What type of soil do you have on your property?	Fine-textured soils (clays).	Medium-textured soils (silt loam, loam).	Coarse-textured soils (sands).		
12.04 Does untreated silage leachate or polluted runoff run to a low area and pond?	No.		Yes.		
12.05 Is clean water (rain water, snow melt, etc.) diverted away from stored feed?	Clean water is diverted away from stored feed.	Clean water comes in contact with stored feed.	Clean water washes stored feed from storage area.		
12.06 Are silage leachate and polluted runoff collected and/or treated?	<i>Provisions made to control and/or treat leachate from stored silage to protect groundwater and surface waters from a direct discharge. Designed system or management controls in place.</i>	Designed system in place but not maintained.	No system in place. Or lack of appropriate management. Or discharge to surface or ground water. ⁴		Appropriate silage leachate management.
12.07 At what moisture content do you typically harvest and store silage?	<i>Generally below 67 percent.</i>	Between 67 and 80 percent.	Over 85 percent.		Lack of excessive silage leachate.
Bunker silos					
12.08 What type of floor does the silage storage have?	Concrete, asphalt or lined surface. No cracks or cracks repaired.	Earthen floor with fine-textured soils.	Earthen floor has permeable soils or concrete, asphalt or lined surface with many cracks.		A maintained impervious surface or fine-textured earthen floor.
12.09 Is silage covered?	Tight-fitting cover, no leaks.	Cover leaks.	No cover.		
12.10 Are the silage pad and surrounding area kept clean and free of loose silage?	Pad is kept clean.	Evidence of spilled or loose silage.	Pad is not kept clean.		

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Silage Storage (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
12.11) Is silage kept with a vertical face to reduce contact with clean water?	Yes.	Mostly vertical.	No.		
12.12) Do you have an emergency action plan for times when leachate production exceeds current management controls?	Up-to-date written plan available and understood by all farm employees.	Incomplete or out-of-date emergency action plan available.	No emergency action plan that deals with excess leachate.		An up-to-date emergency action plan.
Upright silos					
12.13) If there is a floor drain, is leachate collected, treated and/or stored, and applied at agronomic rates?	Yes.		No. ⁴		Appropriate silage leachate management demonstrated.
12.14) How often is the silo inspected?	Twice a year.	Once a year.	Less than once a year.		
12.15) For sealed silo systems, is leachate evident around the outside of the silo?	No.	Yes. Leachate is treated or stored.	Yes. Leachate is not treated or stored.		
12.16) For glass-lined storage facilities, how old is the lining?	Less than 6 years.	Between 6 and 40 years.	Older than 40 years.		
Silage bags					
12.17) Are holes repaired and the bag watertight?	Yes, holes are repaired and the bag is watertight.	Some holes are repaired.	Holes are not repaired and moisture is entering the bag.		
12.18) Is plastic disposed of in a licensed landfill?	Yes.		No.		
12.19) Is there a mechanism for collecting or treating accumulated leachate?	Yes.	No.			

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Milking Center Wastewater Treatment

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
13.01 How many gallons of water do you use per cow for cleanup of the milking center?	Fewer than 20 gallons.	20 to 50 gallons.	More than 50 gallons.		
13.02 Where are milking center chemicals, disinfectants and antibiotics stored?	Stored in partitioned off, protected area away from drains.	Stored in a location where a spill could reach the drain.	Stored in high-traffic area near drains.		
13.03 Is the cooling water from plate coolers collected?	Yes, or discharged with permit from DEQ.	Discharged onto ground, does not intercept surface water.	No. Cooling water (>10,000 gal./day) is discharged to surface waters without a permit. ⁴		Appropriate cooling water management demonstrated.
Total collection method. If this method is not used, skip to the next section.					
13.04 Is all wastewater collected, stored and applied at agronomic rates?	All wastewater is directed to a designed storage area and waste applied to fields at agronomic rates.	Most wastewater is collected or treated.	Wastewater is not collected or treated.		Appropriate collection of wastewater demonstrated. Records of application.
Milking system septic systems. If this method is not used, skip to the next section.					
13.05 Is the septic system designed to handle the volume of wastewater?	Yes.		No.		System operating effectively, without evidence of a discharge.
13.06 Is the septic system periodically pumped?	Tank pumped as needed or every 3 to 4 months.	Annual pumping.	Tank is rarely or never pumped.		
13.07 Is all milkhouse water treated by the septic system?	Yes.		Some water is not treated or is discharged to tile, inlet or drainage ditch. ⁴		Collection and treatment of all wastewater demonstrated.
13.08 What are your parlor cleanup practices?	First pipeline rinse captured and added to barn manure. Waste milk never poured down drain. Manure and excess feed removed from parlor before wash-down.	Some milk poured down drain. Some manure and excess feed removed before wash-down.	All waste milk poured down drain. Manure and excess feed frequently washed down drain.		
Application of wastewater to designed infiltration system. If this method is not used, skip to the next section.					

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Milking Center Wastewater Treatment (continued)

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
13.09 Is pretreatment such as a settling tank or lagoon utilized?	Yes, properly sized settling tank, lagoon or other pretreatment system used.	Undersized settling tank, lagoon or other pretreatment system.	No pretreatment.		
13.10 Is the system designed to handle the capacity of wastewater generated?	Yes. Infiltration area effectively treats the quantity of wastewater generated.	Infiltration area shows minor erosion, wastewater ponding or burned vegetation.	No. Infiltration area has excessive erosion, wastewater ponding or burned vegetation.		Properly operating system.
13.11 How is the designed infiltration system maintained?	<i>Vegetation maintained and harvested at least once per year.</i> Accumulated solids removed, if needed.	Occasional maintenance.	No maintenance.		Vegetation maintained and harvested. Records of maintenance.
Rapid surface infiltration system. If this method is not used, skip to the next section.					
13.12 What is the soil type?	Slowly permeable soil. Application does not exceed infiltration rate.	Medium permeable soil. Application does not exceed infiltration rate.	Highly permeable soil or application rate exceeds infiltration rate.		
13.13 How far is the infiltration area from your drinking water well?	More than 300 feet.	75 to 300 feet.	Less than 75 feet from wells of dairies or farms with employees.³ Or less than 50 feet from a private well.¹		
13.14 How far is the infiltration area from surface water or drainage ditches?	More than 300 feet.	300 to 150 feet.	Less than 150 feet.		
13.15 Is wastewater allowed to rapidly infiltrate into the soil?	No.		Yes, highly permeable soil.		Effective operating system.
Direct discharge to surface or groundwater.					
13.16 Is wastewater directly discharged to a lake, drainage ditch, stream or field?	No. <i>Milk parlor and milkhouse wastewater is managed in a manner to prevent discharge into surface water.</i>		Yes.⁴		No discharge present.

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Other Environmental Risks at Farmstead System

Risk Question	Low Risk - 3 (recommended)	Medium Risk - 2 (potential hazard)	High Risk -1 (significant hazard)	Your Risk	Records or evidence for MAEAP verification
14.01) Are there other activities, products, processes/equipment, services, byproducts, and/or wastes at this farmstead that pose contamination risks to groundwater or surface water?	No.	Yes, plan to mitigate the contamination risk.	Yes, but no plan to mitigate contamination risk.		No other environmental risks found at farmstead.

Farmstead Improvement Action Plan

Develop your farmstead improvement action plan for risks on your farmstead beginning on the inside cover of this bulletin. Once you have implemented your plan, you can request MAEAP verification of your farmstead system.

Table 2. Federal, state and local environmental requirements for operation of this farm business.

This table contains the typical requirements for a farm business. There may be additional environmental requirements due to the type of operation and location. Contact the local or state permitting agencies for further information: MDEQ Environmental Assistance Hotline — 1-800-662-9278, MDA information — 1-800-292-3939.

Environmental regulatory requirements	Description	Frequency	Administering agency	Your expiration date
Private pesticide applicator certification	Any persons using or supervising the use of restricted-use pesticides (RUP) in the production of an agricultural commodity on their own or their employer's land must be a certified pesticide applicator.	3 years	MDA/Pesticide and Plant Pest Management Division (PPPM)	
Pesticide safety training for pesticide workers	The federal Worker Protection Standard for agricultural pesticides requires employers of pesticide handlers and workers to train employees on pesticide safety. Agricultural employers must be able to verify compliance.	Each employee must be trained every 5 years	MDA/PPPM	
NPDES permit CAFO	National Pollutant Discharge Elimination System permit for large concentrated animal feeding operations (CAFOs).	5 years or as noted on permit	MDEQ/Water Bureau	
MAEAP option	An NPDES alternative for CAFOs built and in production prior to Feb. 27, 2004. You must have applied for the MAEAP option prior to Sept. 1, 2005.	3 years	MDEQ/Water Bureau	Expires December 2007
Farm motor vehicle fuel storage tanks greater than 1,100 gallon capacity (above- and below-ground tanks)	Fuel storage tanks have to be certified (aboveground) or registered (underground); a site plan has to have been submitted to the DEQ before the installation is placed into service. Smaller tanks have other requirements to be met.	Annual	MDEQ/Waste and Hazardous Materials Division	
Air use permit	Permit to install and operate equipment or processes which may emit air contaminants (incinerators for burning animal carcasses or manure, and biodigesters and associated equipment are examples).	Before construction	MDEQ/Air	N.A.
Groundwater discharge permit	Any discharge of waste or waste effluent into or onto the ground (e.g., egg wash water and milk cooling water [over 10,000 gallons/day] that is discharged), and any livestock facility over 5,000 animal units.	5 years	MDEQ/Water Bureau	
Well permit	A person who installs a well, pump or pumping equipment shall comply with applicable laws, regulation, ordinances and codes.	Before construction	Local health department	N.A.
Septic permit (house and farm operation)	The first step in the process of determining if a piece of land that does not have municipal wastewater services available can be considered for an on-site septic system.	Before construction	Local health department	N.A.
Land and water interface construction permits	Construction activities (dredging, filling, draining, construction, structure placement) in, across, under water.	Before construction	MDEQ/Land and Water Management Division	N.A.

Table 2. (continued)

Environmental regulatory requirements	Description	Frequency	Administering agency	Your expiration date
Soil erosion and sedimentation control permit	Earth change activities within 500 feet of a lake or a stream, or that will disturb an area greater than 1 acre in size.	Before construction	County soil erosion permitting agency	
Water use reporting	Agricultural water users with the capacity to withdraw surface or groundwater that exceeds 100,000 gallons per day (70 gallons per minute) are required to report actual water withdrawals annually.	annual	MDA	
Other environmental guidelines	Description		Administering agency	
Manure management and utilization	The Michigan Right-to-Farm Act (Act 93 of 1981) requires the establishment of generally accepted agricultural and management practices (GAAMPs). Agricultural producers who voluntarily follow these practices are provided protection from public or private nuisance litigation. The GAAMPs are reviewed annually. The latest GAAMPs can be accessed at: http://www.michigan.gov/mda .		MDA	
Pesticide utilization and pest control				
Nutrient utilization				
Site selection and odor control for new and expanding livestock production facilities				
Irrigation water use				
MAEAP verification: livestock, farmstead, and cropping systems	MAEAP systems verification is valid for three years. MAEAP verification in good standing is dependent on following the practice specific to each system, being in conformance with the applicable GAAMPs, an annual plan review and update (livestock system) and updates as necessary as conditions change on the farm.		MDA	

Table 3. Legal citations for environmental risks in Farm*A*Syst

Foot note	Michigan Law	Description
1	Public Health Code, Public Act 368 of 1978	Part 127: Water Supply and Sewer Systems
2		Part 138 Medical Waste Regulatory Act
3	Safe Drinking Water Act, Public Act 399 of 1976	
4	Natural Resources and Environmental Protection Act 451 of 1994	Part 31: Water Resources Protection
5		Part 55: Air Pollution Control
6		Part 83: Pesticide Control
7		Part 111: Hazardous Waste Management
8		Part 115: Solid Waste Management
9		Part 117 Septic Waste Servicers
10		Part 121: Liquid Industrial Waste
11		Part 169: Scrap Tires
12		Part 201: Environmental Response
13		Part 327 Great Lakes Preservation
14	Bodies of Dead Animals Act, Public Act 239 of 1982 as amended	
15	Fire Prevention Code Public Act 207 of 1941	
16	Grade A Milk Law, Public Act 266 of 2001	Storage and Handling of Flammable and Combustible Liquids
Federal Law		
17	Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)	
18	Title III of the Superfund Amendments and Reauthorization Act of 1986, also know as the Emergency Planning and Community Right-to-Know Act	
19	Worker Protection Standard for Agricultural Pesticides	
20	Clean Water Act	

Farmstead Improvement Action Plan (continued)

Risk question	List high-risk practice(s) from Farm*A*Syst and medium-risk practices that do not meet MAEAP requirements	Required for MAEAP verification?	Alternative low-risk practice (Include potential sources of technical and financial assistance.)	Action plan	
				Planned completion date	Indicate date when completed

MAEAP Verification Action Plan

Target date for MAEAP verification of Farmstead System	DATE
Target date for MAEAP verification of Cropping System	
Target date for MAEAP verification of Livestock System	

For MAEAP verification, contact MAEAP Office at the Michigan Department of Agriculture: 517-373-9797.



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