EDC 328

Iowa Farm*A*Syst

A Farmstead Assessment System

Assessing Your Emergency Response Planning for Manure Spills

Simple ***Confidential*** ***Accurate***

What is Iowa Farm*A*Syst?

Iowa Farm*A*Syst is a farmstead assessment system developed to assist rural residents in protecting their water resources, particularly their drinking water. Individuals can tailor the Iowa Farm*A*Syst program to meet their needs by choosing specific topics that fit their farmstead or acreage. The Iowa Farm*A*Syst program is based on a series of 12 publications, including the following:

- Assessing Your Farmstead Characteristics (EDC 264)
- Assessing Your Water Well Condition & Maintenance (EDC 265)
- Assessing Your Household Wastewater Management (EDC 266)
- Assessing Your Open Feedlot Manure Management (EDC 267)
- Assessing Your Confinement Livestock Manure Management (EDC 268)
- Assessing Your Milking Center Wastewater Management (EDC 269)
- Assessing Your Dead Animal Management (EDC 270)
- Assessing Your Pesticide Storage & Management (EDC 271)
- Assessing Your Fertilizer Storage & Management (EDC 272)
- Assessing Your Petroleum Storage & Management (EDC 273)
- Assessing Your Hazardous Materials Storage & Management (EDC 274)
- Assessing Your Emergency Response Planning for Manure Spills (EDC 328)

Each publication gives you a brief background on the subject and an assessment worksheet to evaluate on-farm practices affecting water quality. Also included are references to Iowa environmental laws and contact information for technical advice.

Why should I use the Iowa Farm*A*Syst materials?

Seventy-five percent of Iowans get their drinking water from groundwater sources. These sources include private wells, in addition to municipal wells and rural water sources. If your drinking water comes from a private well, you have good reason to be concerned about the quality of your drinking water. A 1990 statewide survey of rural well water found that 45 percent of private wells are contaminated with coliform bacteria, 18 percent contain unsafe levels of nitrate, and 14 percent contain pesticides. The Iowa Farm*A*Syst publications help you to determine what environmental risks could threaten your family's health and financial security and suggest the resources to help make necessary changes.

How do I start assessing my farmstead?

The 12 Iowa Farm*A*Syst publications are each designed to be stand-alone publications. However, the first step to assessing your farmstead should be to draw a map of the area, labeling any potential sources of contamination. *Iowa Farm*A*Syst Assessing Your Farmstead Characteristics* can help you get started. Every farmstead is unique. You need to evaluate your farmstead's site characteristics to determine the potential for groundwater and surface water contamination. You cannot change the features of your farmstead, but once you are aware of them you can modify your activities to minimize the potential for groundwater contamination. After you have mapped your farmstead, consider what management decisions may be affecting the quality of your water resources. This process will help you to prioritize which of the other Iowa Farm*A*Syst assessments you may want to complete.

For more information or to download additional Iowa Farm*A*Syst publications, visit www.iowafarmasyst.com
or
Contact Rick Robinson, Iowa Farm Bureau
(515) 225-5432

Publications are also available through the Iowa State University Extension Distribution Center at www.extension.iastate.edu/store/ or 515-294-5247.

Emergency Response Planning for Manure Spills

They thought it would never happen again, but it did.

On Memorial Day weekend of 2002 in a small Iowa town, a man was driving past his brother's cattle confinement when he noticed something very wrong. Manure was spilling from a lagoon recycling pipe. He quickly called his brother and informed him of the grim sight. It was about 3:00 p.m. and the lagoon and transfer pipes had just been checked for leaks at 9:00 a.m. that morning. The farmer knew he must act quickly. The confinement operation was located only 200 yards from a creek that emptied into the Des Moines River just a few miles downstream. Manure had already reached the creek.

The farmer rushed to a nearby construction site where the crew was wrapping things up for the long weekend. Many members of the crew were friends and part-time farmers and understood the urgency of the situation. Within the hour, dams were constructed in the creek to contain the polluted water and stop fresh water from adding more volume to that area of the creek.

A stroke of luck occurred when a neighbor of the farmer drove by and noticed the commotion. That neighbor also happened to be a commercial manure applicator. A pump was immediately brought in to pump the polluted water out onto a grass pasture. They continued pumping polluted water out of the stream for 24 hours. Up to 1 million gallons of manure was released from the lagoon, but quick thinking by the farmer avoided what could have been a disaster.

A previous manure spill had occurred at this same operation 4 years earlier. The first spill was due to human error, but the farmer was confident he and his family had taken the necessary precautions to prevent another spill. However, the cause of the second spill could not be attributed to human error. A threaded fitting on the 30 year old system, showing no signs of stripping, slipped off a recycling pipe inletting to the lagoon. The second spill demonstrated to the farmer the importance of emergency response planning. No matter how safe you may think you are from a manure spill, it's never a sure thing.

A manure spill has the potential to cause real destruction to you, your family, the environment or your farming operation. Although you can't predict when a manure spill might occur, you can take a number of precautions to reduce the likelihood of a manure release and develop a plan for how you will react to one.

NOTE: This publication does not summarize all the laws related to animal feeding operations. Due to the technical nature of Iowa law and Iowa Department of Natural Resources (DNR) rules, you are advised to contact your regional DNR field office if you have questions not covered in this publication. Contact information for the offices is located in the "For More Information" section found on page 12.

Prevention is the best way to keep spills from occurring in the first place. Refer to Iowa Farm*A*Syst publications EDC 267 and EDC 268 for tips on regular monitoring and other ways to prevent manure spills on your feedlot or confinement operation.

"What kinds of things can I do to prevent a manure spill on my farm?"

Spill Prevention

The most important thing you can do to prepare for a manure spill is to take steps to prevent the spill from occurring in the first place. External factors, such as heavy rainfall, can play a role in causing a manure release.

However, Iowa statistics show that spills and leaks are most often due to human error or equipment failure.

Prevention is much less costly than manure spill remediation and clean-up. General considerations for spill prevention include:

1) Be aware of sensitive field conditions such as sandy soil, shallow bedrock or saturated soil;
2) Exercise caution when applying manure near environmentally sensitive areas such as tile inlets;
3) Monitor structures and equipment regularly.

For more specific recommendations on how best to avoid manure spills and leaks, see Iowa Farm*A*Syst *Assessing Your Open Feedlot Manure Management* (EDC 267) or *Assessing Your Confinement Livestock Manure Management* (EDC 268). These publications were designed specifically to help you plan and prioritize actions that will minimize your potential for water pollution and prevent manure spills.

A manure spill or release is any actual, imminent or probable discharge of manure from an animal feeding operation resulting from the storage, handling, transportation or land application of manure.

"What should I do to plan for a manure spill?"

The 4 C's of Spill Response

How you respond in the event of a manure spill, as well as the environmental impact of the spill, will often dictate regulatory enforcement and penalties. A well thought out and communicated Emergency Response Plan prepares you to act quickly and effectively to minimize spill impacts.

The 4 C's of spill response will help you remember the four main steps of responding to a manure spill.

Step 1) Control: Eliminate the source
Step 2) Contain: Limit the area impacted
Step 3) Comply: Assess and report damage
Step 4) Clean-up: Restore the affected area

A flow diagram on page 9 shows how these four steps should be carried out in response to a manure spill. This diagram may be helpful in communicating the Emergency Response Plan and order of actions to family members or employees. However, it is also important to think through how you would respond to a number of possible spill scenarios and the best actions to protect nearby water resources. The worksheet on page 17 has been provided for this purpose. Manure spills can occur when manure is being stored, loaded, transported or land-applied. The best way to respond in each of these cases may be different.

How you react to a manure spill within the first 5 to 30 minutes will determine the eventual impact of the spill and any possible penalties.

The 4 C's of Spill Response
Step 1: Control
Step 2: Contain
Step 3: Comply
Step 4: Clean-up

Control: Eliminate the source

Stopping the source of a manure spill should always be the first step of response. If manure is released from a lagoon or earthen basin, consider adding soil to the berm to increase elevation of the structure. If a transfer pipe or other hardware breaks, plug any lines or valves that are leaking. Separate pipes to create an air gap and stop the flow of manure. Stop all additional water flow to the structure. If the lagoon or earthen storage structure is leaking at the base or sidewall, plug the holes with a clay type soil. Consult a licensed professional engineer for assistance with any permanent repairs to a lagoon or earthen basin.

In the case of a manure release that occurs during application, stop application immediately and shut off manure pumps. If an umbilical hose ruptures, park a tractor or other heavy equipment on both sides of the break.

Contain: Limit the area impacted

Once the flow of manure has been stopped, the spill must be contained to protect environmentally sensitive areas. How you react within the first 5 to 30 minutes will determine the eventual impact of the spill and any possible penalties.

Important steps to protecting environmentally sensitive areas may include creating dams across streams, ditches or other drainage ways, plugging tile outlets and covering tile inlets. Items assembled in a Manure Spill Response Kit may be essential to being able to quickly contain a manure release. Refer to page 6 for suggestions on what should be contained in a spill kit. You should also consider keeping a smaller version of the spill kit under the seat of your pick-up truck or tractor.

Comply: Assess and report damage

According to Iowa law, any release of manure should be reported to the Iowa Department of Natural Resources (DNR) as soon as possible. A manure release or spill must be reported to the DNR within six hours of when it occurs. Faxes and voice messages are **NOT** considered means of notification.

Ideally, the DNR should be phoned as soon as possible rather than after the spill has been contained. Remember, part of the DNR's job is to help you respond efficiently and effectively in the event of a manure spill. Notifying the DNR as soon as possible allows them the opportunity to provide you help.

If the spill occurs during regular business hours (weekdays, 8:00 a.m. to 4:30 p.m.), report the spill to your DNR Field Office (see "For More Information" on page 12). If the spill occurs on an evening, weekend or holiday, phone the DNR 24 Hour Emergency Response Spill Reporting Hotline at (515) 281-8694 and immediately report the spill to your county sheriff or the local police department. All of these numbers should be recorded as emergency contacts in your Emergency Response Plan. It is also a good idea to program these numbers into your cellular phone. Make note of the approximate time the DNR was called, because the information will be needed later as part of a written report.

You should provide as much information as possible to the DNR when you phone to report the spill. At a minimum, you will be asked to provide the following information:

- Name of the operation and primary contact person.
- Location of the manure spill.
- Time of the manure spill.
- Source of the manure released.
- Approximate volume of the spill.
- Water resources that have been impacted or that may be impacted.

Depending on the size, location and time of the spill, the DNR will determine whether or not they should send out a DNR Environmental Specialist immediately.

All manure spills must be reported to the DNR, regardless of the size or outcome.

Clean-up: Restore the affected area

Your clean-up plan should contain provisions for emergency pumping and land application of manure, even when field or crop conditions would not normally be considered feasible. Consider which fields are best able to handle manure without further damage to the environment or crop. Application rates, methods and set-back requirements must still be followed during emergency manure application. All manure applied for spill clean-up should be recorded in your manure management plan if you are required to have one.

If you have a manure spill, discuss your plans for restoration and clean-up with the DNR. It is a good idea to get written authorization of these plans from the DNR.

A manure spill must be reported to the Iowa DNR as soon as possible or within 6 hours of when the spill occurs.

Manure Spill Response Kit

Even in an area with less than 2 percent slope, manure can flow at up to 5 feet per second! How you react within the first five minutes after a spill is crucial to making the best of a bad situation. Kris Kohl, Iowa State University Extension Agricultural Engineer, recommends the following items be kept together in a spill kit. Keep a trailer loaded with these items anytime manure is being pumped

- ❑ Copy of complete Emergency Response Plan
  Remember to include site maps & emergency numbers.
- ❑ 25 square hay bales
  Use to block a culvert or to build a berm or diversion.
- ❑ 10 T-posts
  Use to support plywood or bale stacks.
- ❑ 14" diameter PVC pipe
  - 4-3 ft. sections & 2-4 ft. sections
  Use to cover tile inlets.
- ❑ Several 6 mil plastic sheets
  - approx. 12 ft. x 25 ft.
  Use with duct tape to cover tile inlets or other sensitive areas.
- ❑ 4 bags bentonite chips
  Use to plug small gaps when creating a berm or diversion. Bentonite can be purchased inexpensively
- ❑ 1 sheet 4 ft. x 4 ft. plywood
  Use to block culverts. Round the plywood on one end to fit the curve of the ditch.
- ❑ Pliers - 1 each
  Vice grips, fencing pliers, channel lock pliers, standard pliers.
- ❑ Hammers - 1 each
  12 oz. and 3 lb.
- ❑ 1 utility knife
- ❑ 1 hand saw
- ❑ 1 hatchet
- ❑ 1 post driver
- ❑ 1 roll duct tape
- ❑ Bailing wire
- ❑ Sand shovels

Mini Kit

These items are small and inexpensive enough to be kept behind the seat of your truck or tractor. By having these items on hand at the site of a spill, you will be able to quickly protect tile inlets or well heads close to the spill.

- ❑ 1 sand shovel
- ❑ 1 roll duct tape
- ❑ 1 utility knife
- ❑ 6 mil plastic sheets (approx. 12 ft. x 25 ft.)

"What should be written in an Emergency Response Plan for manure spills?"

Emergency Response Plan

Writing down your Emergency Response Plan will help you to respond quickly and effectively in case of a manure spill. If a plan has been written down, you will use it. A plan also will provide essential information to workers or family members in the event of an accident. Additionally, a written Emergency Response Plan demonstrates responsible preparation to the public and may reduce the cost of remediation and clean-up.

There should also be three basic components to an Emergency Response Plan for manure spills. These include: 1) a list of emergency contact names and phone numbers; 2) a plan of action to stop the release of manure and prevent water resource contamination; 3) maps and descriptions of the production site, nearby water resources and land application areas.

Emergency Contact List

It is important to compile a list of emergency phone numbers to call in case of a manure spill. The numbers should be written down in the order they are to be called. This list should include your regional Department of Natural Resources Field Office (see the "For More Information" section on page 12) and your county sheriff or local police department, as well as contact information for neighbors or equipment contractors that could supply heavy equipment to contain or clean-up the spill. The list also may identify additional people who can help during an emergency such as emergency medical services, the county engineer or roads department and commercial manure applicators. Other issues to consider include contacts necessary to obtain permission to enter the neighboring property to contain a manure spill or notification of downstream water users. The name of your farm operation, e-911 address, directions to the farm and the farm's primary contact person and phone number should also be written on the emergency contact list. A worksheet to help you compile this information can be found on page 18.

Post the emergency contact list in each animal feeding operation site, the office, the owner or manager's place of residence and frequently used vehicles or tractors. Always post the list in a visible location, by the phone or next to the doorway if there is no phone. It is a good idea to have telephones installed in each farm building or to equip farm employees with cellular phones.

You may also consider programming emergency response phone numbers into your cellular phone. However, programming the numbers into an owner or manager's cell phone should not take the place of having a visibly posted list in several areas of the farm or in frequently used vehicles. Another farm employee, neighbor or family member may be the first to recognize and respond to a manure spill.

An Emergency Response Plan for manure spills has three main parts:

1) Emergency contact list
2) Plan of action
3) Site maps

Large equipment that may be necessary to contain and clean-up a manure spill includes:

- Bull dozer
- Front end loader
- Back hoe
- Vacuum tank wagon
- Grader
- Portable electric generators
- Portable pumps
- Irrigation pipe or hose
- Dump trucks
- Tillage equipment

GETTING STARTED

Any action you take to plan how you will react in the event of a manure spill is better than no action. Follow these simple steps to get started.

1. Fill out the Emergency Contact List on page 18 and visibly post copies at each animal feeding operation site, in the office and in the owner or manager's home.
2. Fill in the appropriate phone numbers on the Plan of Action flow chart on page 9 and visibly post copies with the Emergency Contact List.
3. Consider how you might respond to different manure spill scenarios and what equipment would be necessary. Use the worksheet on page 17 to help you think through this and to document your intentions.
4. Assemble one or more manure spill response "Mini-Kits" and place them under the seat of your farm pick-up truck, tractor used for manure application or other logical places.
5. Talk with your farm employees and family members about the importance and urgency of manure spill response. Make sure they understand and can access and act on your Emergency Response Plan.
6. Complete the assessment at the end of this publication to evaluate your risk for contaminating ground or surface water. If you fall into the "High Risk" category on some points, consider making these issues your planning priority.

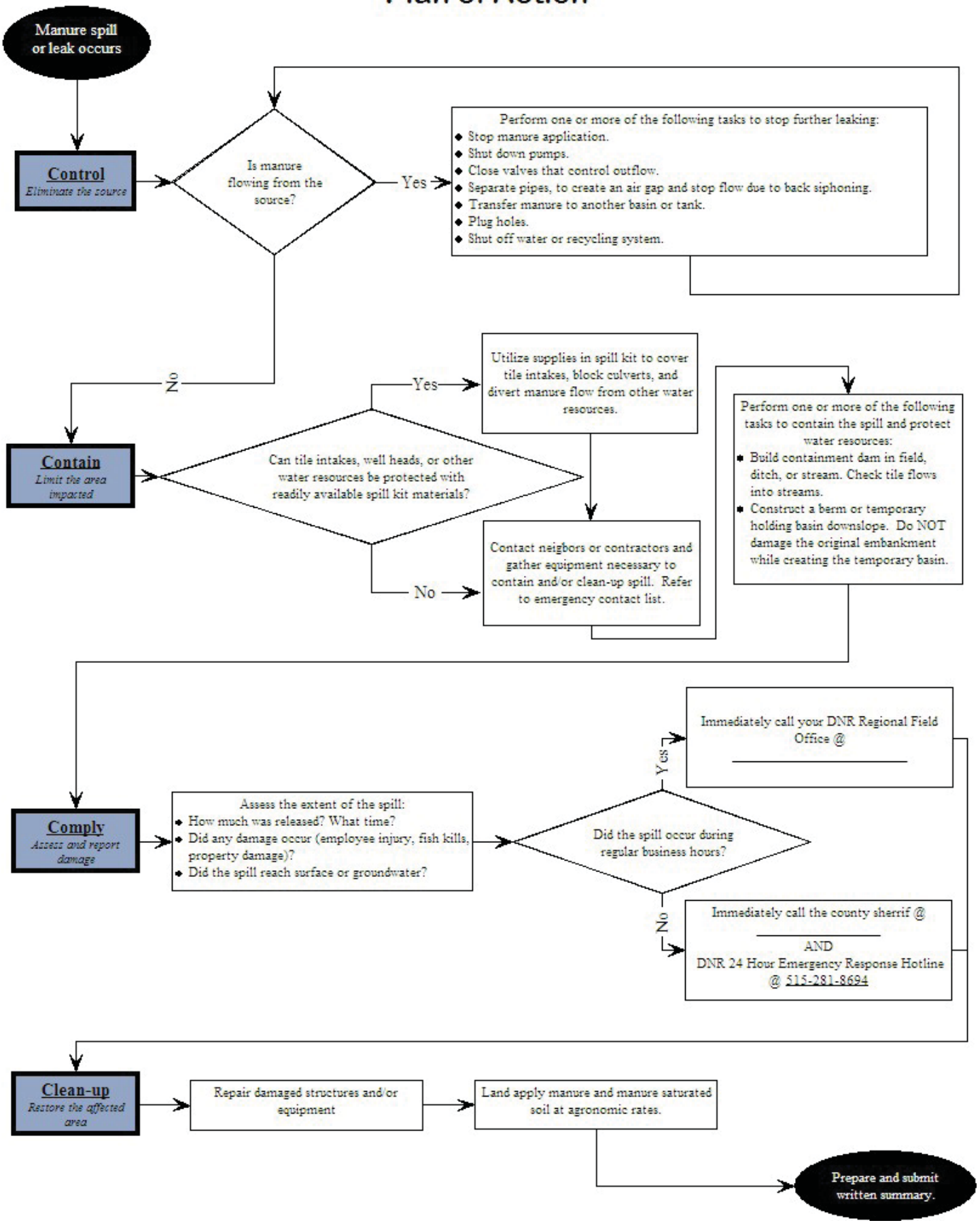
Plan of Action

A plan of action details the necessary procedures to control, contain and clean-up a manure spill. In order to effectively react to different manure spill situations, you will need to plan for each of these specific situations. Consider planning for spills that may occur on the farmstead or production site, en route to the manure application site or in the field.

The flow diagram on the next page gives general direction on the order and actions necessary to contain, control, comply and clean-up a manure spill. Fill in the appropriate phone numbers and post this sheet with the emergency contact list in several visible locations around the farm.

The worksheet on page 17 has been provided to help you to think through how manure is handled on your farm and the best actions to protect nearby water resources. Remember, manure spills can occur when manure is being stored, loaded, transported or land-applied. The best way to respond in each of these cases may be different. The sample on page 16 is an example of how one Iowa hog producer plans to respond to several possible manure spill situations on his farm.

Emergency Manure Spill Response Plan of Action



Site Maps

It is a good idea to sketch site maps of your animal feeding operation, the surrounding area within a one mile radius and each field on which manure is applied. The purpose of sketching maps is to visually pinpoint nearby water resources or other environmentally sensitive areas, as well as to convey the locations of safety equipment, shut-off valves or spill kit supplies. Site maps can be especially helpful to farm employees, neighbors and emergency response personnel.

Maps of fields that will be used for land application are also important to keep as part of your Emergency Response Plan. Aerial photos work well as a base for field maps. Aerial photos can be obtained at your local USDA Farm Service Agency office. These maps should pinpoint manure application setback distances and any designated public use areas, watercourses, property boundaries, field access roads and gates. Directions to get to the field from the animal feeding operation site should also be written on the maps. Make sure to mark environmentally sensitive areas in and around each field (for example, tile inlets).

THINGS TO MARK ON YOUR SITE MAPS INCLUDE:

- ❒ Buildings and fixed equipment
- ❒ Catch basins
- ❒ Electrical service boxes
- ❒ Fire extinguishers
- ❒ First-aid kits
- ❒ Manure storage structures and pump-out ports, valves, pumps, etc.
- ❒ Open drains
- ❒ Property boundaries
- ❒ Slope direction and drainage patterns
- ❒ Creeks, streams, lakes or other surface water bodies
- ❒ Tiles intakes, ag-drainage wells or sinkholes
- ❒ Tile outlets
- ❒ Water main connections and shut-off valves
- ❒ Water wells (include abandoned or unused)

"I have an Emergency Response Plan... Now what can I do to make sure it's effective?

Communicate and Review

There are two key factors that will help to ensure your Emergency Response Plan is executed as you wrote it. First, the plan must be communicated to everyone involved in the animal feeding operation. It is essential that all employees and family members understand the plan and are comfortable acting on it. There may be a need for employees or family members to be formally trained on safe manure handling and manure spill response. Training provided on emergency response planning should be documented in writing. It is also important to communicate the Emergency Response Plan and its location to custom manure applicators.

Second, your Emergency Response Plan should be reviewed and updated on an annual basis. The plan should also be updated anytime there is a personnel change or when changes are made to the manure handling system. Each time the plan is updated, it should be reviewed with all employees and family members. This also should be documented in writing.

Good communication and annual review of your Emergency Response Plan are keys to good management.

"Am I responsible for any documentation after the spill has been cleaned-up?

Written Report

Written documentation of a manure spill, containment and clean-up efforts can be used to assess spill response, prepare for future problems or to train employees. Good records of environmental stewardship may also be useful in the event of litigation.

The DNR will ask you to submit a written report to the DNR Field Office within 30 days after the spill or leak has occurred. The report must address the following information:

- The approximate location of the manure release (including the quarter-quarter section, township and county).
- The time and date when the spill began and the time and date of when the release was discovered (if the spill was not immediately discovered).
- The time and date that the spill was reported to the DNR by telephone.
- The name, mailing address and telephone number of the person reporting the spill.
- The name, mailing address and telephone numbers of others with knowledge of the spill who can be contacted for further information.
- The source from which the manure was released (formed storage, earthen storage, tank wagon, etc).
- The approximate volume of manure spilled.
- The weather conditions when the spill began or when it was discovered.
- The reason for the manure release (equipment malfunction, overflow or land run-off).
- Locations of the nearest streams or other surface water bodies, tile intakes or tile lines that could convey manure to surface or groundwater.
- Description of all containment and clean-up measures.

For More Information

Iowa Department of Natural Resources (DNR)

Information
www.iowadnr.com 515-281-5918
24 Hour Emergency Response Spill Reporting 515-281-8694

DNR Environmental Services Division Field Offices

Atlantic	712-243-1934
Des Moines	515-725-0268
Manchester	563-927-2640
Mason City	641-424-4073
Spencer	712-262-4177
Washington	319-653-2135

- Assist with understanding Iowa law and DNR rule requirements.
- Respond to and investigate manure spills.
- Provide construction permitting assistance.
- Review and approve manure management plans.

Iowa Manure Management Action Group (IMMAG) 515-294-9590

http://extension.agron.iastate.edu/immag/

- Provides comprehensive information on manure management research, policy and events.
- Offers manure management publications and educational programs.
- Lists manure management service providers.

Midwest Plan Services

www.mwps.org 800-562-3618

- Develop and distribute agricultural publications covering topics including: agricultural engineering; farm business management; animal production; construction; grain and post harvest; soil, air and water management; manure management; and ventilation for livestock housing.

Iowa State University Extension

www.extension.iastate.edu/

Contact your county extension office. The county director, ag engineer or livestock field specialist may be able to answer your question or direct you to other extension specialists.

- Provides publications and educational programs on emergency spill response and other manure management issues. PM 1859, *Emergency Action Plans*, is a reference guide to response planning for manure spills.
- Provides confinement, feedlot and manure handling facility design assistance.
- Assists in development of manure management plans.
- Distributes publications on a variety of topics. Publications are available at Iowa State University Extension county offices or from the Extension Distribution Center, Ames, 515-294-5247. Many of the publications are available online at *www.extension.iastate.edu/store.*

Natural Resources Conservation Service

www.ia.nrcs.usda.gov

Contact the NRCS/SWCD (Soil and Water Conservation District) office located in your county.

- Provides information from the Soil Survey on soil drainage capabilities.
- Distributes information on NRCS standards for livestock manure storage structures.
- Assists in the development of manure management plans and comprehensive nutrient management plans.
- Provides engineering services for manure control facility design.

Assessment: Emergency Response Planning

Evaluate your potential risk for contaminating ground or surface water as a result of your emergency response planning for manure spills. The evaluation areas are in the shaded "Risk" column. Choose the risk category that best fits your situation. Note how likely you are to harm water resources, as indicated by "low risk," "moderate risk" and "high risk."

Take special note of the critical evaluation points. If you fail to meet these standards, your water resources may be in immediate danger.

RISK	LOW RISK	MODERATE RISK	HIGH RISK
Emergency Response Plan Content			
Emergency Response Plan components	❒ The emergency response plan contains each of the three main written components: 1) Emergency contact list 2) Plan of action 3) Site maps.		❒ The emergency response plan does not contain each of the three main written components.
Emergency contact list	❒ DNR spill reporting hotline and local emergency management services phone numbers are kept up to date AND ❒ Complete list of available emergency equipment and supplies, including locations, contact persons and phone numbers are compiled AND ❒ Numbers are readily available and posted as part of the complete Emergency Response Plan.	❒ Same as **LOW RISK** category, BUT ❒ Numbers are <u>not</u> clearly posted in readily available locations.	❒ Emergency phone numbers are not compiled OR ❒ Equipment list and contacts are not compiled OR ❒ Numbers are outdated OR ❒ Numbers are not readily available.
Plan of action	❒ A plan of action for responding to a manure spill is developed and is clearly written down AND ❒ Plan of action is readily available and posted as part of the complete Emergency Response Plan.	❒ A plan of action in case of a manure spill has generally been thought through BUT ❒ Plan of action has <u>not</u> been written down.	❒ No plan of action for responding to a manure spill is developed.
Farm facility information	❒ Operation name, e-911 address, explanation of farm location, contact person and alternate contact are compiled AND ❒ Information is readily available and posted as part of the complete Emergency Response Plan.	❒ Same as **LOW RISK** category, BUT ❒ Information is <u>not</u> posted as part of the complete Emergency Response Plan.	❒ Operation contact information is not compiled OR ❒ Information is outdated OR ❒ Information is not readily available.

RISK	LOW RISK	MODERATE RISK	HIGH RISK
Emergency Response Plan Content			
Farmstead map	❒ A sketch of the entire farmstead is developed AND ❒ Locations of contaminant sources, valves and shutoffs for manure pumps, water and gas, wells and other water resources are clearly marked AND ❒ Map is readily available and posted as part of the complete Emergency Response Plan.	❒ Same as **LOW RISK** category, BUT ❑ Information is <u>not</u> posted as part of the complete Emergency Response Plan.	❒ A sketch of the entire farmstead is not developed OR ❒ Locations of contaminant sources, valves and shut-offs for manure pumps, water and gas, wells and other water resources are not clearly marked OR ❒ Map is not readily available.
Map of surrounding water resources	❒ A sketch of surrounding dwellings and water resources within 1 mile of the farmstead is developed AND ❒ Locations of all water resources, including water wells, tile intakes, ag drainage wells and surface water bodies are marked AND ❒ Map is readily available and posted as part of the complete Emergency Response Plan.	❒ Same as **LOW RISK** category, BUT ❑ Information is <u>not</u> posted as part of the complete Emergency Response Plan.	❒ A sketch of surrounding dwellings and water resources is not developed OR ❒ Locations of all water resources, including water wells, tile intakes, ag drainage wells and surface water bodies, are not marked OR ❒ Map is not readily available.
Field maps	❒ Sketches or aerial photos of all fields used for manure application are developed AND ❒ Locations of all water resources, including water wells, tile intakes, ag drainage wells and surface water bodies, as well as field topography, are marked AND ❒ Maps are readily available and posted as part of the complete Emergency Response Plan.	❒ Same as **LOW RISK** category, BUT ❑ Information is <u>not</u> posted as part of the complete Emergency Response Plan.	❒ Sketches or aerial photos of all fields used for manure application are not developed OR ❒ Locations of all water resources, including water wells, tile intakes, ag drainage wells and surface water bodies, as well as field topography, are not marked OR ❒ Map is not readily available.
Emergency Response Plan Location			
Emergency Response Plan Location	❒ Emergency phone numbers are posted next to each phone, building or office entrance, in frequently used vehicles, and programmed into cellular phones AND ❒ Plan of action and maps are posted in multiple locations with emergency phone numbers.	❒ Same as **LOW RISK** category, BUT ❑ Plan of action and maps are <u>not</u> posted in multiple locations with emergency phone numbers.	❒ Emergency phone numbers are not posted next to each phone, building or office entrance OR ❒ Plan of action and maps are not on-site OR ❒ Emergency Response Plan is not compiled.

RISK	LOW RISK	MODERATE RISK	HIGH RISK
Spill Response Equipment			
Spill response kit 	❒ Spill response kit is assembled AND ❒ Kit is easily accessible in the event of a manure spill.	———	❒ Spill response kit is not assembled.
Emergency Response Management and Training			
Employee and family training 	❒ All farm employees and family members know where to locate the Emergency Response Plan AND ❑ All farm employees and family members have read and understand the Emergency Response Plan AND ❑ All farm employees and family members have been trained on how to respond to a manure spill AND ❑ Training is documented in writing.	❒ Same as **LOW RISK** category, BUT ❑ All farm employees and family members have <u>not</u> been trained on how to respond to a manure spill.	❒ Farm employees and family members do not know where to locate the Emergency Response Plan OR ❒ Employees or family members are not familiar with response procedures and information in the Emergency Response Plan.
Review and update	❒ All components of the Emergency Response Plan are reviewed and updated on an annual basis AND ❒ Emergency Response Plan is reviewed and updated when there is a change in personnel or manure handling structures or procedures AND ❒ Update of the plan is documented in writing.		❒ Emergency Response Plan is not reviewed and updated on an annual basis OR ❒ Emergency Response Plan is not reviewed and updated when there is a change in personnel or manure handling structures or procedures.

Complete the Following Chart

Consider your practices for manure storage, loading, transportation and application. How would you respond if a manure spill happened in each of these situations?

These notes will help you make the right decisions in the event of a manure spill.

POTENTIAL CAUSE	CONTROL	CONTAIN	CLEAN-UP
	Eliminate source	Limit area impacted	Restore affected area
Field run-off	• Stop application	• Use spill kit materials to protect nearby tile intakes • Create a temporary diversion to contain run-off	• Incorporate manure to reduce run-off
Earthen basin overflow	• Add soil to berm • Stop flushing system • Divert surface water	• Create berm to stop overland flow	• Call for vacuum tanker • Land-apply manure at acceptable rate
Leakage from pipe or valve	• Stop pump • Close valves to eliminate further discharge	• Use spill kit materials to protect tile intakes and wells • Create a diversion to contain run-off	• Call for vacuum tanker • Pump to manure storage • Repair leaks prior to restarting pumps
Umbilical hose rupture	• Stop pump • Park tractor on hose to stop manure flow	• Use spill kit materials to protect nearby tile intakes and wells • Create a diversion to contain run-off	• Call for vacuum tanker • Land-apply at appropriate rate • Incorporate manure to reduce run-off
Seepage from sidewall of earthen basin		• Dig a small ditch to catch seepage	• Fill holes with a clay soil and compact • Pump manure from containment area back into the basin
Tile blowout	• Stop application	• Block or cut tile outlet	• Call for vacuum tanker • Seek permission and pump back onto available field • Repair blowout

Location of Equipment & Materials

Check (✓) if available and note source or location.

☑ Back hoe
Steve B, - 831-1236

☑ Pump/hose
Take off tender trailer

☑ Tractor/loader
Machine shed

☑ Vacuum tanker
Smith Plbg - 831-6321

❒ Dozer

☑ Spill kit
under seat of JD 9310 & in blue Ford

❒ Other
Call Tom A. for excavator

DNR 24 Hour Emergency Response Hotline

(515) 281-8694

Remember to notify the DNR as soon as possible or within 6 hours of the spill occurring!

Complete the Following Chart

Consider your practices for manure storage, loading, transportation and application. How would you respond if a manure spill happened in each of these situations?

These notes will help you make the right decisions in the event of a manure spill.

POTENTIAL CAUSE	CONTROL	CONTAIN	CLEAN-UP
	Eliminate source	Limit area impacted	Restore affected area

Location of Equipment & Materials

Check (✓) if available and note source or location.

- ❒ Back hoe
- ❒ Pump/hose
- ❒ Tractor/loader
- ❒ Vacuum tanker
- ❒ Dozer
- ❒ Spill kit
- ❒ Other

DNR 24 Hour Emergency Response Hotline

(515) 281-8694

Remember to notify the DNR as soon as possible or within 6 hours of the spill occurring!

Emergency Contact List

Farm Name: _____

Primary Contact Person: _____ Phone: _____

Alternate Contact Person: _____ Phone: _____

e-911 Address: _____

City: _____ County: _____

Directions to farm: _____

_____

_____

Emergency Medical Services	911
Iowa DNR Field Office (weekdays 8-4:30) (see page 12 for contact information)	
Iowa DNR 24 Hour Emergency Response Hotline (evenings, weekends, holidays)	(515) 281-8694
County Sheriff	
County Engineer or Roads Department	
Heavy Equipment Contractor	
Pumping Equipment Contractor	
Hauling & Land Application Equipment Contractor	
Other	

Publication of this document has been funded in part by the Iowa Farm Bureau Federation, and by the Iowa Department of Natural Resources through a grant from the U.S. Environmental Protection Agency under the Federal Nonpoint Source Management Program (Section 319 of the Clean Water Act).