*** DRAFT – NOT FOR FILING ***

901:10-2-02 **Permit to install: siting criteria.**

Manure storage or treatment facilities shall be designed and constructed in accordance with the criteria in paragraphs of (A) to ~~(N)~~ (O) of this rule. In this rule siting means a measure of horizontal or vertical distance for purposes of installing the manure storage or treatment facility.

(A) Water wells, class five agricultural wells together referred to hereinafter as "well".

(1) A fabricated structures shall be at least fifty horizontal feet from a well.

(2) A manure storage pond or manure treatment lagoon shall be at least three hundred horizontal feet from a well.

(B) Source water protection for public water systems.

(1) Public water wells.

(a) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within three hundred feet of a well serving a public water system that is owned or operated by the owner or operator of the facility and is a public water system located on the property of the owner or operator of the facility.

(b) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a non-community water system not listed in paragraph (B)(1)(a) of this rule. If no ground water source protection area has been delineated or endorsed, then the fabricated structure, manure storage pond, or manure treatment lagoon shall not be located closer than three hundred feet from the well.

(c) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located within the one-year time-of-travel contour from a well for which the Ohio environmental protection agency has delineated or endorsed a ground water source protection area and that serves a community water system not listed in paragraph (B)(1)(a) of this rule or one thousand feet from a public water well whichever is greater.

(d) A fabricated structure, manure storage pond, and manure treatment lagoon shall not be located between the one-year and five-year time-of-travel contours from a well identified as highly susceptible unless additional ground water monitoring, or additional engineered controls or both are added, installed, and implemented as approved by the director.

(2) Surface water intake.

(a) A fabricated structure shall be located no closer than one thousand five hundred feet from a surface water intake.

(b) A manure storage pond or manure treatment lagoon shall be installed no closer than one thousand five hundred feet from a surface water intake.

(C) Streams.

(1) A fabricated structure on a concentrated animal feeding facility shall be located a minimum of one hundred twenty horizontal feet from a stream or three hundred horizontal feet from a stream if the fabricated structure is on a major concentrated animal feeding facility, unless additional design criteria are added, installed, and implemented as approved by the director.

(2) A manure storage pond or manure treatment lagoon on a concentrated animal feeding facility shall be located a minimum of three hundred horizontal feet from a stream or six hundred horizontal feet if the manure storage pond or manure treatment lagoon is located on a major concentrated animal feeding facility, unless additional design criteria are added, installed, and implemented as approved by the director.

(D) Cold water habitat and seasonal salmonid streams.

(1) A fabricated structure shall be located a minimum of three hundred horizontal feet from a cold water habitat or seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(2) A manure storage pond or manure treatment lagoon shall be located a minimum of six hundred horizontal feet from a cold water habitat and seasonal salmonid stream, unless additional design criteria are added, installed, and implemented as approved by the director.

(E) Aquifer.

A fabricated structure, manure storage pond or manure treatment lagoon shall have fifteen vertical feet of low permeability material, between the waste placement location and the uppermost aquifer, unless additional design criteria or groundwater monitoring are added, installed, and implemented as approved by the director. ~~As used in this rule and in Chapter 901:10-2 of the Administrative Code, low permeability material means low permeability among the soil types of geologic material presented in figure 7-11, Chapter 7, "Geologic and Ground Water~~

~~Considerations," part 651, "Agricultural Waste Management Field Handbook," June 1999.~~

(1) If additional design criteria or groundwater monitoring are added, installed or implemented, the manure storage pond or manure treatment lagoon shall have a minimum of five vertical feet of low permeability material, between the waste placement surface and the uppermost aquifer.

(2) As used in this rule and in Chapter 901:10-2 of the Administrative Code, low permeability material means low permeability among the soil types of geologic material presented in figure 7-11, Chapter 7, "Geologic and Ground Water Considerations," part 651, "Agricultural Waste Management Field Handbook," June 1999.

(F) Sole source aquifer.

A manure storage pond or manure treatment lagoon shall not be located above a sole source aquifer without design of ground water monitoring or engineered controls or both that are installed and implemented as approved by the director.

(G) Floodplains and floodways.

(1) The production area of a facility shall not be located in a one hundred year floodplain, as those boundaries are shown on the applicable maps prepared under the "National Flood Insurance Act of 1968," 82 Stat. 572, 42 U.S.C.A. 4001, as amended, without design of additional monitoring or engineered controls or both that are installed and implemented as approved by the director and in accordance with the following.

(a) The manure storage pond or manure treatment lagoon embankments and any wall of a fabricated structure shall be designed and constructed to withstand the hydrostatic pressures from a one hundred year flood that may be exerted on the embankments or walls during a flood event;

(b) The elevation of the top of the manure storage or treatment facility shall be at the summation of the elevation of the one hundred year flood plus a minimum freeboard height of two feet;

(c) Any monitoring wells installed pursuant to this rule shall be physically protected from the floodwaters.

~~(1)~~(2) A manure storage pond or manure treatment lagoon or fabricated structure shall not be located in established regulatory floodways as designated by the federal emergency management agency. ~~a one hundred year floodplain without design of additional monitoring or engineered controls or both that are installed and implemented as approved by the director and by other appropriate permits.~~

~~(2) A manure storage pond or manure treatment lagoon shall not be located in established regulatory floodways as designated by the federal emergency management agency.~~

(H) Karst areas.

A fabricated structure, manure storage pond or manure treatment lagoon shall not be located in a karst area without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(I) Bedrock.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located a minimum of three feet, between the bottom of the waste placement location and bedrock where no aquifer is present.

(J) Mines.

A manure storage or treatment facility shall not be located in an area of potential subsidence, due to an underground mine known to be in existence prior to the date the application for a permit to install is submitted, without design of groundwater monitoring or engineered controls or both that are installed and implemented as approved by the director.

(K) Property lines, which are defined in this paragraph as property lines not under common ownership of the owner or operator of a facility covered by this rule and public roads.

A fabricated structure, manure storage pond or manure treatment lagoon shall be located no closer than one hundred horizontal feet from a property line or public road.

(L) Neighboring residences.

(1) A manure storage or treatment facility for solid manure at a concentrated animal feeding facility shall be no closer than five hundred horizontal feet from a neighboring residence. The manure storage or treatment facility for solid manure at a major concentrated animal feeding facility shall be no closer than one thousand horizontal feet from a neighboring residence.

(2) A manure storage or treatment facility for liquid manure at a concentrated animal feeding facility shall be no closer than one thousand horizontal feet from a neighboring residence. A manure storage or treatment facility for liquid manure at a major concentrated animal feeding facility shall be no closer than two thousand horizontal feet from a neighboring residence.

(3) When utilizing proven technology, the siting criteria may be reduced by the director by using the list of technologies appended to this rule. The technologies listed in this appendix are not inclusive of all available technologies. Selected technologies are required to be fully described in detail plans and specifications, engineering drawings, and maps that shall be reviewed and approved by the director in deciding whether or not to reduce any applicable siting criteria as a reasonable exercise of the director's discretion.

(M) The siting criteria requirements applicable to a manure storage or treatment facility shall not apply to the criteria set forth in paragraphs (K) and (L) of this rule if the applicant for a permit to install obtains a written agreement from all of the owners of neighboring residences or property owners located closer than the siting criteria. The agreement shall state such owners are aware of the proposed construction and have no objections to such construction. A copy of the written agreement shall be included with the permit to install application.

[Comment: The written agreement may be filed in the register of deeds office of the county in which the neighboring residence is located.]

(N) As used in this rule, additional design for engineered controls includes but is not limited to additional freeboard, secondary containment, additional treatment, increased liner thickness, synthetic liner materials, groundwater monitoring, or design and construction alternatives set forth in paragraph (A)(9)(c) of rule 901:10-2-06 of the Administrative Code.

*** DRAFT – NOT FOR FILING ***

901:10-2-04 **Manure storage and treatment facilities.**

(A) An application for a permit to install shall include analysis of manure ~~Manure shall be~~ that is sampled and analyzed in accordance with paragraphs (A) to (D) of rule 901:10-2-10 of the Administrative Code.

(B) For the purposes of a permit to install, manure shall be quantified and characterized to allow for proper sizing and design of the proposed manure storage or treatment facility. For an existing facility that submits a permit to install application for a similar type of manure storage or treatment facility with no change in treatment technology to what is currently utilized by the facility, the volume of manure and characterization of manure shall be based on manure production records and manure analysis from an actual sample from the facility. If actual manure production records or manure analysis are not available or are deemed not accurate by the department, or if the permit to install application is for a new facility or treatment technology not in use by the existing facility, then the owner or operator shall use the table appended to this rule or use manure production records and manure characterization records from a similar type facility with a similar type of manure storage or treatment facility or treatment technology. If manure data or analysis is used from a similar type facility to characterize manure, the owner or operator shall submit this alternative manure data along with the identification of the source of the data.

~~(B) As an alternative to presenting site-specific information as required by paragraphs (A)(1) and (A)(2) of rule 901:10-2-10 of the Administrative Code, the owner or operator may characterize manure by using manure data from a facility that is similar to that of the owner or operator or by relying upon existing published or documented data. The owner or operator shall submit this alternative manure data along with the identification of the source of the data.~~

~~(C) The owner or operator shall comply with paragraph (B) of rule 901:10-2-10 of the Administrative Code.~~

~~(D)~~(C) General design and construction criteria for a manure storage or treatment facility.

(1) An appropriate design plan shall be required for a new or expanding manure storage or treatment facility.

(2) A manure storage or treatment facility shall be designed and constructed to handle manure volume, precipitation and surface water runoff in a manner that prevents the discharge of manure to waters of the state, except as provided in applicable standards set forth in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.

~~(E)~~(D) Calculating storage volume for manure storage or treatment facilities.

(1) The total storage volume of a manure storage or treatment facility shall not be less than the volume calculated as the summation of the following, unless the owner or operator or the director determines that additional storage capacity is required to meet permit conditions.

(a) Manure generated during the storage period required by rule 901:10-2-05 or rule 901:10-2-06 of the Administrative Code;

(b) Average precipitation less evaporation on the surface area of the manure storage or treatment facility during the storage period;

(c) Normal runoff that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility during the storage period. Impermeable surfaces shall utilize a minimum factor of fifty per cent of the average precipitation;

(d) A precipitation event based on the surface of the manure storage or treatment facility and applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code;

(e) The runoff from a precipitation event that drains from the concentrated animal feeding facility's drainage area into the manure storage or treatment facility based on applicable standards in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code; and

(f) Residual manure after liquids have been removed.

(2) In addition to the requirements in paragraph (D)~~(E)~~(1) of this rule, the total storage volume of a manure treatment lagoon shall not be less than the volume calculated using one of the following methods set forth in the appendix to this rule.

~~(F)~~(E) Stormwater pollution prevention plans. Each owner or operator of a concentrated animal feeding operation shall prevent pollution of stormwater resulting from an animal feeding facility by submitting plans to satisfy this rule and rule 901:10-3-11 of the Administrative Code to do the following:

(1) Maintain separation of uncontaminated stormwater runoff from contaminated water with designs and installations that include, but are not limited to, settling basins, runoff ponds, liquid impoundments, and areas within berms and diversions;

(a) Grade the area around the livestock buildings and the manure storage or treatment facility;

(b) Divert stormwater runoff and roof water away from the manure storage or treatment facility or other structures in the production area.

(c) Use spill prevention and good housekeeping techniques to ensure that stormwater discharges from the following areas comply with Ohio water quality standards: immediate access roads and rail lines used or traveled by carriers; or raw materials, products, waste materials, or by-products used or created; refuse sites; sites used for storage and maintenance of material handling equipment; sites used for handling material other than manure and shipping and receiving areas.

(d) Install systems that are designed to capture and treat contaminated runoff and prohibit discharge of contaminated discharge. The owner or operator may use the following criteria, provided that in no case shall grassed filter strips satisfy effluent limitations for large facilities in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code.

(i) The "Ohio Natural Resource Conservation Service, Conservation Practice Standards Section IV, Field Office Technical Guide" which includes the following:

(a) "Pond, No 378," January 2003;

(b) "Constructed Wetland Conservation Practice Standard, No. 656," August 2000, but provided there shall be no discharge;

(c) "Livestock Use Area Protection Practice, No. 757," September 3, 2002;

(d) "Composting Operation, No. 317," May 1, 2000;

(e) "Critical Area Planting, No. 342," June 1, 2002;

(f) "Dike, No. 113," June 1, 2002;

(g) "Diversion, No. 362," June 1, 2002;

(h) "Grade Stabilization Structure, No. 410," May 1, 1988;

(i) "Pipeline, No. 516," June 1, 2002;

(j) "Roof Runoff Structure, No. 558," June 1, 2002;

(k) "Sediment Basin, No. 350," June 1, 2002;

(ii) The "Ohio Livestock Manure And Wastewater Management Guide, Bulletin 604, The Ohio State University Extension, January 1992;" and

(iii) USDA natural resource conservation service - NHCP.

(2) Construct coverings over any structures in the production area; or

(3) Install vegetative cover and protect stream channels and areas adjacent to such channels from a concentrated animal feeding operation.

(4) The owner or operator may submit plans that implement alternative practices to the director for approval provided that any alternative practices must be demonstrated to be equivalent to the practices listed in paragraph (F)(1) of this rule unless the owner or operator or the director determine that additional total storage capacity is required to meet permit conditions. All of the practices listed are subject to the design standards for precipitation events in paragraphs (C) and (D) ~~and (E)~~ of this rule.

*** DRAFT – NOT FOR FILING ***

901:10-2-05 **Fabricated structures.**

(A) Fabricated structures shall be designed and maintained to prevent discharge to ground waters or surface waters.

(1) Fabricated structures for liquid manure shall be designed by or under the supervision of a professional engineer or shall be an appropriate design plan~~, as defined in paragraph (G) of rule 901:10-1-01 of the Administrative Code~~.

(2) A fabricated structure shall be designed and constructed to meet the requirements in paragraph (A) of rule 901:10-2-03~~, paragraphs (A)(10) and (A)(11) of rule 901:10-2-06 of the Administrative Code and the appendix to this rule~~.

(3) Storage period. The minimum storage period for a fabricated structure shall be one hundred twenty days, unless otherwise approved by the department. Additional storage may be required by the department in order to ensure protection of groundwater, surface water or the structural integrity of the fabricated structure.

(4) Freeboard. A fabricated structure shall be designed and maintained to have an operating level that does not exceed the level that provides adequate storage to contain a precipitation event plus an additional six inches of freeboard, except for fabricated structures that contain solid manure and are not subject to precipitation or runoff.

(5) Fabricated structures for liquid manure shall have a liquid level board, staff gauge, depth marker, or other appropriate device approved by the director, installed within the interior to monitor manure levels. The approved device shall indicate levels every one foot in vertical elevation and shall indicate levels as described in rule 901:10-2-08 (A)(4)(b) of the Administrative Code.

*** DRAFT – NOT FOR FILING ***

901:10-2-06 **Manure storage pond and manure treatment lagoon.**

(A) A manure storage pond or manure treatment lagoon subject to this rule shall be designed and the plans stamped by a professional engineer. The following design and construction criteria shall be followed:

(1) ~~No known subsurface drainage line shall be allowed to remain within fifty feet of the outside toe of any manure storage pond or manure treatment lagoon unless necessary to comply with paragraph (A)(9)(a) of this rule.~~ Subsurface drainage lines in the immediate area of the manure storage pond or manure treatment lagoon shall be removed or relocated to provide for a minimum separation distance of not less than fifty feet between the top inner perimeter of the manure storage pond or manure treatment lagoon and the subsurface drainage line unless the subsurface drainage line is necessary to comply with paragraph (A)(9)(a) of this rule.

(2) If not already installed at the facility, a liquid level board, staff gauge, depth marker, or other appropriate device, approved by the director, shall be installed within the interior of the liquid manure storage pond or manure treatment lagoon to monitor manure levels. ~~The liquid level board, staff gauge, depth marker, or other appropriate device in a manure treatment lagoon shall include the elevation at the liquid level corresponding to the summation of the residual manure volume and minimum storage or treatment design volume and shall be designated as the stop pumping elevation. The liquid level board or staff gauge or depth marker in a manure treatment lagoon shall have readily visible permanent markings indicating the summation of the residual manure volume and minimum storage or treatment design volume, and shall be designated as the start pumping elevation.~~ This device shall indicate levels every one foot in vertical elevation and shall indicate levels as described in rule 901:10-2-08 (A)(4)(a) of the Administrative Code.

(3) Agitation and pump-out points shall be shown on plans for a manure storage pond and a manure treatment lagoon with scour protection required.

(4) An emergency spillway may be included at the one foot freeboard level and shall be directed to a specifically designed filter strip or infiltration areas if the facility is constructed with an earthen embankment.

(5) Embankments.

(a) The minimum embankment top width shall be eight feet for embankments less than fifteen feet, ten feet for embankments ranging in height from fifteen to less than twenty feet, and twelve feet for embankments ranging from twenty to twenty-five feet high, as measured from the low point on the downstream toe to the top of the dam.

(b) If the embankment is to be traversed by farm equipment, the minimum top width shall be twelve feet. The height of the embankment shall be no greater than twenty-five feet, as measured from the low point on the downstream toe to the top of the dam.

(c) Embankments shall have side slopes not steeper than two horizontal to one vertical.

(d) The combined side slopes of settled embankments shall not be less than five horizontal to one vertical.

(e) Vegetative cover shall be established on any exposed embankment and mowed or otherwise maintained to control erosion or other embankment deterioration. In the alternative, the director may approve other means or materials to control erosion.

(6) Inlets and outlets.

(a) Inlets shall be designed to resist corrosion, plugging and freezing.

(b) The embankment may contain no outlet piping that extends through the embankment unless the piping discharges to another facility or is a component of a re-circulating flush system.

(c) All pipes for manure transfer or manure flush systems shall have watertight joints in accordance with the following ASTM standards:

(i) ASTM D3212-standard specification for joints for drain and sewer plastic pipes using flexible elastometric seals; or

(ii) ASTM C443-standard specification for joints for concrete pipe and manholes, using rubber gaskets; or

(iii) Other standards recommended by the professional engineer and approved by the department.

(7) Storage period.

The minimum storage period of manure for a manure storage pond and manure treatment lagoon shall be one hundred eighty days of manure production unless alternative use and design is otherwise approved by the department. This section is not intended to address the surface water runoff where the runoff does not enter into the pond or lagoon.

(8) Freeboard.

Freeboard shall be provided for a manure storage pond and manure treatment lagoon in addition to the total storage volume such that the elevation of the emergency spillway or top of the settled embankment, if there is no designed emergency spillway, shall be less than the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.

(9) Liners.

The owner or operator shall include the use of a liner as part of the manure storage pond or manure treatment lagoon that achieves a hydraulic conductivity of at least one times ten to the minus seven centimeters per second (1 X 10 -7 cm/sec) to insure the integrity of the manure storage pond or manure treatment lagoon. A minimum of three feet of in situ soils with a hydraulic conductivity of one times ten to the minus seven centimeters per second will satisfy this requirement. The following design and construction criteria shall be followed:

(a) Ground water seepage shall be prevented from entering the bottom of the manure storage pond or manure treatment lagoon after construction by installing and/or maintaining a liner with a minimum liner thickness of three feet of in situ soil between the top of the seasonal high ground water surface and the bottom of the manure storage pond or manure treatment lagoon. In order to meet this requirement the ground water surface may be lowered by use of subsurface drainage lines that are properly designed by the engineering geologist or professional engineer and approved by the director.

(b) Soil liners shall be designed and constructed using procedures in section 651.1080 of the "United States Department of Agriculture, Natural Resources Conservation Service Agricultural Waste Management Field Handbook, Chapter Ten, Geotechnical Design and Construction, November 1997," and "United States Department of Agriculture, Ohio Natural Resources Conservation Service, Section IV, Field Office Technical Guide Conservation Practice Standard 521-F, Pond Sealing and Lining, Compacted Earth Liner. December 2001." A soil liner thickness shall be a minimum of three feet.

(c) Design and construction alternatives for ground water protection.

(i) As a result of the subsurface geological exploration conducted pursuant to rule 901:10-2-03 of the Administrative Code and the findings of the report submitted in accordance with that rule, an engineering geologist, professional engineer or the director may determine that installation of an additional liner is required to insure the integrity of the manure storage pond or manure treatment lagoon and to protect groundwater.

(ii) If an additional or alternative liner protection is required as set forth in paragraph (A)(9)(c)(i) of this rule, then one or more of the following may be required by the director:

(a) Concrete liners that have a minimum thickness of five inches and shall include non-metallic water stops for all joints;

(b) Flexible plastic membranes that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturers recommendations.

(c) Geosynthetic clay liners that are installed under the supervision of the manufacturer or the manufacturer's representative and include written certification that the liner was installed in accordance with the manufacturer's recommendations; or

(d) Other liner designs or materials will be considered at the discretion of the director if the minimum criteria of this paragraph of this rule are met.

~~(10) As required by rule 901:10-2-02 of the Administrative Code, installation of a manure storage pond or manure treatment lagoon in a one hundred year flood plain is prohibited unless accompanied by design or engineered controls that are designed and constructed as approved by the director and in accordance with the following:~~

~~(a) The manure storage pond or manure treatment lagoon embankments shall be designed and constructed to withstand the hydrostatic pressures from a one hundred year flood that may be exerted on the embankments during a flood event;~~

~~(b) The elevation of the lowest point on the embankment shall be at the summation of the elevation of the one hundred year flood plus a minimum freeboard height of two feet;~~

~~(c) For a manure storage pond or manure treatment lagoon with unequal length and width dimensions, the facility shall be oriented with the longest dimension parallel to the expected direction of floodwater flow;~~

~~(d) Any monitoring wells installed pursuant to this rule shall be physically protected from the floodwaters.~~

~~(11)~~(10) Design and construction criteria for a manure storage pond or manure treatment lagoon located in a karst area.

(a) Manure storage ponds or manure treatment lagoons may be constructed within a karst area provided that the facility is designed to prevent seepage of manure to groundwater.

(b) Any portion of a manure storage pond or manure treatment lagoon located below the pre-construction soil surface level and constructed in a karst area shall be designed and constructed utilizing a rigid material such as concrete or steel or a properly designed clay or synthetic liner, when appropriate, upon findings in the geologic exploration.

*** DRAFT – NOT FOR FILING ***

901:10-2-08 **Contents of the manure management plan: inspections, maintenance and monitoring.**

(A) A manure management plan is a plan developed to minimize water pollution and protect waters of the state. The manure management plan shall include best management practices for reuse and recycling nutrients, prevent direct contact of confined animals with waters of the state, and ensure proper mortality management.

(1) The manure management plan shall specify the frequency of inspections to be conducted by the owner or operator at the manure storage or treatment facility; and

(2) The owner or operator shall maintain a list of equipment used, including land application equipment and a written chronological record of the dates of inspections, maintenance, calibration monitoring and repairs that shall be maintained in the operating record required by rule 901:10-2-16 of the Administrative Code and be made readily available during an inspection of the facility. These records shall also be made available at the request of the director. All repairs shall be completed promptly. The department shall inspect any major structural repairs; and

(3) The owner or operator must periodically inspect equipment used for land application of manure, litter, or process wastewater for leaks.

(4) At a minimum, the following must be inspected, performed, monitored or maintained at the manure storage or treatment facility and documented in the operating record:

(a) The operating level of manure treatment lagoons and manure storage ponds. The operating level must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional one foot of freeboard.

(b) The operating level of fabricated structures must not exceed the level that provides adequate storage to contain a precipitation event as required in rules 901:10-3-02 to 901:10-3-06 of the Administrative Code, plus an additional six inches of freeboard, unless the fabricated structure is designed and maintained for solid manure and is not subject to precipitation.

(c) For paragraphs (A)(4)(a) and (A)(4)(b) of this rule, the maximum operating level shall not exceed that specified in the manure management plan.

(d) Inspect in order to confirm that domestic and industrial wastewater from showers, toilets, sinks, medical wastes, chemicals and other contaminants

etc., handled on-site are not discharged into the manure storage or treatment facility unless designed and permitted to do so.

(e) Manure storage or treatment facilities under the control of the owner or operator shall be inspected for evidence of erosion, leakage, animal damage, cracking, excessive vegetation, or discharge.

(f) Inspect liquid manure volume weekly and note in the operating record the level of liquid manure in manure storage or treatment facilities by the depth marker required in paragraph (A)(4)(o) of this rule.

(g) Document in the operating record procedures to ensure proper operation and maintenance of liquid manure in storage or treatment facilities, when manure and manure residuals are removed from the manure storage pond or manure treatment lagoon. The owner or operator shall take care to prevent damage to lagoon or pond dikes and liners when manure residuals are removed.

(h) Inspect to determine that all stormwater conveyances are maintained to keep runoff from the surrounding property and buildings and stormwater shall be diverted away from the manure treatment lagoons and manure storage ponds to prevent any unnecessary addition to the liquid volume in these structures, unless they are designed for such runoff containment. Identify appropriate buffer strips or equivalent practices, to control runoff of manure to waters of the state, and divert clean water, as appropriate, out of the production area.

(i) Conduct weekly inspections of stormwater or diversion devices, runoff diversion structures, devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon and note proper operation and maintenance in the operating record.

(j) Inspect the protective vegetative cover and any other approved means or materials for erosion control to determine that cover is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.).

(k) Ensure that any emerging vegetation such as trees, shrubs and other woody species shall not be allowed to grow on the pond or lagoon dikes or side slopes. Pond or lagoon areas are to be kept mowed and accessible unless these areas are grassed waterways or buffers that manage precipitation and runoff.

(l) Surface water and groundwater protection.

(i) Conduct annual sampling and analysis of ground water for nitrates and total coliform from a well as described by paragraph (A)(2)(e) or (B)(2)(d) of rule 901:10-2-03 of the Administrative Code. In the event that a well does not already exist at the facility and the operation is not an operation as described in paragraph (A)(1) of rule 901:10-2-03 of the Administrative Code or is not served by a public water system as defined by paragraph (UUU) of rule 901:10-1-01 of the Administrative Code, then the owner or operator shall install a well at the facility that is properly located, protected and operated. The well shall be easily accessible for sampling and have an adequate water quantity for sampling.

(ii) The director may require additional sampling, including but not limited to, ground water samples from any additional ground water monitoring wells installed as required in paragraph (C)(2) of rule 901:10-2-03 of the Administrative Code.

(iii) The director may require samples of manure discharges from the production area that may occur; and

(iv) Results of sampling and analysis shall be documented in the operating record and, for manure discharges from the production area, results shall also be recorded in the annual report submitted to the director in accordance with rule 901:10-2-20 of the Administrative Code.

(m) Ensure proper management of dead livestock as required by rule 901:10-2-15 of the Administrative Code to ensure that there shall be no discharge of mortality to waters of the state and no disposal in a manure storage or treatment facility that is not specifically designed to treat animal mortalities.

(n) Inspect drinking water lines daily, including drinking water or cooling water lines that are located above ground, readily visible or accessible for daily inspections, and record in the operating record.

(o) All liquid manure in manure storage ~~ponds~~ or treatment facilities must have a depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-05 or 901:10-2-06 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the twenty-five year, twenty four hour rainfall event, or, in the case of new sources subject to the requirement in paragraph (A)(4) of rule 901:10-3-06 of the Administrative Code, the runoff and direct precipitation from a one-hundred year, twenty-four hour rainfall event.

(p) The director may determine that the monitoring required in paragraphs (A)(4)(f), (A)(4)(n) and (A)(4)(o) of this rule may use alternative

monitoring devices. Alternative monitoring devices include, but are not limited to, sensors, remote sensors, electronic alarms, wireless receivers, other real time warning systems, or other flow control structure, or other steady state overflow structures.

(i) The owner or operator shall identify the alternative monitoring devices in the manure management plan submitted to the director. In approving the manure management plan, the director may approve the alternative monitoring devices.

(ii) The director may notify the owner or operator in writing to cease use of alternative monitoring devices if at any time that the director or the director's representative find that the operating record and documents maintained as required by this rule contain false or misleading information.

(q) Actions to be taken means actions to correct any deficiencies found as a result of the inspections conducted under this rule. Deficiencies are to be corrected as soon as possible and listed in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.

*** DRAFT – NOT FOR FILING ***

901:10-2-09 **Contents of manure management plan: nutrient budget.**

(A) ~~To the extent that manure is not managed through distribution and utilization methods in accordance with rule 901:10-2-11 of the Administrative Code, then the owner or operator shall prepare a manure management plan with a total nutrient budget for the facility based on the following~~: The manure management plan shall include the nutrient budget for the land application areas and quantity of nutrients to be managed by distribution and utilization for a twelve month period as derived from rules 901:10-2-10 and 901:10-2-11 of the Administrative Code.

~~(1) Targeted crop yields based on actual crop yields;~~

~~(2) Soil productivity information;~~

~~(3) Historical yield data;~~

~~(4) Potential yield; or~~

~~(5) Combinations of yield data.~~

(B) The total nutrient budget to be used for the land application areas shall be under the control of the facility for the duration of the permit based on the following:

(1) Targeted crop yields based on the actual crop yields;

(2) Soil productivity information;

(3) Historical yield data;

(4) Potential yield; or

(5) Combination of yield data.

~~(B) The manure management plan shall include the quantity of manure and manure nutrients for a twelve month period as derived from rule 901:10-2-10 of the Administrative Code.~~

(C) To the extent the manure is not managed through distribution and utilization ~~The~~ the manure management plan shall include the total summary of ~~acres of~~ land application areas to be used for ~~land application sites. This summary includes the land that is available for~~ the duration of the permit and the land that is available for manure that is generated by the facility. The total summary shall be further characterized as follows:

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(1) The total nutrient budget requirements on land application ~~sites~~ areas under the control of the owner or operator; and

(2) The quantity of commercial fertilizer nutrients or residual nutrients from all sources to be applied on land application ~~sites~~ areas under the control of the owner or operator for a twelve month period.~~; and~~

~~(3) The quantity of nutrients to be managed by the owner or operator through distribution and utilization methods utilized for a twelve month period, in accordance with rule 901:10-2-11 of the Administrative Code.~~

*** DRAFT – NOT FOR FILING ***

901:10-2-10 **Contents of manure management plan: manure characterization.**

The manure management plan shall contain information on manure to allow the owner or operator to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff that may impact waters of the state.

(A) ~~Unless submitted as a permit to install application subject to paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, manure shall be characterized by the owner or operator by analysis of manure from the manure storage and treatment facility, utilizing an actual sample from the facility.~~ Manure characterization shall describe the manure by the per cent of liquid content, the per cent of solids content and/or manure density and shall follow the sampling procedures for manure sampling and analysis in "Recommended Methods of Manure Analysis" (a 3769), university of Wisconsin extension, 2003. For an existing facility that will continue to have similar manure storage or treatment facilities with no change in treatment technology, the manure shall be characterized utilizing an actual sample from the facility. If the owner or operator is proposing a new facility, new manure storage, or treatment facility, or a change in treatment technology, then the manure shall be characterized by using the table appended to this rule or by utilizing a representative analysis from a similar type facility with a similar type of manure storage or treatment facility to characterize manure, the owner or operator shall submit this alternative manure data along with the identification of the source of the data ~~For a permit to install application as required by paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an operational change or major operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, the owner or operator must utilize the table appended to this rule~~. Manure characterization shall include the following:

(1) Total manure production quantified:

(a) Pounds per day; or

(b) Tons per year; or

(c) Cubic yards per day; or

(d) Gallons per day.

(2) Nutrient content quantified:

(a) Pounds per day; and/or

(b) Pounds per ton; or

(c) Pounds per one thousand gallons.

(B) The manure management plan shall contain an estimate, supported by calculations of the quantity and total nutrient content of manure produced, stored and treated during a twelve month period along with a schedule for manure removal or manure transfer for purposes of land application. Manure may be removed based on results of inspections conducted pursuant to paragraph (A)(4)(f)~~(A)(3)(f)~~ of rule 901:10-2-08 of the Administrative Code or in accordance with distribution and utilization methods.

(C) At a minimum, manure from each manure storage or treatment facility shall be analyzed annually for the following: total nitrogen; ammonium nitrogen; organic nitrogen; phosphorus; potassium; and per cent total solids.

(D) In addition to the minimum requirements for annual manure analysis in paragraphs (A) to (C) of this rule, any manure with wastes that are process waste water, shall be characterized annually by the owner or operator by utilizing an actual sample from the facility, provided, however that for a permit to install application as required by paragraph (C) of rule 901:10-2-01 of the Administrative Code or for an operational change to be made to the manure management plan in accordance with rule 901:10-1-09 of the Administrative Code, the owner or operator may utilize a sample from a similar facility or by relying upon on existing published or documented data.

(E) Results of analyses and estimates conducted in paragraphs (A) to (D) of this rule shall be recorded in the operating record and shall be submitted as part of the annual report to the director required by rule 901:10-2-20 of the Administrative Code. Results of the manure analysis conducted in paragraph (C) of this rule shall be recorded in the operating record.

(F) After conducting manure analysis required in paragraph (C) of this rule, the owner or operator may request approval from the director for a major operational change to reduce the number of samples needed to be representative of each manure storage and treatment facility and to utilize composite sampling and analysis. The director may approve a request provided all of the following apply:

(1) The owner or operator submits a written request to the director along with copies of manure analyses from manure storage or treatment facilities from the same permitted facility;

(2) Manure analyses for three consecutive years demonstrate that analytical results are the same or similar for a twelve month period for each manure storage or treatment facility at the permitted facility; and

(3) The owner or operator acknowledges that the director may notify the owner or operator in writing that the owner or operator shall comply with paragraph (C) if

at any time the director or the director's representative find that composite sampling is no longer representative for reasons that include, but are not limited to:

(a) Changes in feed and feed rations;

(b) Age, size, or type of animals;

(c) Changes in clean out times;

(d) Changes in building design, such as changes in ventilation;

(e) Changes due to diseases and actions taken to eliminate disease.

(G) The manure management plan shall contain information on manure to allow the owner or operator or the person accepting manure under rule 901:10-2-11 of the Administrative Code to plan for nutrient utilization.

*** DRAFT – NOT FOR FILING ***

901:10-2-11 **Contents of manure management plan: distribution and utilization methods.**

(A) If the owner or operator elects to use distribution and utilization methods, for any quantity of manure that is not managed under the control of the owner or operator, the following is required:

(1) If the owner or operator decides to use livestock manure brokers or auctions or farm sales for distribution and utilization, ~~The~~ owner or operator ~~may~~ shall submit distribution and utilization methods for the beneficial use of the manure as part of the manure management plan as required by rule 901:10-2-09 of the Administrative Code. The permitted facility operating record shall include copies of the acknowledgements between the owner and operator of the facility and livestock manure brokers made pursuant to auctions or farm sales. The facility operating acknowledgement shall include the following statement:.

(a) "I have been provided with a copy of the analytical results that list the nutrient content of the manure and total quantities of manure and copies of the applicable requirements of rule 901:10-2-14 of the Administrative Code. The manure will be distributed and utilized according to the best management practices and according to any state laws regulating these uses."

(2) If the owner or operator decides to use distribution and utilization methods then the owner or operator shall provide a copy of appendices A and F of rule 901:10-2-14 of the Administrative Code, and a copy of the most recent analytical results that list the nutrient content of the manure based on an analysis consistent with the rules to the manure recipient. The permitted facility ~~owner or operator shall record in the~~ operating record shall include the name and address of the manure recipient, the date of distribution, and the approximate amount of manure in tons or gallons distributed on that date and an acknowledgement by the manure recipient as follows: ~~.~~

(a) "I have been provided with a copy of the analytical results that list the nutrient content of the manure and total quantities of manure and copies of the applicable requirements of rule 901:10-2-14 of the Administrative code. The manure will be distributed and utilized according to the best management practices and according to any state laws regulating these uses."

(3) In addition to the information in paragraph (A)(2) of this rule, if the owner or operator decides to use distribution and utilization methods for liquid manure, then the owner or operator shall also provide a copy of appendix B, the available water capacity chart that illustrates how to comply with the requirements of rule 901:10-2-14 of the Administrative Code.

(B) All of the information in paragraphs (A)(1) to (A)(3) of this rule shall be recorded in the operating record as described in rule 901:10-2-16 of the Administrative Code.

(C) An estimated amount of total manure transferred to other persons by the owner or operator in the previous twelve months (tons/gallons) shall be reported in the annual report required by rule 901:10-2-20 of the Administrative Code.

(D) If the owner or operator is notified by the director, or otherwise becomes aware that the recipient is not in compliance with rule 901:10-1-06 of the Administrative Code or best management practices set forth in Chapter 1501:15-5 of the Administrative Code or with other applicable laws and rules, the owner or operator shall cease providing manure to the recipient until written authorization to continue is provided by the department.

[Comment: Distribution and utilization may include land application, composting, vermiculture and alternative fuel source uses.]

*** DRAFT – NOT FOR FILING ***

901:10-2-12 **Contents of manure management plan: methods to minimize odors.**

(A) A manure management plan shall include best management practices to minimize odors. These best management practices shall be identified in the manure management plan and shall be compatible with the overall content of the manure management plan. These best management practices may include the following:

(1) Remove, transfer and land apply manure at optimum temperatures;

(2) Remove, transfer and land apply manure when wind direction is less likely to affect neighboring residences;

(3) Promptly inject or incorporate manure to minimize odors; or

(4) If manure is applied by spray irrigation, use appropriate pressure and nozzles.

(5) Additional controls on odor are included in the appendix to ~~rule~~ rule 901:10-2-06 of the Administrative Code. The information appended to rule 901:10-2-06 of the Administrative Code includes ~~waste~~ manure storage or treatment facilities - ~~systems~~ that control and promote additional treatment reduction of odor.

*** DRAFT – NOT FOR FILING ***

901:10-2-13 **Contents of manure management plan: soil characterization.**

The manure management plan shall contain information on the soil of land application areas. Soil samples shall be analyzed~~soils to allow the owner or operator~~ to plan for nutrient utilization at recommended agronomic rates and to minimize nutrient runoff to waters of the state. Soil shall be sampled and analyzed by utilizing the following procedures:

(A) At a minimum, soil samples shall be taken to a uniform depth of eight inches and the fertility analysis shall include: pH, phosphorus, potassium, calcium, magnesium and cation exchange capacity.

(B) Soil fertility analysis shall be conducted in accordance with Publication 221, "Recommended Chemical Soil Test Procedures for the North Central Region; Published by the North Central Regional Committee on Soil Testing and Plant Analysis (NCR-13), North Dakota Agricultural Experiment Station."

(C) Soil samples shall be representative of a land application site with one composite soil sample representing no more than twenty-five acres or one composite soil sample for each land application site, whichever is less.

(D) The manure management plan shall specify the soil sampling frequency in accordance with the following requirements:

(1) A site that receives manure shall be soil tested, at a minimum, once every three years; and

(2) If any land application site is used by the owner or operator the land application site shall be sampled at least six months following application.

(E) Results of the soil sampling events in paragraphs (A) to (D) of this rule shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code and shall include the location of the soil sample collection site, the depth of the sample collected and the analysis.

(F) In developing appropriate manure application rates for land application methods in accordance with rule 901:10-2-14 of the Administrative Code, the owner or operator shall use the Bray P1 soil test level or equivalent appropriate phosphorus soil test, (Mehlich III, Olsen, phosphorus retention test), or other test methods approved by the director. The owner or operator shall choose a phosphorus soil test method and identify the selected method in the manure management plan.

*** DRAFT – NOT FOR FILING ***

901:10-2-14 **Contents of manure management plan: land application methods.**

This rule establishes best management practices that govern land application of manure on land application areas ~~sites~~. The land application of manure at each land application area ~~site~~ shall be conducted to utilize nutrients at agronomic rates, and to minimize nutrient runoff to waters of the state and shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code. The discharge of manure to waters of the state from a facility as a result of application of that manure by the facility to land application areas ~~its control~~ is a discharge from that facility subject to NPDES requirements except where it is an agricultural stormwater discharge ~~as defined in rule 901:10-1-01 of the Administrative Code~~. Where manure has been applied in accordance with this rule and an approved manure management plan, a precipitation-related discharge of manure from land application areas ~~under the control of the facility~~ is agricultural stormwater discharge.

(A) The manure management plan shall contain procedures on how manure shall be transported to land application ~~sites~~ areas in a manner that minimizes loss or spillage, and how spills will be promptly cleaned up or removed.

(B) Manure application rate - testing criteria:

(1) The manure application rate shall be based on the land application ~~site's~~ area's - soil tests conducted in accordance with rule 901:10-2-13 of the Administrative Code and that are no older than three years.

(2) The manure application rate shall be based on the most current manure test results conducted in accordance with rule 901:10-2-10 of the Administrative Code. The manure test results expressed as a nutrient percentage shall be converted into either pounds per ton of dry or wet manure or pounds per one thousand gallons of liquid manure.

(C) ~~Manure~~ General criteria ~~application rate - general criteria:~~ ~~The~~ for manure application. The manure application rate shall be based on the most limiting factor of rates derived from ~~paragraph (B) of this rule and of~~ paragraphs (B) ~~(C)~~ to (G) ~~(E)~~ of this rule, including factors derived from all appendices of this rule, whichever factor is determined to be the most restrictive factor for purposes of protecting waters of the state.

(1) For liquid manure:

(a) The crop nitrogen requirements or removal ~~as~~ of nitrogen described in paragraph (D) of this rule, ~~and as~~ expressed in thousands of gallons of manure per acre;

(b) The ~~crop phosphorus~~ phosphate application limits ~~requirements or removal~~ as described in paragraph (E) of this rule, ~~and as~~ expressed in thousands of gallons of manure per acre;

(c) The restrictions on the rate of liquid manure applied ~~application~~, taken from notes (1) and (5) in appendix A~~,~~ table 2 of this rule, with volume expressed as a measure of gallons per acre or inches per acre;

(d) The application rate shall not exceed the available water capacity of the soil as described in appendix B of this rule; ~~and~~

(e) The application rate shall be adjusted to ~~avoid~~ preclude surface ponding and/or runoff from a land application ~~site~~.

(2) For solid manure:

(a) The crop nitrogen requirements or removal of nitrogen as described in paragraph (D) of this rule expressed in pounds per ton of dry manure per acre; ~~or~~

(b) The ~~crop phosphorus~~ phosphate application limits ~~requirements or removal~~ as described in paragraph (E) of this rule expressed in pounds per ton of dry manure per acre; ~~or~~

(c) The restrictions on the rate ~~volume~~ of solid manure applied, taken from notes (1) and (8) ~~(5)~~ in appendix A~~,~~ table 2 of this rule with volume expressed as a measure of tons/acre.

(3) All land applications of manure shall comply with all restrictions contained in appendix A of this rule unless a compliance alternative is submitted ~~in the manure management plan~~ and approved by the director. As a compliance alternative, the concentrated animal feeding operation may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the one hundred foot setback or a thirty five foot vegetated buffer.

Comment: The natural resources conservation service and the Ohio state university have conducted extensive research on manure injection and manure incorporation on all representative Ohio soil types. Refer to "United States Department of Agriculture - Natural Resource Conservation Service. Field Office Technical Guide - Conservation Practice Standard 633. Columbus, Ohio, June 2003, revised August 2004."

(4) For all land application of liquid manures, the owner or operator shall maintain or have access to methods or devices to capture or stop subsurface drain flow if

liquid manure reaches the subsurface drain outlets. Use of drain outlet plugs or other devices shall be recorded in the operating record in accordance with rule 901:10-2-16 of the Administrative Code.

(5) Calculate the total amount of nitrogen and ~~phosphorus~~ phosphate to be applied to each field, including sources other than manure such as commercial fertilizer or other organic by-products.

(6) Land application of manure by means of surface application shall not occur if the forecast contains a greater than fifty per cent chance of precipitation as determined in "Managing Manure Nutrients at Concentrated Animal Feeding Operations, Appendix M, United States Environmental Protection Agency, EPA-821-B-04-006, August 2004," exceeding an amount of one-quarter ~~half~~ inch for hydrologic soil group D soils and one-half inch for hydrologic soil group A, B, and C soils, for a period extending twenty-four hours after the start of land application. Record weather conditions in the operating record for conditions at the time of application and for twenty-four hours prior to and following application.

(D) The manure application rate for nitrogen shall be based on the following criteria:

(1) The application rate for nitrogen shall be based on utilization of crops at the recommended agronomic rates and based on minimum runoff and leaching that may impact waters of the state.

(2) In determining the agronomic rate for nitrogen, the owner or operator shall do the following:

(a) Determine the nitrogen requirements or removal rates for the realistic yield goal of planned crops using nutrient amounts from appendix C, tables 1, 2 or 3 of this rule.

(b) Subtract the nitrogen credit for crop residue, legumes, and other sources of nitrogen to be given to the next ~~corn~~ crop in accordance with values for previous crops given in appendix C, table 4 of this rule;

(c) When applying nitrogen to a grass or legume cover crop that is growing or being established immediately after manure application, manure can be applied at the recommended nitrogen rate for the next non-legume crop or the nitrogen removal rate for the next legume crop.

(3) In determining how to minimize nitrogen leaching that may impact waters of the state, the owner or operator shall do the following:

(a) Assess each land application ~~site~~ area with the Ohio nitrogen leaching risk assessment procedure contained in appendix C, table 5 of this rule;

(b) If the nitrogen leaching risk assessment procedure completed in accordance with paragraph (D)(3)(a) of this rule demonstrates that the land application site has a high nitrogen leaching potential and no growing crop, then application of manure shall be limited to fifty pounds of nitrogen per acre calculated at the time of application prior to October first.

(4) In calculating the actual rate of application of nitrogen from manure, the figures in appendix C, table 6 of this rule shall be used along with the manure test results conducted according to rule 901:10-2-10 of the Administrative Code.

(5) The ~~criteria applicable to manure application and the~~ requirements of paragraph (D) of this rule may be changed only if the owner or operator can demonstrate to the director nutrient insufficiency in accordance with the presidedress nitrate soil test procedures of tables 7 and 8 in appendix C of this rule.

(E) The manure application rate for phosphate shall be determined using the soil test analysis obtained pursuant to rule 901:10-2-13 of the Administrative Code and the following criteria:

(1) Prior to the land application of manure, land application areas shall be assessed with either the phosphorus index risk assessment procedure in appendix E, table 1 of this rule or the phosphorus soil test risk assessment procedure in appendix E, table 2 of this rule. The manure application rate for phosphate shall be limited in compliance with the applicable provision in the:

(a) Generalized interpretation of phosphorus index and management column in appendix E, table 1, of this rule, or

(b) The application criteria in appendix E, table 2, of this rule.

(2) The phosphate requirements for the realistic yield goals of planned crops, crop rotations, and\or plant biomass shall be determined using amounts from appendix C, table 1 of this rule;

(3) Phosphate applications between two-hundred and fifty pounds per acre and five hundred pounds per acre are not recommended but may be made if the values for liquid manure exceed sixty pounds phosphate per one thousand gallons and if the values for solid manure exceed eighty pounds phosphate per ton and application is subject to these additional requirements:

(a) No manure application shall occur on land with soil tests that exceed more than one hundred parts per million Bray P1;

(b) No manure application shall occur on frozen or snow-covered ground;

(c) The manure shall be incorporated within twenty-four hours;

(d) No additional phosphate application shall be made for a minimum of three years on fields with soil tests that measure less than forty parts per million Bray P1 or equivalent; and

(e) No additional phosphate application shall be made for a minimum of five years on fields with soil tests between forty and one-hundred parts per million Bray P1 or equivalent.

(4) Notwithstanding the procedures in paragraph (E) of this rule but subject to the restrictions in appendix B of this rule, for a single phosphate application in a year, the application rate shall not exceed five hundred pounds per acre of phosphate.

~~(E) Manure application rate phosphorus criteria:~~

~~(1) The application rate for phosphate applications shall be based on determined using the soil test analysis obtained pursuant to rule 901:10-2-13 of the Administrative Code and either of the following criteria the following:~~

~~(a) Estimated plant phosphorus uptake by crops and/or plant biomass at the recommended agronomic rates as described in section (E)(2) of this rule;or~~

~~(b) The phosphorus site risk assessment procedures as described in the appendix to this rule. Soil test analysis obtained pursuant to rule 901:10-2-13 of the Administrative Code;~~

~~(c) Subsequent phosphorus removal in plant biomass; and~~

~~(d) Minimum runoff that may impact waters of the state.~~

~~(2) Soil test analysis obtained pursuant to rule 901:10-2-13 of the Administrative Code.~~

~~(2)(3) In determining the agronomic The application rate for phosphate shall not exceed the argonomic rate derived in accordance with paragraph (E)(1) of this rule, unless application, the owner or operator shall do does one of the following to minimize phosphorus runoff that may impact waters of the state, and applicatioin rates do not exceed the value determined by appendix E of this rule:~~

~~(a) Determine the phosphorus requirements for the realistic yield goal of planned crops and/or crop rotations using amounts from appendix C, table 1 or appendix D, tables 1 to 5 of this rule.~~

~~(b) The application rate for phosphorus shall not exceed the agronomic rate provided in appendix C, table 1 or appendix D, tables 1 to 5 of this rule, unless following the procedures in paragraph (E)(3) (4) of this rule.~~

~~(3)(4) In determining how to minimize phosphorus runoff that may impact waters of the state, the owner or operator shall do the following and apply no more than the value as determined by table 2 of appendix E of this rule:~~

~~(a) Prior to the land application of manure, a land application site areas shall be assessed with either the phosphorus index risk assessment procedure in appendix E, table 1 of this rule or the phosphorus soil test risk assessment procedure in appendix E, table 2 of this rule;~~

~~(b) Application of phosphorus shall not occur on land with soil tests over one hundred fifty parts per million Bray P1 or equivalent unless the owner or operator does one or both of the following:can demonstrate an alternative to the director through the use of the phosphorus index risk assessment procedure contained in appendix E, table 1 of this rule.~~

~~(i) Limits the rate of phosphorus application to an amount that does not exceed phosphorus requirements for the realistic yield goal of planned crops for one year; or~~

~~(ii) Demonstrates an alternative to the director through the use of the phosphorous index risk assessment procedure contained in appendix E, table 1 of this rule~~

~~(c) Phosphorus applications between two hundred and fifty pounds per acre and five hundred pounds per acre are not recommended but may be made if the values for liquid manure exceed sixty pounds phosphorus per one thousand gallons and if the values for solid manure exceed eighty pounds phosphorus per ton and application is subject to these additional requirements:~~

~~(i) No manure application shall occur on land with soil tests that exceed more than one hundred parts per million Bray P1;~~

~~(ii) No manure application shall occur on frozen or snow-covered ground;~~

~~(iii) The manure shall be incorporated within twenty-four hours;~~

~~(iv) No additional phosphorus application shall be made for a minimum of three years on fields with soils tests that measure less than forty parts per million Bray 1 or equivalent; and~~

~~(v) No additional phosphorus application shall be made for a minimum of five years on fields with soils tests between forty and one hundred parts per million Bray P1 or equivalent.~~

~~(d) Notwithstanding the procedures in paragraph (E)(4) (3)(a) or (E)(3)(b) of this rule but subject to the restrictions in appendix B of this rule, for a single phosphorus application in a year, the application rate shall not exceed five hundred pounds per acre of phosphorus.~~

(F) Land application for crops or other uses not listed in appendices C and D of this rule will be considered on a case-by-case basis. The owner or operator shall submit existing published or documented data that is acceptable to the director.

(G) General criteria for frozen and snow-covered ground. In addition to complying with all of the criteria in paragraphs (A) to (F) of this rule, the following actions are required for surface application of manure to land with frozen or snow-covered ground.

If manure can be injected or incorporated then the land application site is not frozen or snow covered and therefore subject to paragraphs (A) to (F) of this rule.

The owner or operator shall comply with rule 901:10-2-08 of the Administrative Code and this rule and use best efforts to avoid surface application of manure to frozen or snow covered ground by ensuring enough manure storage capacity by November of each year for a minimum of one hundred twenty to one hundred eighty days.

Manure injection or manure incorporation performed within twenty-four hours at the land application site ~~or manure stockpiling at the land application site are~~ is the preferred ~~alternatives~~ alternative to surface application of manure. Solid manure with less than fifty per cent moisture shall be stockpiled at the land application site in lieu of manure application on frozen or snow covered ground.

~~In the event that surface~~ Surface application of manure on frozen or snow-covered ground is prohibited unless ~~unavoidable, then application shall be~~ performed in accordance with all of the following requirements in paragraph (G)(1) of this rule.

(1) Application.

(a) Prior approval for each surface application of manure shall be obtained from the director or his designated representative.

(b) Except as required by paragraph (G)(1)(g) of this rule, the application rate is limited to ten wet tons per acre for solid manure with more than fifty per cent moisture ~~and five wet tons per acre for manure with less than fifty per cent moisture~~.

(c) Except as required by paragraph (G)(1)(g) of this rule, liquid manure the application rate is limited to five thousands gallons per acre.

(d) Applications are to be made on land with at least ninety per cent surface residue cover at the time of application such as good quality hay or pasture field, all corn grain residue remaining after harvest, and all small grain residue cover remaining after harvest. Vegetation or residue shall not be completely covered by ice or snow at the time of application.

(e) Manure ponding shall be prevented. ~~Manure shall not be applied on more than twenty contiguous acres. Contiguous areas for application are to be separated by a break of at least two hundred feet. Areas that are furthest from steams, ditches, waterways, surface waters are to be utilized in preference to areas with the potential for surface water runoff.~~

(f) Manure shall not be applied on more than twenty contiguous acres. Contiguous areas for application are to be separated by a break of at least two hundred feet. Areas that are furthest from streams, ditches, waterways, and\or surface waters are to be utilized in preference to areas with the potential for surface water runoff.

~~(f)~~(g) Setbacks from surface waters and conduits to surface waters, (including grassed waterways and surface drains) shall be a minimum of two hundred feet. Setbacks shall have at least ninety percent surface residue cover and vegetation or residue shall not be completely covered by ice or snow at the time of application.

~~(g)~~(h) For application fields with slopes greater than six percent, manure shall be applied in alternating strips sixty to two hundred feet wide generally on the contour, or in the case that the field is managed in contour strips with alternative strips in grass or legume, manure shall only be applied on alternative strips. Manure application rates shall be determined for each separate application strip area and not the area of the entire application field.

~~(h)~~(i) Any manure application with phosphorus exceeding two hundred and fifty pounds per acre is prohibited.

(2) Monitoring.

(a) Concentrated field surface drainage and tile outlets shall be visually monitored at the conclusion of manure application and periodically afterwards when weather, temperature increase, snowmelt and rainfall are likely to produce manure runoff. Periodic visual monitoring shall continue

until manure is assimilated into the application field and is no longer likely to discharge into waters of the state.

(b) Upon discovering a discharge to waters of the state, the owner or operator shall notify the department within two hours of detection of the runoff event~~comply with rule 901:10-2-17 of the Administrative Code~~.

(c) In addition to the visual monitoring and reporting in this paragraph, ~~event that~~ the owner or operator shall collect representative grab samples from the discharges ~~fails to comply with the~~ of land applied manure into waters of the state at the point that the discharge enters waters of the state (i.e. concentrated field surface runoff or field tile outlet discharge prior to entrance to surface waters) and have the sample analyzed for amonia nitrogen levels ~~application requirements for frozen or snow covered ground, including but not limited to prior notice to the department, notice of discharges, monitoring and record keeping, for more than two surface land application events, then land application on any frozen or snow covered shall be prohibited for that owner or operator for the duration of the permit upon receipt of a notice of deficiencies resulting in noncompliance pursuant to section 903.17 of the Revised Code~~.

(d) The owner or operator shall:

(i) Collect the sample within thirty minutes of the first knowledge of the discharge; or

(ii) If the sampling in that period is inappropriate due to dangerous weather conditions, the owner or operator shall collect the sample as soon as possible after suitable conditions occur and shall document the reason for delay.

(e) The owner or operator shall report the results of the discharge event to the department within fourteen days of occurrence. The report shall, at a minimum, contain the sample results, describe the reason for the discharge, the location, estimate of quantity and duration of the discharge, and duration of the precipitation leading up to the event, any measures taken to clean up and eliminate the discharge, and copies of land application records. Laboratory results not available at the time of the report submitted shall be submitted to the department within five days of receipt.

(f) If the ammonia nitrogen level in a water quality sample is determined to be twenty-six mg\L or greater in the discharge at the point it enters waters of the state, then additional surface application of manure to frozen and\or snow covered ground is prohibited on the field where the runoff event occurred.

(g) In the event that an owner or operator complies with all of the requirements of paragraph (G) of this rule and runoff enters waters of the state resulting in ammonia nitrogen level in a sample determined to be twenty-six mg\L or greater in three application events authorized in accordance with paragraph (G)(1)(a) of this rule, then additional surface application of manure to frozen and/or snow covered ground shall be prohibited for the duration of the permit.

(h) In the event that the owner or operator fails to comply with the land application requirements for frozen or snow covered ground, including but not limited to prior notice, and approval for each application pursuant to paragraph (G)(1)(a) of this rule, notice of discharge, monitoring and record keeping, for more than two surface land application events, then land application on any frozen or snow-covered ground shall be prohibited for that owner or operator for the duration of the permit upon receipt of a third notice of deficiencies resulting in noncompliance pursuant to section 903.17 of the Revised Code.

~~(d) On and after April 1, 2007, in addition to the requirements for visual monitoring and reporting in paragraph (G)(2)(a) of this rule, the director may require the owner or operator to collect representative grab samples from discharges of manure from the land application site.~~

Appendix
901:10-2-14

Appendix A to rule 901:10-2-14: How to Use the Appendices to this Rule.

Refer to Appendix A, Tables 1 and 2 - Soils Prone to Flooding through Appendix F, Most Limiting Manure Application Rates of rule 901:10-2-14 of the OAC.)

1. Determine if the site has soils that are prone to flooding and when the expected flooding seasons are (Appendix A, Table 1). Note that applications can only be made to soils prone to flooding at times outside the predicted flooding season. All applications to soils prone to flooding must be incorporated within 24 hours and must follow the setbacks in Appendix A, Table 2.

2. Determine if manure will be staged at the land application site. Any manure that is staged at the land application site shall meet the setbacks described in column 1 of Appendix A, Table 2. For solid manure, manure that is staged for more than 15 days from initial delivery will be considered a stockpile, which shall also meet the setbacks described in Appendix A, Table 2. Stockpiles shall not discharge to surface waters of the State and may require additional management practices to prevent such a discharge.

3. For liquid manure applications, follow Appendix B, Available Water Capacity Chart, and Appendix F, Most Limiting Manure Application Rates Chart (Table 1 - tiled fields, Table 2 - non-tiled fields). For solid manures, follow Appendix F, Most Limiting Manure Application Rates Chart.

4. Determine the nutrient removal for the expected cropping sequence using Appendix C, Tables 1-3. Determine residual nitrogen credits for the expected cropping sequence using Appendix C, Table 4.

5. Determine the nitrogen leaching potential of the field based on Appendix C, Table 5, Nitrogen Leaching Assessment Procedure. Note that all tiled fields have a high nitrogen leaching potential. High nitrogen leaching potential fields must have application rates less than or equal to 50 lb/ac as applied nitrogen (calculated by adding NH4-N to 1/3 Organic N) from June - October 1st unless the field has a cover crop planted.

6. Use the current manure analysis and the relevant sections of Appendix C Tables 6-7 through Appendix D, Tables 1-5 to determine the amount of manure nutrients available for crop production.

7. Use Appendix E, Table 1 (P-Index) if the Bray P1or equivalent value of the soil test is over 150 ppm. P-Index may only be relied upon for a transitional period of time to allow the owner or operator an opportunity to find other fields or other methods to distribute nutrients from of the facility in order to achieve less than 150 ppm Bray P1 soil test method.

8. Use Appendix F, Most Limiting Manure Application Rates Chart, Nitrogen, P_2O_5, K_2O, Rate (tons or gallons per acre), or Available Water Capacity *to determine the application rate. The selected application rate* must be the most restrictive of the five *"Limiting Application Rate Criteria" for each Field Situation & Time of Year.*

Other Notes:

9. When using Appendix F, although not recommended, Phosphate manure application rates can be made between 250-500lb/ac/yr in cases where liquid manure exceeds 60 lbs. P_2O_5 per 1000 gallons or solid manure that exceed 80 lbs. P_2O_5 per ton. The following criteria also apply: manure must be incorporated within 24 hours and no applications can be made on either frozen or snow covered ground or fields with soil tests over 100 ppm Bray P1; soil tests less than 40 ppm Bray P1 shall have no further P additions for 3 years; soil tests between 40 – 100 ppm Bray P1 shall have no further additions of P for 5 years; no other limiting criteria can be violated.

10. When using legumes as a nitrogen removal source, the maximum legume nitrogen removal must be

less than or equal to 150 lbs./ac.

11. When applying liquid manure to tiled fields, the following criteria must be followed (except for growing crops):

    11a. Applications must be less than or equal to 0.5" or 13,576 gal/ac.

    11b. Use a tool (AERWAY tool or similar tool) that can disrupt/close (using horizontal fracturing) the preferential flow paths in the soil, or till the surface of the soil 3-5" deep to a seedbed condition to soak up the liquid manure and keep it out of preferential flow channels.

    11c. If injection is used, it should only be deep enough to cover the manure with soil. Till the soil at least 3" below the depth of injection prior to application. Tillage prior to application will be considered incorporation of the manure.

    11d. The outlets must be monitored before, during, and after application AND provisions planned to plug the tile or capture the tile flow if liquid manure reaches the tile outlets. If No-till or pastures are used for applications, tiles must be plugged.

12. If manure is to be applied on frozen or snow covered ground, the field must have at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue). For applications to ~~or~~ frozen or snow covered ground, manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break from streams, ditches, waterways, surface water, etc (areas that present the least runoff potential and are furthest from surface water.) The setbacks in column 3 ~~should~~ must be followed. Prior approval must be obtained from the ODA, Livestock Environmental Permitting Program before frozen or snow/ice covered ground surface manure applications. If manure can be incorporated within 24 hours on frozen ground, approval from ODA, Livestock Environmental Permitting Program is not required.

13. For surface manure applications, follow the setbacks in column 2. For incorporation within 24 hours or injection, follow the setbacks in column 4.

Appendix A Table 2 to rule 901:10-2-14: Land application restrictions and setbacks

Land Application Restrictions

	1	2	3	4
	Staging Areas and Stockpiles (10)	Surface Application	Winter Applications Frozen or Snow Covered Ground (1)	Surface Incorporation w/I 24 Hours OR Direct Injection
Class V wells, sinkholes	300'	300'	300'	100'
Surface Waters of the State (7)	300'	35' veg cover, 100' (2)	35' veg. cover, 200' (8)	35' veg. cover, 100'(2)
Wells	300'	300'	300'	100'
Bedrock	> 3' from bedrock	none	none	none
Public Surface Drinking Water Intake	1500'	300'	300'	300'
Springs	300'	300'	300'	300'
Neighboring residences:	500'	300'	300'	100'
Flooding/flood plains/floodways (3):	do not stockpile	do not apply	do not apply	permissible (3)
Slope (4):	0-6%	>15% see note 5	If > 6% see note 1	>15% see note 5
Field Surface Furrows(6)	300'	35' veg cover, 100' (2) or 35' see note 9	200'	none
Maximum Application Rate:	Liquid Manure - Based on Appendix B (AWC Chart) & Appendix F (Most Limiting Nutrient Chart) Solid Manure - Based on Appendix F (Most Limiting Nutrient Chart)			

Note (1): All winter surface applications must have prior approval from the Ohio Department of Agriculture. Application on frozen and snow covered soil is not recommended. However, if manure application becomes necessary on frozen or snow covered soils, only limited quantities of manure shall be applied to address waste storage limitations until non frozen soils are available for manure application. If frozen or snow covered ground application becomes necessary, applications are to be applied only if ALL the following criteria are met:

a. Application rate is limited to 10 wet tons/acre for solid manure more than 50% moisture and 5 wet tons for manure less than 50% moisture. For Liquid manure the application rate is limited to 5000 gallons/acre.

b. Applications are to be made on land with at least 90% surface residue cover (e.g. good quality hay or pasture field, all corn grain residue remaining after harvest, all wheat residue cover remaining after harvest).

c. Manure shall not be applied on more than 20 contiguous acres. Contiguous areas for application are to be separated by a break of at least 200 feet. Utilize those areas for manure application that are the furthest from streams, ditches, waterways, surface water, etc. (areas that present the least runoff potential and are furthest from surface water).

d. Increase the application setback distance to 200 feet "minimum" from all grassed waterways, surface drainage ditches, streams, water bodies, and field surface furrows. This distance may need to be further increased due to local conditions.

e. The rate of application shall not exceed the rates specified in Table 4 - Determining The Most Limiting Manure Application Rates for winter application.

f. Additional winter application criteria for fields with significant slopes more than 6% - Manure shall be applied in alternating strips 60 to 200 feet wide generally on the contour, or in the case of contour strips on the alternating strips.

Note (2): Either a 35' wide vegetative buffer strip must be present or a total setback of 100' must be maintained. As a compliance alternative, the concentrated animal feeding operation may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the one hundred foot setback or a thirty five foot vegetative buffer. Buffer strip is defined in OAC 901:10-1-01(R).

Note (3): No applications during expected flooding season as reported in Appendix A, Table 1

Note (4): Must have < 5 ton/ac yearly average soil loss to perform surface manure applications

Note (5): Manures are not to be applied to cropland over 15% slope or to pastures/hayland over 20% slope unless ONE of the following precautions are taken:

a. Immediate incorporation or injection with operations done on the contour, UNLESS the field has 80% ground cover (residue or canopy).
b. Applications are timed during periods of lower runoff and/or rainfall (May 20th - October 15th)
c. Split applications are made (seperated by rainfall events) with single applications not exceeding 10 wet tons/ac or 5000 gal/ac.
d. The field is established and managed in contour strips with alternated strips in grass or legume.

Note (6): Applications can be through field surface furrows if criteria in Appendix A, How to Use Appendices are followed.

Note (7): Refer to OAC 901:10-1-01 for the definition of "Surface waters of the state."

Note (8): The first setback refers to a vegetative buffer strip that must be maintained while the second refers to the total setback distance. Buffer strip is defined in OAC ' ed in OAC 901:10-1-01.

Note (9): A 35' buffer without vegetation may be approved by the Director based on prior submittal of a compliance alternative for the specific land application area, in accordance with OAC 901:10-2-14(C)(3)

Note (10): Staging area(s) is a site used for placement of solid manure or transfering of liquid manure to facilitate land application. Any solid manure that is staged for more than 15 days will be considered a stockpile. Staging areas and stockpiles shall not discharge to waters of the State.

Source: USDA-NRCS (2003). Field Office Technical Guide-Conservation Practice Standard, 633, Columbus, Ohio.

Appendix C Table 1 of rule 901:10-2-14 Nutrients removed in harvested portions of crops.

Table 1	Nutrients Removed for Given Yield[a]			Nutrients Removed for Unit Yield[b]	
Crop/Yield	N	P_2O_5	K_2O	P_2O_5	K_2O
	lb/acre			lb/bu or ton	
Alfalfa (6 T)	340[c]	80	360	13.3 lb/T	60 lb/T
Corn (150 Bu)					
Grain	135	55	40	0.37 lb/bu	0.27 lb/bu
Stover	100	25	160		
Corn-Silage (26T)	235	80	235	3.1 lb/T	9.0 lb/T
Grass-Cool Season (3.5T) Tall Grasses and/or Forage Legumes (established)	140	45	175	13.0 lb/T	60.0 lb/T
Oats (100 Bu)					
Grain	65	25	20	0.25 lb/bu	0.20 lb/bu
Straw	35	15	100	0.15 lb/bu	1.0 lb/bu
Sorghum-Grain (7,600 lb)					
Grain	105	30	30	0.39 lb/100 lb	0.39 lb/100 lb
Stover	80	50	230		
Soybean (50 Bu)	190[c] 40		70	0.80 lb/bu	1.4 lb/bu
Sugar Beets-Roots (25 T)	100	50	250	2.0 lb/T	10.0 lb/T
Tobacco-Burley and Cigar Filler					
Leaf (3000 Lb)	105	25	185		
Stems and Suckers (2000 lb)	55	15	65		
Leaves and Stalks				1.3 lb/100 lb	8.3 lb/100 lb
Wheat (55 Bu)					
Grain	70	35	20	0.64 lb/bu	0.36 lb/bu
Straw	30	5	50	0.09 lb/bu	0.91 lb/bu
[a]Source: National Plant Food Institute and others. [b]Source: Ohio Agronomy Guide, 12th Edition. [c]Inoculated legumes fix nitrogen from the air.					

Appendix E Table 2 of rule 901:10-2-14.

Phosphorus Soil Test Risk Assessment Procedure
Nitrogen and Phosphorus Application Criteria For Manure

Criteria Applicable to All Soil Test Levels:
1. Nitrogen application rates from manure, shall be based on Total Ammonium Nitrogen Content plus 1/3 of the Organic Nitrogen calculated at time of application when applied during the summer, fall, or winter for spring planted crops. When applied in the spring for spring planted crops the nitrogen application rate can be adjusted to apply the recommended nitrogen within the P2O5, K2O, and other limitations.
2. Nitrogen rates are not to exceed the succeeding crop's recommended Nitrogen for non-legume crops or the Nitrogen removal in the crop's biomass for legume crops.
3. All applications are based on current soil test results (not more than 3 years old).
4. No manufactured P2O5 applied above 40 ppm Bray P1 or equivalent test, unless recommended by appropriate industry standards or the land grant universities for specialty crops, vegetable crops, etc.
5. Manure shall be applied in accordance with the restrictions and setbacks in Appendix A Table 2 of this rule.

"P" Soil Test Level	**Application Criteria**
Bray P1 < 40 ppm (< 80 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	**Recommended N or P2O5.** Manure can be applied to meet the succeeding crop's recommended nitrogen requirements for non-legume crops or the nitrogen removal for legume recommended P2O5 but not to exceed the nitrogen needs of the succeeding crop.
Bray P1 40-100 ppm (80 – 200 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	**Recommended N or P2O5 Removal whichever is less.** The field shall have > 30% ground cover at the time of application or the manure shall be incorporated within one week. The manure can be applied to meet the succeeding crop's recommended nitrogen requirements for non-legume crops or the nitrogen removal for legume crops; or P2O5 removal (annual or multiple year applications) whichever is less.
Bray P1 100-150 ppm (200-300 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	**Recommended N or P2O5 Removal whichever is less.** Manure shall be applied so as not to exceed the succeeding crop's recommended nitrogen requirements for non-legume crops or the nitrogen removal for legume crops; ~~or annual P2O5 removal, whichever is less. In addition a multiple year application of Phosphorus is authorized if the following conditions are met:~~ ~~1. The application field has > 50% ground cover at the time of application, or~~ ~~2. The manure is incorporated into the application field within 7 days on fields with < 50% cover.~~
Bray P1 > 150 ppm (> 300 Lbs/Ac) OR Other Equivalents (e.g. Mehlich 3)	1. No additional P2O5 – Use P2O5 Draw-down Strategies; or 2. Shall use the P Site Assessment in Appendix E Table 1.

Source: USDA-NRCS (2001). Field Office Technical Guide – Conservation Practice Standard. *Section 1.* Columbus, OH.

*** DRAFT – NOT FOR FILING ***

901:10-2-16 **Permit to operate and operating record requirements.**

(A) An operating record shall be generated as part of the permit to operate and\or NPDES permit.

(1) The ~~owner or operator~~ operating records shall be maintained ~~maintain the operating record~~ on forms identified ~~provided~~ by the ~~department~~ permit and other forms approved for use by the department ~~selected by the owner or operator for the facility~~. The operating record shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document the following information:

(a) The manure storage or treatment facility. Records required by rule 901:10-2-08 or 901:10-2-19 of the Administrative Code, including:

(i) Measurements of manure volume and the depth of liquid manure in manure storage or treatment facilities by the depth marker or other appropriate device as approved by the director in accordance with rule 901:10-2-06 of the Administrative Code as required by paragraph - ~~(A)(3)(o)~~ (A)(4)(o) of rule 901:10-2-08 of the Administrative Code which clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the twenty-five year, twenty-four hour rainfall event, or, in the case of new sources subject to the requirement in paragraph (C) of rule 901:10-3-06 of the Administrative Code, the runoff and direct precipitation from a one-hundred year, twenty-four hour rainfall event, plus the levels of freeboard as required in either paragraph ~~(A)(3)(a)~~ (A)(4)(a) or paragraph ~~(A)(3)(b)~~ (A)(4)(b) of rule 901:10-2-08 of the Administrative Code;

(ii) Records of inspections of the structural integrity and vegetative management systems of the manure storage or treatment facility taken at intervals specified in the manure management plan and including evidence of erosion, leakage, animal damage, and problems of emerging vegetation..

(iii) Records of measurements of storage capacity remaining in the manure storage and treatment facility, based upon inspections conducted at intervals specified in the manure management plan.

(iv) Records of inspections of stormwater conveyances, diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the manure storage pond or manure treatment lagoon..

(v) Records of inspections of the protective vegetative cover that is maintained on all disturbed areas (lagoon or pond embankments, berms, pipe runs, erosion control areas, etc.)

(vi) Implementation dates of those best management practices necessary to operate and maintain settling basins, grass filtration or soil infiltration systems or diverting clean water and roof water away from the production area..

(vii) Records of groundwater sampling and analysis and any surface water sampling and analysis.

(viii) Records required in rule 901:10-2-19 of the Administrative Code for the insect and rodent control plan.

(ix) Records of inspections of water lines located above ground and readily accessible or visible for daily inspection, including drinking water or cooling water lines.

(x) Records of actions taken to correct any deficiencies found as a result of inspections conducted in the production area. If actions were not taken within thirty days of discovery, then the operating record shall record the reasons explaining why corrections could not be made immediately.

(xi) Records documenting the current design of any manure storage or treatment facility including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity.

(xii) Records of the date, time, and estimated volume of any overflow or discharge from the production area.

(b) Manure characterization records. Manure characterization data, test methods, results, and other information as required in paragraph (E) of rule 901:10-2-10 of the Administrative Code.

(c) Land application ~~site~~ area records shall be recorded and maintained in the operating record. Records for each land application area shall include ~~site, including~~:

(i) The owner or operator shall maintain or have access to adequate land application equipment and record this in the operating record.

(ii) The owner or operator shall list or otherwise describe those acres of land in the operating record for land application of manure, whether the land

is owned or leased. In the alternative, use of a distribution and utilization plan should be recorded in the operating record.

(iii) When liquid manure is applied to a land application area ~~site~~ with subsurface drains, document the periodic observations of the drain outlets for liquid manure flow during and after application in the operating record.

(iv) When liquid manure is applied to a land application area ~~site~~ with a subsurface drain, document the use of drain outlet plugs or other devices in the operating record.

(v) Land application areas ~~sites~~ as described on a soil survey map.

(vi) All soil tests within the last five years. Soil test results shall be maintained in the operating record with the information required in rule 901:10-2-13 of the Administrative Code.

(vii) ~~Implementation dates of those best management practices~~ Site inspections to inspect setbacks used to maintain vegetative cover and protect stream channels or areas adjacent to such stream channels and as required by rule 901:10-2-14 of the Administrative Code.

(viii) Records of the cropping schedule for each land application site for the past year, anticipated crops for the current year, and anticipated crops for the next two years after the current year.

(ix) Targeted crop yield for each crop in each land application ~~site~~ based based on:

(a) Soil productivity information;

(b) Historical yield data;

(c) Potential yield; or

(d) Combinations of yield data.

(x) An additional ten per cent may be added to the potential and/or historical yields to account for improvements in management and technology.

(a) When historical yield data is not available a realistic yield may be based on local research or on yields from similar soils and/or cropping systems in the area.

(b) For new or potential crops or varieties, industry yield estimates may be used until actual yields are available for documentation in the operating record.

(xi) Actual yield, if available.

(xii) Results of the nitrogen leaching risk assessment procedure and the phosphorus soil test assessment procedure and an explanation of the basis for determining manure application rates, as provided in rule 901:10-2-14 of the Administrative Code.

(xiii) The number of years needed to reach one hundred fifty parts per million Bray P1 or equivalent if manure application rates exceed the phosphorus crop removal rates.

(xiv) Date, rate, quantity and method of application of the nutrient, and/or form and source of manure, commercial fertilizer and/or other organic by-products.

(xv) Total amount of nitrogen and phosphorus actually applied to each field, including documentation of calculations for the total amount applied.

(xvi) Condition of soil at the time of application including, but not limited to, available water capacity and evidence of soil cracks and related information on soil conditions.

(xvii) Temperature, including general weather conditions at time of application and for twenty-four hours prior to and following application..

(xviii) Implementation dates of those best management practices necessary to reduce the risk of nitrogen or phosphorus runoff by crop rotation, cover crops or residue management in accordance with paragraphs (B) to (E) of rule 901:10-2-14 of the Administrative Code.

(xix) Record the annual projected nutrient budget for nitrogen and phosphorus for each site for the plant production sequence and/or crop rotation.

(d) Unless otherwise recorded with the insect and rodent control plan implementation or land application records, records of inspections and actions taken at manure stockpile or manure transfer sites.

(e) The records for implementation of distribution and utilization methods, if used, shall include:

(i) Quantity of manure transferred off-site for each twelve month period (tons/gallons);

(ii) Date of off-site transfer for distribution;

(iii) Name and address of recipient of manure; and

(iv) Record that the recipient was provided with a copy of the appendices A, B and F to rule 901:10-2-14 of the Administrative Code, a copy of the most recent manure analysis consistent with the rules.

(f) Disposal of dead livestock. The records for implementing the plan for the disposal of dead livestock shall include, but not be limited to:

(i) The disposal method used for removal of dead livestock;

(ii) A record of the date and time of inspection of each facility; and

(iii) Those best management practices necessary to implement the disposal of dead livestock.

(B) Records shall be generated by certified livestock managers to comply with the requirements of rule 901:10-1-06 of the Administrative Code. The operating records shall be maintained on forms approved for use by the department. A certified livestock manager employed by a major concentrated animal feeding facility may use the major concentrated animal feeding facility's operating record to comply with the requirements of this rule and rule 901:10-1-06 of the Administrative Code, to the extent the records required to be kept by the certified livestock manager are already maintained in the facility's operating record. The operating record for a certified livestock manager shall be retained for a minimum period of five years, shall be made available to the director upon request, and shall record and document the following information:

(1) Records shall be maintained for each land application area.

(2) The certified livestock manager shall list or otherwise describe the acres of land for land application of manure.

(3) When liquid manure is applied to a land application area with subsurface drains, documentation shall be made of the periodic observations of subsurface drains, drain outlet plugs, drain outlets or other devices for liquid manure flow during and after application in the operating record.