

Title 130 Livestock Waste Control Regulations: Summary of Land Application Requirements

Amended Effective October 4, 2011

References to land application of animal manures were extracted from Title 130 and included in this document.

Chapter 1 - DEFINITIONS

001 "Agronomic rates" means the application of livestock wastes and process wastewater at rates that meet crop needs for nitrogen and phosphorus, while taking into account other sources of nutrients, and without leading to or causing water quality impairment due to over application.

004 "Application area" means land utilized for the land application of livestock wastes.

006 "Best Management Practices" means schedules of activities, prohibitions, maintenance procedures, and other management practices found to be the most effective methods based on the best available technology achievable for specific sites to prevent or reduce the discharge of pollutants to waters of the State and control odor where appropriate. Best management practices also include operating procedures and practices to control site runoff, spillage, leaks, sludge or waste disposal, or drainage from raw material storage.

014 "Dewatering days" means days that have suitable weather and soil conditions for land application of accumulated livestock wastes.

016 "Discharge" means the spilling, leaking, pumping, pouring, emitting, emptying, or dumping of pollutants into any waters of the State or in a place which will likely reach waters of the State.

021 "Holding pond" means an impoundment made by constructing an excavated pit, dam, embankment or combination of these for temporary storage of liquid livestock wastes, generally receiving runoff from open lots and contributing drainage area.

022 "Irrigation distribution system" means any device or combination of devices having a hose, pipe, or other conduit through which livestock wastes or a mixture of water and livestock wastes is drawn and applied for agricultural or horticultural purposes.

023 "Lagoon" means an impoundment made by constructing an excavated pit, dam, embankment or combination of these for treatment of liquid livestock waste by anaerobic, aerobic or facultative digestion. Such impoundment predominantly receives waste from a totally housed animal feeding operation.

025 "Liquid manure storage pits" means earthen or lined pits located wholly or partially beneath a semi- or totally housed

animal feeding operation or at some removed location used to collect waste production.

027 "Livestock wastes" means animal and poultry excreta and associated feed losses, bedding, spillage or overflow from watering systems, wash and flushing waters, sprinkling waters from livestock cooling, precipitation polluted by falling on or flowing onto an animal feeding operation, and other materials polluted by livestock wastes.

031 "National Pollutant Discharge Elimination System (NPDES) permit" means either a general permit or an individual permit, issued by the Department pursuant to Subsection 11 of Neb. Rev. Stat. § 81-1505. A general permit authorizes categories of disposal practices or livestock waste control facilities and covers a geographic area corresponding to existing geographic or political boundaries, though it may exclude specified areas from coverage. General permits are limited to the same or similar types of animal feeding operations or livestock waste control facilities which require the same or similar monitoring and, in the opinion of the Director of the Department of Environmental Quality, are more appropriately controlled under a NPDES general permit than under an individual permit.

034 "100-year, 24-hour rainfall event" means a rainfall event with a probable recurrence interval of one in one hundred (100) years.

041 "Process wastewater" means water directly or indirectly used in the operation of the animal feeding operation for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other animal feeding operation facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes spent foot bath water and any water that comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs or bedding.

042 "Production area" means that part of an animal feeding operation that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal confinement areas includes but is not limited to open lots, housed lots, feedlot, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas

within berms and diversions that separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

043 "Settling basin" shall mean an individually designed low gradient, broad, flat channel with a supporting ridge on the lower side, which functions to trap and store settleable solids, both manure and sediment, for subsequent removal.

046 "Surface water" means all streams, lakes, ponds, impounding reservoirs, marshes, wetlands, watercourses, waterways, springs, canal systems, drainage systems, and all other bodies or accumulations of water, natural or artificial, public or private, situated wholly or partly within, or bordering upon, the State. Impounded waters in this definition do not include areas designated by the Department as wastewater treatment or wastewater retention facilities or irrigation reuse pits.

048 "25-year, 24-hour rainfall event" means a rainfall event with a probable recurrence interval of one in twenty-five (25) years.

050 "Waters of the State" means all waters within the jurisdiction of this State including all streams, lakes, ponds, impounding reservoirs, marshes, wetlands, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, situated wholly or partly within or bordering upon the State.

Chapter 2 - ANIMAL FEEDING OPERATIONS: REQUIREMENTS AND PROHIBITIONS

008 Any person who owns or operates an animal feeding operation shall not:

008.02 Allow livestock at an animal feeding operation to come into direct contact with waters of the State, apply livestock waste on or into waters of the State, or to otherwise allow or cause a discharge;

008.03 Apply manure, litter, or process wastewater to land in a manner that results in a discharge to waters of the State or that is not in accordance with nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, or process wastewater;

008.04 Stockpile livestock waste in a drainage way or other location where it is likely to impact waters of the State;

008.05 Deny the Department access to an animal feeding operation for inspection purposes or deny access to any records required under the regulations, at any reasonable time;

008.11 Place or allow dead animals or animal parts in a livestock waste control facility. Dead animals or animal parts shall not be land applied with livestock waste except when properly composted or when dead animals have been processed by an approved means of mortality disposal;

008.12 Dispose of chemicals in a livestock waste control facility; or

010 Any person who owns or operates an animal feeding operation shall report any discharge of manure, litter, or process wastewater to the Department within 24 hours of the event and provide a written report to the Department within five days of the event.

Chapter 5 – NPDES PERMIT: WHEN TO APPLY, APPLICATION, TERMS AND CONDITIONS, ANNUAL REPORT

007 The NPDES permittee shall operate the facility in accordance with the NPDES permit, the site-specific nutrient management plan, these regulations, and any terms and conditions as determined by the Department, including the following:

007.01 The NPDES permittee shall, at any reasonable time, allow the Department access to the animal feeding operation, facility, ground water monitoring wells, and all records required under these regulations and the permit;

007.02 There shall be no discharge of manure, litter, or process wastewater pollutants into waters of the State from the production area or land application area except as provided in the effluent limitations in Chapter 7;

007.04 The NPDES permittee, authorized representative, or an employee of the operation shall complete a land application training program approved by the Department within 180 days of NPDES permit coverage unless such training was satisfactorily completed in the previous 5 years. Additional training is required every 5 years. The NPDES permittee is responsible for ensuring that the required training is maintained. Records of training shall be kept by the NPDES permittee;

007.05 The NPDES permittee is required to comply with the terms of the Nutrient Management Plan as described in Chapter 14. This includes, but is not limited to, protocols for land application of manure, litter, and process wastewater and shall contain all fields available for land application, field-specific rates of application, and any timing limitations of land application. In calculating the field-specific rate of application, the permittee shall follow a linear or narrative rate approach, as described in Chapter 14 Section 003 of this Title. The permittee shall also conduct a field phosphorus risk assessment prior to initial land application of manure, litter, or process wastewater and then prior to subsequent land application if the risk value of any site category listed in Table 3 of Appendix E has changed, but in no case less than once every five years;

007.06 The NPDES permittee shall submit an annual report for the previous calendar year to the Department by March 1. The annual report shall include the following:

007.06A The maximum number and type of animals at the operation at any one time, whether in pen confinement or housed under roof;

007.06B Estimated amount of total manure, litter, and process wastewater generated by the operation in the previous calendar year reported in tons or gallons, as appropriate;

007.06C Estimated amount of total manure, litter, and process wastewater transferred to other persons from the operation in the previous calendar year reported in tons or gallons, as appropriate;

007.06D Total number of acres for land application covered by the nutrient management plan;

007.06E Total number of acres under control of the operation that were used for land application of manure, litter, and process wastewater in the previous calendar year;

007.06F Summary of all manure, litter, and process wastewater discharges from the production area that occurred in the previous calendar year, including the date, time over which the discharge occurred, and the approximate volume discharged with supporting figures;

007.06G The name, address, and telephone number of the person who is primarily responsible for land application practices at the operation, whether that person is an authorized representative or employee of the operation, and the date that land application training was last completed;

007.06H A statement indicating whether the current version of the operation's nutrient management plan was developed and approved by a certified nutrient management planner; and

007.06I The actual crop(s) planted and actual yield(s) for each field, the actual nitrogen and phosphorus content of the manure, litter, and process wastewater, the results of calculations conducted in accordance with a linear or narrative rate of application as described in Chapter 14, Section 003 of this Title, and the amount of manure, litter, and process wastewater applied to each field during the previous 12 months; and for any CAFO that implements a nutrient management plan that addresses rates of application in accordance with the narrative rate approach, the results of any soil testing for nitrogen and phosphorus taken during the preceding 12 months, the data used in calculations conducted in accordance with the nutrient management plan, and the amount of any

supplemental fertilizer applied during the previous 12 months.

007.07 The NPDES permittee shall submit the annual permit fee to the Department by March 1 of each year.

Chapter 7 - EFFLUENT LIMITATIONS FOR CONCENTRATED ANIMAL FEEDING OPERATIONS

005 For NPDES permitted large beef, dairy, heifer, swine, poultry, horse, sheep, and veal concentrated animal feeding operations that land apply manure, litter, or process wastewater, discharges from the land application areas under control of the NPDES permittee are subject to compliance with the following:

005.01 Implement a nutrient management plan prior to December 31, 2006, or at the time of reissuance of the NPDES permit, for land under the NPDES permittee's control. Land under the NPDES permittee's control includes;

005.01A Owned areas;

005.01B Rented or leased areas including land rented or leased solely for land application area; and

005.01C Any area where the NPDES permittee stockpiles, spreads, or delivers waste to, or otherwise controls the timing, amount, or rate of land application.

005.02 Comply with the terms of the submitted Nutrient Management Plan. The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan determined by the Director to be necessary to meet the requirements of Chapter 14 of this Title. This includes, but is not limited to, protocols for land application of manure, litter, and process wastewater and shall contain all fields available for land application, field-specific rates of application, and any timing limitations of land application. Manure, litter, and process wastewater may only be land applied at field-specific application rates, calculated using a linear or narrative rate approach, that minimize phosphorus and nitrogen transport from the field to waters of the state and comply with the technical standards established in Chapter 14;

005.03 Analyze manure, litter, and process wastewater at least once a year for nitrogen and phosphorus content. Analyze soil at each application site for nitrogen content prior to the first application of any manure, litter, or process wastewater and then at least annually thereafter when used for application. Analyze soil at each application site for phosphorus content prior to the first application of any manure, litter, or process wastewater and then at least once every 5 years thereafter if used anytime in the 5 years for land application. The results of these analyses are to be

used in determining application rates for manure, litter, and other process wastewater;

005.04 Periodically inspect equipment used for land application of manure, litter, or process wastewater for leaks;

005.05 Maintain setback distances during land application practices in compliance with Chapter 9; and

005.06 Maintain the records onsite as specified in Chapter 12.

Chapter 9 - LOCATION RESTRICTIONS AND SETBACKS: WELLS, GROUND WATER, COLD WATER CLASS A STREAM WATERSHEDS

007 For large concentrated animal feeding operations, manure, litter, and process wastewater may not be stockpiled or applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, well heads, or other conduits to surface or ground water, except that one of the following two compliance alternatives may be substituted for the application setback requirement:

007.01 A 35-foot-wide vegetated buffer where the application of manure, litter, or process wastewater is prohibited. For the purposes of these regulations vegetated buffer means a permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching waters of the state; or

007.02 A satisfactory demonstration that a setback or buffer is not necessary because implementation of alternative conservation practices will provide pollutant reductions equal to or better than reductions that would be achieved by the 100-foot setback.

008 For small and medium concentrated animal feeding operations and animal feeding operations not required to seek permit coverage, manure, litter, and process wastewater may not be stockpiled or applied closer than 30 feet of any streams, lakes and impounded waters identified in Chapter 6 and Chapter 7 of Title 117 (Nebraska Administrative Code) – Nebraska Surface Water Quality Standards, unless in accordance with a Department approved nutrient management plan.

Chapter 10 - DISPOSAL THROUGH AN IRRIGATION DISTRIBUTION SYSTEM; EQUIPMENT REQUIREMENTS

001 An animal feeding operation proposing to use an irrigation distribution system for disposal shall submit a plan to the Department for its approval detailing the type and location of

mechanical devices to be installed. The plan shall clearly indicate whether or not there are any water source connections (such as well heads or surface water diversions), show the location of the water source, indicate whether or not the system will be completely disconnected from the water source when the irrigation system is used for land application, and detail the type and location of all piping and mechanical devices.

002 Any irrigation distribution system through which livestock wastes are distributed shall be equipped with the mechanical devices specified in Section 004 below. These devices are not required for systems not connected to a source of ground or surface water; or for open discharge systems, if livestock waste is introduced at a point in the system where the force of gravity cannot cause water and waste to flow back to the point from which the water was pumped or diverted. The equipment shall be installed in accordance with the manufacturer's specifications and at the location specified in Section 004 below.

003 The Department may rely on inspections conducted by the Natural Resources Districts, pursuant to Title 195 (Nebraska Administrative Code) – Rules and Regulations Pertaining to Chemigation, to help verify compliance with the requirements of this Chapter.

004 The irrigation distribution system mechanical devices shall consist of an irrigation pipeline check valve, vacuum relief valve, inspection port and low pressure drain.

004.01 The irrigation pipeline check valve shall be located in the pipeline between the irrigation pump and the point of livestock waste injection into the irrigation pipeline and provide a watertight seal. An irrigation distribution system not equipped with a check valve or with a check valve that provides a watertight seal against reverse flow shall be equipped with a check valve model certified to the Director as meeting the leakage test requirements in Appendix I of Title 195 (Nebraska Administrative Code) – Rules and Regulations Pertaining to Chemigation.

004.02 The vacuum relief valve shall be located on the pipeline between the irrigation pump and the irrigation pipeline check valve. Its purpose is to prevent creation of a vacuum when the water flow stops.

004.03 The inspection port or other viewing device shall be located on the pipeline between the irrigation pump and the irrigation pipeline check valve. In many cases the vacuum relief valve connection can serve as the inspection port.

004.03A The inspection port or viewing device shall be situated in such a manner that the inlet to the low pressure drain can be observed.

004.03B A minimum four-inch diameter orifice or viewing area is required.

004.04 The low-pressure drain shall be located on the bottom of the horizontal pipe between the irrigation pump and the irrigation pipeline check valve. Its purpose is to drain any mixture of water and livestock waste away from the irrigation water source.

004.04A The drain shall be constructed of corrosion resistant material or otherwise coated or protected to prevent corrosion.

004.04B The drain shall have an orifice of at least three-quarter inch diameter and shall not extend into the horizontal pipe beyond the inside surface of the bottom of the pipe; and

004.04C When the pipeline water flow stops, the drain shall automatically open. A tube, pipe or similar conduit shall be used to discharge the solution at least 20 feet from the irrigation water source.

Chapter 11 - BEST MANAGEMENT PRACTICES

003 Any time the waste storage volume in the livestock waste control facility exceeds the level identified in 008.02 in Chapter 8 (i.e. the “must pump level”), livestock wastes shall be land applied on all available dewatering days until adequate storage is restored.

004 Appropriate waste handling equipment for emptying and cleaning facilities shall be available as needed to operate and maintain the facility to meet the capacity and storage requirements. Adequate application area shall be available at all times when land application is necessary.

005 All livestock wastes removed from the facility and the animal feeding operation itself shall be land applied or stockpiled in a manner which will not contribute to water pollution. The owner or authorized representative shall remain responsible for wastes removed from the operation to land under his or her control.

006 Stockpiles of livestock waste shall be located to prevent a discharge to waters of the state. Stockpiles shall be managed as necessary by use of cover material, diking, or other means to prevent discharge until the stockpile material is utilized.

009 In the event of an accident or emergency, such as a spill, release or discharge of animal waste due to such events as power failures, large storms, leaks or breaks in water supply systems, component failure of the waste control facilities and any releases during land application due to equipment failure or accidents or irrigation equipment failure, the owner or authorized representative will take actions as needed to stop the cause, contain and control any release, and cleanup any affected areas. Any discharge of waste shall be reported to the Department within 24 hours of the event. A written report is also required to be submitted to the Department within five days of the event. The Department may require additional actions or additional information.

013 For a field or field segment with a high or very high phosphorus risk assessment rating, there shall be no application of manure, litter, or process wastewater when the soil is frozen, or snow or ice covered.

Chapter 12 - INSPECTION, MAINTENANCE, AND RECORD KEEPING REQUIREMENTS

001 All permittees and all recipients of construction approvals are required to have routine inspections conducted of the production area, irrigation distribution system, and land application areas as follows:

001.01 Weekly inspections at the production area of all storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to the facilities;

001.02 Daily inspection at the production area of water lines, including drinking water or cooling water lines;

001.03 Daily monitoring and recording of any precipitation events;

001.04 Weekly inspections at the production area of the manure, litter, and process wastewater impoundments. An inspection record shall note the level in liquid impoundments as indicated by the depth marker;

001.05 Inspection prior to each operation of the irrigation distribution system and the water source protection equipment identified in Chapter 10 to ensure that the system and equipment operate as intended. The system shall be monitored while in use to insure the system operates as intended; and

001.06 Inspection at least once a year to determine the sludge and sediment accumulation level in liquid impoundments.

001.07 Maintain records of the above described inspections at the operation for a period of five years.

002 The owner or operator shall maintain all facilities and equipment in proper working condition. Any deficiencies found shall be corrected as soon as possible. The deficiencies and corrective actions shall be documented and an explanation of the factors preventing immediate correction shall be included for deficiencies not corrected within 30 days.

003 Animal mortalities shall not be disposed of in any liquid manure or process wastewater system, and shall be handled in such a way as to prevent the discharge of pollutants to surface water in accordance with animal mortality regulations developed by the Nebraska Department of Agriculture.

004 The NPDES permittee or the owner or operator of a large concentrated animal feeding operation with a livestock waste control facility, shall maintain production area and land application area records at the concentrated animal feeding

operation for a period of five years from the date they are created. A complete copy of the following information is required:

004.01 Weekly records of the depth of the manure and process wastewater in the liquid impoundment as indicated by the depth marker;

004.02 Records to document any actions taken to correct deficiencies found as a result of required inspections. For any deficiencies not corrected within 30 days, the record shall include an explanation of the factors preventing immediate correction;

004.03 Records of mortalities management, chemical management, and related practices used by the operation;

004.04 Any records documenting the current design of any manure or litter storage structures, total design capacity for liquids and solids, all sampling and test results related to the design and construction of the facility, and approximate number of days of storage capacity, which demonstrates the facility capacity is adequate to meet the design storage requirements;

004.05 The nutrient management plan, which also includes the test methods used to sample and analyze manure, litter, process wastewater, and soil;

004.06 The date, time, and estimated volume of any overflow or discharge;

004.07 Expected crop yields for the land application areas;

004.08 The date(s) manure, litter, or process wastewater was applied to each field;

004.09 Weather conditions at the time of application and for 24 hours prior to and following application;

004.10 Results from manure, litter, process wastewater, irrigation water, and soil sampling and testing;

004.11 Explanation of the basis for determining manure, litter, and process wastewater application rates, as required by the Department;

004.12 Results of the most recent phosphorus risk assessment for each field or field segment including the legal description, date assessed, name of the person who completed the assessment, and the level of risk assessed;

004.13 Calculations that show the total nitrogen and phosphorus to be applied to each field;

004.14 Total amount of nitrogen and phosphorus actually applied to each field, including documentation;

004.15 The method used to apply the manure, litter, or process wastewater;

004.16 For manure, litter, or process wastewater transferred to other persons the nutrient analysis results and the date, recipient name and address, and approximate amount transferred;

004.17 Dates of inspections of equipment used to apply manure, litter, or process wastewater; and

004.18 Any other records required by any permit or approved application.

Chapter 14 – NUTRIENT MANAGEMENT PLAN REQUIREMENTS, FIELD ASSESSMENTS, AND PERFORMANCE STANDARDS

001 Each applicant for a permit under these regulations shall submit a nutrient management plan that includes at a minimum the following information as applicable:

(For the **minimum** requirements needed to be included in a Nutrient Management Plan please refer to: Title 130, Chapter 14, 001.01 thru 001.01F)

001.02 Estimates of the amounts of manure, litter and process wastewater produced;

001.03 A narrative description of the livestock waste control facilities and how they will function and operate;

001.04 Types of animals, the maximum animal capacity and the average animal weight for each animal type;

001.05 Design calculations for sizing of conveyances and storage facilities and diversion of clean water from the production area;

001.06 Depth and volume tables on at least one-foot increments for all storage facilities, with operating depths clearly identified as needed to maintain facilities to comply with effluent limitations; to maintain minimum treatment volumes in lagoons; and to maintain sludge and sediment accumulations at reasonably manageable levels;

001.07 Procedures for the proper handling and disposal of dead animals;

001.08 Procedures for the proper handling and disposal of chemicals;

001.09 A protocol using either a narrative rate approach or a linear approach as described in section 003

001.09A Accounts for all sources of nutrients including, but not limited to, manure, litter, and process wastewater; commercial fertilizer; crop residues and below to land apply manure, litter or process wastewater for the appropriate agricultural utilization of nitrogen from all sources, as well as the expected removal of nitrogen in the harvested plant biomass, and include a nutrient budget for nitrogen

and phosphorus that: previous legume crops; soil organic matter; available nutrients in the soil; and irrigation water;

001.09B Specifies the form, source, amount, timing, and method of land application of nutrients on each field; and

001.09C Minimizes the movement of nitrogen to ground water and minimizes the movement of nitrogen and phosphorus to surface water;

001.10 For each field or field segment used for land application area:

001.10A The legal description and maps of planned waste application areas to be utilized by the operation;

001.10B A description of the field areas to be used including the number of useable acres, dominant soil type, cropping practices, historic yields with supporting documentation or published county average yields, a description of any setbacks or buffers, and use of the land by other animal feeding operations;

001.10C Maps or aerial photos which clearly show the location and extent of any surface water or wetlands within the boundaries of the field, as well as the location and extent of any surface water within 200 feet of the field;

001.10D For any areas not owned by the permittee or an owner or authorized representative of the operation, the landowner's name, address, legal description, number of acres and an agreement, signed by the landowner, that clearly identifies the area (legal description and field acres) and allows for the agronomic application of manure, litter, or process wastewater to the land;

001.10E Waste sampling and analytic methods, land application area soil sampling procedures including sampling depths, soil analytic methods, land application methods to be used, and procedures and assumptions used to determine appropriate application rates and frequencies, which comply with these regulations; and

001.10F Record keeping of locations and quantities of livestock wastes and other sources of nutrients land applied, and soil and waste sampling and testing results; and for manure, litter or process wastewater transferred to other persons, the nutrient analysis results and the date, recipient name and address, and approximate amount transferred;

001.11 Sampling and laboratory testing as follows:

001.11A Manure, litter, and process wastewater at least annually for nitrogen and phosphorus content;

001.11B Application site soils for nitrogen content before the initial application of manure, litter, or process wastewater, and then sample and analyze at least annually thereafter if used for application;

001.11C Application site soils for phosphorus content before the initial application of manure, litter, or process wastewater and then at least once every five years thereafter if used for application;

001.11D Irrigation water prior to initial use and at least once every five years thereafter for nitrogen; and

001.11E University of Nebraska guidelines for sampling and analysis may be used. The Department may approve alternate methods as appropriate;

001.12 An application rate of liquid containing manure, litter, or process wastewater that shall not exceed the intake rate of the soil such that runoff of the manure, litter, or process wastewater occurs. Total liquid application shall not exceed the field capacity of the soil;

001.13 Site-specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants; and

001.14 A field phosphorus risk assessment conducted prior to initial land application of manure, litter, or process wastewater and then prior to subsequent applications if the risk value of any site category listed in Table 3 of Field Phosphorus Risk Assessment (Appendix E) has changed, but in no case less than once every five years. The assessment evaluates such factors as soil type, slope, crop residue, soil fertility, potential for erosion, and planned cropping practices for each field or field segment used for land application, to determine the potential for phosphorus transport from the field or field segment. The assessment shall be completed for each field or field segment using the form provided in Field Phosphorus Risk Assessment (Appendix E), which is based on a method developed by the United States Department of Agriculture Natural Resources Conservation Service, or by using a comparable field phosphorus risk assessment method and forms approved for use by the Department. The plan shall identify the phosphorus risk assessment used for each field or field segment. The planned application rates for manure, litter, or process wastewater shall be consistent with the risk assessment for each field, or field segment, as follows:

001.14A For a field or field segment where there is a low or medium risk of phosphorus movement from the field, a single year's application of manure, litter, or process wastewater may be based on the expected annual available nitrogen from the waste and other sources;

001.14B For a field or field segment where there is a high risk of phosphorus movement from the field, the application of manure, litter, or process wastewater shall be kept at a rate equal to, or less than, the expected phosphorus removal in harvested plant biomass in a single crop year, or for a planned crop sequence of five years or less, that is equal to or less than the expected phosphorus removal in harvested plant biomass for the crop sequence. The application and other sources shall not exceed the expected annual available nitrogen use of the crop; and

001.14C For a field or field segment with a very high risk of phosphorus movement from the field, manure, litter, or process wastewater shall not be applied.

002 Any permit issued pursuant to these regulations shall include terms requiring implementation of a nutrient management plan that, at a minimum, contains best management practices necessary to meet the requirements of this chapter and applicable effluent limitations and standards. The permit terms for the nutrient management plan are the information, protocols, procedures, best management practices, and other conditions in the nutrient management plan determined by the Director to be necessary to meet the following elements:

002.01 Ensure adequate storage of manure, litter, and process wastewater, including procedures to ensure proper operation and maintenance of the storage facilities;

002.02 Ensure proper management of mortalities (*i.e.*, dead animals) to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system that is not specifically designed to treat animal mortalities;

002.03 Ensure that clean water is diverted, as appropriate, from the production area;

002.04 Prevent direct contact of confined animals with waters of the State;

002.05 Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants;

002.06 Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the State;

002.07 Identify protocols for appropriate testing of manure, litter, process wastewater, and soil;

002.08 Establish protocols to land apply manure, litter or process wastewater in accordance with site specific nutrient management practices that ensure appropriate

agricultural utilization of the nutrients in the manure, litter or process wastewater using either a narrative rate approach or a linear approach described in section 003 below; and

002.09 Identify specific records that will be maintained to document the implementation and management of the minimum elements described in this section.

003 Permit terms with respect to protocols for land application of manure, litter, or process wastewater shall include the fields available for land application, field-specific rates of application properly developed using either the narrative rate or linear approach, and any timing limitations concerning land application on available fields. Rates of land application shall use one of the following two approaches: For linear approach see Title 130.

003.02 Narrative rate approach. An approach that expresses rates of application as a narrative rate of application that results in the amount, in tons or gallons, of manure, litter, and process wastewater to be land applied, including the following permit terms:

003.02A Maximum amounts of nitrogen or phosphorus derived from all sources of nutrients, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Director, in pounds per acre, for each field, and certain factors necessary to determine those amounts. Those factors which shall be terms shall include at least:

003.02A1 The outcome of the field-specific assessment of the potential for nitrogen and phosphorus transport from each field;

003.02A2 The crops to be planted in each field or any other uses such as pasture or fallow fields (including alternative crops identified in the nutrient management plan);

003.02A3 The realistic yield goal for each crop or use identified for each field; and

003.02A4 The nitrogen and phosphorus recommendations from sources specified by the University of Nebraska or other sources approved by the Director for each crop or use identified for each field.

003.02B The methodology by which the nutrient management plan accounts for the following factors when calculating the amounts of manure, litter, and process wastewater to be land applied:

003.02B1 Results of soil tests conducted in accordance with protocols identified in the nutrient management plan;

003.02B2 Credits for all nitrogen in the field that will be plant available;

003.02B3 The amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied;

003.02B4 Consideration of multi-year phosphorus application;

003.02B5 Accounting for all other additions of plant available nitrogen and phosphorus to the field;

003.02B6 The form and source of manure, litter, and process wastewater;

003.02B7 The timing and method of land application; and

003.02B8 Volatilization of nitrogen and mineralization of organic nitrogen.

003.02C Alternative crops identified in the nutrient management plan that are not in the planned crop rotation, listed by field, in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan shall include realistic crop yield goals and the nitrogen and phosphorus recommendations from sources specified by the University of Nebraska or other sources approved by Director for each crop. Maximum amounts of nitrogen or phosphorus from all sources of nutrients and the amounts of manure, litter, and process wastewater to be applied shall be determined in accordance with the methodology described this section.

004 Concentrated Animal Feeding Operations using the narrative rate approach shall perform the following requirements, which are not terms of the nutrient management plan:

004.01 Include the following projections in the nutrient management plan submitted to the Director:

004.01A The CAFO's planned crop rotations for each field for the period of permit coverage;

004.01B The projected amount of manure, litter, or process wastewater to be applied;

004.01C Projected credits for all nitrogen in the field that will be plant available;

004.01D Consideration of multi-year phosphorus application;

004.01E Accounting for all other additions of plant available nitrogen and phosphorus to the field;

004.01F The predicted form, source, and method of application of manure, litter, and process wastewater for each crop; and

004.01G Timing of application for each field, insofar as it concerns the calculation of rates of application.

004.02 Calculate maximum amounts of manure, litter, and process wastewater to be land applied at least once each year using the methodology required in Section 003.02 before land applying manure, litter, and process wastewater, relying on the following data:

004.02A A field-specific determination of soil levels of nitrogen and phosphorus, including, for nitrogen, a concurrent determination of nitrogen that will be plant available consistent with the methodology required by this section, and for phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Director; and

004.02B The results of most recent representative manure, litter, and process wastewater tests for nitrogen and phosphorus taken within 12 months of the date of land application, in order to determine the amount of nitrogen and phosphorus in the manure, litter, and process wastewater to be applied.

005 If a permittee makes any modifications to a nutrient management plan previously submitted to the Director, the permittee shall notify the Director of the changes. If the changes to the nutrient management plan qualify as a major modification of a construction and operating permit, as defined in Chapter 1 028, the permittee shall submit an application in accordance with Chapter 4 of this Title. When the changes do not constitute a major modification, the following procedures apply:

005.01 The CAFO owner or operator shall provide the Director, if requested, with the most current version of the CAFO's nutrient management plan and identify changes from the previous version, except that the results of calculations made in accordance with the requirements of paragraphs 003.01A5 and 004.02 of this Chapter are not considered changes to the nutrient management plan.

005.02 The Director shall review the revised nutrient management plan to ensure that it meets the requirements of this Chapter and applicable effluent limitations and standards and shall determine whether the changes to the nutrient management plan necessitate revision to the permit terms of the nutrient management plan incorporated into the permit issued to the CAFO. If revision to the permit terms for the nutrient management plan is not necessary, the Director shall notify the CAFO owner or operator and upon such notification the CAFO may implement the revised nutrient management plan. If revision to the permit terms for the nutrient management plan is

necessary, the Director shall determine whether such changes are substantial changes as described in paragraph 005.03 below.

005.02A If the Director determines that the changes to the permit terms for the nutrient management plan are not substantial, the Director shall make the revised nutrient management plan publicly available and include it in the permit record, revise the permit terms for the nutrient management plan incorporated into the permit, and notify the owner or operator and inform the public of any changes to the permit terms of the nutrient management plan that are incorporated into the permit.

005.02B If the Director determines that the changes to the permit terms for the nutrient management plan are substantial, the Director shall notify the public and make the proposed changes and the information submitted by the CAFO owner or operator available for public review and comment. The process for public comments, hearing requests, and the hearing process if a hearing is held shall follow the procedures applicable to draft permits set forth in Title 119. The Director may establish, in the CAFO's permit, an appropriate period of time for the public to comment and request a hearing on the proposed changes that differs from the time period specified in Title 119. The Director shall respond to all significant comments received during the comment period and require the CAFO owner or operator to further revise the nutrient management plan if necessary, in order to approve the revision to the permit terms of the nutrient management plan incorporated into the CAFO's permit. Once the Director incorporates the revised permit terms of the nutrient management plan into the permit, the Director shall notify the owner or operator and inform the public of the final decision concerning revisions to the terms and conditions of the permit.

005.03 Substantial changes to the terms of a nutrient management plan incorporated as terms and conditions of a permit include, but are not limited to:

005.03A Addition of new land application areas not previously included in the CAFO's nutrient management plan. Except that if the land application area that is being added to the nutrient management plan is covered by terms of a nutrient management plan incorporated into an existing NPDES permit in accordance with the requirements of section 003 of this Chapter, and the CAFO owner or operator applies manure, litter, or process wastewater on the newly added land application area in accordance with the existing field-specific permit terms applicable to

the newly added land application area, such addition of new land would be a change to the new CAFO owner or operator's nutrient management plan but not a substantial change for purposes of this section;

005.03B Any changes to the field-specific maximum annual rates for land application, as set forth in section 003.01 of this Chapter, and to the maximum amounts of nitrogen or phosphorus derived from all sources for each crop, as set forth in section 003.02 of this Chapter;

005.03C Addition of any crop or other uses not included in the terms of the CAFO's nutrient management plan and corresponding field-specific rates of application expressed in accordance with section 003 of this Chapter; and

005.03D Changes to site-specific components of the CAFO's nutrient management plan, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the State.