



University of Arkansas Division of Agriculture

An Agricultural Law Research Project

**Application Restrictions
Statutes & Regulations**

Colorado

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Application Restrictions

STATE OF COLORADO

- 1) **C.R.S. 25-8-501.1; 5 CCR 1002-61.13(4)(e)–(f)**
- 2) **C.R.S. 25-8-205; 5 CCR 1002-61.17(8)(f)(iv); 5 CCR 1002-81.6(2)**

The statutes and Constitution are current through the 2018 regular and special legislative sessions. The statutes are subject to changes by the Colorado Legislative Council.

1) **C.R.S. 25-8-501.1; 5 CCR 1002-61.13(4)(e)–(f)**

25-8-501.1. Permit required for point source water pollution control - definitions - housed commercial swine feeding operations - legislative declaration

(1) The people of the state of Colorado hereby find, determine, and declare that the advent of large housed commercial swine feeding operations in Colorado has presented new challenges to ensuring that the quality of the state's environment is preserved and protected. As distinguished from more traditional operations that historically have characterized Colorado's livestock industry, large housed swine feeding operations use significant amounts of process water for flushing and disposing of swine waste, commonly store this waste in large impoundments, and dispose of it through land application. The waste storage, handling and disposal by such operations are particularly odorous and offensive. The people further find that it is necessary to ensure that the storage and land application of waste by housed commercial swine feeding operations is done in a responsible manner, so as not to adversely impact Colorado's valuable air, land and water resources.

(2) As used in this section, unless the context otherwise requires:

(a) "Agronomic rate of application" means the rate of application of nutrients to plants that is necessary to satisfy the plants' nutritional requirements while strictly minimizing the amount of nutrients that run off to surface waters or which pass below the root zone of the plants, as specified by the most current published fertilizer suggestions of the Colorado state university cooperative extension service for the plants, or most closely related plant type, to which the nutrients are applied.

(b) "Housed commercial swine feeding operation" means a housed swine feeding operation that is capable of housing eight hundred thousand pounds or more of live animal weight of swine at any one time or is deemed a commercial operation under local zoning or land use regulations. Two or more housed swine confined feeding operations shall be considered to comprise a single housed commercial swine feeding operation if they are under common or affiliated ownership or

management, and are adjacent to or utilize a common area or system for manure disposal, are integrated in any way, are located or discharge within the same watershed or into watersheds that are hydrologically connected, or are located on or discharge onto land overlying the same groundwater aquifer.

(c) "Housed swine feeding operation" means the practice of raising swine in buildings, or other enclosed structures wherein swine of any size are fed for forty-five days or longer in any twelve-month period, and crop or forage growth or production is not sustained in the area of confinement.

(d) "Process wastewater" means any process-generated wastewater used in a housed commercial swine feeding operation, including water used for feeding, flushing, or washing, and any water or precipitation that comes into contact with any manure, urine, or any product used in or resulting from the production of swine.

(3) No person shall operate, construct, or expand a housed commercial swine feeding operation without first having obtained an individual discharge permit from the division.

(4) On or before March 31, 1999, the commission shall promulgate rules necessary to ensure the issuance and effective administration and enforcement of permits under this section by July 1, 1999. Such rules shall incorporate the preceding subsection (3) and shall, at a minimum, require:

(a) That the owner or operator of a housed commercial swine feeding operation must obtain division approval of construction, operations and swine waste management plans that, for any land waste application, includes a detailed agronomic analysis. Said plans shall employ the best available waste management practices, provide for remediation of residual soil and groundwater contamination, and ensure that disposal of solid or liquid waste to the soil not exceed agronomic rates of application.

(b) That appropriate setbacks for maintaining water quality be established for land waste application areas and waste impoundments;

(c) That waste impoundments or manure stock piles shall not be located within a one-hundred-year floodplain unless proper flood proofing measures are designed and constructed;

(d) That the owner or operator of the housed commercial swine feeding operation shall provide financial assurances for the final closure of the housed commercial swine feeding operation, the conduct of any necessary post closure activities, the undertaking of any corrective action made necessary by migration of contaminants from the housed commercial swine feeding operation into the soil and groundwater, or cleanup of any spill or breach;

(e) That the owner or operator of a housed commercial swine feeding operation shall ensure that no solid or liquid waste generated by it shall be applied to land by any person at a rate that exceeds, in amount or duration, the agronomic rate of application; and

(f) That, because waste storage and disposal by housed commercial swine feeding operations pose particular jeopardy for state trust lands, in light of the mandate in the Colorado constitution, article IX, section 10, that state land board trust lands be held in trust and be protected and enhanced to promote long-term productivity and sound stewardship, the construction, operations and waste management plans approved for housed commercial swine feeding operations on such lands, shall not permit the degradation of the physical attributes or value of any state trust lands.

(5) Any spill or contamination by a housed commercial swine feeding operation shall be reported immediately to the division and the county or district public health agency for the county in which the housed commercial swine feeding operation is conducted, and, within twenty-four hours after the spill or contamination, a written report shall be filed with the division and the county or district public health agency for the county in which the housed commercial swine feeding operation is conducted.

(6) Housed commercial swine feeding operations shall submit to the division and the county or district public health agency quarterly, comprehensive monitoring reports and agronomic analyses that demonstrate that the operation has land-applied solid and liquid waste at no greater than agronomic rates. The division shall require the sampling and monitoring of chemical and appropriate biological parameters to protect the quality and existing and future beneficial uses of groundwater including, at a minimum, nitrogen, phosphorus, heavy metals, and salts. At a minimum, the monitoring program shall include quarterly samples, analysis, and reporting of the groundwater, soils within the root zone, and soils beneath the root zone within each waste application site, and shall also include monitoring to ensure that no excessive seepage occurs from any waste impoundments.

(7) Repealed.

(8) The division shall enforce the provisions of this section and shall take immediate enforcement action against any housed commercial swine feeding operation that has exceeded the agronomic rate limit of this section. In addition, any person who may be adversely affected by a housed commercial swine feeding operation may enforce these provisions directly against the operation by filing a civil action in the district court in the county in which the person resides.

(9) These provisions shall not preclude any local government from imposing requirements more restrictive than those contained in this section.

5 CCR 1002-81-61.13(4) REQUIREMENTS FOR HOUSED COMMERCIAL SWINE FEEDING OPERATIONS

[. . .]

(e) Swine Waste Management Land Application Requirements

(i) The disposal or land application of all residual solids and swine feeding process wastewater produced at the facility, whether put to beneficial use on-site or transported off-site, must minimize phosphorus and nitrogen transport from the land application sites to surface waters and shall be in accordance with the approved swine waste management plan.

(ii) The owner or operator of a housed commercial swine feeding operation shall ensure that no residual solids or swine feeding process wastewater generated by it shall be applied to land by any person at a rate that exceeds, in amount or duration, the agronomic rate of application. The agronomic rate of application shall be as specified by the most current published fertilizer suggestions of Colorado State University Cooperative Extension for the plants, or most closely related plant type, to which the nutrients are applied and:

(A) No application of residual solids or swine feeding process wastewater shall be made to lands if the soil nitrate level and other appropriate nitrogen credits (as specified by Colorado State University Cooperative Extension) in the agronomic root zone exceed the agronomic rate of nitrogen application for the crop to be grown;

(B) Application rates of residual solids and swine feeding process wastewater shall be based on a field-specific assessment of the potential for nitrogen and phosphorus transport from the field and that addresses the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic yield goals, while minimizing nitrogen and phosphorus movement to surface waters.

(C) Residual solids, swine feeding process wastewater, and soils shall be sampled and analyzed quarterly for nitrogen and phosphorus content, in accordance with the monitoring requirements specified in subsection 61.13(4)(k)(vi). The results of these analyses are to be used in determining application rates for residual solids and swine feeding process wastewater.

(D) Assessments shall be made for each land application site of the potential for phosphorus and nitrogen transport from the site to surface waters and that address the form, source, amount, timing, and method of application of nitrogen and phosphorus to achieve realistic yield goals, while minimizing nitrogen and phosphorus movement to surface water. Phosphorus transport risk assessments shall be made using a transport

risk-screening tool approved by the Division and that is current, readily available, peer-reviewed, and appropriate for use in Colorado. The screening tool shall provide for off-site transport risk scores of either low, medium, high, or very high. An initial assessment of the potential for nitrogen transport to surface water shall be made prior to residual solids or swine feeding process wastewater being applied to an application site after the operator implements the swine waste management plan that meets the requirements of subsection 61.13(3)(f), as revised effective June 30, 2004.

(I) After an initial assessment is made of the potential for phosphorus an/or nitrogen transport from a land application site to surface water, additional assessments shall be made at the following frequency, whichever is sooner:

(1) Of both phosphorus and nitrogen transport risk, every five (5) years; or

(2) Where a crop management change has occurred, assess phosphorus transport risk within one (1) year after a crop management change would reasonably result in an increase in the phosphorus transport risk assessment score, and assess nitrogen transport risk within one (1) year after such a change would reasonably result in the nitrogen transport to surface water not being minimized; or

(3) Where the top one foot of soil on an application site exceeds 80 mg/kg of sodium bicarbonate extractable phosphorus and the phosphorus transport risk assessment score was very high, assess phosphorus transport risk within six (6) months of intending to apply residual solids or swine feeding process wastewater.

(4) Where a nitrogen transport risk assessment reveals that nitrogen transport to surface waters is not minimized, assess nitrogen transport risk within six (6) months of intending to apply residual solids or swine feeding process wastewater.

(II) No application of swine feeding process wastewater or residual solids shall be made to a land application site if the sodium bicarbonate extractable phosphorus in the top one-foot of soil exceeds 80 mg/kg, unless the off-site phosphorus transport risk score for the site is high or less.

(III) No application of residual solids or swine feeding process wastewater shall be made to a land application site where the risk of off-site nitrogen transport is high or very high.

(IV) Where a multi-year phosphorus application was made to a land application site, no additional residual solids or swine feeding process wastewater shall be applied to the same site in subsequent years until the applied phosphorus has been removed from the site via harvest and crop removal.

(E) If the soil nitrate-nitrogen level in the four- to six-foot or six- to eight-foot increment within the monitoring zone exceeds the comparative concentration, established in accordance with subsection 61.13(4)(k)(ii), by greater than ten milligrams per kilogram, the permittee will be presumed to have exceeded the agronomic rate of application and shall notify the Division in writing of this exceedance within 30 days of discovering it.

(I) The permittee shall, in consultation with the Division, develop and submit to the Division within ninety (90) days of discovering the exceedance an approvable intervention protocol, unless an extension of time is granted by the Division. The intervention protocol shall describe adjustments to the swine waste management plan that provide for strict minimization of future nitrogen loading within the monitoring zone. The Division may specify that appropriate measures for the purpose of remediating excessive nitrogen within the monitoring zone be included in the protocol.

(II) The protocol shall be implemented by the permittee within 30 days of it being approved by the Division. If remediation measures in an approved intervention protocol are not being implemented in accordance with the protocol, application of swine feeding process wastewater and/or residual solids to the applicable land application site shall immediately cease.

(III) The agronomic rate of application shall not be presumed to have been exceeded and the intervention protocol shall not be required if the results of confirmation sampling pursuant to a procedure approved by the Division demonstrate that the comparative concentration has not been exceeded by greater than ten milligrams per kilogram, or if the permittee submits to the Division a report that adequately documents that a force majeure was the cause of the nitrate-nitrogen exceedance. This report shall be submitted for approval no later than 30 days after discovering an exceedance caused by a force majeure event.

(IV) Status of intervention protocol activities shall be documented in quarterly monitoring reports.

(iii) All land application activities at housed commercial swine feeding operations shall be conducted in a manner that does not result in impairment of existing beneficial uses of state waters or exceedances of applicable water quality standards for surface water or ground water.

(iv) Where land application sites are not supporting active plant growth:

(A) Applications of swine feeding process wastewater and residual solids shall not at any time cause soil nitrate levels and other appropriate nitrogen credits in the agronomic root zone to exceed the agronomic rate for the upcoming growing season for the crop for which the solids or wastewater is applied.

(B) Swine feeding process wastewater and residual solids shall not be applied to land not supporting active plant growth except as provided under an approved Swine Waste Management Plan that includes appropriate best management practices for such applications. Best management practices shall be specified in a guidance document cooperatively developed by the Division and stakeholders, and presented in a public hearing before the Water Quality Control Commission.

(v) Swine feeding process wastewater and residual solids produced at housed commercial swine feeding operations which are applied to land shall not exceed the cumulative pollutant loading limits for heavy metals as set forth in Table 1, below. Cumulative metal loading limits shall be calculated as the product of the total elemental analysis (concentration) of the residual solids and swine feeding process wastewater and the quantity of residual solids and volume of swine feeding process wastewater applied, respectively. Compliance with cumulative pollutant loading limits shall be documented by the permittee in reports submitted in accordance with subsection 61.13(4)(j). Documentation shall consist of data which quantifies cumulative loadings of the heavy metals to each land application site. If the cumulative loading limit specified in Table 1 is reached, no further residual solids or swine feeding process wastewater will be applied to the application site.

TABLE 1. CUMULATIVE POLLUTANT LOADING LIMITS, kg/ha (lbs/ac)

Arsenic	41 (37)
Cadmium	39 (35)
Copper	1500 (1339)
Lead	300 (268)
Mercury	17 (15)

Nickel	420 (375)
Selenium	100 (89)
Zinc	2800 (2499)

(vi) Any reduction in swine feeding process wastewater concentrations as a result of losses subsequent to swine feeding process wastewater treatment and prior to land application shall be supported by site-specific data or applicable published engineering or agricultural waste management principles and shall be in accordance with the approved odor management plan.

(vii) Land application practices shall be managed to ensure that no residual solids or swine feeding process wastewater are discharged to waters of the state or beyond the property boundary of the application site.

(f) Water Quality Setbacks – Water quality setbacks shall be established for housed commercial swine feeding operations such that swine feeding process wastewater collection systems in housed units, swine feeding process wastewater conveyance, treatment, storage, and evaporation structures, land application sites, and residual solids stockpiles and impoundments, shall not be located:

(i) Within ten feet vertically of the seasonally high ground water level as determined in the monitoring plan;

(ii) Up-gradient and within 300 feet of a reservoir classified for Class I Recreational Use by the Water Quality Control Commission;

(iii) For land application systems only, within 200 feet of any body of surface water, including intermittent streambeds when standing or running water is present in the streambed, unless land application is made by either subsurface injection, or by surface application which is followed by incorporation within 48 hours, weather permitting, or the swine waste management plan describes measures which will be implemented to prevent runoff from the application site into the water body;

(iv) Within 50 feet of any body of surface water, including intermittent streambeds when standing or running water is present in the streambed;

(v) Within 150 feet of a private domestic water supply well or within 300 feet of a community domestic water supply well; and

(vi) For treatment, storage, and evaporation impoundments and residual solids stockpiles, only, within a 100-year floodplain as identified in accordance with subsection 61.13(3)(d)(i)(B), unless proper flood proofing measures (structures) are designed and constructed.

(vii) An existing housed commercial swine feeding operation may obtain a variance from one or more of these setback requirements for aspects of the operation that were constructed as of March 10, 1999, other than land application sites, if the permittee demonstrates to the satisfaction of the Division that its facilities or structures do not pose a risk to the quality of waters of the state that bears a reasonable relationship to the cost of compliance with the setbacks requirements.

[. . .]

2) C.R.S. 25-8-205; 5 CCR 1002-61.17(8)(f)(iv); 5 CCR 1002-81.6(2)

25-8-205. Control regulations

- (1) The commission may promulgate control regulations for the following purposes:
 - (a) To describe prohibitions, standards, concentrations, and effluent limitations on the extent of specifically identified pollutants, including, but not limited to, those mentioned in section 25-8-204, that any person may discharge into any specified class of state waters;
 - (b) To describe pretreatment requirements, prohibitions, standards, concentrations, and effluent limitations on wastes any person may discharge into any specified class of state water from any specified type of facility, process, activity, or waste pile including, but not limited to, all types specified in section 306 (b)(1)(A) of the federal act;
 - (c) To describe precautionary measures, both mandatory and prohibitory, that must be taken by any person owning, operating, conducting, or maintaining any facility, process, activity, or waste pile that does cause or could reasonably be expected to cause pollution of any state waters in violation of control regulations or that does cause the quality of any state waters to be in violation of any applicable water quality standard;
 - (d) To adopt toxic effluent standards and pretreatment standards for pollutants which interfere with, pass through, or are otherwise incompatible with sewage treatment works;
 - (e) To describe requirements, prohibitions, standards, and concentration limitations on the use and disposal of biosolids to protect public health and to prevent the discharge of pollutants into state waters, except as authorized by permit. The commission requirements described pursuant to this paragraph (e) shall be no more restrictive than the requirements adopted for solid wastes

disposal sites and facilities pursuant to part 1 of article 20 of title 30, C.R.S., except as necessary to be consistent with section 405 of the federal act. Fees shall be established as set forth in section 30-20-110.5, C.R.S., and the commission shall have no authority to levy additional or duplicative fees.

(f) In accordance with sections 25-8-205.7, 25-8-205.8, and 25-8-205.9, to describe requirements, prohibitions, standards, and concentration limitations on the reuse of reclaimed domestic wastewater for purposes other than drinking that will protect public health and encourage the reuse of reclaimed domestic wastewater;

(g)

(I) To describe requirements, prohibitions, and standards for the use of graywater for nondrinking purposes, to encourage the use of graywater, and to protect public health and water quality.

(II) Except as authorized in section 25-8-205.3, graywater may be used only in areas where the local city, city and county, or county has adopted an ordinance or resolution approving the use of graywater pursuant to section 30-11-107 (1)(kk) or 31-15-601 (1)(m). The city, city and county, or county that has adopted an ordinance or resolution approving the use of graywater pursuant to section 30-11-107 (1)(kk) or 31-15-601 (1)(m) has exclusive enforcement authority regarding compliance with the ordinance or resolution.

(III) Use of graywater shall be allowed only in accordance with the terms and conditions of the decrees, contracts, and well permits applicable to the use of the source water rights or source water and any return flows therefrom, and no use of graywater shall be allowed that would not be allowed under such decrees, contracts, or permits if the graywater ordinance or resolution did not exist.

(IV) A local city, city and county, or county may only authorize the use of graywater in accordance with federal, state, and local requirements.

(2) In the formulation of each control regulation, the commission shall consider the following:

(a) The need for regulations that control discharges of specified pollutants that are the subject of water quality standards for the receiving state waters;

(b) The need for regulations that specify treatment requirements for various types of discharges;

(c) The degree to which any particular type of discharge is subject to treatment, the availability, practicality, and technical and economic feasibility of treatment techniques, and the extent to which the discharge to be controlled is significant;

(d) Control requirements promulgated by agencies of the federal government;

(e) The continuous, intermittent, or seasonal nature of the discharge to be controlled;

(f) Whether a regulation that is to be applicable to discharges into flowing water should be written in such a way that the degree of pollution tolerated or treatment required will be dependent upon the volume of flow of the receiving water or the extent to which the discharge is diluted therein, or the capacity of the receiving water to assimilate the discharge; and

(g) The need for specification of safety precautions that should be taken to protect water quality including, but not limited to, requirements for the keeping of logs and other records, requirements to protect subsurface waters in connection with mining and the drilling and operation of wells, and requirements as to settling ponds, holding tanks, and other treatment facilities for water that will or might enter state waters.

(3) Control regulations may be promulgated for use in connection with any one or more of the classes of state waters authorized pursuant to section 25-8-203 and may be made applicable with respect to any designated portion of state waters or to all state waters.

(4) The commission shall coordinate and cooperate with the state engineer, the Colorado water conservation board, the oil and gas conservation commission, the state board of health, and other state agencies having regulatory powers in order to avoid adopting control regulations that would be either redundant or unnecessary.

(5) The commission shall not adopt control regulations that require agricultural nonpoint source dischargers to utilize treatment techniques that require additional consumptive or evaporative use which would cause material injury to water rights. With regard to nonpoint source water pollution control related to agricultural practices, the commission and division shall pursue incentive, grant, and cooperative programs in preference to the promulgation of control regulations. When interested water conservation districts, water conservancy districts, and conservation districts recommend nonpoint source control activities related to agricultural practices to the division and commission, the division and commission, after consultation with such districts, shall give substantial weight to the recommendations of such districts into the approved program. Except as provided by section 25-8-205.5, control regulations related to agricultural practices shall be promulgated only if incentive, grant, and cooperative programs are determined by the commission to be inadequate and such regulations are necessary to meet state law or the federal act. This subsection (5) does not allocate wasteloads or relieve any source from

participation in wasteload allocations determined necessary under any duly promulgated regulations established by the water quality control commission under this section.

(6) The division may issue a variance from a control regulation of general applicability, based upon a determination that the benefits derived from meeting the control regulation do not bear a reasonable relationship to the economic, environmental, or energy impacts or other factors which are particular to the applicant in complying with the control regulation; except that such variance shall be consistent with the purposes of this article including the protection of existing beneficial uses. No variance shall be issued for longer than five years. Variances shall be granted or renewed according to the procedure established in section 25-8-401 (5).

5 CCR 1002-61.17(8) ADDITIONAL REQUIREMENTS FOR CONCENTRATED ANIMAL FEEDING OPERATIONS

[. . .]

(f) Operation and Maintenance Requirements.

[. . .]

(iii) Inspect Land Application Equipment – The permittee must periodically inspect for leaks from equipment used for land application of manure or process wastewater. At minimum, such inspection shall be made annually and within the six month period prior to the first application of manure or process wastewater, and at least once daily when process wastewater is being applied.

[. . .]

(iv) Setback Requirements – Unless the permittee exercises one of the alternatives provided for in 61.17(8)(f)(iv)(A) and (B) below, manure and process wastewater shall not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters.

(A) As a setback alternative, the permittee may substitute the 100-foot setback with a 35-foot wide vegetated buffer where applications of manure or process wastewater are prohibited.

(B) As a setback alternative, the permittee 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 100-foot setback.

[...]

5 CCR 1002-81.6 FACILITY MANAGEMENT PLAN: NON-PERMITTED CAFOs

[...]

(2) Surface water protection elements – Land Application Sites. The operator of a non-permitted CAFO shall develop, document in the FMP and implement the following practices and procedures for land application sites by no later than February 27, 2009 or upon being defined as a CAFO.

(a) Apply manure and wastewater to a land application site in accordance with the following practices and procedures:

(i) Conservation Practices - Site-specific conservation practices that have been identified and implemented, including as appropriate, buffers or equivalent practices, to control runoff of pollutants to surface water. Such practices shall include, but are not limited to:

(A) Solid manure shall be incorporated as soon as possible after application, unless the application site has perennial vegetation or is no-till cropped, or except where the operator adequately demonstrates that surface water quality will be protected where manure is not so incorporated.

(B) Where wastewater is applied to a land application site via furrow- or flood-irrigation, it shall be applied in a manner that prevents any wastewater runoff into surface water.

(C) There shall be no discharge to surface water from land application activities when the ground is frozen or saturated.

(D) Manure or wastewater shall not be land-applied within 150 feet of domestic water supply wells, and within 300 feet of community domestic water supply wells.

(ii) Sampling and Analysis - Manure, wastewater, and soil shall be sampled and analyzed with the following frequency. The results of the analyses shall be used in determining application rates for manure and wastewater.

(A) Manure and wastewater shall be sampled and analyzed a minimum of once annually for nitrogen and phosphorus content.

(B) The soil of land application sites shall be sampled and analyzed a minimum of once annually for available nutrients, including nitrate-nitrogen.

(C) The top one foot of soil of land application sites shall be sampled and analyzed for available phosphorus a minimum of once every five years, or as specified in section 81.6(2)(b)(v), below.

(iii) Protocols established by the operator for land applying manure or wastewater in accordance with site specific nutrient management practices that ensure appropriate utilization of the nutrients in the manure or wastewater. Such protocols shall include, but are not limited to:

(A) No application of manure or wastewater shall be made to a land application site at a rate that will exceed the capacity of the soil and the planned crops to assimilate plant available nitrogen within 12 months of the manure or wastewater being applied.

(B) Manure and wastewater shall be applied as uniformly as possible with properly calibrated equipment.

(C) Application rates of manure and wastewater shall be calculated using one of the following methods: the most current published fertilizer suggestions of Cooperative Extension in Colorado or adjacent states; the most current nutrient management planning guidelines for Colorado as published by the USDA, NRCS; or an alternative method approved by the Division.

(b) Nutrient Transport Minimization - Application rates for manure and wastewater applied to a land application site must minimize phosphorus and nitrogen transport from the sites to surface water and shall be in accordance with the following standards:

(i) Assessments shall be made for each land application site of the potential for phosphorus and nitrogen transport from the site to surface water and that address the form, source, amount, timing, and method of application of nitrogen and phosphorus to achieve realistic yield goals, while minimizing nitrogen and phosphorus movement to surface water.

(A) Phosphorus transport risk assessments shall be made using the most current USDA, NRCS Colorado Phosphorus Index Risk Assessment tool or other Division-approved method. The approved risk assessment tool shall provide for off-site transport risk scores of either 'low', 'medium', 'high', or 'very high'.

(B) An initial assessment of the potential for phosphorus and nitrogen transport risk to surface water shall be made prior to manure or wastewater being applied to an application site after the operator's FMP is implemented.

(ii) Where the assessed risk of off-site phosphorus transport for a land application site is rated as 'high', phosphorus-based manure and wastewater application rates may be applied at crop phosphorus removal rates only if a phosphorus draw-down strategy is implemented for the crop rotation (i.e. rotational phosphorus application rate is less than the rotational crop removal).

(iii) No application of manure or wastewater shall be made to a land application site where the assessed risk of off-site phosphorus transport is rated as 'very high' until the risk of phosphorus movement off-site has been decreased to a phosphorus transport risk assessment rating of 'high' or less.

(iv) No application of manure or wastewater shall be made to a land application site where the risk of off-site nitrogen transport to surface water is not minimized.

(v) After an initial assessment is made of the potential for phosphorus and/or nitrogen transport from a land application site to surface water, additional assessments shall be made at the following frequency, whichever is sooner:

(A) Of both phosphorus and nitrogen transport risk, every five years; or,

(B) Where a crop management change has occurred, assess phosphorus transport risk within one year after such change would reasonably result in an increase in the phosphorus transport risk assessment score, and assess nitrogen transport risk within one year after such a change would reasonably result in the nitrogen transport to surface water not being minimized; or,

(C) Where a phosphorus transport risk assessment score was 'very high', assess phosphorus transport risk within six months of intending to apply manure or wastewater, except as provided in section 81.6(2)(b)(iv), above.

(D) Where a nitrogen transport risk assessment reveals that nitrogen transport to surface water is not minimized, assess nitrogen transport risk within six months of intending to apply manure or wastewater.

(vi) Where a multi-year phosphorus application was made to a land application site, no additional manure or wastewater shall be applied to the same site in subsequent years until the applied phosphorus has been removed from the site via harvest and crop removal.

(c) Inspect Land Application Equipment - Periodically inspect for leaks from equipment used for land application of manure or wastewater. At minimum, such inspection shall be made annually and within the six month period prior to the first application of manure or wastewater, and at least once daily when wastewater is being applied.

(d) Setback Requirements - Unless the operator exercises one of the alternatives provided below, manure and wastewater shall not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface water.

(i) As a setback alternative, the operator may substitute the 100-foot setback with a 35-foot wide vegetated buffer where applications of manure or wastewater are prohibited.

(ii) The Division may approve an alternative setback or buffer based on a demonstration by the operator that a required setback or buffer is not necessary because implementation of alternative conservation practices or land application site conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-foot setback.

(e) Mortalities - Mortalities shall remain on the production area until disposal and shall be managed to ensure that they are not disposed of in a wastewater storage system that is not specifically designed to treat animal mortalities.

(f) Prevent direct contact of confined animals with surface water.

(g) Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure or wastewater storage system unless specifically designed to treat such chemicals and other contaminants.