

**TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE E: AGRICULTURE RELATED POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD**

**PART 502
PERMITS**

SUBPART A: PERMITS REQUIRED

Section	
502.101	NPDES Permit Requirement and Duty to Maintain Permit Coverage
502.102	Land Application Discharges and Agricultural Stormwater
502.103	Large CAFOs
502.104	Medium CAFOs
502.105	Small CAFOs
502.106	Case-By-Case Designation Requiring NPDES Permits

SUBPART B: PERMIT APPLICATIONS

Section	
502.201	Permit Applications
502.202	Permit Application Submissions
502.203	New Applications (Repealed)
502.204	Renewal
502.205	New Operations (Repealed)
502.206	Signatures
502.207	Disclosure Required for Land Trusts

SUBPART C: PERMIT ISSUANCE AND CONDITIONS

Section	
502.301	Standards for Issuance
502.302	Duration of Permits
502.303	New Source Standards
502.304	Issuance and Conditions
502.305	Agency Criteria
502.310	CAFOs Seeking Coverage Under NPDES General Permits
502.315	CAFO Permit Requirements
502.320	Recordkeeping Requirements
502.325	Annual Report

SUBPART D: APPEAL AND ENFORCEMENT

Section	
502.401	Appeals from Conditions in Permits

- 502.402 Defenses
- 502.403 Modification or Termination of Permits

SUBPART E: REQUIREMENTS FOR DEVELOPING AND IMPLEMENTING NUTRIENT MANAGEMENT PLANS

- Section
- 502.500 Purpose, Scope, and Applicability
- 502.505 Nutrient Management Plan Information
- 502.510 Nutrient Management Plan Requirements
- 502.515 Terms of Nutrient Management Plan
- 502.520 Changes to the Nutrient Management Plan

SUBPART F: LIVESTOCK WASTE DISCHARGE LIMITATIONS AND TECHNICAL STANDARDS

- Section
- 502.600 Applicability
- 502.605 Livestock Waste Discharge Limitations for the Production Area for Permitted CAFOs
- 502.610 Additional Measures for CAFO Production Areas
- 502.615 Nutrient Transport Potential
- 502.620 Protocols to Land Apply Livestock Waste
- 502.625 Determination of Livestock Waste Application Rates
- 502.630 Protocols to Land Apply Livestock Waste During Winter
- 502.635 Manure and Soil Sampling and Analysis
- 502.640 Inspection of Land Application Equipment for Leaks
- 502.645 Land Application Setback Requirements

SUBPART G: ADDITIONAL LIVESTOCK WASTE DISCHARGE LIMITATIONS

- Section
- 502.710 New Source Performance Standards for Dairy Cows and Cattle Other Than Veal Calves
- 502.720 Horse and Sheep CAFOs: BPT, BAT, and NSPS
- 502.730 Duck CAFOs: BPT and NSPS

SUBPART H: NEW SOURCE PERFORMANCE STANDARDS FOR NEW SWINE, POULTRY AND VEAL LARGE CAFOS

- Section
- 502.800 Applicability
- 502.810 Production Area Requirements
- 502.820 Land Application Area Requirements
- 502.830 Alternative Best Management Practice Livestock Waste Discharge Limitations

502.APPENDIX A References to Previous Rules (Repealed)

AUTHORITY: Implementing Sections 9, 10, 12, 13, 21, and 22 of the Environmental Protection Act [415 ILCS 5/9, 10, 12, 13, 21, 22] and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/27].

SOURCE: Filed and effective January 1, 1978; amended at 2 Ill. Reg. 44, p. 137, effective October 30, 1978; codified at 7 Ill. Reg. 10594; amended in R12-23 at 38 Ill. Reg. 17687, effective August 11, 2014; amended in R18-25 at 48 Ill. Reg.3196, effective February 15, 2024.

SUBPART A: PERMITS REQUIRED

Section 502.101 NPDES Permit Requirement and Duty to Maintain Permit Coverage

- a) A Concentrated Animal Feeding Operation (CAFO) is a point source. Any discharge of pollutants into the waters of the United States from a CAFO is prohibited unless authorized by an NPDES permit or unless the discharge is an agricultural stormwater discharge as described in Section 502.102(b). A person must not cause or allow a discharge from a CAFO that violates federal or State law, including the Clean Water Act (CWA) (33 USC 1251), the Act, or Board rules.
- b) The owner or operator of a CAFO must seek coverage under an NPDES permit if the CAFO discharges.
- c) The owner or operator of a CAFO that discharges must either apply for an individual NPDES permit or submit a notice of intent for coverage under an NPDES general permit. If the Agency has not made a general permit available to the CAFO, the CAFO owner or operator must apply for an individual permit to the Agency. All permit applications and applications for permit modifications must contain the information stated in Subpart B.
- d) Any permitted CAFO must apply for reissuance of the NPDES permit at least 180 days before the NPDES permit expires unless the CAFO will not discharge after the NPDES permit expires .
- e) The owner or operator of a new CAFO that will discharge must apply for NPDES permit coverage at least 180 days before the time that the CAFO begins operation.

- f) Once an Animal Feeding Operation is defined as a CAFO for at least one type of animal, the NPDES permit requirements for CAFOs apply to all confined animals at the animal feeding operation and all livestock waste generated by those animals or the production of those animals.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.102 Land Application Discharges and Agricultural Stormwater

- a) Livestock waste discharge into the waters of the United States from a CAFO resulting from CAFO’s livestock waste application to land application areas is a discharge from that CAFO subject to NPDES permit requirements, except when it is an agricultural stormwater discharge and therefore exempt from the definition of a point source under section 502 of the Clean Water Act.
- b) Where livestock waste has been land-applied both according to site-specific nutrient management practices that ensure appropriate agricultural utilization of the livestock waste's nutrients and in compliance with Section 502.510 for permitted CAFOs and Section 502.510(b) for unpermitted Large CAFOs, a precipitation-related discharge of livestock waste from land application areas of an unpermitted large CAFO or a permitted CAFO is an agricultural stormwater discharge.
- c) Unpermitted large CAFOs must maintain the documentation specified in Section 502.510(b)(16) either on site or at a nearby office, or otherwise make that documentation readily available to the Agency upon request.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.103 Large CAFOs

An Animal Feeding Operation is defined as a Large CAFO if at least the numbers of animals specified in any of the following categories are stabled or confined:

Number of Animals	Kind of Animals
700	Mature dairy cows, whether milked or dry
1,000	Veal calves
1,000	Cattle other than mature dairy cows or veal calves. Cattle includes o heifers, steers, bulls, and cow/calf pairs.
2,500	Swine, each weighing 55 pounds or more
10,000	Swine, each weighing less than 55 pounds
500	Horses
10,000	Sheep or lambs

55,000	Turkeys
30,000 liquid	Laying hens or broilers, if the Animal Feeding Operation uses a manure handling system
125,000	Chickens (other than laying hens), if the Animal Feeding Operation uses other than a liquid manure handling system
82,000 liquid	Laying hens, if the Animal Feeding Operation uses other than a manure handling system
30,000 manure	Ducks, if the Animal Feeding Operation uses other than a liquid handling system
5,000 handling	Ducks, if the Animal Feeding Operation uses a liquid manure system

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.104 Medium CAFOs

- a) An Animal Feeding Operation is defined as a Medium CAFO if the following numbers of animals specified in any of the following categories are stabled or confined and subsection (b), (c) or (d) is met:

Number of Animals	Kind of Animals
200 to 699	Mature dairy cows, whether milked or dry
300 to 999	Veal calves
300 to 999	Cattle other than mature dairy cows or veal calves. Cattle includes heifers, steers, bulls, and cow/calf pairs.
750 to 2,499	Swine, each weighing 55 pounds or more
3,000 to 9,999	Swine, each weighing less than 55 pounds
150 to 499	Horses
3,000 to 9,999	Sheep or lambs
16,500 to 54,999	Turkeys
9,000 to 29,999	Laying hens or broilers, if the Animal Feeding Operation uses a liquid manure handling system
37,500 to 124,999	Chickens (other than laying hens), if the Animal Feeding Operation uses other than a liquid manure handling system
25,000 to 81,999	Laying hens, if the Animal Feeding Operation uses other than a liquid manure handling system
10,000 to 29,999	Ducks, if the Animal Feeding Operation uses other than a liquid manure handling system
1,500 to 4,999	Ducks, if the Animal Feeding Operation uses a liquid manure handling system

- b) Pollutants are discharged into the waters of the United States through a human-made ditch, flushing system, or similar human-made device;
- c) Pollutants are discharged directly into the waters of the United States that originate outside of and pass over, across, through, or otherwise come into direct contact with the animals confined in the operation; or
- d) The Agency designates the Animal Feeding Operation as a CAFO under Section 502.106.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.105 Small CAFOs

An Animal Feeding Operation is a Small CAFO if the Agency designates it as a CAFO under Section 502.106 and it is not a Medium CAFO.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.106 Case-By-Case Designation Requiring NPDES Permits

- a) Notwithstanding any other provision of this Part, the Agency may require any Animal Feeding Operation not falling within Section 502.103 or 502.104 to obtain an NPDES permit by designating the Animal Feeding Operation as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States. In making the determination of whether the Animal Feeding Operation is a significant contributor of pollutants, the Agency shall consider the following factors:
 - 1) The size of the Animal Feeding Operation and the amount of livestock wastes reaching waters of the United States;
 - 2) The location of the Animal Feeding Operation relative to waters of the United States;
 - 3) The means of conveyance of livestock wastes into waters of the United States;
 - 4) The slope, vegetation, rainfall and other factors relative to the likelihood or frequency of discharge of livestock waste into waters of the United States; and
 - 5) Other such factors bearing on the significance of the pollution problem sought to be regulated.

- b) The Agency, however, may not require a permit under subsection (a) for any Animal Feeding Operation with less than the number of animals set forth in Section 502.104, unless it meets either of the following conditions:
- 1) Pollutants are discharged into waters of the United States through a man-made ditch, flushing system or other similar man-made device; or
 - 2) Pollutants are discharged directly into waters of the United States that originate outside of and pass over, across, through or otherwise come into direct contact with the animals confined in the operation.
- c) In no case may a permit application be required from an Animal Feeding Operation designated pursuant to this Section until there has been an onsite inspection of the operation and a determination that the operation should and could be regulated under the permit program
- d) Prior to designating an Animal Feeding Operation as a CAFO, the Agency shall send the Animal Feeding Operation a written notice that it intends to designate the Animal Feeding Operation as a CAFO. The notice shall include grounds for the designation and information regarding the opportunity to request a meeting with the Agency within 90 days after the Animal Feeding Operation's receipt of the notice to present evidence that it is not a significant contributor of pollutants to waters of the United States as provided in subsection (a). Beginning 90 days after the initial written notice is received by the Animal Feeding Operation, the Agency may designate the Animal Feeding Operation as a CAFO. The Agency shall send the Animal Feeding Operation a written notice of its designation decision and the grounds for the designation in writing.
- e) Upon receipt of the Agency's designation decision, the owner or operator shall make an NPDES permit application to the Agency within 90 days. The Agency may issue an NPDES permit with a compliance schedule detailing interim steps to be taken along with a final date, not to exceed 14 months from the date the permit is issued, by which compliance with the Act and all applicable regulations shall be achieved.
- f) The question of whether the designation was proper will remain open during the pendency of the permit application. Any appeal of the Agency's designation decision must be made as part of an NPDES permit appeal.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.106 Case-By-Case Designation Requiring NPDES Permits

- a) Notwithstanding any other provision of this Part, the Agency may require any Animal Feeding Operation not falling within Section 502.103 or 502.104 to obtain an NPDES permit by designating the Animal Feeding Operation as a CAFO upon determining that it is a significant contributor of pollutants to waters of the United States. In making the determination of whether the Animal Feeding Operation is a significant contributor of pollutants, the Agency shall consider the following factors:
 - 1) The size of the Animal Feeding Operation and the amount of livestock wastes reaching waters of the United States;
 - 2) The location of the Animal Feeding Operation relative to waters of the United States;
 - 3) The means of conveyance of livestock wastes into waters of the United States;
 - 4) The slope, vegetation, rainfall and other factors relative to the likelihood or frequency of discharge of livestock waste into waters of the United States; and
 - 5) Other such factors bearing on the significance of the pollution problem sought to be regulated.
- b) The Agency, however, may not require a permit under subsection (a) for any Animal Feeding Operation with less than the number of animals set forth in Section 502.104, unless it meets either of the following conditions:
 - 1) Pollutants are discharged into waters of the United States through a man-made ditch, flushing system or other similar man-made device; or
 - 2) Pollutants are discharged directly into waters of the United States that originate outside of and pass over, across, through or otherwise come into direct contact with the animals confined in the operation.
- c) In no case may a permit application be required from an Animal Feeding Operation designated pursuant to this Section until there has been an onsite inspection of the operation and a determination that the operation should and could be regulated under the permit program

- d) Prior to designating an Animal Feeding Operation as a CAFO, the Agency shall send the Animal Feeding Operation a written notice that it intends to designate the Animal Feeding Operation as a CAFO. The notice shall include grounds for the designation and information regarding the opportunity to request a meeting with the Agency within 90 days after the Animal Feeding Operation's receipt of the notice to present evidence that it is not a significant contributor of pollutants to waters of the United States as provided in subsection (a). Beginning 90 days after the initial written notice is received by the Animal Feeding Operation, the Agency may designate the Animal Feeding Operation as a CAFO. The Agency shall send the Animal Feeding Operation a written notice of its designation decision and the grounds for the designation in writing.
- e) Upon receipt of the Agency's designation decision, the owner or operator shall make an NPDES permit application to the Agency within 90 days. The Agency may issue an NPDES permit with a compliance schedule detailing interim steps to be taken along with a final date, not to exceed 14 months from the date the permit is issued, by which compliance with the Act and all applicable regulations shall be achieved.
- f) The question of whether the designation was proper will remain open during the pendency of the permit application. Any appeal of the Agency's designation decision must be made as part of an NPDES permit appeal.

(Source: Amended at 38 Ill. Reg. 17687, effective August 11, 2014)

SUBPART B: PERMIT APPLICATIONS

Section 502.201 Permit Applications

- a) All applications from a new or existing CAFO for any permit, including an individual permit or a general permit, required under this Chapter must contain, when appropriate, the following information and documents:
 - 1) The name of the owner or operator;
 - 2) The facility location and mailing addresses;
 - 3) The latitude and longitude of the entrance to the production area;
 - 4) Specific information about the average and maximum number and type of animals, whether in open confinement or housed under a roof (beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows,

dairy heifers, veal calves, sheep and lambs, horses, ducks, turkeys, other);

- 5) A statement as to any projected changes in the livestock operation's size and when they may occur during the term of the permit;
 - 6) The type of containment and storage (anaerobic lagoon, roofed storage shed, storage ponds, underfloor pits, above-ground storage tanks, below-ground storage tanks, concrete pad, impervious soil pad, other) and total capacity for manure, litter, and process wastewater storage (in tons or gallons);
 - 7) A topographic map of the geographic area in which the CAFO is located showing the specific location of the production area and land application areas, and indicating the following:
 - A) Direction and location of surface and subsurface drainage and other discharges from the facility; and
 - B) Location of waterways in the area.
 - 8) Estimated amounts of livestock waste generated per year (in tons or gallons);
 - 9) The total acreage of the land application area and the estimated amount of waste to be applied to those acres per year;
 - 10) Estimated amount of livestock waste transferred to other persons per year (in tons or gallons);
 - 11) A nutrient management plan that is consistent with Subpart E;
 - 12) A stormwater pollution prevention plan;
 - 13) A spill control and prevention plan; and
 - 14) A statement identifying and justifying any departure from current design criteria the Agency promulgates .
- b) The Agency may adopt procedures requiring additional information as is necessary to determine whether the CAFO will meet the Act and applicable Board rules.
 - c) Applicable requirements of 35 Ill. Adm. Code 309: Subpart A apply to applications for NPDES permits required by this Chapter. The Agency

may prescribe the form in which information required under this Section must be submitted.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.202 Permit Application Submissions

All permit applications must be mailed or delivered to Illinois Environmental Protection Agency, Bureau of Water, 1021 N. Grand Ave. E., Springfield IL 62794.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.203 New Applications (Repealed)

(Source: Repealed at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.204 Renewal

Permittees seeking reissuance of their NPDES permit under Section 502.101(d) must apply for reissuance of the permit, using proper forms, at least 180 days before the permit expires. The Agency will notify those persons of the need for renewal at least 60 days before the date on which the renewal application must be submitted; however, failure to do so does not excuse noncompliance with this Chapter.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.205 New Operations (Repealed)

(Source: Repealed at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.206 Signatures

An application submitted by a corporation must be signed by a principal executive officer of at least the level of vice president, or a duly authorized representative if that representative is responsible for operating the facility. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor, respectively. In the case of a publicly-owned facility, the application must be signed by either a principal executive officer, ranking elected official, or another duly authorized employee.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.207 Disclosure Required for Land Trusts

An applicant filing for an NPDES permit must satisfy the Land Trust Beneficial Interest Disclosure Act [735 ILCS 405] before the Agency grants the applicant its permit.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

SUBPART C: PERMIT ISSUANCE AND CONDITIONS

Section 502.301 Standards for Issuance

The Agency must not grant any NPDES permit unless the applicant submits proof that the subject facility:

- a) Will be constructed, modified, or operated so as not to violate the Act or applicable Board rules or the Federal Water Pollution Control Act (CWA) (12 U.S.C. 24), or has been granted a variance under Title IX of the Act; and
- b) Either conforms to the design criteria the Agency promulgates under Section 502.305 or is based on other criteria which the applicant proves will produce consistently satisfactory results.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.302 Duration of Permits

NPDES permits will be issued for fixed terms not to exceed five years.

Section 502.303 New Source Standards

Notwithstanding any other provision of this regulation, any point source, the construction of which is commenced after the date of enactment of the CWA and which is so constructed as to meet the applicable federal "standard of performance" as defined in Section 306 of CWA shall not be subject to any more stringent federal "standard of performance" during a ten-year period beginning on the date of completion of such construction or during the period of depreciation or amortization of such facility for the purposes of Section 167 or 169 (or both) of the Internal Revenue Code of 1954, whichever period ends first (26 U.S.C. 167 and 169).

Section 502.304 Issuance and Conditions

- a) 35 Ill. Adm. Code 309: Subpart A applies to the issuance, conditions, and modification of NPDES permits under this Chapter in the same manner as those provisions apply to NPDES permits issued under 35 Ill. Adm. Code 309. Specific provisions applicable to CAFOs seeking coverage under NPDES general permits are found in Section 502.310.

- b) In addition to specific conditions authorized under this Part, the Agency may impose conditions in any permit issued under this Part as may be necessary to accomplish the purposes of the Act or Board rules.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.305 Agency Criteria

- a) Unless otherwise provided for by Board rules, the Agency may adopt procedures that state criteria for the design and maintenance of facilities subject to this chapter. These procedures must be revised from time to time to reflect current engineering judgment and advances in the state of the art.
- b) Before adopting new criteria or making substantive changes in any criteria the Agency adopts, the Agency must publish a summary of the proposed changes in the Environmental Register and, at the Agency's expense, in a widely circulated agricultural periodical.
- c) In adopting new or revised criteria, the Agency must comply with the Illinois Administrative Procedure Act [5 ILCS 100].

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.310 CAFOs Seeking Coverage Under NPDES General Permits

- a) CAFO owners or operators must submit a notice of intent that meets the requirements of Section 502.201 and Subpart E when seeking authorization to discharge under a general permit.
- b) When additional information is necessary to complete the notice of intent or to clarify, modify, or supplement previously submitted material, the Agency may request that information from the owner or operator as provided in 35 Ill. Adm. Code 309.106.
- c) The Agency must notify the public of its proposal to grant coverage under the general permit to the CAFO. This public notice must include the CAFO's nutrient management plan.
- d) The process for submitting public comments and hearing requests, and the hearing process if a request for a hearing is granted, will follow the procedures applicable to draft individual permits found in 35 Ill. Adm. Code 309.109(b) and 309.115 through 309.118.
- e) The time period for the public to comment and request a hearing is 30 days following the date of the notice issued under subsection (c).

- f) When a public hearing is held, the Agency must respond to significant comments received during the comment period as provided in 35 Ill. Adm. Code 309.119 and 309.120, except that notice and transmission to the USEPA Regional Administrator is not required. If no hearing is held, the Agency must follow the procedures in 35 Ill. Adm. Code 309.112 and 309.120 for Agency action after the comment period. The Agency must require the CAFO owner or operator to revise the nutrient management plan if necessary to be granted permit coverage.
- g) When the Agency authorizes coverage for the CAFO owner or operator under the general permit, the terms of the nutrient management plan must become incorporated as terms and conditions of the permit for the CAFO. Incorporating terms and conditions does not require a modification of the general permit.
- h) The Agency must notify the CAFO owner or operator and inform the public that coverage has been authorized and of the terms of the nutrient management plan, incorporated as terms and conditions of the permit applicable to the CAFO.
- i) Nothing in this Section limits the Agency's authority to require an individual NPDES permit under Section 39(b) of the Act.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.315 CAFO Permit Requirements

NPDES permits issued to CAFOs under this Part must include:

- a) Requirements to implement a nutrient management plan that meets Subpart E.
- b) Requirements for the permittee to create a complete copy of the records required in Section 502.320, maintain the records on-site for five years from creation, and make the records available to the Agency upon request.
- c) Annual reporting requirements for permitted CAFOs. The permittee must submit an annual report to the Agency. The annual report must include the information specified in Section 502.325.
- d) Requirements to comply with the livestock waste discharge limitations in Subparts F, G, and H, if applicable.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.320 Recordkeeping Requirements

The permittee must create, maintain for five years, and make available to the Agency, upon request, the following records:

- a) A copy of all applicable records identified under Section 502.510(b)(16);
- b) A copy of the information required under Section 502.201;
- c) Records documenting the visual inspections required under Section 502.610(c);
- d) Weekly records of the depth of the manure and process wastewater in the liquid livestock waste storage as indicated by the depth marker, as described in Section 502.610(d);
- e) Records documenting any actions taken to correct deficiencies as required by Sections 502.610(e) and (f). Deficiencies not corrected within 30 days must be accompanied by explanation of the factors preventing immediate correction;
- f) Records of mortalities management and practices the facility uses to meet the requirements of Section 502.610(g);
- g) Records documenting the current design of any livestock waste storage structures, including volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity;
- h) Records of the date, time, and estimated volume of any overflow;
- i) A copy of the facility's site-specific nutrient management plan;
- j) Expected crop yields for land application areas;
- k) The dates livestock waste is applied to each land application area;
- l) Records documenting subsurface drainage inspections conducted according to the plan developed under Section 502.510(b)(13);
- m) Results from livestock waste and soil sampling;
- n) Explanation of the basis for determining livestock waste application rates;

- o) Calculations showing the total nitrogen and phosphorus to be applied to each field, including sources other than livestock waste;
- p) Total amount of nitrogen and phosphorus applied to each field, including documentation of calculations for the total amount applied;
- q) The method used to apply the livestock waste;
- r) Date of livestock waste application equipment inspection;
- s) Maximum number and type of animals, whether in open confinement or housed under roof by the following types: beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, turkeys, ducks, other;
- t) All records necessary to prepare the annual report required by Section 502.325;
- u) Total acreage of land application area the nutrient management plan covers;
- v) The quantity of livestock waste removed when a manure storage area or waste containment area is dewatered;
- w) The following information for each day during which livestock wastes are applied to land:
 - 1) the amount applied to each field in either gallons, wet tons, or dry tons per acre;
 - 2) soil water conditions at the time of application (such as dry, saturated, flooded, frozen, snow-covered);
 - 3) an estimate of the precipitation amount 24 hours before, and for 24 hours after, the application;
 - 4) the type of application method used (surface, surface with incorporation, or injection);
 - 5) the location of the field where livestock waste was applied;
 - 6) Leak inspection results of livestock waste application equipment;
 - 7) the name and address of off-site recipients of livestock waste, the amount of waste transferred to each off-site recipient in gallons or

dry tons, off-site location on a topographic map, and acreage of each site the off-site recipient used;

- 8) Weather conditions, including precipitation, air temperature, wind speed, wind direction, and dew point, at the time of land application and for 24 hours before, and for 24 hours following, the application; and
- 9) Records of the weather forecasts required to be maintained under Sections 502.620(d) and 502.630(b)(3), (4), and (5);
- x) The laboratory analysis sheets reporting the analysis of the livestock waste samples must be kept on file at the facility for the permit's term and for 5 years after the permit expires; and
- y) Records documenting the test methods and sampling protocols for manure, litter, and process wastewater and soil analyses.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.325 Annual Report

- a) The NPDES permit must specify annual reporting requirements for the CAFO. The annual report must be submitted to the Agency.
- b) The annual report must contain the following minimum elements:
 - 1) Maximum number and type of animals, whether in open confinement or housed under roof by the following types: beef cattle, broilers, layers, swine weighing 55 pounds or more, swine weighing less than 55 pounds, mature dairy cows, dairy heifers, veal calves, sheep and lambs, horses, turkeys, ducks, other;
 - 2) Quantity of livestock waste the facility generated in the previous 12 months (tons/gallons);
 - 3) Quantity of livestock waste the facility transferred to another person in the previous 12 months (in tons or gallons);
 - 4) Total acreage of land application area the nutrient management plan covers ;
 - 5) Total acreage the CAFO used for land application of livestock waste in the previous 12 months and that was under the control of the CAFO through ownership, lease, or consent agreement;

- 6) A statement indicating whether the current version of the CAFO's nutrient management plan for land application of livestock waste was developed or approved by a certified nutrient management planner and by who issued the certificate;
- 7) Summary of all livestock waste discharges from the production area that have occurred in the previous 12 months, including date, time, and approximate volume;
- 8) A report of instances of noncompliance with the NPDES permit in the previous 12 months;
- 9) The actual crops planted and actual yields for each field;
- 10) The actual nitrogen and phosphorus content of the livestock waste;
- 11) The results of calculations conducted under Section 502.515(d)(3) and (e)(3);
- 12) The amount of livestock waste land applied to each field during the previous 12 months;
- 13) For any CAFO that implements a nutrient management plan that addresses application rates under Section 502.515(e):
 - A) the results of any soil testing for nitrogen and phosphorus taken during the preceding 12 months;
 - B) data used to calculate under Section 502.515(e)(3), and
 - C) the amount of any supplemental fertilizer applied during the previous 12 months; and
- 14) Annual review of the nutrient management practices to be implemented and an update of the nutrient management plan when the nutrient management practices change.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

SUBPART D: APPEAL AND ENFORCEMENT

Section 502.401 Appeals from Conditions in Permits

An applicant may consider any condition the Agency imposes in a permit as the Agency refusing to grant a permit. An applicant or others who have been a party or participant at

an Agency hearing are entitled to appeal the Agency's decision to the Board under Section 40 of the Act, 35 Ill. Adm. Code 105 and 35 Ill. Adm. Code: Subtitle C, Chapter I.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.402 Defenses

- a) Issuing or possessing a permit does not allow the permittee to violate the Act or Board rules and is not a defense to a violation other than an alleged violation for construction or operation without a permit.
- b) Compliance with an NPDES permit must be considered compliance for purposes of Sections 42, 43, and 44 of the Act (Penalties), with the Act and applicable rules, to the extent that compliance would be a defense to enforcement action under the CWA.
- c) Except for federally-imposed requirements for NPDES permits, complying with the rules the Board promulgates under the Act will be a prima facie defense to any action, legal, equitable, or criminal, or an administrative proceeding for a violation of the Act, brought by any person.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.403 Modification or Termination of Permits

The Board may, after petition and opportunity for hearing under the Act and its procedural rules in 35 Ill. Adm. Code 101 through 130, terminate any permit or modify it in any manner that is consistent with the Act and applicable Board rules or federal requirements upon proof of cause, including the following:

- a) Violating any condition of the permit;
- b) Obtaining a permit by misrepresentation or failure to disclose fully all relevant facts; or
- c) Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

SUBPART E: REQUIREMENTS FOR DEVELOPING AND IMPLEMENTING NUTRIENT MANAGEMENT PLANS

Section 502.500 Purpose, Scope and Applicability

The requirements in this Subpart are intended to minimize the transportation of nitrogen and phosphorus into the waters of the United States to comply with the nutrient management plan.

- a) The requirements in this Subpart apply to CAFOs required to obtain an NPDES permit. Unpermitted large CAFOs claiming an agricultural stormwater exemption under Section 502.102 are not required to have a nutrient management plan but must comply with the requirements listed in Section 502.510(b) to qualify for the exemption.
- b) The CAFO owner or operator must develop, submit, and implement a site-specific nutrient management plan. This plan must specifically identify and describe practices that will be implemented to assure compliance with this Subpart and the livestock waste discharge limitations and technical standards of Subparts F, G, and H.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.505 Nutrient Management Plan Information

The nutrient management plan must include the following items:

- a) Name, address, and phone number of the CAFO owners;
- b) Name, address, and phone number of the managers or operators if different than the owners;
- c) Address, phone number, and plat location of the CAFO production area;
- d) Name of the person who developed the nutrient management plan and a statement indicating whether it was developed or approved by a certified nutrient management planner and by whom the certification was issued;
- e) Type of waste storage for the CAFO;
- f) Species, size, and maximum number of animals at the CAFO;
- g) Scaled aerial photos or maps depicting each field available and intended for livestock waste applications with available acreage listed and indicating residences, non-farm businesses, common places of assembly, streams, wells, waterways, lakes, ponds, rivers, drainage ditches, subsurface drainage systems, other water sources, 10-year flood plain, buffers, slope, locations of structural Best Management Practices, setbacks and areas restricted from application by this Subpart E;

- h) For land application areas the owner or operator of the CAFO does not own or rent, copies of the consent statement between the livestock facilities' owner or operator and the landowner where livestock waste will be applied;
- i) Cropping schedule for each field for the past year, anticipated crops for the current year, and anticipated crops for the five-year term of the permit;
- j) Realistic crop yield goal for each crop in each field;
- k) An estimate of the livestock waste's nutrient value or the analysis results determined under Section 502.625(c);
- l) Livestock waste application methods;
- m) Results of the Bray P1 or Mehlich 3 test for soil phosphorus, conducted according to Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200, reported in pounds of elemental phosphorus per acre. If the livestock waste is to be land applied based on a single-year or multi-year phosphorus application on the land application area, the following items must be provided:
 - 1) An estimate of the volume of livestock waste to be disposed of annually;
 - 2) The phosphorus content of the livestock waste;
 - 3) The phosphorus amount needed for each crop in the planned crop rotation, expressed as pounds of P₂O₅ per acre, obtained from the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200; and
 - 4) The maximum livestock waste application rate based on phosphorus for each field, determined under Section 502.625(g).
- n) Calculations showing the following:
 - 1) An estimate of the volume of livestock waste to be disposed of annually;
 - 2) Nitrogen loss due to the method of storage, if applicable;
 - 3) Amount of nitrogen available for application;
 - 4) Nitrogen loss due to the method of application;

- 5) Amount of plant-available nitrogen including mineralized first-year organic nitrogen;
 - 6) Amount of nitrogen required by each crop in each field based on realistic crop yield goal;
 - 7) Nitrogen credits from previous crops, from other sources of fertilizer applied for the growing season, and from any livestock waste applications during the previous three years for each field;
 - 8) Livestock waste application rate based on nitrogen for each field; and
 - 9) Land area required for application;
- o) A listing of fields and the planned livestock waste application amounts for each field.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.510 Nutrient Management Plan Requirements

- a) Any permit issued to a CAFO must require implementing a nutrient management plan by the date of permit coverage that includes, best management practices necessary to meet this Section and the applicable livestock discharge limitations and technical standards in 35 Ill. Adm. Code 501 and 502.
- b) The nutrient management plan must specify and demonstrate:
 - 1) The livestock waste application rate of nitrogen in a single year and phosphorus in a single year or multiple years, not to exceed the single-year crop nitrogen and single-year or multi-year phosphorus requirements for realistic crop yield goals in the rotation;
 - 2) Adequate land application area for livestock waste application which may include:
 - A) land the CAFO owner or operator owns;
 - B) land the CAFO rents or leases;
 - C) land covered by a consent agreement between the CAFO owner or operator and the property owner; or

- D) any combination of the land described in subsection (b)(2)(A) through (C);
- 3) Adequate storage of livestock waste, including procedures to ensure proper operation and maintenance of the storage facilities is proper;
 - 4) Proper management of mortalities to ensure that they are not disposed of in a liquid livestock waste or stormwater storage or treatment system that is not specifically designed to treat animal mortalities;
 - 5) That clean water is diverted, as appropriate, from the production area;
 - 6) That direct contact of confined animals with waters of the United States is prevented;
 - 7) That chemicals and other contaminants handled on-site are not disposed of in any livestock waste or stormwater storage or treatment system unless specifically designed to treat those chemicals and other contaminants;
 - 8) Appropriate site-specific conservation practices to be implemented, including, as appropriate, buffers or equivalent practices, to control pollutant runoff to waters of the United States;
 - 9) Protocols for appropriate livestock waste and soil testing. Livestock waste must be analyzed at least once annually for nitrogen and phosphorus content, and soil analyzed at least twice every five years for phosphorus content. The results of these analyses are to be used in determining application rates for livestock wastes;
 - 10) Protocols to land application of livestock waste according to site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients;
 - 11) Livestock waste must not be applied within the distance from residences provided in Section 502.645(a) and within the areas prohibited from land application by this Part;
 - 12) A winter land application plan that meets Section 502.630;
 - 13) The plan for inspecting, monitoring, managing, and repairing subsurface drainage systems at the livestock waste application site.

Inspecting subsurface drainage systems must include visual inspection before land application to determine failures that may cause discharges and visual inspection during and after land application to identify discharges. For this subsection (b)(13), visual inspection means a person inspecting the tile inlet, tile outlet, and unobstructed land surface to assess the structural ability of the subsurface drainage system;

- 14) A spill prevention and control plan;
- 15) Annual review of the nutrient management practices to be implemented and an update of the nutrient management plan when the nutrient management practices change;
- 16) Specific records that will be maintained to document implementing and managing the minimum elements described in subsections (b)(2) through (15); and
- 17) A description of the storage provisions and schedules provided for livestock waste when cropping practices, soil conditions, weather conditions, or other conditions prevent applying livestock waste to land or prevent other methods of livestock waste disposal.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.515 Terms of Nutrient Management Plan

Any permit issued to a CAFO must require compliance with the terms of the CAFO's site-specific nutrient management plan. These terms include:

- a) The terms of the nutrient management plan are the information, protocols, best management practices, and other conditions in the nutrient management plan the Agency determines are necessary to meet Sections 502.505 and 502.510.
- b) The terms of the nutrient management plan, regarding protocols for land application of livestock waste as required by Subpart F, must include:
 - 1) the fields available for land application;
 - 2) field-specific rates of application properly developed under subsection (d) or (e) to ensure appropriate agricultural utilization of the nutrients in the livestock waste; and

- 3) any timing limitations identified in the nutrient management plan concerning land application on the fields available for land application.
- c) The terms of the nutrient management plan must address rates of application using either the linear approach as described in subsection (d) or the narrative rate approach as described in subsection (e), unless the Agency specifies that only one of these approaches may be used.
- d) The linear approach is an approach that expresses application rates as pounds of nitrogen and phosphorus, according to the following specifications:
 - 1) The terms include maximum application rates from livestock waste for each year of permit coverage, for each crop identified in the nutrient management plan, in chemical forms determined to be acceptable to the Agency, in pounds per acre, per year, for each field to be used for land application, and the factors necessary to determine those rates.
 - 2) The factors that are terms must include:
 - A) the outcome of assessing the field-specific potential for nitrogen and phosphorus transport from each field;
 - B) the crops to be planted in each field or any other uses of a field such as pasture or fallow fields;
 - C) the realistic yield goal for each crop or use identified for each field;
 - D) the nitrogen and phosphorus recommendations, according to Section 502.625, for each crop or use identified for each field;
 - E) credits for all nitrogen in the field that will be plant available;
 - F) consideration of multi-year phosphorus application;
 - G) accounting for all other additions of plant-available nitrogen and phosphorus to the field;
 - H) the form and source of livestock waste to be land-applied;
 - I) the timing and method of land application; and

- J) the methodology by which the nutrient management plan accounts for the amount of nitrogen and phosphorus in the livestock waste to be applied.
- 3) CAFOs that use this linear approach must calculate the maximum amount of livestock waste to be land applied at least once each year using the results of the most recent representative livestock waste tests for nitrogen and phosphorus taken within 12 months before the date of land application required by Section 502.635.
- e) The narrative rate approach is an approach that expresses application rates as a narrative rate of application that results in the amount, in tons or gallons, of livestock waste to be land applied, according to this subsection (e).
- 1) The terms include:
 - A) maximum amounts of nitrogen and 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 Agency, in pounds per acre, for each field, and the factors necessary to determine those amounts;
 - B) the outcome of assessing the field-specific potential for nitrogen and phosphorus transport from each field;
 - C) the crops to be planted in each field or any other uses, such as pasture or fallow fields, including alternative crops identified undersubsection (e)(1)(G);
 - D) the realistic yield goal for each crop or use identified for each field;
 - E) the nitrogen and phosphorus recommendations according to Section 502.625 for each crop or use identified for each field;
 - F) the methodology by which the nutrient management plan accounts for the following factors when calculating the amounts of livestock waste to be land applied:
 - i) results of soil tests conducted using protocols identified in the nutrient management plan, as required by Section 502.510(b)(9);

- ii) credits for all nitrogen in the field that will be plant available;
 - iii) the amount of nitrogen and phosphorus in the livestock waste to be applied;
 - iv) consideration of multi-year phosphorus application;
 - v) accounting for all other additions of plant nitrogen and phosphorus to the field;
 - vi) the form and source of livestock waste;
 - vii) the timing and method of land application; and
 - viii) volatilizing nitrogen and mineralizing organic nitrogen.
- G) alternative crops identified in the CAFO's nutrient management plan that are not in the planned crop rotation.
- i) When a CAFO includes alternative crops in its nutrient management plan, the crops must be listed by field, in addition to the crops identified in the planned crop rotation for that field, and the nutrient management plan must include realistic crop yield goals and the nitrogen and phosphorus recommendations according to Section 502.625 for each crop.
 - ii) Maximum amounts of nitrogen and phosphorus from all sources of nutrients and the amounts of livestock waste to be applied must be determined using the methodology described in subsections (e)(1)(A) through (F).
- 2) For CAFOs using this narrative approach, the following projections must be included in the nutrient management plan submitted to the Agency, but are not terms of the nutrient management plan:
- A) the CAFO's planned crop rotations for each field for the period of permit coverage;
 - B) the projected amount of livestock waste to be applied;

- C) projected credits for all nitrogen in the field that will be plant available;
 - D) consideration of multi-year phosphorus application;
 - E) accounting for all other additions of plant-available nitrogen and phosphorus to the field;
 - F) the predicted form, source, and method of applying livestock waste for each crop; and
 - G) timing of application for each field, insofar as it concerns calculating the rates of application.
- 3) CAFOs that use this narrative rate approach must calculate maximum amounts of livestock waste to be land applied at least once each year using the methodology required in subsections (e)(1)(A) through (F) before land applying livestock waste and must rely on the following data:
- A) a field-specific determination of nitrogen that will be plant available consistent with the methodology required by subsections (e)(1)(A) through (F), and for phosphorus, the results of the most recent soil test conducted using Agency-approved soil testing requirements; and
 - B) the results of most recent representative livestock waste tests for nitrogen and phosphorus taken within 12 months before the date of land application, to determine the amount of nitrogen and phosphorus in the livestock waste to be applied.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.520 Changes to the Nutrient Management Plan

When a CAFO owner or operator makes changes to the CAFO's nutrient management plan previously submitted to the Agency, the procedures in this Section are applicable.

- a) The CAFO owner or operator must identify changes to the nutrient management plan, except that the results calculated under Sections 502.515(d)(3) and (e)(3) are not subject to this Section. These calculations may be revised without submittal to the Agency if the calculation revisions do not change the terms of the nutrient management plan.

- b) The Agency must determine whether the changes to the nutrient management plan necessitate revising the terms of the nutrient management plan incorporated into the permit issued to the CAFO.
 - 1) If revising the terms of the nutrient management plan is not necessary, the Agency must notify the CAFO owner or operator and, upon that notification, the CAFO may implement the revised nutrient management plan.
 - 2) If revising the terms of the nutrient management plan is necessary, the Agency must determine whether the changes are substantial changes as described in subsection (d).
 - 3) If the Agency determines that the changes to the terms of the nutrient management plan are not substantial, the Agency must notify the owner or operator and inform the public of any changes to the terms of the nutrient management plan that are incorporated into the permit.
- c) If the Agency determines that the changes to the terms of the nutrient management plan are substantial, the Agency must notify the public and make the proposed changes and the information the CAFO owner or operator submits available for public review and comment.
 - 1) The process and time limits for submitting public comments and hearing requests, the hearing process if a request for a hearing is granted, and the process for responding to significant comments received during the comment period will follow the procedures applicable to draft general permits found in Section 502.310(d) through (f).
 - 2) The Agency will require the CAFO owner or operator to further revise the nutrient management plan if necessary to approve the revision to the terms of the nutrient management plan incorporated into the CAFO's permit.
 - 3) Once the Agency incorporates the revised terms of the nutrient management plan into the permit, the Agency must notify the owner or operator and inform the public of the final decision concerning the revisions to the terms and conditions of the permit.
- d) Substantial changes to the terms of the nutrient management plan incorporated as terms and conditions of a permit include, :
 - 1) Adding 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 the terms of a nutrient management plan incorporated into an existing NPDES permit in compliance with Section 502.515, and the CAFO owner or operator applies livestock waste on the newly added land application area in compliance with the existing field-specific permit terms applicable to the newly added land application area, adding new land would be a change to the new CAFO owner's or operator's nutrient management plan but not a substantial change for this Section;

- 2) For nutrient management plans using the linear approach stated in Section 502.515(d), changes to the field-specific maximum annual rates of land application (pounds of nitrogen and phosphorus from livestock waste). For nutrient management plans using the narrative rate approach, changes to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop;
- 3) Adding any crop or other uses not included in the terms of the CAFO's nutrient management plan and corresponding field-specific application rates expressed in accordance with Section 502.515; and
- 4) Changes to site-specific components of the CAFO's nutrient management plan, when the changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the United States.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

SUBPART F: LIVESTOCK WASTE DISCHARGE LIMITATIONS AND TECHNICAL STANDARDS

Section 502.600 Applicability

- a) This Subpart provides livestock waste discharge limitations and technical standards for permitted CAFOs. Permitted CAFOs must achieve the livestock waste discharge limitations and technical standards in this Subpart by the permit coverage date. This Subpart does not apply to CAFOs that stable or confine horses, sheep, or ducks. CAFOs that stable or confine horses or sheep are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.720. CAFOs that confine ducks in either a dry lot or wet lot are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.730.
- b) Unpermitted Large CAFOs claiming an agricultural stormwater exemption

under Section 502.102 are not required to have a nutrient management plan but must comply with the requirements listed in Section 502.510(b) to qualify for the exemption.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.605 Livestock Waste Discharge Limitations for the Production Area for Permitted CAFOs

- a) Except as provided in subsections (a)(1), (a)(2), and (c), there must be no livestock waste discharge into the waters of the United States from the CAFO production area. Whenever precipitation causes an overflow of livestock wastes from the containment or storage structure, livestock wastes in the overflow may be discharged into the waters of the United States if:
 - 1) The production area is designed, constructed, operated, and maintained to contain all livestock wastes, including the runoff and the direct precipitation from a 25-year, 24-hour precipitation event, except that, for swine, poultry, or veal, large CAFOs that are new sources must comply with Subpart H, and
 - 2) The production area is operated in accordance with the additional measures and records required by Section 502.610.
- b) Any point source subject to this Subpart must achieve the livestock waste discharge limitations in this Section by the permit coverage date.
- c) Voluntary Alternative Performance Standards. Any CAFO subject to this Subpart may request the Agency to establish NPDES permit livestock waste discharge limitations based upon site-specific alternative technologies that achieve a quantity of pollutants discharged from the production area equal to or less than the quantity of pollutants that would be discharged under the baseline performance standards as provided by subsection (a).
 - 1) In requesting site-specific livestock waste discharge limitations to be included in the NPDES permit, the CAFO owner or operator must submit a supporting technical analysis and any other relevant information and data that would support those site-specific livestock waste discharge limitations within the time frame the Agency provides .
 - 2) The supporting technical analysis must include calculating the quantity of pollutants discharged, on a mass basis when appropriate, based on a site-specific analysis of a system designed,

constructed, operated, and maintained to contain all livestock waste, including the runoff from a 25-year, 24-hour rainfall event.

- 3) The technical analysis of the discharge of pollutants must include:
 - A) all daily inputs to the storage system, including livestock waste, direct precipitation, and runoff;
 - B) all daily outputs from the storage system, including losses due to evaporation, sludge removal, and wastewater removal for use on cropland at the CAFO or transport off-site;
 - C) a calculation determining the predicted median annual overflow volume based on a 25-year period of actual rainfall data applicable to the site;
 - D) site-specific pollutant data, including nitrogen, phosphorus, BOD₅, and total suspended solids, for the CAFO from representative sampling and analyzing all sources of input to the storage system, or other appropriate pollutant data; and
 - E) predicted annual average pollutant discharge, expressed, when appropriate, as a mass discharge on a daily basis (lbs/day), and calculated considering subsections (c)(3)(A) through (D).
- 4) The Agency may request additional information to supplement the supporting technical analysis, including inspecting the CAFO.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.610 Additional Measures for CAFO Production Areas

Each CAFO subject to this Subpart must implement the following:

- a) The CAFO owner or operator must at all times properly operate and maintain all structural and operational aspects of the facilities, including all systems for livestock waste treatment, storage, management, monitoring, and testing.
- b) Livestock within a CAFO production area must not come into contact with the waters of the United States.

- c) Visual Inspections. There must be routine visual inspections of the CAFO production area, including the following:
 - 1) Inspecting weekly all stormwater diversion devices, runoff diversion structures, and devices channeling contaminated stormwater to the wastewater and manure storage and containment structure;
 - 2) Inspecting water lines daily in the production areas, including drinking water or cooling water lines; and
 - 3) Inspecting livestock waste storage facilities weekly. The inspection will note the total volume of materials in the liquid livestock waste storage facility using the depth marker required in subsection (d).
- d) Depth Marker. All open-surface liquid livestock waste storage facilities must have a depth marker that clearly indicates the minimum capacity necessary to contain the runoff and direct precipitation of the 25-year, 24-hour rainfall event. In the case of new sources subject to livestock waste discharge limitations established under Section 502.830, all open surface livestock waste storage structures associated with the sources must include a depth marker that clearly indicates the minimum capacity necessary to contain the maximum runoff and direct precipitation associated with the design storm used in sizing the storage facility for no discharge.
- e) Corrective Actions. Any deficiencies found because of these inspections must be corrected as soon as possible.
- f) In addition to the requirement in subsection (e), deficiencies not corrected within 30 days must be accompanied by an explanation of the factors preventing immediate correction.
- g) Pollutant discharge to the waters of the United States from dead livestock or dead animal disposal facilities is prohibited. Dead livestock and water contaminated by dead livestock must not be disposed of in the liquid manure storage structures, egg wash wastewater facilities, egg processing wastewater facilities, or areas used to hold products, by-products, or raw materials that are set aside for disposal, or contaminated stormwater facilities, other than facilities used solely to dispose of dead livestock.
- h) Chemicals and other contaminants must not be disposed of in any livestock waste or stormwater storage or treatment system unless specifically designed to treat those chemicals and other contaminants.

- i) A CAFO owner or operator utilizing an earthen lagoon or other earthen manure storage area or waste containment area must inspect all berm tops, exterior berm sides, and non-submerged interior berm sides for evidence of erosion, burrowing animal activity, and other indications of berm degradation on a frequency of at least once every week.
- j) The CAFO owner or operator must periodically remove livestock waste solids from liquid manure storage areas and the waste containment area to continue operating the storage structures properly. Soils that are contaminated with livestock waste removed from earthen manure storage structures must be considered livestock waste.
- k) Requirements Relating to the Transfer of Livestock Waste to Other Persons
 - 1) Before transferring livestock waste to other persons, CAFOs must provide the recipient of the livestock waste with the most current nutrient analysis.
 - 2) The analysis provided must be consistent with applicable requirements to sample livestock wastes in Section 502.635(b).
 - 3) CAFOs must retain for five years records of the date, recipient name and address, and approximate amount of livestock waste transferred to another person.
- l) Livestock Waste Storage Requirements
 - 1) Livestock waste storage structures at the CAFO production area must be designed to contain a volume equal to or greater than the total volumes of the following:
 - A) the amount of waste generated during a 180-day period of operation at design capacity;
 - B) the runoff volumes generated during a 180-day period, including all runoff and precipitation from lots, roofs, and other surfaces where precipitation is directed into the storage structure;
 - C) the volume of all wash-down liquid generated during the 180-day period that is directed into the manure storage structure;
 - D) the volume of runoff and precipitation directed to the storage structure during a 25-year, 24-hour storm event;

- E) the design volatile solids loading volume, if applicable;
 - F) the sludge accumulation volume, if applicable; and
 - G) a freeboard of 2 feet, except for structures with a cover or otherwise protected from precipitation.
- 2) The storage volume requirements in this subsection (l) do not apply to pump stations, settling tanks, pumps, piping, or other components of the CAFO production area that temporarily hold or transport waste to a storage facility meeting this subsection (l).

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.615 Nutrient Transport Potential

- a) Field Assessment. An individual field assessment of the potential for nitrogen and phosphorus transport from the field to surface waters must be conducted and the results contained in the nutrient management plan. The following factors must be identified for each field to determine nitrogen and phosphorus transport potential to the waters of the United States.
- 1) Soil type;
 - 2) Slope;
 - 3) Conservation practices;
 - 4) Soil erodibility or potential for soil erosion;
 - 5) Soil test phosphorus;
 - 6) Tile inlet locations;
 - 7) Distance to surface waters;
 - 8) Proximity to wells;
 - 9) Location of conduits to surface water, including preferential flow paths; and
 - 10) Subsurface drainage tiles.
- b) The applicant must use the field assessment information obtained in subsection (a) to determine the appropriate phosphorus-based or nitrogen-

based application rate for each assessed field. The determination must comply with subsection (c) or (d) and Sections 502.620, 502.625, 502.630, and 502.635.

- c) Nitrogen-based application of livestock waste must comply with the following requirements:
- 1) livestock waste application must comply with the setback requirements in Section 502.645;
 - 2) available soil phosphorus (median Bray P1 or Mehlich 3 using Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200) is equal to or less than 300 pounds per acre;
 - 3) the soil loss calculated using the Revised Universal Soil Loss Equation 2 (RUSLE2) is less than the Erosion Factor T;

BOARD NOTE: Soil loss may be calculated using the Revised Universal Soil Loss Equation 2 (RUSLE 2) software program available at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656. Erosion Factor T for Illinois soils is available from the United States Department of Agriculture, Natural Resources Conservation Service, Illinois Office, 2118 W. Park Court, Champaign IL 61821, (217) 353-6600. The published soil surveys for Illinois are available at <http://www.nrcs.usda.gov>.

- 4) if conduits on the field are less than 400 feet from surface waters, the setback requirements in Section 502.645(b)(2) do not apply. Instead, the following setbacks apply:
 - A) Livestock waste application must be conducted no closer than:
 - i) 150 feet from a tile inlet, agricultural well head, sinkhole, or edge of a ditch that has no vegetative buffer; or
 - ii) 50 feet from a tile inlet, agricultural well head, sinkhole, or edge of a ditch that has a 50-foot vegetative buffer or 50 feet from the center of a grass waterway;

- B) These setbacks do not apply if the CAFO demonstrates to the Agency that a setback or buffer is not necessary because implementing alternative conservation practices (including injection and incorporation) or field-specific conditions will provide pollutant reductions equivalent to or better than the reductions that would be achieved by the 150-foot setback under subsection (c)(4)(A)(i) or the 50-foot setback under subsection (c)(4)(A)(ii);
 - 5) if conduits on the field are more than 400 feet from surface waters, the setback requirements in subsection (c)(4) do not apply;
 - 6) where surface waters are on the assessed field or within 200 feet of the field, the livestock waste applied to the field must be injected or incorporated within 24 hours after the application or equivalent conservation practices must be installed and maintained on the field under USDA-NRCS practice standards; and
 - 7) if nitrogen-based application cannot be conducted under this subsection (c), then phosphorus-based application must be conducted as specified in subsection (d).
- d) Phosphorus-based application of livestock waste must comply with the following requirements:
- 1) livestock waste application must comply with the setback requirements in Section 502.645;
 - 2) the livestock waste application rate must not exceed the annual agronomic nitrogen demand of the next crop grown as provided in Section 502.625(a);
 - 3) if the soil contains greater than 50 pounds of available soil phosphorus per acre (median Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200), phosphorus-based application rates must maintain or lower the soil test phosphorus during the nutrient management plan period;
 - 4) if the soil contains greater than 300 pounds of available soil phosphorus per acre (median Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200), the amount of phosphorus applied in the livestock waste

must not exceed the amount of phosphorus next year's crop grown and harvested removes; and

- 5) livestock waste must not be applied to fields with available soil phosphorus (median Bray P1 or Mehlich 3 in accordance with Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200) greater than 400 pounds per acre.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.620 Protocols to Land Apply Livestock Waste

- a) Livestock wastes must not be applied to the waters of the United States. Livestock waste application must not cause runoff into the waters of the United States during non-precipitation events. Livestock waste application must not occur on land that is saturated at the time of application. Livestock waste must not be applied onto land with ponded water.
- b) Discharge of livestock waste to waters of the United States or off-site during dry weather through subsurface drains is prohibited.
- c) Livestock waste must not be applied during precipitation when runoff of livestock waste will be produced.
- d) Surface land application of livestock waste must not occur within 24 hours preceding a precipitation forecast of 0.5 inches or more in a 24-hour period as measured in liquid form. The CAFO owner or operator must use one of the following two methods for determining whether these conditions exist and must maintain a record of the forecast from the source used.
 - 1) A prediction of a 60 percent or greater chance of 0.5 inches or more of precipitation in a 24-hour period as measured in liquid form, obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the location nearest to the land application area; or

BOARD NOTE: The prediction in subsection (d)(1) may be obtained from the National Weather Service at https://www.wpc.ncep.noaa.gov/pqpf/conus_hpc_pqpf.php

- 2) A prediction of 0.5 inches or more of precipitation in a 24 hour period as measured in liquid form and identified as higher than

Quantitative Precipitation Forecast (QPF) category 3, obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the land application area location.

BOARD NOTE: The prediction in subsection (d)(2) may be obtained from the National Weather Service at <https://www.wpc.ncep.noaa.gov/qpf/qpf2.shtml>

- e) Determination of soil loss must be made for each field using Revised Universal Soil Loss Equation 2 (RUSLE2).

BOARD NOTE: Soil loss may be calculated using the RUSLE2 software program available at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656

- f) Surface land application may be used when the land slope is no greater than 5% or when the yearly average soil loss calculated using RUSLE2 is equal to or less than 5 tons per acre per year or Erosion Factor T, whichever is less, regardless of slope. Injection or incorporation within 24 hours must be used when the land slope is greater than 5% and the yearly average soil loss calculated using RUSLE2 is greater than 5 tons per acre per year or Erosion Factor T, whichever is less. Fields with varying or steep slopes must be divided into separate areas for calculating yearly average soil loss using RUSLE2 to comply with this subsection.

BOARD NOTE: Soil loss may be calculated using the RUSLE2 software program available at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. Additional information on RUSLE2 may be obtained from the United States Department of Agriculture, Agricultural Research Services, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656. Erosion Factor T for Illinois soils is available from the United States Department of Agriculture, Natural Resources Conservation Service, Illinois Office, 2118 W. Park Court, Champaign IL 61821, (217) 353-6600. The published soil surveys for Illinois are available at <http://www.nrcs.usda.gov>.

- g) Land application of livestock waste is prohibited on slopes greater than 15%.

- h) Liquid livestock waste must not be applied to land with less than 36 inches of soil covering fractured bedrock, sand, or gravel. The depth of soil cover may be determined by using NRCS soil surveys, Illinois State Geological Survey well logs, or soil probes.
- i) Livestock waste must not be applied to bedrock outcrops.
- j) Livestock waste must be applied at no greater than 50 percent of the agronomic nitrogen rate determined under Section 502.625 when there is less than 60 inches of unconsolidated material over bedrock. The depth of unconsolidated material may be determined by using NRCS surveys, Illinois State Geological Survey well logs, or soil probes.
- k) Livestock waste must be applied at no greater than 50 percent of the agronomic nitrogen rate determined under Section 502.625 when the minimum soil depth to seasonal high water table is less than or equal to 2 feet. The depth of soil to the seasonal high water table may be determined by using information from NRCS soil surveys, soil probes, and water table levels from Illinois State Geological Survey well log data or well points.
- l) Livestock waste must not be applied at rates that exceed the infiltration rates of the soil.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.625 Determination of Livestock Waste Application Rates

- a) Livestock waste application must not exceed the agronomic nitrogen rate, which is defined as the annual application rate of nitrogen that can be expected to be required for a realistic crop yield goal. Multi-year phosphorus application is allowed when the application is specified in a nutrient management plan and meets the requirements in Section 502.615. Any application must be consistent with nutrient management plan requirements. The agronomic rate must be determined in a manner consistent with this Section and Section 502.615.
- b) Livestock Waste Volumes. The estimate of the annual volume of available livestock waste for application must be obtained by multiplying the number of animals constituting the maximum design capacity of the facility by the appropriate amount of waste the animals generate. For this Section, "maximum design capacity" means the maximum number of animals that can be housed at any time for a minimum of 45 days at a CAFO. The following sources may be used to obtain the amount of waste generated:
 - 1) Livestock Waste Facilities Handbook, Third Edition, Table 2-1,

incorporated by reference at 35 Ill. Adm. Code 501.200(a);

- 2) 35 Ill. Adm. Code 560.Table 1;
 - 3) Manure Characteristics, 2nd ed., 2004 (MWPS-18 Section 1), MidWest Plan Service, incorporated by reference at 35 Ill. Adm. Code 501.200(a); and
 - 4) NRCS Agricultural Waste Management Field Handbook Chapter 4, incorporated by reference at 35 Ill. Adm. Code 501.200(a).
- c) Nutrient Value of Livestock Waste. For new livestock facilities that have not generated livestock waste, the owner or operator must prepare a plan based on an average of the minimum and maximum numbers in the table values derived from Livestock Waste Facilities Handbook, Third Edition, Table 2-1, 10-6, or 10-7, or Manure Characteristics, incorporated by reference at 35 Ill. Adm. Code 501.200, or 35 Ill. Adm. Code 560.Table 1 or Table 2. If "as produced" or "as excreted" nutrient values are used, the nitrogen value must be adjusted, to account for losses due to the type of storage system used, using an average of the ranges in Livestock Waste Facilities Handbook, Third Edition, Table 10-1. Other sources of nutrient values may be used if approved by the Agency. Owners or operators of existing livestock facilities must prepare the plan based on representative sampling and analysis of the livestock waste the CAFOs generate in accordance with Section 502.635(b).
- d) Adjustments to Nitrogen Availability. Adjustments must be made to nitrogen availability to account for the following:
- 1) Nitrogen loss from livestock waste due to method of application, based on an average of the ranges in Livestock Waste Facilities Handbook, Third Edition, Table 10-2; and
 - 2) The first-year mineralization of organic nitrogen into a plant-available form, as obtained from Livestock Waste Facilities Handbook, Third Edition, Table 10-5.
- e) Realistic Crop Yield Goal
- 1) The realistic crop yield goal must be determined for each field where the livestock waste is to be land applied. The realistic crop yield goal must be determined using an average yield over a five-year period from the field where livestock waste is to be land applied. The source of data used to determine the realistic crop yield goal is provided in subsection (e)(2).

- 2) Whenever five years of data are available for the field where livestock waste is to be land applied, proven yields must be used in calculating the realistic crop yield, unless there is an agronomic basis for predicting a different realistic crop yield goal. The owner or operator must indicate the method used to determine the proven yield. Data from years with crop disasters may be discarded.
 - A) If five years of proven yield data are not available for the field where the livestock waste is to be land applied, or if an agronomic basis exists for predicting a different realistic crop yield goal, the owner or operator may calculate the realistic crop yield goal using crop insurance yields or Farm Service Agency USDA yields. If either of these sources is used, a copy of the insurance or assigned crop yields must be included with the nutrient management plan.
 - B) If data is not available on proven yields, crop insurance yields, or Farm Service Agency yields; or if an agronomic basis exists for predicting a different realistic crop yield goal, the owner or operator must use soil-based yield data from the University of Illinois "Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils; Bulletin No. 810" (Bulletin 810) or "Optimum Crop Productivity Ratings for Illinois Soils; Bulletin 811" (Bulletin 811), incorporated by reference at 35 Ill. Adm. Code 501.200, to comply with subsection (e)(1) to calculate the realistic crop yield goal.
 - i) If Bulletin 810 or 811 is used to calculate the realistic crop yield goal, a soil map of the land application areas must be included in the nutrient management plan.
 - ii) If Bulletin 810 or 811 is used, the realistic crop yield goal must be determined by a weighted average of the soil interpretation yield estimates for the fields where livestock waste is to be land applied.
 - iii) If Bulletin 811 is used, the owner or operator must demonstrate in the nutrient management plan that the operational management and field conditions of the facility and land application areas meet the requirements for optimum conditions as provided in Bulletin 811.

- f) Nitrogen Credits
- 1) The CAFO owner or operator must calculate nitrogen credits , under Section 502.505(n)(7), for nitrogen-producing crops grown the previous year, for other sources of nitrogen applied for the growing season, and for mineralized organic nitrogen in livestock waste applied during the previous three years.
 - 2) The CAFO owner or operator must calculate nitrogen credits for the mineralized organic nitrogen in livestock waste applied during the previous three years at the rate of 50%, 25%, and 12.5%, respectively, of that mineralized during the first year.
- g) Phosphorus. The CAFO owner or operator must develop or amend the plan to determine the maximum livestock waste application rate for each field. The plan for that field must contain the following:
- 1) The phosphorus content of the livestock waste must be determined in accordance with subsection (c);
 - 2) The realistic crop yield goal of each crop in the field, obtained under subsection (e)(1);
 - 3) The phosphorus amount needed for each crop in the planned crop rotation, expressed as P₂O₅, obtained from the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200. Determining this phosphorus amount must be based on the realistic crop yield goal for each planned crop and the soil test for available phosphorus (Bray P1 or Mehlich 3 conducted according to the Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200);
 - 4) The phosphorus carryover from previous years' application of phosphorus or livestock waste;
 - 5) Soil test phosphorus results for that field; and
 - 6) The maximum livestock waste application rate, consistent with nitrogen-based or phosphorus-based applications allowed under Section 502.615.
- h) Nitrogen and phosphorus fertilization rates for the realistic crop yield goal may be obtained from the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200, or 35 Ill. Adm. Code 560.Appendix A.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.630 Protocols to Land Apply Livestock Waste During Winter

- a) Winter Application Prohibition. Surface land application of livestock waste on frozen, ice-covered, or snow-covered ground is prohibited except as specified in subsection (a)(1).
 - 1) Despite the winter application prohibition in subsection (a), surface land application of livestock waste on frozen, ice-covered, or snow-covered ground is allowed if all of the following conditions are met:
 - A) No practical alternative measures are available to handle the livestock waste within storage facilities or to dispose of the livestock waste at other sites. Examples of practical alternative measures may include the transfer of waste to another waste handling facility or sewage treatment plant, rental or acquisition of a storage tank, reduction of herd size or depopulation, and protection of the facility from direct precipitation and clean stormwater runoff;
 - B) Liquid livestock waste cannot be injected or incorporated within 24 hours after application due to soil conditions;
 - C) Before December 1, the owner or operator has taken steps to provide 120 days of available capacity for manure storage areas . Examples of steps that could be taken may include land application of livestock waste, transfer of waste to another party, protection of waste storage structures from direct precipitation and stormwater runoff, and depopulating facilities to reduce the amount of waste generated;
 - D) The owner or operator has complied with subsection (a)(1)(C) and yet the storage volume available on December 1 of that winter season is less than 120 days of storage;
 - E) The owner or operator has notified the Agency in writing on December 1 of that winter season that the CAFO has less than 120 days of storage available; and

- F) The discharge of livestock waste from the structure to the surface waters is expected to occur due to a shortage in storage capacity.
- 2) The storage volume calculation in subsection (a)(1)(C) must include runoff and direct precipitation plus the volume of livestock excreta, wash water, and other process wastewater generated and expected to enter the storage structure from December 1 to April 1. Runoff volume calculations must meet the following requirements:

- A) Runoff calculations must be based on the runoff transferred into the storage structure under frozen ground conditions;
- B) Direct precipitation that will reduce the available storage volume must be based on normal precipitation for the December 1 to April 1 period for the nearest weather station and, for facilities exposed to precipitation, the 25-year, 24-hour storm event volume or the design storm event volume determined under Subpart H for swine, poultry, and veal large CAFOs that are new sources. Normal precipitation determinations must be based on National Weather Service or State Water Survey Records;

BOARD NOTE: The following sources may be used to determine normal precipitation:

<http://www.isws.illinois.edu/atmos/statecli/newnormals/newnormals.htm>

or

<https://www.ncei.noaa.gov/products/land-based-station/us-climate-normals>

- C) The owner or operator must keep a record of the precipitation value used and the source from which the value was obtained; and
 - D) Calculations must allow for a freeboard of two feet.
 - 3) If winter land application is necessary, it must be conducted under a winter application plan described in subsection (b) and according to the conditions of subsection (c).
- b) Winter Application Plan

To conduct surface land application on frozen, ice-covered, or snow-covered ground, this subsection (b) must be met.

- 1) No land application may occur within ¼ mile of a non-farm residence.
- 2) No discharge may occur during the land application of livestock waste.
- 3) Surface land application on frozen ground must not occur within 24 hours preceding a precipitation forecast of 0.25 inches or more in a 24-hour period as measured in liquid form. The CAFO owner or operator must use one of the following two methods for determining whether these conditions exist and must maintain a record of the forecast from the source used.

- A) A prediction of a 60 percent or greater chance of 0.25 inches or more of precipitation in a 24-hour period as measured in liquid form, obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch 1325 East West Highway, Silver Spring MD 20910, for the location nearest to the land application area; or

BOARD NOTE: The prediction in subsection (b)(3)(A) may be obtained from the National Weather Service at https://www.wpc.ncep.noaa.gov/pqpf/conus_hpc_pqpf.php.

- B) A precipitation prediction of 0.25 inches or more in a 24-hour period as measured in liquid form and identified as higher than QPF category 2 obtained from the National Weather Service Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910, for the land application area location.

BOARD NOTE: The prediction in subsection (b)(3)(B) may be obtained from the National Weather Service at <https://www.wpc.ncep.noaa.gov/qpf/qpf2.shtml>.

- 4) Surface land application of livestock waste on ice-covered or snow-covered land must not occur within 24 hours preceding a precipitation forecast of 0.1 inches or more in a 24-hour period as measured in liquid form. The CAFO owner or operator must use one of the two methods provided below for determining whether or

not these conditions exist and must maintain a record of the forecast from the source used.

- A) A precipitation prediction of a 60 percent or greater chance of 0.1 inches or more in a 24-hour period as measured in liquid form obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the location nearest to the land application area; or

BOARD NOTE: The prediction in subsection (b)(4)(A) may be obtained from the National Weather Service at https://www.wpc.ncep.noaa.gov/pqpf/conus_hpc_pqpf.php.

- B) A precipitation prediction of 0.1 inches or more in a 24-hour period as measured in liquid form and identified as higher than QPF category 1 obtained from the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the land application area location.

BOARD NOTE: The prediction in subsection (b)(4)(B) may be obtained from the National Weather Service at <https://www.wpc.ncep.noaa.gov/qpf/qpf2.shtml>

- 5) If the land application of livestock waste is on ice-covered or snow-coveredland, surface land application must not occur when the predicted high temperature exceeds 32 degrees F on the day of land application or on any of the 7 days following land application as predicted by the National Weather Service's Meteorological Development Laboratory, Statistical Modeling Branch, 1325 East West Highway, Silver Spring MD 20910 for the location nearest to the land application area. The owner or operator must maintain a record of the forecast from the source used.

BOARD NOTE: The predicted high temperature in subsection (b)(5) may be obtained from the National Weather Service at <https://www.weather.gov>.

- 6) If the surface land application of livestock waste is on ice-covered or snow-coveredland, the CAFO owner or operator must visually monitor for runoff from the site. The CAFO owner or operator daily must monitor each ice-covered or snow-coveredfield where land application has been conducted when the ambient temperature

is 32 degrees F or greater following winter land application until all the ice or snow melts from the land application area.

7) If the surface land application of livestock waste is on ice-covered or snow-covered land and a runoff from the land application area occurs, the CAFO owner or operator must report any discharge of livestock waste within 24 hours after the discovery of the discharge as follows:

- A) The report must be made to the Agency through the Illinois Emergency Management Agency by calling 1-800-782-7860 or 1-217-782-7860;
- B) Within 5 days after this telephone report, the CAFO owner or operator must file a written report with the Agency that includes the name and telephone number of the person filing the report, the discharge location, an estimated quantity of the discharge, the discharge's time and duration, actions taken in response to the discharge, and observations on the discharge's condition with regards to turbidity, color, foaming, floatable solids and other deleterious conditions for each day of the runoff event until the ice or snow melts off the site.

c) Availability of Individual Fields for Winter Application

If livestock waste is to be surface applied on frozen ground, ice-covered land, or snow-covered land, the land application may only be conducted on land that meets the following requirements:

- 1) Adequate erosion and runoff control practices exist including, vegetative fence rows around the site, contour farming, terracing, catchment basins, and buffer areas that intercept surface runoff from the site;
- 2) A crop stubble, crop residue, or vegetative buffer of 200 feet exists between the land application area and surface waters, waterways, open tile line intake structures, sinkholes, agricultural wellheads, or other conduits to surface water and the vegetative buffer zone is down gradient of the livestock waste application area;
- 3) Application on land with slopes greater than 5% is prohibited;
- 4) Application may only occur on sites that have field-specific soil erosion loss calculated using Revised Universal Soil Loss Equation less than Erosion Factor T and have a median Bray P1 or Mehlich

3 soil level of phosphorus, equal to or less than 300 pounds per acre using Recommended Chemical Soil Test Procedures for the North Central Region, incorporated by reference in 35 Ill. Adm. Code 501.200;

BOARD NOTE: Soil loss may be calculated using the Revised Universal Soil Loss Equation 2 (RUSLE2) software program available at

http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm.

Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656. Erosion Factor T for Illinois soils is available from the United States Department of Agriculture, Natural Resources Conservation Service, Illinois Office, 2118 W. Park Court, Champaign IL 61821, (217) 353-6600. The published soil surveys for Illinois are available at <http://www.nrcs.usda.gov>.

- 5) Surface application may only occur if the setbacks equal three times the otherwise applicable setbacks by Sections 502.615 and 502.645 if the slope of the field is between 2 percent and 5 percent. This setback requirement does not include the quarter-mile distance from residences contained in Section 502.645(a); and
- 6) For fields with slopes of less than 2 percent, the surface application may only occur if the setbacks equal two times the otherwise applicable setbacks required by Sections 502.615 and 502.645. This setback requirement does not include the quarter-mile distance from residences contained in Section 502.645(a).

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.635 Manure and Soil Sampling and Analysis

- a) Soil Phosphorus Sampling. Soil samples must be obtained and analyzed from each field of the land application area where applications are planned. Fields where livestock waste is applied must be sampled twice for each field during the permit's term. Soil testing must be conducted as follows:
 - 1) Soil sampling for phosphorus must follow the sampling protocols in Chapter 8 of the Illinois Agronomy Handbook, 24th Edition, incorporated by reference at 35 Ill. Adm. Code 501.200. Laboratory analysis for soil phosphorus (Bray P1 or Mehlich 3) must be in accordance with Recommended Chemical Soil Test

Procedures for the North Central Region, incorporated by reference at 35 Ill. Adm. Code 501.200;

- 2) Soil samples must be at the same time in the cropping cycle and rotation so that results are comparable year to year; and
 - 3) The two required soil samples for each field must be taken at least one year apart.
- b) Manure Sampling
- 1) The CAFO owner or operator must annually obtain a laboratory analysis of the nutrient content representative of the livestock waste to be land applied as provided within the nutrient management plan. Livestock waste must be sampled during the application process. Multiple subsamples must be obtained and combined into one sample so that a representative sample is obtained for analysis. Results of a sample taken during waste application the previous year can be used for plan preparation unless there has been a change in the waste management practices during the year. The analytical results of livestock waste samples must be used for calculating the application rate the NPDES permit allows.
 - 2) The laboratory analysis of the livestock waste sample must include total Kjeldahl nitrogen, ammonia or ammonium nitrogen, total phosphorus, total potassium, and percent total solids. The nutrient results must be reported on the laboratory analysis sheet on a lb/ton or mg/kg dry weight basis or lb/1000 gal or mg/L wet weight basis. The results of these analyses are to be used in determining application rates for livestock waste.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.640 Inspection of Land Application Equipment for Leaks

- a) For all permitted CAFOs that land apply livestock waste, the CAFO owner or operator must periodically inspect equipment used for land application of livestock waste for leaks or problems that result in improper operation.
- b) The CAFO owner or operator must ensure that the land application equipment is properly calibrated on a routine basis for livestock waste application.
- c) Calibration procedures and schedules must be described for all equipment in the CAFO's nutrient management plan.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.645 Land Application Setback Requirements

a) Distance from Residences

Livestock waste must not be land applied within $\frac{1}{4}$ mile of any residence not part of the CAFO unless it is injected or incorporated on the day of application.

b) Setbacks from Waters

- 1) Livestock waste must not be land applied within 200 feet of surface water, unless the water is upgrade or there is adequate diking, which includes, diking that prevents runoff from the land application from entering surface waters that are within 200 feet of the land application area.
 - 2) Livestock waste must not be land applied within 100 feet of downgradient open subsurface drainage intakes, agricultural drainage wells, sinkholes, grassed waterways, or other conduits to surface waters unless a 35-foot vegetative buffer exists between the land application area and the grassed waterways, open subsurface drainage intakes, agricultural drainage wells, sinkholes, or other conduits to surface water.
 - 3) The setback requirements in subsection (b)(2) do not apply if the CAFO demonstrates to the Agency that a setback or buffer is not necessary because implementing alternative conservation practices (including injection and incorporation) or field-specific conditions will provide pollutant reductions equivalent to or better than the reductions that a 100-foot setback would achieve.
- c) Livestock waste must not be applied in a 10-year flood plain unless the injection or incorporation method of application is used.
- d) Livestock waste must not be land applied to waters of the United States, grassed waterways, or other conduits to surface waters.
- e) Livestock waste must not be land applied within 150 feet of potable water supply wells.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024))

SUBPART G: ADDITIONAL LIVESTOCK WASTE DISCHARGE LIMITATIONS

Section 502.710 New Source Performance Standards for Dairy Cows and Cattle Other Than Veal Calves

- a) New Source Performance Standards (NSPS) Applicability

Any CAFO with the capacity to stable or confine 700 or more mature dairy cows, whether milked or dry, or 1,000 or more cattle other than mature dairy cows or veal calves that is a new source must achieve the livestock waste discharge limitations representing the application of NSPS as of the date of permit coverage or within the timelines provided in Section 502.303.
- b) The livestock waste discharge limitations representing NSPS for the CAFO production area for CAFOs subject to this Section are the livestock waste discharge limitations found in Sections 502.605 and 502.610.
- c) The livestock waste discharge limitations representing NSPS for the CAFO land application area are the livestock waste discharge limitations and requirements found in Sections 502.615 through 502.645.
- d) CAFOs subject to this Section must comply with Subpart F as of the date of permit coverage or within the timelines provided in Section 502.303.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.720 Horse and Sheep CAFOs: BPT, BAT, and NSPS

This Section contains the effluent limitations applicable to discharges resulting from the production area at horse and sheep CAFOs. The limitations and requirements of this Section are applicable on the date of permit coverage. CAFOs with the capacity to stable or confine fewer than 10,000 sheep or fewer than 500 horses are exempt from these effluent limitations.

- a) Effluent Limitations Attainable by the Application of the Best Practicable Control Technology Currently Available (BPT) for Horse and Sheep CAFOs
 - 1) Except as provided in subsection (a)(2), any existing point source subject to this Section must have no process wastewater pollutant discharge into the waters of the United States. Achieving no process wastewater discharge to waters of the United States is the effluent limitation representing the application of BPT for horse and sheep CAFOs.

- 2) Process waste pollutants in the overflow may be discharged to waters of the United States whenever rainfall events, either chronic or catastrophic, cause process wastewater to overflow from a facility designed, constructed, and operated to contain all process-generated wastewaters plus the runoff from a 10-year, 24-hour rainfall event for the point source's location .
- b) Effluent Limitations Attainable by the Application of the Best Available Technology Economically Achievable (BAT) for Horse and Sheep CAFOs
 - 1) Except when subsection (b)(2) applies, any existing point source subject to this Section must not discharge process wastewater pollutants into the waters of the United States. Achieving no process wastewater discharge into the waters of the United States is the effluent limitation representing the application of BAT for Horse and Sheep CAFOs.
 - 2) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the point source's location , any process wastewater pollutants in the overflow may be discharged to waters of the United States.
 - c) New Source Performance Standards (NSPS) for Horse and Sheep CAFOs
Except as provided in subsection (b)(2), any new source subject to this Section must have no discharge of process wastewater pollutants into the waters of the United States. Achieving no process wastewater discharge into the waters of the United States is the performance standard representing NSPS for horse and sheep CAFOs.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.730 Duck CAFOs: BPT and NSPS

This Section contains the effluent limitations applicable to discharges resulting from the production areas at dry lot and wet lot duck CAFOs. CAFOs subject to this Section must attain the limitations and requirements of this Section as of the date of permit coverage. CAFOs with the capacity to stable or confine fewer than 5,000 ducks are exempt from these effluent limitations.

- a) Effluent Limitations Attainable by the Application of the Best Practicable Control Technology Currently Available (BPT) for Wet Lot and Dry Lot Duck CAFOs.

Any existing point source subject to this Section must achieve the following effluent limitations representing the degree of effluent reduction attainable by applyingBPT:

- 1) BOD₅ is limited to a maximum daily limit of 3.66 pounds/1,000 ducks or 1.66 kg/1,000 ducks.
 - 2) BOD₅ is limited to a maximum monthly average of 2.0 pounds/1,000 ducks or 0.91 kg/1,000 ducks.
 - 3) Fecal coliform is not to exceed the most probable number (MPN) of 400/100 ml at any time.
- b) New Source Performance Standards for Wet Lot and Dry Lot Duck CAFOs
- 1) Except as provided in subsection (b)(2), any new source subject to this Section must not discharge process wastewater pollutants into the waters of the United States. Achieving no process wastewater discharge into the waters of the United States is the performance standard representing NSPS for duck CAFOs.
 - 2) Whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated, and maintained to contain all process-generated wastewaters plus the runoff from a 25-year, 24-hour rainfall event at the point source's location , any process wastewater pollutants in the overflow may be discharged to waters of the United States.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

SUBPART H: NEW SOURCE PERFORMANCE STANDARDS FOR NEW SWINE, POULTRY AND VEAL LARGE CAFOS

Section 502.800 Applicability

- a) This Subpart applies to all new swine, poultry, and veal CAFOs with the capacity to stable or confine the total amount of specific animals provided for in the definition of large CAFOs in Section 502.103.
- b) This Subpart H is in addition to the livestock waste discharge limitations and technical standards in Subpart F, except Section 502.605.

- c) The limitations and requirements of this Subpart are applicable on the date of NPDES permit coverage or within the timelines provided in Section 502.303.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.810 Production Area Requirements

There must be no discharge of livestock waste pollutants to waters of the United States from the production area unless the CAFO complies with the alternative livestock waste discharge limitations provided in Section 502.830.

(Source: Added at 38 Ill. Reg. 17687, effective August 11, 2014)

Section 502.820 Land Application Area Requirements

For CAFOs subject to this Subpart, the land application areas must attain the same limitations and requirements as specified in Sections 502.615 through 502.645.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.830 Alternative Best Management Practice Livestock Waste Discharge Limitations

- a) Any CAFO subject to this Subpart may request that the Agency establish NPDES permit best management practice (BMP) livestock waste discharge limitations designed to ensure no discharge of livestock waste based upon a site-specific evaluation of the CAFO's open surface livestock storage structure.
- b) The NPDES permit BMPs for livestock waste discharge limitations must address the CAFO's entire production area. In the case of any CAFO using an open surface livestock waste storage structure for which the Agency establishes livestock waste discharge limitations, "no discharge of livestock waste pollutants," as used in this Subpart H, means that the storage structure is designed, operated, and maintained in accordance with BMPs the Agency established on a site-specific basis after a technical evaluation of the storage structure.
- c) The technical evaluation must address the elements listed in Section 502.840.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024)

Section 502.840 Technical Evaluation

All technical evaluations conducted under this Subpart H must address the minimum elements contained in this Section. Waste management and storage facilities designed, constructed, operated, and maintained consistent with the analysis conducted in subsections (a) through (g) and operated in accordance with the additional measures and records required by Section 502.610 will fulfill this Subpart.

- a) Information to be used in the design of the open manure storage structure including:
 - 1) Minimum storage periods for rainy seasons;
 - 2) Additional minimum capacity for chronic rainfalls;
 - 3) Applicable technical standards that prohibit or otherwise limit land application on frozen, saturated, or snow-covered ground found in Section 502.630;
 - 4) Planned emptying and dewatering schedules consistent with the CAFO's nutrient management plan;
 - 5) Additional storage capacity for livestock waste intended to be transferred to another recipient at a later time; and
 - 6) Any other factors that would affect the sizing of the structure.
- b) The design of the open livestock waste storage structure as determined under 40 CFR 412.46(a)(1)(ii), incorporated by reference at 35 Ill. Adm. Code 501.200, or equivalent design software or procedures approved by the Agency.

BOARD NOTE: NRCS Animal Waste Management (AWM) software specified under 40 CFR 412.46(a)(1)(ii) is available at <http://www.nrcs.usda.gov>. Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656.

- c) All inputs used in the open livestock waste storage structure design, including:
 - 1) actual climate data for the previous 30 years, consisting of historical average monthly precipitation and evaporation values;
 - 2) the number and types of animals;
 - 3) anticipated animal sizes or weights;

- 4) any added water and bedding;
 - 5) any other process wastewater; and
 - 6) the size and condition of outside areas exposed to rainfall and contributing runoff to the open livestock waste storage structure.
- d) The planned minimum period of storage in months, including the factors for designing an open livestock waste storage structure described in subsection (a). Alternatively, the CAFO may determine the minimum period of storage by specifying times the storage pond will be emptied consistent with the CAFO's nutrient management plan.
- e) Site-specific predicted design specifications, including:
- 1) dimensions of the storage facility;
 - 2) daily manure and wastewater additions;
 - 3) the size and characteristics of the land application areas; and
 - 4) the total calculated storage period in months.
- f) An evaluation of the adequacy of the designed manure storage structure under 40 CFR 412.46(a)(1)(vi), incorporated by reference at 35 Ill. Adm. Code 501.200.
- 1) The evaluation must include all inputs used in the simulation, including :
 - A) daily precipitation, temperature, and evaporation data for the previous 100 years;
 - B) user-specified soil profiles representative of the CAFO's land application areas;
 - C) planned crop rotations consistent with the CAFO's nutrient management plan; and
 - D) the final modeled result of no overflows from the designed open livestock waste storage structure.
 - 2) For those CAFOs where 100 years of local weather data for the CAFO's location is not available, CAFOs may use a simulation

with a confidence interval analysis conducted over a period of 100 years.

- 3) The adequacy of the designed manure storage structure may be evaluated using equivalent evaluation and simulation procedures the Agency approves.

BOARD NOTE: The Soil Plant Air Water (SPAW) Hydrology Tool specified at 40 CFR 412.46(a)(1)(vi) is available at

<https://hrs1.ba.ars.usda.gov/SPAW/Index.htm>

Additional information may be obtained from the United States Department of Agriculture, Agricultural Research Service, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656.

- g) The Agency may waive the requirement in subsection (f) for a site-specific evaluation of the designed livestock waste storage structure and instead authorize a CAFO to use a technical evaluation developed for a class of specific facilities within a specified geographical area.
- h) The Agency may request additional information to support a request for livestock waste discharge limitations based on a site-specific open surface livestock waste storage structure.

(Source: Amended at 48 Ill. Reg. 3196, effective February 15, 2024))

Section 502.APPENDIX A References to Previous Rules (Repealed)

(Source: Repealed at 48 Ill. Reg. 3196, effective February 15, 2024)