

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

PART 501
GENERAL PROVISIONS

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501.APPENDIX A References to Previous Rules (Repealed)

AUTHORITY: Implementing and authorized by Sections 9, 12, 13, 21, 22, and 27 of the Environmental Protection Act [415 ILCS 5/9, 12, 13, 21, 22, and 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. 10592; amended in R90-7 at 15 Ill. Reg. 10075, effective July 1, 1991; amended in R12-23 at 38 Ill. Reg. 17661, effective August 11, 2014; amended in R18-25 at 48 Ill. Reg. 3170, effective February 15, 2024.

SUBPART A: AUTHORITY AND POLICY

Section 501.101 Authority (Repealed)

(Source: Repealed at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.102 Policy

- a) It is the purpose of the General Assembly in adopting the Environmental Protection Act to restore, maintain, and enhance the purity of the air and waters of Illinois to protect health, welfare, property, and quality of life. An adequate supply of healthy livestock is essential to the well-being of Illinois citizens and the nation. They provide a daily source of meat, milk, and eggs. Their efficient, economic production must be the concern of both producers and consumers if we are to have a continued abundance of high-quality, wholesome food and other livestock products at reasonable prices. The policy must establish regulations that will provide a balance between a wholesome environment and the efficient production of adequate livestock products.

- b) Livestock produce wastes that, when properly used, supply nutrients and organic matter to soils. The mere presence of livestock waste in a given location does not denote pollution, but may, when improperly stored, transported, or disposed of, undesirably affect the environment.
- c) It is determined that the construction, establishment, and operation of specified livestock management facilities and livestock waste-handling facilities without environmental planning and safeguards or the use of specified livestock wastes for agricultural purposes causes, threatens, or allows the discharge of contaminants into the air or waters of Illinois so as to cause or threaten to cause pollution or to render those waters harmful to public health, safety, or welfare, to domestic, commercial, industrial, agricultural, and recreational uses, or to humans, livestock, wild animals, birds, or fish or other aquatic life.
- d) It is determined that the construction, establishment, and operation of livestock management facilities and livestock waste-handling facilities without environmental planning and safeguards or the use of livestock wastes for agricultural purposes causes, threatens, or allows air pollution, *The discharge of contaminants into the air of Illinois in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.* [415 ILCS 5/3.115] It is recognized that the presence of odor is an inherent characteristic of livestock management facilities and livestock waste-handling facilities, and that the detection of that odor is not per se air pollution.
- e) It is the purpose of this Chapter to prevent pollution of the air and waters of Illinois caused by failure to plan regarding proper environmental safeguards for the construction, location, and operation of specified livestock management facilities and livestock waste-handling facilities. A permit system is established to ensure that those activities take account of environmental considerations and to meet the requirements for federal approval, as established by the CWA. It is also the purpose of these regulations to prevent pollution from the numerous point and non-point discharges, both continuous and fluctuating, which are present in specified livestock management facilities or livestock waste-handling facilities. To this end, procedural safeguards are required, in addition to compliance with the CWA, NPDES filing requirements, and the feedlot category of point source effluent guidelines.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.103 Organization of this Chapter

The Board regulations adopted in 35 Illinois Administrative Code Subtitle E: Agriculture Related Pollution, Chapter I: Pollution Control Board are organized as provided in this Section.

- a) Part 501 of this Chapter contains definitions and incorporations by reference applicable to Parts 501, 502 and 503, which are the Parts of this Chapter administered by the Environmental Protection Agency. Subpart C of Part 501 also contains the requirements applicable to all livestock waste-handling facilities and livestock management facilities, whether or not those facilities are defined as Animal Feeding Operations (AFOs) or Concentrated Animal Feeding Operations (CAFOs) and without regard to whether the facility is subject to National Pollutant Discharge Elimination System (NPDES) permitting requirements.
- b) Part 502 identifies which AFOs are subject to NPDES permit requirements and specifies those requirements. Part 502 also provides the State technical standards applicable to permitted CAFOs. That Part also contains requirements applicable to land application activities from AFOs that are defined as large CAFOs and are not permitted under an NPDES permit.
- c) Part 503 contains the requirements applicable to fish and aquatic animal production facilities, irrigation activities, and silvicultural activities and sources.
- d) Part 506 implements the Livestock Management Facilities Act [510 ILCS 77]. Those rules and the Livestock Management Facilities Act are administered by the Illinois Department of Agriculture.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.104 Severability

If any provision of this Part is adjudged invalid, or if the application of this Part to any person or in any circumstance is adjudged invalid, that invalidity will not affect the validity of this Chapter as a whole, or of any Part, Subpart, sentence or clause not adjudged invalid.

(Source: Amended at 48 Ill. Reg. 3170, effective February 15, 2024)

SUBPART B: DEFINITIONS AND INCORPORATIONS

Section 501.200 Incorporations by Reference

- a) The Board incorporates the following material by reference:

ASABE. American Society of Agricultural and Biological Engineers, 2950 Niles Road, St. Joseph, MI 49085 (269-429-0300), fax 269-429-3852, hq@asabe.org

"Management of Manure Odors", ASABE, EP379.4 (January 2007).

"Design of Anaerobic Lagoons for Animal Waste Management," ASABE, EP403.4 (R2011)

"Illinois Agronomy Handbook, 24th Edition", University of Illinois, College of Agriculture, Consumer and Environmental Sciences. Urbana, IL, July 2009. Available from University of Illinois, Office of Extension and Outreach, 111 Mumford Hall (MC-710), 1301 W. Gregory Dr., Urbana, IL 61801 (217) 333-5900.

MWPS. Available from MidWest Plan Service, 122 Davidson Hall, Iowa State University, Ames, IA 50011-3080 (515) 294-4337.

"Livestock Waste Facilities Handbook, Third Edition," MWPS-18. MidWest Plan Service. April 1993.

"Manure Characteristics", Section 1. Second Edition MWPS-18-S1. MidWest Plan Service. 2004.

"Recommended Chemical Soil Test Procedures for the North Central Region", North Central Regional Publication No. 221, Missouri Agricultural Experiment Station Bulletin SB 1001 (January 1998). Available from North Central Region-University of Missouri Soil Testing Lab, 23 Mumford Hall, University of Missouri, Columbia, MO 65211 (573) 884-4288.

"Average Crop, Pasture, and Forestry Productivity Ratings for Illinois Soils; Bulletin No. 810", University of Illinois, College of Agricultural, Consumer and Environmental Sciences, Office of Research (2000), revised January 15, 2011 to amend Table 2 for B810. Available from University of Illinois, College of Agricultural, Consumer, and Environmental Sciences, Office of Research, 228 Mumford Hall, 1301 W. Gregory Dr., Urbana IL 61801 (217) 333-0240.

"Optimum Crop Productivity Ratings for Illinois Soils; Bulletin 811", University of Illinois, College of Agricultural, Consumer and Environmental Sciences, Office of Research (2000), revised January 15, 2011 to amend Table S2 for B811. Available from University of Illinois, College of Agricultural, Consumer, and Environmental Sciences, Office of

Research, 228 Mumford Hall, 1301 W. Gregory Dr., Urbana IL 61801
(217) 333-0240.

"NOAA Atlas 14: Precipitation Frequency Atlas of the United States",
United States Department of Commerce, National Oceanic and
Atmospheric Administration, National Weather Service, Volume 2,
Version 3.0 (2004), revised 2006. Available from NOAA, NWS, Office
of Hydrologic Development, 1325 East West Highway, Silver Spring MD
20910 (Available online at
https://www.weather.gov/media/owp/oh/hdsc/docs/Atlas14_Volume2.pdf.

Code of Federal Regulations. Available from the Superintendent of
Documents, U.S. Government Printing Office, Washington, DC 20401
(202) 783-3238:

40 CFR 412.46(a)(1)(ii) (2008), New Source Performance
Standards (NSPS).

40 CFR 412.46(a)(1)(vi) (2008), New Source Performance
Standards (NSPS).

"Agricultural Waste Management Field Handbook", United States
Department of Agriculture, Natural Resources Conservation Service
(2009). Available from USDA, NRCS, 1400 Independence Ave., S.W.,
Washington, DC 20250. (Available online at
<http://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21430>).

- b) This Section incorporates no later editions or amendments.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.201 Definitions

- a) Except as otherwise stated in this Part, and unless a different meaning of the term is clear from its context, the definitions of terms used in this Chapter are the same as those used in the Act and 35 Ill. Adm. Code: Subtitle C, Chapter I.
- b) The definitions contained in this Subpart apply to 35 Ill. Adm. Code 501, 502, and 503.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.205 Act

The Illinois Environmental Protection Act.

Section 501.210 Administrator

The Administrator of the United States Environmental Protection Agency or his designee.

Section 501.215 Air Pollution

The presence in the atmosphere of one or more contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

Section 501.220 Agency

The Illinois Environmental Protection Agency.

Section 501.223 Animal Confinement Area

Animal confinement area includes open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.225 Animal Feeding Operation

- a) A lot or facility (other than an aquatic animal production facility) where the following conditions are met:
 - 1) Animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
 - 2) Crops, vegetation, forage growth, or post-harvest residues that are grown in place are not sustained in the normal growing season over any portion of the lot or facility.
- b) Two or more animal feeding operations under common ownership are considered to be a single animal feeding operation if they are adjacent to each other or if they use a common area or system to dispose of wastes.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.230 Animal Unit

A unit of measurement for any animal feeding operation calculated by adding the following animal numbers:

- a) Brood cows and slaughter and feeder cattle multiplied by 1.0
- b) Milking dairy cows multiplied by 1.4
- c) Young dairy stock multiplied by 0.6
- d) Swine weighing over 55 pounds multiplied by 0.4
- e) Swine weighing under 55 pounds multiplied by 0.03
- f) Sheep, lambs or goats multiplied by 0.1
- g) Horses multiplied by 2.0
- h) Turkeys multiplied by 0.02
- i) Laying hens or broilers multiplied by 0.01 (if the facility has continuous overflow watering)
- j) Laying hens or broilers multiplied by 0.03 (if the facility has a liquid manure handling system)
- k) Ducks multiplied by 0.02

(Source: Added at 2 Ill. Reg. 44, p. 137, effective October 30, 1978)

Section 501.235 Board

The Illinois Pollution Control Board.

Section 501.236 Chemicals and Other Contaminants

Antibiotics, hormones, feed additives, pesticides, hazardous and toxic chemicals, petroleum products and by-products, other chemical products and by-products, and the residues and containers of any of these materials.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.238 Concentrated Animal Feeding Operation (CAFO)

Any livestock management facility and livestock waste-handling facility, the construction or modification which started before the effective date of this Chapter.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.240 Construction

Start of on-site fabrication, erection, or installation.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.241 CWA

The Clean Water Act, as amended (33 USC 1251 et seq.).

(Source: Amended at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.242 Dry lot

A facility for growing ducks in confinement with a dry litter floor cover and no access to swimming areas.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.244 Erosion Factor T

An estimate of the maximum average annual rate, in tons per acre per year, of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period.

BOARD NOTE: 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>.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.245 Existing Livestock Management Facility and Livestock Waste-Handling Facility

Any livestock management facility and livestock waste-handling facility, the construction or modification which started before the effective date of this Chapter.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.246 Expansion

Start of construction at a livestock management facility or livestock waste-handling facility where the fixed capital cost of the new components constructed within a 2-year period exceeds 50% of a comparable entirely new facility's fixed capital cost.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.248 Farm Residence

Any residence on a farm owned or occupied by the farm owners, operators, tenants, or seasonal or year-round hired workers. For this definition, a "farm" is the land, buildings, and machinery used in the commercial production of farm products, and "farm products" are those plants and animals and their products that are produced or raised for commercial purposes and include forages and sod crops, grains and feed crops, dairy and dairy products, poultry and poultry products, livestock, fruits, vegetables, flowers, seeds, grasses, trees, fish, honey and other similar products, or any other plant, animal, or plant or animal product which supplies people with food, feed, fiber, or fur.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.250 Feedlot Runoff

Polluted liquid flowing from any animal feeding operation caused by precipitation or other water sources falling on or flowing onto an animal feeding operation.

(Source: Amended at 2 Ill. Reg. 44, p. 137, effective October 30, 1978)

Section 501.252 Frozen Ground

Soil that is frozen anywhere between the first ½ inch to 8 inches of soil as measured from the ground surface.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.253 Grassed Waterway

A natural or constructed waterway or outlet shaped or graded and established in suitable vegetation as needed for the conveyance of runoff from a field, diversion or other structure.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.254 Groundwater

Underground water which occurs within the saturated zone and geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure [415 ILCS 5/3.210].

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.255 Holding Pond

Any excavated, diked or walled structure or combination of structures designed for the interception and temporary storage of feedlot runoff.

Section 501.260 Impermeable

Not permitting significant passage of fluids under the usual pressure differences found in constructed livestock waste-handling facilities.

Section 501.261 Incorporation

A method of land application of livestock waste in which the livestock waste is thoroughly mixed or completely covered with the soil within 24 hours. Any ponded liquid livestock waste remaining on the site after application is not considered to be thoroughly mixed or completely covered with the soil.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.263 Injection

The placement of livestock waste 4 to 12 inches below the soil surface in the crop root zone using equipment specifically designed for that purpose, when the applied material is retained by the soil.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.265 Lagoon

Any excavated, diked or walled structure or combination of structures designed for biological stabilization and storage of livestock wastes.

Section 501.267 Land Application Area

Land under the control of an Animal Feeding Operation owner or operator, whether it is owned, rented or leased, to which livestock waste from the production area is or may be applied.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.270 Leachate

Waters containing materials removed from livestock waste.

Section 501.274 Liquid Livestock Waste

Livestock waste which can be spread with a conventional liquid manure spreader. This includes pit manures, lagoon manures, holding pond or tank manures, and any other livestock waste consisting of less than 20% solids concentration.

(Source: Added at 15 Ill. Reg. 10075, effective July 1, 1991)

Section 501.275 Liquid Manure-Holding Tank

Any fabricated structure, with or without a cover, either formed in place or transported to the site, used for containing liquid livestock wastes.

Section 501.280 Livestock

Farm animals kept or raised for food, profit, use or pleasure to include the species fowl, ovine, caprine, bovine, porcine, equine and other commercially produced animals and operations such as mink, rabbit, etc.

Section 501.285 Livestock Management Facility

Any animal feeding operation, livestock shelter or on-farm milking and accompanying milk-handling area.

(Source: Amended at 2 Ill. Reg. 44, p. 137, effective October 30, 1978)

Section 501.290 Livestock Shelter

Any covered structure, including livestock houses or barns, in which livestock are enclosed at any time.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.295 Livestock Waste

Manure, litter, process wastewater, overflow from watering systems, wash waters, sprinkling waters from livestock cooling, precipitation polluted by falling on or flowing onto an Animal Feeding Operation, and other materials polluted by livestock, including soils and sludges removed from livestock waste storage structures. Livestock waste does not include agricultural stormwater discharge.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.300 Livestock Waste-Handling Facility

Individually or collectively those constructions or devices, except sewers, used for collecting, pumping, treating, or disposing of livestock waste or for the recovery of by-products from livestock waste. The facility includes acceptable disposal areas, such as pasture or other suitable agricultural land, which can serve as an adequate filtering device to settle out and assimilate pollutants from livestock waste before the clarified water reaches a stream or other body of surface water or groundwater.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.305 Man-made

Constructed by man.

(Source: Amended at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.310 Man-made Ditch

A discrete fissure or channel excavated in the earth.

(Source: Amended at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.312 Manure

Animal excreta, bedding, compost and raw materials or other materials commingled with manure or set aside for disposal.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.313 Manure Storage Area

Includes lagoons, runoff ponds, storage sheds, stockpiles, under-the-house or pit storages, liquid impoundments, static piles, and composting piles.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.315 Manure Storage Structure

Any permanent area or structure which is impermeable and is used for stacking, storing or containment of livestock waste.

Section 501.317 Maximum Feasible Location

Any location establishing a new livestock management facility or new livestock waste-handling facility where one of the following conditions exists:

- a) The site is located closer to the livestock owner's or operator's residence than to a neighboring farm or non-farm residence or populated area; or
- b) The site is adjacent to an existing livestock management facility or livestock waste-handling facility, or is farther away from a neighboring farm or non-farm residence or populated area than the existing livestock management facility or livestock waste-handling facility, when the livestock owner or operator does not reside on the farm where the livestock are to be kept or raised; or
- c) The site is accessible to roads, water, and electricity and is at the farthest location from a neighboring farm or non-farm residence or populated area; there is no existing livestock management facility or livestock waste-handling facility on the site, and the livestock owner or operator does not reside on the farm where the livestock are to be kept or raised.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.320 Modification

The physical change in or alteration in the method of operation of any livestock management facility or livestock waste-handling facility that increases the livestock waste amount over the level authorized by the NPDES permit.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.325 Navigable Waters (Repealed)

(Source: Repealed at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.330 New Livestock Management Facility and New Livestock Waste-Handling Facility

Any livestock management facility or livestock waste-handling facility the construction or modification of which is started after December 31, 1977.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.333 New Source

Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which started after either of the following dates:

- a) after the promulgation of standards of performance under Section 306 of the Clean Water Act that apply to the source; or

- b) after the proposal of standards of performance in compliance with Section 306 of the Clean Water Act that apply to the source, but only if the standards are promulgated in compliance with Section 306 within 120 days after their proposal.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.335 NPDES

The National Pollutant Discharge Elimination System for issuing, establishing conditions for, and denying permits under Section 402 of the CWA. All terms used regarding NPDES that have been defined in the CWA or regulations adopted under the CWA have the meanings specified in the CWA or those regulations, unless specifically noted otherwise.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.340 NPDES Permit

A permit issued under the NPDES.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.342 Non-farm Residence

Any residence which is not a farm residence.

(Source: Added at 15 Ill. Reg. 10075, effective July 1, 1991)

Section 501.343 Overflow

The discharge of livestock waste resulting from the filling of livestock waste storage structures beyond the point at which livestock waste or stormwater can no longer be contained by the structure.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.345 Owner / Operator

Any person who owns, leases, operates, controls or supervises a livestock management facility or livestock waste-handling facility.

(Source: Amended at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.350 Person

Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, state agency or any other legal entity, or their legal representative, agent or assigns.

Section 501.355 Pollutant

Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal and agricultural waste discharged into water, as defined in CWA.

(Source: Amended at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.356 Populated Area

Any area where at least ten (10) inhabited non-farm residences or at least fifty (50) persons frequenting a common place of assembly or a non-farm business at least once per week.

(Source: Added at 15 Ill. Reg. 10075, effective July 1, 1991)

Section 501.357 Process Wastewater

Water directly or indirectly used in the operation of the Animal Feeding Operation for any of the following activities: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other Animal Feeding Operation facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. It also includes any water that comes into contact with any raw materials, products, or byproducts, including manure, litter, feed, milk, eggs or bedding.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.358 Production Area

The part of an Animal Feeding Operation that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.359 Raw Materials Storage Area

Includes feed silos, silage bunkers, and bedding materials stacks.

(Source: Amended at 48 Ill. Reg. 3170, effective February 15, 2024)

Section 501.360 Revised Universal Soil Loss Equation Version 2 (RUSLE2)

- a) The equation for calculating soil loss due to erosion is as follows:

$$a_i = r_i k_i l_i S c_i p_i$$

Where:

a_i = long-term average soil loss for the i th day;

r_i = erosivity factor;

k_i = soil erodibility factor;

l_i = soil length factor;

S = soil steepness factor;

c_i = cover management factor; and

p_i = supporting practices factor,

all on the i th day, except for soil steepness factor (S).

- b) The average annual soil loss is computed as follows:

$$A = \left[\sum_{i=1}^{365m} a_i \right] / m$$

Where:

A = average annual soil loss.

$365m$ = number of days per year.

m = number of years in the analysis period. The value for m is 1 for continuous vegetation on range, pasture, and other lands, where conditions are the same year after year, while m = the number of years of cropping management rotations on cropland and the number of years following a disturbance such as construction, logging, grading of a reclaimed surface mine, or closing of a land fill where conditions are changing year to year.

BOARD NOTE: Soil loss may be calculated using 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 Services, 1400 Independence Avenue, S.W., Washington DC 20250, (202) 720-3656.

(Source: Amended at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.361 Saturated

Soils in which pore spaces are occupied by liquid to the extent that additional inputs of water or liquid wastes cannot infiltrate into the soil.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.363 Setbacks

A specified distance from surface waters or potential conduits to surface waters where livestock waste may not be land applied. Examples of conduits to surface waters include open tile intake structures, sinkholes, and agriculture well heads.

(Source: Amended at 48 Ill. Reg. 3170, effective February 15, 2024)

Section 501.365 Silvicultural Point Source

Any discernible, confined and discrete conveyance related to rock crushing, gravel washing, log sorting or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into navigable waters.

(Source: Added at 2 Ill. Reg. 44, p. 137, effective October 30, 1978)

Section 501.370 Standard of Performance

A standard for the control of the discharge of pollutants reflecting the greatest degree of effluent reduction that the Administrator determines to be achievable through applying the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants, as defined in Section 306 of CWA.

(Source: Amended at 48 Ill. Reg. 3170, effective February 15, 2024)

Section 501.372 Supernatant

The liquid portion of the livestock waste that overlies deposited or settled solids that are stored in a tank or lagoon.

(Source: Added at 15 Ill. Reg. 10075, effective July 1, 1991)

Section 501.373 Surface Land Application

Application of livestock waste to the ground surface that is not incorporated or injected.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.375 Temporary Manure Stack

Any mound or stack resulting from the emergency or seasonal piling of livestock wastes.

Section 501.377 Vegetative Buffer

A narrow, permanent strip of dense perennial vegetation established parallel to the land contours and perpendicular to the field's dominant slope for slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching surface waters.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.378 Vegetative Fence Row

Narrow, permanent strip of perennial vegetation established at the edge of a field that is a minimum of 15 feet wide. The vegetative fence row slows water runoff and enhances water infiltration, reducing the risk of pollutants leaving the field.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.379 Waste Containment Area

Includes settling basins; and areas within berms and diversions that separate uncontaminated stormwater from livestock waste.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.380 Water Pollution

The alteration of the physical, thermal, chemical, biological, or radioactive properties of any waters of the State, or the discharge of any contaminant into any waters of the State, as will or is likely to create a nuisance or render those waters harmful or detrimental or injurious to public health, safety, or welfare, to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to humans, livestock, wild animals, birds, or fish or other aquatic life.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.385 Wet Lot

A confinement facility for raising ducks that is open to the environment, has a small number of sheltered areas, and has open water runs and swimming areas to which ducks have free access.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.390 25-Year, 24-Hour Precipitation Event

The maximum 24-hour precipitation event with a probable recurrence interval of once in 25 years, as defined by NOAA Atlas 14; Precipitation Frequency Atlas of the United States, incorporated by reference in Section 501.200.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

Section 501.395 100-Year, 24-Hour Precipitation Event

The maximum 24-hour precipitation event with a probable recurrence interval of once in 100 years, as defined by NOAA Atlas 14; Precipitation Frequency Atlas of the United States, incorporated by reference in Section 501.200.

(Source: Added at 38 Ill. Reg. 17661, effective August 11, 2014)

SUBPART C: OPERATIONAL RULES

Section 501.401 Purpose and Scope of Operational Rules for Livestock Management Facilities and Livestock Waste-Handling Facilities

- a) Besides the regulations contained within this Chapter, every person must also comply with the Act and other Board regulations.
- b) The owner or operator of any livestock management facility or livestock waste-handling facility must comply with the CWA, NPDES filing requirements, and the feedlot category of point source effluent guidelines. All livestock management facilities and livestock waste-handling facilities must determine whether the facility is subject to NPDES permit requirements and follow those requirements when and where they apply. CAFOs are subject to additional requirements applicable under 35 Ill. Adm. Code 502.
- c) This Subpart applies to stockyards and similar operations where animals are held briefly, as well as to conventional livestock operations.

- d) The transportation of livestock wastes must be planned and conducted so as not to cause, threaten, or allow any violation of the Act and applicable regulations.
- e) Any runoff or overflow from a livestock management facility or a livestock waste handling facility must not cause a water quality violation under the Act or 35 Ill. Adm. Code Subtitle C: Water Pollution.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.402 Location of New Livestock Management Facilities and New Livestock Waste-Handling Facilities

- a) A new livestock management facility or new livestock waste-handling facility must not contain within its boundaries any stream or other surface waters except small temporary accumulations of water occurring as a direct result of precipitation.
- b) New livestock management facilities and new livestock waste-handling facilities located within a 10-year flood height as recorded by the United States Geological Survey or as officially estimated by the Illinois State Water Survey must be protected against that flood.
- c) Limitations Effective July 15, 1991
 - 1) Upon July 15, 1991, new or expanded livestock management facilities and new or expanded livestock waste-handling facilities must not be located within ½ mile of a populated area or ¼ mile of a non-farm residence.
 - 2) For subsection (c), the following are not considered locating a new or expanded livestock management or waste-handling facility:
 - A) Starting operations at an idle facility that has livestock shelters left intact and that has been operated as a livestock management facility or livestock waste-handling facility for four consecutive months at any time within the 10 previous years;
 - B) Starting operations at a facility reconstructed after partial or total destruction due to natural causes, i.e., tornado, fire, or earthquake.
 - 3) Adequate odor control methods and technology must be practiced by operators of new and existing livestock management facilities and livestock waste-handling facilities so as not to cause air pollution.

- d) The setback requirements of subsection (c) do not apply to any livestock management facility or livestock waste-handling facility that meets any of the following conditions:
 - 1) The facility is located in an agricultural area, so designated under the Agricultural Areas Conservation and Protection Act, [505 ILCS 5];
 - 2) The facility undergoes expansion, and the facility owner certifies and notifies the Agency in writing that the facility was operating as a livestock management facility or livestock waste-handling facility for at least one year before the existence of any non-farm residence within $\frac{1}{4}$ mile of the facility or of a populated area within $\frac{1}{2}$ mile of the facility; or
 - 3) The use of the facility as a livestock management or livestock waste handling facility is allowed by local zoning or municipal ordinance. If no local zoning or municipal ordinance exists that covers that use, the facility is exempt if the livestock are not raised or kept at the facility primarily for hire or the raising or keeping of livestock at the facility does not have financial profit as a primary aim.
- e) A new livestock management facility or new livestock waste-handling facility that locates within $\frac{1}{4}$ mile of a neighboring farm residence must locate at the maximum feasible location from that residence.
- f) A new livestock management facility or new livestock waste-handling facility that locates within $\frac{1}{4}$ mile of a non-farm residence or $\frac{1}{2}$ mile of a populated area, as allowed by subsection (d), must locate at the maximum feasible location from the residence or populated area.
- g) New livestock management facilities or new livestock waste-handling facilities located on soil types or geological formations where the deposition of livestock waste is likely to cause groundwater pollution must be constructed in such a way that pollution will be prevented, or supplementary measures must be adopted that will prevent pollution.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.403 Protection of Livestock Management Facilities and Livestock Waste-Handling Facilities

- a) Existing livestock management facilities and livestock waste-handling facilities must have adequate diversion dikes, walls, or curbs that will

prevent excessive outside surface waters from flowing through the animal feeding operation and will direct runoff to an appropriate disposal, holding, or storage area. The diversions are required on all these structures unless there is negligible outside surface water that can flow through the facility or the runoff is tributary to an acceptable disposal area or a livestock waste-handling facility. If inadequate diversions cause or threaten to cause a violation of the Act or applicable regulations, the Agency may require corrective measures.

- b) New livestock management facilities and livestock waste-handling facilities must have adequate diversions, dikes, walls, or curbs that will prevent excessive outside surface runoff waters from flowing through the animal feeding operation and will direct runoff to an appropriate disposal, holding, or storage area. The diversions are required on all these structures unless there is negligible outside surface water that can flow through the facility or the runoff is tributary to an acceptable disposal area or a livestock waste-handling facility. A holding pond must be capable of storing a volume equal to or exceeding the animal feeding operation's area, plus any tributary area that is not part of the animal feeding operation (including roof area if tributary to the facility), multiplied by 12 inches for runoff from earthen areas or 15 inches for runoff from concrete areas unless the operator has justifiable reasons substantiating that a lesser storage volume is adequate. If inadequate storage volumes cause or threaten to cause a violation of the Act or applicable regulations, the Agency may require corrective measures. The storage volume of the containment facility must never be less than the 25-year 24-hour storm effluent guidelines as required by the new source performance standards of the U.S. Environmental Protection Agency in 40 C.F.R 412.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.404 Handling and Storage of Livestock Waste

- a) Any livestock waste stored for more than six months must be contained in a manure storage structure.
- b) Temporary Manure Stacks
 - 1) A temporary manure stack is a potential secondary source, as defined by the Act. As a potential secondary source, a temporary manure stack is subject to the minimum setback zones established in Title IV of the Act.
 - 2) A temporary manure stack must not be located within 75 feet of any water well, except monitoring wells.

- 3) A temporary manure stack must be constructed or established and maintained in a manner to prevent runoff and leachate from entering surface waters or groundwaters. A cover and pad or other control must be provided to prevent runoff and leachate from entering surface waters and groundwater.

c) Livestock Waste-Holding Facilities

- 1) Liquid manure-holding tanks must be impermeable and capable of withstanding pressures and loadings to which those tanks may be subjected.
- 2) Holding ponds and lagoons must be impermeable or so sealed as to prevent groundwater or surface water pollution.
- 3) For livestock management facilities and livestock waste-handling facilities that are not required to obtain an NPDES permit, the contents of livestock waste-handling facilities must be kept at levels such that there is adequate storage capacity so that an overflow does not occur except in the case of precipitation exceeding a 25-year 24-hour storm.

4) Liquid Livestock Waste

- A) Existing livestock management facilities that handle the waste in a liquid form must have adequate storage capacity in a liquid manure-holding tank, lagoon, holding pond, or any combination so as not to cause air or water pollution as defined in the Act or applicable regulations. If inadequate storage time causes or threatens to cause a violation of the Act or applicable regulations, the Agency may require that additional storage time be provided. In those cases, interim pollution prevention measures may be required by the Agency.
- B) New livestock waste-handling facilities that handle the waste in a liquid form must provide a minimum of 120-day storage with a liquid manure-holding tank, lagoon, holding pond, or any combination unless the operator has justifiable reasons substantiating that a lesser storage volume is adequate. If inadequate storage volumes cause or threaten to cause a violation of the Act or applicable regulations, the Agency may require corrective measures.

d) Runoff Field Application Systems

Any livestock management facility not meeting the definition of a CAFO in Section 501.238 may construct and operate a runoff field application system for treating livestock waste from fewer than 300 animal units, complying with 35 Ill. Adm. Code 570, in lieu of utilizing liquid manure-holding tanks, holding ponds, or lagoons in compliance with subsection (c); or other livestock waste-handling systems that would assure compliance with the Act and this Subtitle E.

- e) Subsections (a) through (d) do not apply to livestock management facilities with fifty (50) or fewer animal units if the following conditions exist:
 - 1) The facility's location relative to the waters of the State is such that there is no discharge of livestock waste into the waters of the State, in violation of Section 12 of the Act;
 - 2) There is no discharge of livestock waste into the waters of the State through a human-made ditch, flushing system, or similar human-made device, in violation of Section 12 of the Act; and
 - 3) The facility is managed so that livestock waste is not allowed to accumulate to an extent that threatens to cause a discharge into the waters of the State, in violation of Section 12 of the Act.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.405 Field Application of Livestock Waste

- a) For livestock management facilities and livestock waste handling facilities that are not required to obtain an NPDES permit, the quantity of livestock waste applied on soils must not exceed a practical limit as determined by soil type, especially its permeability, the soil condition (frozen or unfrozen), the percent slope of the land, cover mulch, proximity to surface waters and likelihood of reaching groundwater, and other relevant considerations. These livestock waste application guidelines will be adopted under 35 Ill. Adm. Code 502.305, unless otherwise provided for by Board regulations. Facilities required to obtain an NPDES permit are subject to the requirements in 35 Ill. Adm. Code 502. Subpart F. Unpermitted Large CAFOs claiming an agricultural stormwater exemption must comply with 35 Ill. Adm. Code 502.102 and the practices listed in Section 502.510(b) to qualify for the exemption.
- b) Operators of livestock waste handling facilities must practice odor control methods during manure removal and field application so as not to affect a neighboring farm or non-farm residence or populated area by causing air

pollution as described in Section 501.102(d). Odor control methods include:

- 1) Soil injection or other methods of incorporation of waste into the soil including disking or plowing;
- 2) Consideration of climatic conditions, including wind direction and inversions;
- 3) For liquid livestock waste: whether supernatant used for irrigation purposes has been stored in a livestock waste lagoon system that complies with "Design of Anaerobic Lagoons for Animal Waste Management", as incorporated by reference at Section 501.200.
- 4) Other methods as described in "Management of Manure Odor", as incorporated by reference at Section 501.200.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.406 Inspections and Disease Prevention

- a) The Agency has the authority to enter at all reasonable times upon any private or public property for inspecting and investigating to ascertain possible violations of the Act or regulations, in compliance with constitutional limitations, except that a representative of the Agency must not enter a livestock management facility or livestock waste-handling facility unless sanitized footwear and sanitized outer garments provided by the Agency are used (unless waived by the farm owner or operator) and any other reasonable disease prevention procedures or equipment, as provided by the facility owner or operator, are used.
- b) The activities of inspecting and investigating include:
 - 1) Having access to and the right to copy any records required to be kept under the terms of the permit; and
 - 2) Having access to, sampling, and monitoring any discharge of pollutants to ground and surface waters.

(Source: Amended at 48 Ill. Reg.3170, effective February 15, 2024)

Section 501.APPENDIX A References to Previous Rules (Repealed)

(Source: Repealed at 48 Ill. Reg.3170, effective February 15, 2024)