**Section 506.304 General Design and Construction Standards**

a) Livestock waste handling facilities must be designed and constructed according to the following requirements:

1) Storage and transport surfaces, other than those constructed of concrete, intended to come into contact with livestock waste must be constructed or installed to achieve a hydraulic conductivity equal to or less than 1 x 10-7 centimeters per second.

2) Storage and transport surfaces constructed of concrete and intended to come into contact with livestock waste must be constructed or installed to achieve a hydraulic conductivity equal to or less than 1 x 10-6 centimeters per second.

3) Despite subsection (a)(1), storage and transport surfaces constructed at enclosed livestock waste handling facilities intended to house poultry that come into contact with livestock waste in dry or solid form must be constructed or installed to achieve a hydraulic conductivity equal to or less than 1 x 10-6 centimeters per second.

4) The livestock waste handling facility must withstand the following loads:

A) Lateral loads due to soil and equipment, which must be obtained from Table 2 of the MidWest Plan Service Concrete Manure Storages Handbook, MWPS-36;

B) Lateral loads due to livestock waste scraping and handling equipment;

C) Lateral and vertical loads due to the handling and storage of livestock waste;

D) Vertical loads on tank tops, slats, and other horizontal surfaces, which must be obtained from Table 3 of the MidWest Plan Service Concrete Manure Storages Handbook, MWPS-36; and

E) Vertical loads due to mobile equipment, stationary equipment, and structures housing the livestock.

5) The construction materials must be chemically compatible with the livestock waste being handled and stored and the supporting soil materials.

6) The livestock waste handling facility must be designed and constructed to prevent erosion and damage resulting from the transport, handling, and storage of livestock waste.

7) Existing subsurface drainage lines in the immediate area of the livestock waste handling facility must be removed or relocated to provide for a minimum separation distance of at least 50 feet between the outermost extent of the livestock waste handling facility and the subsurface drainage line.

8) The minimum separation distance between the outermost extent of the livestock waste handling facility and any potential route of groundwater contamination, as defined in the Illinois Environmental Protection Act [415 ILCS 5], must be at least 100 feet. In addition, the minimum separation distance between the outermost extent of the livestock waste handling facility and a non-potable well, an abandoned or plugged well, a drainage well, or an injection well must be at least 100 feet.

9) The design and construction of livestock waste handling facilities must include a backflow prevention device to prevent siphoning or gravity flow of livestock waste in the opposite direction of intended use.

b) In addition to the requirements listed in this Section, livestock waste handling facilities must be designed and constructed according to the following:

1) Concrete livestock waste storage tanks must be designed and constructed in compliance with MidWest Plan Service Concrete Manure Storages Handbook, MWPS-36, or, in the case of circular concrete tanks, Circular Concrete Manure Tanks, MWPS TR-9.

2) Components of livestock waste handling facilities that temporarily hold or transport waste for liquid and solid separation, including settling basins and settling tanks, must be designed and constructed in compliance with MidWest Plan Service Livestock Waste Facilities Handbook, MWPS-18, or NRCS Waste Storage Structure, IL313.

3) Components of livestock waste handling facilities holding semi-solid waste, including picket dam structures, must be designed and constructed in compliance with MidWest Plan Service Livestock Waste Facilities Handbook, MWPS-18, or similar standards used by the USDA-NRCS.

4) Components of livestock waste handling facilities holding solid waste, including temporary manure stacks, must be designed and constructed in compliance with MidWest Plan Service Livestock Waste Facilities Handbook, MWPS-18, or similar standards used by the USDA-NRCS, including Waste Storage Structure, IL313.

5) Holding ponds used for the storage of livestock feedlot run-off and waste storage ponds must be designed and constructed in compliance with MidWest Plan Service Livestock Waste Facilities Handbook, MWPS-18, or similar standards used by the USDA-NRCS, including Waste Holding Pond, IL425.

c) In areas where the seasonal high water table may encroach upon the bottom of the livestock waste storage structure, a perimeter foundation drainage tubing must be installed as follows:

1) The drainage tubing must be located at a horizontal distance that provides sufficient drainage to maintain the water table elevation below the bottom of the footings.

2) The tubing must drain freely to a surface water outlet or subsurface drainage outlet.

3) The tubing must include a sampling port to allow the monitoring, sampling, and reporting of any discharge from the tubing in compliance with 8 Ill. Adm. Code 900.Subpart E.

4) The owner or operator must take necessary measures to divert the discharge from the drainage tubing, away from surface water, if monitoring results under subsection (c)(3) indicate that the tubing is discharging livestock waste. Such measures must include diverting the flow to a crop production area naturally lower in elevation than the livestock facility or providing a manhole with a gate valve that could be closed in an emergency.

d) The owner or operator of the livestock waste handling facility may, upon written request and with written approval from the Department, modify or exceed these standards to meet site specific objectives. The owner or operator must demonstrate that such modification will be at least as protective of the groundwater, the surface water, and the structural integrity of the livestock waste handling facility as the requirements of this Part.

(Source: Amended at 48 Ill. Reg. 3274, effective February 15, 2024)