**Section 506.205 Liner Standards**

a) The design of a liner constructed from in-situ soils, borrowed clay or a clay/bentonite mixture, or a synthetic liner under Section 506.204(d) must comply with this Section.

b) A liner constructed using in-situ soil or borrowed clay or clay/bentonite mixtures must meet the following standards:

1) The minimum liner thickness must be 2 feet;

2) The liner must be constructed in lifts not to exceed 6 inches in compacted thickness;

3) The liner must be compacted to achieve a hydraulic conductivity equal to or less than 1 x 10-7 centimeters/second; and

4) The construction and compaction of the liner must be carried out to reduce void spaces and allow the liner to support the loadings imposed by the waste disposal operation without settling.

c) Any synthetic liner used in the construction of a livestock waste lagoon must meet the following standards:

1) The liner must be designed to perform equivalent to or better than a liner that conforms to subsection (b);

2) The liner manufacturer must provide to the owner or operator the liner maintenance guidelines and must certify that the liner is chemically compatible with:

A) The livestock waste being stored; and

B) The supporting soil materials;

3) The liner must be supported by a compacted base free from sharp objects;

4) The liner must have sufficient strength and durability to function at the site for the design period under the maximum expected loadings imposed by the waste and equipment and stresses imposed by settlement, temperature, construction, and operation;

5) The liner seams must be made in the field according to the manufacturer's specifications. All sections must be arranged so that the use of field seams is minimized and seams are oriented in the direction subject to the least amount of stress; and

6) The owner or operator must maintain a copy of the manufacturer's compatibility statement and liner installation and maintenance guidelines at the facility.

d) The design, construction, and installation of the liner in compliance with this Section must be conducted under the direction of a Licensed Professional Engineer. Upon completion of construction or installation of the liner, the supervising Licensed Professional Engineer must certify, under 8 Ill. Adm. Code 900.605(a), that the liner complies with this Section. Such certification must include all supporting justification and data.

e) The owner or operator of a livestock waste lagoon must submit to the Department a copy of the Licensed Professional Engineer's Certification before placing the lagoon in service in compliance with 8 Ill. Adm. Code 900.605.

f) *The owner or operator of the earthen livestock lagoon may*, upon written request and *with* written *approval from the Department, modify or exceed these standards in order to meet site specific objectives*. [510 ILCS 77/15(a)] The owner or operator must demonstrate that such modification is at least as protective of the groundwater, the surface water, and the structural integrity of the livestock waste management facility as the requirements of this Part.

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