

From: [McGill, Richard](#)
To: [Brown, Don](#)
Cc: [Leoni, Carlie M.](#); [Bilbruck, Shannon O.](#)
Subject: FW: First Notice Documents from JCAR
Date: Friday, March 10, 2023 11:40:23 AM
Attachments: [Econ State Mandate.docx](#)
[35-502NT-P JCAR.docx](#)
[35-502RG-P r01 \(47-10\).pdf](#)
[Litera Compare Redline - 35-502RG-P Agency and 35-502RG-P r01 \(47-10\).pdf](#)
[image001.png](#)

Here's the second one.

Please docket in R18-25 this forwarded email and attachments from JCAR.

Thank you.

Richard R. McGill, Jr.
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From: Knudson, Cheryl J. <CherylK@ilga.gov>
Sent: Friday, March 10, 2023 9:33 AM
To: McGill, Richard <Richard.McGill@illinois.gov>
Cc: Eastvold, Jonathan C. <JonathanE@ilga.gov>
Subject: [External] RE: First Notice Documents from JCAR

First Notice documents are attached for your review:

- ECON State Mandate Letter
- Notice Page – (formatted)
- First Notice – Line Numbered Version (r01) – Please use this document to draft First Notice changes.
- Redline - Comparing: Agency Proposed vs. JCAR r01

If you have any questions or concerns, please contact Jonathan Eastvold @ 217-524- 9010.

Thank you,
Cheryl

Cheryl Knudson
Joint Committee on Administrative Rules

Illinois General Assembly
700 Stratton Building
Springfield, IL 62706

217.785.8993
cherylk@ilga.gov

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POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

- 1) Heading of the Part: Permits
- 2) Code Citation: 35 Ill. Adm. Code 502
- 3)

<u>Section Numbers:</u>	<u>Proposed Actions:</u>
502.101	Amendment
502.102	Amendment
502.103	Amendment
502.104	Amendment
502.105	Amendment
502.106	Amendment
502.201	Amendment
502.202	Amendment
502.204	Amendment
502.206	Amendment
502.207	Amendment
502.301	Amendment
502.303	Amendment
502.304	Amendment
502.305	Amendment
502.310	Amendment
502.315	Amendment
502.320	Amendment
502.325	Amendment
502.401	Amendment
502.402	Amendment
502.403	Amendment
502.500	Amendment
502.505	Amendment
502.510	Amendment
502.515	Amendment
502.520	Amendment
502.600	Amendment
502.605	Amendment
502.610	Amendment
502.615	Amendment
502.620	Amendment
502.625	Amendment
502.630	Amendment
502.635	Amendment

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

502.640	Amendment
502.645	Amendment
502.710	Amendment
502.720	Amendment
502.730	Amendment
502.800	Amendment
502.820	Amendment
502.830	Amendment
502.840	Amendment
502.APPENDIX A	Repealed

- 4) Statutory Authority: Implementing Sections 9, 10, 12, 13, 21 and 22 and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/9, 10, 12, 13, 21, 22 and 27].
- 5) A Complete Description of the Subjects and Issues Involved: In 2016, the Board began reviewing its rules to identify obsolete, repetitive, confusing, or otherwise unnecessary language. On January 10, 2018, the Illinois Environmental Protection Agency (IEPA) filed a proposal to update provisions within 35 Ill. Adm. Code Subpart E. IEPA's proposal arose from Executive Order 2016-13, which required agencies to identify outdated, repetitive, confusing, or unnecessary rules and then amend or repeal them. These proposed amendments to Part 502 include those submitted by IEPA and those identified separately by the Board. Both IEPA and the Board intend the amendments to be non-substantive clarifications.
- 6) Published studies or reports, and sources of underlying data, used to compose this rulemaking: No
- 7) Will this proposed rulemaking replace an emergency rule currently in effect? No
- 8) Does this rulemaking contain an automatic repeal date? No
- 9) Does this proposed rulemaking contain incorporations by reference? No
- 10) Are there any proposed rulemakings to this Part pending? No
- 11) Statement of Statewide Policy Objectives: This proposed amendment does not create or enlarge a State mandate as defined in Section 3(b) of the State Mandates Act. [30 ILCS 805/3].

POLLUTION CONTROL BOARD

NOTICE OF PROPOSED AMENDMENTS

- 12) Time, Place, and Manner in which interested persons may comment on this proposed rulemaking: The Board will accept written public comments on this proposal for a period of at least 45 days after the date of publication in the *Illinois Register*. Public comments should refer to Docket R18-25 and be filed electronically through the Clerk's Office On-Line (COOL) on the Board's website at pcb.illinois.gov. Public comments may be addressed to:
- Clerk's Office
Illinois Pollution Control Board
100 W. Randolph St., Suite 11-500
Chicago, IL 60601
- Interested persons may download copies of the Board's opinions and orders in R18-25 from the Board's Web site at pcb.illinois.gov and may also request copies by calling the Clerk's office at 312-814-3620.
- 13) Initial Regulatory Flexibility Analysis:
- A) Types of small businesses, small municipalities and not for profit corporations affected: None
- B) Reporting, bookkeeping or other procedures required for compliance: The proposed amendments in this rulemaking will not themselves require recordkeeping or reporting procedures for compliance.
- C) Types of Professional skills necessary for compliance: None
- 14) Small Business Impact Analysis: The Board does not expect that the proposed rules will impact small business.
- 15) Regulatory Agenda on which this rulemaking was summarized: January 2022

The full text of the Proposed Amendments begins on the next page:

First Notice

JCAR350506-2303259r01

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

4
5 PART 506
6 LIVESTOCK WASTE REGULATIONS

7
8 SUBPART A: GENERAL PROVISIONS
9

10	Section	
11	506.101	Applicability
12	506.102	Severability
13	506.103	Definitions
14	506.104	Incorporations by Reference
15	506.105	Recordkeeping (Repealed)
16	506.106	Alternatives, Modifications and Waivers

17
18 SUBPART B: STANDARDS FOR THE DESIGN AND CONSTRUCTION
19 OF LIVESTOCK WASTE LAGOONS
20

21	Section	
22	506.201	Applicability
23	506.202	Site Investigation
24	506.203	Registration (Repealed)
25	506.204	Lagoon Design Standards
26	506.205	Liner Standards
27	506.206	Groundwater Monitoring
28	506.207	Construction in a Karst Area
29	506.208	Construction in a Flood Fringe Area
30	506.209	Lagoon Closure and Ownership Transfer (Repealed)
31	506.210	Secondary Containment

32
33 SUBPART C: STANDARDS FOR THE DESIGN AND CONSTRUCTION OF LIVESTOCK
34 WASTE HANDLING FACILITIES OTHER THAN LAGOONS
35

36	Section	
37	506.301	Applicability
38	506.302	Site Investigation
39	506.303	Non-lagoon Livestock Waste Storage Volume Requirements
40	506.304	General Design and Construction Standards
41	506.305	Additional Concrete Design and Construction Standards
42	506.306	Additional Metal Design and Construction Standards
43	506.307	Additional Earthen Material Design and Construction Standards

- 44 506.308 Additional Synthetic Material Design and Construction Standards
- 45 506.309 Additional Wooden Material Design and Construction Standards
- 46 506.310 Additional Design and Construction Standards for Construction in an Area with
- 47 Shallow Aquifer Material
- 48 506.311 Additional Design and Construction Standards for Construction in a Flood Fringe
- 49 Area
- 50 506.312 Additional Design and Construction Standards for Construction in a Karst Area
- 51 506.313 Plan Updates (Repealed)
- 52 506.314 Penalties (Repealed)

53

54 SUBPART D: CERTIFIED LIVESTOCK MANAGER

55

56 Section

- 57 506.401 Applicability (Repealed)

58

59 SUBPART E: PENALTIES

60

61 Section

- 62 506.501 General (Repealed)

63

64 SUBPART F: FINANCIAL RESPONSIBILITY

65

66 Section

- 67 506.601 Scope, Applicability, and Definitions (Repealed)
- 68 506.602 Mechanisms for Providing Evidence of Financial Responsibility (Repealed)
- 69 506.603 Level of Surety (Repealed)
- 70 506.604 Upgrading Surety Instrument (Repealed)
- 71 506.605 Release of Lagoon Owner and Financial Institution (Repealed)
- 72 506.606 Financial Responsibility Proceeds (Repealed)
- 73 506.607 Use of Multiple Surety Instruments (Repealed)
- 74 506.608 Use of a Single Surety Instrument for Multiple Lagoons (Repealed)
- 75 506.610 Commercial or Private Insurance (Repealed)
- 76 506.611 Guarantee (Repealed)
- 77 506.612 Surety Bond (Repealed)
- 78 506.613 Letter of Credit (Repealed)
- 79 506.614 Certificate of Deposit or Designated Savings Account (Repealed)
- 80 506.615 Participation in a Livestock Waste Lagoon Closure Fund (Repealed)
- 81 506.620 Penalties (Repealed)

82

83 SUBPART G: SETBACKS

84

85 Section

- 86 506.701 Applicability (Repealed)

- 87 506.702 Procedures (Repealed)
- 88 506.703 Initial Determination of Setbacks (Repealed)
- 89 506.704 Penalties (Repealed)

- 90
- 91 506.APPENDIX A Surety Instruments (Repealed)
- 92 506.ILLUSTRATION A Surety Bond (Repealed)
- 93 506.ILLUSTRATION B Irrevocable Standby Letter of Credit (Repealed)
- 94

95 AUTHORITY: Authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/27]
96 and Section 55 of the Livestock Management Facilities Act and implementing the Livestock
97 Management Facilities Act [510 ILCS 77].

98

99 SOURCE: Adopted in R97-15(A) at 21 Ill. Reg. 6851, effective May 20, 1997; amended in
100 R97-15(B) at 22 Ill. Reg. 20605, effective November 12, 1998; amended in R01-28 at 25 Ill.
101 Reg. 14883, effective November 15, 2001; amended in R18-25 at 47 Ill. Reg. _____, effective
102 _____.

103

104 **SUBPART A: GENERAL PROVISIONS**

105

106 **Section 506.101 Applicability**

107

108 This Subpart applies to 35 Ill. Adm. Code 506. The applicability of Subpart B, Standards for the
109 Design and Construction of Livestock Waste Lagoons, is stated in~~set forth at~~ Section 506.201-~~of~~
110 ~~this Part~~. The applicability of Subpart C, Standards for the Design and Construction of
111 Livestock Waste Handling Facilities Other Than Lagoons, is stated in~~set forth at~~ Section 506.301
112 ~~of this Part~~.

113

114 ~~BOARD NOTE: Upon the effective date of this Part, the emergency rules at 35 Ill. Adm. Code~~
115 ~~505, Livestock Waste Regulations, will no longer apply. This Part will take the place of those~~
116 ~~emergency rules. Additionally, the standards and specifications for the construction of livestock~~
117 ~~waste handling facilities contained in this Part shall be used in conjunction with the regulations~~
118 ~~at 8 Ill. Adm. Code 900.~~

119

120 (Source: Amended at 47 Ill. Reg. _____, effective _____)

121

122 **Section 506.103 Definitions**

123

124 Except as stated in this Section, or unless a different meaning of a word or term is clear from the
125 context, the definition of words or terms in this Part must~~shall~~ be the same as that applied to the
126 same words or terms in the Environmental Protection Act [415 ILCS 5] or the Livestock
127 Management Facilities Act [510 ILCS 77]. For ~~the purposes of~~ this Part, the terms included in
128 this Section ~~shall~~ have the following meanings:

129

130 *"Animal Feeding Operation" means a feeding operation as defined in the Illinois*
131 *Environmental Protection Act and the rules promulgated under that Act*
132 *concerning agriculture related pollution. [510 ILCS 77/10.7]*
133

134 *"Animal Unit" means a unit of measurement for any animal feeding operation*
135 *calculated as follows:*
136

137 *Brood cows and slaughter and feeder cattle multiplied by 1.0.*
138

139 *Milking dairy cows multiplied by 1.4.*
140

141 *Young dairy stock multiplied by 0.6.*
142

143 *Swine weighing over 55 pounds multiplied by 0.4.*
144

145 *Swine weighing under 55 pounds multiplied by 0.03.*
146

147 *Sheep, lambs, or goats multiplied by 0.1.*
148

149 *Horses multiplied by 2.0.*
150

151 *Turkeys multiplied by 0.02.*
152

153 *Laying hens or broilers multiplied by 0.005.*
154

155 *Laying hens or broilers multiplied by 0.01 (if the facility has continuous*
156 *overflow watering).*
157

158 *Laying hens or broilers multiplied by 0.03 (if the facility has a liquid*
159 *manure handling system).*
160

161 *Ducks multiplied by 0.02. [510 ILCS 77/10.10]*
162

163 For species of animals in an animal feeding operation not specifically
164 listed in this definition, the animal unit factor ~~is~~ shall be determined by
165 dividing the average mature animal weight by 1,000. The Department
166 must determine the average mature animal weight ~~The average mature~~
167 ~~animal weight shall be determined by the Department~~ with guidance from
168 the University of Illinois Cooperative Extension Service.
169

170 "Aquifer material" means sandstone that is five feet or more in thickness, or
171 fractured carbonate that is ten feet or more in thickness; or sand, gravel, or sand
172 and gravel, as defined in this Section, such that there is at least two feet or more

173 present within any five foot section of a soil boring performed in
174 compliance~~accordance~~ with Sections 506.202 and 506.302 of this Part.

175
176 "*Department*" means the Illinois Department of Agriculture. [510 ILCS
177 77/10.20].

178
179 "Filter Strip" means a strip or area of vegetation for removing sediment, organic
180 material, organisms, nutrients, and chemicals from runoff or wastewater. A filter
181 strip must be sized to process the amount of material expected to be released from
182 the lagoon.

183
184 "Flood fringe" means that portion of the floodplain outside the floodway.

185
186 "Floodplain" means that land adjacent to a body of water with ground surface
187 elevations at or below the 100-year frequency flood elevation.

188
189 "Floodway", for the six counties including Cook, DuPage, Kane, Lake, McHenry
190 and Will, means *the channel and that portion of the floodplain adjacent to a*
191 *stream or watercourse* as designated by the Illinois Department of Natural
192 Resources underpursuant to Section 18g of the Rivers, Lakes, and Streams Act
193 [615 ILCS 5/18g], *which is needed to store and convey the* anticipated future 100-
194 *year frequency flood discharge* with no more than a 0.1 foot increase in stage due
195 to the loss of flood conveyance or storage, and no more than a 10% increase in
196 velocities. [615 ILCS 5/18g(d)(1)] For the remaining 96 counties, "floodway"
197 means the channel of a river, lake or stream and that portion of the adjacent land
198 area that is needed to safely store and convey flood waters. Where floodways
199 have been delineated for regulatory purposes, the mapped lines show the
200 floodway encroachment limits and will be used. For other areas, floodway limits
201 will be estimated, using hydrologic and hydraulic calculations, to preserve
202 adequate conveyance and storage so that stage increases for the 100-year
203 frequency flood would not exceed 0.1 foot.

204
205 "Grass Waterway" means a natural or constructed waterway, usually broad and
206 shallow covered with erosion-resistant grasses, used to conduct surface water
207 from or through a cropland. A grass waterway is used to convey any lagoon
208 release to an area or structure where it would be contained, such as at an
209 additional berm, or processed, such as at a filter strip, or conveyed to another area,
210 such as by a terrace.

211
212 "Gravel" or "Sand and gravel" means unconsolidated materials that contain a
213 matrix (particles of two millimeters or less) that is consistent with the definition
214 of "sand" and particles larger than two millimeters in size.

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216 *"Karst Area" means an area with a land surface containing sinkholes, large*
217 *springs, disrupted land drainage, and underground drainage systems associated*
218 *with karstified carbonate bedrock and caves or a land surface without these*
219 *features but containing a karstified carbonate bedrock unit generally overlain by*
220 *less than 60 feet of unconsolidated materials. [510 ILCS 77/10.24]*
221

222 *"Karstified Carbonate Bedrock" means a carbonate bedrock unit (limestone or*
223 *dolomite) that has a pronounced conduit or secondary porosity due to dissolution*
224 *of the rock along joints, fractures, or bedding plains. [510 ILCS 77/10.26]*
225

226 *"Lagoon" or "earthen livestock waste lagoon" means any excavated, diked, or*
227 *walled structure or combination of structures designed for biological stabilization*
228 *and storage of livestock wastes. A lagoon does not include structures such as*
229 *manufactured slurry storage structures or pits under buildings as defined in rules*
230 *under the Environmental Protection Act concerning agriculture related pollution.*
231 *[510 ILCS 77/10.25]*
232

233 *"Licensed Professional Engineer" means a person, corporation or partnership*
234 *licensed under the laws of the State of Illinois to practice professional*
235 *engineering. [415 ILCS 5/57.2]*
236

237 *"Licensed Professional Geologist" means an individual who is licensed under the*
238 *laws of the State of Illinois to engage in the practice of professional geology in*
239 *Illinois. [225 ILCS 745/15]*
240

241 *"Livestock Management Facility" means any animal feeding operation, livestock*
242 *shelter, or on-farm milking and accompanying milk-handling area. Two or more*
243 *livestock management facilities under common ownership, where the facilities are*
244 *not separated by a minimum distance of ¼ mile, and that share a common*
245 *livestock waste handling facility shall be considered a single livestock*
246 *management facility. Livestock management facilities at educational institutions,*
247 *livestock pasture operations, facilities where animals are housed on a temporary*
248 *basis such as county and state fairs, livestock shows, race tracks, and horse*
249 *breeding and foaling farms, and market holding facilities are not subject to the*
250 *Livestock Management Facilities Act or the requirements of this Part. [510 ILCS*
251 *77/10.30]*
252

253 *"Livestock shelter" means any covered structure, including ~~but not limited to~~*
254 *livestock houses or barns, in which livestock are enclosed at any time.*
255

256 *"Livestock Waste" means livestock excreta and associated losses, bedding, wash*
257 *waters, sprinkling waters from livestock cooling, precipitation polluted by falling*
258 *on or flowing onto an animal feeding operation, and other materials polluted by*

259 *livestock.* [510 ILCS 77/10.35]

260

261 *"Livestock Waste Handling Facility" means individually or collectively those*
 262 *immovable constructions or devices, except sewers, used for collecting, pumping,*
 263 *treating, or disposing of livestock waste or for the recovery of by-products from*
 264 *the livestock waste. Two or more livestock waste handling facilities under*
 265 *common ownership and where the facilities are not separated by a minimum*
 266 *distance of 1/4 mile shall be considered a single livestock waste handling facility.*

267 [510 ILCS 77/10.40] The Livestock Management Facilities Act and this Part do
 268 not apply to: livestock waste handling facilities at educational institutions;
 269 livestock pasture operations; or facilities where animals are housed on a
 270 temporary basis, such as county and State fairs, livestock shows, race tracks,
 271 horse breeding and foaling farms, and market holding facilities.

272

273 "Maintained" means, with reference to a livestock waste lagoon, that the livestock
 274 waste lagoon is inspected (including ~~but not limited to~~ inspection for burrow
 275 holes, trees and woody vegetation, proper freeboard, erosion, settling of berm,
 276 berm top integrity, leaks, and seepage) and preventive action is taken as necessary
 277 to assure the integrity of the lagoon and its berm and associated appurtenances.

278

279 *"Modified" means structural changes to a lagoon that increase its volumetric*
 280 *capacity.* [510 ILCS 77/10.43]

281

282 *"New Facility" means a livestock management facility or a livestock waste*
 283 *handling facility the construction or expansion of which is commenced on or after*
 284 *May ~~1921~~, 1996 (the effective date of the Livestock Management Facilities Act).*
 285 *Expanding a facility where the fixed capital cost of the new components*
 286 *constructed within a 2-year period does not exceed 50% of the fixed capital cost*
 287 *of a comparable entirely new facility shall not be deemed a new facility as used in*
 288 *the Livestock Management Facilities Act.* [510 ILCS 77/10.45] For facilities that

289 have ~~stopped~~~~ceased~~ operation ~~on or~~ after July ~~1213~~, 1999, ~~starting~~~~commencement~~
 290 ~~of~~ operations at a facility that has livestock shelters left intact and that has
 291 completed the requirements imposed under Section 13(k) of the Livestock
 292 Management Facilities Act [510 ILCS 77/13(k)] and 8 Ill. Adm. Code 900.508
 293 ~~and that has been operated as a livestock management facility for 4 consecutive~~
 294 ~~months at any time within the previous 10 years shall not be considered a new or~~
 295 ~~expanded livestock management or waste handling facility.~~ [510 ILCS 77/13(k)]

296 For facilities that have ~~stopped~~~~ceased~~ operation ~~before~~~~prior to~~ July 13, 1999,
 297 ~~starting~~~~commencement of~~ operations at a facility that has livestock shelters left
 298 intact and that has been operated as a livestock management facility or livestock
 299 waste handling facility for 4 consecutive months at any time within the previous
 300 10 years ~~is~~~~shall~~ not be considered a new or expanded livestock management or
 301 waste handling facility.

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"Owner or Operator" means any person who owns, leases, controls, or supervises a livestock management facility or livestock waste-handling facility. [510 ILCS 77/10.50]

"Person" means 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. [510 ILCS 77/10.55]

"Placed in service" means the placement of livestock waste in a livestock waste handling facility ~~once upon the completion of~~ construction or modification is completed in compliance ~~accordance with the requirements of~~ this Part.

"Sand" means unconsolidated materials, where 70% or more of the particles are of size 0.06 millimeters to 2.00 millimeters, and which, according to the USDA soil texture classification scheme, includes soil textures of sand, and loamy sand, and portions of sandy loam and sandy clay loam.

"Seasonal high water table" means the highest level of the water table encountered on a yearly basis, where water table is the surface on which the fluid pressure in the soil pore space is equal to the atmospheric pressure. The location of the water table is determined by the level at which water stands in a shallow well open along its length and penetrating the surficial deposits just deeply enough to encounter standing water in the bottom.

"Terrace" means an embankment or combination of embankment and channel constructed across a slope to control erosion by diverting and temporarily storing surface runoff instead of permitting it to flow uninterrupted down the slope. A terrace may be used to convey the released material to a grass waterway, a filter strip, or a secondary berm.

"USDA-NRCS" means the United States Department of Agriculture's Natural Resources Conservation Service.

"Void" means an underground opening generally produced by dissolution of rock in a karst area.

(Source: Amended at 47 Ill. Reg. _____, effective _____)

Section 506.106 Alternatives, Modifications and Waivers

- a) All requests for alternatives, modifications, and waivers to this Part, where

345 allowed by Sections 13(e) and 15(a) of the Act [510 ILCS 77/13(e), 15(a)] or this
346 Part ~~must~~shall be made in writing to the Department. Construction ~~must~~may not
347 begin or continue until the request for alternative, modification, or waiver is
348 granted.

349
350 b) Each request for an alternative, modification, or waiver ~~must~~shall contain a
351 certification from a Licensed Professional Engineer or Licensed Professional
352 Geologist, as relevant, that the grant of the modification is at least as protective of
353 the groundwater, surface water and the structural integrity of the livestock waste
354 management facility as the stated requirements or that the alternative or waiver is
355 at least as protective as the stated requirements.

356
357 c) The Department ~~must~~shall notify the applicant in writing of its determination
358 within 30 days after receipt of the request for an alternative, modification, or
359 waiver. To grant the requested alternative, modification, or waiver, the
360 Department must determine that the modification is at least as protective of the
361 groundwater, surface water and the structural integrity of the livestock waste
362 management facility as the stated requirements or that the alternative or waiver is
363 at least as protective as the stated requirements.

364
365 (Source: Amended at 47 Ill. Reg. _____, effective _____)

366
367 **SUBPART B: STANDARDS FOR THE DESIGN AND CONSTRUCTION**
368 **OF LIVESTOCK WASTE LAGOONS**

369
370 **Section 506.201 Applicability**

371
372 This Subpart ~~applies~~shall apply to any new or modified lagoon, that the Department has not
373 approved the design for before November 15, 2001 ~~the design of which has not been approved~~
374 ~~by the Department prior to November 15, 2001~~. The standards and specifications for livestock
375 waste lagoon construction contained in this Subpart ~~must~~shall be ~~used~~utilized in the design plans
376 and construction of the lagoon in ~~compliance~~accordance with the registration of lagoons required
377 in 8 Ill. Adm. Code 900.Subpart F.

378
379 (Source: Amended at 47 Ill. Reg. _____, effective _____)

380
381 **Section 506.202 Site Investigation**

382
383 a) The owner or operator of a lagoon constructed ~~under~~pursuant to this Subpart
384 ~~must~~shall conduct a site investigation in ~~compliance~~accordance with ~~the~~
385 ~~requirements of~~ this Section to determine the following:

386
387 1) Whether aquifer material is considered present (or not present) within 50

- 388 feet of the planned bottom of the lagoon;
- 389
- 390 2) Whether the proposed lagoon is to be located within the floodway or flood
- 391 fringe of a 100-year floodplain; and
- 392
- 393 3) Whether the proposed lagoon is to be located within a karst area or within
- 394 400 feet of a natural depression in a karst area.
- 395
- 396 b) The owner or operator ~~must~~shall perform one or more soil borings that ~~must~~shall
- 397 be located within the final lagoon area or within 20 feet of the final exterior berm
- 398 toe. The boring ~~must~~shall be performed to determine the presence of aquifer
- 399 material or karstified carbonate bedrock as follows:
- 400
- 401 1) The soil boring ~~must~~shall extend to a depth that includes 50 feet below the
- 402 planned bottom of lagoon native soil or to bedrock;
- 403
- 404 2) If bedrock is encountered, additional soil borings may be necessary to
- 405 verify the presence of aquifer material or karstified carbonate bedrock;
- 406
- 407 3) Continuous samples ~~must~~shall be recovered from each soil boring; and
- 408
- 409 4) Upon completion, the ~~borings must~~ ~~boring(s) shall~~ be properly abandoned
- 410 and sealed ~~under~~ ~~pursuant to~~ the Illinois Water Well Construction Code at
- 411 77 Ill. Adm. Code 920.120.
- 412
- 413 c) If the Department determines that additional soil borings are necessary to ensure
- 414 the protection of the groundwater, surface water or the structural integrity of the
- 415 livestock waste management facility, the Department ~~must~~shall require additional
- 416 soil borings.
- 417
- 418 d) As an alternative to performing the soil ~~borings~~ ~~boring(s)~~ required under
- 419 subsection (b) or (c) ~~of this Section~~, the owner or operator of the lagoon may
- 420 propose to the Department to ~~use~~ ~~utilize~~ alternative information ~~sources~~ ~~source(s)~~.
- 421 The Department ~~must~~shall evaluate the proposal; determine whether the
- 422 alternative information ~~sources~~ ~~source(s)~~ will result in a site investigation that will
- 423 be at least as protective of the groundwater, surface water and the structural
- 424 integrity of the livestock waste management facility as would have resulted from
- 425 data resulting from soil borings; and notify the owner or operator of the
- 426 Department's finding.
- 427
- 428 e) ~~Despite~~ ~~Notwithstanding~~ the other requirements of this Subpart, if the site
- 429 investigation determines that the lagoon is to be located in the flood fringe of a
- 430 100-year floodplain, the design of the lagoon ~~must comply with~~ ~~shall include the~~

- 431 ~~additional requirements of Section 506.206 of this Subpart.~~
- 432
- 433 f) If the results of the soil boring conducted ~~underpursuant to~~ Section 506.202(b) ~~of~~
- 434 ~~this Subpart~~ indicate the proposed lagoon is to be located in a karst area or if the
- 435 proposed lagoon is to be located within an area designated as "Sink hole areas" on
- 436 "Karst Terrains and Carbonate Rocks of Illinois", IDNR-ISGS Illinois Map 8, the
- 437 following requirements ~~mustshall~~ be met:
- 438
- 439 1) The Department ~~mustshall~~ conduct a visual inspection of the surrounding
- 440 area to determine the presence of natural depressions during the pre-
- 441 construction site inspection as required ~~underpursuant to~~ 8 Ill. Adm. Code
- 442 900.604(a). Construction ~~mustmay~~ not occur within 400 feet of a natural
- 443 depression in a karst area; and
- 444
- 445 2) The Licensed Professional Engineer or Licensed Professional Geologist
- 446 ~~mustshall~~ evaluate the results of the soil boring conducted ~~underpursuant~~
- 447 ~~to~~ subsection (b) ~~of this Section~~. If, ~~as a result of the soil boring,~~ a void of
- 448 1 foot or greater in vertical distance is discovered from the soil boring
- 449 performed, the following requirements ~~mustshall~~ be met:
- 450
- 451 A) The Department may require additional borings to determine the
- 452 extent of the void;
- 453
- 454 B) ~~DespiteNotwithstanding~~ the other requirements of this Subpart, the
- 455 owner or operator ~~mustshall~~ submit to the Department a plan for
- 456 the design of the lagoon that ~~mustshall~~ include the additional
- 457 design requirements ~~statedset forth~~ in Section 506.207 ~~of this Part~~
- 458 and ~~mustshall~~ include any additional design requirements ~~deemed~~
- 459 necessary by the Licensed Professional Engineer; and
- 460
- 461 C) The Department ~~mustshall~~ review and approve the plan required
- 462 ~~underpursuant to~~ subsection (f)(2)(B) ~~before of this Section prior to~~
- 463 construction. The Department may also require additional design
- 464 criteria before the plan is approved and construction may begin. If,
- 465 ~~as a result of the soil boring,~~ no voids of 1 foot or greater ~~in~~
- 466 ~~vertical distance~~ are discovered from the soil boring performed, the
- 467 design ~~mustshall~~ include the additional requirements ~~set forth~~ in
- 468 Section 506.207 ~~of this Subpart~~.
- 469
- 470 g) The site investigation in ~~complianceaccordance~~ with subsection (b), (c), (d), (e),
- 471 or (f) ~~mustof this Section shall~~ be conducted under the direction of a Licensed
- 472 Professional Engineer or Licensed Professional Geologist.
- 473

(Source: Amended at 47 Ill. Reg. _____, effective _____)

Section 506.204 Lagoon Design Standards

- a) The owner or operator of *any livestock waste lagoon subject to this Subpart shall construct or modify the lagoon in accordance with:*
 - 1) *"Design of anaerobic lagoons for animal waste management", ASAE Engineering Practice 403.2; or the guidelines published by the United States Department of Agriculture's Natural Resource Conservation Service titled "Waste Treatment Lagoon", which are incorporated by reference in Section 506.104 ~~of this Part~~; and*
 - 2) *The additional design standards specified in subsections (c) through (h) ~~of this Section~~. [510 ILCS 77/15(a)]*
- b) *The department may require changes in design or additional requirements to protect groundwater, such as extra liner depth or synthetic liners, when it appears groundwater could be impacted. [510 ILCS 77/15(a)]*
- c) The owner or operator ~~must~~shall conduct a site investigation in ~~compliance~~accordance with Section 506.202 ~~of this Part~~ to determine if aquifer material is present (or not present) within 50 feet of the planned bottom of the lagoon.
- d) The owner or operator ~~must~~shall, as a part of the lagoon design, include the use of a liner and implement groundwater monitoring ~~according to the~~in accordance with following conditions:
 - 1) If the uppermost aquifer material is located above or within 20 feet of the lowest point of the planned lagoon bottom (as measured from the top of any proposed liner), then the lagoon design ~~must~~shall include both a liner and groundwater monitoring.
 - 2) If the uppermost aquifer material is located between 20 to 50 feet from the lowest point of the planned lagoon (as measured from the top of any proposed liner), then the lagoon design ~~must~~shall include a liner, but no groundwater monitoring is required.
 - 3) If no aquifer material is located within 50 feet from the lowest point of the planned lagoon (as measured from the top of any proposed liner), then the lagoon design ~~does not~~shall require ~~neither~~ a liner ~~or~~nor groundwater monitoring.

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- e) If the owner or operator determines that a liner is required for the lagoon ~~underpursuant to~~ this Section, the design of the lagoon ~~mustshall~~ include an in-situ soil liner, borrowed clay or clay/bentonite mixture, or a synthetic liner ~~in compliance withmeeting the requirements of~~ Section 506.205 ~~of this Part~~.
 - f) If the owner or operator determines that groundwater monitoring is required for the lagoon ~~underpursuant to~~ this Section, the design of the lagoon ~~must implementshall include the implementation of~~ a groundwater monitoring program in ~~complianceaccordance~~ with Section 506.206 ~~of this Part~~ and 8 Ill. Adm. Code 900.Subpart F.
 - g) Any livestock waste lagoon subject to ~~the provisions of~~ this Part ~~mustshall~~ meet or exceed the following:
 - 1) Berm:
 - A) The minimum bermtop width ~~mustshall~~ be 8 feet;
 - B) The berm may contain no outlet piping that extends through the berm unless the piping discharges to another lagoon or is a component of a recirculating flush system;
 - 2) Berm slope:
 - A) Exterior and normally exposed interior (above the liquid level elevation corresponding to the summation of the sludge volumes and minimum design volume) earthen walls ~~mustshall~~ have side slopes not steeper than a 3 to 1 ratio of horizontal to vertical and a vegetative cover ~~mustshall~~ be established on any exposed berm areas and kept mowed or otherwise maintained to eliminate erosion or other berm deterioration;
 - B) Interior berm earthen walls below the liquid level elevation corresponding to the summation of the sludge volumes and minimum design volume ~~mustshall~~ have side slopes not steeper than a 3 to 1 ratio of horizontal to vertical; or a 2 to 1 ratio of horizontal to vertical if designed by a Licensed Professional Engineer and maintained to eliminate berm deterioration;
 - 3) The lagoon's total design volume ~~mustshall~~ be ~~at leastnot less than~~ the volume calculated as the summation of the following:

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- A) A minimum design volume, as calculated ~~underpursuant to~~ subsection 5.4.1.1, ASAE EP403.2, ASAE Standards 1998, pp. 656-659;
 - B) A livestock waste volume, that ~~mustshall~~ be sufficient to store the waste generated by the facility for ~~at leasta period not less than~~ 270 days as determined in ~~accordance with~~ ASAE EP403.2, ASAE Standards 1998, p. 656;
 - C) Runoff and wash down volumes generated during a 270-day period, including all runoff and precipitation from lots, roofs or other surfaces where collected precipitation is directed into the lagoon, plus the volume of any wash down liquids ~~usedutilized~~ within the facility that are also directed into the lagoon. In no case ~~mustshall~~ this volume be less than the precipitation and runoff generated by a 25-year, 24-hour storm event and directed to the lagoon; and
 - D) A sludge accumulation volume, as calculated ~~underpursuant to~~ subsection 5.4.1.4, ASAE EP403.2, ASAE Standards 1998, p. 658;
- 4) In addition to the lagoon's total design volume, a freeboard ~~mustshall~~ be provided as follows:
- A) For lagoons serving a livestock management facility with a maximum design capacity of less than 300 animal units and not collecting runoff from areas other than the exposed surface of the lagoon (including associated interior berm slopes and flat bermtop areas), the top of the settled embankment ~~mustshall~~ be ~~at leastnot less than~~ 1 foot above the fluid surface level of the lagoon total design volume; or
 - B) For all other lagoons, the top of the settled embankment ~~mustshall~~ be ~~at leastnot less than~~ 2 feet above the fluid surface level of the lagoon total design volume;
- 5) Subsurface drainage lines in the immediate area of the livestock waste lagoon ~~mustshall~~ be removed or relocated to provide for a minimum separation distance of ~~at leastnot less than~~ 50 feet between the outermost extent of the lagoon (exterior toe of the berm) and the subsurface drainage line;
- 6) The minimum separation distance between the outermost extent of a

603 lagoon (exterior toe of the berm) and any potential route of groundwater
 604 contamination, as defined in the Illinois Environmental Protection Act
 605 [415 ILCS 5] ~~must, shall~~ be ~~at least~~~~not less than~~ 100 feet. In addition, the
 606 minimum separation distance between the outermost extent of a lagoon
 607 (exterior toe of the berm) and a non-potable well, an abandoned or
 608 plugged well, drainage well or injection well ~~must shall~~ be ~~at least~~~~not less~~
 609 ~~than~~ 100 feet;

610
 611 7) The design and construction of the lagoon ~~must shall~~ include the
 612 installation of a lagoon liquid level board or staff gauge within the interior
 613 of the liquid storage volume. The liquid level board or staff gauge
 614 ~~must shall~~ include a mark at the liquid level elevation corresponding to the
 615 summation of the sludge volume and minimum design volume and
 616 ~~must shall~~ be designated as the "STOP PUMPING" elevation. The liquid
 617 level board or staff gauge ~~must shall~~ also be marked at the liquid level
 618 elevation corresponding to the summation of the sludge volume, minimum
 619 design volume, runoff and wash down volumes, and livestock waste
 620 volume and ~~must shall~~ be designated as the "START PUMPING"
 621 elevation;

622
 623 8) *The livestock waste supply to a single-stage lagoon must be below the*
 624 *minimum design volume level [510 ILCS 77/25(b)(2)]; and*

625
 626 9) The location of the lagoon and the associated livestock management
 627 facility ~~must comply shall be in compliance~~ with all setback provisions of
 628 the Illinois Environmental Protection Act [415 ILCS 5], the Livestock
 629 Management Facilities Act [510 ILCS 77], and the rules promulgated
 630 thereunder.

631
 632 h) *The owner or operator of the earthen livestock lagoon may, upon written request*
 633 *and with written approval from the Department, modify or exceed these standards*
 634 *in order to meet site specific objectives. [510 ILCS 77/15(a)] The owner or*
 635 *operator ~~must shall~~ demonstrate that such modification ~~is shall be~~ at least as*
 636 *protective of the groundwater, surface water and the structural integrity of the*
 637 *livestock waste management facility as the requirements of this Part.*

638
 639 (Source: Amended at 47 Ill. Reg. _____, effective _____)

640
 641 **Section 506.205 Liner Standards**

642
 643 a) The design of a liner constructed from in-situ soils, borrowed clay or a
 644 clay/bentonite mixture, or a synthetic liner ~~underpursuant to~~ Section 506.204(d)
 645 ~~must of this Part shall~~ comply with ~~the requirements of~~ this Section.

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- b) A liner constructed using in-situ soil or borrowed clay or clay/bentonite mixtures must~~shall~~ meet the following standards:
- 1) The minimum liner thickness must~~shall~~ be 2 feet;
 - 2) The liner must~~shall~~ be constructed in lifts not to exceed 6 inches in compacted thickness;
 - 3) The liner must~~shall~~ be compacted to achieve a hydraulic conductivity equal to or less than 1×10^{-7} centimeters/second; and
 - 4) The construction and compaction of the liner must~~shall~~ 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~~shall~~ meet the following standards:
- 1) The liner must~~shall~~ be designed to perform equivalent to or better than a liner that conforms to subsection (b)-~~of this Section~~;
 - 2) The liner manufacturer must~~shall~~ provide to the owner or operator the liner maintenance guidelines and must~~shall~~ certify that the liner is chemically compatible with:
 - A) The livestock waste being stored; and
 - B) The supporting soil materials;
 - 3) The liner must~~shall~~ be supported by a compacted base free from sharp objects;
 - 4) The liner must~~shall~~ 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~~shall~~ be made in the field according to the manufacturer's specifications. All sections must~~shall~~ 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

- 689 6) The owner or operator ~~must~~shall maintain a copy of the manufacturer's
 690 compatibility statement and liner installation and maintenance guidelines
 691 at the facility.
 692
- 693 d) The design, construction and installation of the liner in ~~compliance~~accordance
 694 with this Section ~~must~~shall be conducted under the direction of a Licensed
 695 Professional Engineer. Upon completion of construction or installation of the
 696 liner, the supervising Licensed Professional Engineer ~~must~~shall certify,
 697 ~~underpursuant to~~ 8 Ill. Adm. Code 900.605(a), that the liner ~~complies with~~meets
 698 ~~all the applicable requirements of~~ this Section. Such certification ~~must~~shall
 699 include all supporting justification and data.
 700
- 701 e) The owner or operator of a livestock waste lagoon ~~must~~shall submit to the
 702 Department a copy of the Licensed Professional Engineer's Certification
 703 ~~beforeprior to~~ placing the lagoon in service in ~~compliance~~accordance with 8 Ill.
 704 Adm. Code 900.605.
 705
- 706 f) *The owner or operator of the earthen livestock lagoon may, upon written request*
 707 *and with written approval from the Department, modify or exceed these standards*
 708 *in order to meet site specific objectives. [510 ILCS 77/15(a)] The owner or*
 709 *operator shall demonstrate that such modification ~~is~~shall be at least as protective*
 710 *of the groundwater, surface water and the structural integrity of the livestock*
 711 *waste management facility as the requirements of this Part.*
 712

713 (Source: Amended at 47 Ill. Reg. _____, effective _____)
 714

715 **Section 506.206 Groundwater Monitoring**
 716

- 717 a) The owner or operator of any livestock waste lagoon required to implement
 718 groundwater monitoring ~~underpursuant to~~ Section 506.204(d) ~~must of this Part~~
 719 ~~shall~~ implement a monitoring program that ~~complies with~~meets the requirements
 720 ~~of~~ this Section and 8 Ill. Adm. Code 900.Subpart F.
 721
- 722 b) The groundwater monitoring network ~~must~~shall consist of ~~at least a minimum of~~
 723 three monitoring wells located within 20 feet of the exterior toe of the berm. At
 724 least two of the required wells ~~must~~shall be located down gradient of the lagoon
 725 based on local groundwater conditions. ~~The~~For the purposes of groundwater
 726 monitoring network design ~~must consider multiple cell lagoons, multiple cell~~
 727 ~~lagoons shall be considered~~ as a single lagoon.
 728
- 729 c) The monitoring wells ~~must~~shall be installed in ~~compliance~~accordance with the
 730 following:
 731

- 732 1) The requirements of the Illinois Water Well Construction Code at 77 Ill.
733 Adm. Code 920.170;
734
735 2) The top of the well screen ~~must~~shall be set at the estimated seasonal low
736 water table elevation;
737
738 3) Monitoring wells ~~must use~~shall utilize a minimum of a five foot screened
739 interval; and
740
741 4) The screen ~~must~~shall be set in a sand pack that extends at least one foot
742 above and one foot below the screened interval.
743
744 d) The owner or operator ~~must~~shall sample the wells, analyze the samples, and
745 report the results in ~~compliance~~accordance with ~~the requirements of~~ 8 Ill. Adm.
746 Code 900.Subpart F.
747
748 e) *The owner or operator of the earthen livestock lagoon may, upon written request*
749 *and with written approval from the department, modify or exceed these standards*
750 *in order to meet site specific objectives. [510 ILCS 77/15(a)] The owner or*
751 *operator ~~must~~shall demonstrate that such modification ~~must~~shall be at least as*
752 *protective of the groundwater, surface water and the structural integrity of the*
753 *livestock waste management facility ~~in compliance with~~as the requirements of*
754 *this Part.*

755
756 (Source: Amended at 47 Ill. Reg. _____, effective _____)
757

758 **Section 506.207 Construction in a Karst Area**
759

- 760 a) *A new earthen livestock waste lagoon constructed in a karst area shall be*
761 *designed to prevent seepage of the stored material to groundwater. Owners or*
762 *operators of proposed facilities shall consult with the local soil and water*
763 *conservation district, the University of Illinois cooperative extension service, or*
764 *other local, county, or state resources relative to determining the possible*
765 *presence or absence of such areas. [510 ILCS 77/15/(a-5)(2)]*
766
767 b) Any lagoon subject to ~~the provisions of~~this Subpart, constructed in a karst area,
768 ~~must~~shall be designed and constructed utilizing a rigid material such as concrete
769 or steel.
770
771 c) The owner or operator of the earthen livestock lagoon may, upon written request
772 and with written approval from the Department, modify or exceed the standards
773 of this Section ~~in order~~ to meet site specific objectives. The owner or operator
774 ~~must~~shall demonstrate that such modification ~~will~~shall be at least as protective of

775 the groundwater, surface water and the structural integrity of the livestock waste
776 management facility ~~in compliance with~~ ~~as the requirements of~~ this Part.

777
778 (Source: Amended at 47 Ill. Reg. _____, effective _____)
779

780 **Section 506.208 Construction in a Flood Fringe Area**

781
782 *A new earthen livestock waste lagoon may be constructed within the portion of a 100-year*
783 *floodplain that is within the flood fringe and outside the floodway provided that the facility is*
784 *designed and constructed so that livestock waste is not readily removed during flooding and*
785 *meets the requirements set forth in the Rivers, Lakes, and Streams Act [615 ILCS 5], Section 5-*
786 *40001 of the Counties Code [55 ILCS 5/5-40001], and executive order number 4 (1979). [510*
787 *ILCS 77/15(a-5)(1)] The following criteria ~~must~~~~shall~~ be incorporated into the design of a lagoon*
788 *proposed for construction in the flood fringe of a 100-year floodplain:*

- 789
- 790 a) The lagoon berms ~~must~~~~shall~~ be designed and constructed to withstand the
791 hydrostatic pressures from flood waters that may be exerted on the berms during a
792 flood event.
 - 793
 - 794 b) The elevation of the lowest point on the bermtop ~~must~~~~shall~~ be at the summation of
795 the elevation of the 100-year flood plus a freeboard. The freeboard height
796 ~~must~~~~shall~~ be a minimum of two feet.
 - 797
 - 798 c) For lagoons with unequal length and width dimensions, the lagoon ~~must~~~~shall~~ be
799 oriented with the longest dimension parallel to the expected direction of
800 floodwater flow.
 - 801
 - 802 d) Any monitoring wells installed ~~under~~~~pursuant to~~ Section 506.206 ~~must~~~~of this~~
803 ~~Subpart~~~~shall~~ be mounted flush with the surrounding soil surface or otherwise
804 physically protected from the flood waters.
 - 805
 - 806 e) The owner or operator of the livestock waste handling facility may, upon written
807 request and with written approval from the Department, modify or exceed these
808 standards ~~in order~~ to meet site specific objectives. The owner or operator
809 ~~must~~~~shall~~ demonstrate that such modification ~~will~~~~shall~~ be at least as protective of
810 the groundwater, surface water, and the structural integrity of the livestock waste
811 handling facility as the requirements of this Part.
 - 812

813 (Source: Amended at 47 Ill. Reg. _____, effective _____)
814

815 **Section 506.210 Secondary Containment**

816
817 *Notwithstanding any other requirement of this subpart or 8 Ill. Adm. Code 900, every earthen*

818 *livestock waste lagoon constructed pursuant to this subpart shall include the construction of a*
 819 *secondary berm, filter strip, grass waterway, or terrace, or any combination of those, outside the*
 820 *perimeter of the primary berm if an engineer licensed under the Professional Engineering*
 821 *Practice Act of 1989 and retained by the registrant determines, with the concurrence of the*
 822 *department, that construction of such a secondary berm or other feature or features is necessary*
 823 *in order to ensure against a release of livestock waste from the lagoon that encroaches or is*
 824 *reasonably expected to encroach upon land other than the land occupied by the livestock waste*
 825 *handling facility of which the lagoon is a part; or that enters or is reasonably expected to enter*
 826 *the waters of this state; or that enters or may reasonably be expected to enter a natural depression*
 827 *in a karst area and mustshall be so designed. [510 ILCS 77/15(a)] The following criteria*
 828 *mustshall be incorporated into the design of a system usedutilized for secondary containment:*
 829

- 830 a) A grass waterway constructed, installed, or usedutilized for ~~the purposes of~~ this
 831 Section mustshall meet or exceed the following:
 832
 - 833 1) A grass waterway mustshall be designed and constructed to transfer the
 834 maximum expected flow rate of livestock waste that may reasonably be
 835 expected to be released from the lagoon;
 836
 - 837 2) A grass waterway mustshall direct the flow of livestock waste away from
 838 the lagoon berm to a filter strip, secondary berm, terrace, or combination
 839 of these; and
 840
 - 841 3) Vegetation mustshall be established and maintained to provide adequate
 842 ground cover.
 843
- 844 b) A filter strip constructed, installed, or usedutilized for ~~the purposes of~~ this Section
 845 mustshall meet or exceed the following:
 846
 - 847 1) A filter strip mustshall be designed and constructed to function at the
 848 maximum expected hydraulic loadings that may reasonably be expected to
 849 come from the lagoon; and
 850
 - 851 2) Vegetation mustshall be established and maintained to provide adequate
 852 ground cover.
 853
- 854 c) A secondary berm constructed, installed, or usedutilized for ~~the purposes of~~ this
 855 Section mustshall meet or exceed the following:
 856
 - 857 1) The storage volume created ~~due to as a result of~~ the construction of a
 858 secondary berm mustshall be of sufficient capacity to contain the portion
 859 of the lagoon liquid that may reasonably be expected to be released from
 860 the lagoon plus any accumulated precipitation; and

- 861
862 2) A vegetative cover ~~must~~ shall be established. The area ~~must~~ shall be
863 maintained by periodic mowing, the removal of woody plant species, or
864 other measures to prevent erosion and berm deterioration.
865
866 d) A terrace constructed, installed, or ~~used~~ utilized for ~~the purposes of~~ this Section
867 ~~must~~ shall meet or exceed the following:
868
869 1) The terrace ~~must~~ shall direct the livestock waste to a filter strip or grass
870 waterway constructed or installed ~~under~~ pursuant to the requirements of
871 this Section; and
872
873 2) Vegetation ~~must~~ shall be established and maintained to provide adequate
874 ground cover on those portions of the terrace where crops are not grown.
875
876 e) The owner or operator of the earthen livestock lagoon may, upon written request
877 and with written approval from the Department, modify or exceed the standards
878 of this Section ~~in order~~ to meet site specific objectives. The owner or operator
879 ~~must~~ shall demonstrate that such modification ~~will~~ shall be at least as protective of
880 the groundwater, surface water and the structural integrity of the livestock waste
881 management facility as the requirements of this Part.
882

883 (Source: Amended at 47 Ill. Reg. _____, effective _____)
884

885 SUBPART C: STANDARDS FOR THE DESIGN AND CONSTRUCTION OF LIVESTOCK
886 WASTE HANDLING FACILITIES OTHER THAN LAGOONS
887

888 **Section 506.301 Applicability**
889

890 The applicability of this Subpart ~~is~~ shall be as follows:
891

- 892 a) Sections 506.302, 506.310, 506.311, and 506.312 of this Subpart ~~shall~~ apply to
893 the newly constructed livestock waste handling components of new livestock
894 waste handling facilities, other than livestock waste lagoons, ~~that the Department~~
895 ~~has not approved the design for before November 15, 2001~~ the design of which
896 ~~has not been approved by the Department prior to November 15, 2001.~~
897
898 b) Sections 506.303, 506.304, 506.305, 506.306, 506.307, 506.308, and 506.309 ~~of~~
899 ~~this Subpart shall~~ apply ~~to~~ the newly constructed livestock waste handling
900 components of new or existing livestock waste handling facilities, other than
901 livestock waste lagoons, ~~that the Department has not approved the design for~~
902 ~~before November 15, 2001~~ the design of which ~~has not been approved by the~~
903 ~~Department prior to November 15, 2001.~~

904
905 The standards and specifications for livestock waste handling facility design and
906 construction contained in this Subpart ~~must~~shall be ~~used~~utilized in the design
907 plans and construction of the waste handling facility in ~~compliance~~accordance
908 with ~~the requirements of~~ 8 Ill. Adm. Code 900.Subpart E.
909

910 (Source: Amended at 47 Ill. Reg. _____, effective _____)
911

912 **Section 506.302 Site Investigation**
913

914 a) The owner or operator of a livestock waste handling facility ~~must~~shall conduct a
915 site investigation in ~~compliance~~accordance with ~~the requirements of~~ this Section
916 to determine the following:
917

- 918 1) Whether aquifer material is considered present (or not present) within 5
919 feet of the planned bottom of the livestock waste handling facility;
- 920 2) Whether the proposed facility is to be located within the floodway or flood
921 fringe of a 100-year floodplain; and
- 922 3) Whether the proposed facility is to be located within a karst area or within
923 400 feet of a natural depression in a karst area.
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927 b) Except for facilities that are proposed to be located within an area designated as
928 "Sink hole areas" on "Karst Terrains and Carbonate Rocks of Illinois", IDNR-
929 ISGS Illinois Map 8, the owner or operator ~~must~~shall obtain soil samples from
930 within the final livestock waste handling facility area or within 20 feet of the
931 livestock waste handling facility boundaries. The sampling ~~must~~shall be
932 performed to determine the presence of aquifer material or karstified carbonate
933 bedrock as follows:
934

- 935 1) The soil sampling ~~must~~shall begin at the soil surface and extend to a depth
936 that includes a minimum of 5 feet below the planned bottom of the
937 livestock waste handling facility native soil or to bedrock;
- 938 2) If bedrock is encountered, additional soil samplings may be necessary to
939 verify the presence of aquifer material or karstified carbonate bedrock;
- 940 3) Continuous samples ~~must~~shall be recovered from each soil sampling; and
- 941 4) Upon completion, any boring used for sampling ~~must~~shall be properly
942 abandoned and sealed ~~under~~pursuant to the Illinois Water Well
943 Construction Code at 77 Ill. Adm. Code 920.120. Any excavation used
944
945
946

947 for sampling that is within the construction boundaries of the livestock
 948 management facility or livestock waste handling facility ~~must~~ shall be
 949 restored by ~~adding the addition of~~ soil compacted in lifts no greater than 6
 950 inches.

951
 952 c) If the Department determines that additional soil samplings are necessary to
 953 ensure the protection of the groundwater, surface water or the structural integrity
 954 of the livestock waste handling facility, the Department ~~must~~ shall require
 955 additional soil samplings.

956
 957 d) As an alternative to performing the soil sampling required under subsection (b) or
 958 (c) ~~of this Section~~, the owner or operator of the livestock waste handling facility
 959 may propose to the Department to ~~use~~ utilize alternative information
 960 ~~sources~~ source(s). The Department ~~must~~ shall evaluate the proposal; determine
 961 whether the alternative information ~~sources~~ source(s) will result in a site
 962 investigation that will be at least as protective of the groundwater, surface water
 963 and the structural integrity of the livestock waste handling facility as would have
 964 resulted from data resulting from soil borings; and notify the owner or operator of
 965 the Department's finding.

966
 967 e) ~~Despite Notwithstanding~~ the other requirements of this Subpart, if aquifer material
 968 is located above or within 5 feet of the lowest point of the livestock waste
 969 handling facility, the design of the facility ~~must comply with~~ shall include the
 970 ~~additional requirements of~~ Section 506.310 ~~of this Subpart~~.

971
 972 f) ~~Despite Notwithstanding~~ the other requirements of this Subpart, if the site
 973 investigation determines that the livestock waste handling facility is to be located
 974 in the flood fringe of a 100-year floodplain, the design of the facility ~~must comply~~
 975 ~~with~~ shall include the ~~additional requirements of~~ Section 506.311 ~~of this Subpart~~.

976
 977 g) If the proposed livestock waste handling facility is to be located within an area
 978 designated as "Sink hole areas" on "Karst Terrains and Carbonate Rocks of
 979 Illinois", IDNR-ISGS Illinois Map 8 or if the results of the soil sampling
 980 conducted ~~under pursuant to~~ Section 506.302(b) ~~of this Subpart~~ indicate the
 981 proposed livestock waste handling facility is to be located in a karst area, the
 982 following requirements ~~must~~ shall be met:

983
 984 1) The Department ~~must~~ shall conduct a visual inspection of the surrounding
 985 area to determine the presence of natural depressions during the pre-
 986 construction site inspection as required ~~under pursuant to~~ 8 Ill. Adm. Code
 987 900.505(a). Construction ~~must~~ may not occur within 400 feet of a natural
 988 depression in a karst area;

989

- 990 2) The owner or operator ~~must~~shall perform one or more soil borings that
 991 ~~must~~shall be located within the final livestock waste handling facility area
 992 or within 20 feet of the livestock waste handling facility boundaries to
 993 determine the presence of voids. The boring ~~must~~shall begin at the soil
 994 surface and extend to a depth that includes a minimum of 20 feet below
 995 the planned bottom of the livestock waste handling facility;
 996
- 997 3) Continuous samples ~~must~~shall be recovered from each boring;
 998
- 999 4) The Licensed Professional Engineer, Licensed Professional Geologist, or
 1000 USDA-NRCS representative designated to perform such functions
 1001 ~~must~~shall evaluate the results of the soil boring. If a void of 1 foot or
 1002 greater in vertical distance is discovered from the soil boring performed
 1003 ~~underpursuant to~~ subsection (g)(2)~~-of this Section~~, the following
 1004 requirements ~~must~~shall be met:
 1005
- 1006 A) The Department may require additional borings to determine the
 1007 extent of the void;
 1008
- 1009 B) ~~DespiteNotwithstanding~~ the other requirements of this Subpart, the
 1010 owner or operator ~~must~~shall submit to the Department a plan for
 1011 the design of the facility that ~~must~~shall include the additional
 1012 design requirements ~~set forth~~in Section 506.312~~-of this Part~~ and
 1013 ~~must~~shall include any additional design requirements~~-deemed~~
 1014 necessary by the Licensed Professional Engineer; and
 1015
- 1016 C) The Department ~~must~~shall review and approve the plan required
 1017 ~~underpursuant to~~ subsection (g)(4)(B) ~~beforeof this Section prior to~~
 1018 construction. The Department may also require additional design
 1019 criteria before the plan is approved and construction may begin.
 1020
- 1021 If, ~~as a result of the soil boring~~, no voids of 1 foot or greater in
 1022 vertical distance are discovered ~~from the soil boring performed~~, the
 1023 design ~~must~~shall include the additional requirements ~~set forth~~in
 1024 Section 506.312~~-of this Subpart~~.
 1025
- 1026 5) Upon completion of the ~~borings~~boring(s) required ~~underpursuant to~~
 1027 subsection (g)~~-of this Section~~, the ~~borings must~~boring(s) shall be properly
 1028 abandoned and sealed ~~underpursuant to~~ the Illinois Water Well
 1029 Construction Code at 77 Ill. Adm. Code 920.120.
 1030
- 1031 h) The site investigation in ~~compliance~~accordance with subsections (b), (c), (d), (e),
 1032 (f), and (g) ~~mustof this Section shall~~ be conducted under the direction of a

Licensed Professional Engineer, a Licensed Professional Geologist, or a representative of the USDA-NRCS designated to perform such functions.

(Source: Amended at 47 Ill. Reg. _____, effective _____)

Section 506.303 Non-lagoon Livestock Waste Storage Volume Requirements

- a) Livestock waste handling facilities *that handle waste in a liquid or semi-solid form shall be designed to contain a volume of not less than the amount of waste generated during 150 days of facility operation at design capacity.* [510 ILCS 77/13(a)(1)(B)] In addition, the design and volume of livestock waste storage structures that handle waste in a liquid or semi-solid form ~~must~~shall include the following:
 - 1) Runoff volumes generated during a 150-day period, including all runoff and precipitation from lots, roofs and other surfaces where precipitation is directed into the storage structure. In no case ~~must~~shall this volume be less than the precipitation and runoff generated by a 25-year, 24-hour storm event and directed to the livestock waste handling facility;
 - 2) The volume of all wash down liquid generated during the 150-day period that is directed into the livestock waste handling facility; and
 - 3) A freeboard of 2 feet, except for structures with a cover or otherwise protected from precipitation.
- b) Livestock waste handling facilities that handle waste in a solid form *shall be sized to store not less than the amount of waste generated during 6 months of facility operation at design capacity.* [510 ILCS 77/14(a)(4)]
- c) Pump stations, settling tanks, pumps, piping, or other components of a livestock waste handling facility that temporarily hold or transport waste to a storage facility sized ~~underpursuant to~~ this Section ~~are~~shall be exempt from the storage volume requirements of this Section.
- d) The design of any livestock waste storage structure required to incorporate a freeboard ~~underpursuant to~~ subsection (a) ~~must of this Section shall~~ include a liquid level board or staff gauge. The liquid level board or staff gauge ~~must~~shall include a mark corresponding to the summation of the livestock waste volume and the additional wash down volume ~~underpursuant to~~ subsection (a) ~~of this Section,~~ and ~~must~~shall be designated as the "START PUMPING" elevation.

(Source: Amended at 47 Ill. Reg. _____, effective _____)

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Section 506.304 General Design and Construction Standards

- a) Livestock waste handling facilities ~~must~~shall 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~~shall be constructed or installed to achieve a hydraulic conductivity equal to or less than 1×10^{-7} centimeters per second.
 - 2) Storage and transport surfaces constructed of concrete and intended to come into contact with livestock waste ~~must~~shall be constructed or installed to achieve a hydraulic conductivity equal to or less than 1×10^{-6} centimeters per second.
 - 3) ~~Despite~~Notwithstanding subsection (a)(1)~~-of this Section~~, storage and transport surfaces constructed at enclosed livestock waste handling facilities intended to house poultry that come into contact with livestock waste that is in dry or solid form ~~must~~shall be constructed or installed to achieve a hydraulic conductivity equal to or less than 1×10^{-6} centimeters per second.
 - 4) The livestock waste handling facility ~~must~~shall withstand~~, at a minimum,~~ the following loads:
 - A) Lateral loads due to soil and equipment, which ~~must~~shall 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~~shall 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.

- 1119 5) The construction materials ~~must~~shall be chemically compatible with the
 1120 livestock waste being handled and stored and the supporting soil materials.
 1121
- 1122 6) The livestock waste handling facility ~~must~~shall be designed and
 1123 constructed to prevent erosion and damage resulting from the transport,
 1124 handling, and storage of livestock waste.
 1125
- 1126 7) Existing subsurface drainage lines in the immediate area of the livestock
 1127 waste handling facility ~~must~~shall be removed or relocated to provide for a
 1128 minimum separation distance of ~~at least not less than~~ 50 feet between the
 1129 outermost extent of the livestock waste handling facility and the
 1130 subsurface drainage line.
 1131
- 1132 8) The minimum separation distance between the outermost extent of the
 1133 livestock waste handling facility and any potential route of groundwater
 1134 contamination, as defined in the Illinois Environmental Protection Act
 1135 [415 ILCS 5], ~~must~~shall be ~~at least not less than~~ 100 feet. In addition, the
 1136 minimum separation distance between the outermost extent of the
 1137 livestock waste handling facility and a non-potable well, an abandoned or
 1138 plugged well, drainage well, or injection well ~~must~~shall be ~~at least not less~~
 1139 ~~than~~ 100 feet.
 1140
- 1141 9) The design and construction of livestock waste handling facilities
 1142 ~~must~~shall include a backflow prevention device to prevent siphoning or
 1143 gravity flow of livestock waste in the opposite direction of intended use.
 1144
- 1145 b) In addition to the requirements listed in this Section, livestock waste handling
 1146 facilities ~~must~~shall be designed and constructed ~~according pursuant~~ to the
 1147 following:
 1148
- 1149 1) Concrete livestock waste storage tanks ~~must~~shall be designed and
 1150 constructed in ~~compliance accordance~~ with MidWest Plan Service
 1151 Concrete Manure Storages Handbook, MWPS-36, or, in the case of
 1152 circular concrete tanks, Circular Concrete Manure Tanks, MWPS TR-9.
 1153
- 1154 2) Components of livestock waste handling facilities that temporarily hold or
 1155 transport waste for ~~the purpose of~~ liquid and solid separation, including
 1156 ~~but not limited to~~ settling basins and settling tanks, ~~must~~shall be designed
 1157 and constructed in ~~compliance accordance~~ with MidWest Plan Service
 1158 Livestock Waste Facilities Handbook, MWPS-18, or NRCS Waste
 1159 Storage Structure, IL313.
 1160
- 1161 3) Components of livestock waste handling facilities holding semi-solid

- 1162 waste, including ~~but not limited to~~ picket dam structures, ~~must~~ shall be
 1163 designed and constructed in ~~compliance~~ accordance with MidWest Plan
 1164 Service Livestock Waste Facilities Handbook, MWPS-18, or similar
 1165 standards used by the USDA-NRCS.
 1166
- 1167 4) Components of livestock waste handling facilities holding solid waste,
 1168 including ~~but not limited to~~ temporary manure stacks, ~~must~~ shall be
 1169 designed and constructed in ~~compliance~~ accordance with MidWest Plan
 1170 Service Livestock Waste Facilities Handbook, MWPS-18, or similar
 1171 standards used by the USDA-NRCS, including ~~but not limited to~~ Waste
 1172 Storage Structure, IL313.
 1173
- 1174 5) Holding ponds used for the storage of livestock feedlot run-off and waste
 1175 storage ponds ~~must~~ shall be designed and constructed in
 1176 ~~compliance~~ accordance with MidWest Plan Service Livestock Waste
 1177 Facilities Handbook, MWPS-18, or similar standards used by the USDA-
 1178 NRCS, including ~~but not limited to~~ Waste Holding Pond, IL425.
 1179
- 1180 c) In areas where the seasonal high water table may encroach upon the bottom of the
 1181 livestock waste storage structure, a perimeter foundation drainage tubing
 1182 ~~must~~ shall be installed as follows:
 1183
- 1184 1) The drainage tubing must be located at a horizontal distance that provides
 1185 sufficient drainage to maintain the water table elevation below the bottom
 1186 of the footings.
 1187
- 1188 2) The tubing ~~must~~ shall drain freely to a surface water outlet or other
 1189 subsurface drainage outlet.
 1190
- 1191 3) The tubing must include a sampling port to allow the monitoring,
 1192 sampling, and reporting of any discharge from the tubing in
 1193 ~~compliance~~ accordance with ~~the requirements of~~ 8 Ill. Adm. Code
 1194 900.Subpart E.
 1195
- 1196 4) The owner or operator ~~must~~ shall take necessary measures to divert the
 1197 discharge from the drainage tubing, away from surface water, if
 1198 monitoring results ~~under pursuant to~~ subsection (c)(3) ~~of this Section~~
 1199 indicate that the tubing is discharging livestock waste. Such measures
 1200 ~~must~~ shall include, ~~but not be limited to~~, diverting the flow to crop
 1201 production area naturally lower in elevation than the livestock facility, or
 1202 providing a manhole with a gate valve that could be closed in an
 1203 emergency.
 1204

1205 d) The owner or operator of the livestock waste handling facility may, upon written
 1206 request and with written approval from the Department, modify or exceed these
 1207 standards ~~in order~~ to meet site specific objectives. The owner or operator
 1208 ~~must~~shall demonstrate that such modification ~~will~~shall be at least as protective of
 1209 the groundwater, surface water, and the structural integrity of the livestock waste
 1210 handling facility as the requirements of this Part.

1211
 1212 (Source: Amended at 47 Ill. Reg. _____, effective _____)
 1213

1214 **Section 506.305 Additional Concrete Design and Construction Standards**
 1215

1216 a) In addition to the requirements ~~set forth~~ in Section 506.304 ~~of this Subpart~~, the
 1217 design and construction of concrete components of livestock waste handling
 1218 facilities ~~must~~shall meet the following requirements:
 1219

1220 1) Construction joints ~~must~~shall be incorporated into the concrete in
 1221 ~~compliance~~accordance with the design guidance provided in MidWest
 1222 Plan Service Concrete Manure Storages Handbook, MWPS-36, or, in the
 1223 case of circular concrete tanks, Circular Concrete Manure Tanks, TR-9;
 1224

1225 2) Water stops ~~must~~shall be incorporated into construction joints in
 1226 ~~compliance~~accordance with the design guidance provided in MidWest
 1227 Plan Service Concrete Manure Storages Handbook, MWPS-36, or, in the
 1228 case of circular concrete tanks, Circular Concrete Manure Tanks, TR-9;
 1229

1230 3) Concrete minimum compressive strength requirements ~~must~~shall be in
 1231 ~~compliance~~accordance with the design guidance provided in Table 28 of
 1232 MidWest Plan Service Concrete Manure Storages Handbook, MWPS-36,
 1233 or, in the case of circular concrete tanks, Table 1 of Circular Concrete
 1234 Manure Tanks, TR-9; and
 1235

1236 4) The strength, cover, and bending requirements for concrete reinforcement
 1237 ~~must~~shall be in ~~compliance~~accordance with the design guidance provided
 1238 in Table 1 of MidWest Plan Service Concrete Manure Storages Handbook,
 1239 MWPS-36, or, in the case of circular concrete tanks, Circular Concrete
 1240 Manure Tanks, TR-9.
 1241

1242 b) The owner or operator of the livestock waste handling facility may, upon written
 1243 request and with written approval from the Department, modify or exceed these
 1244 standards ~~in order~~ to meet site specific objectives. The owner or operator
 1245 ~~must~~shall demonstrate that such modification ~~will~~shall be at least as protective of
 1246 the groundwater, surface water, and the structural integrity of the livestock waste
 1247 handling facility as the requirements of this Part.

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(Source: Amended at 47 Ill. Reg. _____, effective _____)

Section 506.306 Additional Metal Design and Construction Standards

- a) In addition to the requirements ~~set forth~~ in Section 506.304 ~~of this Subpart~~, the design and construction of metal components of livestock waste handling facilities mustshall meet the following requirements:
 - 1) All metal surfaces mustshall be protected by a corrosion resistance system;
 - 2) Concrete footings and bases mustshall meet the strength and load requirements ~~set forth~~ in Sections 506.304 and 506.305 ~~of this Subpart~~;
 - 3) The connection of dissimilar metals mustshall be minimized; and
 - 4) Metal components of livestock waste handling facilities mustshall be constructed or installed according to the manufacturer's specifications and guidelines.
- b) The owner or operator of the livestock waste handling facility may, upon written request and with written approval from the Department, modify or exceed the standards of this Section ~~in order~~ to meet site specific objectives. The owner or operator mustshall demonstrate that such modification willshall be at least as protective of the groundwater, surface water, and the structural integrity of the livestock waste handling facility as the requirements of this Part.

(Source: Amended at 47 Ill. Reg. _____, effective _____)

Section 506.307 Additional Earthen Material Design and Construction Standards

- a) In addition to the requirements ~~set forth~~ in Section 506.304 ~~of this Subpart~~, the design and construction of earthen components of livestock waste handling facilities mustshall meet the following requirements:
 - 1) The construction and compaction of the earthen component mustshall be carried out to reduce void spaces and allow the earthen component to support the loadings imposed by the livestock waste without settling;
 - 2) The minimum top width of any berm incorporated into the design of any earthen component mustshall be 8 feet; and
 - 3) Walls incorporated into the design of an earthen component mustshall

1291 have side slopes not steeper than a 2.5 to 1 ratio of horizontal to vertical.

1292
1293 b) The floor of enclosed deep bedded livestock systems and poultry litter systems
1294 that handle waste in dry or solid form, and ~~use~~utilize an earthen base ~~must~~shall be
1295 constructed to achieve a hydraulic conductivity of equal to or less than 1×10^{-6}
1296 centimeters per second.

1297
1298 c) The owner or operator of the livestock waste handling facility may, upon written
1299 request and with written approval from the Department, modify or exceed these
1300 standards ~~in order~~ to meet site specific objectives. The owner or operator
1301 ~~must~~shall demonstrate that such modification ~~will~~shall be at least as protective of
1302 the groundwater, surface water, and the structural integrity of the livestock waste
1303 handling facility as the requirements of this Part.

1304
1305 (Source: Amended at 47 Ill. Reg. _____, effective _____)
1306

1307 **Section 506.308 Additional Synthetic Material Design and Construction Standards**
1308

1309 a) In addition to the requirements ~~set forth~~ in Section 506.304 ~~of this Subpart~~, the
1310 design and construction of synthetic components of livestock waste handling
1311 facilities ~~must~~shall meet the following requirements:

- 1312 1) The synthetic material ~~must~~shall be supported by a compacted base free
1313 from sharp objects;
- 1314 2) The use of field seams ~~must~~shall be minimized. All field seams ~~must~~shall
1315 be made according to the manufacturer's specifications and oriented in the
1316 direction subject to the least amount of stress;
- 1317 3) The synthetic material ~~must~~shall be resistant to or otherwise protected
1318 from damage from construction or operation and degradation by
1319 ultraviolet light;
- 1320 4) Synthetic components ~~must~~shall be designed for use in livestock waste
1321 handling facilities and ~~must~~shall be installed according to the
1322 manufacturer's specifications and guidelines;
- 1323 5) The liner ~~must~~shall be chemically compatible with the livestock waste
1324 being handled and stored and the supporting soil materials; and
- 1325 6) The liner ~~must~~shall have sufficient strength and durability to function at
1326 the site under the maximum expected loadings imposed by the waste and
1327 equipment and stresses imposed by settlement, temperature, construction,
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1334 and operation.

1335

1336 b) The owner or operator of the livestock waste handling facility may, upon written
1337 request and with written approval from the Department, modify or exceed these
1338 standards ~~in order~~ to meet site specific objectives. The owner or operator
1339 mustshall demonstrate that such modification willshall be at least as protective of
1340 the groundwater, surface water, and the structural integrity of the livestock waste
1341 handling facility as the requirements of this Part.

1342

(Source: Amended at 47 Ill. Reg. _____, effective _____)

1344

1345 **Section 506.309 Additional Wooden Material Design and Construction Standards**

1346

1347 a) In addition to the requirements ~~set forth~~ in Section 506.304 ~~of this Subpart~~, the
1348 design and construction of wooden components of livestock waste handling
1349 facilities mustshall meet the following requirements:

1350

1351 1) Wooden materials mustshall be naturally resistant or treated to resist
1352 damage from decay and corrosion; and

1353

1354 2) Construction fasteners mustshall be resistant to corrosion.

1355

1356 b) The owner or operator of the livestock waste handling facility may, upon written
1357 request and with written approval from the Department, modify or exceed these
1358 standards ~~in order~~ to meet site specific objectives. The owner or operator
1359 mustshall demonstrate that such modification willshall be at least as protective of
1360 the groundwater, surface water, and the structural integrity of the livestock waste
1361 handling facility as the requirements of this Part.

1362

(Source: Amended at 47 Ill. Reg. _____, effective _____)

1364

1365 **Section 506.310 Additional Design and Construction Standards for Construction in an**
1366 **Area with Shallow Aquifer Material**

1367

1368 a) In addition to the other requirements of this Subpart, if aquifer material is located
1369 above or within 5 feet of the lowest point of the proposed livestock waste
1370 handling facility as determined under Section 506.302 ~~of this Subpart~~, the design
1371 and construction of the facility mustshall comply with ~~the requirements of~~ this
1372 Section.

1373

1374 b) Livestock waste handling facility components constructed of concrete mustshall
1375 ensure that concrete footings extend below the maximum frost depth.

1376

- 1377 c) Livestock waste handling facility components constructed of earthen materials
 1378 ~~must~~~~shall~~ include the installation of an earthen or synthetic liner.
 1379
 1380 1) Earthen liners ~~must~~~~shall~~ meet the following requirements:
 1381
 1382 A) The liner ~~must~~~~shall~~ consist of in-situ soil, borrowed clay, or
 1383 clay/bentonite mixtures;
 1384
 1385 B) The minimum liner thickness ~~must~~~~shall~~ be 2 feet;
 1386
 1387 C) The liner ~~must~~~~shall~~ be constructed in lifts not to exceed 6 inches in
 1388 compacted thickness; and
 1389
 1390 D) The construction and compaction of the liner ~~must~~~~shall~~ be carried
 1391 out to reduce void spaces and allow the liner to support the
 1392 loadings imposed by the waste disposal operation without settling.
 1393
 1394 2) Synthetic liners ~~must~~~~shall~~ meet the design and construction requirements
 1395 ~~set forth~~ in Section 506.308 ~~of this Subpart~~ and ~~must~~~~shall~~ have a minimum
 1396 thickness of 40 mil.
 1397
 1398 3) The design, construction, and installation of the liner required
 1399 ~~under~~~~pursuant to~~ this Section ~~must~~~~shall~~ be conducted under the direction
 1400 of a Licensed Professional Engineer. Upon completion of construction or
 1401 installation of the liner, the supervising Licensed Professional Engineer
 1402 ~~must~~~~shall~~ certify that the liner meets all the applicable requirements of this
 1403 Section. Such certification ~~must~~~~shall~~ include all supporting justification
 1404 and data.
 1405
 1406 4) The owner or operator of the livestock waste handling facility ~~must~~~~shall~~
 1407 submit to the Department a copy of the Licensed Professional Engineer's
 1408 liner certification ~~before~~~~prior to~~ placing the livestock waste handling
 1409 facility in service in ~~compliance~~~~accordance~~ with 8 Ill. Adm. Code
 1410 900.506(a).
 1411
 1412 d) The owner ~~or~~~~and~~ operator of the livestock waste handling facility may, upon
 1413 written request and with written approval from the Department, modify or exceed
 1414 these standards ~~in order~~ to meet site specific objectives. The owner or operator
 1415 ~~must~~~~shall~~ demonstrate that such modification ~~will~~~~shall~~ be at least as protective of
 1416 the groundwater, surface water, and the structural integrity of the livestock waste
 1417 handling facility as the requirements of this Part.
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 1419

(Source: Amended at 47 Ill. Reg. _____, effective _____)

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Section 506.311 Additional Design and Construction Standards for Construction in a Flood Fringe Area

No new non-lagoon livestock management facility or livestock waste handling facility may be constructed within the floodway of a 100-year floodplain. A new livestock management facility or livestock waste handling facility may be constructed within the portion of a 100-year floodplain that is within the flood fringe and outside the floodway provided that the facility is designed and constructed to be protected from flooding and meets the requirements set forth in the Rivers, Lakes, and Streams Act [615 ILCS 5], Section 5-40001 of the Counties Code [55 ILCS 5/5-40001], and executive order number 4 (1979). [510 ILCS 77/13(b)(1)]

~~Despite~~~~Notwithstanding~~ the other requirements of this Subpart or 8 Ill. Adm. Code 900, the following criteria ~~must~~~~shall~~ be incorporated into the design of a non-lagoon livestock management facility or livestock waste handling facility proposed for construction in the flood fringe of a 100-year floodplain:

- a) The berms and walls ~~must~~~~shall~~ be designed and constructed to withstand the hydrostatic pressures from flood waters that may be exerted on the berms and walls during a flood event;
- b) The elevation of the lowest point on the berm top and wall ~~must~~~~shall~~ be at the elevation of the 100-year flood plus a minimum of two feet;
- c) For facilities with unequal length and width dimensions, the facility ~~must~~~~shall~~ be oriented with the longest dimension parallel to the expected direction of floodwater flow; and
- 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 ~~in order~~ to meet site specific objectives. The owner or operator ~~must~~~~shall~~ demonstrate that such modification ~~will~~~~shall~~ be at least as protective of the groundwater, surface water, and the structural integrity of the livestock waste handling facility as the requirements of this Part.

(Source: Amended at 47 Ill. Reg. _____, effective _____)

Section 506.312 Additional Design and Construction Standards for Construction in a Karst Area

- a) *A new non-lagoon livestock waste handling facility constructed in a karst area shall be designed to prevent seepage of the stored material into groundwater in accordance with ASAE EP393.2. Owners or operators of proposed facilities should consult with the local soil and water conservation district, the University*

1463 *of Illinois cooperative extension service, or other local, county, or state resources*
1464 *relative to determining the possible presence or absence of such areas. [510*
1465 *ILCS 77/13(b)(2)]*
1466

- 1467 b) Any livestock waste handling facility constructed in a karst area ~~must~~shall be
1468 designed and constructed utilizing a rigid material such as concrete or steel.
1469
1470 c) The owner or operator of the livestock waste handling facility may, upon written
1471 request and with written approval from the Department, modify or exceed these
1472 standards ~~in order~~ to meet site specific objectives. The owner or operator
1473 ~~must~~shall demonstrate that such modification ~~will~~shall be at least as protective of
1474 the groundwater, surface water, and the structural integrity of the livestock waste
1475 handling facility as the requirements of this Part.
1476

1477 (Source: Amended at 47 Ill. Reg. _____, effective _____)