567—69.16 (455B) Waste stabilization ponds.

69.16(1) *General requirements.* Waste stabilization ponds shall only be used for nonresidential applications and shall be designed by an Iowa-licensed engineer. Waste stabilization ponds may be used if designed and constructed in accordance with the following criteria and provided the effluent is discharged in accordance with the requirements of the NPDES general permit listed in rule 567—69.4(455B). A septic tank sized according to rule 567—69.8(455B) shall precede a waste stabilization pond.

69.16(2) *Location.* Waste stabilization ponds must meet the following separation distances:

a. 1,000 feet from the nearest inhabitable residence, commercial building, or other inhabitable structure. If the inhabitable or commercial building is the property of the owner of the proposed treatment facility or there is written agreement with the owner of the building, this separation criterion shall not apply. Any such written agreement shall be filed with the county recorder and recorded for abstract of title purposes, and a copy submitted to the department.

b. 1,000 feet from public shallow wells.

c. 400 feet from public deep wells.

d. 400 feet from private wells.

e. 400 feet from lakes and public impoundments.

f. 25 feet from property lines and rights-of-way.

69.16(3) *Size.*

a. Dimensions. Ponds shall have a length not exceeding three times the width.

b. Capacity. When domestic sewage from a septic tank is to be discharged to a waste stabilization pond, the capacity of the pond shall be equivalent to 180 times the average daily design flow.

c. Depth. The wastewater depth for a waste stabilization pond shall be 3 feet to 5 feet and shall be uniform.

d. Freeboard. A minimum freeboard of 2 feet shall be maintained at all times.

69.16(4) *Embankments.*

a. Seal. Embankments shall be constructed of impermeable materials and shall be compacted. The bottom of the waste stabilization pond shall be cleared and leveled to the required elevation and shall be lined with an impermeable natural or man-made material. Seepage loss through the sides and bottom shall be less than 1/16 inch per day.

b. Slopes. The ratio of inside embankment slopes shall be 3 horizontal to 1 vertical. The outside embankment slope ratio shall be at least 3:1.

c. Berm top. Berm tops shall be at least 4 feet wide.

d. Cover. Embankments shall be seeded from the outside toe to the inside high water line. From the high water line down the embankment diagonally, about 5 feet shall be riprapped for erosion and vegetation control.

69.16(5) *Inlet and outlet structures.*

a. Inlet. The inlet shall be placed no higher than 12 inches above the bottom of the pond. It shall discharge near the middle of the pond at a point opposite the overflow structure and onto a concrete splash plate at least 2 feet square.

b. Outlet. The outlet pipe shall withdraw water from a submerged depth of at least 1 foot. The intake for the outlet pipe shall be 3 to 5 feet from the embankment.

c. Separation. The inlet and outlet should be separated to the maximum extent possible, ideally by a berm or baffle constructed in the lagoon to prevent short-circuiting.

69.16(6) *Drainage.* All surface water shall be diverted away from the waste stabilization pond.

69.16(7) *Effluent sampling.* All waste stabilization ponds having an open discharge shall be sampled in accordance with the requirements of NPDES General Permit No. 4 if applicable.

69.16(8) *Maintenance.*

a. Fencing. All waste stabilization ponds are to be fenced adequately to prevent entrance of livestock and to discourage entrance by people into the area. Signs shall be posted warning of possible health and safety hazards.

b. *Vegetation.* Vegetation on the top and sides of the berm shall be mowed and the length maintained. No trees shall be allowed to become established.

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