21—44.55(200) Secondary containment for liquid fertilizers and liquid soil conditioner storage. All liquid fertilizer and soil conditioner storage facilities, except anhydrous ammonia storage facilities, as defined in rule 21—44.51(200) shall be located within a secondary containment structure. The secondary containment structure shall have a volume 20 percent greater than the volume of the largest storage tank within the area, plus the space occupied by the other tanks in the area, and may be constructed of earth, concrete, or a combination of both.

44.55(1) Secondary containment structures constructed entirely or partially of earth shall comply with the following minimum requirements:

a. The soil surface, including dike, shall be constructed to prevent downward water movement at rates greater than 1×10^{-6} cm/sec., and shall be maintained to prevent downward water movement at rates greater than 1×10^{-5} cm/sec. The method of achieving a satisfactory seal shall be determined by a registered engineer.

b. Dike shall be protected against erosion. If the slope is 30 degrees or less, grass can be sufficient protection, provided it does not interfere with the required soil seal. If greater than 30 degrees, other methods of erosion protection shall be used.

c. Top width of dike shall be no less than 2½ feet. The slope should be no greater than 45 degrees.

d. The diked area shall not have a relief outlet and valve. The base shall slope to a collecting spot where storm water can be pumped over the berm, provided the liquid is not contaminated with fertilizer or soil conditioner materials. If contaminated with liquid fertilizer or soil conditioner, the liquid shall be field applied at normal fertilizer application rates or transferred to auxiliary storage tanks.

e. Storage containers shall be anchored or placed on a raised area to prevent flotation or instability in the event of discharge into the secondary containment facility.

44.55(2) Secondary containment structures constructed of concrete shall be watertight and comply with the following requirements:

a. The base of the containment structure shall be designed to support all tanks and their contents.

b. The diked area shall not have a relief outlet and valve. The concrete base shall be sloped to a collecting area for recovery of fertilizer material. Storm water may be discharged over the containment wall, provided the liquid is not contaminated with fertilizer or soil conditioner material. If contaminated, the liquid shall be field applied at normal fertilizer application rates or transferred to auxiliary storage tanks.

c. Storage containers shall be anchored or placed on a raised area to prevent flotation or instability in the event of discharge into the secondary containment facility.

d. Routine inspection is required to ensure against concrete cracks. Where cracks exist, storage integrity shall be maintained with acceptable sealant.