

Kansas Administrative Regulations

Kansas Department of Agriculture—Division of Water Resources

Article 40.—Design of Earth Dams

5-40-46. Side slopes of an earthen dam.

(a) The side slopes of each earthen dam shall be designed and constructed to be stable and easily maintained.

(b) A slope stability analysis shall be required on each high-impact dam.

(c) If a slope stability analysis is required, the minimum factor of safety shall be based on the steady-state seepage load condition with the water level at the elevation of the lowest open-channel spillway or other uncontrolled spillway with a trash rack that meets the requirements of K.A.R. 5-40-51, as shown in the following table:

Class size	Hazard class	Factor of safety
4	A	1.4
3, 4	B	1.5
1, 2, 3, 4	C	1.5

(d) Each dam whose face is subject to prevailing winds shall be given additional protection from erosion caused by wave action, which may include a flatter side slope, the use of riprap, or the use of grass or vegetation adapted to fluctuating water levels. The design of any slope protection for the embankment and the auxiliary spillway or service spillway shall be shown on the plans. If no slope protection is provided, regardless of the orientation of the dam, the design report shall provide justification for not having slope protection.

(e) The steepest allowable design side slope shall be three horizontal units to one vertical unit on the upstream side of the dam, and two and one-half horizontal units to one vertical unit on the downstream slope of the dam.

(Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

***** Authenticated Kansas Administrative Regulation *****