7080.2210 TRENCHES AND SEEPAGE BEDS.

Subpart 1. **Characteristics.** To qualify as a trench or seepage bed system, the system must meet the requirements of items A to E:

A. employ flow values in parts 7080.1850 to 7080.1885;

B. meet applicable technical requirements of parts 7080.1900 to 7080.2030, 7080.2050, and 7080.2100;

C. provide flow measurement if a pump is to be employed;

D. meet the requirements of part 7080.2150, subparts 2 and 3, except subpart 3, item M; and

E. meet the requirements of subparts 2 to 4.

Subp. 2. **General.** Seepage bed placement must be limited to areas having natural slopes of less than six percent. Absorption areas for seepage beds and trenches must not be placed in soils with a loading rate of less than 0.45 gallons per day per square foot or as shown in Table IX or IXa in part 7080.2150, subpart 3, item E. Seepage beds must not be located in floodplains.

Subp. 3. **Sizing of trenches and seepage beds.**

A. The trench bottom absorption area is calculated by dividing the design flow by the appropriate soil loading rate in Table IX or IXa in part 7080.2150, subpart 3, item E. If gravity distribution is used in seepage beds, the seepage bed absorption area is calculated by dividing the design flow by the soil loading rate in Table IX or IXa in part 7080.2150, subpart 3, item E, multiplied by 1.5. If pressure distribution is used in seepage beds, the seepage bed absorption area is determined by dividing the design flow by the soil loading rate in Table IX or IXa in part 7080.2150, subpart 3, item E.

B. The minimum sidewall absorption is six inches. The bottom absorption area is allowed to be reduced, for trenches only, by the following:

Sidewall absorption - inches	**Bottom area reduction**
12 to 17	20%
18 to 23	34%
24	40%

A 40 percent reduction is not allowed with a loading rate of 1.2 gallons per day per square foot.

Subp. 4. **Design and construction of trenches and seepage beds.**

A. Trenches must be no more than 36 inches wide. Any excavation wider than 36 inches is a seepage bed. A seepage bed must not be wider than 12 feet if gravity distribution is used and 25 feet if pressure distribution is used. Natural, undisturbed soil must exist between multiple trenches and seepage beds. Multiple seepage beds must be spaced at one-half the bed width.

B. A vertical inspection pipe at least four inches in diameter must be installed and secured in the distribution medium of every trench or seepage bed. The inspection pipe must be located at an end opposite from where the sewage tank effluent enters the medium. The inspection pipe must have three-eighths inch or larger perforations spaced vertically no more than six inches apart. At least two perforations must be located in the distribution medium. Perforations must not be located above the geotextile cover or wrap. The inspection pipe must extend to the bottom of the distribution medium, be secured, and be capped flush with or above finished grade.

C. The top and bottom of the distribution medium must be level along the contour. Sidewalls must be as vertical as practical and not intentionally sloped.

D. The minimum depth of soil cover, including topsoil borrow, over the distribution medium is 12 inches.

E. Trenches or seepage beds must be backfilled and crowned above finished grade to allow for settling. The top six inches of the backfill must have the same texture as the adjacent soil.

F. Trenches and seepage beds in which the distribution media is in contact with any of the United States Department of Agriculture soil textures classified as sand or loamy sand or soils with a percolation rate of 0.1 to 5 minutes per inch must employ one or more of the following measures:

(1) employ pressure distribution according to part 7080.2050, subpart 4;

(2) divide the total dispersal area into multiple units that employ serial distribution, with each dispersal unit having no greater than 15 percent of the required bottom absorption area; or

(3) have a vertical separation distance of at least five feet.

Statutory Authority: *MS s 115.03; 115.55*

History: *32 SR 1347; 35 SR 1353*

Published Electronically: *October 10, 2013*