

**567—69.12 (455B) Drip irrigation.****69.12(1) General design.**

*a. Pretreatment required.* Drip irrigation systems must be preceded by a secondary treatment system discharging a treated, filtered effluent with BOD and TSS values less than 30 mg/L.

*b. Separation from groundwater.* Drip irrigation systems shall have a minimum vertical separation distance to high groundwater level or bedrock of 20 inches.

*c. Maximum hillside slope.* Drip irrigation systems shall not be installed on slopes of more than 25 percent.

*d. Additional specifications.* Specifications given in these rules for drip irrigation are minimal and may not be sufficient for all applications. Technical specifications are changing with experience and research. Other design information beyond the scope of these rules may be necessary to properly design a drip irrigation system.

**69.12(2) Emitter layout.**

*a. Discharge rate.* Systems shall be designed so that emitters discharge approximately 1 gpm at 12 psi or other rates suggested by the manufacturer and approved by the administrative authority.

*b. Grid size.* Drip lines shall be run in parallel lines 2 feet apart. Emitters shall be placed in the drip lines at 2-foot intervals, with emitters offset 1 foot between adjacent lines. Each emitter shall cover 4 square feet of absorption area.

*c. Field size.* The field shall be sized according to the application rate given in Table IV.

*d. Depth of drip lines.* Drip lines shall be laid on the contour, 6 to 12 inches deep, with a maximum line length of 100 feet. Lines may be of unequal length.

*e. Interconnection.*

(1) All drip lines shall be connected to supply and return headers such that the entire system will automatically drain back to the dosing tank or pump pit upon completion of the pumping cycle. Vacuum breakers shall be positioned at the high point of the supply and return headers.

(2) The dosing tank shall have a high water audio/visual alarm.

**Table IV**  
**Length of Drip Line Required per Bedroom**

Percolation Rate min./in.	Design Hyd. Loading gpd/sq. ft.	Length of Drip Line feet/bedroom
1 – 5	2.0	40
6 – 15	1.3	60
16 – 30	0.9	90
31 – 45	0.6	150
46 – 60	0.4	200
61 – 90	0.2	400
91 – 120	0.1	800