

- WAC 246-272B-06650 Subsurface drip systems.** (1) Subsurface drip systems must have a:
- (a) Supply line to deliver effluent to the dripline; and
  - (b) Return line to route filter and line flushing waste back to the primary treatment unit.
- (2) Where Treatment Level C or better is provided, the return line may be double-plumbed to the primary treatment tank and pump chamber to return flush water to the pump chamber under normal operation, and to the primary tank during chemical cleaning flushes.
- (3) The dripline must be installed to a minimum depth of eight inches into original, undisturbed soil. Where frost is a concern, the design engineer should consider deeper placement.
- (4) Maximum dripline installation depth is three feet below finished grade.
- (5) For determining vertical separation, the infiltrative surface for a drip system may be assumed to be the same as installed dripline depth.
- (6) Air and vacuum relief valves must be installed:
- (a) At the high point of each distribution sector on both the supply and return sides; and
  - (b) In a valve box with access to finished grade, including a gravel sump.
- (7) All mechanical and electrical components must be rated for wastewater applications.
- (8) Electrical components and wiring used in drip system design must comply with requirements of WAC 296-46B-501, Special occupancies NEC Class I locations.
- (9) Electrical control and other electrical components must be approved by Underwriters Laboratories (UL) or an equivalent rating agency.
- (10) Duplex alternating pumps that provide timed dosing to the drainfield are required.
- (11) Quick disconnect couplers or an equivalent quick disconnect system for all sewage pumps are required.
- (12) If float switches are used, they must be mounted independently of the pump discharge and transport line.
- (13) The control panel for the pumps must:
- (a) Include read-outs for a flow meter and a pressure gauge, calibrated for the system design flow and pressure range;
  - (b) Include a means to track and verify dosing;
  - (c) Be in an enclosure that is secure from tampering and, if outside, resistant to weather;
  - (d) Be equipped with both audible and visual alarms;
  - (e) Include the capacity for remote or off-site operation and alarm notification; and
  - (f) Provide a means to connect to an emergency power generator.
- (14) Automatic flushing of the filters, manifolds, and dripline is required.
- (15) A chemical injector port must be installed at an appropriate location in the drip system to allow future injection of chemicals when needed for cleaning.
- (16) Any additional filtration recommended by the dripline manufacturer must be provided.
- (17) A flow meter with totalizer feature and a pressure gauge, both with remote read-out capability, are required for all drip systems.

(18) All components requiring regular service or used to monitor system performance, such as filters, actuated valves, flow meters, and pressure gauges, must be installed in a valve box with locking lid and access at finished grade.

(19) A minimum of twelve equally spaced timed doses per day per distribution zone is required.

(20) Calculation of the absorption area must be based on:

(a) The design flow that meets the requirements of WAC 246-272B-06150; and

(b) The requirements in this section, including Table 7.

(21) Maximum nominal emitter discharge rates are:

(a) One and three-tenths gallons per hour in soil types 1, 2, and 3; and

(b) Six-tenths gallons per hour in soil types 4 and 5.

(22) The values in Table 7 must be used to determine the minimum number of emitters and minimum dripfield area required for a subsurface drip system.

(a) Select the desired emitter and dripline spacing.

(b) Determine the minimum number of emitters required by dividing the design flow of the LOSS by the maximum daily emitter discharge that corresponds to the soil type and selected emitter and dripline spacing.

(c) Calculate the minimum dripfield area by multiplying the minimum number of emitters by the area per emitter value that corresponds to the chosen emitter and dripline spacing.

**Table 7: Maximum Daily Emitter Discharge Rates**

			Maximum Daily Emitter Discharge (gpd/Emitter)*				
			Soil Types				
Emitter Spacing (inches)	Dripline Spacing (inches)	Area per Emitter (ft <sup>2</sup> )	1**	2	3	4	5
6	12	0.5	0.5	0.5	0.25	0.2	0.125
12	12	1.0	1	1	0.5	0.4	0.25
12	18	1.5	1	1	0.8	0.6	0.4
12	24	2.0	1	1	0.8	0.8	0.4
24	24	4.0	1	1	1	1	0.4

\* Table values apply regardless of additional treatment.

\*\* Requires treatment to Treatment Level B or better.

[Statutory Authority: RCW 70.118B.020. WSR 11-12-035, § 246-272B-06650, filed 5/25/11, effective 7/1/11.]