Fact Sheet

Large On-site Sewage Systems (LOSS)

DRAINFIELD REDUCTIONS

Background

In 2011 we adopted three new provisions allowing flexibility (reductions) in drainfield design when we updated the LOSS rule, chapter 246-272B WAC.

Key points

1. The department "may", but is not required to, approve any of the drainfield reductions allowed in the rule.
2. The LOSS rule includes the following possible reductions, under certain conditions:
   a. Increase the hydraulic loading to the receiving soil. (Subsurface drip systems may not increase the loading rate and must be sized using Table 7 in WAC 246-272B-06650.)
   b. Decrease vertical separation to no less than two feet.
   c. Reduce the size of the installed drainfield from 150% to 100%.
3. The department may allow a drainfield reduction if the LOSS effluent meets Treatment Level C or better before drainfield treatment. (However, effluent must meet Treatment Level HQE from LOSS larger than 14,500 gallons per day requesting reduction in vertical separation.)
4. The department shall not approve more than one design reduction to the drainfield.
5. In all cases, the design engineer must explain why a reduction is needed or advisable and demonstrate how the alternate LOSS design will be able to provide reliable treatment over the long term.
6. The department may impose preconstruction conditions, such as seasonal high water table evaluation or groundwater mounding analysis, and operational conditions like more frequent monitoring and reporting.

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LOSS RULE LANGUAGE RELATED TO DRAINFIELD REDUCTION

WAC 246-272B-06350 Drainfields

(17) With documentation and justification from the design engineer, the department may authorize one of the following design changes for a LOSS that meets Treatment Level C or better and has a design flow of 14,500 gpd or less:
  (a) The hydraulic loading rate in Table 1, WAC 246-272B-03400, may be increased:
    (i) Up to a factor of two for soil types 2-4; or
    (ii) Up to a factor of one and one-half for soil type 5.
  (b) Vertical separation may be reduced as described in WAC 246-272B-06100; or
  (c) The constructed drainfield capacity may be reduced from one hundred fifty percent to one hundred percent if the reserve area has the capacity to receive one hundred percent of the design flow.

(18) With documentation and justification from the design engineer, the department may authorize one of the following design changes for a LOSS that meets Treatment Level C or better and has a design flow greater than 14,500 gpd.
  (a) The Table 1 hydraulic loading rate may be increased up to a factor of one and one-half for soil types 2-4.
  (b) Vertical separation may be reduced as described in WAC 246-272B-06100; or
  (c) The constructed drainfield capacity may be reduced from one hundred fifty percent to one hundred percent if the reserve area has the capacity to receive one hundred percent of the design flow.

(19) The department shall only approve one design change listed in subsections (17) or (18) of this section for any proposed LOSS.

(20) The reserve area for the drainfield must be calculated based on maximum hydraulic loading rates in Table 1 in WAC 246-272B-03400 and may not be reduced by the provisions listed in subsection (17) or (18) of this section.

WAC 246-272B-06100 Vertical Separation

(2) The department may allow a reduction of vertical separation to a minimum of two feet when all the following criteria are met:
  (a) Soil types 2-5.
  (b) Treatment is provided prior to dispersal as follows:
    (i) For LOSS with design flows up to and including 14,500 gpd, Treatment Level C or better.
    (ii) For LOSS with design flows greater than 14,500 gpd, Treatment Level HQE.
  (c) Information collected during the site review process clearly demonstrates minimum vertical separation can be maintained across the primary and reserve drainfield areas.
  (d) An HGR is submitted that demonstrates that the site can safely and adequately disperse the effluent; and
  (e) The monitoring and reporting plan includes a sampling program and schedule that demonstrates that required performance standards are consistently met.