

**WAC 246-272B-03400 Soil characterization.** (1) The owner shall install enough test pits to characterize soil type and conditions across both the primary and reserve drainfield areas.

(2) Each test pit must be:

(a) Prepared so the soil profile can be viewed in original undisturbed position to a depth of at least three feet deeper than the anticipated infiltrative surface, or to a restrictive layer or to seasonal high water table, whichever is shallower; and

(b) Open and accessible during the department's inspection.

(3) Soil logs must be prepared by either a soil scientist or design engineer and include the following:

(a) Numbers that correspond to the test pit number;

(b) Collection date;

(c) Weather conditions on the day the test pits were excavated;

(d) Soil names and particle size limits of the USDA NRCS Soil Classification System;

(e) The most restrictive soil type for hydraulic loading;

(f) The most coarse soil type for treatment;

(g) Groundwater depth in profile, if present;

(h) The presence of fill or debris in the soil profile;

(i) Other characteristics that affect the treatment or water movement potential of the soil;

(j) The following information, by horizon:

(i) Soil type using Table 1 below;

(ii) Depth;

(iii) Thickness;

(iv) Texture;

(v) Structure;

(vi) Percent rock;

(vii) Relative soil density;

(viii) Moist soil color using a Munsell soil color chart to describe both the soil matrix and mottling, if present; and

(ix) Unusually wet soil; and

(k) If prepared by a design engineer, the design engineer's stamp, signature, and date.

(4) The department may require the owner to submit soil samples for laboratory analysis to confirm soil type and to support the proposed hydraulic loading rates.

(a) Soil analyses must be performed by a qualified laboratory and reported using the USDA NRCS Soil Classification System.

(b) Each sample must be identified by project name, date collected, weather conditions, test pit number, and depth where the sample was collected to the nearest inch.

(c) The owner shall provide a copy of the laboratory results to the department.

(5) When water table measurements are needed to assess the impact of the LOSS on the environment and the highest seasonal water table cannot be reliably determined, the department may require an analysis based on:

(a) Continuous water table measurements at the site recorded during months of probable high-water table conditions; and

(b) Corresponding average monthly precipitation data for the area from the national weather service.

(6) The department may require additional soil information relevant to the LOSS design.

**Table 1: Soil types and Hydraulic Loading Rates**

<b>Soil Type</b>	<b>Soil Textural Classification</b>	<b>Maximum Hydraulic Loading Rate, for residential strength effluent, gpd/sf</b>
1	Gravelly and very gravelly coarse sands, all extremely gravelly soils.	1.0
2	Coarse sands.	1.0
3	Medium sands, loamy coarse sands, loamy medium sands.	0.8
4	Fine sands, loamy fine sands, sandy loams, loams.	0.6
5	Very fine sands, very fine loamy sand, very fine sandy loams; or silt loams and sandy clay loams with a moderate or strong structure (excluding platy structure).	0.4
6	Other silt loams, sandy clay loams, clay loams, silty clay loams.	Not suitable
7	Sandy clay, clay, silty clay, strongly cemented or firm soils, soil with a moderate or strong platy structure, any soil with a massive structure, any soil with appreciable amounts of expanding clays. Soils greater than 90% rock.	Not suitable

[Statutory Authority: RCW 70.118B.020. WSR 11-12-035, § 246-272B-03400, filed 5/25/11, effective 7/1/11.]