

**WAC 246-272B-04000 Engineering report.** (1) The engineering report must outline the scope of the LOSS project, provide necessary background information, the design guidance or standards used, calculations for developing plans and specifications, and impact on public health and the environment.

(2) The engineering report must be prepared using design and technical standards in Part 6 of this chapter and consistent with good engineering practice.

(3) The engineer may incorporate by reference, or include in an appendix, information developed for the site review or environmental review, if still relevant.

(4) At a minimum the report must include:

(a) An executive summary providing a brief overview of the following:

(i) Nature of the project, such as a new development, expansion, phased construction;

(ii) Location of the LOSS;

(iii) Proposed ownership and management;

(iv) Facilities served when the development is complete;

(v) Design flow;

(vi) Wastewater characteristics and strength;

(vii) Site and soil characteristics; and

(viii) Treatment and dispersal proposal;

(b) A narrative providing a detailed explanation of the following:

(i) Facilities served when the development is complete;

(ii) Existing or anticipated wastewater characteristics and strength;

(iii) Proposed treatment and dispersal method;

(iv) Local comprehensive plans, land use and development regulations, sensitive area designations, and requirements by local jurisdictions to connect to public sewer that apply to property the LOSS will be sited on and the development to be served, including the primary and reserve drainfield areas;

(v) Existing sewer or water systems on the development site; and

(vi) Source of drinking water and water system purveyor for properties served by the LOSS;

(c) A copy of the applicable parts of:

(i) City, town, or county comprehensive plans or development regulations for property the LOSS will be sited on and the development it serves, including the primary and reserve drainfield areas; and

(ii) City, town, county, or local health jurisdiction requirements for the property to connect to public sewer;

(d) A statement that the LOSS and development are consistent with the regulations and designations identified in (c) of this subsection;

(e) An explanation of how the LOSS and the development are consistent with the local comprehensive plan, land use and development regulations, and sensitive and critical areas. The explanation must provide sufficient information to demonstrate that the LOSS and the development are consistent with these regulations and designations, and may include copies of relevant portions of the local comprehensive plan, land use or development regulations, sensitive area designations, or other related documents pertaining to the LOSS site and proposed development;

(f) A copy of the SEPA checklist and determination or other environmental review and local planning determination for the project;

(g) A vicinity map showing the project's location;

- (h) A map and development plan of the development area scaled to clearly show the following:
  - (i) Total development area;
  - (ii) Proposed primary and reserve drainfield areas;
  - (iii) Any surface water, wetland, or well within one thousand feet of the drainfield perimeter;
  - (iv) Topographic contour lines and elevations shown at intervals of ten feet or less and verified by field measurements;
  - (v) Drainage basins and drainage patterns throughout the development site;
  - (vi) Any existing or proposed stormwater systems or retention basins on the development site;
  - (vii) Location of one hundred-year flood boundaries within one thousand feet of the drainfield perimeter;
  - (viii) Existing or proposed structures, roads, and parking areas adjacent to the proposed drainfield;
  - (ix) Location of existing and proposed encumbrances affecting system placement; and
  - (x) All water, sewer, greywater, reclaimed water, stormwater, irrigation lines within ten feet of the project or property boundaries;
- (i) An analysis of the site's capacity to treat and dispose of the proposed quantity and quality of sewage;
- (j) SRS as described in WAC 246-272B-03200, if one was completed;
- (k) HGR as described in WAC 246-272B-03300, if one was completed;
- (l) Soil characterization as described in WAC 246-272B-03400 if updated since the department approval of the predesign report;
- (m) A discussion of proposed treatment processes addressing:
  - (i) Wastewater characterization, flow patterns, and any site specific constituents of concern of the wastewater;
  - (ii) Treatment standard approved by the department in the site review and environmental review process, and the expected treatment performance of the proposed treatment technology;
  - (iii) Proposed O&M activities; and
  - (iv) Any alternative treatment processes evaluated;
- (n) Confirmation, including calculations, that the development and LOSS design complies with the minimum land requirements in WAC 246-272B-03500;
- (o) Design criteria, calculations, and any other supporting material needed to develop the plans and specifications, including:
  - (i) Design flow;
  - (ii) Soil type and hydraulic loading rate;
  - (iii) Pipe sizes;
  - (iv) Hydraulic evaluation and drainfield dosing calculations to determine dose volume, orifice size, spacing, residual head;
  - (v) Pump selection with pump and system curves;
  - (vi) Tank size; and
  - (vii) Treatment component design calculations, if applicable, and supporting performance information;
- (p) Proposed monitoring and sampling for influent, effluent, and, if necessary, water quality monitoring to demonstrate treatment standards will be met on an ongoing basis;
- (q) A summary description of how the LOSS will be owned and managed after construction;
- (r) A copy of the legal title or recorded easement to the property where the LOSS will be located showing that the owner retains legal control of the drainfield and LOSS components. If there will be sewage

tanks on individual lots, the report must include a plan for obtaining easements if not already established;

(s) Discussion of the construction process summarizing how the requirements of Part 5 will be met;

(t) Updated general information, including changes to the following:

(i) Name, telephone number, fax number, mailing address, and email address of:

(A) Owner of the LOSS proposal;

(B) Authorized representative of the owner, if any;

(C) Legal owner of property where the LOSS is proposed to be installed;

(D) Design engineer;

(E) Certified operator, if known; and

(F) Any other project contact;

(ii) Project site address, county, tax parcel number, and legal description; and

(u) A management plan that meets the requirements of WAC 246-272B-04100.

[Statutory Authority: RCW 70.118B.020. WSR 11-12-035, § 246-272B-04000, filed 5/25/11, effective 7/1/11.]