

ON-SITE SEWAGE DISPOSAL SYSTEMS

**RULES AND REGULATIONS OF
THE STATE BOARD OF HEALTH**

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**Chapter 248-96 WAC
ON-SITE SEWAGE DISPOSAL**

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Chapter 248-96
ON-SITE SEWAGE DISPOSAL

248-96-010 Authority. Pursuant to the authority of RCW 43.20.050 (powers and duties of state board of health), these regulations are hereby established as minimum requirements of the state board of health governing on-site sewage systems. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-010, filed 6/3/83; Order 101, § 248-96-010, filed 6/10/74.]

248-96-011 Purpose and objectives.

- (1) The purpose of these regulations is to assure protection of public health by minimizing:
 - (a) Public health effects of on-site sewage systems on surface and ground waters, and
 - (b) Potential for public exposure to sewage.
- (2) These regulations provide for a uniform framework through which local boards of health may establish a system of local regulations. Such local regulations shall reflect local conditions and be consistent with the intent of these regulations. These regulations are intended to accomplish the following objectives:
 - (a) Establish design, installation, and management requirements for on-site sewage systems to accommodate long-term treatment and disposal of sewage.
 - (b) Establish minimum functional regulations for local boards of health choosing not to adopt local regulations. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-011, filed 6/3/83; Order 101, § 248-96-011, filed 6/10/74.]

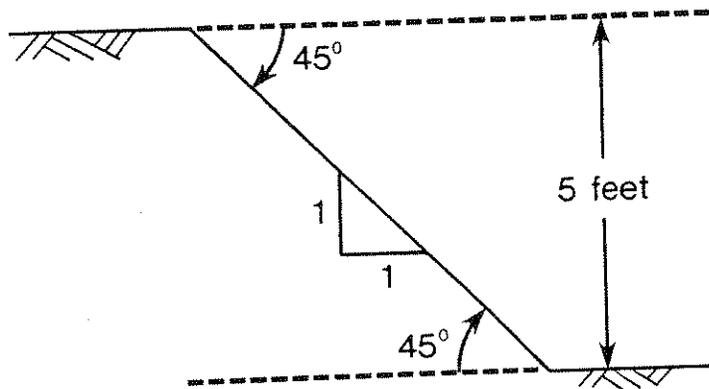
248-96-018 Administration. The health officer and local board of health shall administer these regulations under the authority and requirements of chapters 70.05, 70.46 and 43.20 RCW. As provided in RCW 70.05.060(7), fees may be charged for this administration. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-018, filed 6/3/83; Order 101, § 248-96-018, filed 6/10/74.]

248-96-020 Definitions.

- (1) "Alternative system" - any on-site sewage system consisting of treatment and/or disposal components other than a septic tank and a subsurface soil absorption system (SSAS).
- (2) "Approved" - the term "approved" shall mean acceptable by the health officer or department as stated in writing.

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- (3) "Cover" – shall mean soil material that is used to cover a subsurface disposal area.
- (4) "Cuts and/or banks" – any naturally occurring or man-formed slope which is greater than one hundred percent (forty-five degrees) and extends vertically at least five feet from the toe of the slope to the top of the slope as follows:



- (5) "Department" – the Washington state department of social and health services or health officer if the approval authority for larger on-site sewage systems under WAC 248-96-075 has been delegated by agreement.
- (6) "Experimental system" – any alternative on-site system excluding a larger system which has not yet had guidelines established by the technical review committee as per WAC 248-96-046.
- (7) "Gross land area" – lot area which is bounded by the centerline of adjoining road or street right-of-ways within the boundaries of the proposed development.
- (8) "Ground water" – subsurface water occupying the zone of saturation, permanently or seasonally, (the top surface of which is commonly referred to as the water table) the indication of which may be demonstrated by one or all of the following methods:
- Water seeping into or standing in an open excavation from the soil surrounding the excavation.
 - Spots or blotches of different color or shades of color interspersed with a dominant color in soil, commonly referred to as mottling. This is caused by intermittent periods of saturation and drying, and may be indicative of poor aeration and impeded drainage.
- (9) "Health officer" – the health officer of the city, county, or city-county health department or district or a representative authorized by and under the direct supervision of the health officer.
- (10) "Larger on-site sewage system" – any on-site sewage system with design flows, at any common point, between 3,500 and 14,500

gallons/day. On-site sewage systems receiving state or federal grants, or systems using mechanical treatment or lagoons with ultimate design flows above 3,500 gallons/day are excluded from this definition. Excluded systems are governed by chapter 173-240 WAC which is administered by the Washington state department of ecology.

- (11) "Local board of health" – the city, town, county, city-county, or district board of health as defined in chapters 70.05, 70.08, and 70.46 RCW.
- (12) "On-site sewage system" – any system of piping, treatment devices, or other facilities that convey, store, treat, or dispose of sewage on the property where it originates or on adjacent or nearby property under the control of the user where the system is not connected to a public sewer system.
- (13) "Ordinary high-water mark" – the mark on all lakes, streams, and tidal waters, which will be found by examining the beds and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation, as that condition exists on the effective date of this chapter, or as it may naturally change thereafter: *Provided*, That in any area where the ordinary high-water mark cannot be found, the ordinary high-water mark adjoining saltwater shall be the line of mean higher high tide and the ordinary high-water mark adjoining freshwater shall be the line of mean high water.
- (14) "Percolation test" – a soil test performed at the depth of the bottom of a proposed subsurface soil absorption system to estimate the water absorption capability of the soil. The results are normally expressed as the rate in minutes at which one inch of water is absorbed.
- (15) "Person" – any individual, corporation, company, association, society, firm, partnership, joint stock company, or any branch of state or local government.
- (16) "Proprietary device or method" – any device or method classified as an alternative system or a component thereof that is held under a patent, trademark or copyright.
- (17) "Public sewer system" – a sewerage system which is owned or operated by a city, town, municipal corporation, county, political subdivision of the state, or other approved ownership consisting of a collection system and necessary trunks, pumping facilities and a means of final treatment and disposal and approved or under permit from the department of ecology.

- (18) "Restrictive layer" – a layer that impedes the movement of water, air, and growth of plant roots. Examples of such layers or conditions are groundwater tables, hardpans, claypans, fragipans, compacted soil, bedrock and clayey soil.
- (19) "Septic tank" – a watertight pretreatment receptacle which receives the discharge of sewage from a building sewer or sewers, and is designed and constructed so as to permit separation of settleable and floating solids from the liquid, detention and digestion of the organic matter, prior to discharge of the liquid portion.
- (20) "Sewage" – the water-carried human or domestic waste from residences, buildings, industrial establishments or other facilities, together with such ground water infiltration, that may be present.
- (21) "Soil log" – an excavation in soil of sufficient size and depth made to allow adequate determinations of the soil's characteristics together with the detailed description of the soil's texture, structure, color, bulk density or compaction, water absorption capabilities or permeability, and/or any other characteristics providing information as to the soil's capacity to act as an acceptable treatment and disposal medium for sewage.
- (22) "Subdivision" – a division of land, as defined in chapter 58.17 RCW, now or as hereafter amended, including both long and short subdivisions.
- (23) "SSAS" – subsurface soil absorption system. A system consisting of trenches (three feet or less in width) or beds (more than three feet in width), together with the piping and gravel, designed and installed in original undisturbed soil for the purpose of receiving effluent from a septic tank or other pretreatment device and transmitting it into the soil.
- (24) "Surface water" – any body of water, whether fresh or marine, which either flows or is contained in natural or artificial depressions for significant periods of the year. Such bodies include, but are not limited to, natural and artificial lakes, ponds, rivers, streams, swamps, marshes, and tidal waters.
- (25) "Type 1 soil" – soil with a texture as noted in WAC 248-96-094 (Determination of site characteristics) or other soils where conditions are such that the treatment potential is ineffective in retaining and/or removing substances of public health significance to underground sources of drinking water.
- (26) "Vertical separation" – the depth of unsaturated soil that exists between the bottom of a SSAS and a restrictive layer. [Statutory Authority: RCW 43.20.050, 83-13-014 (Order 259), § 248-96-020, filed 6/3/83; 81-05-028 (Order 208), § 248-96-020, filed 2/18/81; 80-04-038 (Order 196), § 248-96-020, filed 3/20/80; Order 101, § 248-96-020, filed 6/10/74.]

248-96-025 Local regulation.

- (1) Local boards of health may adopt local rules and regulations governing on-site sewage systems. Local rules, regulations, and guidelines shall be consistent with, and at least as stringent as, the state board of health regulations. Local rules and regulations and any subsequent revisions shall be approved by the department in accordance with the procedure outlined in subsections (2) through (7) of this section.
Beginning July 1, 1984, the health officer shall begin to enforce these regulations, unless local rules and regulations have been approved by the department and adopted locally. This shall not preclude the adoption of rules and regulations by local boards of health after June, 1984.
- (2) Local boards of health shall submit to the department for review and approval a copy of proposed local regulations.
- (3) Upon reviewing the local regulations, the department shall consider all factors relevant to the administration of the local health department's program.
- (4) The department shall have ninety days from the date of receipt of the local regulations to either approve or disapprove the proposal. Failure of the department to approve or disapprove within the ninety-day period results in the approval of the local regulation.
- (5) Locally proposed or adopted regulations or revisions will become effective after the regulations or revisions have received approval from the department or ninety days after receipt by the department, whichever comes first. The local health department shall provide to the department a copy of the adopted local regulations.
- (6) If the department determines that the local regulations are not consistent with the purpose and objectives of the state board of health regulations, the department shall provide in writing to the local board of health, the specific reasons for not approving the local regulations. Decisions may be appealed to the state board of health within one hundred twenty days after the disapproval has been received by the local board of health. Resubmission of revised local regulations may occur any time after disapproval has been received.
- (7) Local rules and regulations shall include special requirements for areas within their jurisdiction identified as having type 1 soils. The requirements within these regulations shall be commensurate with the degree of protection deemed necessary for the underground source of drinking water by the health officer and the department. The minimum requirement shall be as noted in WAC 248-96-090 (Minimum land area requirement).

- (8) Nothing in these regulations shall prohibit the adoption and enforcement of more stringent regulations by local health departments where such regulations are needed to protect the public health. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-025, filed 6/3/83.]

248-96-040 Applicability. These regulations shall apply to all on-site sewage systems except the following:

- (1) New construction for which a permit was issued prior to July 1, 1984, or adoption of local regulations and is still valid. The regulations in effect at the time the permit was issued shall apply, except where portions of the new regulations are less stringent.
- (2) An extension, alteration, or replacement necessitated by the failure of an existing on-site sewage system. These regulations shall be applied to the maximum extent permitted by the site. A permit shall be required as per WAC 248-96-080 (Permit).
- (3) Permit applications for systems located in subdivisions having received preliminary approval or having been filed for record between July 1, 1979, and June 30, 1984 (chapter 58.17 RCW). The regulations in effect at the time preliminary or final approval was given shall apply, unless the local board of health finds a change in conditions creates a serious threat to the public health.
- (4) Facilities constructed or operated in accordance with a permit or approval issued by the Washington state department of ecology. Where these regulations may be in conflict with chapters 90.48 or 70.95B RCW, said RCW shall govern. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-040, filed 6/3/83; 80-04-038 (Order 196), § 248-96-040, filed 3/20/80; Order 101, § 248-96-040, filed 6/10/74.]

248-96-046 Alternative systems.

- (1) The health officer may issue permits for alternative systems only after the requirements of subsections (2) and (3) of this section have been completed.
- (2) The department shall establish and maintain a technical review committee. The committee shall be composed of a maximum of seven members and consist of qualified representatives. Representatives may be selected from local health departments; consumer organizations; engineering firms; the department of ecology; a public sewer utility; land sales, subdivision and building industries; and other interested organizations. The functions of the committee are to review and evaluate alternative systems and establish guidelines for use. Such guidelines may include national standards including, but not limited to, guidelines of the national sanitation foundation.
- (3) Once guidelines for an alternative system have been established by the technical review committee, that system can be permitted for

use. However, before a proprietary device or method can be permitted, certification in a manner prescribed by the department must be provided to the department that all criteria in the appropriate guidelines have been satisfied.

- (4) The health officer shall require monitoring of the performance of any alternative system installed for which guidelines have been developed. The frequency and duration of monitoring shall be in accordance with guidelines developed by the technical review committee. Costs for monitoring and/or reporting may be included as an addition to the permit fee. Procedures for monitoring and reporting shall be developed by the technical review committee. Copies of any records of such performance evaluation shall be submitted to the department. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-046, filed 6/3/83; Order 101, § 248-96-046, filed 6/10/74.]

248-96-047 Experimental systems.

- (1) If supportive theory and/or applied research exists, a limited number of specific experimental systems may be permitted. Prior to the installation of such a system, an experimental system permit shall be obtained from the local health officer. Costs for monitoring and reporting may be included as part of the experimental system permit fee.
- (2) The use of an experimental system may be considered when:
 - (a) The experimental system proposed is attempting to correct a failing system and other conventional or alternative systems are not feasible.
 - (b) The experimental system proposed is for new construction where it has been determined that an on-site sewage system meeting the requirements of these rules and regulations could be installed in the event of failure of the experiment. A recorded agreement shall exist stating that, in the event of unsatisfactory performance or a failure to adequately monitor the system and submit the records to the health officer, the health officer may direct that use of the experimental system be discontinued and a new system meeting the requirements of these regulations be installed.
- (3) General guidelines for the use of experimental systems shall be developed by the technical review committee.
- (4) The health officer shall require monitoring of the performance of experimental systems in a manner and with a frequency as established by the technical review committee guideline. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-047, filed 6/3/83; 248-96-047, filed 6/3/83.]

248-96-050 No surface discharge. Sewage from any on-site sewage system, excluding septic tank waste as per WAC 248-96-170 (Disposal of septic tank waste), shall not be discharged to surface water or upon the surface of the ground. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-050, filed 6/3/83; Order 101, § 248-96-050, filed 6/10/74.]

248-96-060 Connection to public sewer system.

- (1) Connection of any existing dwelling unit or other premises with a failing on-site sewage system shall be made to a public sewer system where there is an adequate public sewer within two hundred feet of the dwelling or other facility to be served as measured along the usual or most feasible route of access, and such connection is permitted by the sewer utility. This requirement may be waived if the health officer determines that adequate site conditions exist which allow the installation of a replacement on-site sewage system.
- (2) Local regulations may provide requirements for connections of new construction to public sewer systems. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-060, filed 6/3/83; Order 101, § 248-96-060, filed 6/10/74.]

248-96-075 Larger on-site sewage systems. Plans and specifications for new construction or repairs or expansions to existing larger on-site sewage systems, bearing the signature of the owner or an authorized representative, shall be submitted to and approved by the department prior to construction. By a mutual agreement with the department, local health departments may assume plan review and approval authority for larger on-site sewage systems. Where the assistance of the health officer in the review of the site and/or the design is requested by the department, fees for service may be charged to the applicant by the health officer: *Provided*, That the authorization for such fees is set forth in local regulations adopted pursuant to this chapter. Submittals, design, and management requirements shall adhere to the following procedures, requirements, and review documents.

- (1) **Preliminary report:** Prior to or concurrent with the preparation of detailed plans and specifications for new construction or improvements to a larger on-site sewage system, the person proposing the larger on-site sewage system shall submit to the department for approval a preliminary report addressing the nature and scope of the proposed construction. This report shall include an analysis of the area where the proposed SSAS is to be located to satisfactorily assimilate and treat the proposed sewage quantities for the anticipated life of the system. In addition to those factors identified in WAC 248-96-090(1)(b), the preliminary report shall contain, but need not be limited to, consideration of the following factors:

- (a) Soil and site evaluation.
 - (b) Schedule for phase development.
 - (c) Water balance analysis of the drainfield area.
 - (d) Overall effects of the proposed sewage system upon the surrounding area.
 - (e) Local zoning, platting, and building requirements as they relate to sewer utilities.
- (2) **Submission of plans and specifications:**
- (a) Complete plans and specifications fully describing the larger on-site sewage system shall be submitted to and approved in writing by the department prior to:
 - (i) Installation of the system, or
 - (ii) Entering into contract for installing a larger on-site sewage system.

The plans and specifications shall be adhered to unless deviations are first submitted to and written approval received from the department. Routine field deviations required during construction need not be submitted for approval but shall be shown on the "as-built" drawings.

- (b) Plans submitted for approval shall include the proposed provisions for inspection of the work during construction.
 - (c) A detailed operation and maintenance manual, fully describing the treatment and disposal systems and outlining routine maintenance procedures for proper operation of the system, shall be submitted together with the plans and specifications.
- (3) **Approvals—Period of validity—Renewal:**
- (a) Approvals of plans and specifications by the department under this section shall be valid for an initial period of two years commencing with the date of the letter of approval. Lapsed approvals may be renewed for successive one-year periods thereafter at the discretion of the department upon the written request by the applicant.
 - (b) As a condition of renewal, the department may require the plans and specifications to be revised to conform with the design standards and the requirements of the rules and regulations of this chapter current at the time of request for renewal.
- (4) **Requirements for engineers and engineer's construction report:** All preliminary engineering reports and plans and specifications for new larger on-site sewage systems, extensions or alterations, shall be prepared by a professional engineer licensed in the state of Washington in accordance with chapter 18.43 RCW and shall bear the engineer's seal. Within sixty days following the completion of and prior to the use of any project or portion thereof for which plans and specifications have received the approval of the department, an engineer's construction report shall be submitted to the

department and signed by a professional engineer stating the project has been constructed in accordance with the plans and specifications approved by the department. If any changes exist from the approved plans and specifications, "as-built" drawings noting such changes shall be submitted to the department. Where larger on-site systems are reviewed and approved by the health officer, the health officer may also accept preliminary reports, plans and specifications, and construction reports submitted by a registered sanitarian or a designer certified within the health officer's jurisdiction. The professional engineer, registered sanitarian, or certified designer should have expertise in the areas of soils and the design of larger on-site sewage systems.

- (5) The review and approval agency shall establish a procedure for construction and final inspections.
- (6) Design of the system shall comply with Design Guidelines for Larger On-site Sewage Systems, December 1979, D.S.H.S./D.O.E.
- (7) Soil interpretations shall be based upon the Design Manual: On-site Wastewater Treatment and Disposal Systems, United States Environmental Protection Agency, EPA-625/1-80-012, October, 1980.
- (8) Management of larger on-site systems shall be provided by an entity approved by the department. The type of entity required and the degree of management shall be commensurate with the complexity of the system and the site conditions. The management entity shall submit a plan for approval including, but not be limited to, the following:
 - (a) Duties of management, including operation and maintenance responsibilities.
 - (b) Methods to ensure the continuity and permanency of management's responsibilities.
 - (c) Monitoring, record keeping, and reporting to the department.
 - (d) Rights of purchasers and management. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-075, filed 6/3/83; 80-04-038 (Order 196), § 248-96-075, filed 3/20/80; Order 101, § 248-96-075, filed 6/10/74.]

248-96-080 Permit.

- (1) No person shall install or cause to be installed a new on-site sewage system, nor perform any alterations, extensions or relocations or connections to an existing system without a valid permit issued by the health officer. Larger on-site sewage systems approved by the department are exempt from permit requirements. Permits for alterations or repairs shall be so identified. Application for such permit shall be made in writing in a manner prescribed by the health officer. Each permit application shall include a reminder of

the applicant's right of appeal. The authority to issue permits shall not be delegated by the health officer.

- (2) When applying for a permit to install an on-site sewage system, a construction plan of the proposed system is required. The construction plan shall contain information as required by the health officer in sufficient detail and to a scale which will permit a proper evaluation of the application. Such information shall contain the following as a minimum:
 - (a) Name of applicant and legal description of site.
 - (b) Soil evaluation as required by the health officer.
 - (c) Percolation test data where required or if obtained.
 - (d) Maximum seasonal ground water table.
 - (e) General topography of the site and site drainage characteristics.
 - (f) Distances of proposed system to water supply distribution lines and sources, surface water, banks or cuts, boundaries of property and structures or other improvements.
 - (g) Distance to public sewer system.
 - (h) Source of potable water supply.
 - (i) Known encumbrances affecting system placement and/or operation.
- (3) For any on-site sewage system proposed to serve a structure requiring a flood control zone permit under the provisions of chapter 86.16 RCW and chapter 508-60 WAC, the installation permit shall not be issued until a flood control zone permit has been issued. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-080, filed 6/3/83. Statutory Authority: RCW 43.20.050. 80-04-038 (Order 196), § 248-96-080, filed 3/20/80; Order 101, § 248-96-080, filed 6/10/74.]

248-96-090 Minimum land area requirement.

- (1) For any development approved after June 30, 1984, including but not limited to subdivisions, mobile home parks, multifamily housing, and commercial establishments, where an on-site sewage system is proposed, one of the following methods for determining minimum gross land area requirements shall be used. The minimum gross land area shall exist for each unit volume of sewage (450 gallons per day) or for each single family residence.

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- (a) **METHOD I.** Table I notes the minimum gross land area required per unit volume or single family residence based upon soil type and the type of water supply.

TABLE I
MINIMUM GROSS LAND AREA REQUIRED PER UNIT VOLUME OF SEWAGE
OR SINGLE FAMILY RESIDENCE

TYPE OF WATER SUPPLY	SOIL TYPE ¹					
	1	2	3	4	5	6
Public	1 acre	12,500 sq.ft.	15,000 sq.ft.	18,000 sq.ft.	20,000 sq.ft.	22,000 sq.ft.
Individ- ual— Each Lot	2 acres	1 acre	1 acre	1 acre	2 acres	2 acres

¹ Soil types are defined in WAC 248-96-094 (Determination of site characteristics).

(b) **METHOD II.**

- (i) On-site sewage systems shall be installed on lots, parcels, or tracts that have a sufficient amount of area with proper soils in which sewage can be retained and treated properly on-site. Justification demonstrating the development has sufficient area with proper soils to adequately retain and treat sewage on-site shall be provided in a report. The report shall fully support the conclusions reached by the proper analysis of all needed data. All such data shall be contained or referenced. This justification shall be sufficient to enable the health officer to establish minimum gross land area requirements. The minimum gross land area requirement for each unit volume of sewage or for each single family residence shall be twelve thousand five hundred square feet. Application of this will result in a maximum single family residence density of 3.5 units per acre or for other development a maximum flow density of one thousand five hundred seventy gallons of sewage per acre per day. Factors that must be considered in the report shall include but not be limited to the following:
- (A) Soil type and depth.
 - (B) Area drainage, development and/or lot drainage.

- (C) Public health impact on ground and surface water quality.
 - (D) Setbacks from property lines, water supplies, etc.
 - (E) Source of domestic water.
 - (F) Topography, geology, and ground cover.
 - (G) Climatic conditions.
 - (H) Availability of public sewers.
 - (I) Activity or land use, present, and anticipated.
 - (J) Growth patterns.
 - (K) Reserve areas for additional subsurface disposal.
 - (L) Anticipated sewage volume.
 - (M) Compliance with zoning and other requirements.
 - (N) Possible use of alternative systems or designs.
 - (O) Other justification submitted by the developer.
- (ii) If the report required in section (1)(b)(i) of this subsection identifies type 1 soils, the health officer may allow a reduction below the requirements noted in Table 1. The health officers and the department shall develop guidelines to be applied when such reductions are considered by July 1, 1984. Until guidelines have been developed, the health officer may permit such reductions only when an alternative system will be used. The alternative system shall provide a degree of treatment to the sewage, before the sewage enters the original, undisturbed soil, equal to or greater than the treatment provided by a mound or sand filter. Mounds and sand filters are defined and the design criteria specified in the appropriate technical review committee guidelines. Until the guidelines have been developed, the resulting gross land area per unit volume of sewage or single family residence shall not be less than one-half acre.
- (2) The health officer may reduce land area requirements in this section if the proposed on-site sewage systems are to be located within the boundaries of a recognized sewer utility and where the assessment roll has been finalized. [Statutory Authority: RCW 43.20-.050. 83-13-014 (Order 259), § 248-96-090, filed 6/3/83; Order 101, § 248-96-090, filed 6/10/74.]

248-96-094 Determination of site characteristics.

- (1) Site characteristics shall be determined in accordance with chapter 3 and Appendix A of Design Manual: On-site Wastewater Treatment and Disposal Systems, United States Environmental Protection Agency, Report No. EPA-625/1-80-012, October, 1980, except where modified or in conflict with these regulations.

- (2) The textural classification of a soil shall be determined by using normal laboratory and/or field procedures such as particle size analyses and percolation tests. Following are the specific soil textural classifications and soil type designations. The soil textures in Table 7-2 of the design manual referenced in subsection (1) of this section are amended as follows:

Soil Type	Soil Textural Classifications ¹
1 ²	Coarse sands or coarser
2	Medium sand
3	Fine sand, loamy sand
4	Sandy loam, loam
5	Porous, well-developed structure in silt and silt loams
6	Other silt loams, silty clay loams, and clay loams.

¹ According to the United States Department of Agriculture, soil conservation service's soil classification system.

² Includes other soils and/or conditions where the treatment potential is ineffective in retaining and/or removing substances of public health significance to underground sources of drinking water.

- (3) All site evaluations shall be performed by or under the direct supervision of the health officer, a registered sanitarian, professional engineer, registered soil scientist (American registry of certified professionals in agronomy, crops and soils), or certified designer having knowledge and experience in the areas of soil and wastewater treatment and disposal.
- (4) All soil tests shall be conducted using uniform procedures and terminology as set forth in chapter 3 and Appendix A of the manual referred to in WAC 248-96-094(1).
- (5) If sufficient information is not available concerning water table conditions, the health officer or department may require that the soils analysis be performed during the months of suspected high-water table conditions. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-094, filed 6/3/83.]

248-96-095 Subdivision and individual site review.

- (1) Subdivisions - preliminary tests for subdivisions utilizing individual on-site sewage systems shall include at least one representative soil log per acre or tract or more as required by the health officer. A reduced number of soil logs may be allowed if adequate soils information is available.
- (2) Individual sites - at least one soil log shall be performed at the site of each disposal area. This requirement may be waived by the health officer if adequate soils information is available. Additional soil logs may be required where the soil characteristics vary.

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- (3) Individuals performing subdivision and individual site reviews shall meet the requirements and use the procedures specified in WAC 248-96-094. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-095, filed 6/3/83; Order 101, § 248-96-095, filed 6/10/74.]

248-96-096 Larger tract requirements.

- (1) For lots, parcels, or tracts with a gross land area of five acres or 1/128th of a section or more, the health officer may take the following actions:
 - (a) Alter the requirements found in WAC 248-96-094(3), 248-96-100(2), and 248-96-110(2).
 - (b) Modify the restrictions noted in WAC 248-96-094(2).
- (2) Where the health officer takes one of the actions noted in WAC 248-96-096(1), the following requirements shall apply:
 - (a) All portions of a SSAS shall be at least thirty feet from property lines or lines of easement existing for SSAS installation that are at the same elevation as, or at a lower elevation than, the SSAS.
 - (b) A restrictive covenant against further subdivision of the property into parcels or lots less than five acres or 1/128th of a section shall be recorded on the building site and remain in effect until connection to public sewer is made or some approved alternative is installed which the health officer determines will permit development of smaller parcels.
- (3) On-site sewage systems installed under the provisions of this section shall meet the purpose and objectives of these regulations to the maximum extent possible. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-096, filed 6/3/83; Order 101, § 248-96-096, filed 6/10/74.]

248-96-100 Location.

- (1) The minimum distances for location of the various component parts of an on-site sewage system are measured horizontally and shall comply with Table II.

TABLE II MINIMUM HORIZONTAL SEPARATIONS

Items Requiring Setback	Distance in Feet from System Component		
	From edge of SSAS and replacement area	From septic tank and dis- tribution box	From building sewer, collec- tion, and non- perforated dis- tribution line
Well or suction line ¹	100 ²	50	50
Water supply line under pressure	10	10	10
Surface water ^{1,3}	100 ²	50	10
Building foundation	10	5	—
Property lines or lines of easement	5	5	—
Interceptor/curtain drains/drainage ditches			
—upslope from system component	10	—	—
—downslope from system component	30	5	—
Cuts or banks			
—minimum of five feet of original, undisturbed soil above restrictive layer or layer due to a structural or textural change	25	—	—
—less than five feet of original, undisturbed soil above restrictive layer or layer due to a structural or textural change and that layer is intersected	50	—	—

¹ With soil type I and on other sites where conditions indicate a greater potential for ground or surface water contamination or pollution, the distance from any water supply or surface water may be increased by the health officer.

² A reduced separation can be allowed by the health officer if it can be demonstrated that the reduction will not have an adverse effect. However, in no case shall the separation be less than seventy-five feet.

³ Setbacks from surface waters shall be measured from the ordinary high watermark.

- (2) SSAS shall not be permitted in areas where a vertical separation of three feet cannot be maintained. The health officer shall require such greater vertical separation as needed to protect health when

the aquifer is used for a potable water supply. The health officer may reduce the vertical separation provided the system is designed by a professional engineer, a registered sanitarian or a certified designer. However, in no case shall the separation be less than one foot.

- (3) On-site sewage systems shall not be located on slopes in excess of forty-five percent (twenty-four degrees). Table III notes the required depths of original, undisturbed soil above a restrictive layer for the various ranges of slope.

TABLE III REQUIRED SOIL DEPTHS FOR SLOPES

Range of Slopes In Percent (Degrees)	Required Depth of Original Undisturbed Soil Above Restrictive Layer In Inches
0-15 (0-8)	Sufficient to satisfy minimum vertical separation
>15-22 (>8-12)	30
>22-30 (>12-17)	42
>30-45 (>17-24) ¹	60

¹The SSAS shall be sized using a maximum loading rate of 0.5 gallons/day/square foot of trench or bed-bottom area.

- (4) An area where the soil and site conditions are acceptable for the installation of a SSAS shall be maintained for the purpose of system replacement. Except where otherwise authorized by the health officer, it shall consist of one hundred percent of the normally needed area.
- (5) The site of the initial and replacement SSAS shall be selected and maintained so that it is free from encroachment by buildings and other structures. The area shall not be covered by any impervious material and not be subject to vehicular traffic or other activity which would adversely affect the soil.
- (6) Provisions shall be made to prevent flow or accumulation of surface water over the area where the on-site sewage system is located.
- (7) On-site sewage systems shall not be located on land forms which are unstable. [Statutory Authority: RCW 43.20.050, 83-13-014 (Order 259), § 248-96-100, filed 6/3/83; Order 101, § 248-96-100, filed 6/10/74.]

248-96-110 Design.

- (1) The detailed design and construction of all on-site sewage systems shall conform to the "Design Manual: On-site Wastewater Treatment and Disposal Systems," United States Environmental Protection Agency, EPA-625/1-80-012, October, 1980, except where modified by, or in conflict with these regulations.
- (2) The design for an on-site sewage system shall be performed by or under the supervision of a professional engineer, registered sanitarian or certified designer. A resident owner, at the discretion of the health officer, may design his or her own system, if a minimum vertical separation of three feet can be maintained.
- (3) The system shall be designed to receive all sanitary sewage and domestic waste from the building served unless otherwise approved by the health officer. For individual residences, flows of one hundred twenty gallons/bedroom/day shall be used for design purposes. For other establishments, the typical values noted in the design manual referred to in WAC 248-96-110(1) shall be used. Any deviations shall be supported by appropriate water usage information and/or the use of low water use fixtures. Drainage from footing or roof drains or any other type of drain shall neither enter the sewage system nor be directed over the area where the on-site sewage system is located.
- (4) All septic tanks shall be designed in accordance with subsection (1) of this section, with the following exceptions:
 - (a) All tanks must have a minimum of two compartments with the first compartment consisting of one-half to two-thirds of the required total volume.
 - (b) Intercompartmental apparatus shall be sanitary tees, slots or baffles assuring that effluent only from the clarified zone passes into the next compartment.
 - (c) Septic tanks to serve single family residences shall have a minimum liquid capacity based on the number of bedrooms in the residence, as follows:

Number of Bedrooms in House	Required Minimum Liquid Volume
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2 or less	750
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3	900
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4	1000
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For each additional bedroom add 250 gallons.

A septic tank designed to service a facility other than one single family residence shall have a minimum liquid capacity equal to one and one-half times the projected daily sewage volume, with a minimum of 1000 gallons.

- (d) Concrete tanks shall be approved by the health officer. Tanks made of materials other than concrete shall be approved by the health officer and the department.
- (e) All septic tanks and pump chambers to be located in high water table areas shall be adequately treated to preclude ground water intrusion.
- (5) Effluent shall be disposed of by means of a SSAS except when approval for other disposal systems is granted by the health officer and/or the department.
 - (a) The size of the SSAS shall be determined from the results of the site review and soil logs per the design manual.
 - (b) The installation and use of cesspools and seepage pits for the disposal of sewage is not permitted.
 - (c) The bottom of a SSAS shall not be deeper than three feet below the finished grade, except under special conditions approved by the health officer. The depth of such a system shall not exceed ten feet from finished grade.
 - (d) Subsurface absorption beds (see definition of SSAS) may be considered for use only when authorized by the health officer and/or the department and when the soils are type 1, 2, or 3.
 - (e) Piping materials shall be approved by the health officer and the department.
- (6) Cover can be used over a SSAS provided that no portion of the SSAS sidewall above the invert of the distribution pipe is installed in this material.
- (7) When sewage holding tank systems are to be used, a management program assuring ongoing operation and maintenance, which shall be approved by the health officer, shall be in effect. Sewage holding tanks shall only be used for the following situations:
 - (a) Controlled, part-time, nonresidential usage situations, including, but not limited to, recreational vehicle parks, trailer dump stations, and certain limited hour businesses.
 - (b) On an interim use basis to handle emergency situations or to correct existing problem systems. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-110, filed 6/3/83; Order 101, § 248-96-110, filed 6/10/74.]

248-96-130 Designer program. Guidelines defining an approved designer program shall be established by the health officers and the department. The guidelines shall include, but not be limited to, the following:

- (1) Education;
- (2) Experience;
- (3) Testing; and

- (4) Certification. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-130, filed 6/3/83; Order 101, § 248-96-130, filed 6/10/74.]

248-96-140 Inspection. The health officer may make inspections during construction to determine compliance with these regulations. No part of any installation shall be covered until approval has been obtained from the health officer. The health officer may waive this requirement provided the installation has been made by a person certified under WAC 248-96-175 and a designer program has been established according to WAC 248-96-130 provided that the designer performs the final inspection. If deviations from the approved plans and specifications have occurred in construction, a complete set of certified "as-built" drawings shall be provided to the health officer for a permanent record of the installation. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-140, filed 6/3/83; Order 101, § 248-96-140, filed 6/10/74.]

248-96-150 Appeals. All local boards of health shall have an administrative appeals process to resolve procedural and technical conflicts arising from the administration of local regulations. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-150, filed 6/3/83.]

248-96-160 Waiver of state regulations. The health officer may, upon concurrence of the department, waive these regulations or portions thereof. *Provided*, That the waiver is consistent with the intent of these regulations and that no public health hazard will result. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-160, filed 6/3/83; Order 101, § 248-96-160, filed 6/10/74.]

248-96-170 Disposal of septic tank waste.

- (1) The contents of a septic tank or other treatment device shall be disposed of only in areas and in a manner approved by the health officer.
- (2) Local boards of health shall establish requirements for persons engaged in the removal of septic tank contents, which shall include standards for equipment and operating procedures and may provide for the issuance and revocation of permits. [Order 101, § 248-96-170, filed 6/10/74.]

248-96-175 Installer requirements.

- (1) All systems except as noted in this section shall be installed by a certified installer. Local boards of health shall establish requirements for persons, firms, and corporations engaged in installing or repairing on-site sewage systems. Guidelines stating suggested requirements shall be established by the health officers and the department. The guidelines shall include, but not be limited to:

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- (a) Education;
 - (b) Experience;
 - (c) Testing; and
 - (d) Certification.
- (2) Nothing contained herein shall prohibit resident owners from installing an individual on-site sewage system or making repairs or alterations on his or her own premises as long as all other requirements of these regulations are satisfied. The resident owner may not contract or hire a person or concern to perform that work, unless that person is a certified installer as set forth in this section. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-175, filed 6/3/83; Order 101, § 248-96-175, filed 6/10/74.]

248-96-180 State advisory committee. An on-site sewage advisory committee shall be established. The members shall be selected from professions and organizations (1) having knowledge and interest in on-site sewage systems, and (2) being effected by the regulations. Meetings shall be called as necessary by the department. The purpose of the advisory board is to make recommendations concerning departmental policy and regulations, review program services, and provide input to the department regarding various facets of the on-site sewage program. [Statutory Authority: RCW 43.20.050. 83-13-014 (Order 259), § 248-96-180, filed 6/3/83; Order 101, § 248-96-180, filed 6/10/74.]

