Department Standards and Guidance for Performance, Application, Design, and Operation & Maintenance of Onsite Sewage Systems

Glossary of Terms

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Washington State Department of HEALTH

Acronyms

ANSI	American National Standards Institute
ASTM	American Society for Testing Materials
ADU	Accessory dwelling unit
ATU	Aerobic treatment unit
AWWA	American Water Works Association
BOD	Biochemical oxygen demand
BRPELS	Board of Registration for Professional Engineers and Land Surveyors
$CBOD_5$	Carbonaceous biochemical oxygen demand
DNR	Department of Natural Resources (U.S.)
DOH	Washington State Department of Health
DS&G	Department Standards and Guidance (formerly called Recommended Standards and Guidance)
ECY	Washington State Department of Ecology
EPA	Environmental Protection Agency (U.S.)
FC	Fecal coliform, typically expressed in number of colonies/100 ml.
IAPMOSPS	International Association of Plumbing & Mechanical Officials Material & Property Standard for Prefabricated Septic Tanks.
JARPA	Joint Aquatic Resource Permits Application.
LOSS	A large on-0site sewage system (see Chapter 246-272B WAC).
NOWRA	National Onsite Wastewater Recycling Association
NSF	National Sanitation Foundation International
O&G	Oil and grease (formerly called FOG)
O&M	Operations and maintenance
OSS	On-site sewage system
RCW	Revised Code of Washington
RPM	Revolutions per minute
SDS	Subsurface drip system(s)
SEPA	State Environmental Policy Act

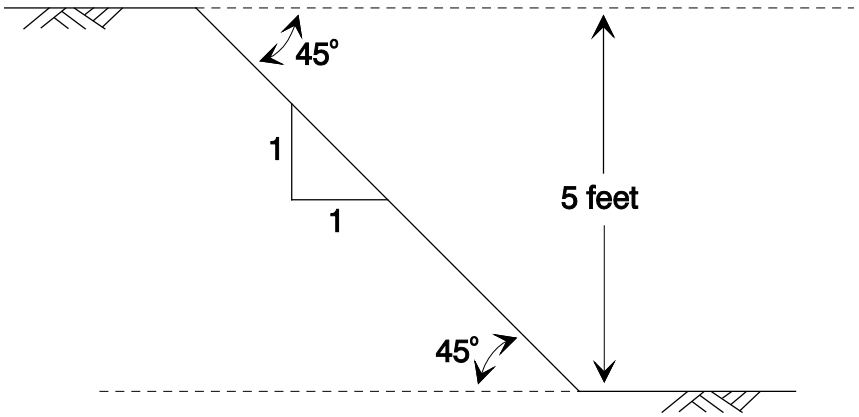
SFR	Single family residence
SDS	Subsurface Drip System(s)
SLT	Sand-lined trench
SSAS	Subsurface soil absorption system
TAG	Technical Advisory Group (formerly called TAC)
TMDL	Total maximum daily load
TN	Total nitrogen, typically expressed in mg/L.
TSS	Total suspended solids
UGA	Urban Growth Area
UPC	Uniform Plumbing Code
WAC	Washington Administrative Code
WOSSA	Washington Onsite Sewage Association

Definitions (as applied in the wastewater industry)

Term	Definition
Accessible	Capable of being reached in a way that allows the component to be serviceable. May be within reach by removing an access panel, door, or similar obstruction.
Aeration	Adding air to wastewater to add oxygen to increase microbial activity to degrade pollutants. Promote biological degradation.
Additive	A commercial product sold under a claim that its use will improve the performance or aesthetics of an on-site sewage treatment system. Must be approved by DOH for use in Washington State.
Air vacuum relief valve	Allows air release when the system is being pressurized and air entry into the system to avoid debris getting sucked into the system. This must be installed the highest elevation in each distribution zone.
Alkalinity	Alkalinity acts as a buffer that helps keep the water from getting too acidic. Ions that are alkaline are bicarbonate (HCO_3^-), carbonate (CO_3^{2-}), and hydroxide (OH^-) that help balance the pH, making sure it stays stable and safe for treatment and the environment. While not typically alkaline on their own, ammonium ions (NH_4^+) can influence alkalinity in certain conditions, especially in wastewater treatment processes.
Approved	Written statement of acceptability issued by the local health officer or DOH.
Approved testing facility	An ANSI accredited testing facility, or other third-party testing facility approved by DOH.
Aquitard	A semi-permeable (low porosity) or impermeable geologic layer that impedes vertical movement of groundwater and acts as a confining layer to an aquifer. It may include the following materials: hardpan, clay, till, or massive bedrock.
Automated controller	A controller capable of regulating filter backwash, line flushing and distribution zone sequencing in addition to timed dosing.

Term	Definition
Backwash	The process of flow reversal to clean a filter and to restore it to the normal clean condition for filtering with a minimum resistance to flow through the media or screen.
Backwater valve	A type of check valve installed in a drainage system to prevent reverse flow.
Baffle	A device located in the inlet and outlet of the septic tank. The inlet baffle is used for dissipating energy, directing solids downward, retaining solids, and drawing liquid off at a specific depth. The outlet baffle is used to ensure solids do not enter downstream drainfield components. A baffle is not an intercompartmental wall.
Basal area	The effective surface area available to transmit the treated effluent from the filter media into the original receiving soils.
Bed	A soil dispersal component consisting of an excavation with a width greater than three feet. Can only be utilized in certain soil classifications.
Biodegradability	The word biodegradable means that a complex chemical is broken down into simpler components through biological action. Do not be confused by the word biodegradable, which often is used to imply environmentally safe. Harmful chemicals as well as beneficial ones may be biodegradable.
Blackwater	Water that is flushed from toilets and urinals that contains human waste.
Biological oxygen demand (BOD_5)	BOD_5 measures how much oxygen will be used up as organic matter in wastewater break down. To test it, a sample is first measured for dissolved oxygen, then incubated for five days at 68°F, and the oxygen level is measured again. The difference in oxygen levels, adjusted for the sample size, is called BOD_5. It's a common way to check the strength of wastewater and is usually shown in mg/L.

Term	Definition
Building sewer	The horizontal piping of a drainage system that extends from the building drain to the on-site sewage system. It begins two feet outside the building wall, collecting sewage from all interior drainage pipes and conveying it to the remaining portions of the on-site sewage system
Casing	A metal or plastic pipe where a PVC pressure transport or gravity collection line is installed inside for additional protection in case of pipe failure or leakage.
Casing spacers/skids	Pipe fittings that provide long-term support around the circumference of a PVC pressure transport or gravity collection pipe within a casing. Skids may extend the full length of the pipe encased, except for the bell and spigot position, or may be spaced at intervals inside a casing.
Category 1 treatment component	A septic system component designed to treat sewage typical of residential sources, intended for use when the septic tank effluent meets or exceeds treatment level E standards.
Category 2 treatment component	A septic system component designed to treat high-strength sewage when the septic tank effluent is expected to exceed treatment level E standards.
Category 3 treatment component	A septic system component designed to handle only blackwater.
Carbonaceous biochemical oxygen demand ($CBOD_5$)	Typically expressed in mg/L, is similar to the 5-day biochemical oxygen demand (BOD_5) test. The key difference is the nitrogenous oxygen demand is excluded by adding a nitrification inhibitor to the sample.
Cesspool	An underground pit or tank designed to collect and temporarily store liquid waste and sewage from a property. It allows the liquid to seep into the surrounding soil through perforated walls, while solid waste settles at the bottom. Cesspools were used in areas without access to a municipal sewer system but pose environmental and public health risks. New installations of cesspools are not allowed in Washington State.
Composting toilet	A system designed to store and compost human waste through unsaturated, aerobic microbial digestion. They produce a stable, soil-like material called 'humus.' They are typically designed to handle fecal and urinary waste, toilet paper, and small amounts of organic, carbon-rich material, which supports the composting process.

Term	Definition
Conductivity	Measures the amount of dissolved chemicals, including salts and minerals, in a solution. Higher conductivity indicates a higher concentration of dissolved substances, which can negatively affect the environment and plant health.
Conforming system	Any on-site sewage system or component meeting the requirements in Chapter 246-272A WAC. Must be permitted by local health officers and must be installed and operated as designed.
Cover material	Soil placed over a soil dispersal component composed made mostly of mineral material, with no more than 10% organic content. Cover material may include an organic surface layer to support vegetation and reduce soil erosion.
Cuts and banks	Any naturally occurring or man-made slope steeper than 100% (45 degrees) and extending vertically at least 5 feet from the base to the top of the slope:  If the slope goes down from the point of view of the drainfield, it is called a cut. If the slope goes up, it is called a bank.
Demand system	A system where dosing frequency is controlled by the volume of effluent. In a demand system with a pump and pressure distribution, the pump activates when sufficient effluent enters the chamber, triggering the release of a predetermined dose to the treatment or dispersal component.
Design flow	The maximum estimated volume of sewage a residence or facility generates in 24 hours, accounting for both normal and surge capacity during heavy use. The system components are sized and designed based on this design flow.

Term	Definition
Designer	Responsible for planning, designing, and ensuring the proper installation of septic systems. This qualification applies to both on-site septic designers licensed under RCW 18.210 and professional engineers licensed under RCW 18.43.
Development	The planning and construction of infrastructure, buildings, and housing in an area, transforming raw land into developed spaces for residential, commercial, or industrial use.
Disk filter	A filter using stacked grooved rings to form a network of small openings that trap contaminants.
Disinfection	The process of destroying pathogens by exposing them to ultraviolet light, chlorination, or ozonation.
Dispersal component	The part of a septic system that provides final treatment and distributes effluent. This includes absorption fields (leachfields, drainfields), sand mounds, and sand-lined trenches.
Distributing valve	A valve distributing flow to multiple drainfield laterals, zones or locations by automatically rotating each pump cycle. Also known as a ratcheting valve.
Distribution technology	Any arrangement of equipment and/or materials distributing sewage within an on-site sewage system.
Diversion valve	A valve that diverts flow exclusively to one disposal component providing a long-term drying or “resting” period of another disposal component.
Dosing	The application of wastewater to a treatment or disposal system in discreet amounts over a definite time period. Opposite of unregulated flow.
Dosing tank/chamber	A watertight receptacle containing dosing equipment which collects treated effluent and periodically discharges it into another treatment / dispersal component, depending upon the needs and design of the particular on-site sewage system.
Drainback	Effluent that flows back into a pump tank after the dosing event.
Drainfield	See subsurface soil absorption system (SSAS) and soil dispersal component.

Term	Definition
Drainrock	Clean washed gravel or crushed rock ranging in size from three-quarters inch to two and one-half inches and containing no more than 2% by weight passing a US No. 8 sieve and no more than 1%by weight passing a US No. 200 sieve.
Drip irrigation	A system of crop irrigation involving controlled delivery of water (usually at low application rates) to plants through a network of small diameter flexible poly tubing with small diameter openings called emitters. This system has been adapted for wastewater applications.
Dripline	Flexible small diameter polyethylene tubing containing small diameter openings called emitters.
Effluent	Liquid discharged from a septic tank or other on-site sewage system component.
Elapsed time meter (ETM)	A meter that measures and records the total length of time a component has been in the operating mode.
Electric solenoid valve	An electric valve actuated by a solenoid, used for controlling the flow of liquid in pipes.
Emitters	Small diameter openings in dripline that can dissipate pressure and allow a slow, controlled discharge (rated in gallons per hour). Typically used in drip irrigation applications.
Evapotranspiration	The loss of moisture from soil due to both evaporation and transpiration from plants. The rate of evapotranspiration varies with soil type and landscape position, local climate and plant types.
Expanding clay	A clay soil with the mineralogy of clay particles, which causes particles to expand when they absorb water, closing the soil pores, and contract when they dry out.
Expansion	A change in a residence, facility, site, or use that: (a) Causes the sewage quantity or quality to exceed the existing design flow of the on-site system, for example, when a residence is increased from two to three bedrooms or a change in use from an office to a restaurant; or (b) Reduces the treatment or dispersal capability of the existing on-site sewage system or the reserve area, for example, when a building is placed over a reserve area.
Extremely gravelly	Soil with 60% or more, but less than 90% rock fragments by volume.

Term	Definition
Failure	The condition of an on-site sewage system or component that threatens the public health by inadequately treating sewage or by creating a potential for direct or indirect contact between sewage and the public. Examples of failure include: (a) Sewage on the surface of the ground; (b) Sewage backing up into a structure caused by slow soil absorption of septic tank effluent; (c) Sewage leaking from a sewage tank or collection system; (d) Cesspools or seepage pits where evidence of ground water or surface water quality degradation exists; (e) Inadequately treated effluent contaminating ground water or surface water; or (f) Noncompliance with standards stipulated on the permit.
Fecal coliforms (FC)	A subset of total coliforms found specifically in the intestines of warm-blooded animals. Fecal coliforms are used as an indicator for the presence of harmful pathogens. Generally expressed as # of colonies/100 ml.
Filter	A device or structure for removing suspended solid or colloidal material from wastewater. Also, a sewage treatment component which contains a specified filter media which is used to treat sewage physically, chemically and biologically.
Filtrate	Liquid which has passed through a filter.
Fineness modulus (FM)	A measure of fineness of a sand media calculated by adding the cumulative percentages of sand in a sample retained on the 3/8 in., No. 4, No. 8, No. 16, No. 30, No. 50, and No. 100 sieves, and dividing the sum by 100. The higher the FM, the coarser the sand.
Flexible coupling	A device used to form a leakproof joint between sections of plain end pipe or fittings of the same or different materials, of the same or different size, or any combination of materials or pipe sizes.
Flushing	The process by which drip lines are hydraulically cleansed to prevent emitter clogging by increasing the velocity of water flow through the drip lines to scour and transport solid material that may have accumulated inside the drip lines.
Geomembrane	An essentially impermeable membrane used with foundation, soil, rock, earth or any other geotechnical engineering-related material as an integral part of a human-made project, structure, or system.

Term	Definition
Geotextile	Any geotechnical engineering-related permeable textile used with foundations, soil, rock, earth, an integral part of a human-made project, structure, or system, and which serves to lessen the movement of fine soil particles.
Gravelly	Soils with 15%or more, but less than 35% rock fragments by volume.
Greywater	Sewage from bathtubs, showers, bathroom sinks, washing machines, dishwashers, and kitchen sinks. It includes sewage from any source in a residence or structure that has not come into contact with toilet wastes.
Ground water	Subsurface water occupying the zone of saturated soil, permanently, seasonally, or as the result of the tides. Indications of ground water may include: (a) Water seeping into or standing in an open excavation from the soil surrounding the excavation or monitoring ports; or (b) Spots or blotches of different color or shades of color interspersed with a dominant color in soil, caused by reduction and oxidation of iron. These color patterns are redoximorphic features, commonly referred to as mottling. Redoximorphic features often indicate the intermittent presence of ground water and may indicate poor aeration and impeded drainage. Also see "water table."
Holding tank sewage system (HTTS)	An on-site sewage system which incorporates a sewage tank without a discharge outlet. When the tank reaches a certain level it is pumped and disposed of at an offsite treatment location.
Hydraulic conductivity	The ability of soil to transmit liquids through pore spaces in a specified direction, e.g., horizontally or vertically.
Hydraulic loading rate	The amount of effluent applied to a given treatment step, in this chapter expressed as gallons per square foot per day (gal/sq.ft./day).
Hydrogeologic characteristics	Characteristics that describe the hydrology (the distribution of water on the surface and below the ground) and the geology (the structure and content of the earth) at a site. Hydrogeologic characteristics include soil type, depth to ground water, soil permeability, and ground-water recharge rate. These properties control the entrance of water to the subsurface and the capacity to hold, transmit, and deliver water.
Hydrogeologic susceptibility	Hydrogeologic characteristics that would either impede or enhance the movement of contaminants from the land surface into groundwater or surface water.
Hydrostatic pressure	The pressure per unit area exerted by water at rest.

Term	Definition
Incinerating toilets	Self-contained devices that reduce human urine and feces to ash and vapor, including the necessary venting, piping, electrical, and/or mechanical components. The process is fueled by gas, fuel oil, or electricity.
Industrial wastewater	Water or liquid carried waste from an industrial process. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feedlots, poultry houses, or dairies. The term includes contaminated storm water and leachate from solid waste facilities.
Infiltrative area	see "Basal Area".
Infiltrative surface	The surface within a treatment component or soil dispersal component to which effluent is applied and through which effluent moves into original, undisturbed soil or other porous treatment media
Influent	Untreated sewage or raw wastewater that enters a septic system.
Inspection	Varies by system type. Includes actions such as a visual inspection, tank inspection, and drainfield evaluation to ensure the system is functioning properly, safely, and in compliance with regulations.
Installer	A person authorized by the local health officer to set up or construct on-site sewage systems or their components.
Load bearing	The ability to support superimposed loads without shear failure or excessive deformation within the soil mass.
Local health officer (LHO)	The public health official responsible for enforcing public health laws, promoting health policies, and managing public health activities within a specific jurisdiction, such as a county or district. They work to protect and improve the health of the community by overseeing disease prevention programs, responding to health emergencies, and ensuring compliance with health regulations. Health officers must be an experienced physician licensed to practice medicine and surgery or osteopathic medicine and surgery in this state and who is qualified or provisionally qualified in accordance with the standards prescribed in RCW 70.05.051 through 70.05.055 to hold the office of local health officer
Maintenance	The regular inspection, care, and servicing of the septic system to ensure it operates efficiently and prevents failures.

Term	Definition
Manifold	A pipe or chamber that distributes effluent evenly from a central source (such as a septic tank or pump chamber) to multiple lateral pipes or distribution lines in the soil treatment area (e.g., a drainfield). It ensures effluent is dispersed evenly across the entire treatment area, preventing overloading in one section. It plays a critical role in pressure distribution systems or other advanced designs where uniform distribution is necessary.
Massive structure	Refers to a condition where the soil particles are tightly packed together, forming a dense, cohesive mass with no visible structure or natural arrangement, such as aggregates or layers. This type of soil lacks pores or channels for water and air movement, often resulting in poor drainage, limited root penetration, and reduced biological activity. Massive soil structure is commonly found in compacted or clay-heavy soils and can significantly impact plant growth and soil health.
Mesh	A material commonly used to trap or separate particles while allowing material to pass through. Comes in various sizes that are defined by the number of openings/spaces per linear inch of the openings.
Minimum pretreatment	For subsurface drip systems, minimum pretreatment means effluent and filtration in accordance with manufacturer's recommendations (ranges from 100- to 120-micron particle filtration).
Moderate structure	The well-formed distinct peds evident in undisturbed soil. When disturbed, soil material parts into a mixture of whole peds, broken peds, and material that is not in peds.
Monitoring	Periodic or continuous checking of an on-site sewage system, which is performed by observations and measurements, to determine if the system is functioning as intended and if system maintenance is needed. Monitoring also includes maintaining accurate records that document monitoring activities.
Mound system	A method of on-site sewage treatment and dispersal in which a specified sand filter media is laid on top of a properly prepared original soil surface. The distribution system and wastewater infiltration beds are then placed entirely within the filter media at such a level that the desired vertical separation to provide the necessary treatment exists. The original soil provides some additional treatment and is necessary to move the effluent away from the site without surfacing. Not included in this definition are systems where soil fill is used only for cover.

Term	Definition
Oils and Greases (O&G)	O&G. Formerly referred to as fats, oils, & greases (FOG). A component of sewage typically originating from food stuffs (animal fats or vegetable oils) or consisting of compounds of alcohol or glycerol with fatty acids (soaps and lotions). Typically expressed in mg/L.
On-site sewage system (OSS)	An integrated system of components, located on or nearby the property it serves, that conveys, stores, treats, and/or provides subsurface soil treatment and dispersal of sewage. It consists of a collection system, a treatment component or treatment sequence, and a soil dispersal component. An on-site sewage system may also refer to a holding tank sewage system or other system that does not have a soil dispersal component such an incinerating toilet or composting toilet.
Operating capacity	The average daily volume of sewage an OSS can treat and disperse on a sustained basis. The operating capacity, which is lower than the design flow, is an integral part of the design and is used as an index in OSS monitoring.
Ordinary high-water mark (OHWM)	The mark on lakes, streams, springs, and tidal waters, 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 with respect to vegetation, as that condition exists on the effective date of this chapter, or as it may naturally change thereafter. The following definitions apply where the ordinary high-water mark cannot be found: (a) The ordinary high-water mark adjoining marine water is the elevation at mean higher high tide; and (b) The ordinary high-water mark adjoining freshwater is the line of mean high water.
Particle size	The diameter of a soil or sand particle, usually measured by sedimentation or sieving.
Ped	A unit of soil structure such as blocks, columns, granules, plates or prisms formed by natural processes.
Percolation	The flow or trickling of a liquid downward through a contact or filtering medium. The liquid may or may not fill the pores of the medium.

Term	Definition
Performance standard	A standard used to judge whether predetermined requirements have been met, such as the necessary level of treatment for waste stream, after the completion or initiation of operation. Performance standards generally are in the form of a pre-determined level or concentration of a particular compound or constituent that is allowed in a waste effluent.
Permeable soil	Soil with a textural classification, according to the U.S. Department of Agriculture Soil Conservation Service classification system, of loams or coarser. Soil will be considered excessively permeable when it is coarser than coarse sand.
Person	Any individual, corporation, company, association, society, firm, partnership, joint stock company, or any governmental agency, or the authorized agents of these entities.
Phosphate	A plant nutrient often added to soil as fertilizer. Soil in some areas are low in phosphate and thus, there may be some benefit to plants if phosphate is present in greywater. This should not be relied upon, however, since many forms of phosphate are not readily usable by plants and soils.
Pipe volume	The amount of effluent needed to refill the supply lines and distribution system that have drained after a dose cycle. Generally, for pressure distribution systems, the design flow should include 7 times the pipe volume. The design flow should include 5 times the pipe volume for drip systems.
Pit toilet	An on-site sewage disposal unit consisting of a structure overlying an excavation not exceeding five feet in depth in which human excrement (human feces and urine) is directly deposited for permanent placement in the ground. Pit toilets, due to site and soil considerations, have very limited application.
Planned unit development	A subdivision characterized by a unified site design, clustered residential units and/or commercial units, and areas of common open space.
Platy structure	Soil containing flat peds that lie horizontally and often overlap. This type of structure will impede the vertical movement of water.
Potable water	Clean water which is satisfactory for drinking, culinary and domestic purposes and meets the drinking water standards established by DOH.

Term	Definition
Pressure compensating emitters	A type of drip emitter that allows a constant discharge rate over a wide range of applied pressures. A pressure regulator is not needed with this type of emitter when system pressure is maintained (determined by pump selection) within the range recommended by the manufacturer.
Pressure distribution (PD)	A system of small diameter pipes equally distributing effluent throughout a SSAS, as described in the DOH's "Recommended Standards and Guidance for Pressure Distribution Systems." A subsurface drip system may be used wherever the chapter requires pressure distribution.
Pressure regulator	A device used to regulate and maintain pressure within a specified range in a piping system. Required to control discharge with turbulent flow emitters.
Professional engineer (PE)	A person who is currently licensed as an engineer under the provisions of chapter 18.43 RCW. They may design OSS and LOSS systems. (http://apps.leg.wa.gov/RCW/default.aspx?cite=18.43)
Proprietary product	A sewage treatment and distribution technology, method, or material subject to a patent or trademark.
Public domain technology	A sewage treatment and distribution technology, method, or material not subject to a patent or trademark.
Public sewer system	A sewerage system: (a) Owned or operated by a city, town, municipal corporation, county, or other approved ownership consisting of a collection system and necessary trunks, pumping facilities and a of final treatment and disposal; and (b) Approved by or under permit from the Washington State Department of Ecology, DOH, and/or a local health officer.
Puddling	Act of destroying soil structure, usually by disturbing or compacting the soil at high water content, thereby reducing porosity and permeability.
Pump chamber	See dosing tank/chamber
Pumper	A person authorized by the local health officer to safely extract and transport sewage or septage from on-site sewage systems in compliance with regulations.
Ratcheting valve	See distributing valve
Raw wastewater	Wastewater before it receives any treatment.

Term	Definition
Readily accessible	Having direct access to a plumbing fixture, connection, appliance or equipment without the necessity of removing any panel, door, or similar obstruction.
Record drawing	An accurate graphic and written record of the location and features of the OSS that are needed to properly monitor, operate, and maintain that system. Also known as an "as built".
Registered list	"List of Registered On-site Treatment and Distribution Products", developed and maintained by the department and containing a list of treatment and distribution products that meets the requirements for product registration in WAC 246-272A.
Repair	The relocation, replacement or reconstruction of a failed on-site sewage system.
Reserve area	An area of land approved for the installation of a conforming system that is protected and maintained for replacement of the OSS upon its failure.
Residential sewage	Sewage having the constituency and waste strength typical of wastewater from domestic households.
Residential strength greywater	Greywater having the consistency and strength typically found in residential applications: acceptable characteristics of raw greywater are: BOD5 < 200 mg/L, TSS < 125 mg/L, O&G < 25 mg/L. Grey water originates from laundry, shower, and dishwashing and do not contain fecal contamination.
Restrictive layer	A stratum impeding the vertical movement of water, air, and growth of plant roots, such as hardpan, claypan, fragipan, caliche, some compacted soils, bedrock and unstructured clay soils.
Return manifold	A collection manifold or the piping that returns liquid and debris to the primary treatment tank during system flushes.
Rock fragment	Rock or mineral fragments having a diameter of two millimeters or more; for example, gravel, cobbles, stones, and boulders.
Routine servicing	Servicing all system components as needed, including product manufacturer's requirements / recommendations for service.

Term	Definition
Sand filter	A biological and physical wastewater treatment component consisting of (generally) of an under drained bed of sand to which pre-treated effluent is periodically applied. Filtrate collected by the under drains is then disposed of by an approved soil absorption system. Pretreatment can be provided by a septic tank or another approved treatment component. An Intermittent Sand Filter is a sand filter in which pre-treated wastewater is applied periodically providing intermittent periods of wastewater application, followed by periods of drying and oxygenation of the filter bed. A Recirculating Sand (Gravel) Filter is a sand (gravel) filter which processes liquid waste by mixing filtrate with incoming septic tank effluent and recirculating it several times through the filter media before discharging to a final treatment/disposal unit. A Sand-Lined Drainfield Trench is a combination of a pressure distribution drainfield and an intermittent sand filter typically consisting of a two-foot layer of intermittent sand filter media placed directly below the drain rock layer in the pressure distribution drainfield trench. A Bottomless Sand Filter is a special case of a sand-lined drainfield trench installed in a perimeter enclosure and is usually used to utilize more suitable soils high in the soil profile for dispersal.
Sanitary control area (SCA)	A horizontal protective radius around a well, which excludes major potential contaminant sources.
Seepage pit	An excavation more than three feet deep where the sidewall of the excavation is designed to dispose of septic tank effluent. Seepage pits may also be called "dry wells."
Septage	The mixture of solid waste, scum, sludge, and liquids pumped from within septic tanks, pump chambers, holding tanks, and other OSS components.
Septic tank	An approved OSS component as defined in WAC 246-272C. A watertight treatment receptacle receiving the discharge of sewage from a building sewer or sewers, designed and constructed to permit separation of settleable and floating solids from the liquid, detention and anaerobic digestion of organic matter, prior to discharge of the liquid.
Service interval	The period between planned site visits to perform various system monitoring functions such as checking equipment, renewing depleted disinfectant chemical supply, and collecting samples. The service intervals may be specified by contracts, manufacturers, operation plans, or local health jurisdiction permits.

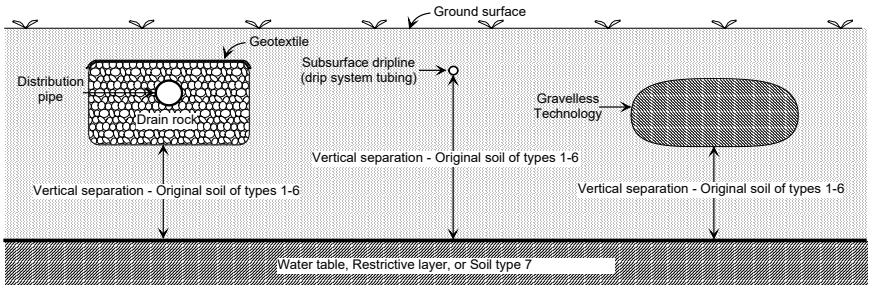
Term	Definition
Sewage	Any urine, feces, and the water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments or other places.
Sewage quality	Contents in sewage that include: (a) $CBOD_5$, TSS, and O&G; (b) Other parameters that can adversely affect treatment. Examples include pH, temperature, and dissolved oxygen; (c) Other constituents that create concerns due to specific site sensitivity. Examples include fecal coliform and nitrogen.
Sewage tank	Any prefabricated or cast-in-place septic tank, pump tank/dosing chamber, holding tank, grease interceptor, recirculating filter tank or any other tanks as they relate to on-site sewage systems including tanks for use with proprietary products. May not be legal for use.
Slope stability	The resistance of an inclined surface to failure by sliding or collapsing.
Slowly permeable soil	Soils with a textural classification, according to the U.S. Department of Agriculture Soil Conservation Service classification system, of silt loams, and some silty clay loams that are well structured.
Sodium	Can act as a plant poison by reducing the plant's ability to take up water from the soil. Too much sodium can destroy the structure of clay soils, making them slick and greasy by removing air spaces and thus preventing good drainage. Once a clay soil is damaged by sodium, it can be very difficult to restore it to a viable condition.
Soil compaction	Increasing the soil bulk density, and concomitantly decreasing the soil porosity, by the application of mechanical forces to the soil. Results in a soil that retains less water and resists root penetration. Soils with high clay content are more easily compacted than sandy soils.
Soil dispersal component	A technology that releases effluent from a treatment component into the soil for dispersal, final treatment and recycling.
Soil log	A detailed description of soil characteristics providing information on the soil's capacity to act as an acceptable treatment and dispersal medium for sewage.
Soil scientist	A person certified by the American Society of Agronomy as a Certified Professional Soil Scientist.
Soil type	One of seven numerical classifications of fine earth particles and rock fragments as described in WAC 246-272A-0220 (2)(e). (http://apps.leg.wa.gov/WAC/default.aspx?cite=246272A-0220)

Term	Definition
Standard methods	The *20th Edition of Standard Methods for the Examination of Water and Wastewater*, prepared and published jointly by the American Public Health Association, the American Water Works Association and the Water Environment Federation.
Strong structure	Peds are distinct in undisturbed soil. They separate cleanly when soil is disturbed, and the soil material separates mainly into whole peds when removed.
Subdivision	A division of land or creation of lots or parcels, described under chapter 58.17 RCW, including both long and short subdivisions, planned unit developments, and mobile home parks. (http://apps.leg.wa.gov/RCW/default.aspx?cite=58.17)
Subsurface drip system (SDS)	An efficient pressurized wastewater distribution system that can deliver small, precise doses of effluent to soil surrounding the drip distribution piping (called dripline) as described in the department's "*Recommended Standards and Guidance for Subsurface Drip Systems*."
Subsurface soil absorption system (SSAS)	A soil dispersal component of trenches or beds containing either a distribution pipe within a layer of drainrock covered with a geotextile, or an approved gravelless distribution technology, designed and installed in original, undisturbed, unsaturated soil providing at least minimal vertical separation as established in this chapter, with either gravity or pressure distribution of the treatment component effluent.
Suitable soil	Original, undisturbed soil of types 1 through 6.
Supply manifold	A distribution manifold or the piping that delivers effluent to dripline segments (laterals).
Surface water	Any body of water, whether fresh or marine, flowing or contained in natural or artificial unlined depressions for significant periods of the year, including natural and artificial lakes, ponds, springs, rivers, streams, swamps, marshes, irrigation canals and tidal waters.
Synthetic filter fabric	See Geotextile
Synthetic membrane	See Geomembrane
Telemetry system	Transmits system performance information measured by sensors to a remote location by means of wires or electromagnetic waves.
Through tee run	A T-shaped fitting to allow liquid to flow through the straight part with an outlet that lets the liquid also split and flow in another direction.

Term	Definition
Through tee branch	A T-shaped fitting to allow liquid to flow through the straight part with an outlet that is narrower than the straight part that lets the liquid also split and flow in another direction.
Timed dosing	Delivery of discrete volumes of sewage at prescribed time intervals.
Timer-controlled system	A pressure distribution system where the pump on and off times are preset, discrete time periods.
Total coliforms	Includes all bacteria from the coliform group. Environmental and fecal in origin. Fecal coliform is a subset of total coliforms.
Total nitrogen (TN)	A measure of the complete nitrogen content in wastewater. The forms of nitrogen of greatest interest are nitrate (NO3-), nitrite (NO2-), ammonia (NH3), and organic nitrogen; all these forms of nitrogen, as well as nitrogen gas (2), are biochemically interconvertible and are components of the nitrogen cycle. The total nitrogen content of wastewater can be determined by measuring nitrate, nitrite, ammonia, and Kjeldahl nitrogen. Typically expressed in mg/L.
Total suspended solids	TSS. Suspended solids refer to the dispersed particulate matter in a wastewater sample that may be retained by a filter medium. Suspended solids may include both settleable and unsettleable solids of both inorganic and organic origin. This parameter is widely used to monitor the performance of the various stages of wastewater treatment, often used in conjunction with BOD5 to describe wastewater strength. The test consists of filtering a known volume of sample through a weighed filter membrane that is then dried and re-weighed.
Treatment component	Treats sewage in preparation for further treatment and/or dispersal into the soil environment. Some treatment components, such as mound systems, incorporate a soil dispersal component in lieu of separate treatment and soil dispersal components. Treatment components are used to improve effluent quality.
Treatment level	One of five levels (A, B, C, , E, & N) used in Chapter 246-272A WAC to: (a) Identify treatment component performance demonstrated through requirements specified in WAC 246-272A-0110; and (b) Match site conditions of vertical separation and soil type with treatment components. Treatment levels used in these rules are not intended to be applied as field compliance standards. Their intended use is for establishing treatment product performance in a product testing setting under established protocols by qualified testing entities.

Term	Definition
Treatment Level A	A thirty-day average of ≤10 mg/l of CBOD5 and ≤10 mg/l of total suspended solids. (Bacteria Level 1 a thirty-day geometric mean of ≤200 fecal coliform/100ml or <126 e.coli/100 mL.)
Treatment Level B	A thirty-day average of ≤15 mg/l of CBOD5 and ≤15 mg/L of total suspended solids. (Bacteria Level 2 a thirty-day geometric mean of ≤1000 fecal coliform/100ml.)
Treatment Level C	A thirty-day average of ≤25 mg/L of CBOD5 and ≤30 mg/L of total suspended solids. (Bacteria Level 3 a thirty-day geometric mean of ≤50,000 fecal coliform/100ml.)
Treatment Level E	A full test average of ≤228 mg/L of CBOD5, ≤80 mg/l of total suspended solids, and ≤20 mg/L of oils and greases.
Treatment Level N	A full test average of ≤30 mg/L of total nitrogen.
Treatment sequence	Any series of treatment components that discharges treated sewage to the soil dispersal component.
Trench	A soil dispersal component consisting of an excavation with a width of three feet or less.
Total suspended solids (TSS)	A measure of all suspended solids in a liquid, typically expressed in mg/L.
Turbulent flow emitters	Drip emitters that allow a varying discharge depending on the pressure applied (flow rate increases as system pressure increases). A pressure regulator recommended by the dripline manufacturer is required with this type of emitter to ensure discharge is in accordance with design.
Uniform distribution	A method of distribution which results in equal distribution of the effluent throughout the distribution network. This will help ensure a vertical unsaturated flow regime. Procedures are explained in detail in the Recommended Standards and Guidance for Pressure Distribution Systems (DOH).

Term	Definition
Uniformity coefficient, CU	A ratio of the uniformity of a mixture of sand particles calculated by dividing the size of the opening where 60% of a sample passes by the size of the opening where 10% of a sample passes on a weight basis. The higher the UC the less uniform the sand. (symbolically D60/D10=UC)
Unit volume of sewage	Means: (a) Flow from a single-family residence; (b) Flow from a mobile home site in a mobile home park; or (c) Four hundred fifty gallons of sewage per day where the proposed development is not single-family residences or a mobile home park.
Vault toilet	An on-site sewage system that incorporates: (a) a structure enclosing a toilet above a water-tight (preventing liquid infiltration into the soil) storage chamber for human waste; (b) the services of a sewage pumper/hauler; and (c) the off-site treatment and disposal for the sewage generated. Portable chemical toilets are not included in this category.
Vent system	A pipe or pipes installed to provide a flow of air to or from a drainage system or to provide a circulation of air within such system to protect trap seals from siphonage and back-pressure.
Vertical flow	The effluent flow path downward through soil or filter media that involves travel along soil surfaces or through soil pores. This flow can be either saturated or unsaturated. Unsaturated flow follows a tortuous path that allows pathogens and pollutants in the wastewater to come in contact with the microsites in the soil or filter media where treatment by physical, biological, and chemical means occurs. With unsaturated flow all soil pores are primarily filled with air, not water. With saturated flow all soil pores are filled with water. Oxygen is excluded and contact time may be insufficient for retention or treatment to occur.

Term	Definition
Vertical separation	The depth of unsaturated, original, undisturbed soil of Soil types 1 - 6 between the bottom infiltrative surface of a soil dispersal component and the highest seasonal water table, a restrictive layer, or Soil Type 7 as illustrated below by the profile drawing of subsurface soil absorption systems: 
Very gravelly	Soil containing 35% or more, but less than 60% rock fragments by volume.
Wastewater	See "*sewage*."
Wastewater treatment unit	A unit designed, constructed, and installed to stabilize liquid waste by biochemical and physical action.
Waterproof surface barrier	A barrier material applied for treating concrete surfaces to prevent leakage into a retaining structure or to prevent loss of water from a retaining structure.
Water table	The upper surface of the ground water, whether permanent or seasonal. Also see "ground water."
Waterless toilet	A non-discharging toilet; a device which uses no water for waste transport but stores or reduces toilet and urinal wastes to either compost, ash, or an accumulation of wastes for removal, transport, and final disposal at an approved site.
Well	Any excavation that is constructed when the intended use of the well is for the location, diversion, artificial recharge, observation, monitoring, dewatering or withdrawal of ground water for agricultural, municipal, industrial, domestic, or commercial use. Excluded are: (a) A temporary observation or monitoring well used to determine the depth to a water table for locating an OSS; (b) An observation or monitoring well used to measure the effect of an OSS on a water table; and (c) An interceptor or curtain drain constructed to lower a water table.

Term	Definition
Zone of influence	The area surrounding a pumping well within which the water table or potentiometric surfaces have been changed due to groundwater withdrawal.