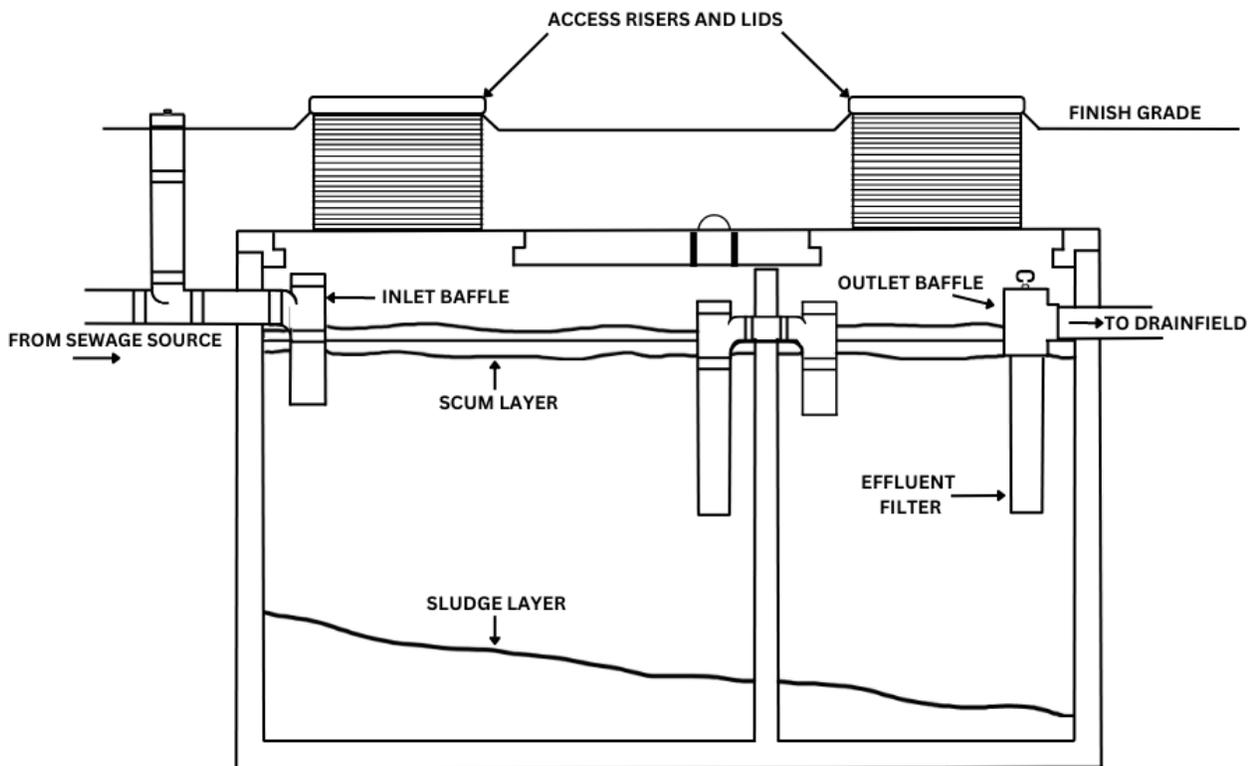


# ON-SITE SEWAGE SYSTEM PUMPER MANUAL



Revised 10/13/2025



**SNOHOMISH  
COUNTY**   
HEALTH DEPARTMENT

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## EXAM MATERIALS TO REVIEW

**ALL of the following resources should be reviewed in their entirety:**

- Chapter 5.55 “On-Site Sewage System Contractor Regulations of [Snohomish County Board of Health Code \(SCBHC\)](#)
- [Dosing Gravity Drainfield Systems Department Standards & Guidance \(DS&G\)](#)
- [Basic Principals of On-Site Sewage from the Department of Health \(revised for SCHED\)](#)
- On-site Sewage System Pumper Manual (this document)

## EQUIPMENT

Equipment utilized for the purpose of septic tank cleaning must be capable of removing all scum and sludge from the septic tank. It is highly recommended that trucks used for the purpose of septic tank cleaning employ the vacuum method of pumping. The minimum recommended standard for vacuum pumping is established at 18 inches of mercury vacuum at sea level. The equipment should be inspected and tested for this standard including measurement of the vacuum at the inlet valve to the tank.

Also, the equipment should be capable of producing a minimum air flow at the inlet valve of the tank of 35 standard cubic feet per minute at 15 inches mercury vacuum (at sea level). Maintenance of this air flow standard assures proper efficiency in the removal of all contents of a septic tank. Testing for this standard should include measurement by an air flow meter at the inlet valve on the tank.

Trucks must be kept in good working order with special attention to leakage. Trucks must also meet applicable Washington State Patrol licensing requirements.

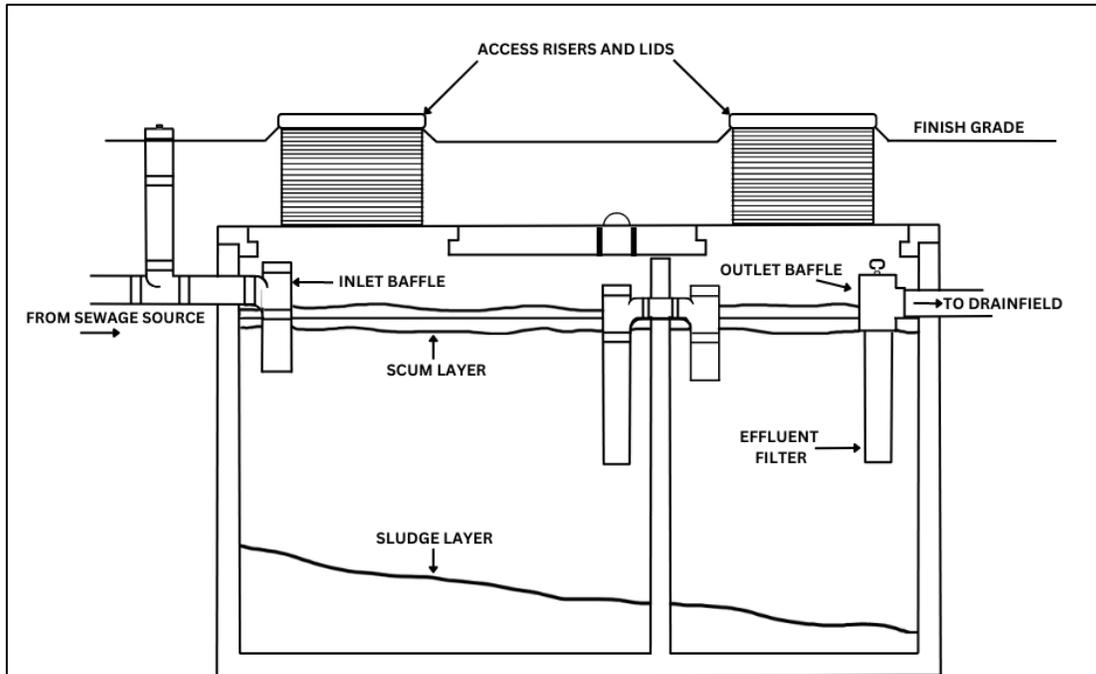
## DISPOSAL AND DUMPING SITES

In order that septage is adequately treated it must be disposed of at a facility approved by the Department of Ecology (DOE). For example, a local DOE permitted municipal sewage treatment plant.

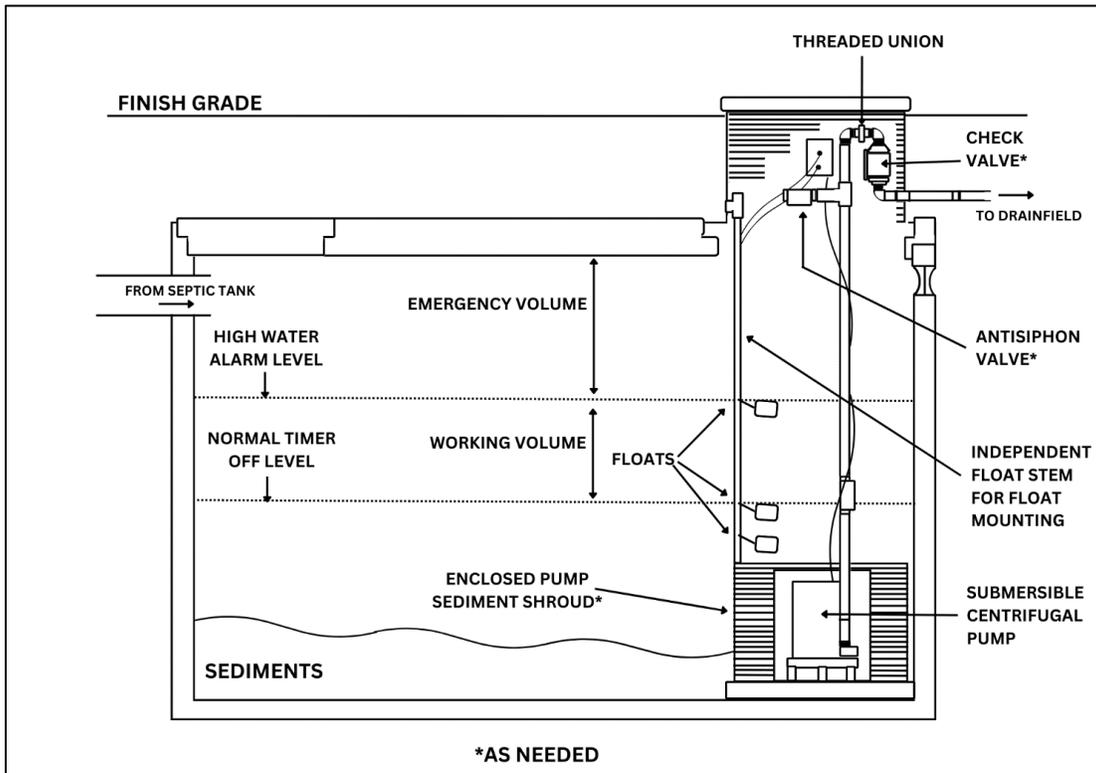
It is therefore required that a certified pumper obtain permission from the sewage plant and only dump at an approved site determined by the sewage plant operator.

Records and receipts for dumping must be kept by the pumper for possible review by the Snohomish County Health Department.

# REFERENCE DIAGRAMS



*Typical Septic Tank Diagram*



*Pump Chamber/Tank Diagram (\*as needed)*

## SERVICE PROCEDURES

### SYSTEM INSPECTION & PUMPING PROCEDURES

#### Locating the Septic Tank & Other Components

The most direct method of locating the septic tank and the pump chamber (if applicable) is to obtain the as-built drawing. The as-built can also provide valuable information on the system and its type. As-built records can be accessed through OnlineRME which can be found on [the Health Department's website](#). Obtaining the as-built should be the first step in any inspection.

In lieu of these records, the most widely used method of locating a septic tank is with the use of a metal probe or pry bar. The probe is inserted into the ground in the area adjacent to the main plumbing wall of the building, usually in the area five to ten feet out from the foundation. It is advisable to visually locate the plumbing vent on the roof as this usually indicates the vicinity of the main plumbing and helps orient the service person to the probable location of the septic tank.

If none of these methods work, there are electronic locating devices on the market that utilize a small radio-direction sender that can be flushed down the toilet and then located with the use of the radio-direction finder.

Once the septic tank is located, all chambers of the septic tank should be uncovered. If a dosing tank or pump chamber is used this must also be uncovered.

#### Biofunction Measurements

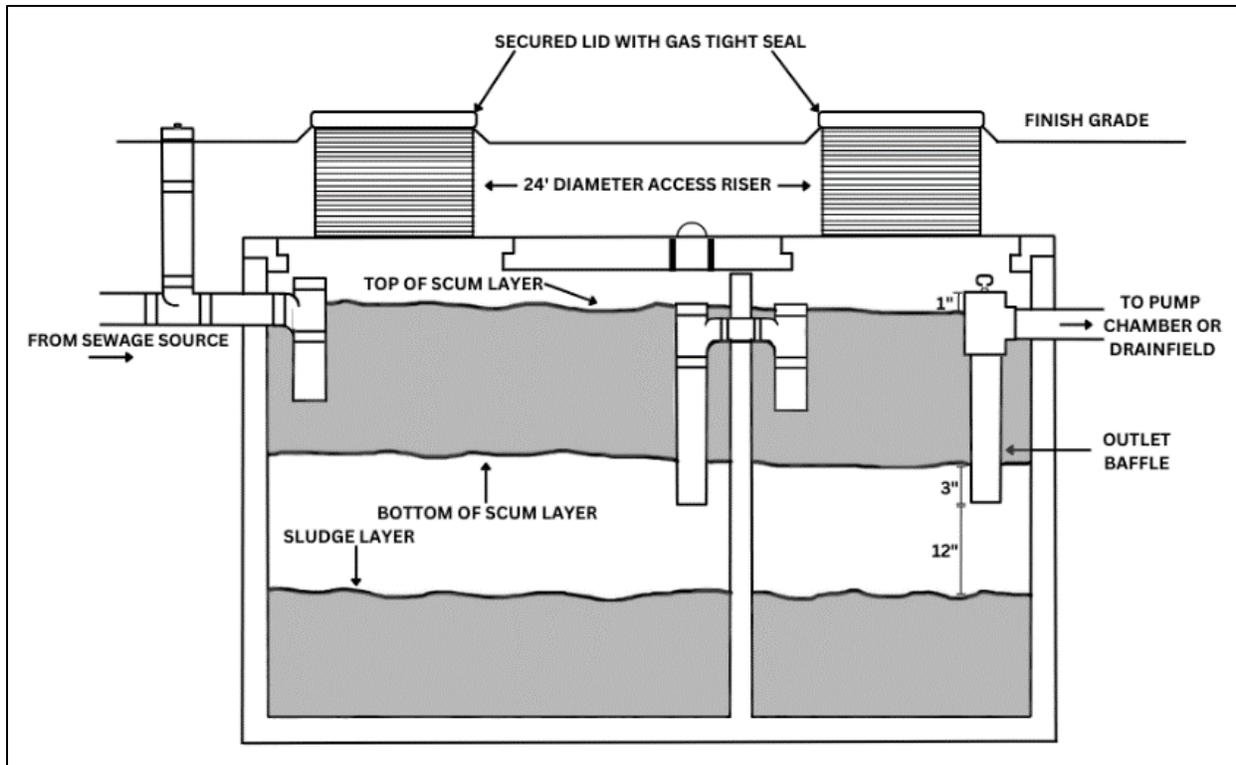
Check and record the following parameters:

- Floating mat/Scum layer thickness in each compartment
- Bio-solids/Sludge accumulated on the bottom of each compartment
- Quiescent zone/Clarified layer thickness

#### Evaluate the Measurements

A simple rule of thumb for conventional 1000 gallon, two-compartment tanks is as follows: Pumping is necessary if the bottom of the scum layer is within 3" of the bottom of an outlet baffle and/or if the top of the scum layer is within 1" of the top of an outlet baffle. Also, pumping is necessary if the sludge layer is within 12" from the bottom of the outlet baffle. See the diagram on the following page for reference.

***NOTE: When pumping is required, all of the compartments of the system must be pumped out thoroughly, including removal of all of the scum and sludge.***



*Tank diagram showing scum and sludge measurements at outlet baffle that require pumping*

### Septic Tanks & Pump Chamber Inspection

See section 4.3 of the [Dosing Gravity DS&G](#) (page 15-16) for how to evaluate the condition of the septic tank and pump chamber. Review sections 4.3.1 - 4.3.7. Also see the following additional notes for tanks and pump chambers.

- *Pump Chambers* - If a screen basket surrounding the pump is in place, clean it thoroughly. (Pay special attention to float clearances when replacing the screen).
- *Risers* - Risers are required on all newly installed septic systems. Risers are not required to be installed on existing septic systems.
- *Alarm Systems* - If the alarm is going off, homeowners should be advised to have their system inspected by a monitoring & maintenance professional. Gravity systems can be inspected by a certified pumper as well.
- *Watertightness* – All septic tanks should be completely watertight. No leakage is acceptable. This ensures the system does not contaminate nearby areas or groundwater, the drainfield doesn't suffer hydraulic overload, and retention time is maintained.
  - *Retention Time* – A minimum of 24 hours of retention time is necessary for the separation of solids from liquid and proper tank function.
  - *Hydraulic Overload* – If the tank is cracked, groundwater could enter the tank. Too much water going into the tank can cause hydraulic overload (too much liquid going to drainfield).

- *Groundwater Contamination* – If wastewater leaks out of the tank, it can contaminate groundwater as it has not gone through the entire septic system and is therefore not fully treated.

### Baffles, Filters, and Screens

*Concrete baffle* - Visually check for degradation and erosion caused by hydrogen sulfide. Pay special attention to the integrity of the top portion. Conditions within the septic tank create gases and acids which literally remove the lime from the concrete above the water line. If the concrete baffle has deteriorated or is no longer present, it should be replaced with a PVC/plastic baffle.

*Metal baffle* - Visually check for corrosion. Preferably, metal baffles should be replaced with PVC/plastic baffles.

*PVC/Plastic baffle* – Visually inspect for cracks and breaks, check for proper installation, and verify length.

*Screened baffle* (typically found on alternative systems) - Should be removed, thoroughly cleaned, visually inspected, and re-installed (secure and sealed). The maximum mesh size allowed is 1/8 inch.

*Effluent Filters* (i.e. Zable Filter) - Should be removed and the solids flushed out with a water hose back into the septic tank. The cartridge must then be re-installed.

For all outlet baffles, check the depth at which the baffle extends into the tank. It must extend far enough into the tank to draw liquid from the clarified zone, which is the area between 40% down from the top of the tank and 40% up from the bottom of the tank. Outlet baffles should be securely fastened to the outlet pipe to ensure no leakage occurs.

***Note: Pressure distribution systems are required to have either an outlet baffle filter or a pump screen. Gravity and pump-to-gravity systems are not required to have any filter or screen.***

### Cleaning

To clean system components, rinse with clean water back into the septic tank to avoid unnecessary exposure to pathogens and contamination of other equipment or areas of the property. This includes:

- Pump screens
- Outlet baffle filters/screens
- Pump hoses

### DRAWDOWN AND VOLUME PER DOSE

Check for an as-built from Snohomish Health County Health Department through OnlineRME. The as-built should contain the approved dose volume, drawdown, and gallons per inch. Install the float with the proper length of tether on the independent float stem to achieve the required dose volume. If it is not listed in the as built, the float swing can be determined based on the required dose volume and the gallons per inch of the pump chamber. See below for an example.

To determine float swing in inches: If the gallons per inch in the pump chamber is 12.5 gallons per inch, and the dose volume needed is 225 gallons, to determine the placement of floats to set the intended drawdown you would divide gallons per dose by gallons per inch in the pump chamber.

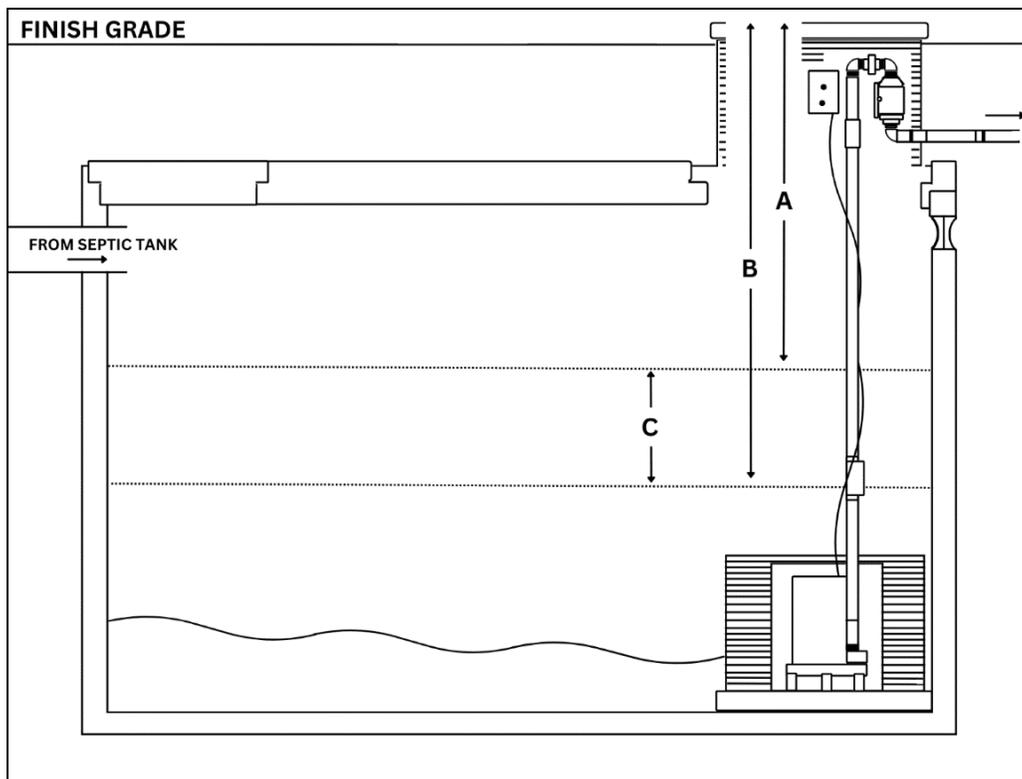
225 gallons per dose ÷ 12.5 gallons per inch in the pump chamber = 18 inch float swing

**Note: If the as-built does not contain information about dose volume, contact the Health Department for assistance with placement of floats on the float stem if you are replacing a pump.**

### Determining Dose Drawdown

When conducting a maintenance inspection of a dosing gravity system, the pump run time per cycle and drawdown should be checked. Take all water depth measurements from a fixed point such as the top of the riser to reduce errors. See diagram below. Use a flashlight if it's difficult to see the liquid surface.

1. Use a hose to run water into the pump chamber. Do not put the end of the hose directly into the effluent to prevent any cross connection to the potable water source. Minimize water disturbance to the floats by placing the hose as far away from the float tree as possible.
2. Using a tape measure, take a liquid depth measurement (A) from the liquid surface to your fixed point as soon as the pump turns on. Write it down.
3. Quickly turn off the water source to the pump chamber.
4. Measure the liquid depth (B) in the pump chamber again when the pump turns off. Take the measurement from the same fixed point the measurement was taken in step 3. Write it down.
5. Subtract.  $B - A = C$  (inches of effluent per dose)



*Pump tank diagram showing drawdown measurements*

## POTENTIAL SIGNS OF A FAILING SEPTIC SYSTEM

- Signs of backup such as:
  - Water and sewage from toilets, drains, and sinks backing up into the home's plumbing
  - Staining in the tank above the outlet pipe
  - Bathtubs, showers, and sinks draining very slowly
  - Gurgling sounds in the plumbing system
- Standing water or damp spots near or over the septic tank or drainfield
- Sewage odors around the septic tank or drainfield
- Bright green, spongy, lush grass over the septic tank or drainfield, even during dry weather
- Straight pipe discharging untreated wastewater to the ground surface
- Algae blooms in nearby lakes or waterbodies
- High levels of nitrates or coliform bacteria in surface waters or drinking water wells

***NOTE: If a system is found to be discharging sewage onto the surface of the ground or into a body of water, the certified pumper must report the occurrence to the Snohomish County Health Department immediately.***

## PART REPAIR/REPLACEMENT ON GRAVITY SYSTEMS

### REPLACING A PUMP

1. Disconnect power to the pump.
2. Disconnect the threaded union from the pump discharge line.
3. Remove the pump and floats from the pump chamber.
4. Verify the required pump make/model from the Snohomish County Health Department accepted as-built. Replace with the same make/model pump or equivalent pump.
5. Place the pump on the pump block in the pump tank. If a pump block was not present install a 3" high pump block to ensure the minimum separation distance between the bottom of the pump tank and pump intake is met.
6. Connect the threaded union on the pump discharge line.
7. Verify all the floats are properly set per the as-built.
8. Connect power to the pump and test pump.

### REPLACING A DISTRIBUTION BOX

A concrete distribution box can be replaced with concrete or plastic. The replacement box must be placed on a firm, compacted base and must be water-leveled to prevent uneven distribution.

1. Uncover the old distribution box, disconnect sewage transport lines, and remove the old box.
2. Prepare the ground by creating a flat floor in the empty hole where the old distribution box was. Pack down the dirt and check to make sure it is level.
3. Place the new distribution box on the prepared area. Replacement boxes do not have to be made of the same material as the previous distribution box.
4. Slide sewage transport lines into the box.
5. Ensure it is water level.

6. Ensure all joints are sealed to prevent leaking.
7. Place the lid on the box and bury with dirt.

#### EFFLUENT PUMPS AND DOSING SYSTEMS APPLICATION AND INSTALLATION STANDARDS

- All onsite sewage disposal systems utilizing a sewage effluent pump shall be designed and installed as dosing systems.
- The dosing volume shall be equal to 60-70 percent of the drainline capacity (calculated by multiplying the lineal feet of drainline by 0.39 to 0.49 gallons).
- The total dosing volume shall be delivered to the drainfield within 10 minutes from the beginning of each cycle.
- Diaphragm switches are not approved for installation or use.
- A visual or audible high-level alarm shall be provided on an electrical circuit separate from that of the pump.
- The effluent chamber shall provide additional storage volume (75 gallons multiplied by the number of bedrooms) to allow a repair to be accomplished after the high-level alarm has been activated, but before the household plumbing has ceased to drain into the system.
- Effluent pump switching mechanisms, excepting sealed floats, shall not be located within the effluent tank.
- All effluent tanks shall be installed in a manner which allows access to the tank at a depth not to exceed 12 inches from the finished grade. If the required access is accomplished by the use of a riser, the riser shall be grouted securely to the effluent tank and have a diameter of no less than 18 inches.
- All septic tanks, effluent tanks and risers of a dosing system shall be constructed or treated in a manner that precludes the intrusion of groundwater.
- The effluent pump and pressure line shall be installed in a manner which provides:
  - A minimum 3-inch separation between the bottom of the pump tank and the pump intake
  - A disconnect union that is accessible when the pump chamber is flooded
  - A check valve immediately on the discharge side of the disconnect union
  - If a riser is used, the effluent discharge line shall exit the riser
  - A practical means to remove, repair and reinstall the pump

*Effective Date: These standards will apply to all new onsite system designs submitted on or after November 1, 1983 utilizing effluent pumps and will apply to all new onsite system installations utilizing effluent pumps commencing January 1, 1984.*

*Adopted:*

*Board of Health*

*Snohomish County Health Department*

*July 19, 1983*

*Resolution #83 - 30*

## SAFETY PROCEDURES

Septic systems pose many potentially life-threatening situations. The following information is offered only as a guideline. This information was gathered from sources including: The Washington State Septic Tank Pumpers Association and Michigan State University Cooperative Extension Service – Agricultural Engineering Information Series No. 490, File No. 18.52, January 1984.

For specific local requirements and regulations, contact the Washington State Department of Labor and Industries.

### Hazards in Enclosed Spaces

All enclosed spaces must be considered life threatening until proven safe! Entering a confined space where sewage is or has been present is not recommended. If entry is required, proper preparation, equipment, and precautions must be taken.

**Oxygen Deficiency (suffocation)** Oxygen is depleted by chemical and biological activity. Also, oxygen is displaced by other gases produced in the tank.

### Toxic Gases

- *Hydrogen Sulfide (H<sub>2</sub>S)* - Produced by anaerobic decomposition and is characterized by a rotten egg odor in small concentrations. As levels increase the odor becomes less detectable due to impairment of sense of smell. Exposure to even low levels can be fatal.
- *Carbon Dioxide (CO<sub>2</sub>)* - Produced by aerobic or anaerobic decomposition. Colorless, odorless and heavier than air (will sink to the bottom of tank). May be fatal even in the presence of adequate oxygen.
- *Explosive Gases* - Methane (CH<sub>4</sub>) is the most common. Odorless, colorless and may cause oxygen depletion. Needs oxygen to support explosion. Consequently, as a tank is pumped, the entering air can create an explosive condition when none originally existed.

### Personal Hygiene

- Wastewater must be assumed infectious. Microorganisms can enter the body in many ways, including inhalation, ingestion with food or drink, and contact with open cuts or sores.
- Rubber gloves are recommended during performance of work involving contact of sewage or septage.
- Keep fingers from the nose, mouth, and eye areas. (Keep hand below your collar.)
- Thoroughly wash hands and equipment after each use to prevent the spread of diseases. Be sure to wash hands before eating, smoking, or drinking.
- Wear boots and eye protection.
- Isolate work clothes from family members and wash daily.
- To avoid damaging hearing, be careful about noise when doing certain activities.
- Maintain current vaccinations.

### Electrical

- Electricity and water are a lethal combination. Contact the Washington State Department of Labor and Industries for specific requirements.
- Disconnect electrical power source and test the circuit prior to servicing any electrical component.

- Buried electrical lines pose a hazard during excavations.
- Electrical equipment and tools can serve as a spark for explosions.

## ADDITIVES

The Snohomish County Health Department does not support the use of septic tank additives. Additives may be chemical (including inorganic and organic compounds) or biological (including yeast, bacteria, and enzymes).

Current research indicates that these products provide no beneficial use to the septic tank/drainfield system, and furthermore some septic tank additives may harm septic systems and/or the environment. Septic additives have not been extensively tested for effectiveness by the FDA or EPA. Chemical additives, such as caustic hydroxides and sulfuric acid, should never be added to a septic system. Adding these products will destroy the bacterial population in the septic tank, change the permeability characteristics of the soil absorption system, and may cause groundwater contamination. Manufacturers of biological additives often market their use to restore the bacterial balance in a septic tank on a monthly basis as part of a routine maintenance program. This is not necessary because domestic wastewater provides all the bacteria needed for proper tank function.

These products have not been proven to "open up" a failing septic system, prevent problems, or reduce the frequency of septic tank pumping. Consequently, a septic tank pumper will not promote the use of such products for these purposes.

## GLOSSARY

Terms in this glossary have been pulled from the [WAC 246-272A-0010 Definitions](#) and [Recommended Standards & Guidance for Performance, Application, Design, and Operation & Maintenance Glossary of Terms](#).

**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.

**Approved:** A written statement of acceptability issued by the local health officer or the department.

**As-built:** 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. See "Record drawing".

**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.

**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.

**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

**Conforming system:** Any on-site sewage system or component meeting any of the following criteria:

- a. In full compliance with new construction requirements under this chapter; or
- b. Approved, installed, and operating in accordance with requirements of previous editions of this chapter; or
- c. Permitted by the waiver process under WAC 246-272A-0420.

**Demand dosing 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 volume of sewage a residence, structure, or other facility is estimated to generate in a twenty-four-hour period. It incorporates both an operating capacity and a surge capacity for the system during periodic heavy use events. The sizing and design of the on-site sewage system components are based on the design flow.

**Designer:** A person who matches site and soil characteristics with appropriate on-site sewage technology. Throughout this chapter this term applies to both on-site sewage treatment system designers licensed under chapter 18.210 RCW and professional engineers licensed under chapter 18.43 RCW.

**Disinfection:** The process of destroying pathogenic microorganisms in sewage through the application of 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 that distributes 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.

**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.

**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 groundwater or surface water quality degradation exists;
- e. Inadequately treated effluent contaminating groundwater or surface water; or
- f. Noncompliance with standards stipulated on the permit.

**Fecal Coliform (bacteria):** 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.

**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:** 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.

**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.

**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.

**Local health officer:** 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

**LOSS:** A large on-site sewage system

**Maintenance:** The regular inspection, care, and servicing of the septic system to ensure it operates efficiently and prevents failures.

**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.

**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 as 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.

**Potable water:** Clean water which is satisfactory for drinking, culinary and domestic purposes and meets the drinking water standards established by Washington State Department of Health.

**Pressure distribution:** 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.

**Professional engineer:** A person who is currently licensed as an engineer under the provisions of chapter 18.43 RCW. They may design OSS and LOSS systems.

**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.

**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.

**Raw wastewater:** Wastewater before it receives any treatment

**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”.

**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.

**Retention time:** The amount of time wastewater spends in the septic tank before moving onto the next component. 24 hours retention time is necessary for proper tank function.

**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.

**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.

**Septic system:** See on-site sewage system or OSS.

**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 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.

**Soil dispersal component:** A technology that releases effluent from a treatment component into the soil for dispersal, final treatment and recycling.

**Subsurface drip system:** 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.

**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.

**Timed dosing:** Delivery of discrete volumes of sewage at prescribed time intervals.

**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.

**Wastewater:** See "sewage."

**Wastewater Treatment Unit:** A unit designed, constructed, and installed to stabilize liquid waste by biochemical and physical action.

**Water Table:** The upper surface of the ground water, whether permanent or seasonal. Also see "ground water."