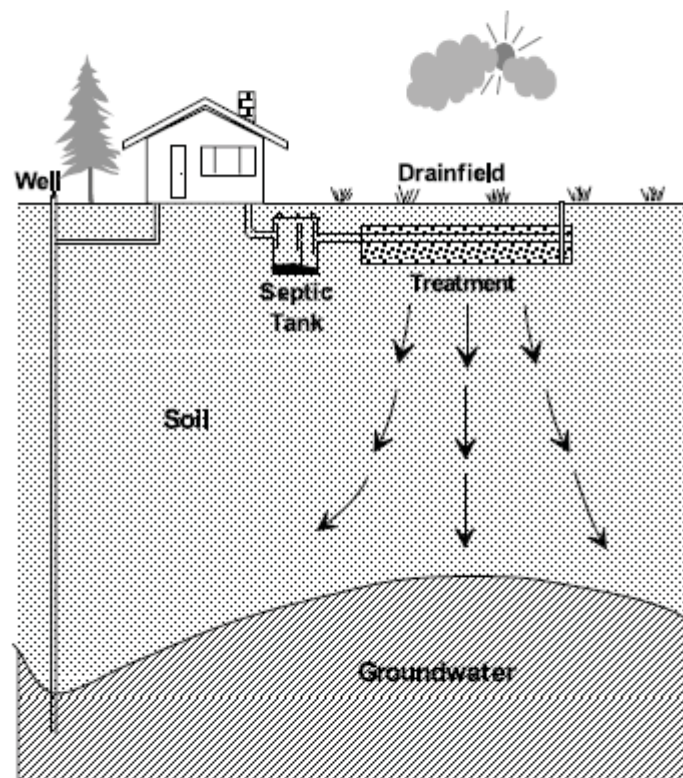


Understanding And Caring for Your Septic Tank System

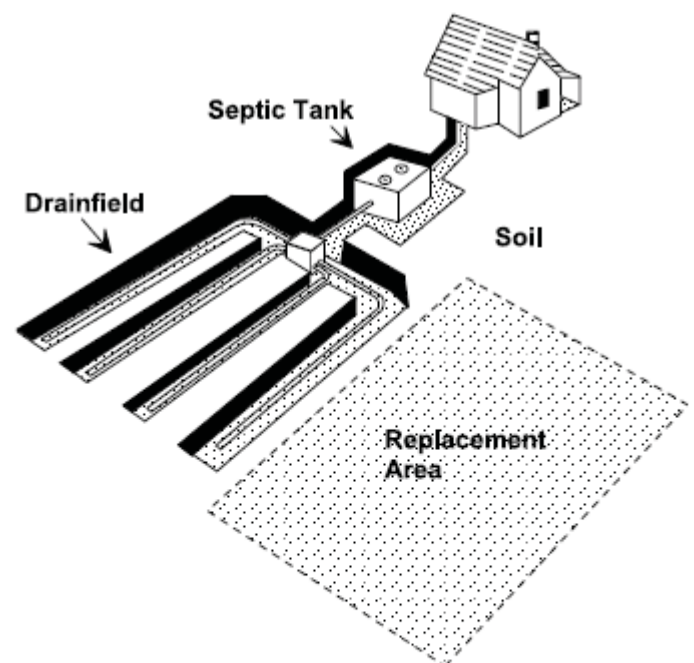


Households that are not served by public sewers usually depend on septic tank systems to treat and dispose of wastewater. A well designed, installed, and maintained septic system can provide years of reliable low-cost service. When these systems fail to operate effectively, property damage, groundwater and surface water pollution, and disease outbreaks can occur. Therefore, it makes good sense to understand and care for your septic tank system.

There are many different types of septic tank systems to fit a wide range of soil and site conditions. The following information will help you to understand a conventional gravity-flow septic tank system, and keep it operating safely at the lowest possible cost.

A conventional gravity-flow septic tank system has three working parts:

1. The septic tank.
2. The drainfield with its replacement area.
3. The surrounding soil.

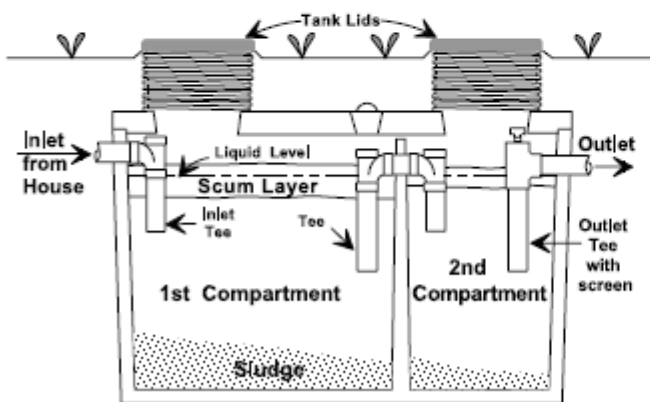


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The Septic Tank

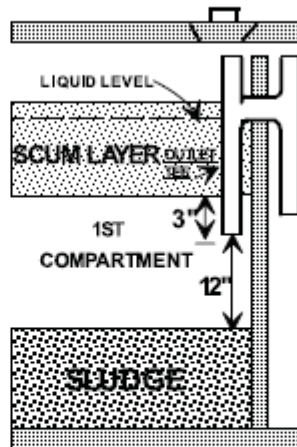
The typical septic tank is a large buried rectangular or cylindrical container made of concrete, fiberglass or polyethylene. Wastewater from your toilet, bath, kitchen, laundry, etc. flows into the tank. Heavy solids settle to the bottom where bacterial action partially decomposes them to digested sludge and gases. Most of the lighter solids, such as fats and grease, rise to the top and form a scum layer.



Septic tanks may have one or two compartments. Two compartment tanks do a better job of settling solids and are required for new systems. Tees or baffles are provided at the tank's inlet and outlet pipes. The inlet tee slows the incoming wastes and reduces the disturbance of the settled sludge. The outlet tee keeps the solids or scum in the tank. All tanks should have accessible covers for checking the condition of the baffles and for pumping both compartments. If risers extend from the tank to or above the ground surface, they should be secure to prevent accidental entry into the tank.

Solids that are not decomposed remain in the septic tank. If not removed by periodic pumping, solids will accumulate until they eventually overflow into the drainfield. Most septic tanks need to be pumped every 3 to 5 years, depending on the tank size, and the amount and type of solids entering the tank.

"Early Warning" Levels Inside Your Septic Tank



The septic tank should be pumped whenever:

- the bottom of the scum layer is within 3 inches of the bottom of the outlet tee or baffle, or
- the top of the sludge layer is within 12 inches of the bottom of the outlet fitting.

Some septic tank additives on the market with chemicals, yeast, bacteria, or enzymes claim to improve septic tank performance or reduce the need for routine pumping. Such products are not necessary for the proper functioning of a septic tank. Some can cause solids to carry over to the drainfield, which results in early soil clogging and the need for a new drainfield. Products containing organic solvents contribute to groundwater pollution.

The wastewater leaving the septic tank is a liquid called effluent. It has been partially treated but still contains disease-causing bacteria and other pollutants. Discharging effluent onto the ground's surface or into surface and ground water is against Washington State law.

The Drainfield

The drainfield receives septic tank effluent. It has a network of perforated pipes laid in gravel-filled trenches (2-3 feet wide) or beds (up to 10 feet wide) in the soil. Wastewater trickles out of the pipes, through the gravel layer, and into the soil. The size and type of drainfield depends on the estimated daily wastewater flow and soil conditions.

Every new drainfield is required to have a designated replacement area. It must be maintained should the existing system need an addition or repair.

The Soil

The soil below the drainfield provides the final treatment and disposal of the septic tank effluent. After the effluent has passed into the soil, most of it percolates downward and outward, eventually entering the groundwater. A small percentage is taken up by plants through their roots, or evaporates from the soil.

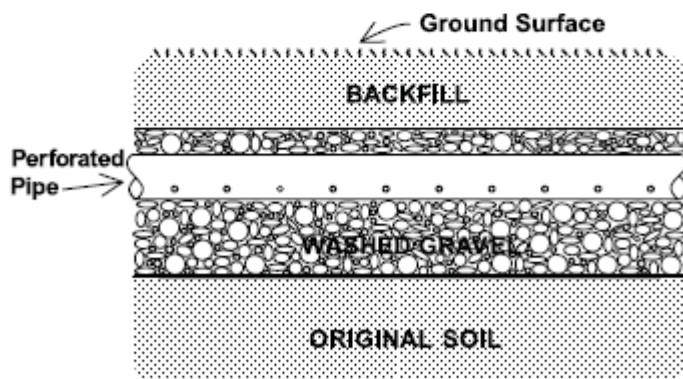
The soil filters effluent as it passes through the pore spaces. Chemical and biological processes treat the effluent before it reaches groundwater, or a restrictive layer, such as hardpan, bedrock, or a clay soils. These processes work best where the soil is somewhat dry, permeable, and contains plenty of air for several feet below the drainfield.

System Failure

Warning signs of a failure:

- Odors, surfacing sewage, wet spots or lush vegetation growth in the drainfield area
- Plumbing or septic tank backup
- Slow draining fixtures
- Gurgling sounds in the plumbing system

If you notice any of these signs or if you suspect your septic tank system may be having problems — contact your local health agency for assistance.



Caring For Your System — The Ten Essentials

1. **Practicing water conservation.** The more wastewater you produce, the more the soil must treat and dispose. By reducing and balancing your use, you can extend the life of the drainfield, decrease the possibility of system failure, and avoid costly repairs.

To reduce your water use:

- Use water-saving devices.
- Repair leaky faucets and plumbing fixtures.
- Reduce toilet reservoir volume or flow.
- Take shorter showers.
- Take baths with a partially-filled tub.
- Wash only full loads of dishes and laundry.

2. **Keep accurate records.** Know where your septic tank system is and keep a diagram of its location. Records of its size and location may be available at your local health agency. It is also wise to keep a record of maintenance on the system. These records will be helpful if problems occur, and will be valuable to the next owner of your home.
3. **Inspect your system once every year.** Check the sludge and scum levels inside your septic tank to assure that the layers of solids are not within the “early warning levels.” Also check the tank to see if the baffles or tees are in good condition. Periodically inspect the drainfield and downslope areas for odors, wet spots, or surfacing sewage. If your drainfield has inspection pipes, check them to see if there is liquid level continually over 6 inches. This may be an early indication of a problem.
4. **Pump out your septic tank when needed.** Don’t wait until you have a problem. Routine pumping can prevent failures, such as clogging of the drainfield and sewage back-up into the home. Using a garbage disposal will increase the amount of solids entering the septic tank, requiring more frequent pumping.

5. **Never flush harmful materials into the septic tank.** Grease, cooking oils, newspaper, paper towels, rags, coffee grounds, sanitary napkins, and cigarettes cannot easily decompose in the tank. Chemicals such as solvents, oils, paints and pesticides are harmful to the system's proper operation and may pollute the groundwater. Septic tank additives are not necessary for the proper functioning of a septic tank, nor do they reduce the need for routine pumping. For information on the proper disposal of hazardous household waste, call the Recycle Hotline, 1-800-RECYCLE.
6. **Keep all runoff away from your system.** Water from surfaces such as roofs, driveways, or patios should be diverted away from the septic tank and drainfield area. Soil over your system should be slightly mounded to help surface water runoff.
7. **Protect your system from damage.** Keep traffic, such as vehicles, heavy equipment, or livestock off your drainfield or replacement area. The pressure can compact the soil or damage pipes. Before you plant a garden, construct a building, or install a pool, check the location of your system and replacement area.
8. **Landscape your system properly.** Don't place impermeable materials over your drainfield or replacement area. Materials, such as concrete or plastic, reduce evaporation and the supply of air to the soil for proper effluent treatment. They can also hinder getting to the system for inspection, maintenance, or repair. Grass is the best cover for your system.
9. **Never enter any septic tank.** Poisonous gases or the lack of air can be fatal. Any work to the tank should be done from the outside.
10. **Check with your local health agency for help with system problems.** Although some malfunctions may require complete drainfield replacement, many problems can be corrected with a minimum amount of cost and effort.

Additional Information

More information is available from the following Department of Health publications:

Water Conservation Guidelines to Being Waterwise.

DOH Pub 331-120

<http://www4.doh.wa.gov/dw/publications/default.cfm?action=pubdetail&CFID=13680&CFTOKEN=50860812&type=subject&PubId=264>

For more information on conventional gravity systems and other types of onsite sewage systems, please visit the DOH Wastewater Management Program publications Web page at <http://www.doh.wa.gov/ehp/ts/pubs-ww.htm>.

On-Site Sewage System Regulations, Chapter 246-272 WAC.

DOH Pub 334-006C

<http://www.doh.wa.gov/ehp/ts/WW/OnSiteRegs.doc>

The above publications are available from your county health agency or by writing to:

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Office of Environmental Health and Safety
PO Box 47825
Olympia, WA 98504-7825

Other sources of information include your:

Local Health Agency
Soil Conservation Service Office
Cooperative Extension Office



Understanding And Caring for Your Pressure Distribution System

Septic tanks with gravity flow drainfields have been used for many years in areas not served by public sewers. Unfortunately, not all soil and site conditions are well suited for these conventional systems. To protect public health and water quality, alternative systems are often used in areas where conventional systems cannot assure safe sewage treatment.

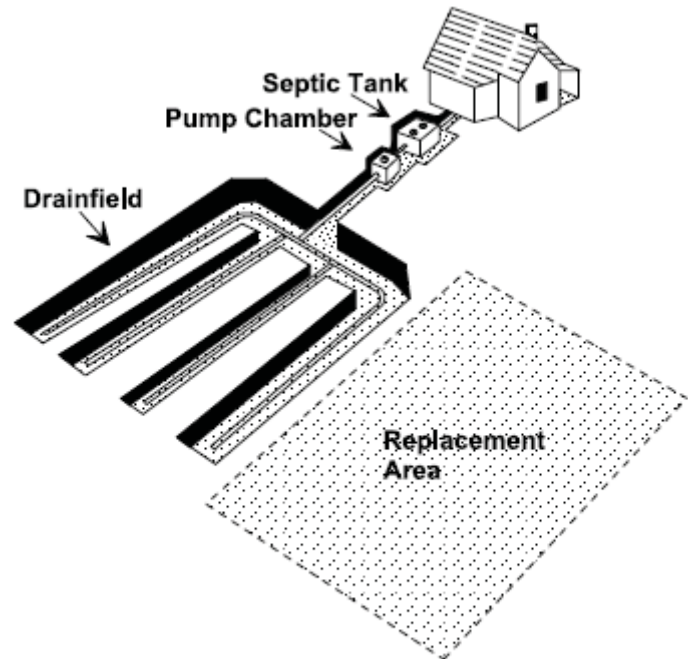
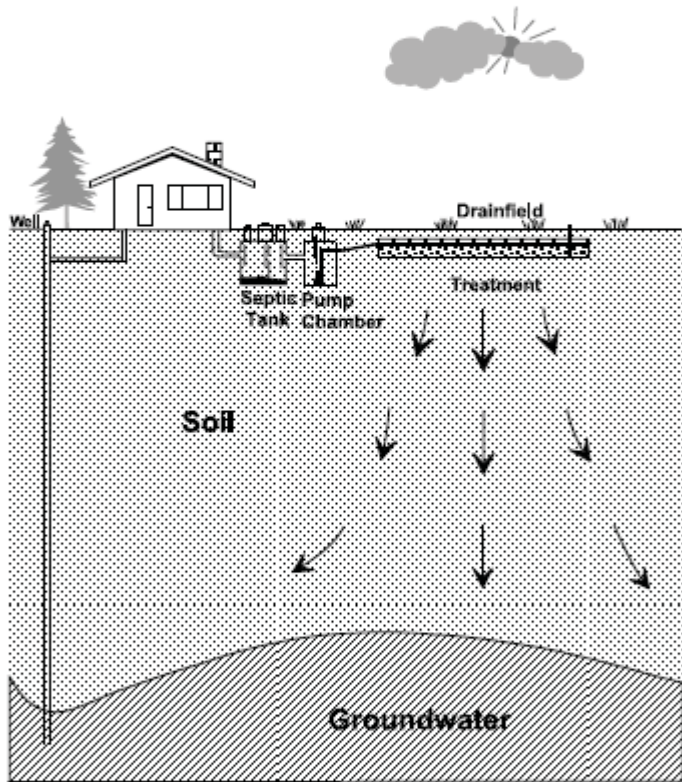
The pressure distribution system is one alternative, which provides:

- Dosing and resting cycles.
- Uniform distribution of effluent.
- Shallow placement of the drainfield.

The following information will help you understand your pressure distribution system, and keep it operating safely at the lowest possible cost.

A typical pressure distribution system has three working parts:

1. The septic tank.
2. The pump chamber with the pump.
3. The drainfield with its replacement area.



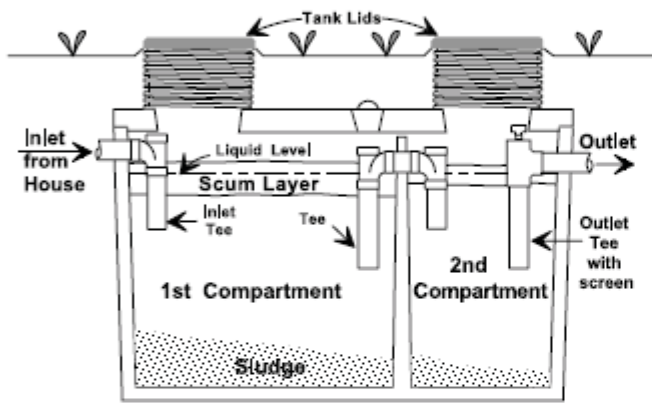
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The Septic Tank

The typical septic tank is a large buried container made of concrete, fiberglass or polyethylene. Wastewater from your home flows into the tank. Heavy solids settle to the bottom where bacterial action partially decomposes them. Most of the lighter solids, such as fats and grease, rise to the top and form a scum layer.

The wastewater leaving the septic tank is a liquid called effluent. It has been partially treated but still contains disease-causing bacteria and other pollutants. From the tank, the effluent flows by gravity to the pump chamber.



Proper Care Includes:

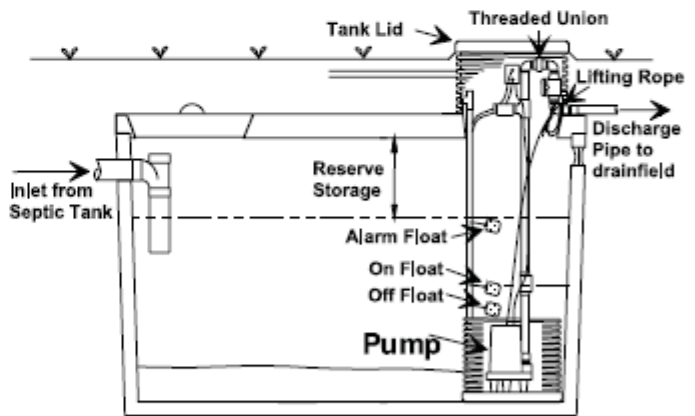
1. Inspecting your septic tank once every year and pumping it when needed. If the tank is not pumped periodically, solids escaping from the septic tank will clog the pump and drainfield. Using a garbage disposal will increase the amount of solids entering the tank and require more frequent pumping.
2. Avoiding the flushing of harmful material into the septic tank. Never put materials such as grease, cooking oils, newspapers, paper towels, cigarettes, coffee grounds, sanitary napkins, solvents, oils, paint, and pesticides into the tank. For information on the proper disposal of hazardous household waste, call the Recycle Hotline, 1-800-RECYCLE.
3. Avoiding the use of any type of chemical or biological septic tank additive. Such products are not necessary for the proper functioning of a septic tank, nor do they reduce the need for routine tank pumping.

The Pump Chamber

The pump chamber is a concrete, fiberglass or polyethylene container that collects the septic tank effluent. The chamber contains a pump, pump control floats, and a high-water alarm float. The pump action can be controlled either by the use of control floats or by timer controls. Control floats are set to turn the pump "ON" and "OFF" at levels for pumping a specific volume of effluent per dose. Timer controls are set to produce both the length of the dose and the interval or rest period between doses.

The high water alarm float starts an alarm to warn you of any pump malfunction. If pump timer controls are used, the alarm also will warn you of excessive water use in the home. The float is set to start when the effluent in the pump chamber rises above the "ON" float. The alarm should consist of a buzzer and an easily visible light. It should be on an electrical circuit separate from the pump.

The pump discharge pipe should have a union and valve for easy removal of the pump. A piece of nylon rope or other non-corrosive material should be attached to the pump for taking the pump in and out of the chamber.



Proper Care Includes:

1. Checking the pump chamber, pump and floats every year and replacing or repairing worn or broken parts. Pump maintenance should follow the manufacturer's recommendations. Electrical parts and conduits should be checked for corrosion. If the alarm panel has a "push-to-test" button, it should be checked regularly.

2. **Installing a septic tank effluent filter or pump screen, if your system does not have one.** Screening or filtering the septic tank effluent provides an effective way of preventing solids from clogging the pump and drainfield pipes. Inspecting a screen or filter, and cleaning it, when necessary, is quick and easy, and prevents costly damage from solids entering the system.

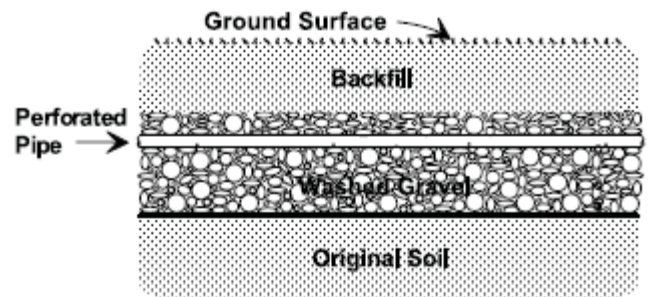
3. **Taking action to protect the drainfield from overloading after a prolonged power outage or pump failure.** Effluent will continue to collect in the pump chamber until the pump starts operation. With additional effluent in the chamber, the pump may dose a volume more than the drainfield can handle. If all of the reserve storage in the chamber is used, the plumbing in your home can backup. When the pump is controlled by float controls and is off for more than 6 hours, the following measures can be taken to help protect the drainfield:

(Timer controls will automatically correct this problem)

- a. Reduce your water use to a minimum.
- b. Turn off the pump at the control panel.
- c. After power is restored or pump service is completed, switch the pump on and let it run for 5 minutes maximum, and turn it off again. Repeat this manual switching every 6 hours until the effluent drops to the "OFF" float level and the pump turns off automatically. If there is little water use during the problem, the pump may automatically turn off during the first manual switching.

The Drainfield

The drainfield is a network of pipes placed in gravel-filled trenches (2–3 feet wide) or beds (up to 10 feet wide) in the soil. Effluent is pumped through the pipes in controlled doses to insure uniform distribution throughout the drainfield. The effluent leaves the pipes under low pressure through small diameter holes, and trickles downward through the gravel where it reaches the soil. The soil filters and treats the effluent, removing bacteria and other pollutants before it reaches the groundwater. Every new drainfield is required to have a designated replacement area. It must be protected should that the existing system need an addition or repair.



Proper Care Includes:

1. **Knowing where your system and replacement area are located and protecting them.** Before you plant a garden, construct a building, or install a pool, check on the location of your system and replacement area.
2. **Practicing water conservation and balancing your water use throughout the week to keep from overloading the system.** The more wastewater you produce, the more the soil must treat and dispose of.
3. **Diverting water from surfaces such as roofs, driveways, or patios away from the drainfield and replacement area.** Soil over your system should be slightly mounded to help surface water runoff.
4. **Keeping traffic, such as vehicles, heavy equipment or livestock off the drainfield and replacement area.** The pressure can compact the soil or damage pipes.
5. **Landscaping your system properly.** Do not place impermeable materials over your drainfield or replacement area. Materials, such as concrete or plastic reduce evaporation and the supply of air to the soil needed for proper effluent treatment. Grass is the best cover for your entire system.
6. **Inspecting the drainfield and downslope areas for odors, wetspots, or surfacing sewage periodically.** If your drainfield has inspection pipes, check them to see if there is a liquid level continually over 6 inches. This may be an early indication of a problem. Call your local health agency for assistance.

What If the Alarm Goes On?

If for any reason the effluent level inside the pump chamber reaches the alarm float (faulty pump, floats, circuit, excessive water use, or another problem), the alarm light and buzzer will start. By using water conservatively (avoid baths, showers, and clothes washing), the reserve storage in the pump chamber should allow you enough time to get the problem corrected. To silence the alarm, push the reset light on the alarm panel. Before calling for service or repair, check to see if the problem could be:

1. **A tripped circuit breaker or blown fuse.** The pump should have a separate circuit with its own breaker or fuse. If it's on a circuit with other equipment, that equipment can cause the breaker to trip.
2. **A pump or float switch power cord that has come unplugged.** If electrical connections are the plug-in type, be sure switch and pump plugs are making good contact in the outlet.
3. **Control floats tangled by other parts in the chamber such as the electric power cord, lifting rope, or pump screen.** Be sure floats operate freely in the chamber.
4. **Debris on floats and support cable that is causing the pump to switch off.** Lift the floats out of the chamber and clean.

CAUTION: Always turn off the power supply at the circuit breaker, and unplug all power cords before handling the pump or floats.

Do not enter the pump chamber. Gases inside pump chambers are poisonous and the lack of air can be fatal. If the problem cannot be located with the above steps, call your pump service person or on-site system contractor for service or repair. The service or repair of pumps and other electrical equipment must be done by an experienced person.

Additional Information

More information is available from the following Department of Health publications:

Pressure Distribution—Recommended Standards and Guidance for Performance, Design, and Operation and Maintenance, 1999.

<http://www.doh.wa.gov/ehp/ts/WW/PressDistr99.pdf>

Understanding and Caring for Your Septic Tank System.

DOH Pub 334-009

http://www3.doh.wa.gov/here/materials/CRA_Detail.aspx?ID=358

Water Conservation Guidelines to Being Waterwise.

DOH Pub 331-120

<http://www4.doh.wa.gov/dw/publications/default.cfm?action=pubdetail&CFID=13680&CFTOKEN=50860812&type=subject&PubId=264>

On-Site Sewage System Regulations, Chapter 246-272 WAC.

DOH Pub 334-006C

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Understanding And Caring for Your Sand Filter System

Septic tanks with gravity flow drainfields have been used for many years in areas not served by public sewers. Unfortunately, not all soil and site conditions are well suited for these conventional systems. To protect public health and water quality, alternative systems are often used in areas where conventional systems cannot assure safe sewage treatment.

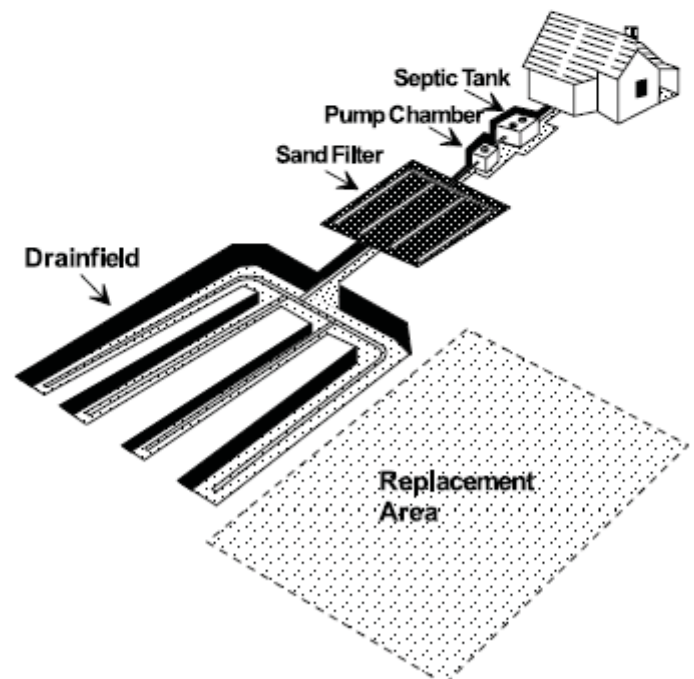
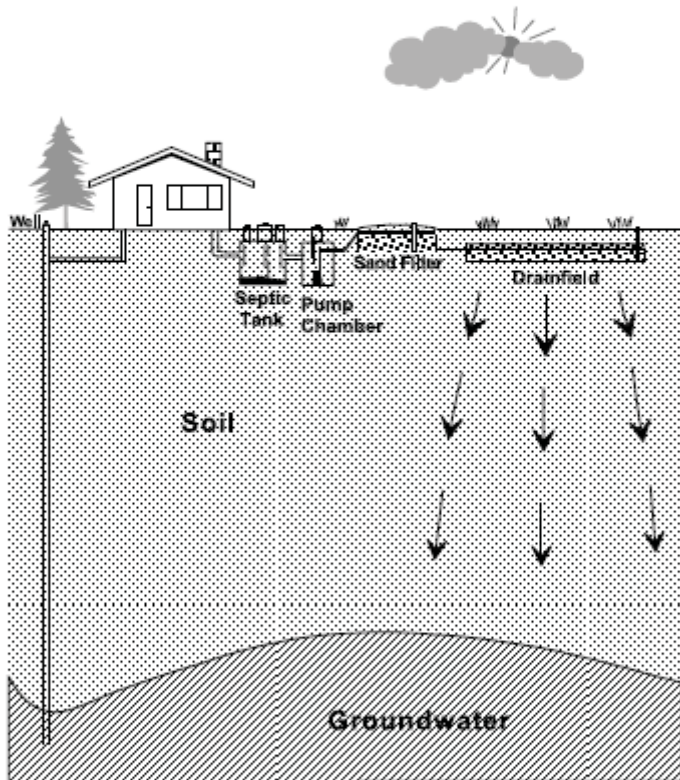
The intermittent sand filter is one alternative, which:

- Can be constructed above or below the ground.
- Provides a high level of wastewater treatment.

The following information will help you understand your sand filter system, and keep it operating safely at the lowest possible cost.

A typical sand filter system has four working parts:

1. The septic tank.
2. The pump chamber with the pump.
3. The sand filter.
4. The disposal component including a drainfield (or possibly a mound) with its replacement area.



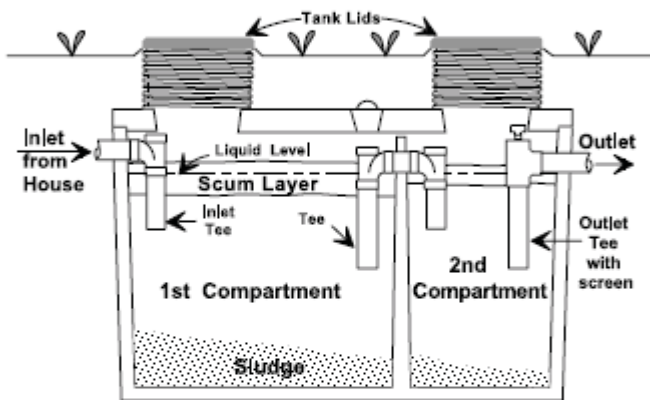
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The Septic Tank

The typical septic tank is a large buried container made of concrete, fiberglass or polyethylene. Wastewater from your home flows into the tank. Heavy solids settle to the bottom where bacterial action partially decomposes them. Most of the lighter solids, such as grease and oils, rise to the top and form a scum layer.

The wastewater leaving the septic tank is a liquid called effluent. It has been partially treated but still contains disease-causing bacteria and other pollutants. From the tank, the effluent flows by gravity into the pump chamber.



Proper Care Includes:

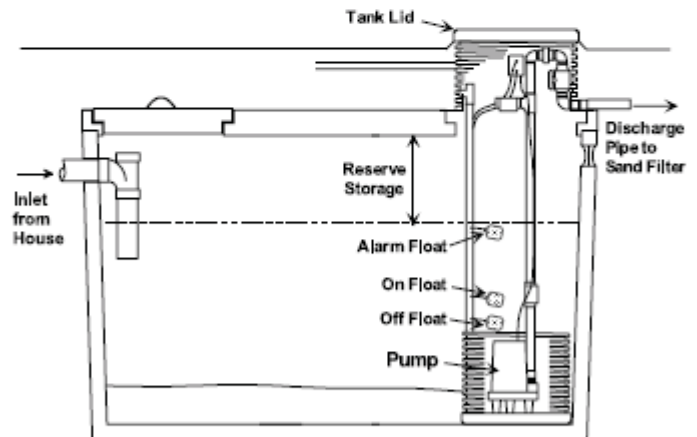
1. **Inspecting your septic tank once every year and pumping it when needed.** If the tank is not pumped periodically, solids escaping from the septic tank will clog the pump, sand filter, and drainfield. Using a garbage disposal will increase the amount of solids entering the tank and require more frequent pumping.
2. **Avoiding the flushing of harmful material into the septic tank.** Never put materials, such as grease, newspapers, paper towels, cigarettes butts, coffee grounds, diapers, sanitary napkins, solvents, oils, paint, and pesticides into the tank. For information on the proper disposal of hazardous household waste, call the Recycle Hotline, 1-800-RECYCLE.
3. **Avoiding the use of any type of chemical or biological septic tank additive.** Such products are not necessary for the proper functioning of a septic tank, nor do they reduce the need for routine tank pumping.

The Pump Chamber

The pump chamber is a concrete, fiberglass or polyethylene container that collects the septic tank effluent. The chamber contains a pump, pump control floats, and a high water alarm float. The pump action may be controlled either by the use of control floats or by timer controls. Control floats are set to turn the pump "ON" and "OFF" at levels for pumping a specific volume of effluent per dose. Timer controls are set to produce both the length of the dose and the interval or rest period between doses.

The high water alarm float starts an alarm to warn you of any pump or system malfunction. If pump timer controls are used, the alarm also will warn you of excessive water use in the home. The float is set to start when the effluent in the pump chamber rises above the "ON" float. The alarm should consist of a buzzer and an easily visible light. It should be on an electrical circuit separate from the pump.

The pump discharge pipe should have a union and valve for easy removal of the pump. A piece of nylon rope or other non-corrosive material should be attached to the pump for taking the pump in and out of the chamber.



Proper Care Includes:

1. **Checking the pump chamber, pump and floats every year and replacing or repairing worn or broken parts.** Pump maintenance should follow the manufacturer's recommendations. Check electrical parts and conduits for corrosion. If the alarm panel has a "push-to-test" button, it should be checked regularly.

2. **Installing a septic tank effluent filter or pump screen, if your system does not have one.** Screening or filtering the septic tank effluent provides an effective way of preventing solids from clogging the pump and pipes. Inspecting a screen or filter, and cleaning it when necessary, is quick, easy, and prevents costly damage from solids entering the system.

3. **Taking action to protect the sand filter and drainfield after a prolonged power outage or pump failure.** Effluent will continue to collect in the pump chamber until the pump starts. With additional effluent in the chamber, the pump may dose a volume more than the sand filter or drainfield can handle. Once the reserve storage inside the chamber is all used up, the plumbing in your home can backup. When the pump is off for more than 6 hours, the following measures can be taken to help protect your system:

(Timer controls will automatically correct this problem)

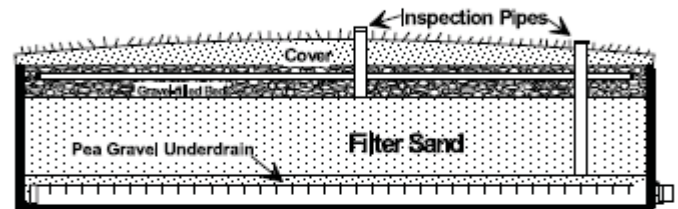
- a. Reduce your water use to a minimum.
- b. Turn off the pump at the control panel.
- c. After power is restored or pump service is completed, switch the pump on and let it run for 5 minutes maximum, and turn it off again. Repeat this manual switching every 6 hours until the effluent drops to the "OFF" float level and the pump turns off automatically. If there is little water use during the outage or pump service, the pump may automatically turn off during the first manual switching.

CAUTION: Always turn off the power supply at the circuit breaker, and unplug all power cords before handling the pump or floats.

Do not enter the pump chamber. Gases inside pump chambers are poisonous and the lack of air can be fatal. The service or repair of pumps and other electrical equipment must be done by an experienced person.

The Sand Filter

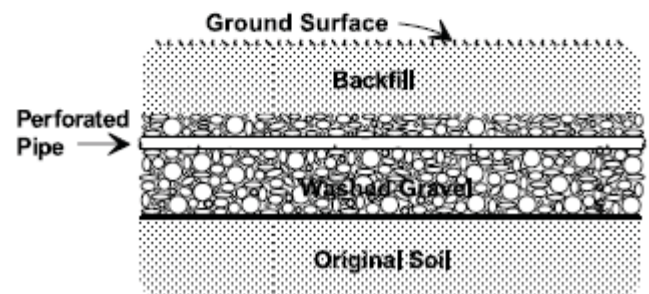
The typical sand filter is a PVC-lined or concrete box filled with a specific sand material. A network of small diameter pipes is placed in a gravel-filled bed on top of the sand. The septic tank effluent is pumped under low pressure through the pipes in controlled doses to insure uniform distribution. The effluent leaves the pipes, trickles downward through the gravel, and is treated as it filters through the sand. A gravel underdrain collects and moves the treated wastewater to either a second pump chamber for discharge to a pressure distribution drainfield or to a gravity flow drainfield. The second pump chamber may be located in the sand filter.



The Drainfield

The drainfield receives the treated sand filter effluent for disposal. It has a network of pipes placed in gravel-filled trenches 2–3 feet wide or beds (up to 10 feet wide) in the soil. The effluent leaves the pipes, trickles downward through the gravel, and into the soil.

Every new drainfield is required to have a designated replacement area. This area is similar to the size of your existing drainfield. It must be protected should the existing system need an addition or repair.



Proper Care for a Sand Filter and Drainfield Includes:

1. **Knowing where your system and replacement area are located and protecting them from damage.** Before you plant a garden, construct a building, or install a pool, check on the location of your system and replacement area.
2. **Practicing water conservation and balancing your water use throughout the week to keep from overloading the system.** The more wastewater you produce, the more the sand filter and soil must treat and dispose of. You can reduce your water use by installing water-saving devices, repairing leaky plumbing fixtures, taking shorter showers, and washing only full loads of dishes and laundry.
3. **Diverting water from surfaces, such as roofs, driveways, or patios away from the system and replacement area.** Soil over your system should be slightly mounded to help surface water runoff. Sprinkler systems do not belong in the area of the sand filter or drainfield.
4. **Keeping traffic, such as vehicles, heavy equipment or livestock off your system and replacement area.** The pressure can compact the soil or damage pipes.
5. **Landscaping your system properly.** Do not place impermeable materials over your system or replacement area. Materials, such as concrete or plastic reduce evaporation and the supply of air to the soil needed for proper effluent treatment. Grass is the best cover for your entire system.
6. **Inspecting the sand filter and drainfield areas for odors, wet spots, or surfacing sewage periodically.** Check your system's inspection pipes regularly to see if there is a liquid level continually over 6 inches. This may be an early indication of a problem. Call your local health agency for assistance.

Additional Information

More information is available from the following Department of Health publications:

Intermittent Sand Filter Systems—Recommended Standards and Guidance for Performance, Application, Design, and Operation and Maintenance, 2000.

<http://www.doh.wa.gov/ehp/ts/WW/IntSandFilt-2000.pdf>

Understanding and Caring for Your Septic Tank System.

DOH Pub 334-009

http://www3.doh.wa.gov/here/materials/CRA_Detail.aspx?ID=358

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DOH Pub 331-120

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On-Site Sewage System Regulations, Chapter 246-272 WAC.

DOH Pub 334-006C

<http://www.doh.wa.gov/ehp/ts/WW/OnSiteRegs.doc>

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Understanding And Caring for Your Mound System

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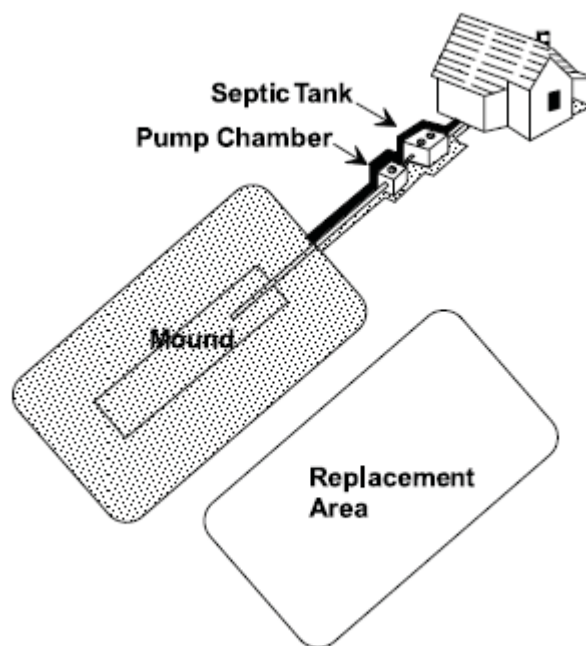
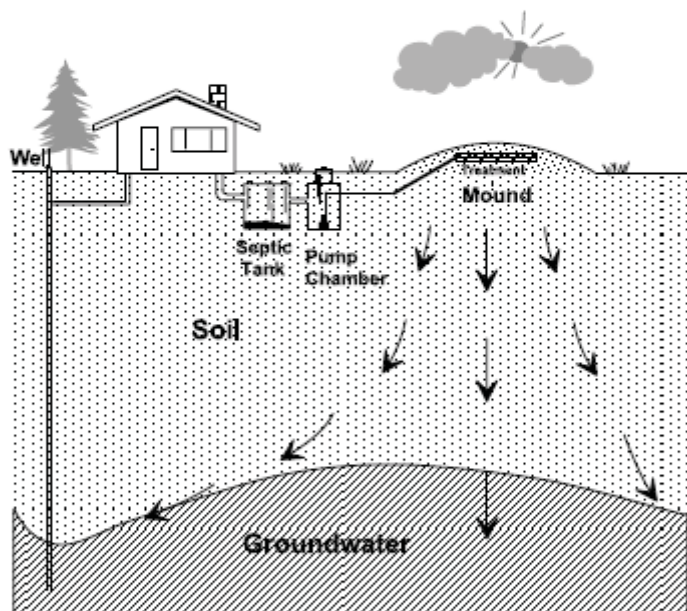
The mound system is one alternative, which provides:

- Dosing and resting cycles.
- Uniform distribution of effluent.
- Known level of sewage treatment in the sand fill before disposal.
- Greater distance for effluent to travel before reaching groundwater.

The following information will help you understand your mound system, and keep it operating safely at the lowest possible cost.

A typical mound system has three working parts:

1. The septic tank.
2. The pump chamber with the pump.
3. The mound with its replacement area.



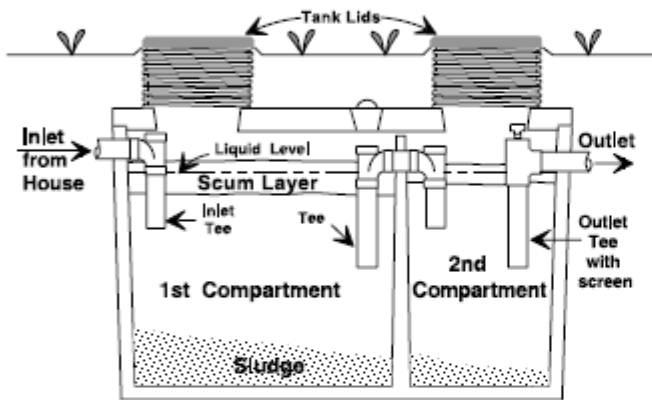
WASHINGTON STATE
DEPARTMENT OF HEALTH

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COOPERATIVE EXTENSION SERVICE

The Septic Tank

The typical septic tank is a large buried container made of concrete, fiberglass or polyethylene. Wastewater from your home flows into the tank. Heavy solids settle to the bottom where bacterial action partially decomposes them. Most of the lighter solids, such as grease and oils, rise to the top and form a scum layer.

The wastewater leaving the septic tank is a liquid called effluent. It has been partially treated but still contains disease-causing bacteria and other pollutants. From the tank, the effluent flows by gravity to the pump chamber.



Proper Care Includes:

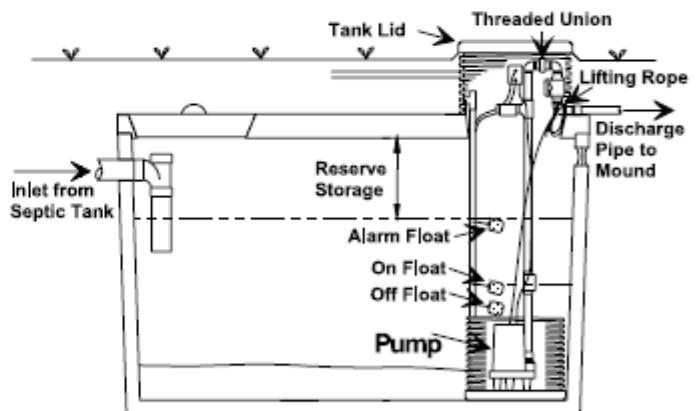
1. Inspecting your septic tank once every year and pumping it when needed. If the tank is not pumped periodically, solids escaping from the septic tank will clog the pump and mound. Using a garbage disposal will increase the amount of solids entering the tank and require more frequent pumping.
2. Avoiding the flushing of harmful material into the septic tank. Never put materials such as grease, newspapers, paper towels, cigarettes butts, coffee grounds, diapers, sanitary napkins, solvents, oils, paint, and pesticides into the tank. For information on the proper disposal of hazardous household waste, call the Recycle Hotline, 1-800-RECYCLE.
3. Avoiding the use of any type of chemical or biological septic tank additive. Such products are not necessary for the proper functioning of a septic tank, nor do they reduce the need for routine tank pumping.

The Pump Chamber

The pump chamber is a concrete, fiberglass or polyethylene container that collects the septic tank effluent. The chamber contains a pump, pump control floats, and a high water alarm float. The pump action may be controlled either by the use of control floats or by timer controls. Control floats are set to turn the pump "ON" and "OFF" at levels for pumping a specific volume of effluent per dose. Timer controls are set to produce both the length of the dose and the interval or rest period between doses.

The high water alarm float starts an alarm to warn you of any pump or system malfunction. If pump timer controls are used, the alarm also will warn you of excessive water use in the home. The float is set to start when the effluent in the pump chamber rises above the "ON" float. The alarm should consist of a buzzer and an easily visible light. It should be on an electrical circuit separate from the pump.

The pump discharge pipe should have a union and valve for easy removal of the pump. A piece of nylon rope or other non-corrosive material should be attached to the pump for taking the pump in and out of the chamber.



Proper Care Includes:

1. Checking the pump chamber, pump and floats every year and replacing or repairing worn or broken parts. Pump maintenance should follow the manufacturer's recommendations. Check electrical parts and conduits for corrosion. If the alarm panel has a "push-to-test" button, it should be checked regularly.

2. **Installing a septic tank effluent filter or pump screen, if your system does not have one.** Screening or filtering the septic tank effluent provides an effective way of preventing solids from clogging the pump and pipes. Inspecting a screen or filter, and cleaning it when necessary, is quick and easy, and prevents costly damage from solids entering the mound system.

3. **Taking action to protect the mound from overloading after a prolonged power outage or pump failure.** Effluent will continue to collect in the chamber until the pump starts. With additional effluent in the chamber, the pump may dose a volume more than the mound can handle. Once the reserve storage inside the chamber is all used up, the plumbing in your home can backup. When the pump is off for more than 6 hours, the following measures can be taken to help protect the mound:

(Timer controls will automatically correct this problem)

- a. Reduce your water use to a minimum.
- b. Turn off the pump at the control panel.
- c. After power is restored or pump service is completed, switch the pump on and let it run for 5 minutes maximum, and turn it off again. Repeat this manual switching every 6 hours until the effluent drops to the "OFF" float level and the pump turns off automatically. If there is little water use during the outage or pump service, the pump may automatically turn off during the first manual switching.

The Mound

The mound is a drainfield that is raised above the natural soil surface in a specific sand fill material. Within the sand fill is a gravel-filled bed with a network of small diameter pipes. Septic tank effluent is pumped through the pipes in controlled doses to insure uniform distribution throughout the bed. The effluent leaves the pipes under low pressure through small diameter holes, and trickles downward through the gravel and into the sand. Treatment of the effluent occurs as it moves through the sand and into the natural soil.

Every new mound is required to have a designated replacement area. It must be protected should the existing system need an addition or repair.

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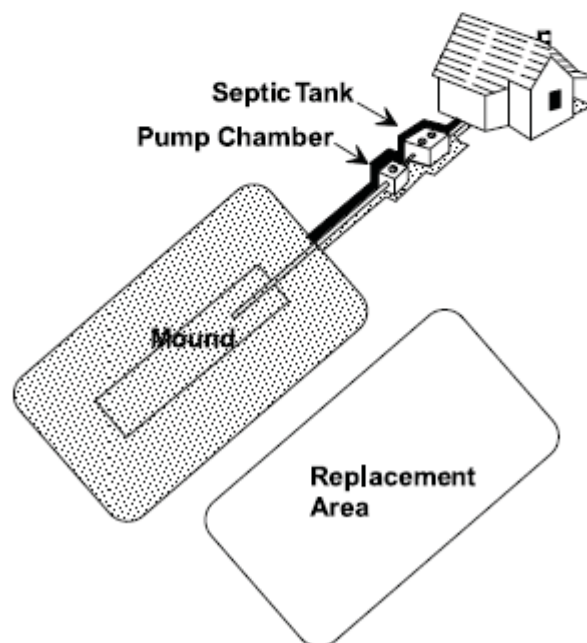
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What If the Alarm Goes On?

If for any reason the effluent level inside the pump chamber reaches the alarm float (faulty pump, floats, circuit, excessive water use, or another problem), the alarm light and buzzer will start. By using water conservatively (avoid baths, showers, and clothes washing), the reserve storage in the pump chamber should allow you enough time to get the problem corrected. To silence the alarm, push the reset light on the alarm panel. Before calling for service or repair, check to see if the problem could be:

1. **A tripped circuit breaker or blown fuse.** The pump should have a separate circuit with its own breaker or fuse. If it's on a circuit with other equipment, that equipment can cause the breaker to trip.
2. **A pump or float switch power cord plug that has come unplugged.** If electrical connections are the plug-in type, be sure switch and pump plugs are making good contact in their outlet.
3. **Control floats tangled by other parts in the chamber such as the electric power cord, lifting rope, or pump screen.** Be sure floats operate freely in the chamber.
4. **Debris on floats and support cable that is causing the pump to switch off.** Lift the floats out of the chamber and clean.

CAUTION: Always turn off the power supply at the circuit breaker, and unplug all power cords before handling the pump or floats.

Do not enter the pump chamber. Gases inside pump chambers are poisonous and the lack of air can be fatal. If the problem cannot be located with the above steps, call your pump service person or on-site system contractor for service or repair. The service or repair of pumps and other electrical equipment must be done by an experienced person.

Additional Information

More information is available from the following Department of Health publications:

Mound Systems—Recommended Standards and Guidance for Performance, Application, Design, and Operation and Maintenance, 2000.

<http://www.doh.wa.gov/ehp/ts/WW/Mounds2000.pdf>

Understanding and Caring for Your Septic Tank System.

DOH Pub 334-009

http://www3.doh.wa.gov/here/materials/CRA_Detail.aspx?ID=358

Water Conservation Guidelines to Being Waterwise.

DOH Pub 331-120

<http://www4.doh.wa.gov/dw/publications/default.cfm?action=pubdetail&CFID=13680&CFTOKEN=50860812&type=subject&PubId=264>

On-Site Sewage System Regulations, Chapter 246-272 WAC.

DOH Pub 334-006C

<http://www.doh.wa.gov/ehp/ts/WW/OnSiteRegs.doc>

The above publications are available from your county health agency or by writing to:

Washington State Department of Health
Office of Environmental Health and Safety
PO Box 47825
Olympia, WA 98504-7825

Other sources of information include your:

Local Health Agency
Soil Conservation Service Office
Cooperative Extension Office



