Septic Systems: Troubleshooting and tips for repair

The first thing you must do is identify the problem. You need to know FOR SURE why the system doesn't work properly. You do not want to waste money on what you think it might be.

Septic systems have a projected life span of 20 to 40 years. The life of a system is dependant on many factors including how well the system was first installed and the maintenance since installation. A septic system over 40 years old will inevitably need to be replaced. Proper maintenance and some repairs will only put off the inevitable.

Start at the beginning.

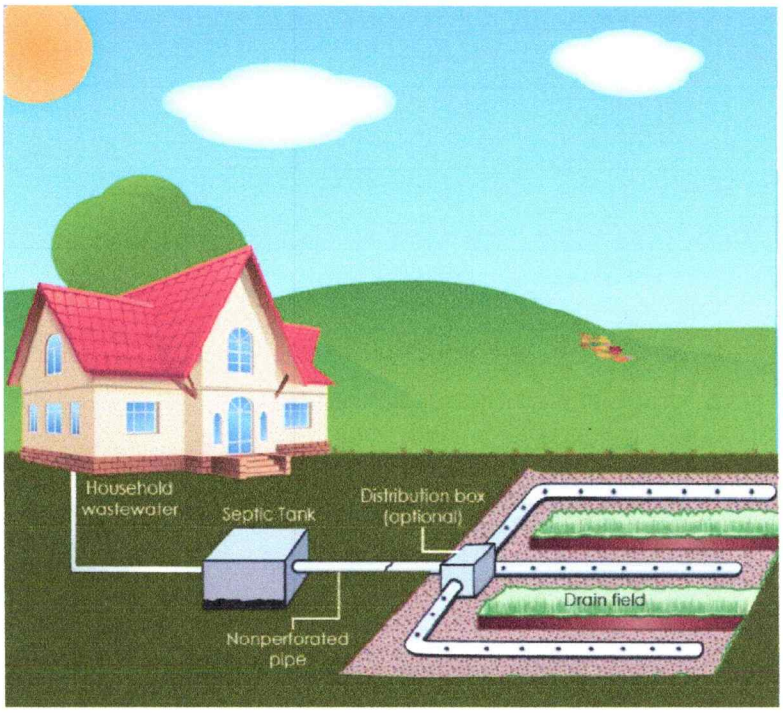


*Figure 1Normal system.*

Ensure you are aware of local septic rules and regulations and adhere to them. Permits may be needed.

Septic beds and septic tank are separate units which work together. The tank and bed do not necessarily have to be replaced at the same time. Often one will fail but the other will still be ok

*Figure 2What you might see from the surface*

If you have a newer system installed after 2008 the gray water side should have a filter. Many owners are not even aware that there is a filter. These filters need to be cleaned at least once a year. The filters become plugged and water cannot pass to the septic bed backing up into the tank, then the home or overflowing onto the ground. Below is a picture of a filter. The filters have a handle which you pull straight up. The filter should be hosed off and put back in place.

*Figure 3Gray water filter*

If the sewage from the cottage or home goes to a transfer pump and is then pumped to the septic tank and bed, ensure the pump is plugged in and has power to it. If the pump is plugged into a GFCI outlet the outlet may have tripped and will need to be reset. There are high sewage alarms you can install on the transfer pump which will notify you if the pump has stopped working and sewage is about to back up into the home.

If you are working with a gravity feed system determine if the sewage is getting to the tank. Expose the hard waste lid and check to see if you have a blockage in the incoming hard waste baffle. Items such as toys, paper towel, tampons and applicators and diapers will plug the incoming baffle or other parts of the system. If the sewage is getting into the hard waste side (you can see it flowing in) the next step would be to expose the gray water lid and see if there is a blockage in the exit baffle to the septic bed (gray water baffle). If you have a newer system (2008 and after) this is where the filter may be plugged.

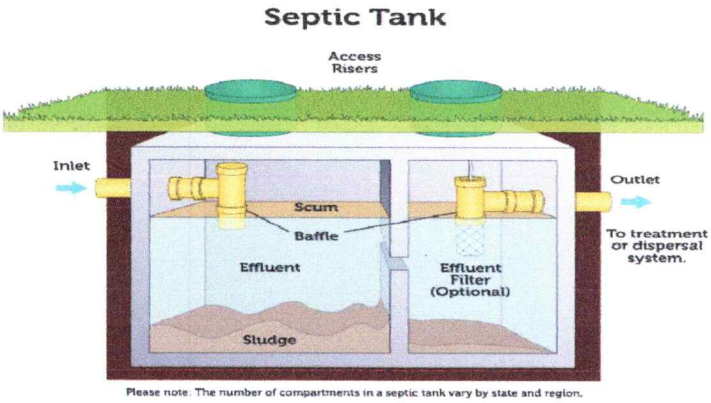


*Figure 4 Normal tank*

*Figure 5 Bad Baffle*

*Figure 6 Normal Baffle*

If the baffles are not plugged and you still have a problem the next step would be the distribution box or distribution header. Dig up the distribution header or box. Overtime roots or other items can plug the distribution area. If the distribution box is full of gray water, roots, slime and such the water is not making it out to the septic bed area. If there is no obvious blockage further investigation will be needed. The septic tank needs to be pumped. Have the septic contractor pump the hard waste side, the gray water side and the distribution box area. You will still be able to use the toilet, showers and sinks sparingly until the problem is resolved as you have determined the problem is not in the tank area.

*Figure 7 Distribution Box*

Septic systems have different configurations, so things get more difficult now and there is no one solution that applies to all systems. Doing some research on the internet will offer possible solutions or next steps

You will need to dig up the ends of the drainage runs or tile bed area. The number of drainage runs you have will vary depending on the age and type of system. Often the runs are easy to identify as you can follow the lines of grass growing. A probe may help, or you may just have to dig until you find the runs. When you have exposed the ends, you will need to cut off the ends to see what ones if any are working. The ends may be obviously plugged or dry indicating the water is not exiting the run. The drainpipes can be cleaned out with an auger or flushed with a fire hose. After you have done this a gardens hose can be used to see if water will flow from the distribution box/header down through the pipes indicating a blockage has been removed. The runs may be too plugged and need to be replaced.

Before you replace the drainage runs on your own do some research as there are different types or repair and you need to determine which is best for your system and how you want to go about completing the repair. You want to be aware of all your options so you can pick the best and most cost-effective option. When replacing any of the drainpipes the pipes must be on at least a 5% downward grade. Observation ports can be put on the end of each run so you can see if water is flowing to the end of the run should future problems arise.

Here are some pictures.

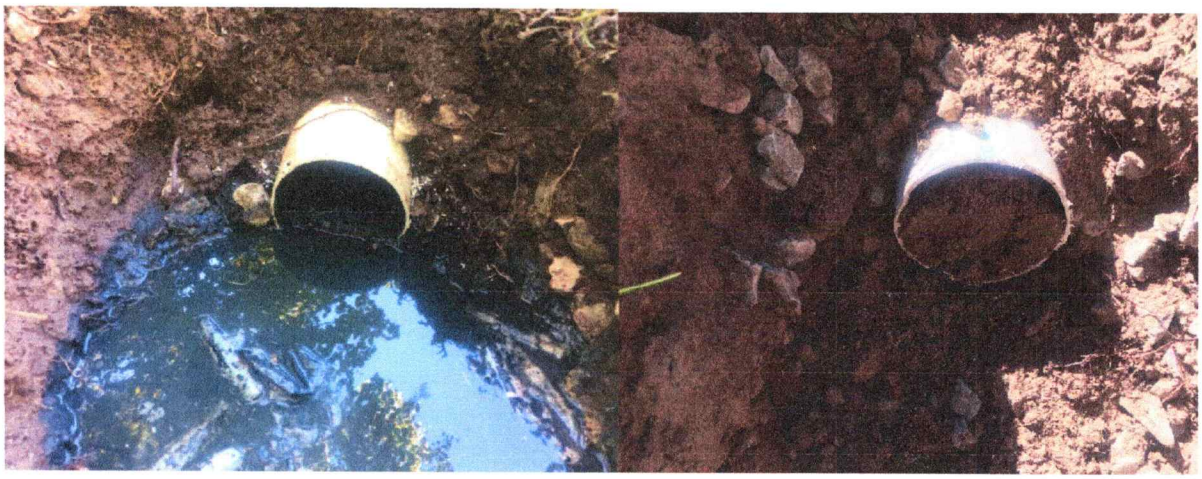

*Figure 8 Discharge after cutting the end off a drain line*

*Figure 9 Roots*

*Figure 10 New Drain pipes the white pipes pointing up at the ends are observation pipes, used to get access for pumping or adding bacteria if needed.*

Protecting the drain field and septic bed area.

Biomat is the bacterial slime around the leaching area of the septic drainpipes. As biomat thickens the soil is less able to absorb wastewater and the wastewater can back up into the home or drain out to the soil surface. Biomat build up cannot be stopped and should not be prevented as it filters viruses and pathogens from wastewater. Slowing down biomat formation may help extend the life of the drain field.

Septic tank filters, proper organic loading, and proper maintenance of the septic tank can slow the rate at which biomat forms which may in turn will extend the life of the drain field.

Septic tank filters can catch solids from flowing into the drain field, filters can usually be added to existing systems

Washing machine lint filters can reduce the amount of lint into the drain field. (these may or may not be effective as no actual studies appear to have been done).

Septic tank outlet baffle filters are said to help decrease movement of particles into the leach field. An access port is needed. The filter must be regularly inspected and cleaned.

Drywells to handle graywater can decrease the amount of liquid going to the leach field – can be used where there is limited room for a drainage field.

Reduce water usage. Install low volume toilets, monitor for and fix leaky taps and run on toilets. This will help decrease the amount of water to the septic system.

As per septic installers they will not guarantee a septic system if backwash from saltwater softeners or conditioners goes to the septic tank. Backwash drainage and sump pump drainage puts an extra load on the septic system. We recommend putting drainage from water filtration/softener and sump pumps to an exterior drainage area far enough away from the home, so drainage does not come back in or damage the foundation.

Septic systems should be pumped and inspected on a regular interval depending on use. Pumping reduces the amount of wastewater to the drain field. Regular inspection can catch potential problems early which can help prevent expensive repairs. Some people will tell you septic systems never need to be pumped which is not true.

Do not use bleach products, use natural cleaning products, research online for products that are not as harmful to a septic system.

Septic tank activators are said to be good to promote bacterial activity in the tank (SeptoBac is such a product there are many others).

Do not drive on or park on the septic tank or bed area.

Keep fire pits away from the septic tank and bed area.

Keep the septic bed and tank area as free of vegetation and root growth as possible.

Do some online research on how to care for and protect your septic system as replacing the system is a big expense.

Clearview Home Inspection

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