

# ISSUES WITH SEPTIC SYSTEMS IN WINTER



Brought to you by:



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## Is wastewater backing up into your home or out by your septic system?

If waste water is backing up into your home or is ponding by your septic tank in the winter, your septic system may have one or more components frozen. The first thing you need to do is stop using water. This will prevent more water from entering your home. The second thing you need to do is call our main number 320-252-9916\*.

We will walk you through your system and assist you in troubleshooting over the phone. After discussing the issues with you we will be able to tell you what we think is wrong with your system. We will tell you if we think you need to have your tank pumped, a line jetted or both.

\*If you are having issues or alarms during in the middle of the night stop using water and call us in the morning. There is usually nothing our maintainers can do in the dark, as we will be unable to visualize anything in your system in the dark. As long as you have no water running in your home to your septic tank during the night you should have no more water backing up.

**To assist us in troubleshooting your system when you call, you will need to know following things:**

1. **Do you have inspection pipes or do you have manholes in your septic tank?**
  - a. If you have a manhole cover, what are you were able to see? Can you see the inlet and outlet?
  - b. Do you have inspection pipes only? If so, we will usually not be able to visualize anything within your tank and you will need to start by having your tank pumped.
2. **Does you have pumps outside your house? If so,**
  - a. Did your alarm sound? When?
  - b. is your lift pump constantly running? If yes, there may be something obstructing the flow or the pump is not functioning as it should.

- c. if the pump is constantly running, unplug it or turn it off to prevent damage to the pump before calling us.
- d. If you have an alarm, you generally have 24-48 hours before you may have backing up. You should be able to call us in the morning.

**4. If you know nothing about your system, never fear, we will still more than likely be able to help you!**

**After discussing your system with you-** We will tell you what we believe is wrong with your system. We may recommend Pumping/cleaning, Pipe Jetting or Both.

## **ABOUT OUR SERVICES**

### **High-pressure water jetting**

This is an efficient and environmentally safe way to clean sewer pipes. Using ordinary water with state-of-the-art pumps, flexible hoses and a special nozzle we are able to thoroughly clean the inside of most septic pipes. When thawing of pipes is required we use Hot water in our pressurized jetting system. (See page 2- #1 for more detailed information regarding jetting)

septic maintenance. Per state regulations, a maintainer may continue cleaning through the customers inspection ports as long as they sign on our invoice that this is their request. If you do not want to sign, we require you to reschedule your appointment when there is someone available to search for and dig up your manhole(s). This is a billable service. If we came out to do a job and we were unable to complete the job due to no available access, you will also be charged a cancellation fee.

### **Septic Pumping**

The complete removal of solids and wastewater from the septic tank. We will backflush or use a "Crustbuster" to break up the sludge and scum to allow for total clean out. According to the MPCA, septic tanks should be maintained at a minimum of every 3 years.

### **Riser and Cover Installation**

Many older septic tanks in our area have only inspection ports (white pipes) or a hole in the ground. In the past we were able to use these ports to clean systems. However, State regulations now require a manhole for cleaning, unless the customer requests continued use of these ports.

We use the Seal-R rings and cover system. This method replaces your concrete riser and cover and brings your manhole to the surface. This ensures no ground water enters your system. This product meets all state guidelines and the covers blend in nicely with most lawns. This service is not available when the ground is frozen.

Our company policy requires the customer have the manhole(s) accessible prior to our arrival for



# CHECKING FROZEN SEPTIC SYSTEMS

If an onsite septic system freezes during a cold winter it is important to know why and where the system froze. This will help determine if repairs, corrections or changes to the system are necessary to make sure it will operate properly in the future. The steps needed will depend on the type of system and where the freezing occurred. If the freezing problem was simply because of cold temperatures and/or lack of snow cover to insulate the system, it may just need to be checked for problems and perhaps minor repairs or improvements made. However, some freezing problems are the result of problems with the design, installation or use of the system that may require significant repairs or changes to solve the problem. Other factors, such as excessively high or very low water use, can also be a contributing factor to the freezing problem.

There are many misconceptions about how to deal with a frozen septic system. Unless you have been advised to do so by a septic professional,

- Do NOT add antifreeze, salt or a septic system additive into the system. All of these will prevent normal bacterial growth and which will naturally warm your system. Some of these items can also be harmful to parts of your system. If you have added any of these items to your system, please inform us as they can also be harmful to the health of the maintainers cleaning or jetting your system.
- Do NOT pump sewage onto the ground surface.
- Do NOT start a fire over the system to attempt to thaw.
- Do NOT run water continually to try to unfreeze system.

It is important to determine where and why the system froze so corrective actions can be taken in order to avoid freezing in the future. A licensed onsite professional should be able to determine where the system froze if it is not obvious.

Homeowners must know where each component of their system is located to aid in problem solving and proper maintenance.

After a system has been frozen and thawed each component must be checked to ensure it is functioning appropriately.

**There are four common locations where systems can freeze.**

- 1) Pipe from house to tank
- 2) Septic tank and/or pump tank
- 3) Pipe to soil treatment area
- 4) Soil treatment area

## **1. Pipe from house to tank**

If the pipe between your house and septic tank is frozen, two issues need to be evaluated. 1.) Make sure there are no leaking fixtures, such as toilets or faucets, or low wastewater generating devices, such as a high efficiency furnace or water softeners discharging into the system. 2.) Make sure the entire pipe has sufficient slope towards your tank without any sags to assure water is draining into the septic tank (minimum of 1" drop in eight feet and a maximum 2" in eight feet).

Our preferred method of cleaning of a frozen pipe is jetting from the outside of the home. However, there are times when our maintainers must enter your home/basement to gain access to the septic pipe. If we need to enter your home, for any reason, the maintainer will attempt to keep your home as clean as it was when they entered. **However, their shoes must remain on when they are working with waste water.** Clean up of any wastewater that occurred in the home prior to our arrival is the homeowners responsibility. The amount of water used in jetting is usually minimal and we will clean up any water that enters the home from our jetting services.

Though rare, Fiedler Your Pumping Specialists, Inc. shall not be held responsible for any water damage hidden, visible OR any losses due to routine sewer pipe cleaning efforts. If it is found that there are any pipe abnormalities, settled, corroded or damaged sewer / drain lines, Fiedler Your Pumping Specialists, Inc. shall not be held responsible for preexisting conditions. **There are no guarantees a line we have opened will stay open for any amount of time.**

## 2. Septic tank and/or pump tank

A 2-6 inch layer of ice in a septic tank is normal in the winter months. However, if the ice contacts the baffles or is very thick you should have it checked by a maintainer. They will be able to verify that baffles are in place, not damaged and that your tank does not have any cracks due to the ice. If the tank was pumped out during the winter due to a freezing problem and we were unable to clean it through a manhole the MPCA believes proper Maintenance was not performed. We recommend you consider having us put a manhole into your system once the ground thaws in the spring to ensure proper maintenance in the future. Most septic tanks should be pumped routinely every 2-3 years.

If there is a pump in the system, it should be inspected to ensure the floats have not been damaged. The pump should be checked to assure it is pumping effluent appropriately and it will turn off and on as necessary. It is important that the pump is accessible at all times. This may also require the installation of a riser to bring the access to the surface.

## 3. Pipe to soil treatment area

The pipe from the tank to the soil treatment area may have frozen for the same reasons as the pipe from the home (# 1). If so, Thus cleaning this pipe is usually not recommended as it will

more than likely refreeze or be of no benefit.

In the spring, if you have a lift pump to your drainfield you must turn the pump back on to ensure the water is sent to your drainfield. As preventative maintenance you will need to schedule us to come back after the ground thaws to assess proper functioning of your pump and system.

## 4. Soil treatment area-Drainfield

If the Drainfield was soggy or wet before the winter, the system should be evaluated by an onsite professional to determine why it is not operating properly. If ignored after the freezing problem, sewage is likely to surface in this area in the future.

If sewage comes to the surface while frozen in the winter, this creates a health risk to people or animals

that can easily come in contact with it and must be corrected. The solution may be as simple as bringing in additional topsoil or involve a more extensive reworking of this part of the system.

# **FREEZING PROBLEMS & SEPTIC SYSTEMS**

## Why Might an Onsite System Freeze?

According to many onsite professionals, a winter of cold temperatures and little snow cover can cause freezing of onsite systems. Even in a normal Minnesota winter, freezing can occasionally be a problem. Identifying and correcting a potential freezing problem is far easier than dealing with a frozen system. If you have a frozen system the cause should be corrected or you may have freezing again in following winters.

Here are a few common causes of onsite system freeze-ups.

### **Lack of Snow Cover:**

Snow serves as an insulating blanket over the septic tank(s) and soil treatment area (trenches, drainfield or mound). Snow helps keep the heat of the sewage and the geothermal heat from deep soil layers. Lack of snow allows frost to go deeper into the ground, potentially freezing the system.

### **Compacted Snow:**

Compacted snow will not insulate as well as uncompacted snow. Driving any type of equipment over the system compacts snow and sends the frost down deeper. Automobiles, snowmobiles, ATV's, foot-traffic, and livestock should stay off the system all year long but especially in the winter. Any time traffic over a sewer pipe, septic tank, or soil treatment area is anticipated, insulated pipe should be used.

### **Compacted Soils:**

Areas that have compacted soils such as driveways, paths or livestock enclosures tend to freeze deeper, affecting septic system components that may be in the area.

### **Lack of Plant Cover:**

This often occurs in new systems installed late in the year where a vegetative cover could not be established before winter. The vegetative cover insulates the system and helps hold snow.

### **Irregular Use of System:**

When homes or cabins are unoccupied for long weekends or extended periods of time, no sewage is entering the system to maintain sufficient temperatures to avoid freezing. This can also occur when very low volumes of sewage are being generated. In cases when only one or two people are living in a home, they may use only a small percentage of the designed flow for the system. This low usage may not be sufficient to keep the system from freezing. Frequent use, warmer water temperatures and greater water use are all important in cold temperature stress situations.

## Leaking Plumbing Fixtures and Furnace Drips:

When a fixture such as a toilet or showerhead leaks, it sends a small trickle of water to the system. The slow moving and thin film of water form caused by trickle flow can freeze within the pipe and eventually cause the pipe to freeze solid.

Appliances such as high efficiency furnaces and humidifiers can also cause water to freeze in the pipes due to the small amount they discharge.

## Pipes Not Draining Properly:

A common cause of freeze-ups and re-freezups are sewer pipes and pump lines that are not installed with proper fall (change of elevation), or pipes that settle or sag after installation. Any time a dip or low spot occurs in a pipe, sewage can collect

## Cold Air Entering the System:

Open, broken and uncapped riser or inspection pipes and man-hole covers allow cold air into the system and can cause the system to freeze.

# **WHAT CAN YOU DO TO PREVENT YOUR ONSITE SYSTEM FROM FREEZING IN THE FUTURE?**

Depending on your system, location, and water use, you may never have a freezing problem. However, there are several steps that you can take if you are concerned about your onsite system freezing. Here are some precautions if you have had a past problem or are concerned about having a future problem. It is not necessary to do all of these, but you may pick and choose based on your situation:

- 1) **Place a layer of mulch (8-12 inches) over the pipes, tank and soil treatment system to provide extra insulation.** This mulch could be straw, leaves, hay or any other loose material that will not compact and stay in place. This is particularly important if you have had a new system installed late in the year and no vegetative cover has been established. If your system is currently frozen ignore this step, as it will delay thawing come spring.
- 2) **Let the grass in your lawn get a little longer in the late summer/fall over the tank and soil treatment area.** This will provide extra insulation and help hold any snow that may fall.
- 3) **Use water; the warmer the better if you feel the system is starting to freeze.** The Onsite Sewage Treatment Program is usually an advocate of water conservation, but if freezing is a concern, increasing low use to a normal water use can help the system. This includes spreading out your laundry schedule to possibly doing one warm/hot load per day, using your dishwasher and maybe even taking a hot bath. DO NOT leave water running all the time, as this will hydraulically overload the system.
- 4) **If you know you are going to be gone for an extended period, plan accordingly.** This could include having someone use sufficient quantities of water in the home regularly or pumping out your tank before leaving. If you live in an area with a high water table, you should only pump out the tank if the tank was designed for high water table conditions.
- 5) **Fix any leaky plumbing fixtures or appliances in your home.** This will help prevent freezing problems and help your system work better year round.
- 6) **If you have appliances that generate very low flows such as high efficiency furnaces,** you can put a heat tape in the pipe, and while on vacation **have someone come by and run warm water for a while.** Alternately, you could install a small condensate pump that holds and discharges 2 gallons per cycle.
- 7) **Keep all types of vehicles, animals and high traffic people activities off of the system.** This is a good rule to follow year round.
- 8) **Make sure all risers; inspections pipes and man-holes have covers on them.** Sealing them and adding insulation is a good idea. Insulation may be added during construction particularly if the top of the septic tank is within 2 feet of the surface.
- 9) **Keep an eye on your system.** If any seeping or ponding occurs contact an onsite professional to help determine the cause and remedy.
- 10) **Add more insulation to your system.** This could include replacing pipe with insulated pipe, adding styrofoam over septic tanks or adding more soil cover.



*Fiedler Your Pumping Specialists, Inc Handout - "Issues with Septic Systems in Winter" was created for our Loyal customers. utilizing information from resource documents found 11/1/2020 on the University of Minnesota OSTP web site- <https://septic.umn.edu/septic-system-owners/maintenance/freezing-problems>*

*In addition, our Customers and potential customers are encouraged to review our business webpage or contact us directly with any questions related to their specific system!*

**PLEASE NOTE:**

*This handout is intended for educational purposes only. While Fiedler Your Pumping Specialists, Inc has made reasonable efforts to ensure the accuracy of the information provided, it is not responsible for any damages resulting from reliance on the information. Please consult with your septic contractor or permitting agency if you have specific questions related to your system and its management needs. Fiedler's reserves the right to make additions, changes, or corrections to this guide at any time and without notice.*



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