Septic System Information for Residents

Septic system construction, operation, maintenance, and abandonment is managed by the 21 municipalities in Anoka County under their development and building ordinances. Anoka County Environmental Services unit may have information concerning the design and inspection of septic systems located within the shoreland district of Linwood Township.

Communities and Anoka County do not perform inspection or certification of septic systems in relation to the sale of a property. It is recommended that, when necessary, homeowners contact a state licensed inspector to perform an inspection of their septic system. The Minnesota Pollution Control Agency licenses septic system professionals. A list of licensed septic system professionals can be found on the MPCAs web page: http://www.pca.state.mn.us/programs/ists/registration.html

The University of Minnesota’s Extension Service website provides extremely useful information on septic systems as well: http://septic.umn.edu The Septic System Owner’s Guide (available from the Extension Service for $5.00) provides valuable information to properly use and maintain a septic system for long trouble-free operation.

The Minnesota Pollution Control Agency rules establish the minimum requirements for construction and maintenance of home and business septic systems. The MPCA Subsurface Sewage Treatment System website (http://www.pca.state.mn.us/) provides septic owner information follows including:

- Why treat sewage
- Soil based sewage treatment
- Vertical separation distance for existing subsurface sewage treatment systems
- Septic tank maintenance
- Compliance inspection for new subsurface sewage treatment systems
- Compliance inspection for existing subsurface sewage treatment systems
- Guide to subsurface sewage treatment system disclosure at property transfer
- What to do with your septic after a flood
- Policy on floor drains form garages for one and two family dwellings
- Abandoning a subsurface sewage treatment system

For more information contact Anoka County Environmental Services at 763-422-7063.
Introduction
What is sewage and why treat it?
Although the answers may seem obvious, these questions are often asked.

Sewage is wastewater from domestic activities such as cooking, cleaning, laundry or bathing. Exposure to sewage through ingestion or bodily contact can result in disease, severe illness, and in some instances death from the bacteria, viruses and parasites contained in the waste. Therefore, it is important for sewage to be properly treated.

Few people disagree with the need to treat sewage generated by large municipal or industrial sources, and regulations governing these larger facilities have been in place at the state and federal level for decades. However, the regulations governing sewage treatment systems serving homes and mid-sized facilities are much more recent. These systems are called Subsurface Sewage Treatment Systems (SSTS), commonly referred to as septic systems. SSTS were formerly known as Individual Sewage Treatment Systems (ISTS).

While the terminology has changed to reflect changes in the septic system industry, a septic system is still a combination of tanks or other treatment devices providing initial treatment of sewage which ultimately discharging the sewage into the soil for final treatment. And, just as with large wastewater facilities, SSTS need to be properly designed, installed, regulated, and maintained.

Regulatory background
In 1968, the Minnesota Shoreland Act was passed. It contained provisions for septic systems to be evaluated and managed properly within shoreland areas to better control their impact on water quality, and resulted in distinct improvements in water quality.

In 1994, the first state law specifically addressing septic systems was enacted. This legislation, known as the ISTS Act and codified as Minn. Stat. §§ 115.55 and 115.56, requires all new construction and replacement septic systems to meet minimum statewide standards. It also put in place a system to upgrade failing existing SSTS before construction of an additional bedroom, and methods to replace failing SSTS within certain time frames depending on their level of failure.

The 1994 act has been amended in recent years, with major changes in 1996 and again in 2008. As SSTS are intended provide long-term, reliable, high quality treatment and disposal of the sewage generated in a home, regulations will continue to be amended as the SSTS industry advances.

Public health reasons
While the 1994 act helped to ensure newly constructed or replaced septic systems will adequately treat sewage, many of the more than 500,000 septic systems in use in Minnesota were installed prior to the law revisions and therefore, may not be adequately treating sewage.
Additionally, sewage contains the nutrient phosphorus, which if discharged into lakes can cause excessive aquatic plant growth leading to degradation in water quality.

Despite our abundance of lakes and rivers more than two-thirds of Minnesotans get their drinking water from ground water (i.e., wells). Since septic systems discharge treated sewage into the ground, ultimately traveling to the ground water, they must be properly sited, designed, built and maintained to protect human health.

**Environmental reasons**

Minnesota takes great pride in its environmental leadership, and Minnesotans rely heavily on the quality of their lakes, rivers and streams for tourism, recreation and enhancement of property values. We take pride in the quality of our waters and natural environment, and accept the responsibility that comes with properly managing our impacts on our natural resources. This synergy forms the basis of the goal to comprehensively manage all sources of contamination entering ground and surface waters.

Statewide efforts to better manage the environmental and public health impacts of septic systems are a critical part of this goal. The Minnesota Pollution Control Agency is committed to these efforts and continues to investigate and develop organizational and functional methods to achieve this goal.

**For more information**

For additional SSTS information, please visit our Web site at [http://www.pca.state.mn.us/programs/ists/](http://www.pca.state.mn.us/programs/ists/) or call us at 651-296-6300, toll free 800-657-3864.
Introduction

Subsurface Sewage Treatment Systems (SSTSs) are commonly known as septic systems. They are soil-based treatment systems used by homes and businesses which are not connected to municipal sewer. SSTSs were formerly called Individual Sewage Treatment Systems (ISTS). Even though their name has changed, their purpose has not; to treat and dispose of the wastewater generated on site each day by non-municipal homes and businesses.

The wastewater contains sewage, which in turn contains bacteria, viruses, parasites, nutrients and some chemicals. Therefore, proper treatment and disposal is necessary to minimize the potential for disease transmission and environmental contamination from the sewage.

How SSTSs treat sewage

SSTSs treat sewage through a combination of biological, physical and chemical processes. They are designed to account for the daily wastewater flow, the type of distribution system (gravity or pressure), soil conditions of the site, and need the development of a biological layer (a biomat) for proper wastewater treatment. When properly designed, constructed and maintained they provide a high degree of sewage treatment and are a proven method of controlling the negative environmental effects of untreated sewage.

A typical SSTS consists of a septic tank followed by one of many different types of a soil-based treatment system, such as a mound, trench or at-grade drainfield.

The septic tank

A buried, watertight septic tank is the first component of a SSTS. Sewage is piped from a home or business to the septic tank, which is sized to retain wastewater for 24 to 36 hours. This retention time allows three distinct layers to develop inside the tank:

- The heavier solids sink to the bottom.
- The lighter greases, fats, and soaps float to the top.
- The remaining middle layer (effluent) flows out to the drainfield for final treatment.

  o The amount of effluent that flows out to the drainfield will equal the amount that flows into the tank each day.

Baffles inside the tank at the inlet and outlet connections help prevent the heavier and lighter layers traveling to the drainfield, where they can clog the distribution pipes and cause premature drainfield failure. Over time, these heavier and lighter layers will accumulate, and must be removed at regular tank pumping intervals.
Bacteria inside the tank begin the biological process of breaking down the organic matter in the sewage. The tank bacteria are anaerobic, meaning they do not need oxygen. Anaerobic processes provide some treatment, but are not as efficient as aerobic (with oxygen) processes.

The septic tank alone does not remove all the microorganisms and pathogens. Research results indicate that effluent leaving the septic tank contains high counts of bacteria (about 1,000,000 colonies per 100 ml). Therefore, the effluent must be further treated. In conventional SSTS, this occurs in the soil treatment system.

**The soil treatment system**

The effluent flows from the septic tank to the soil treatment system either by gravity or by being pumped. Once in the soil treatment system, the effluent moves through the distribution pipes across and down through the distribution medium to its base. Here, at the interface between the distribution medium and the underlying soil, a sticky biological layer (biomat) forms.

The biomat acts as a valve to slow the rate of effluent flow into the underlying unsaturated soil, and further filters out pathogens and solids. The biomat can slow effluent movement to as much as 100 times less than its normal flow rate; this helps maximize the contact time between the effluent and the surrounding soil particles.

Soil particles are negatively charged. Through a process called adsorption, they attract and hold the positively charged pathogens in the effluent. Once held, the pathogens are easily available to the aerobic bacteria in the air pockets between the soil particles. The aerobic bacteria, which are much more efficient than the anaerobic bacteria in the septic tank, continue treatment. Other forms of bacteria also begin to grow, producing slimy films over the soil particles which act as additional filters to “grab” pathogens.

As an example: a gravity-fed trench SSTS with a mature biomat will frequently have ponded effluent in the trench while the soil a few inches outside of and below the trench will be unsaturated. This type of environment promotes effective effluent treatment by aerobic bacteria in the soil. If the soil has a limiting condition such as a high seasonal water table, known as a periodically saturated zone in the soil, effective soil treatment does not occur.

It is important to properly site the SSTS with the existing soil conditions to ensure maximum treatment occurs.

If the bottom of a SSTS is at or near the highest level of the periodically saturated zone in the soil, there will be a ‘less aerobic’ condition in the soil. This situation reduces the treatment effectiveness and increases risk of contamination. Also, being at or near the periodically saturated zone allows pathogens to move quickly through the soil without being adsorbed or filtered, thus polluting the shallow ground water. The shallow ground water can then infiltrate into deeper aquifers, contaminating wells or discharging into lakes and streams, where the public can come into contact with disease-causing organisms.

**More information**

For additional SSTS information, please visit our Web site at [http://www.pca.state.mn.us/programs/ists/](http://www.pca.state.mn.us/programs/ists/) or call us at 651-296-6300, toll free 800-657-3864.
Vertical separation distance for existing subsurface sewage treatment systems

This fact sheet provides information for homeowners, Subsurface Sewage Treatment Systems (SSTS) inspectors, and Local Government Units (LGUs) on the vertical separation requirements for SSTS.

What is vertical separation distance and why is it required?

Minn. R. 7080.1100, subp. 91, defines vertical separation as the vertical measurement of unsaturated soil or sand between the bottom of the distribution medium and the periodically saturated soil level or bedrock. For an SSTS to properly treat wastewater, this zone of unsaturated soil must be present in order for beneficial bacteria and microbes in the soil to remove harmful bacteria and viruses from the wastewater. The periodically saturated soil level is commonly identified by the presence of redoximorphic features.

What are redoximorphic features?

Redoximorphic features, commonly referred to as 'redox features', and previously referred to as "mottles" or "mottling" are color patterns formed in the soil by the process of reduction, translocation and oxidation of iron or manganese compounds. They are used to determine compliance for existing systems and to determine the type of new or replacement system for a site. Redoximorphic features are further defined in Minn. R. 7080.1720, subp. 5. E.

What is the required vertical separation distance?

Minn. R. 7080.1500 allows two different vertical separations for SSTS, depending on when and where the system was constructed.

For SSTS constructed after March 31, 1996, or in a Shoreland area, Wellhead protection area, or Food, beverage, or lodging establishment (SWF), at least three feet of vertical separation distance is required. The LGU may allow up to a 15 percent reduction in this distance; however, this reduction must be specified in the local SSTS ordinance.

For SSTS constructed before April 1, 1996, in areas that are not SWF, at least two feet of vertical separation distance is required. There is no allowance for an additional reduction of 15 percent in the vertical separation for these systems.

Systems that use a registered pretreatment device to assist in the treatment of sewage may be able to decrease the required vertical separation distance for their system. The required separation distance for systems that use registered treatment products varies with each product and components; the required separation ranges from one to three feet of suitable, unsaturated soil. Please refer to the Minnesota Pollution Control Agency SSTS product registration webpage and their requirements at: [http://www.pca.state.mn.us/publications/wq-wwists4-32.pdf](http://www.pca.state.mn.us/publications/wq-wwists4-32.pdf).

The required vertical separation distance for systems designed under the "performance" section of previous rule versions (Minn. R. 7080.0179; 1999 to 2006), shall be based on the design approved by the local unit of government.
Can a local ordinance be more restrictive?

A LGU can require greater than three feet of vertical separation distance for systems constructed after March 31, 1996. However, LGUs cannot require systems to be replaced if they have at least two feet of vertical separation for systems constructed before April 1, 1996, for systems located outside of SWF areas (per Minnesota Stat. 115.55, subd. 5a).

How is the vertical separation distance determined?

The separation distance is measured outside the area of system influence in an area of similar soil. Therefore, the measurement is taken:

- in an area adjacent to the system, but not affected by the system’s use
- on the same contour and landscape position of similar soil

When a compliance inspection is conducted, the certified inspectors make soil borings based on the requirements above. This can be depicted graphically as:

![Diagram of soil surface, soil probe or auger, A, B, C, D]

Where:

- \( A \) = depth from surface to periodically saturated soil or bedrock
- \( B \) = depth from surface to bottom of distribution media
- \( C \) = vertical separation distance
- \( D \) = location on same contour and landscape position, but not in the soil dispersal system itself

Once the depths \( A \) and \( B \) have been determined, vertical separation is calculated as:

\[ A - B = C \]

Depending upon when and where the SSTS was constructed, the value obtained in \( C \) must equal two feet or more for system compliance.

As soil conditions can vary considerably across the location of an onsite system, SSTS inspectors are encouraged to conduct more than one soil boring to get the best possible representation of soil conditions at the site.

Where can I find more information?

For additional SSTS information, please visit our website at [www.pca.state.mn.us/programs/ists](http://www.pca.state.mn.us/programs/ists) or call us at 651-296-6300, or toll free at 800-657-3864.
The purpose of this fact sheet is to discuss Subsurface Sewage Treatment System (SSTS) tank maintenance requirements.

**Why is proper septic tank maintenance necessary?**

Periodic removal of solids in septic tanks will ensure long-term and cost-effective service of the SSTS. Without proper maintenance, the sludge layer at the bottom of the tank, and the floating scum layer, will accumulate and begin to flow from the tank into the soil dispersal system, commonly called the drainfield, leading to premature failure. Repair of a failed drainfield can be costly. Also, lack of proper maintenance can result in a sewage backup into the home.

**Who is responsible for proper maintenance?**

It is the system owner or the owner’s agent’s responsibility to assure maintenance is accomplished.

**What is proper maintenance?**

Minn. R. 7080.2450 requires the owner or owner’s agent to regularly, but in no case less frequently than every three years.

- assess whether the sewage tank leaks below the designed operating depth
- assess whether sewage tank tops, riser joints, and riser connections leak
- measure accumulations of scum and sludge depths
- remove all tank contents when necessary

Also, local governments are required to have a management plan for all new or replacement SSTS within their jurisdiction. This management plan must include a maintenance component.

**When must the solids and liquids be removed from the tank?**

All solids and liquids must be removed when the top of the sludge layer is less than 12 inches below the bottom of the outlet baffle, or the bottom of the scum layer is less than three inches above the bottom of the outlet baffle.
Who can perform the maintenance?

When scum or sludge depths exceed the requirements above, a state-licensed professional maintainer needs to remove the tank contents through the maintenance hole, not the inspection pipes.

Maintenance through the inspection pipes does not remove all solids from the tank and can cause damage to the tank baffles, which are necessary to prevent sludge and scum from entering the drainfield and causing premature failure. Ensure your maintenance provider removes all tank contents through the maintenance hole.

Can I use septic tank additives?

Minn. R. 7080.2450 prohibits the use of any product intended to lessen the amount of accumulated solids in a septic tank in order to reduce the frequency of proper maintenance. The use of additives does not fulfill the solids removal requirement of the rule. Additionally, additives containing hazardous materials must not be used in an SSTS.

Need more information?

For additional SSTS information, please visit our Web site at http://www.pca.state.mn.us/programs/ists/ or call us at 651-296-6300, toll free 800-657-3864.
Compliance Inspections for New Subsurface Sewage Treatment Systems

This fact sheet provides information for homeowners, realtors and Local Government Units (LGUs) on Certificates of Compliance (COC) and Notices of Noncompliance (NON) for newly constructed or replacement Subsurface Sewage Treatment Systems (SSTS).

What is a compliance inspection?

A compliance inspection is an evaluation, investigation, inspection or other such process conducted for the purpose of issuing a COC or NON.

A COC indicates the system met the applicable compliance criteria on the day of the inspection; it does not guarantee future hydraulic performance, especially if the use changes or the flow increases over the amounts used by the current occupants.

A NON indicates the system components that do not meet applicable requirements and the time frame for upgrade, repair, or replacement before the final COC will be issued.

When are new or replacement SSTS compliance inspections required?

While a LGU may have additional requirements, there are three primary situations when a new or replacement SSTS compliance inspection is required:

- for all new construction and replacement of a SSTS
- in designated shoreland areas when any building permit or variance is requested
- if the LGU administers a permit for bedroom additions
  - The system must be inspected before the bedroom addition permit is issued.
  - This requirement may be temporarily waived if the permit application is made between November 1 and April 30.

If the permit application falls within these dates, the compliance inspection must be conducted by the following June 1, and a COC must be submitted to the LGU and property owner by the following September 30.

When are COCs and NONs issued?

For new construction or replacement SSTS, the COC is issued if the certified inspector has reasonable assurance the system was built according to applicable requirements specified in the construction permit. The COC is valid for five years from the date of issuance.

A NON is issued if the certified inspector finds the system is not constructed in compliance with applicable requirements. This notice specifies what must be done to bring the system into compliance.

Both documents must include a signed, certified statement stating the person conducting the inspection completed the work in accordance with applicable regulation.
Who can conduct the compliance inspection?

Compliance inspections must be conducted by:

- Minnesota Pollution Control Agency (MPCA) certified Inspector, Advanced Inspector, or Qualified Employees of a business with a MPCA Inspector or Advanced Inspector license; or
- State, county, city, or township employees with MPCA Inspector or Advanced Inspector registration.

For new SSTS construction and replacement inspections, the inspector must be independent of the SSTS owner and the installer.

What forms must an inspector use?

Any inspection form may be used for new construction and replacement systems. Typically, LGUs have developed their own forms.

What are the compliance criteria?

For new SSTS construction the system:

- must be designed to all applicable federal, state, and local regulations
- must prevent sewage or sewage effluent contact with humans, insects, or vermin
- must treat and disperse sewage or sewage effluent in a safe manner that adequately protects from physical injury or harm
- must maintain an unsaturated zone in the soil between the bottom of the soil treatment and dispersal system and the periodically saturated soil or bedrock during loading of effluent
- must not be designed in floodways
- must meet established setback distances

Additionally, any replacement components for an existing SSTS must meet technical standards and criteria for new construction according to the local ordinance.

Where do I find more information?

For additional SSTS information, please visit our Web site at www.pca.state.mn.us/programs/ists/ or call us at 651-296-6300, toll free 800-657-3864.
Compliance Inspections for Existing Subsurface Sewage Treatment Systems

This fact sheet provides information for homeowners and realtors on Compliance Inspections for existing Subsurface Sewage Treatment System (SSTS).

What is a compliance inspection?
A compliance inspection is an evaluation, investigation, inspection or other such process conducted for the purpose of issuing a Certificate of Compliance (COC) or Notice of Non-compliance (NON).

What are a COC and a NON?
The COC certifies a system is in compliance with state requirements at the time of the inspection. The COC does not guarantee future hydraulic performance, especially if the use changes or the flow increases over the amounts used by the current occupants.

For an existing SSTS, the COC is valid for three years from the date of issuance.

The NON gives notice a system fails to be in compliance with state requirements at the time of inspection. There are two types of failing designations, an Imminent Threat to Public Health or Safety and a Failing to Protect Ground water. The NON must also indicate the time frame for upgrade, repair, or replacement as set in the local ordinance.

Both documents must include a signed, certified statement stating the person conducting the inspection completed the work in accordance with applicable regulations.

Is a disclosure the same as a compliance inspection?
No. A septic system disclosure is different than a compliance inspection. A disclosure describes, to the best of the property owner’s knowledge, the location of a SSTS on the property and what condition it is in. A compliance inspection is conducted by a specifically trained and licensed individual to determine if the SSTS is in compliance with state regulations. A disclosure is not a compliance inspection and cannot be used as a substitute.

When are compliance inspections required?
While state law does not require an inspection at property transfer, many Local Government Units (LGUs) have ordinances requiring this. LGUs are Counties, Townships, and Cities.

The LGU may also require a compliance inspection when complaints are received, as part of area surveys, or for lot splits. Compliance inspections can also be required upon request by the purchaser of a property, the mortgage lender, or real estate agent.
Who can conduct a compliance inspection?
Compliance inspections must be conducted by:

- Minnesota Pollution Control Agency (MPCA)-Certified Inspector, Advanced Inspector, or Qualified Employees of a business with a MPCA Inspector or Advanced Inspector license; or
- State, county, city, or township employees with MPCA Inspector or Advanced Inspector registration.

What forms must an inspector use?
The MPCA’s Existing SSTS Compliance Inspection form must be used. Additional forms, if required by the LGU, may also be attached. The inspector must submit COCs or NONs to the system owner or owner’s agent and the LGU within 15 business days after the date of inspection.

What are the compliance criteria for an existing SSTS?
- must be protective of public health and safety
- must be protective of ground water
- must be operated, meet performance standards, and be managed according to its operating permit
- must meet vertical separation requirements applicable to the date the system was constructed, its location, or the facility it serves
  o if built after March 31, 1996, or in a shoreland area, well head protection area, or serving food, beverage, or lodging establishments (SWF), a three-foot vertical separation distance as measured outside the area of system influence in an area of similar soil is required
  o if built before April 1, 1996, or in areas that are not SWF, a two vertical separation or a vertical separation distance as measured outside the area of system influence in an area of similar soil is required

- the local ordinance may allow up to a 15 percent reduction in the vertical separation distance to account for settling of sand or soil, normal variation of measurements, and interpretations of the limiting layer conditions

What is the upgrade time frame for a failing SSTS?
If the NON indicates the system is an Imminent Threat to Public Health or Safety, it must be upgraded, replaced, repaired or discontinued within ten months after the owner receives the notice, or within a shorter period if required by local ordinance.

If the NON indicates the system is Failing to Protect Ground water must be upgraded, replaced, repaired or discontinued within the time period established in the LGU ordinance.

Where do I find more information?
For additional SSTS information, please visit our Web site at www.pca.state.mn.us/programs/ists/ or call us at 651-296-6300, or toll free at 800-657-3864, please ask for SSTS staff.
What does the law require for Subsurface Sewage Treatment System (SSTS) disclosure?

Minn. Stat. §115.55, subd. 6, requires a property seller disclose, in writing, to the buyer how sewage generated at the property is managed. This applies whether the sewage goes to a permitted facility, or to an on-site SSTS.

The disclosure must be made by delivering a written statement to the buyer or transferee that:

- the sewage goes to a facility permitted by the agency, or
- the sewage does not go to a permitted facility, is therefore, subject to applicable requirements, and describes the system in use, including the legal description of the property, the county in which the property is located, and a map drawn from available information showing the location of the system on the property to the extent practicable. Additionally, if the seller or transferor knows that an abandoned SSTS exists on the property, the disclosure must include a map showing its location. In the disclosure statement, the seller or transferor must indicate whether the SSTS is in use and, to the seller’s or transferor’s knowledge, in compliance with applicable sewage-treatment laws and rules

Is a disclosure the same as a compliance inspection?

No. A SSTS disclosure is different than a compliance inspection. A disclosure describes, to the best of the property owner’s knowledge, the location of a SSTS on the property and what condition it is in. A compliance inspection is conducted by a specifically trained and licensed individual to determine if the SSTS is in compliance with state regulations. A disclosure is not a compliance inspection and cannot be used as a substitute.

While state regulations do not require a compliance inspection prior to property transfer, many local ordinances, especially in shoreland areas, may have this requirement. Always check with your Local Government Unit (LGU) first to see if they have this requirement. Additionally, lending institutions may require compliance inspections for some properties.

What if the information is not disclosed or the seller provides false information?

Unless the buyer or transferee and seller or transferor agree to the contrary in writing before the closing of the sale, a seller or transferor who fails to disclose the existence or known status of an SSTS at the time of sale, and who knew or had reason to know of the existence or known status of the system, is liable to the buyer...
or transferee for costs relating to bringing the system into compliance with the SSTS rules and for reasonable attorney fees for collection of costs from the seller or transferor. This action must be commenced within two years after the date on which the buyer or transferee closed the purchase or transfer of the real property where the system is located.

**Need more information?**

For more information on the Minnesota Pollution Control Agency’s SSTS program, please visit our Web site at [www.pca.state.mn.us/programs/ists/](http://www.pca.state.mn.us/programs/ists/) or call us at 651-296-6300, or toll free at 800-657-3864, please ask for SSTS staff.
What to do with your septic system after a flood

Should I pump my septic tank if the drainfield is flooded or saturated?

No! At best, pumping the tank is only a temporary solution. Under worst conditions, pumping the tank empty could cause it to try to float or pop out of the ground and damage inlet and outlet pipes. The best solution is to not use water or to drastically reduce water use.

What should I do with my septic system after the flood?

Once floodwaters have receded, there are a few things you should consider:

- Do not drink well water until the well has been tested for contamination. Contact your county health department for well-testing procedures.

- Don’t use the septic system if the soil is still saturated or flooded. Consider turning off power at the circuit box if the septic system has a pump. The wastewater will not be treated and will become a source of pollution.

- Any floodwater in the house should not be dumped into a sink or toilet because it will go into the overloaded septic system.

- If sewage has backed up into the basement, clean the area and disinfect thoroughly.

- Keep children and pets away from areas where sewage was present on the ground surface. Sewage may contain organisms that can make you sick.

- Do not open the septic tank for pumping while the soil is saturated. Mud and silt may enter the tank and be discharged to the drainfield. Pumping out a tank in saturated soils may cause it to pop out of the ground.

- Flooding of the septic tank may have lifted the floating crust of fats and grease in the tank. Scum may have floated and/or partially plugged the outlet tee. If the septic system backs up into the house, your septic maintainer (your “pumper”) should check the tank for outlet blockage.

- Don’t wait too long to have your septic system inspected and serviced if you suspect damage. Signs of damage include settling or inability to accept wastewater. Septic tanks and pump tanks can fill with silt and debris, so they may need to be properly cleaned by a Minnesota Pollution Control Agency- (MPCA-) licensed individual sewage treatment system (ISTS) maintainer after the water recedes.

- Conserve water while the septic system dries out. Once the area around the septic system has dried...
out, the septic tank (and pump tank) should be evaluated to determine whether they need to be cleaned out.

- Take care not to compact soil over the drainfield or mound by driving or operating equipment in the area. Saturated soil is susceptible to compaction, which reduces the ability of septic systems to function properly.

- Examine electrical connections for damage before restoring electricity to use a pump.

- Be sure the septic tank's manhole covers are secure and inspection pipes have not been blocked or damaged.

- Check the vegetation over your septic system. Repair erosion damage and sod or reseed to provide good grass cover. Direct any surface water away from your septic system, too.

**What if I use my septic system to dispose of wastewater from my home-based or small business?**

Small businesses may use their septic systems to dispose of wastewater containing chemicals as well as raw sewage. If your septic system receives chemicals and it backs up into a basement or drainfield, take extra precautions to prevent skin, eye and inhalation contact. The proper cleanup depends on which chemicals are in the wastewater. Contact your county or the MPCA for more information.

**Where can I find information about maintaining my septic system?**

Contact your county for additional advice and assistance. A document on the University of Minnesota Web site, at [http://septic.umn.edu/factsheets/protectfromflood.html](http://septic.umn.edu/factsheets/protectfromflood.html), has related information for septic system owners. Or, you can call the Minnesota Pollution Control Agency at (800) 657-3864 or (651) 296-6300 for additional information.
Policy on floor drains from garages for one and two family dwellings – Subsurface Sewage Treatment Systems

**Effective date:** May 2012 (update to a November 9, 1992 letter)

**Replaces or supersedes:** November 9, 1992 letter from the Minnesota Pollution Control Agency (MPCA) to the Minnesota Department of Health, Plumbing Unit

**Program guidance:** This memo describes MPCA guidance on the management of floor drain effluent from garages from one and two family residences using Subsurface Sewage Treatment Systems (SSTS). The 1992 letter indicated that this issue was reviewed by MPCA staff in the Groundwater and Solid Waste Division, Hazardous Waste Division, and Water Quality Division. The comments from these diverse programs were incorporated into the original 1992 letter. The consensus was that daylighting of these floor drains was an acceptable practice as long as the effluent did not discharge into surface water or otherwise leave the property where it was generated.

**Purpose:** Floor drains in residential garages are fairly common, especially in garages which are heated. These are used to dispose of melt water and other accumulated precipitation which enters the garages on vehicles, and in some cases, to dispose of wash water if vehicles are washed indoors. Drips and spills of various automotive fluids can also enter the drains, as can other types of household products stored or used in the garages. Intentional disposal of household hazardous waste may also occur.

All garage floor drains must be connected according to the Minnesota plumbing code, local building codes, and ordinances. However, the MPCA Underground Disposal Policy requires that no floor drain effluent can be disposed of on-site, either through drywells or on-site sewage treatment systems. If this were an industrial or commercial application, a holding tank would be required to be installed and routinely pumped. This is also an option for the homeowner, but could lead to management problems, especially with changes in ownership.

Homeowners may also choose the option of running the floor drain "to daylight", which means that the floor drain effluent would discharge onto the ground surface outside the garage. This would only be allowed if the following conditions are met:

1. Local government approves
2. No commercial or industrial use of the garage
3. No discharge into surface water or surface depressions which lead to surface water (such as swales, ditches, and tile lines)
4. Discharged water must not cross property line
5. Discharge area must be easily visible to homeowner

Rationale for this provision is that the homeowner has a vested interest in protecting their property. They are not likely to discharge materials which would visibly impact their property. The surface discharge will make them more aware of the impacts of their actions. It is more likely to be an aesthetic problem than a health problem, since it does not contain sewage or other sources of pathogenic organisms. Because the person taking the action (the homeowner who disposes into the floor drain) will be the only person affected by that action, there will be a high motivation for self control. Because of the limited scope of the facility, the chances of undesired environmental impacts are less than for commercial/industrial uses.
Abandoning a Subsurface Sewage Treatment System

This fact sheet provides the rule requirements and suggested guidelines for proper abandonment of a Subsurface Sewage Treatment System (SSTS).

Who can abandon a system?
Removal and disposal of the liquid contents in sewage tanks must be conducted by a licensed maintainer. Remaining abandonment activities, such as crushing and filling the tanks, must follow the provisions of Minn. R. 7080.2500; however, they may be performed by other contractors.

The person or business abandoning the system must complete and sign a record of abandonment, which then must be sent to the local government unit within 90 days of the abandonment date.

Must an abandoned system be disclosed at property transfer?
Yes. Minn. Stat. § 115.55, subd. 6(2) requires an abandoned system be disclosed to the buyer prior to signing an agreement to sell or transfer property. The disclosure must include a map showing the system location.

What are the abandonment options?
A SSTS can be abandoned in place, or it can be removed from the site.

Abandoning a system in place
If the removed septage is disposed of into a sewage or septage treatment facility, a written agreement must exist between the accepting facility and the maintenance business responsible for disposal.

If the removed septage is disposed through land application, follow your local government’s ordinance requirements. If no local septage ordinance exists, the Minnesota Pollution Control Agency’s (MPCA) Septage Management Guidelines contains necessary information on required state and federal land application methods and septage management.

The soil dispersal system (i.e. drainfield) can remain in place. Inspection pipes can be removed, backfilled, and disposed of in a mixed municipal solid waste landfill.

Sewage tanks, cesspools, leaching pits, drywells, seepage pits, vault privies, pit privies, and distribution devices must;

- have all solids and liquids (i.e. septage) removed and disposed of in accordance with Minn. R. 7080.2450, subp. 6 by a licensed maintenance business
- have all electrical devices and devices containing mercury removed and disposed of according to applicable regulations; and
- abandoned tanks or any other underground cavities must be crushed with the remaining cavity filled with soil or rock material
Future discharge into the system

Access for future discharge to the system must be permanently denied. This can be accomplished by removing the piping or filling the end of the supply pipe with grout.

Removal of abandoned systems

Precautions must be taken to prevent human contact with the contaminated materials. These include the distribution media, the surrounding soil or sand materials within a three foot distance of the system bottom, distribution pipes, the sewage tanks and any contaminated soil around leaky sewage tanks. Contaminated material also includes any soil that received sewage from a surfacing effluent.

Contaminated distribution piping, manifold, geotextile fabric, and other materials must be dried and disposed of in a mixed municipal solid waste landfill; they cannot be disposed of in a demolition landfill.

Contaminated soil material may be stockpiled prior to final disposal to allow time for pathogen die-off. The stockpiling site must meet all the separation distances for an SSTS, including well and property line setbacks and a three-foot vertical separation distance to periodically saturated soil or bedrock. Additionally, the stockpiled material must be covered with a minimum of six inches of uncontaminated soil and be protected from erosion. The local unit of government should be contacted for any additional or stricter ordinance requirements.

After the soil material has been stockpiled for a minimum of one year, it may be land applied in any location meeting the setback requirements of Minn. R. 4725.4450, covered with at least six inches of uncontaminated soil, and be protected from erosion. It may also be used to fill in the abandoned tank cavities.

Do you need more information?

For more information on the MPCA’s SSTS program, please visit our Web site at www.pca.state.mn.us/programs/ists/ or call us at 651-296-6300, or toll free at 800-657-3864.