

POWTS Handbook

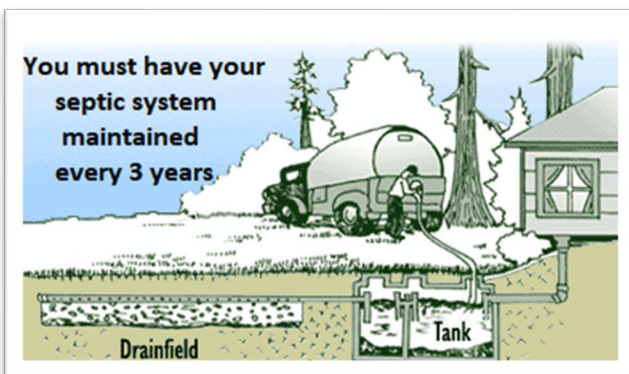
(Private Onsite Wastewater Treatment System)

Owning & Maintaining a

Septic System or Holding Tank

In Crawford County

Maintenance requirements depend on the type of wastewater treatment system you have:



OR



Crawford County Land Conservation, Planning & Zoning

225 N. Beaumont Road, Suite 233, Prairie du Chien, WI 53821

Telephone: (608) 326-0294

Email: zoning@co.crawford.wi.gov

**Information Regarding Your
Private Onsite Wastewater Treatment System (POWTS)**

Property Owner: _____

Date of Installation: _____

Plumber: _____

Phone: _____

Email: _____

System Type: New or Replacement:

Conventional At-Grade Mound Holding Tank

Total Tank Capacity: _____ Gallons

Septic Tank Manufacture: _____

Tank Notes: _____

Pump Manufacture: _____

Pump Model: _____

Effluent Filter Manufacture: _____

Effluent Filter Model: _____

How Your Septic System Works:

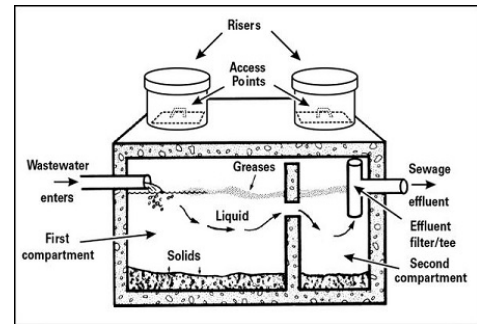
Septic systems are underground wastewater treatment structures, commonly used in rural areas without centralized sewer systems. They use a combination of nature and proven technology to treat wastewater from household plumbing produced by bathrooms, kitchen drains, and laundry. They are a very simple way to treat household wastewater and are easy to operate and maintain. Although homeowners must take a more active role in maintaining septic systems, once they learn how their systems work, it is easy for them to appreciate the importance of a few sound operation and maintenance practices.

The BASIC SEPTIC SYSTEM includes two parts: the SEPTIC TANK and the DRAINFIELD.

Household wastewater first flows into the septic tank where it separates into 3 layers.

1. Solid waste that settles to the bottom of the tank; (sludge)
2. Grease, fat and floating solid materials which rise to the top of the tank; (scum)
3. A partially clarified liquid zone; (effluent)

The sludge and scum remain in the tank where naturally occurring bacteria work to break them down. Solids accumulate in the septic tank, so the **tank must be serviced (pumped out) every 3 years or whenever the solid component of the tank exceeds 1/3 of the tank volume to reduce the chance of solid material flowing into the drainfield.**



Grease and other floating solids are prevented from flowing out of the tank by a baffle, filter or screen located on the inside of the tank at the outlet end. Another baffle is placed on the inlet side of the septic tank. This forces the incoming waste down into the tank which prevents short-circuiting across the tank. These **baffles can deteriorate over time and must be checked at each tank servicing.** In theory, only liquid flows out of the septic tank and into the drainfield, thereby recycling the household wastewater into the ground. **Effluent filters can prevent larger suspended solids in wastewater from getting out of the septic tank, which may clog pumps, distribution pipes and soil.** These filters are commonly serviced with routine septic tank pumping.

When the effluent has to be lifted uphill into a drainfield, a two compartment tank is used or another tank is installed after the septic tank. This chamber or tank contains a pump with floating on and off switches to send the effluent into the drainfield at preset intervals. This pump tank (known as a pump chamber, dosing chamber or lift station) has a high water alarm float switch connected to an alarm to warn the user when the pump has failed to come on.

OUTLET FILTER/SCREEN

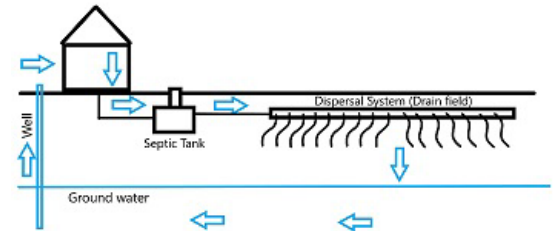
The outlet filter screen of the primary treatment tank should be cleaned as needed to ensure proper operation. Cleaning frequency will depend on the size of the filter, environmental conditions, number of people living in the house, the size of the septic tank and the overall nature of the wastewater being discharged to the septic tank from the house. The filter cartridge must not be removed unless provisions are made to retain the solids in the tank that may slough off the filter when removed from its enclosure. The main consideration is to ensure that the filter is maintained so that it continues to be effective.

A NOTE ABOUT HOLDING TANKS

The most expensive alternative to on-site treatment is a holding tank, which retains waste in a large sealed tank. Periodically, wastes are pumped out by a licensed septage hauler and transported away for treatment. Holding tanks cost less than mound or conventional systems to install, but **the annual pumping and hauling costs can be substantial.**

SOIL INFILTRATION SYSTEM (DRAINFIELD)

The drainfield (soil infiltration) is the final and most important step of the effluent treatment and dispersal. The size, elevation, location and shape of the drainfield are all relative to the expected usage and soil characteristics.



The drainfield sizing is determined by the flow from the house (based on the number of bedrooms) and the type of soil. The drainfield is the area where the liquid from the septic tank soaks into the ground. The clarified sewage is called effluent. The effluent slowly flows by gravity or pump to one or more perforated pipes that are laid in the gravel. The drainfields may have polystyrene bundles or leaching chambers used for wastewater storage prior to soil absorption. When a pressure distribution drainfield is lower in elevation than the septic tank, a siphon may be used to force the effluent through the system instead of a pump. A siphon must be checked periodically to ensure that it is properly discharging effluent in doses rather than "trickling" effluent into the drainfield. When there are several trenches or beds, a distribution box may be incorporated to promote equal distribution of effluent.

The soil is the secondary portion of the treatment process. The soil and micro-organisms remove viruses, bacteria, and most other contaminants typically found in household wastewater. The drainfield area may consist of one or more trenches, a rectangular bed or an above grade design like a mound. One or more observation tubes are placed in the drainfield area to monitor the infiltrative surface.

WHAT ARE THE WARNING SIGNS OF A FAILING SEPTIC SYSTEMS?

These signs may be indicators that the drainfield is failing:

1. Plumbing backups.
2. Grass in the yard growing faster and greener in the area of the drainfield or tank(s).
3. Soft or mushy ground in the area of the drainfield.
4. Sluggish toilet flushing.
5. Septic pump runs constantly.
6. Solids accumulating in the drainfield vent or observation tubes.

HOW TO PROLONG THE LIFE OF A DRAINFIELD:

1. Avoid Hydraulic overloading a condition where soil beneath the drainfield becomes saturated resulting in ponding. This condition can be caused by:

- A. drainfield is undersized for the current usage;
- B. leaking plumbing fixtures;
- C. surface water into system;
- D. surge loading (laundry should be spaced out vs washing all the clothes on one day)

2. Grease should be treated as garbage and kept out of the septic tank whenever possible. Excessive grease can damage the sewer line to the septic tank or inside the tank. The septic tank may accumulate a layer of solid fat, which cannot be readily broken down by bacterial action.

3. Have the tank(s) pumped & inspected regularly.

4. Do not allow heavy animals to graze on the septic field. Heavy animals are likely to damage the drainfield by compressing the soil and possibly by damaging buried piping. Compressing the soil over a septic drainfield interferes with soil transpiration, cutting the oxygen level needed by soil bacteria in the biomat and reducing removal of septic effluent through evaporation.

5. Keep driveway, parked vehicles, farm equipment and buildings off the drainfield area. Soil compaction can cause premature failure by restricting the infiltrative and evaporative capability of the soil.

6. Install water-conserving devices where possible. Low flush toilets and shower heads are commonly available. Install low usage water fixtures. Examples are showerheads (2.5 gallons/minute), toilets (1.6 gallons), dishwashers (5.3 gallons), and washing machines (14 gallons). By installing fixtures such as these, the average family can **reduce the amount of water** entering the septic system **by 20,000 gallons per year!**

7. Do not flush the following as it may plug the sewer lines, baffles and drainfield perforations, lodge in the pump or destroy the bacteria:

Sanitary napkins & tampons, condoms, cotton swabs, dental floss, handi-wipes, infant wipes, disposable diapers, pop-off toilet wands scrubbers, bandages, coffee grounds, paper towels, cigarette butts, anti-bacterial soaps, hard toilet paper, dead fish or small animals and cat litter

8. Do not dispose of the following through the septic system. These chemicals may kill septic tank bacteria. This can result in a severe decline in decomposition of the septic tank solids. It can take several weeks for the bacteria in the septic tank to re-establish:

Antibiotics, other medicines, disinfectants, painting products, gasoline, oil, degreasers and pesticides

9. Clear water discharges - humidifier and water softener discharges are considered clear water, which may be disposed into the ground separate from the septic system. Discharge from the softener during the recharge cycle is salt brine which, in excessive amounts, could have an adverse affect on septic system bacteria.

10. Surface drainage from roof downspouts, driveway runoff and road ditches should be directed away from the septic system. The finished grade over the septic system should divert surface drainage of water away from the tanks and drainfield.

WHAT IS THE POWTS MAINTENANCE PROGRAM?

This program requires property owners to have their holding tanks pumped when full or their septic tank systems maintained at least once every 3 years by having a plumber, pumper, or other licensed professional visually inspect the system to determine the condition of the septic tank and if pumping is needed. Upon completion of any inspection and/or pumping, the inspection report must be submitted to the Sanitation & Zoning Department. **Reports must be submitted within 30 days of completion.**

If maintenance is not reported on time, the Sanitation & Zoning Department will notify the property owner that the legally required maintenance of the septic tank system is due and that the POWTS code requirements have not been met. Maintenance requirements will not be satisfied (and code violations will be in effect) until Crawford County receives the required completed inspection report from the POWTS professional.

Maintenance of holding tank systems involves having a Certified Pumper empty your tank each time it fills. (NOTE: It is **NOT** legal for property owners to empty their own holding tanks or to discharge any wastes, including “gray water” — that is, water from laundry, sinks, showers, and so on — onto or into the ground. A visual inspection will determine whether any sewage or wastewater is leaking onto the ground, will check the condition of the tank, and will verify that aboveground tank covers are properly locked or secured for health and safety reasons. It is the property owner’s responsibility to be sure that covers remain in place and locked or secured to prevent unauthorized access. Pumpers must report missing locks to the County. The date, number of gallons pumped, and name of the pumper must be reported to the Sanitation & Zoning Department on the **annual holding tank pumping report. The holding tank servicing reports are due annually on December 31.**

The purpose of this expanded maintenance program is to protect public health and our natural resources. It is not intended to force every property owner to upgrade or replace their private septic system. However, if an inspection report identifies a defective septic tank or any sewage discharging onto the surface of the ground, the County must then require the owner to repair or replace the system.

WHO CAN INSPECT, MAINTAIN, OR SERVICE MY SEPTIC TANK OR HOLDING TANK?

For **septic tank systems**, the following are acceptable licensed or certified professionals:

- Master Plumber • Journeyman Plumber • POWTS Inspector • POWTS Maintainer • Certified Septage Servicing Operator (Certified Pumper)

For **holding tank systems**, the following are acceptable professionals:

- Certified Septage Servicing Operator (Certified Pumper)

Visit <https://www.crawfordcountywi.gov/departments/lcpz/Sanitation> to find contact lists of local Plumbers, Certified Pumpers, POWTS Maintainers, and other licensed professionals.

Frequently Asked Questions (FAQs)

Q. What is a POWTS?

POWTS is an acronym for Private Onsite Wastewater Treatment System, commonly referred to as a “septic system.” The term *POWTS* refers to all types of private sewage systems, including conventional, at-grade, mound, holding tank, and other types of systems.

Q. I don't have any idea what type of POWTS I have or where it is located. What should I do?

If your POWTS was installed after July 1, 1969, the Sanitation & Zoning Department may have a permit record that could provide some helpful information. If there is not a permit record for your system, you should contact a POWTS professional and request assistance in locating and identifying your POWTS.

Q. What is the objective of the POWTS Maintenance Program?

The maintenance program is intended to ensure that all POWTS are functioning properly and to protect our ground and surface water, in the interest of public and environmental health.

Q. How will I know that it's time to maintain my POWTS?

If maintenance has not already been reported by a licensed professional to the County, the Crawford County Sanitation & Zoning Department will mail a letter to you (or to the property owner if you are not the owner) reminding you that maintenance is due.

Q. Do I need to wait until I receive a notice from the Crawford County Sanitation & Zoning Department to have my POWTS maintained?

No. You may choose to have your POWTS maintained at any time before receiving a reminder notice from the County. If your maintainer reports this maintenance, your due date will be reset from that date. If you always maintain and report before the due date, it is possible that you will never receive a notice from the County.

Q. I have received a notice from the County but my tanks were pumped recently. Do I need to pay a professional to do this again?

Notices you receive from the Sanitation & Zoning Department are based on the date the last maintenance report was received, so it's possible that your POWTS professional has simply not reported the recent maintenance yet. If you have a:

- **Septic tank system** and maintenance was completed within the last 3 years, you should contact the POWTS professional and request that they submit a maintenance report. When the report is received, your next due date will be reset to be 3 years from the latest maintenance date.
- **Holding tank system**, it commonly requires pumping on a frequent basis. The date, number of gallons pumped, and name of the pumper must be reported to the Sanitation & Zoning Department on the annual holding tank pumping report. **The holding tank servicing reports are due annually on December 31.**
- **Pre-treatment systems** commonly require maintenance every 6–12 months. If you believe that maintenance was completed at the interval required, you should contact your POWTS Maintainer and request that they submit a maintenance report to the Crawford County Sanitation & Zoning Department.

Q. I have a seasonal dwelling (or other building) that is only occupied occasionally. Do I still need to maintain and report on my septic tank system every 3 years?

Yes. Inspection is required every 3 years; however, if the system has had very limited use, it's quite possible that pumping will not be needed that frequently. When contacting a POWTS professional for maintenance, you may explain that this is a seasonal dwelling and request that they determine whether pumping is needed at this time.

Q. Do I still need to maintain and report on my POWTS if it is in a vacant building?

If the building is vacant (this means no occupancy at all, it does not mean limited or low usage), you should contact the Sanitation & Zoning Department to discuss this.

Q. What if an inspection finds a problem with my POWTS?

If a maintenance report identifies a problem (such as a missing lock, defective tank, or discharge of sewage to the ground surface), the Sanitation & Zoning Department will contact you to explain how to resolve the problem and to establish a timetable for doing so.

Q. I know my POWTS discharges sewage to the ground. Do still I need to pay someone to inspect it?

A POWTS that discharges to the ground surface is a failing system. You would not be required to have the system maintained if you hire a POWTS professional (such as a Certified Soil Tester or Master Plumber) to start the process of obtaining a sanitary permit and installing a replacement POWTS. It is important, however, that you **notify the Sanitation & Zoning Department** that you have started this process and then keep them informed of your replacement progress.

Q. What if I can't afford to replace my failing POWTS?

There are currently a few sources which are designed to provide financial assistance for low-income property owners. The Sanitation & Zoning Department can also provide information about other sources of financial assistance.

Q. I have received a POWTS Maintenance Program letter from the County, but don't believe there is a POWTS on my property. What should I do?

You should contact the Sanitation & Zoning Department to discuss this. You can reach them via phone at 608-326-0294 or schedule an appointment to speak with someone in person at the office located at 225 N. Beaumont Rd., Suite 233, Prairie du Chien. If the Sanitation & Zoning Department confirms that there is no POWTS on your property, you will be removed from the maintenance program.

Additional Resources:

Crawford County Sanitation: <https://www.crawfordcountywi.gov/departments/lcpz/Sanitation>

EPA (US Environmental Protection Agency) <https://www.epa.gov/septic>

DSPS (Department of Safety & Professional Services):
<https://dsps.wi.gov/Pages/Programs/POWTS/Default.aspx>

WI DNR: <https://dnr.wisconsin.gov/topic/Wastewater/NonDomestic.html>