

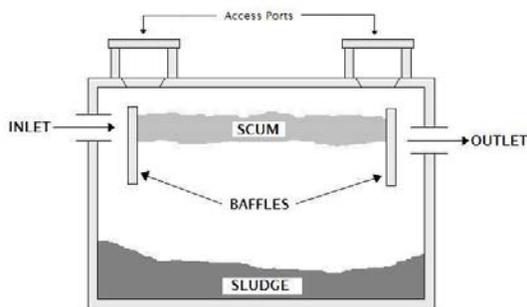
## Care & Maintenance for Household Sewage Treatment Systems

### What is a Household Sewage Treatment System?

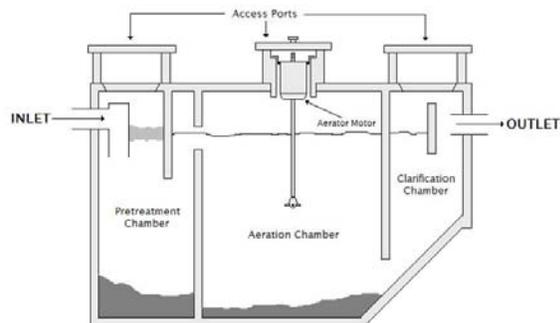
A household sewage treatment system (HSTS), often incorrectly referred to as a “septic system,” is a system that serves a private residence, in an unsewered area, using biological, chemical, or mechanical methods to treat liquid and solid human waste materials.

### How does a HSTS work?

There are two types of primary treatment for an HSTS – septic tanks and aeration units. The septic tank is designed to separate the solids from the liquids in the wastewater that leaves your home. The solids collect on the bottom of the septic tank and the grease and scum rise to the top, between two or more baffles. The liquid passes around these baffles and through the septic tank for further treatment in an absorption field. Primary treatment using an aeration unit breaks down and treats sewage through the use of aerobic bacteria, which thrive on oxygen pumped into the tank by an electric motor.

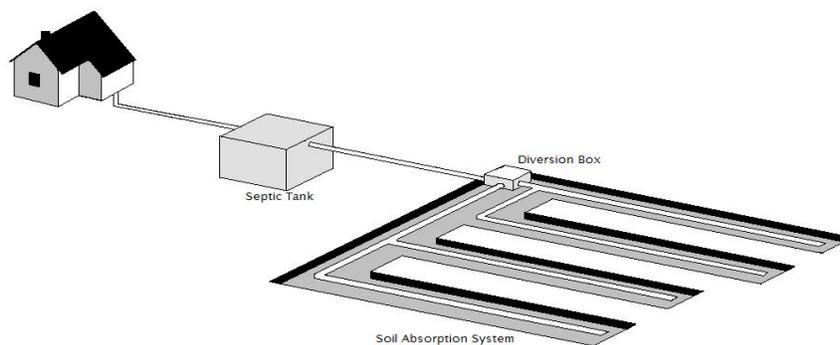


\* Cross-section of a typical Septic Tank \*



\* Cross-section of an Aeration Treatment Unit \*

There are generally two types of HSTSs – on-site and off-site. On-site systems vary by design, but the main goal is to keep all wastewater generated at the site confined to that particular site. Soil absorption fields are utilized as the final treatment and disposal components, and may be preceded by either a septic or aeration tank, depending on the soil characteristics. Off-site systems typically consist of an aeration unit, followed by a continuous disinfection system, and discharge “off-site” to a nearby lake, stream, or ditch. These off-site systems may only be installed when an on-site system is not feasible, and generally require special approval and permits from the Ohio E.P.A.



\* Example On-Site Household Sewage Treatment System \*

## Why is it important to keep my HSTS functioning properly?

Just like an automobile, HSTSs require routine care and maintenance to provide optimal performance. The life expectancy for properly functioning HSTSs in Ohio is 12 to 20 years. Proper care and maintenance can prolong the life of your system and save you money. Replacing a failed system can cost thousands of dollars. A properly functioning HSTS also assists in protecting water quality. Malfunctioning or failing HSTSs discharge untreated sewage, which can pollute drinking water sources, create disease-producing conditions, and provide a flow of excess nutrients into a waterway. This flow of nutrients can upset the natural balance of lakes and streams resulting in algal blooms (including toxic algae), decreased oxygen, and fish kills.

## Tips on proper care and maintenance of your HSTS:

### Do:

- **Do** know the location of your system.
- **Do** inspect your system semi-annually.
- **Do** have your septic tank(s) pumped when the depth of solids (scum and sludge) is equal to half the depth of the tank, or every three to five years – whichever comes first.
- **Do** conserve water use in the home. Using more water than the soil can absorb is the most common reason for HSTS failure. Install low flow fixtures, fix leaky plumbing, and spread laundry washes throughout the week.
- **Do** maintain good grass cover over your HSTS.
- **Do** alternate split field systems every 12 months to allow one side of the field to rest.
- **Do** use your garbage disposal with discretion. They are not often recommended for homes with HSTSs because their waste is not easily broken down by bacteria.
- **Do** divert rainwater from roofs, driveways, and other impervious surfaces away from the soil absorption field so the system is not overloaded.
- **Do** keep aeration systems operating continuously for effective wastewater treatment.
- **Do** replace missing or deteriorated baffles.

### Don't:

- **Don't** wait for the system to fail before pumping the septic tank.
- **Don't** dump items that do not decompose quickly down the drain, such as coffee grounds, disposable diapers, cigarette butts, sanitary napkins, bones, and cooking fats. These could clog the system and cause the system to malfunction or fail.
- **Don't** overuse household chemicals. Some chemicals may harm or kill bacteria which help break down sewage. It is best to use low-sudsing biodegradable detergents and oxygen-based bleaches.
- **Don't** build any type of structure over any part of the HSTS.
- **Don't** drive or park over your HSTS.
- **Don't** allow water softener backwash to enter the HSTS.
- **Don't** plant trees around your system without consulting your local health department. Tree roots may cause the system to malfunction by interfering with pipes and filter lines.
- **Don't** enter a septic tank. Repairs and maintenance should be made from outside of the tank.
- **Don't** alternate split field systems to shorter intervals than once per year.

If an individual feels that a failing HSTS is creating a public health, a written complaint can be submitted to the local health department.

### **Trouble signs of HSTS malfunction or failure include:**

- Temporary backing up of sewage, especially at floor drains.
- Any unusual odors.
- Discharging off-color and/or odorous sewage.

Wet spots on the lawn or greener than average plant growth over the system may also indicate a failing or malfunctioning HSTS, depending on the type of system. If you experience any of these problems, contact your local health department for a HSTS inspection. They can recommend proper corrective measures.

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