F.Y.I. (For Your Information)
Home aeration sewage system info

County operational permit inspection program for home aeration sewage systems runs annually from January 1 – December 31
Initial inspection $35, Reinspections $35 each, Late penalty fee 25%

Aeration Maintenance Contract FAQs (Frequently Asked Questions)

1. What is an aeration maintenance contract?
   - It is an agreement with an aeration contractor to inspect, maintain, and service your aeration system for an annual fee.

2. What do aeration maintenance contractors do?
   - At least twice per year they inspect your aeration system to check its operation, make any necessary lubrication, make any adjustments to the blower/timer/skimmer, report to you about the system, and file necessary paperwork with the Health Dept.

3. Isn’t the Health Dept. like an aeration maintenance contractor?
   - No. The Health Dept. only inspects and reports on the system once per year and they do not provide maintenance service or repair to the aeration system. The Health Dept. sends an order to repair to the owner if the system is not working, and then the owner needs to find someone to fix the system.

4. If you have a maintenance contract do you also have to get a Health Dept. inspection?
   - No. If you have a valid maintenance contract with an aeration contractor registered with the County, you are exempt from a County aeration inspection and County aeration fee.

5. What is the advantage of a maintenance contract?
   - Your system is monitored more often to attempt to prevent major breakdowns from occurring, the system receives basic maintenance/adjustments during inspections, a maintenance contractor can repair the system for you if major work needs to be done, and you are exempt from the County inspection and fee.

6. What companies provide aeration maintenance contracts?
   - See the listing on the back of this sheet.

07/01/2008
Household Aeration Sewage Treatment Systems

Important Information – See Details Below

In accordance with section 23.3 of the Sidney-Shelby County Health Department Sewage Treatment System Regulations, a reinspection fee may be assessed for each follow-up inspection required to determine compliance.

The reinspection and the reinspection fee will be waived if a registered aeration system service contractor makes the necessary repairs and proof of repair is received by the Health Department before the compliance deadline on the inspection form. The system components repaired must be reinstalled by the service contractor to qualify for reinspection exemption. A list of registered service contractors and their phone numbers is attached for your convenience.

****clip and return bottom portion************

Sidney-Shelby County Health Dept.
202 W. Poplar St.
Sidney, OH 45365
Fax: 937-498-7013   Email: sschd@odh.ohio.gov

Reinspection Fee Exemption Form

Return this form with a photocopy of the work report and/or itemized receipt from the contractor. (All repairs must be made for exemption from reinspection and fee.)

Owner Name: ___________________________ Phone: _______________

Address of Aerator: ___________________________________________

Township: _______________ Service Contractor: ___________________

Terms: Exemption form due by compliance deadline on inspection form. If this form is not received by the due date, a reinspection will be made which will result in a reinspection fee being assessed. Please contact the Health Department if circumstances exists that will make it impossible for the system to be repaired by the deadline, or you are unable to get this form turned in by the due date.

Rev. 8/23/10
1. Primary clarifier or trash trap
2. Aeration chamber
3. Final clarifier
4. Upflow sand filter (not on all systems)
   A. Baffle
   B. Airmotor/blower, air filter, and timer
   C. Air diffuser
   D. Surface skimmer
   E. Baffle or vented elbow
   F. Downflow channel
   G. Filter sand
   H. Air diffuser
   I. Chlorinator (not on all systems)
Proper Care and Maintenance of Your Home Aeration Sewage Disposal System

Prepared by The Sidney-Shelby County Health Department

(937) 498-7249

Sidney, Ohio

Sponsored by OEPA - Ohio's Nonpoint Source Pollution Program (319) and the Sidney-Shelby County Health Department

Copyright © 1999 by the Sidney-Shelby County Health Department

Introduction

As our population grows it is becoming increasingly important to protect the surface and groundwater supplies from pollution. Maintaining your home sewage treatment system will ensure that you are doing your part to protect this precious water supply.

We humans use a lot of water, and produce a lot of waste. An average family produces 350 gallons of wastewater each day! That's more than 100,000 gallons each year.

Your home aeration sewage disposal system discharges treated wastewater where you live. If the treatment is not effective, contaminated water can reenter the freshwater supply of your neighbor, or even your own.

Remember, the amount of water on the Earth is finite and it is under constant change and reused often. What we flush, we drink!

Poorly treated human waste can carry diseases such as dysentery, hepatitis A, typhoid fever, salmonella, and other intestinal diseases and parasites.

Over longer periods of ineffective treatment, water in streams, rivers and lakes can suffer from decreased oxygen levels, excessive algae growth, increased nitrates and ammonia levels, all of which can destroy the water's capacity to support aquatic life.

Improperly treated waste can cause environmental nuisances as well, causing ugly discharge areas and offensive odors, which decrease quality of life and may even depress your property value.

Regular monthly inspections and maintenance of your Home Aeration Sewage System can assure that the hundreds of thousands of gallons of wastewater discharged from our homes every year is clean and free of pollutants.
Overview of systems

There are a number of manufacturers of home effluent sewage treatment systems, but they all work on the same principle:

First, wastewater exits your home through plumbing and enters the first chamber. This chamber is called the Primary Clarifier(1). The main function here is to allow heavy solids to settle to the bottom, while grease and light solids float to the top. The relatively clear water between the floating scum at the top and the sinking sludge at the bottom flows into the second chamber.

The second chamber is called the Aeration Chamber(2). Air from outside is blown into the waste water. This provides oxygen to the bacteria that live in the system.

The bacteria breathe the oxygen (that is, what “aerobic” means) and eat the organic waste, producing harmless carbon dioxide and clear water as waste.

The air is injected in cycles, so the water has a chance to settle occasionally. Any solids in the system settle to the bottom, and the clarified water flows into the third chamber.

The third chamber is called the Final Clarifier(3). In the Final Clarifier, any remaining suspended solids settle out, and return to the Aeration Chamber as food for the aerobic bacteria.

Once the water has settled in the Final Clarifier it may be discharged directly to a surface water supply, or into a leach field, or an upflow filter.

If your system has an Upflow Filter(4), the water is piped under a bed of sand or gravel, and forced by pressure to flow up through the gravel bed. Any remaining solids in the water are trapped by the gravel, and the clarified filtered water is then discharged to the surface for natural run-off.

Your system may also have a chlorinator(1), which will provide disinfection of the discharged water as it flows over solid chlorine tablets.

---

**Inspection and Maintenance Record**

<table>
<thead>
<tr>
<th>Date</th>
<th>Lids</th>
<th>Primary Clarifier</th>
<th>Baffles</th>
<th>Diffuser</th>
<th>Filter</th>
<th>Air Filter</th>
<th>Agitator</th>
<th>Water Color</th>
<th>Skimmer</th>
<th>Uplift Filter</th>
<th>Chlorinator</th>
<th>Discharge Area</th>
<th>Pump Tank</th>
<th>Backwash Filter</th>
</tr>
</thead>
</table>

---

Page 4

**Page 5**
How to check your system's performance

Your Home Aeration System is a mechanical system, and parts can break or wear out. If you smell a bad odor around your system, the system needs to be closely inspected. If odor is especially sulfurous, a rotten egg smell, then the bacteria in the first storage chamber are not doing their job.

Listen for the motor of the air injector. It should turn on and off regularly, according to the timer switch you set. Make it a point once a while to listen for the blower running. Make sure it is turning on and off after the proper length of time.

Visually inspect the discharge location, if possible. Solids should not be exiting the system, but if so a leak may be broken, or the chambers are getting full.

Look for black or gray deposits around the discharge area. These are signs the system is not functioning properly.

Some systems have a warning light or alarm to alert you that something is wrong. In addition to these unusual observations, you should have a schedule of regular, detailed inspections.

Safety Notice

There are health and safety hazards present when working on home aeration systems. Please be cautious. If you are uncertain about your system, consult a professional.

Reducing the load on the system

Here are some tips you can use to reduce the load on your system, and allow it to function most efficiently,

- Do spread laundry throughout the week. A typical wash load uses about 40 gallons of water. Five loads of laundry in one day would pump 200 gallons of detergent-laden water into your aeration system.

- Do reduce water use in other ways. Take shorter showers, use flow restrictors on faucets and shower heads, and use low-flush toilets.

- Don't use a garbage disposal. Ground-up food solids will settle in the first chamber. If you use a garbage disposal regularly, you will fill up your chambers very quickly, and require frequent pumpings.

- Don't flush trash. Cloth and paper products other than toilet tissue, rubber and plastic items - even those labeled "flushable" - and cat litter will not break down. At best, they will fill up the chambers. At worst, they will clog the system or cause a port to break.

- Don't pour oils, poisons, pesticides, chemicals, paint or large quantities of bleach down your drain. These substances are not biodegradable, and some can even kill the good bacteria in your system, stopping the natural breakdown of other waste.
Water Efficiency at Home

It's high time that you and your family practice water efficiency - whether you live in a suburban home or a city apartment, whether you depend on your own private well or the municipal water works.

Water has always been one of Ohio's most abundant natural resources, but it's a resource we can't take for granted. To ensure an adequate supply of water for your needs today - and for the needs of future generations - we must make the most efficient use of Ohio's water resources. Here are some ways you and your family can practice water efficiency where it matters most - right in your own home.

Toilets

In many homes, 43% of daily water consumption is used to flush toilets. That's nearly half of all the water used in a typical household. A standard toilet uses more than 5 gallons of water for each flush, but you can easily reduce that to 3 1/2 gallons or less. You can even install one of the newer low-consumption toilets, designed to use as little as 1.6 gallons at a time.

To reduce water usage in an existing toilet, fill a gallon plastic jug with water and place it into the tank (add some gravel to the jug to weigh it down). Don't use a brick, it could deteriorate and crack the tank! And don't use the toilet as a trash can. You waste gallons of water every time you flush just to dispose of such things as tissues, diapers - or spiders.

Showers

Showers are the second biggest water-waster in our homes, pouring out 5 to 10 gallons per minute. The average shower can use as much as 200 gallons of precious water. Reduce that waste by keeping shower time under 5 minutes and replacing the showerhead with a low-flow model.

You'll reduce water used for showering by as much as 50% and save nearly a fifth of all the water used in your household. Bathing is usually more water-efficient than showering, especially if you fill the tub just halfway (about 30 gallons). If you have small children, consider bathing them together, instead of one at a time.

Bathroom and Kitchen Sinks

Inexpensive low-flow aerators also save water in bathroom and kitchen sinks. A single indoor faucet without a low-flow aerator can pour out 2 to 8 gallons a minute. Other tips: Fill the sink with water, rather than letting the water run whenever you clean vegetables and fruits, shave, brush your teeth, wash and so forth.

Need a drink of cool water? Rather than letting the faucet run for a minute, keep some cold water in the refrigerator. Consider not using your in-sink garbage disposer, it's a big water guzzler.

Repairing a dripping faucet saves water - and money, since the repair can quickly pay for itself. Leaks can account for as much as 20% of an average household's water use. Even the smallest drip can add up to a significant loss of water (and energy, if a hot water faucet is leaking). A leaking toilet can waste up to 200 gallons a day. You can detect a toilet by adding a few drops of food coloring to water in the tank. If colored water shows up in the bowl, without flushing, a leak is present.

Dishwasher and Washing Machines

If a water-using appliance has a level/load switch, make sure your family knows how to use it appropriately. Washing machines and automatic dishwashers can account for about 20% of your household weekly water needs: 30 gallons for each load of laundry and 17 gallons for each load of dishes. Consolidate loads as often as possible. When it's time to purchase a new appliance, make water-efficiency a top consideration.

Lawns and Gardens

Your family can practice water-efficiency out of doors as well. During the hot, dry summer months, frequent water of lawns and gardens can more than double the normal household's water usage. You'll conserve water resources by watering lawns and garden plants early in the day, before 10 a.m., to reduce evaporation and sun scalding. Lawns should be watered once a week with no more than 1" of water applied.

The ODNR Division of Water's Fact Sheet: Water Efficiency in Your Own Back Yard offers detailed information and tips to help you conserve water when caring for your lawn and garden plants.

Private Wells

If you're among the many Ohioans who depend upon private wells for their household water needs, consult the ODNR Division of Water's Fact Sheet: Private Wells - Solutions to Common Problems.

For additional information on water efficiency and the conservation of Ohio's water resources, contact:

The Ohio Department of Natural Resources
Division of Water
Fountain Square
Columbus, OH 43224-1360
(614)265-6717
How Aerobic Treatment Works

Aerobic systems treat wastewater using natural processes that require oxygen. Aerobic treatment involves oxygen-exchange environments where microorganisms break down solid waste. These systems are effective in treating wastewater, as they use aerobic bacteria to break down organic matter.

**Pretreatment**

Some aerobic systems include a pretreatment step to reduce the amount of solids entering the system. This reduces the load on the aerobic unit and improves the overall performance of the system.

**Aerobic Treatment Units**

The main function of the aerobic unit is to treat and reduce the household wastewater, which includes all water from toilets, sinks, showers, and laundries. Aerobic units typically consist of a reactor, a settling compartment, and a gas vent.

**Aerobic Systems**

Aerobic systems use a combination of natural processes and aerobic bacteria to break down organic matter in wastewater. These systems are effective in treating wastewater and are environmentally friendly.

**How Aerobic Treatment Works**

The process begins with the input of wastewater from various sources such as toilets, sinks, showers, and laundries. The wastewater enters the aerobic reactor, where aerobic bacteria break down the organic matter. The process is further enhanced by the addition of oxygen, which can be supplied by aeration or by the natural oxygen in the air.

**Attached Growth Units**

Attached growth units are a common type of aerobic treatment system. These units use a variety of aerobic bacteria that attach onto a solid surface, such as a plastic or concrete block. These bacteria then break down the organic matter in the wastewater.

**Suspended Growth Units**

Suspended growth units are another type of aerobic treatment system. These units use aerobic bacteria that are suspended in the wastewater. The bacteria attach to a solid surface, such as a plastic or concrete block, where they break down the organic matter in the wastewater.

**Figure 1**

An example of a possible aerobic treatment unit, adapted with permission from Florida State University, College of Agricultural and Environmental Sciences.

**Figure 2**

Another example of a possible aerobic treatment unit, adapted with permission from Florida State University, College of Agricultural and Environmental Sciences.

**Aerobic Treatment Units (Continued)**

Although properly operated and maintained aerobic units are very effective, the wastewater leaving the units is not fully treated and may require additional treatment to meet local and national regulations.

**Final Treatment and Disposal**

After the wastewater has been treated in the aerobic reactor, it is moved to a settling compartment where the settled sludge is separated from the treated wastewater. The settled sludge is then disposed of in a manner that meets local regulations.

**Design Considerations**

Mast aerobic units have controls that can be activated on and off by the homeowner. condominiums, mobile homes, and other institutional facilities may require some type of controls and alarms, and alarms can be located inside or outside the home.
AEROBIC SYSTEM DO's AND DON'Ts

DO's

- Do maintain your system regularly to ensure it operates efficiently.
- Do keep records of maintenance and repairs performed on your system.
- Do install a water meter to monitor water usage and prevent waste.

DON'Ts

- Don't allow anyone to pump or clean the septic tank without proper authorization.
- Don't add chemicals or hazardous materials directly to the septic tank.
- Don't allow tree roots to grow into the distribution lines or leach line area.

AERODIC SYSTEM Maintenance

How much does aerobic treatment cost?

The cost of aerobic treatment varies depending on factors such as:

- Size of the system
- Location of the installation
- Maintenance requirements
- Local regulations

The cost is generally higher than traditional septic systems due to the added complexity and maintenance requirements.

Q&A

With the first visit, the maintenance service contract should be reviewed with the homeowner.

The maintenance contract should include:

- Two service visits per year.
- A review of the system's performance.
- A reminder to clean the filters and maintain the system.

The homeowner should be informed of any issues and how to address them.

AEROBIC SYSTEMS

Aerobic System Maintenance

It is important that aerobic systems receive regular inspection and maintenance. For example, air compressors sometimes need to be oiled, filters, and small parts may need to be replaced. Malfunctions can occur during the first few months after installation. In most cases, homeowners do not have the expertise to inspect, repair, or maintain their systems.

If the system is not maintained properly, it can cause:

- Odor issues
- Leaking
- Flooding
- Septic issues

It is important to follow the manufacturer's recommendations and local regulations.

During a typical visit, the service provider will review the system's performance, check for any issues, and provide recommendations for future maintenance.

The soil absorption field and filters should be checked regularly to ensure proper functioning.

Aerobic Systems

With the first visit, the maintenance service contract should be reviewed with the homeowner.

The maintenance contract should include:

- Two service visits per year.
- A review of the system's performance.
- A reminder to clean the filters and maintain the system.

The homeowner should be informed of any issues and how to address them.

AEROBIC SYSTEMS

Aerobic System Maintenance

How much does aerobic treatment cost?

The cost of aerobic treatment varies depending on factors such as:

- Size of the system
- Location of the installation
- Maintenance requirements
- Local regulations

The cost is generally higher than traditional septic systems due to the added complexity and maintenance requirements.

Q&A

With the first visit, the maintenance service contract should be reviewed with the homeowner.

The maintenance contract should include:

- Two service visits per year.
- A review of the system's performance.
- A reminder to clean the filters and maintain the system.

The homeowner should be informed of any issues and how to address them.

AERODIC SYSTEMS

Aerobic System Maintenance

It is important that aerobic systems receive regular inspection and maintenance. For example, air compressors sometimes need to be oiled, filters, and small parts may need to be replaced. Malfunctions can occur during the first few months after installation. In most cases, homeowners do not have the expertise to inspect, repair, or maintain their systems.

If the system is not maintained properly, it can cause:

- Odor issues
- Leaking
- Flooding
- Septic issues

It is important to follow the manufacturer's recommendations and local regulations.

During a typical visit, the service provider will review the system's performance, check for any issues, and provide recommendations for future maintenance.

The soil absorption field and filters should be checked regularly to ensure proper functioning.

AERODIC SYSTEMS

Aerobic System Maintenance

How much does aerobic treatment cost?

The cost of aerobic treatment varies depending on factors such as:

- Size of the system
- Location of the installation
- Maintenance requirements
- Local regulations

The cost is generally higher than traditional septic systems due to the added complexity and maintenance requirements.

Q&A

With the first visit, the maintenance service contract should be reviewed with the homeowner.

The maintenance contract should include:

- Two service visits per year.
- A review of the system's performance.
- A reminder to clean the filters and maintain the system.

The homeowner should be informed of any issues and how to address them.

AERODIC SYSTEMS

Aerobic System Maintenance

It is important that aerobic systems receive regular inspection and maintenance. For example, air compressors sometimes need to be oiled, filters, and small parts may need to be replaced. Malfunctions can occur during the first few months after installation. In most cases, homeowners do not have the expertise to inspect, repair, or maintain their systems.

If the system is not maintained properly, it can cause:

- Odor issues
- Leaking
- Flooding
- Septic issues

It is important to follow the manufacturer's recommendations and local regulations.

During a typical visit, the service provider will review the system's performance, check for any issues, and provide recommendations for future maintenance.

The soil absorption field and filters should be checked regularly to ensure proper functioning.

AERODIC SYSTEMS

Aerobic System Maintenance

How much does aerobic treatment cost?

The cost of aerobic treatment varies depending on factors such as:

- Size of the system
- Location of the installation
- Maintenance requirements
- Local regulations

The cost is generally higher than traditional septic systems due to the added complexity and maintenance requirements.

Q&A

With the first visit, the maintenance service contract should be reviewed with the homeowner.

The maintenance contract should include:

- Two service visits per year.
- A review of the system's performance.
- A reminder to clean the filters and maintain the system.

The homeowner should be informed of any issues and how to address them.

AERODIC SYSTEMS

Aerobic System Maintenance

It is important that aerobic systems receive regular inspection and maintenance. For example, air compressors sometimes need to be oiled, filters, and small parts may need to be replaced. Malfunctions can occur during the first few months after installation. In most cases, homeowners do not have the expertise to inspect, repair, or maintain their systems.

If the system is not maintained properly, it can cause:

- Odor issues
- Leaking
- Flooding
- Septic issues

It is important to follow the manufacturer's recommendations and local regulations.

During a typical visit, the service provider will review the system's performance, check for any issues, and provide recommendations for future maintenance.

The soil absorption field and filters should be checked regularly to ensure proper functioning.

AERODIC SYSTEMS

Aerobic System Maintenance

How much does aerobic treatment cost?

The cost of aerobic treatment varies depending on factors such as:

- Size of the system
- Location of the installation
- Maintenance requirements
- Local regulations

The cost is generally higher than traditional septic systems due to the added complexity and maintenance requirements.

Q&A

With the first visit, the maintenance service contract should be reviewed with the homeowner.

The maintenance contract should include:

- Two service visits per year.
- A review of the system's performance.
- A reminder to clean the filters and maintain the system.

The homeowner should be informed of any issues and how to address them.

AERODIC SYSTEMS

Aerobic System Maintenance

How much does aerobic treatment cost?

The cost of aerobic treatment varies depending on factors such as:

- Size of the system
- Location of the installation
- Maintenance requirements
- Local regulations

The cost is generally higher than traditional septic systems due to the added complexity and maintenance requirements.

Q&A

With the first visit, the maintenance service contract should be reviewed with the homeowner.

The maintenance contract should include:

- Two service visits per year.
- A review of the system's performance.
- A reminder to clean the filters and maintain the system.

The homeowner should be informed of any issues and how to address them.