

## On-lot Sewage Program

Many Pennsylvanians, particularly those living in rural areas, depend on septic systems (also called on-lot systems) to treat the sewage from their home. Properly functioning on-lot systems treat, distribute and dispose of sewage through a clean, economic and efficient process.

The Pennsylvania Sewage Facilities Act (Act 537 of 1966, as amended) requires local agencies to administer a permitting program for the installation of on-lot sewage disposal systems. The purpose of this permitting program is to establish uniform standards to prevent outbreaks of public health and environmental problems from substandard or malfunctioning on-lot systems.

### Working With Your Local SEO

Your municipality locally administers the on-lot permit program. The certified Sewage Enforcement Officer (SEO) is the municipality's agent responsible for reviewing and approving permit applications and being knowledgeable about on-lot systems. The SEO is trained by the Pennsylvania Department of Environmental Protection (DEP) and certified by the State Board for Certification of Sewage Enforcement Officers. The SEO is an agent of the local agency, not DEP.

### Getting Your Permit

To obtain a permit for an on-lot sewage system the following steps must be followed:

The lot owner, or an agent for the owner, applies for a permit through the SEO. **If the lot is in or a part of a subdivision, the lot owner should first ensure that all other state, county and local planning, zoning and land use requirements have been met by checking with municipal officials.**

Should the lot be located in a newly proposed subdivision, please keep in mind that sewage planning approval of ALL proposed lots (including single or isolated parcels) must be in hand prior to offering any property for sale. Sewage Planning approval includes:

- Having the municipal SEO verify that lot slope and site conditions including soil profile examinations and percolation tests are suitable for an on-lot septic systems. ***Also, both state and local government officials must review and approve of the subdivision plan prior to any building and sewage permit applications being accepted.***
- Should the proposed lot be found to be suitable, the SEO determines which type of on-lot system will work best. If the lot has poor soils or if the slope of the site is too steep on-lot systems cannot be used. The on-lot system also must be isolated away from certain natural and man-made features. When areas of the subdivision are found to have unsuitable soils or site conditions that prevent the use of onlot septic systems, lot lines may need to be changed in order to eliminate these unsuitable areas. For this reason, it is recommended that the developer have all of the proposed lots tested for on-lot sewage before having the plot plan (survey) done. The developer should prepare a brief sketch of their subdivision plans prior to having the SEO evaluate the property.
- After soils' testing is completed, the developer should contact a registered surveyor to do the required Plot Plan.
- Also, at this time the local utility companies should be contacted to determine if any utility construction would be required to serve the developed lots.

Once soils testing is completed and the lot has received all state and local approvals (should the lot be located within a new subdivision) the Permit Applicant should obtain the services of a sewage system designer to lay out and plan the septic system in accordance with state regulations. The system designer must consider the site conditions, limiting zone, percolation test results, and the number of bedrooms proposed in the home when designing the system.

The local agency must approve or deny the application in seven (7) working days once the application package, including the system design, is submitted to the SEO. Once approved, the Permit is valid for a three (3) year period. Should the permit expire, a new application must be applied for, however the original soils testing may still be used for the new permit application if the soil conditions of the test site have not been altered.

## Observing the Installation

When you have the permit (which is valid for three years), you are ready for the installation of your system. Be sure to hire a reputable contractor because the best designed system can malfunction if not properly installed. Get written bids from potential contractors, ask for a list of references, and ask associations and your local SEO if they know these contractors. You, too, should review the construction design and be somewhat aware of the proper procedures and observe the contractor's activities. Ask your local SEO for information about proper installation procedures.



Once the on-lot system is installed, the homeowner is responsible for following proper operating and maintenance procedures to prevent malfunctions and ensure long-term use of the system.

## Investigate Before You Invest

Planning to buy a vacant lot that needs to have an on-lot sewage disposal system installed? Be sure to investigate before you buy. Among other precautions, find out if:

- all state, county and local subdivision requirements, such as sewage planning, have been met and approved.
- all permit requirements, such as zoning and building, can be met.
- the lot you are considering qualifies for an on-lot sewage disposal system permit from the local sewage enforcement officer. (The buyer needs to be aware that a subdivision approval does not guarantee that each lot in the subdivision will qualify for a sewage permit. The buyer may want to require the seller to obtain a sewage permit first as a condition of the sale.)

If you have any questions or doubts about the required permits or subdivision approvals for the lot you are considering, contact the local government officials where the lot is located, including the local certified sewage enforcement officer.

### For Additional Information Contact:

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**426 W. Theresia Road  
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## Obtaining a Septic System Permit

Anyone who intends to install a septic system must use the following generalized process:

### Site Investigation & Deep Soil Probe Test

The first test on the site is a site evaluation and a deep soil probe test. As part of this site and soils investigation, the SEO will also determine if the proposed location of the system will meet certain isolation distance requirements. The sewage system is required to be specific distances (isolated) from natural and man-made features. This is done to assure long term operation of the new system and to prevent ground or surface water pollution. To attain a suitable location, the SEO may need to locate the system on a specific part of the lot. These isolation distances are:

1. Property lines, easements, or right-of-ways: **10 feet**
2. Occupied buildings, swimming pools, and driveways: **10 feet**
3. Water wells or springs: **100 feet**
4. Cisterns used as a water supply: **25 feet**
5. Water lines under pressure: **10 feet**
6. Streams, lakes, ponds, or other surface water: **50 feet**
7. Other septic systems: **5 feet**
8. Surface Drainageways, stormwater basins, and road ditches: **10 feet**
9. Natural or manmade slopes greater than 25%: **10 feet**

When conducting a soils profile test, a backhoe is used to dig a pit as deep as eight (8) feet, however depths of three to four feet are more typical. The SEO enters this pit to examine the make up of the soil (soil profile). From examining the color, texture and other physical properties of the soil the SEO will determine the suitability of the soil to place a septic system. If the soil is determined suitable for the installation of a system then a percolation test will be performed. **If the soil is determined to be unsuitable, the Application will be denied and no permit will be issued.**



To prepare a soil profile examination, the permit Applicant is responsible to have a suitable sized backhoe or excavator on site to dig the test pit(s). The size of the pit will be a maximum of 8 feet deep, and wide enough and tapered on one end so the SEO can get in and out. It is best to schedule the backhoe so that all interested parties and the SEO can be at the site at the same time.

This soils test will determine the type of septic system, if any, that can be permitted on the lot. In Pennsylvania, state regulations require a minimum of 20 inches of suitable soils material from the natural soil surface to the “limiting zone” in order to qualify as acceptable for an on-lot septic system. A “limiting zone” is any condition within the soil geology that limits or alters the downward movement of water and wastewater through the soil.

Locally, the most common soil condition that causes the denial of a permit is the formation of clay hardpans close to the surface that limit or restricts the downward movement of water. Soil particles “hold on” to harmful microbes in the sewage allowing beneficial bacteria in well drained soil to breakdown the sewage effluent before its enters this “limiting zone”. A saturated or wet soil does not allow these naturally occurring soil bacteria to renovate or clean-up sewage wastewater. When the site investigation and soil evaluations are found to be acceptable, a percolation test may only then be conducted. (Note: In some cases a minimum of 10-inches of suitable soils may be acceptable for some new alternate systems.)

### Knowing the Types of On-Lot Systems

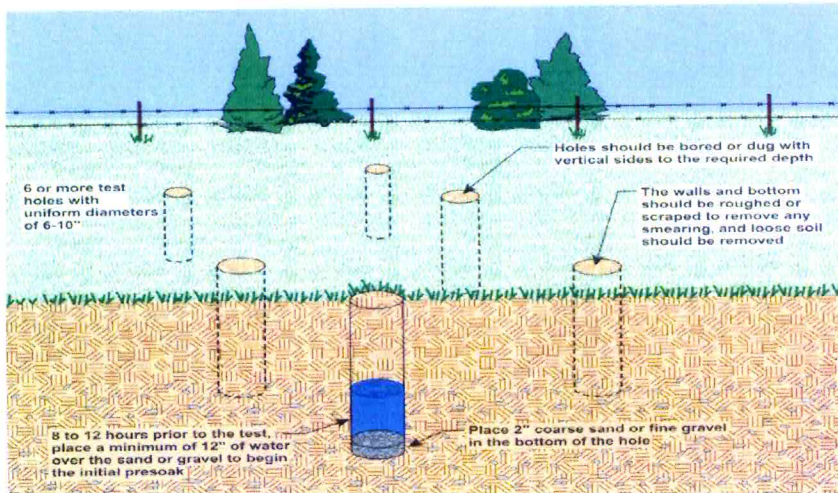
Determined by the above soils testing, there are three basic conventional on-lot systems permitted for use on residential lots. They are:

<u>Depth of Suitable Soil</u>	<u>Maximum Slope</u>	<u>Type of System Permitted</u>
Less than 10"	----	Unsuitable
10" to 20"	12%	Alternate Systems
20" to 48"	15%	Elevated Sandmounds
48" to 60"	15%	At-Grade Seepage Beds (pressurized)
60" – Plus	25%	Conventional Gravity Trenches and Beds

The type of system selected and permitted depends on the type and depth of soils identified on the lot.

## The Percolation Test

Once suitable soils are located, the percolation test is conducted to determine the area (square footage) of the soil absorption field (leech field or sandmound). A percolation ("perc") test is a crude test that measures the rate at which water moves through the soil and to determine if the soil will allow water to drain quickly enough to support a properly working septic system. The SEO will provide detailed site preparation instructions to the Applicant in preparation of the percolation test.



**The perc test cannot be run when the air temperature is below 40° F or if the soil is frozen or snow covered.**

The SEO will designate the perc hole test locations and depth. One of the perc holes must be located within 10-feet of the soil test pit that was evaluated and approved earlier.

It is the Applicants responsibility to prepare the perc holes as directed by the SEO and to have the necessary materials readily available for the SEO to conduct this test. After the holes are properly prepared, you must notify the SEO that the site is ready for testing.

## Design

If the site investigation, soil profile and percolation tests indicate that an acceptable area for the system exists, the SEO will advise the applicant in writing that the site is suitable and that the applicant needs to have a septic system designed. The system designer must consider the site condition, limiting zone, percolation test results, and the number of bedrooms proposed in the home when designing the system. Once completed, the Applicant provides two (2) copies of the design to the SEO for review.



## Choosing an Alternate System

In some cases, when a lot does not qualify for a regular on-lot disposal system, the lot owner may wish to consider an alternate system. There are several alternate methods that the Pennsylvania Department of Environmental Protection has approved over the years that may be appropriate. **Keep in mind, however, some lots just are not suitable for any type of disposal system due to site limitations, inadequate soils, high water table, or other important factors.** Also, these alternates systems are considered to be rather expensive.

## Permit

Once the site and supporting design are approved, the SEO issues the permit and the applicant may begin installing the system and building the home once zoning and building permits are approved. Should the sewage permit application be denied, the SEO notifies the applicant in writing and provides the opportunity to an appeal hearing.

The SEO can oversee any step of the installation, but must inspect the completed system before any component is covered from view. Once approved, a Sewage Permit is valid for three (3) years. Should the permit expire, a new application must be applied for, however the original soils testing may still be used to renew the application providing the condition of the test site has not been altered.

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