

London Grove Township On-Lot Sewage Management Program
Public Education Series #2:
Cesspools and Seepage Pits

A typical cesspool is a cylindrical excavation with an open bottom and walls lined with unmortared stone or concrete block. Raw sewage is discharged into the cesspool from a sewer pipe connected the building drain. Most solids accumulate in the cesspool, and the remaining liquid sewage waste is absorbed into the soil through the open bottom and porous sides of the cesspool. The diagram below shows the cross section of a typical cesspool installation.

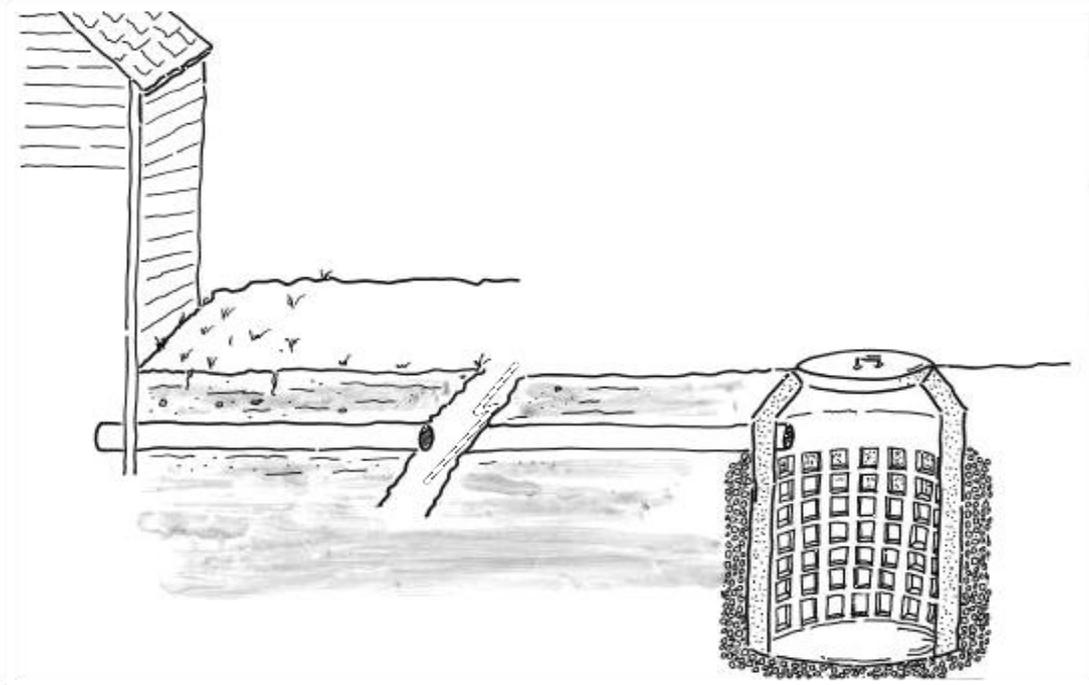


Diagram of Typical Cesspool

Cesspools were used frequently in the past, but have been prohibited for new homes in Pennsylvania for over 40 years due to a high risk for groundwater contamination. Many of the natural processes that “clean up” wastewater in a modern septic system do not occur with a cesspool.

Of particular concern is the depth where wastewater seeps into the soil. Most cesspools were constructed without regard for soil limitations which may affect groundwater quality. These limitations commonly include a high groundwater table or fractured

bedrock which may cause wastewater to flow through open channels directly to groundwater. Sewage which is discharged close to groundwater or fractured bedrock greatly increases the chance that groundwater may become contaminated. Sewage that seeps into the soil at the depths that are usually found in cesspools also does not get renovated by aerobic bacteria as much as would be the case with modern, shallower drain fields. Aerobic bacteria are naturally occurring microorganisms that live in an oxygen rich environment, and there's much more oxygen in shallow soil than there is in deeper soil.

A seepage pit is very similar to a cesspool in design, but wastewater flows first into a septic tank, and then into the seepage pit, which is a porous block or stone lined pit like a cesspool. The addition of a septic tank improves the quality of the wastewater that seeps into the ground, since septic tanks are designed to filter out solids and scum, as well as provide some microbial decomposition of sewage wastes. From an environmental standpoint, this type of sewage system is an improvement over a cesspool but still deficient with regard to current criteria. A seepage pit still has much greater potential for groundwater contamination than a modern drain field, since the wastewater seeps into the soil at depths that don't support the beneficial aerobic bacteria and which may be too close to groundwater and/or rock.

As with any existing septic system, cesspools and seepage pits are generally "grandfathered" from a regulatory standpoint. As long as sewage does not appear on the ground surface or back up into a dwelling, their use may generally continue. However, should a property served by these technologies exhibit any of these problems, repair will usually entail replacing the cesspool or seepage pit with a new sewage system that meets all current standards.

Although these designs work a little differently than more modern sewage systems, a similar level of maintenance is still required to help them last longer and minimize the threat of groundwater pollution.

Maintenance

Cesspools should be pumped out regularly to prevent excessive solids build-up and minimize clogging the soil pores in the area surrounding the cesspool. A pump-out every three years is required, consistent with general Pennsylvania standards and London Grove Township requirements for all types of on-lot sewage systems.

The septic tank for a seepage pit system should be regularly pumped out for the same reasons as any more modern septic system – the tank functions the same way.

All other maintenance recommendations for more modern sewage systems are also applicable to both cesspools and seepage pit systems, such as careful water usage, protecting the area of the sewage system from vehicular traffic, and not putting garbage or toxic chemicals down the drain. Please see other articles in this series for more detailed information about system pumping and maintenance activities.