

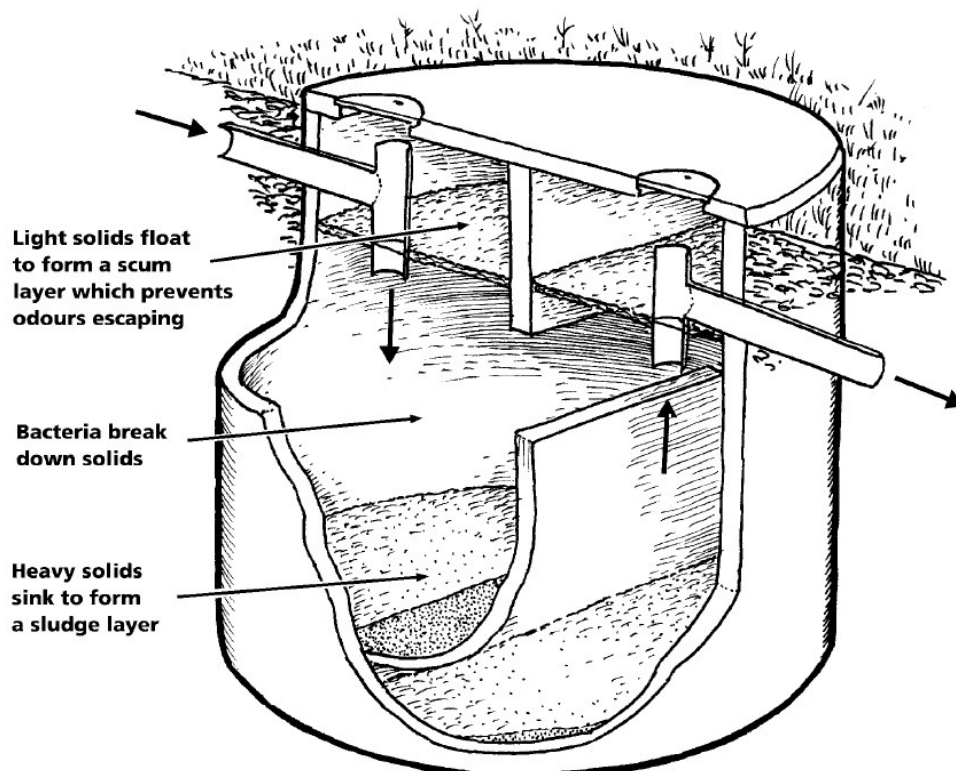
PART 4 UNDERSTANDING YOUR SEPTIC SYSTEM



Your septic system is a living ecosystem where bacteria do the work of digesting waste. Fats and solids are retained in the tank. Liquid effluent flows into the trench and is further treated by the soil.

HOW A SEPTIC TANK WORKS

A healthy septic tank is a living ecosystem where the right bugs (bacteria) thrive in the right proportions to digest waste and treat the water (effluent).



Health caution: Septic tanks do not kill pathogenic bacteria, viruses or parasites. Septic tank effluent must be treated with extreme caution and contact with people, food, clothing and pets must be prevented! Do wash your hands!!

The contents of a healthy septic tank should form 3 layers –

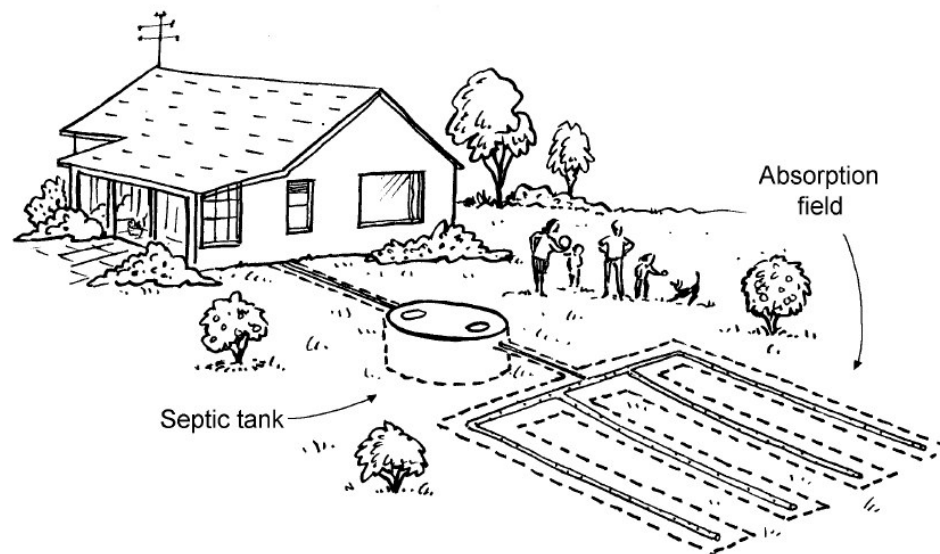
- A layer of fats (called **scum**) which floats to the surface.
- A **clear** layer (called **effluent**).
- A layer of solids (called **sludge** or **bio-solids**) which sinks to the bottom.

The scum helps prevent odours escaping and stops air entering. The treated effluent flows out of the tank through an **outlet pipe** as new wastewater enters.

In some septic systems this effluent is stored in a holding tank before being pumped out into a collection vehicle (**'pump-out' systems**), or to an off site effluent drainage area (**CED systems**) or to a municipal treatment scheme.

In most septic systems, the effluent is discharged from the septic tank directly into the soil by pipes and trenches (an **absorption field**). In areas where soil is shallow or unsuitable, special absorption fields may be constructed (eg. raised earth mounds, evapotranspiration beds, or modified earth absorption fields).

At this stage the effluent still contains large amounts of dissolved pollutants such as salts and nutrients (eg. compounds of nitrogen and phosphorus). It and also contains disease causing pathogens (eg. viruses, bacteria and worms).



In the absorption field, natural soil processes kill off more pathogens and break down some of the nutrients that cause pollution. This is a slow process, and soil bacteria need oxygen to work, so it is important not to overwhelm the soil with too much effluent. In time the effluent evaporates, is taken up by plants nearby or leaches into the groundwater zone. A hazard is created when effluent flows along surface or subsoil pathways into drainage channels, creeks or rivers.