- Volatile liquids such as petrol, acetone, methylated spirits, paraffin, etc. must never be discharged into the drainage system mainly due to their high flammability.
- Chemical discharges including cleaning agents have considerable effects on the bacterial treatment of sewage dependant upon their concentration, quantity and frequency of use. With mild detergents such as washing powders, etc. a minimum dilution factor of 50 parts water to 1 part detergent is recommended. Whilst good personal hygiene should always be maintained, disinfectants, acids, bleaches, chlorine and strong detergents must only be used where absolutely necessary.

Problems

There is a wide range of problems that can occur with non-mains drainage systems, the most common of which is the failure of soakaways.

The septic tank soakaway will not be visible and often has no means of access. A soakaway is usually formed of a rubble filled pit or a series of perforated pipes which allow the treated effluent to seep slowly into the surrounding ground. For septic tanks that do not drain to a stream/ watercourse the soakaway forms the most important part of the drainage system.

The majority of problems with septic tank soakaways will require replacement or extension of the system. It is therefore important that good advice is sought on the causes and remedies to any problem.

Replacement of Septic Tanks & Soakaways

Provision of a new or replacement septic tank or packaged sewage treatment plant may require Planning Permission, unless it is to serve a single dwelling, within the property boundary and not located between the house and the highway.

In addition Building Control approval will also be required prior to / during construction.

Further guidance on the information required when submitting a planning application for non-mains sewerage can be obtained by contacting the Environmental Protection Group at the addresses give below.

Responsibility

Responsibility for the maintenance or repair of a septic tank will normally rest with the property owners or occupiers served by the system. This responsibility will be shared equally unless more specific arrangements have been documented in the property deeds.

Further guidance on the issue of responsibility for drainage systems is given in our leaflet ‘Responsibility for Sewer Systems’.

Advice

The points raised above are by no means exhaustive and further advice on these topics or on problems experienced with these systems can be sought from our technical staff at the following addresses:

South Lakeland District Council,
Environmental Protection Group,
South Lakeland House,
Lowther Street,
Kendal LA9 4UD

Tel. 0845 0504434

Maintenance & operation of septic tanks

a guide for property owners & occupiers

South Lakeland District Council

Introduction

As the name suggests the septic tank is a storage vessel in which the decay and decomposition of sewage takes place. The tank is essentially a compact sewage treatment works and is provided where connection to the public sewer network is impractical due to distance or gradient. The purpose of the septic tank is to retain the solids present in the sewage and to discharge the liquid after treatment.

Septic tanks should not be confused with cesspits or cesspools, which provide no treatment, have no outlet and merely store the sewage until a tanker can collect it and remove it from site.

There are many different types and sizes of septic tank and each requires a different approach to maintenance. Despite this there are several general principles that should be followed for the operation and maintenance of all septic tanks.

This leaflet explains briefly how a septic tank works and how to keep them working.

The Treatment Process

The septic tank operates by storing the sewage within a vessel beneath the ground and discharging treated liquid effluent into the soil through a soakaway system (or occasionally into a nearby stream or watercourse). The separation of solids from the liquid is achieved by allowing the sewage to settle in the tank. With traditional septic tanks the longer the sewage remains in the tank the more solids are likely to settle out. Naturally occurring bacteria act on the sewage in the tank to decompose the solids. This prevents the rapid build-up of sludge within the vessel.

Modern packaged sewage treatment plants incorporate a further level of bacterial treatment on the treated sewage. The bacterial action on the liquid is increased by aeration of the effluent and most packaged sewage treatment plants will contain a motor or pump operated by an electric supply. Packaged sewage treatment plants are now becoming common in domestic situations for new multiple dwellings or where discharge is necessary to a stream or watercourse.

Maintenance

Periodically the sludge will build-up to such an extent that it needs removing. The frequency of these sludge removal visits is dependent on the use, size and type of the septic tank. As a general guide older brick or concrete structures (often fitted with rectangular metal covers) will require emptying approximately once every 2 years, whilst fibreglass tanks (often fitted with diamond shaped access covers) or pre-cast concrete cylindrical tanks will need emptying at least every 12 months. A traditional septic tank contains no mechanical parts and should not require any other regular maintenance unless problems occur.

It is a good idea when emptying brick / concrete tanks to leave the top layer of sludge within the vessel and to remove the solids from the base of the tank. This allows the bacteria to quickly re-establish when the tank fills again.

Modern packaged sewage treatment plants are likely to require more frequent emptying (at least once every 6 months). These systems will also require the servicing of any mechanical parts within the vessel. It is recommended that the manufacturers' advice be sought on the maintenance of these plants.

Most larger drainage contractors offer a septic tank emptying service and there is a wide range of companies advertising in the classified directories (such as Yellow Pages) that may also be able to carry out appropriate servicing on packaged sewage treatment plants.

Operation

The daily discharges made from a property into a septic tank or treatment plant will affect the efficiency of the system. Discharges of disinfectants and strong chemicals will kill bacteria in the tank and hence prevent the decomposition of the solids. It is therefore very important to consider the effects of cleansing products on the bacteria.

A simple list is given below to highlight measures that will improve the efficiency of a septic tank:

- Discharges of rainwater to the septic tank are not recommended. The turbulence caused by the high flows will disturb solids in the vessel and allow them to be carried out into the ground (causing the soakaway to block up). Rainwater also causes considerable dilution of the bacterial matter thereby reducing the efficiency of the tank. If possible rainwater should be drained to a surface water drain, stream or separate soakaway.
- Prevent the discharge of non-degradable matter into the tank, such as nappies, condoms, sanitary towels, etc. that will not decompose.
- Avoid all discharges of oils and cooking fats, which will congeal inside the tank and will not be digested by the bacteria. Oils entering the tank from washing up can largely be ignored.