



SEPTIC TANKS AND SOAKAWAYS TO HOUSES AND THE BUILDING REGULATIONS

Prepared by:

**Building Control Section
Planning & Transport
Angus Council**

INTRODUCTION

In rural areas where mains drainage is not available, the most popular method of providing drainage to a house is by installing a septic tank with an outfall to a watercourse or soakaway.

This guidance note provides details on septic tanks and the various methods whereby the resulting effluent can be disposed of. It also gives details on the maintenance required to septic tanks and the consents necessary to install one.

As environmental standards are raised it is becoming increasingly complex to obtain consent to install a septic tank and you are always recommended to seek professional advice from:

Angus Council, Planning & Transport Department, Building Control Section,
St. James House, St. James Road, Forfar, DD8 2ZP (01307 461460)

SEPTIC TANK

A septic tank is a chamber which is either brick built or of a proprietary glass fibre/plastic construction which provides an environment for solids to settle and possibly undergo anaerobic decomposition. The remainder of the waste which is in liquid form and is partially treated, drains from the tank and is disposed of in a variety of methods. Details of how disposal can be achieved is given later in this guidance note.

CAPACITY OF SEPTIC TANK

The minimum acceptable capacity of a septic tank is found by using the formula from BS 6297: 1983:

$$C = 2000 \text{ litres} + 180 \text{ litres/person.}$$

The number of persons is based on the potential occupancy of the building. For example, if it is proposed to erect a four bedroomed dwellinghouse and each of the bedrooms are capable of sleeping two persons, the potential occupancy of the house would be eight. In this case the minimum capacity would be:

$$\begin{aligned} C &= 2000 \text{ litres} + 180 \times 8 \\ &= 3440 \text{ litres} \end{aligned}$$

Although BS 6297: 1983 states that you should use the figure 180 litres/person as a minimum to obtain the required capacity, recent research by various bodies suggest that given the increased usage of dish washers, washing machines and provision of additional showering facilities in houses, suggest that it is beneficial to use a higher figure and secure additional capacity.

LOCATION OF SEPTIC TANK

A septic tank should be located as far as is reasonably and economically practicable from a house. Although no specific distance is quoted in the regulations, it is recommended that a septic tank be located 15 metres from the house at which distance there should be no problems. If this distance cannot be achieved you are strongly recommended to consult with Building Control before your drainage system is designed.

If the septic tank serves more than one house it should be a minimum of 25 metres from any house.

A septic tank should not be located in an area of ground that is prone to flooding.

To enable a septic tank to be emptied, an access road capable of carrying a sludge tanker needs to be available. The access road should preferably be provided to within 6 metres of the tank although a distance up to 25 metres is acceptable. If you have any doubt please contact the North of Scotland Water Authority, Bullion House, Invergowrie, Dundee, the organisation that will probably be responsible for emptying the tank.

DISPOSAL OF LIQUOR FROM A SEPTIC TANK

There are a number of methods whereby the liquid from a septic tank can be disposed of. The method of discharge will be determined by the location of the site, the availability of a

suitable watercourse to accept liquid from a septic tank, permeability of the ground and the area of the site.

The most common methods of disposal are as follows:-

Watercourse

The Scottish Environment Protection Agency (SEPA) is actively discouraging discharges to watercourses wherever possible in order to protect the aquatic environment and minimise pollution. If a discharge to a watercourse has to be considered then early discussion with SEPA is essential. If discharge is to be to a watercourse such as a ditch, burn, river or field drain, written consent from SEPA is required. You can obtain consent by completing form SWPC2 if the proposed development is for less than 4 houses (or population equivalent of less than 15). If the proposed development is for 4+ houses (or population equivalent of 15+) application form SWPC1 should be completed. If you have any queries with regards application details and fees payable you should contact:-

SEPA, 62 High Street, Arbroath, DD11 1AW
(01241 874370)

Soakaways

It is the responsibility of the Building Control Authority (Angus Council) to approve the disposal of liquid from a septic tank to a soakaway.

If SEPA are of a view that a proposed development poses a significant pollution risk, they will serve a Prohibition Notice on the applicant. A pollution risk can be construed if a soakaway is proposed close to a watercourse or underground water supply. A Prohibition Notice will normally be served on an applicant when SEPA are consulted at the planning approval stage but it can be served at any time.

Before a drainage system can be designed utilising a soakaway a test has to be carried out to determine the porosity of the ground. By determining the porosity value of the ground it will allow the area and type of soakaway to be used to be calculated.

If the porosity test for a soakaway is carried out by a person other than by a Building Control Officer, it must be designed by a Chartered Structural/Civil Engineer and must be fully in accordance with BS 6297: 1983.

The test results should contain the following information:-

- the person who carried out the test and their professional qualification;
- the date of the test;
- depth and location of test holes;
- weather on day of test;
- basic geological information from test notes;
- details of water table level;
- percolation values from each of the test holes;

- the average percolation value to be used in the calculations to determine the area of the soakaway;
- calculations demonstrating the area of the soakaway taking into account the percolation value and potential occupancy of house.

If the percolation value of the soil is less than 100 then a soakaway designed in accordance with BS 6297: 1983 is acceptable.

If the percolation value of the soil is between 100 and 140, BS 6297: 1983 states that under drains are desirable. If under drains are not to be used, the structural/civil engineer will need to provide a convincing argument as to why they are not to be used.

If under drains are to be used then they should be connected to a watercourse or ditch in accordance with Clause 15.3.3 of BS 6297: 1983. Consent from SEPA is required and should be applied for in the normal manner as outlined above.

A soakaway for septic tank effluent cannot be used if the porosity value, as determined by testing, exceeds 140. If this is the case an alternative to the disposal of the effluent from the septic tank should be sought. Alternatives include taking the effluent to a watercourse. To do this you require the consent of SEPA as discussed above.

Please note that SEPA requires a soakaway to be located a minimum of 10 and 50 metres respectively from a ditch/watercourse or a well.

The test results should be conveyed to the Building Control Section and copied to SEPA, 62 High Street, Arbroath, DD11 1AW, telephone No. 01241 874370.

Location of Soakaways from Water Mains

NoSWA require that a soakaway from a septic tank be located 12 metres from a water main up to 300mm in diameter and 20 metres where the water main exceeds 300mm in diameter. A water supply pipe to a single house does not constitute a water main. If there are water mains that are within a proposed building site or in the vicinity and a soakaway is proposed, it is strongly recommended that the applicant/agent should consult with NoSWA to seek their approval.

Mound System

A recent innovation in dealing with the liquid from a septic tank is to use a raised earth mound. This idea emanated from Holland and is normally used when there are no other alternatives. The foul water from the property normally requires to be treated to a higher standard than that provided by a septic tank and therefore, a standard septic tank is not normally used with this means of effluent disposal. An installation where secondary treatment of the effluent is carried out is normally used.

The construction of a mound requires careful consideration and approval for use would not normally be given unless specialist advice is sought. For further advice and guidance on this system it is strongly recommended that you contact the Building Control Section of Angus Council. Details of address and telephone number are given at the end of this guidance note.

DISPOSAL OF RAINWATER

Rainwater from the roof of a house and ancillary buildings cannot be taken to a septic tank.

It can be taken in a separate drain to a watercourse. This will require the consent of SEPA and you should discuss with them at an early stage your proposals in respect of rainwater disposal.

The most common method for disposing of rainwater is by a soakaway. The soakaway should be separate from the soakaway serving a septic tank and be located a minimum of five metres from any building. The design and size of the soakaway will be determined by the porosity of the ground. It is strongly recommended that you consult with Building Control with regard to the design of the soakaway, particularly if the soakaway is being located in ground with known porosity problems.

BUILDING WARRANT APPROVAL

When a Building Warrant application is submitted the following information should be provided:-

- copy of test report if not already provided;
- location, capacity and construction of the septic tank;
- location and construction of sampling chamber. The sampling chamber is required to allow SEPA to sample the liquid discharging from the septic tank to ascertain whether it poses a pollution risk or whether it is the source of a pollution problem;
- if a soakaway is to be utilised, the exact location and area of the soakaway must be shown on the submitted drawings. This should tie up with the location of the soakaway test and a copy of the engineer's calculations supporting the use of a soakaway;
- if the outfall is to discharge to a watercourse, the exact location of the outfall should be shown on the drawings submitted.

COMPLETION OF BUILDING WORKS

Before a Certificate of Completion can be issued the following requires to be undertaken:-

- the septic tank requires to be visually inspected by a Building Control Officer/Inspector before it is backfilled;
- the soakaway must be inspected by a Building Control Officer before it is backfilled to ensure that the soakaway complies with the approved drawings. Alternatively, the engineer who designed the soakaway can verify in writing that his proposals have been complied with. Failure to do any of the above will result in a Certificate of Completion **not** being issued.

MAINTENANCE OF SEPTIC TANKS

The retained sludge in a septic should be emptied at approximately yearly intervals. This can be carried out by a vacuum tanker, either by NoSWA or a private contractor.

Strong sterilising substances such as bleach should not be passed through the drainage system in large or concentrated volumes.

Owners of septic tanks should regularly carry out a routine check of the outfall from the tank to ensure solids are not being discharged to the watercourse or soakaway. If they are, there is a risk that a pollution problem is being created in a watercourse or that the soakaway will eventually become clogged, leading to a failure of the drainage system.

This guidance note is only intended to offer basic guidance on the installation of a septic tank and soakaway. It is strongly recommended that you investigate fully all matters relating to drainage where mains drainage is not available before embarking on applying for planning consent and building warrant approval. For guidance and advice please contact Angus Council and ask to speak to the Building Control Officer for the area in question.

For further information and advice contact:

**Planning & Transport Department,
Angus Council,
St. James House,
St. James Road,
FORFAR.
DD8 2ZP
Telephone (01307) 461460**