

## Introduction

Building Regulations now include Ground Soakaways or Infiltration Systems serving Septic Tanks. Regulation 3.9.1 states “an Infiltration System serving a Private Wastewater Treatment Plant, Septic Tank or for grey water should be constructed in ground suitable for the treatment and dispersion of the wastewater discharged”.

The Infiltration System or Soakaway provides the means by which the effluent is introduced into the ground for dispersal. It must be designed to allow effluent from the Septic Tank to be discharged into the ground in quantities which it is able to absorb.

Factors which influence the design of the Infiltration System are the ground percolation value i.e. the rate at which water can be absorbed by the ground, the area over which the effluent is to be discharged and the quantity of effluent likely to be discharged from the Septic Tank.

Before these factors can be determined ground investigations and tests must be carried out. A brief description of these tests is given overleaf. A full description is contained within the Technical Handbooks, Regulation 3.9.1 – assessing the suitability of the ground.

## Preliminary Ground Assessment

This assessment must be carried out within the area proposed for the Infiltration System. In carrying out the Preliminary Ground Assessment, the following factors must be considered:-

- I. Consult SEPA, the Local Authority Building Standards Officer and the Environmental Health Officer as required;
- II. SEPA’s Ground Water Protection Policy;
- III. The underlying geology;
- IV. Whether the ground is liable to flooding;
- V. The nature of the subsoil;
- VI. Implication of plot size;
- VII. The proximity of underground services;
- VIII. Site topography local drainage patterns; and
- IX. Whether water is abstracted for drinking, used in food processing or farm dairies; and
- X. Implication for and of trees and other vegetation.

The Preliminary Assessment may indicate that the ground is unsuitable for the installation of an Infiltration System and in such cases an alternative method of disposal must be considered.

## Ground Investigation and Percolation Test

It is important that these investigations and tests are carried out within the area of ground where it is proposed to locate the Infiltration System.

A trial hole must be dug to determine the depth of the water table and soil conditions. The trial hole will also enable the subsoil type to be determined. The trial hole must be a minimum of 2m deep or a minimum of 1.5m below the invert of the proposed distribution pipes. The trial hole should be left covered for a period of 48 hours before measuring any water table level. For safe and effective dispersal of effluent, the ground water below the Infiltration System must be at least 1m below the bottom of the distribution pipes. It should also be noted that it is the seasonally highest level of the water table that should be determined for the Infiltration area.

To determine the area of ground required, a Percolation Test must be carried out within the area where the proposed Infiltration System is to be located. The area chosen must be representative of the general ground conditions. The test involves the excavation of a hole 300mm square and 300mm deep below the proposed invert level of the effluent distribution pipe. The hole is filled with water and left to seep away overnight. The next day the hole is refilled and the time the water takes to seep away is recorded. This test must be carried out in at least two locations within the area proposed for the Infiltration System, the test must also be repeated three times in order to obtain consistent results.

## Design of Infiltration System

From the findings of the ground investigation and Percolation Tests the most appropriate design of Infiltration System can be determined. Where ground absorption is high it is likely that a traditional Soakaway will be appropriate, however in areas where absorption is less or the water table is high herringbone or mounded systems may be more appropriate.

The test can only be carried out by a Company or individual approved by the Orkney Islands Council, due to the specialist knowledge and experience required to evaluate the ground conditions and interpret the Percolation Tests. A list of Approved Certifiers is available and can be obtained from the Building Standards Office.

The Orkney Islands Council cannot carry out the ground investigation and Percolation Tests on your behalf.

## Certification of Design and approval of proposals

Once all information has been collated a 'Certificate for Septic Tank Discharge to Soakaway' requires to be completed and signed by the Certifier who has carried out the tests and designed the Infiltration System. The Certificate is intended to simplify acceptance of your proposals and must be accompanied by the details and location of the Infiltration System proposed.

A Building Warrant cannot be approved until this information is provided. The ground investigation and tests should therefore be carried out at an early stage in the design in order to reduce any delay in processing your Building Warrant.

## Further information

If you wish to discuss any of the matters raised in this leaflet, or require any further information, you may contact the Building Standards Office at:

The One Stop Shop  
Orkney Islands Council  
Council Offices, School Place  
KIRKWALL, Orkney  
KW15 1NY

Telephone: **01856 873535** Ext: 2729

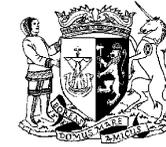
Advice and guidance is provided free of charge by a Building Standards Officer at the One Stop Shop between the hours of 9am & 5pm weekdays.

Information is also available on the Building Standards website, available as a link from the Orkney Islands Council site at [www.orkney.gov.uk](http://www.orkney.gov.uk)

Additional information on the registering of new Septic Tanks under the introduction of the Controlled Activity Regulations 2005 (CAR) can be obtained from their new leaflet. This leaflet can be obtained from their Department, SEPA or downloaded from [www.sepa.org.uk/wfd](http://www.sepa.org.uk/wfd)

## Commitment

The Building Standards Function of the Orkney Islands Council is committed to Best Value in the services which it provides.



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# INFILTRATION SYSTEMS SERVING SEPTIC TANKS

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**Council Offices, School Place**  
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**KW15 1NY**

**Information Leaflet No - 4**