

**Proposed Extension and Conversion of Holiday Letting Units**  
**at**  
**The Crickets, Hoe Lane, Flansham**

**Planning Application Summary**

PLEASE REFER TO DRAWINGS SW10 AND SW11 FOR SOAKAWAY DETAILS

Please note: the following information was accepted by Laura Gibbons for application reference Y/74/19/PL which was withdrawn in November 2019.

The soakaway size has been calculated using the methodology used by Sussex Building Control (see document attached) with an additional allowance of 40% for Climate Change.

The main house soakaway for this application has been reduced in size in accordance with the proposed reduction in roof area compared to the previous application.

The percolation test results from the adjacent site (Willows) were accepted as they were carried out within 20 metres of The Crickets.

A typical detail of the silt trap to reused is also attached to this document.

# Soakaway design

## Technical guidance

The Sussex Building Control technical guidance notes offer help and advice to homeowners who are unfamiliar with the Building Control system, Building Regulations and The Approved Documents.

They highlight areas that should be considered before you start work. If you are in any doubt about the suitability of your proposed project then you should seek advice from a professional such as a surveyor, architect or builder.

You may also wish to download a copy of our User Guide 'Extending, Converting or Improving your Home - Your Guide to Building Control' which provides clear, step by step guidance on how to make an application, how to determine the fee payable and other permissions you may require.

Other guidance can be found at [www.communities.gov.uk](http://www.communities.gov.uk) or [www.planningportal.gov.uk](http://www.planningportal.gov.uk) and we recommend that you contact the Development Control Department to find out if you need to obtain planning permission for your project.

Planning Department Horsham North Area - 01403 215165

Planning Department Horsham South Area - 01403 215190

Crawley Planning Department - 01293 438512

Soakaways are traditionally square or circular pits filled with hardcore and are suitable in good draining ground such as sand or chalk. In less porous grounds, such as clay, hollow soakaways are more suitable. These are formed in various methods – perforated concrete rings, honey combed brickwork or perforated crates.

It is important to size your soakaway appropriately to ensure efficient storage and infiltration. The following notes provide guidance on how to calculate the correct size and number for general domestic scenarios. The siting of soakaways should be 5m from buildings and boundaries.

### Step 1 - Calculation of drained area

| Type of surface                   | Effective design area         |
|-----------------------------------|-------------------------------|
| Flat roof                         | Plan area of relevant portion |
| Pitched roof at 30°               | Plan area x 1.29              |
| Pitched roof at 45°               | Plan area x 1.50              |
| Pitched roof at 60°               | Plan area x 1.87              |
| Pitched roof over 70° or any wall | Elevational area x 0.5        |

### Step 2 - Design soakaway

Assume

1. Soakaway capacity to hold maximum daily rainfall (taken as 40mm)
2. Storage depth minimum 1.0m
3. Soakaways to be honeycombed brickwork, hollow concrete rings, or storage cells

Volume required = design area x rainfall (0.040)

### Example 1

Flat roof 3m x 6.5m = 19.5m<sup>2</sup>

19.5 x 0.040 = 0.78m<sup>3</sup>

Using 1.2m diameter ring soakaway per 1m depth

$\pi r^2 \times 1.0 = \pi \times 0.6^2 = 1.13\text{m}^3$

No. of soakaways =  $0.78/1.13 = 0.7$

Therefore provide 1 soakaway 1.2m diameter minimum 1m depth below drain invert.

### Example 2

Flat roof 3m x 6.5m = 19.5m<sup>2</sup>

19.5 x 0.040 = 0.78m<sup>3</sup>

Using typical pre-formed storage cells 1.0x0.5x0.4=0.2m<sup>3</sup>

No. of cells =  $0.78/0.2 = 3.9 = 4$  no cells.

Therefore provide 1 soakaway 1.0m below invert of pipe 1.0mx1.0m with a minimum of 4 cells.

See manufactures details for lining materials and backfill.



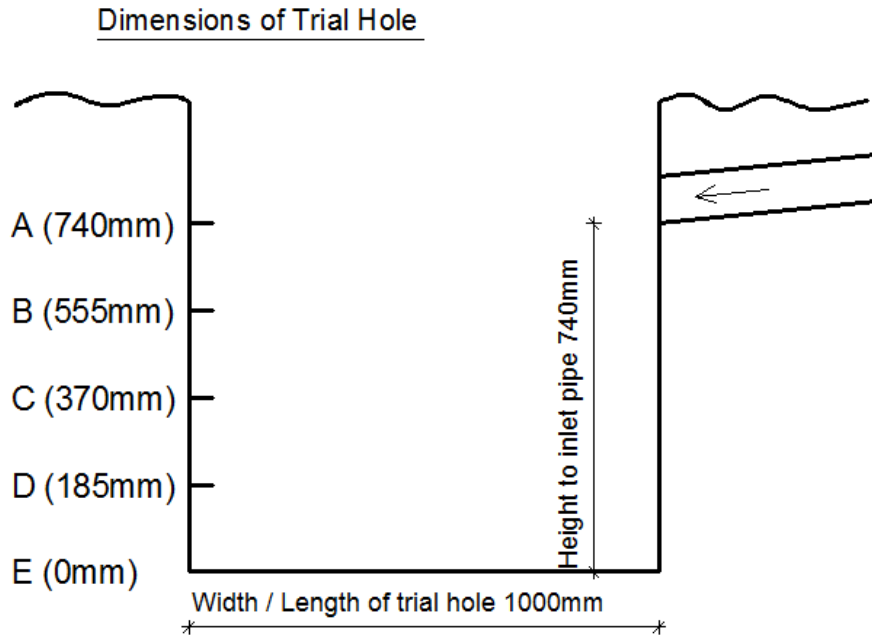
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## Willows, Hoe Lane, Flansham

### Percolation Test Results



Trial hole overall dimensions 1000mm x 1000mm x 1000mm

Depth below incoming pipe 740mm

Markers A to D at 25% incremental depths

### Percolation Test Results

Tests taken on three consecutive days from 10/10/2015 to 12/10/2015

|            | Time taken for water to fall to each marker point (minutes) |    |    |    |     |
|------------|-------------------------------------------------------------|----|----|----|-----|
|            | A                                                           | B  | C  | D  | E   |
| Test One   | 0                                                           | 10 | 22 | 50 | 137 |
| Test Two   | 0                                                           | 11 | 23 | 52 | 149 |
| Test Three | 0                                                           | 12 | 24 | 55 | 166 |

### Soil Infiltration Rate

$$f = \frac{V}{a \times t}$$

V = effective storage area from 25% (marker D) to 75% (marker B)

a = internal surface area of trial hole up to 50% depth (marker C) including the base

t = time for the water level to drop from 75% depth (marker B) to 25% depth (marker D)

$$V = (0.555 - 0.185) \times 1 \times 1 = 0.37 \times 1 = 0.37\text{m}^3$$

$$a = ((1 + 1 + 1 + 1) \times 0.37) + (1 \times 1) = 1.48 + 1 = 2.48\text{m}^2$$

$$t = 50 - 10 = 40 \text{ minutes (test one)}$$

$$t = 52 - 11 = 41 \text{ minutes (test two)}$$

$$t = 55 - 12 = 43 \text{ minutes (test three)}$$

Worst case scenario used therefore test three result taken in calculation below

$$f = 0.37 / (2.48 \times 43 \times 60)$$

$$= 0.37 / 6399$$

$$= 5.8 \times 10^{-5}$$

