

Ref: CS/C1650

Laurel Miller
Downs House
Avisford Park Road
Walberton
BN18 0AP

2nd April 2021**Re: Downs House, Avisford Park Road, Walberton – Soakaway Testing – Infiltration Test Result Summary**

Dear Laurel

The following investigation was carried out at the above location.

1. Site Works

The purpose of the investigation was to supply soakaway test data in general accordance with BRE document 365 (Soakaway Design) at one location which would be the approximate intended location for a possible infiltration device to serve a new single storey extension to an existing dwelling.

The appended drawing illustrates the position of the test pit. The BRE365 pit was excavated to a depth of 0.9m in line with the approximate depth of the proposed soakaway.

An additional pit was excavated to a depth of 1.3m deep, covered and monitored over 48 hours. The pit remained dry throughout.

The testing commenced at 09:00 on 19th March 2021 with three tests being undertaken in accordance with BRE 365.

2. BRE 365 Soakaway Test Findings

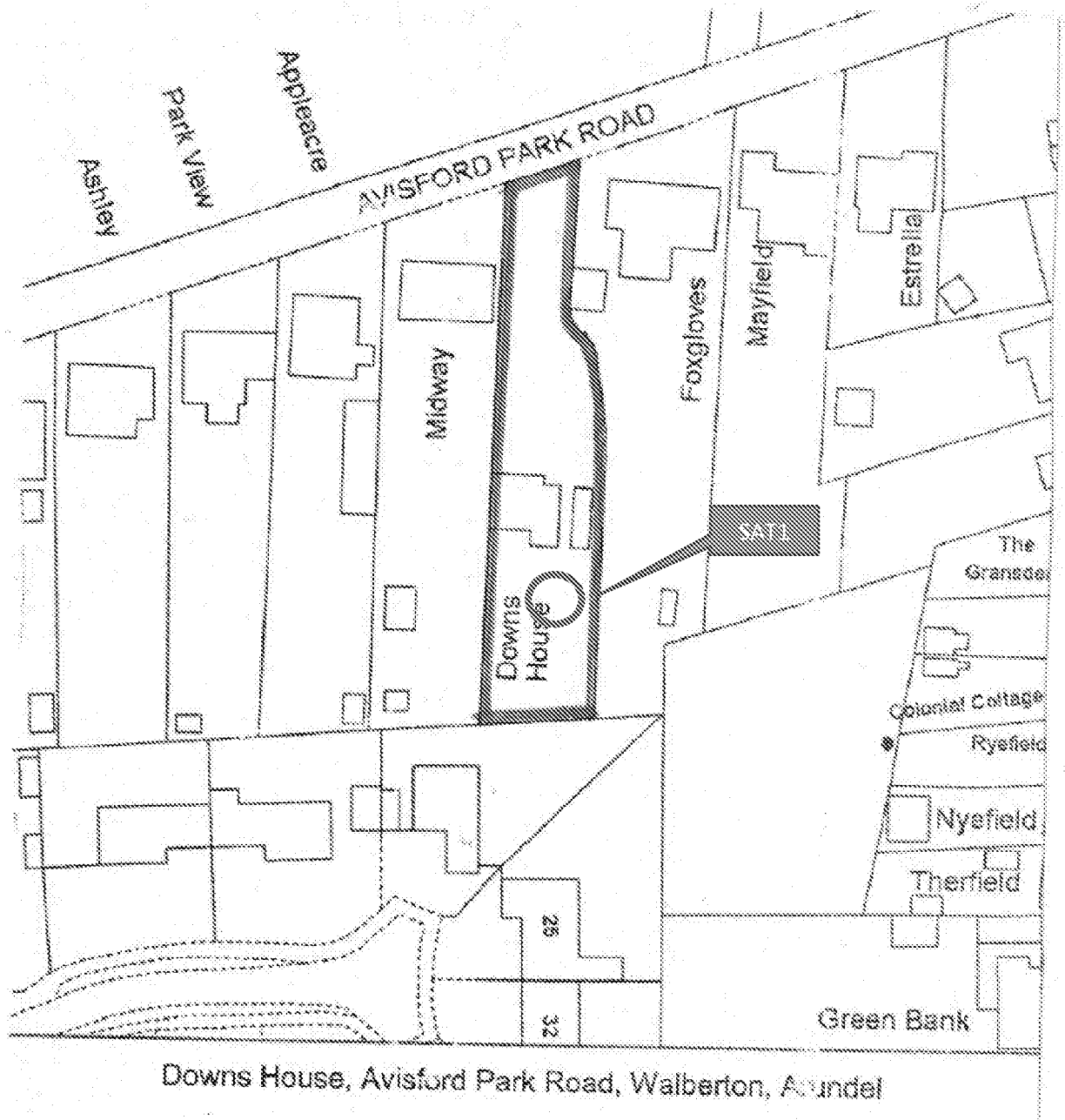
Testing of the sub soils which was noted as silty clay with large gravels produced a BRE 365 design infiltration rate of **5.88x10⁻⁵m/s** at a depth of 0.9m. This rate was the slowest taken from all three tests. This is considered a moderate rate and suitable for most infiltration devices.

3. BRE 365 Soakaway Test Results

Test Pit No	Infiltration Rate (1-3 Tests)			Depth of Test	Soil Type
SAT1	8.52x10 ⁻⁵ m/s	6.31x10 ⁻⁵ m/s	5.88x10⁻⁵m/s	0.9m	Silty clay with gravels

Richard Cobden House, Lion Street, Chichester, West Sussex, PO19 1LW

Appendix A – Soakaway Test Location Plan



Downs House, Avisford Park Road, Walberton, Arundel

Appendix B – Site Photographs





Consulting Civil Engineers

Appendix C – Soakaway Test Results

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Job: Downs House, Walberton - Test 1

Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25} = Effective storage volume between 75% and 25% effective depth

a_{p50} = Internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = The time for the water level to fall from 75% to 25% effective depth

f = Infiltration rate

Trial pit width	=	0.3
Trial pit depth	=	0.9
Trial pit length	=	1

a_{p50} =

1.32

 m/squared

t_{p75-25} =

1200

 seconds

V_{p75-25} =

0.135

 m/cubed

F =

8.52E-05



Job: Downs House, Walberton - Test 2

Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25} = Effective storage volume between 75% and 25% effective depth

a_{p50} = Internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = The time for the water level to fall from 75% to 25% effective depth

f = Infiltration rate

Trial pit width	=	0.3
Trial pit depth	=	0.9
Trial pit length	=	1

a_{p50} =

1.32

 m/squared

t_{p75-25} =

1620

 seconds

V_{p75-25} =

0.135

 m/cubed

F =

6.31E-05



Job: Downs House, Walberton - Test 3

Infiltration Calculator

$$f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$$

V_{p75-25} = Effective storage volume between 75% and 25% effective depth

a_{p50} = Internal surface area of the trial pit up to 50% effective depth and including the base area

t_{p75-25} = The time for the water level to fall from 75% to 25% effective depth

f = Infiltration rate

Trial pit width	=	0.3
Trial pit depth	=	0.9
Trial pit length	=	1

a_{p50} =

1.32

 m/squared

t_{p75-25} =

1740

 seconds

V_{p75-25} =

0.135

 m/cubed

F =

5.88E-05