

Ref: CS/C1268

Lee Beaumont
40 Elm Avenue
Barnham
PO22 0HL

12th February 2020

Re: 40 Elm Avenue, Barnham – Soakaway Testing – Infiltration Test Result Summary

Dear Lee

The following investigation was carried out at the above location in accordance with our quotation.

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 replacement 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.

In addition to the soakaway test, a deeper borehole was dug adjacent to the soakaway pit to a depth of 1.2m. The borehole remained dry throughout the test and into the following day therefore groundwater is deemed as not affecting the surface water system.

The testing commenced on Friday 7th February 2020 at 09:00 with three tests being undertaken in accordance with BRE 365.

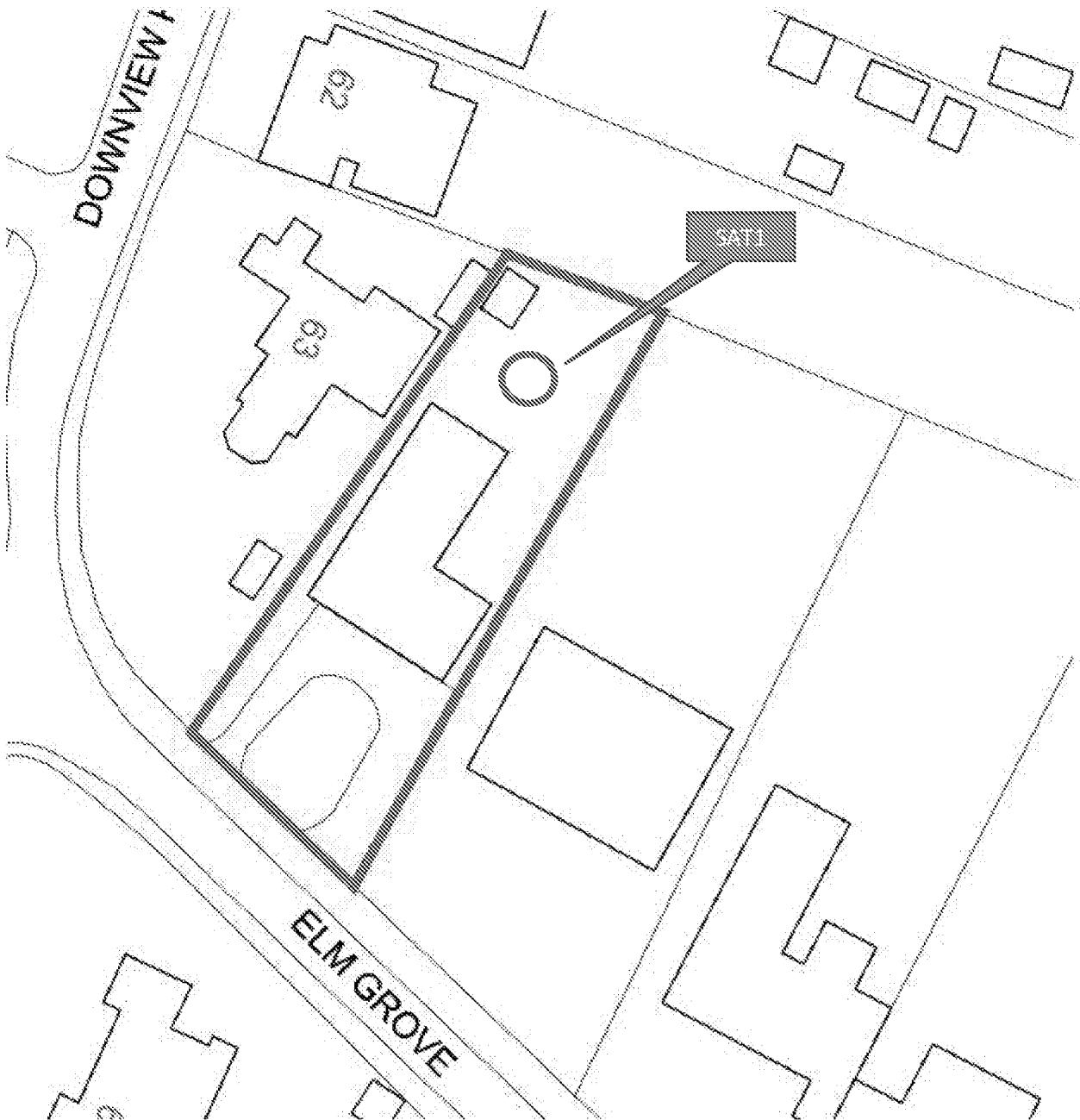
2. BRE 365 Soakaway Test Findings

Testing of the sub soils which was noted as clayey sands with some gravels produced a BRE 365 design infiltration rate of **1.14x10⁻⁴m/s** at a depth of 0.9m. This rate was the slowest taken from all three tests. This is considered a very good rate and will be suitable for all infiltration devices.

3. BRE 365 Soakaway Test Results

Test Pit No	Infiltration Rate (1-3 Tests)			Depth of Test	Soil Type
SAT1	1.29x10 ⁻⁴ m/s	1.18x10 ⁻⁴ m/s	1.14x10⁻⁴m/s	0.9m	Clayey sands/gravels

Appendix A – Soakaway Test Location Plan



Appendix B – Site Photographs



Appendix C – Soakaway Test Results



Job: 40 Elm Avenue, Barnham - 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} =

790

 seconds

V_{p75-25} =

0.135

 m/cubed

F =

0.000129



Job: 40 Elm Avenue, Barnham - 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} =

870

 seconds

V_{p75-25} =

0.135

 m/cubed

F =

0.000118



Job: 40 Elm Avenue, Barnham - Test 3

Infiltration Calculator

$$f = \frac{V_{p75-25}}{ap50 \times tp75-25}$$

Vp 75-25 = Effective storage volume between 75% and 25% effective depth

ap50 = Internal surface area of the trial pit up to 50% effective depth and including the base area

tp75-25 = 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

ap50 =

1.32

 m/squared

tp75-25 =

900

 seconds

Vp 75-25 =

0.135

 m/cubed

F =

0.000114