

Ref: C1674

Lester Pena

10th March 2022**Re: Magnolia Cottage, Eastergate – Soakaway Testing – Infiltration Test Result Summary**

Dear Lester

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 new extension to an existing property.

In addition to the soakaway test pit, a borehole was dug to a depth of 1.5m using a hand auger. This was covered and monitored over 48 hours and remained dry.

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.

The testing commenced on 11th February 2022 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 gravelly, loamy clay produced a BRE 365 design infiltration rate of **6.94x10⁻⁴m/s**. This rate was the slowest taken from all three tests. This is considered a **good** rate and will be 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	8.40x10 ⁻⁵ m/s	7.98x10 ⁻⁵ m/s	6.94x10⁻⁵m/s	0.9m	gravelly, loamy clay

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Appendix A – Soakaway Test Location Plan



Appendix B – Site Photographs





Consulting Civil Engineers

Appendix C – Soakaway Test Results



Job: Magnolia Cottage, Eastergate - 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} = 1.41 m/squared

t_{p75-25} = 1140 seconds

V_{p75-25} = 0.135 m/cubed

F =

8.4E-05



Job: Magnolia Cottage, Eastergate - 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} = 1.41 m/squared

t_{p75-25} = 1200 seconds

V_{p75-25} = 0.135 m/cubed

F =

7.98E-05



Job: Magnolia Cottage, Eastergatee - 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} = 1.41 m/squared

t_{p75-25} = 1380 seconds

V_{p75-25} = 0.135 m/cubed

F =

6.94E-05