

Infiltration Test Rate Calculation

Site: 26 Wargrave Rd
Date: 01/07/2025
Engineer: JZ

Project Number: 25020-RP-0001
Revision: 1
Sheet: 1 of 5

Date: 12/05/2025

Summary of Finding:

Three infiltration tests were conducted in accordance with BRE Digest 365 to assess the suitability of the site for soakaway drainage. The test pit dimensions were 1.0 m (length) × 1.0 m (width) × 1.4 m (depth), and all tests were carried out under consistent conditions with stable pit sides and no groundwater observed at 1 m below the base.

The Calculated infiltration rates from the three tests were as follows:

Test 1:	0.17 m/hr
Test 2:	0.17 m/hr
Test 3:	0.16 m/hr

The worst-case infiltration rate of 0.16 m/hr has been adopted for the design of the soakaway system, in line with BRE365 guidance.

Note:

The infiltration testing was carried out in accordance with the methodology outlined in BRE Digest 365: Soakaway Design. The procedures followed included appropriate test pit dimensions, pre-soaking, and monitoring of infiltration rates over time. All test data, calculations, and site observations have been documented and are presented in this report. The results obtained are considered valid for the purpose of soakaway design, and the worst-case infiltration rate has been used in accordance with BRE365 guidance.

Infiltration Test Rate Calculation

Site: 26 Wargrave Rd

Date: 01/07/2025

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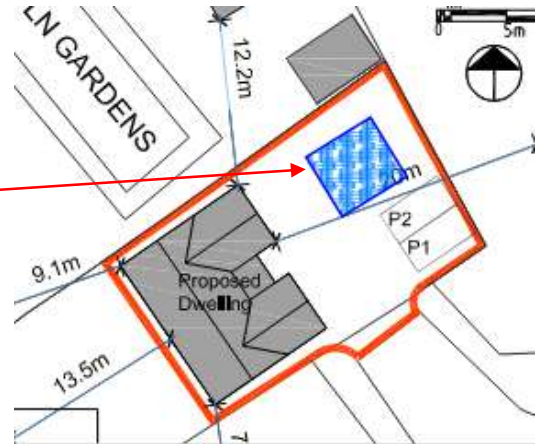
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Indicative Infiltration Test Location



The photo shows that 1m below where the infiltration test was done there is no groundwater.



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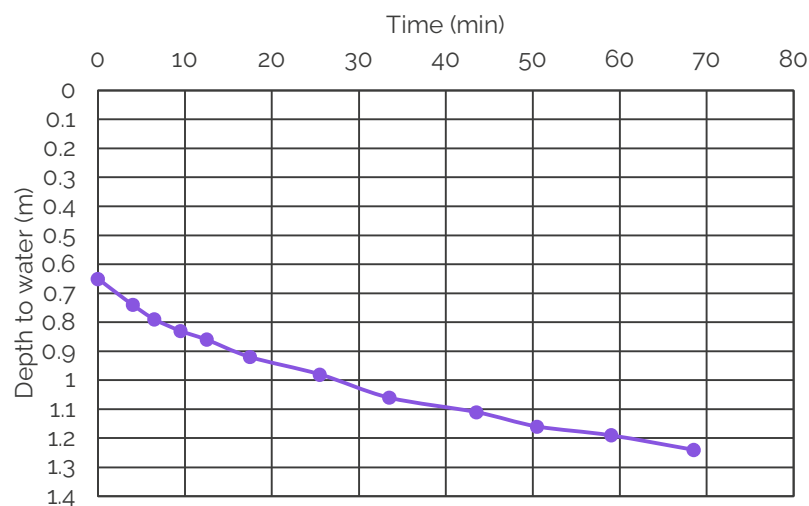
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Test Number: IT1

Date: 12/05/2025



Time (min)	Depth to Water (m)
0	0.65
4	0.74
6.5	0.79
9.5	0.83
12.5	0.86
17.5	0.92
25.5	0.98
33.5	1.06
43.5	1.11
50.5	1.16
59	1.19
68.5	1.24

Pit Dimensions:

Length L = 1 m
 Width W = 1 m
 Depth D = 1.4 m
 Base area A = 1 m²

Calculation:

100% effective depth D100 = 0.65 m
 75% effective depth D75 = 0.84 m
 50% effective depth D50 = 1.03 m
 25% effective depth D25 = 1.21 m

Time to D75 D75 = 630 sec
 Time to D25 D25 = 3768 sec

Time from D75 to D25 tp = 3138 sec
 (T25 - T75)

Volume between D75 & D25 Vp = 0.375 m³
 (A × (D25 - D75))

Surface area to D95 inc. base ap = 2.5 m²
 ((2 × (D - D50) × (W + L) + A))

SOIL INFILTRATION RATE f = 4.78E-05 m / s
f = Vp / (ap × tp) f = 0.17 m / hr

Notes: Pit sides remained vertical and stable

Infiltration Test Rate Calculation

Site: 26 Wargrave Rd

Date: 30/06/2025

Engineer: JZ

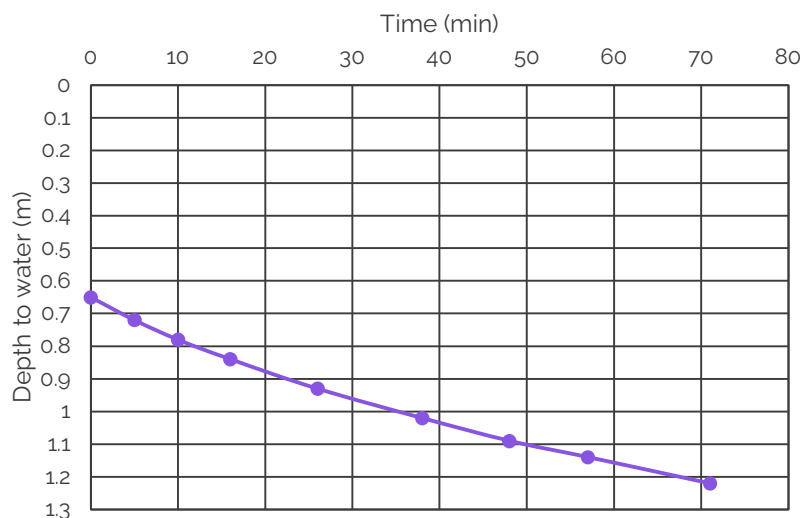
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Test Number: IT2

Date: 12/05/2025



Time (min)	Depth to Water (m)
0	0.65
5	0.72
10	0.78
16	0.84
26	0.93
38	1.02
48	1.09
57	1.14
71	1.22

Pit Dimensions:

Length L = 1 m
 Width W = 1 m
 Depth D = 1.4 m
 Base area A = 1 m²

Calculation:

100% effective depth D100 = 0.65 m
 75% effective depth D75 = 0.84 m
 50% effective depth D50 = 1.03 m
 25% effective depth D25 = 1.21 m

Time to D75 D75 = 960 sec
 Time to D25 D25 = 4155 sec

Time from D75 to D25 tp = 3195 sec
 (T25 - T75)

Volume between D75 & D25 Vp = 0.375 m³
 (A × (D25 - D75))

Surface area to D95 inc. base ap = 2.5 m²
 ((2 × (D - D50) × (W + L) + A))

SOIL INFILTRATION RATE f = 4.69E-05 m / s
f = Vp / (ap × tp) f = 0.17 m / hr

Notes: Pit sides remained vertical and stable

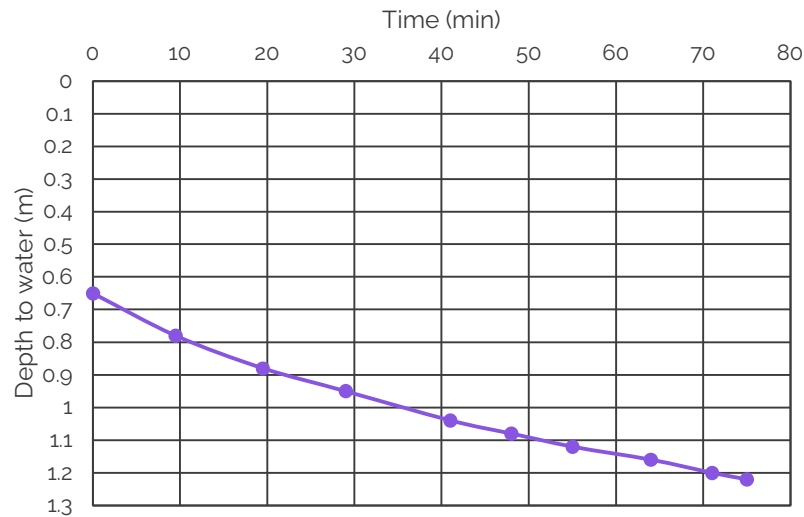
Infiltration Test Rate Calculation

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Date: 01/07/2025
Engineer: JZ

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Test Number: IT3

Date: 12/05/2025



Time (min)	Depth to Water (m)
0	0.65
9.5	0.78
19.5	0.88
29	0.95
41	1.04
48	1.08
55	1.12
64	1.16
71	1.2
75	1.22

Pit Dimensions:

Length L = 1 m
Width W = 1 m
Depth D = 1.4 m
Base area A = 1 m²

Calculation:

100% effective depth D₁₀₀ = 0.65 m
75% effective depth D₇₅ = 0.84 m
50% effective depth D₅₀ = 1.03 m
25% effective depth D₂₅ = 1.21 m

Time to D₇₅ T₇₅ = 930 sec
Time to D₂₅ T₂₅ = 4380 sec

Time from D₇₅ to D₂₅ t_p = 3450 sec
(T₂₅ - T₇₅)

Volume between D₇₅ & D₂₅ V_p = 0.375 m³
(A × (D₂₅ - D₇₅))

Surface area to D₉₅ inc. base a_p = 2.5 m²
((2 × (D - D₅₀) × (W + L)) + A)

SOIL INFILTRATION RATE f = 4.35E-05 m / s
f = V_p / (a_p × t_p) f = **0.16 m / hr**

Notes: Pit sides remained vertical and stable