PERCOLATION REPORT

LOCATION:
Bourne Walk, Staincross

CLIENT:
Mr C James

DOCUMENT REF:
26942-PR-001

DATE:
07/10/2026

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CIVIL AND STRUCTURAL ENGINEERING

CONTENTS & AMENDMENT HISTORY

1.0 TESTING REPORT 3

Revision	Description	Date	Author	Checked
A	First Issue	Oct 2026	O Mountain	A Dyson

1.0 TESTING REPORT

The Percolation Testing was carried out on site on 7th October 2026 to establish if infiltration methods were going to be a suitable solution for draining the site.

1 trial hole was formed with the following dimensions;

Test Pit 1 1400mm x 400mm x 1200mm deep

The water level drop was monitored and recorded (see test sheets attached).

TEST PIT 1:

For Test 1 (Test Pit 1), water was filled to a depth of 430mm; the water level dropped 430mm after 1 hour 39 minutes of testing.

For Test 2 (Test Pit 1), water was filled to a depth of 425mm; the water level dropped 425mm after 1 hours 47 minutes of testing.

For Test 3 (Test Pit 1), water was filled to a depth of 450mm; the water level dropped 450mm after 1 hour 53 minutes of testing.

Calculation sheet 1 shows that the infiltration rates are high enough and do satisfy BRE 365 requirements. Therefore, Infiltration methods of drainage will be viable for this site and strategy.

APPENDICES

Appendix A – Percolation Test Sheet

METHOD (from BRE Digest 365)

- Excavate a soakage trail pit to the required depth (typically 1.0m - 2.0m deep) using minimum width (0.3m) and length (1.0m). Carefully trim sides and bottom.
- Carefully measure size of pit and note sizes below.
- Fill soakage hole briskly with water (from bowser) to at least three quarters full. Being careful not to wash away the sides. (Note: a 0.3m wide, 1m long, 1.5m deep trench needs at least 350 litres (80 gallons) of water)
- Place straight edge over top of soakage pit and measure (dip) to the top of the water.
- Record time versus dips in table below. Dip every 5 minutes for the first hour and every hour until pit is one quarter full. Repeat test 3 times in total on the same or consecutive days.

DETAILS

Site Location	**Bourne Walk, Staincross**
Date of Test	**07/10/2026**
Weather Conditions	**Dry – Autumn**
Engineer Name	**Ollie Mountain**

SIZE OF PIT 1

Length	Width	Depth
1.40m	0.40m	1.20m

Test 1
RESULTS

Time (mins)	Dip (mm)	Time (mins)	Dip (mm)
0	430	70	82
5	401	75	63
10	372	80	46
15	344	85	31
20	317	90	17
25	290	95	6
30	264	99	0
35	239		
40	214		
45	190		
50	166		
55	144		
60	122		
65	102		

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Appendix A

Percolation Test Sheet Pit 1

Test 2

RESULTS

Time (mins)	Dip (mm)	Time (mins)	Dip (mm)
0	425	70	101
5	398	75	83
10	372	80	66
15	347	85	50
20	321	90	35
25	297	95	22
30	273	100	11
35	249	105	2
40	226	107	0
45	203		
50	182		
55	161		
60	144		
65	123		

Test 3

RESULTS

Time (mins)	Dip (mm)	Time (mins)	Dip (mm)
0	450	70	122
5	423	75	103
10	397	80	85
15	371	85	68
20	346	90	52
25	321	95	38
30	297	100	24
35	273	105	13
40	249	110	3
45	227	113	0
50	204		
55	186		
60	163		
65	148		

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Appendix A

Trial Pit 1



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Trial Pit 1



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Trial Pit 1 Location



Trial Pit 1 was formed here.

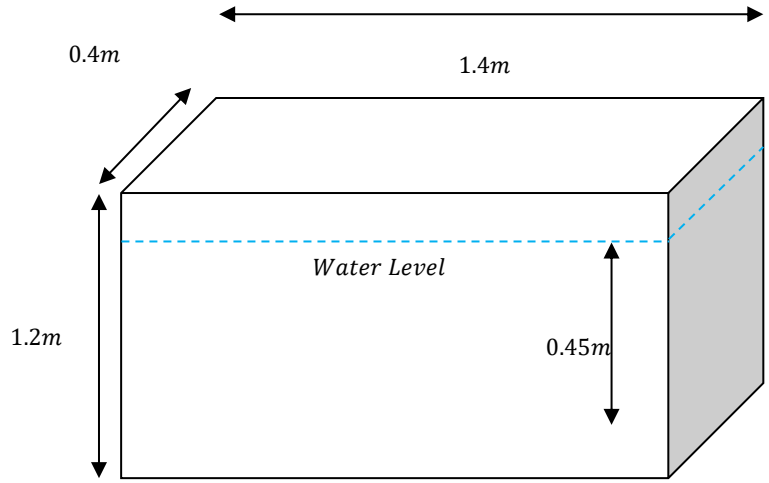
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Project				Job Ref.	
Bourne Walk, Staincross				26942	
Section				Sheet no./rev.	
				A	
Calc. by	Date	Chk'd by	Date	App'd by	Date
OM	07/10/2026	AD	07/10/2026		

Test 1,

Test Pit 1)



Soil Infiltration rate(ms^{-1}): $\frac{V_{(P75-25)}}{t_{(P75-25)} \times a_{(P50)}}$

V = Effective storage volume between $75-25\%$

$a_{(P50)}$ = Surface area of the pit (50% effective depth) + box area

$t_{(P75-25)}$ = Time for water to fall from $75-25\%$

$V_{(p75-25)} = (0.45 \times 0.5) \times 1.4 \times 0.4 = 0.126m^3$

$a_{(p50)} = 1.4 \times 0.4 + 2((0.45 \times 0.5) \times 1.4) + 2((0.45 \times 0.5) \times 0.4) = 1.37m^2$

$t_{(p75-25)} = 6780s$

Soil Infiltration rate (m/s):

$$\frac{0.126}{6780 \times 1.37} = 1.36 \times 10^{-5} m/s$$

Soil Infiltration rate (m/hr):

$$1.36 \times 10^{-5} \times 3600 = 0.0489\ m/hr$$