

Mr G. Spurway
128A Park Avenue
Widley
Waterlooville
PO7 5DS

24th July 2019

Dear Gavin

Re: 128A Park Avenue – Infiltration Test Results

I am pleased to attach the results for the recent soakaway tests undertaken on your site at 128A Park Avenue. In addition to the soakaway trial pit logs I have also included a copy of the log for the foundation pit that was also excavated.

Infiltration Results

Unfortunately, although the water was shown to be soaking away during the test period there was insufficient time for the level to fall by the minimum 50% required for the calculation of the infiltration rate in accordance with the procedures outlined in BRE Digest 365 Soakaway design 1991.

However, as can be seen on the attached infiltration calculation sheets if graphs are extended to give an the estimated time for water level to drop by 75% the resulting infiltrations rates would be:

$$\begin{aligned} \text{SA01} &= 1.26 \times 10^{-6} \text{ m/s; and} \\ \text{SA02} &= 7.65 \times 10^{-7} \text{ m/s} \end{aligned}$$

As can be seen the result for SA02 is significantly lower than that for SA01, which is considered to be due to the presence of a stiff sandy silty CLAY from 1.2m as detailed on the attached log.

Conclusion

Although the results from the in-situ soakaway tests undertaken did not permit the calculation of an infiltration rate they did indicate the soils have the potential to permit the passage of water. Therefore, if the available results are used to extrapolate the time it would take for the levels to drop by 75%, this would indicate an infiltration rate of around 1.3×10^{-6} m/s in the fine SAND but where the sandy silty CLAY was encountered this reduced to 7.7×10^{-7} , which although not ideal would make the design of soakaways feasible.

As the assessment of the results is not in accordance with the BRE soakaway design procedures it is recommended that these results are reviewed by Hussaini at Judwaa Consulting as he will need to be satisfied with the validity/robustness of any data used to support any future soakaway design.

I hope the above and attached are sufficiently detailed but if you have any comments or would like to discuss the findings further then please do not hesitate to contact me

Yours sincerely

A handwritten signature in blue ink, appearing to read "Richard Blaney", with a long horizontal stroke extending from the end.

Richard Blaney
for Forge Environmental Management Ltd

encl.



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CALCULATION OF SOIL INFILTRATION RATE

To: BRE Digest 365: 2015

Engineer: Forge Environmental Management Ltd
Client: Mr & Mrs Spurway
Site: 128A Park Avenue, Waterloooville
Job No: Y0707

Borehole number SA01
Test number: 1
Date 23 July 2019
Trial Pit Width (m) 0.30
Trial Pit Length (m) 2.00
Trial Pit Depth (m) 2.10
Effective Storage Depth (m) 1.60
Maximum Effective Depth (m BGL) 0.50
Empty Depth (m BGL) 2.10
 V_{p75-25} (m³) 0.48
 a_{p50} (m²) 4.28
 t_{p75-25} 1485

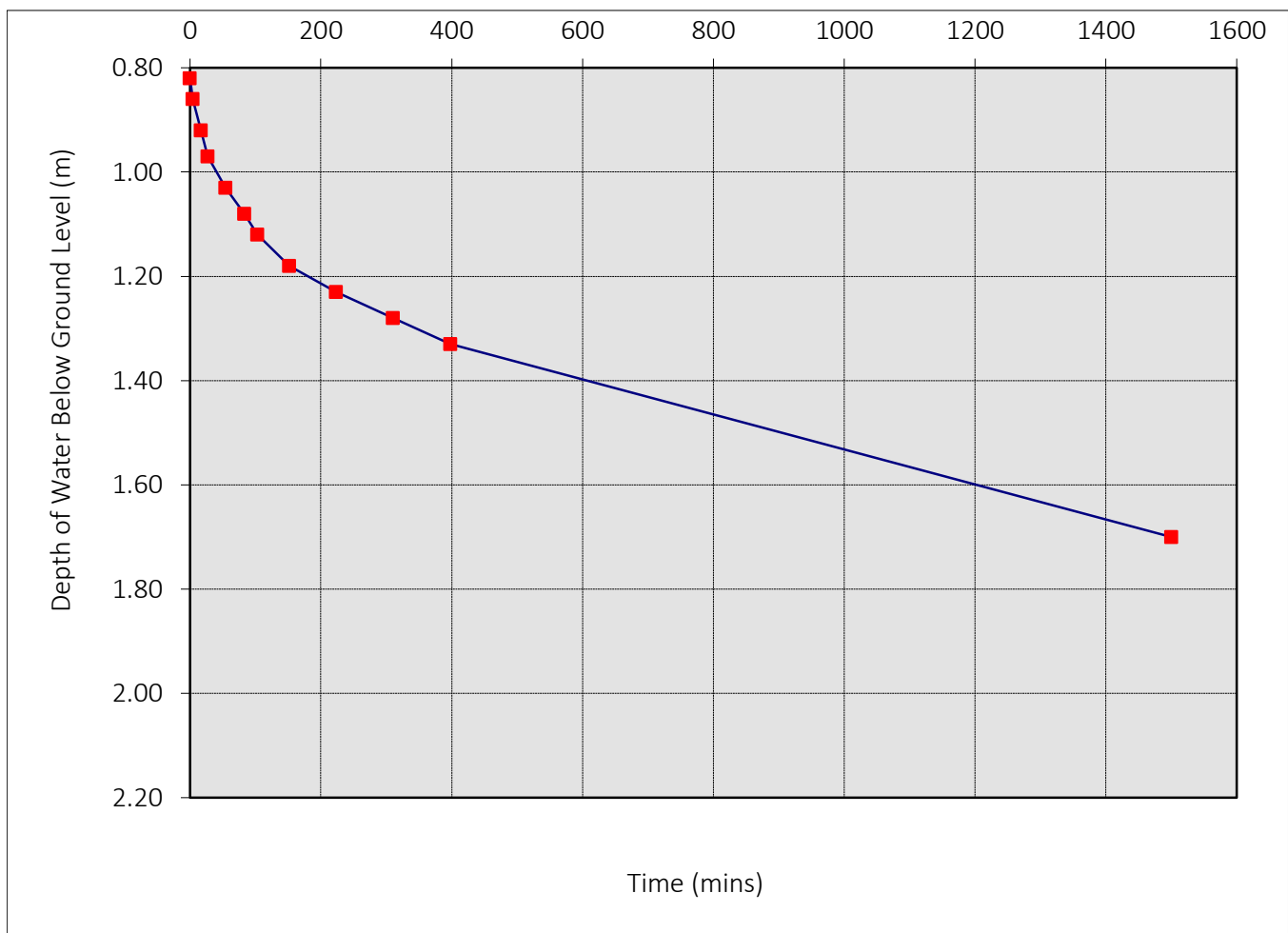
Time (min)	Depth (m BGL)
0	0.82
4	0.86
17	0.92
27	0.97
54	1.03
83	1.08
103	1.12
152	1.18
223	1.23
310	1.28
398	1.33
1500	1.70

Comments:

SOIL INFILTRATION RATE (m/s)

1.26E-06

75% Full (m BGL) 0.90
25% Full (m BGL) 1.70





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CALCULATION OF SOIL INFILTRATION RATE

To: BRE Digest 365: 2015

Engineer: Forge Environmental Management Ltd
Client: Mr & Mrs Spurway
Site: 128A Park Avenue, Waterlooville
Job No: Y0707

Borehole number SA02
Test number: 1
Date 23 July 2019
Trial Pit Width (m) 0.30
Trial Pit Length (m) 2.00
Trial Pit Depth (m) 2.10
Effective Storage Depth (m) 1.80
Maximum Effective Depth (m BGL) 0.50
Empty Depth (m BGL) 2.30
 V_{p75-25} (m³) 0.54
 a_{p50} (m²) 4.74
 t_{p75-25} 2483

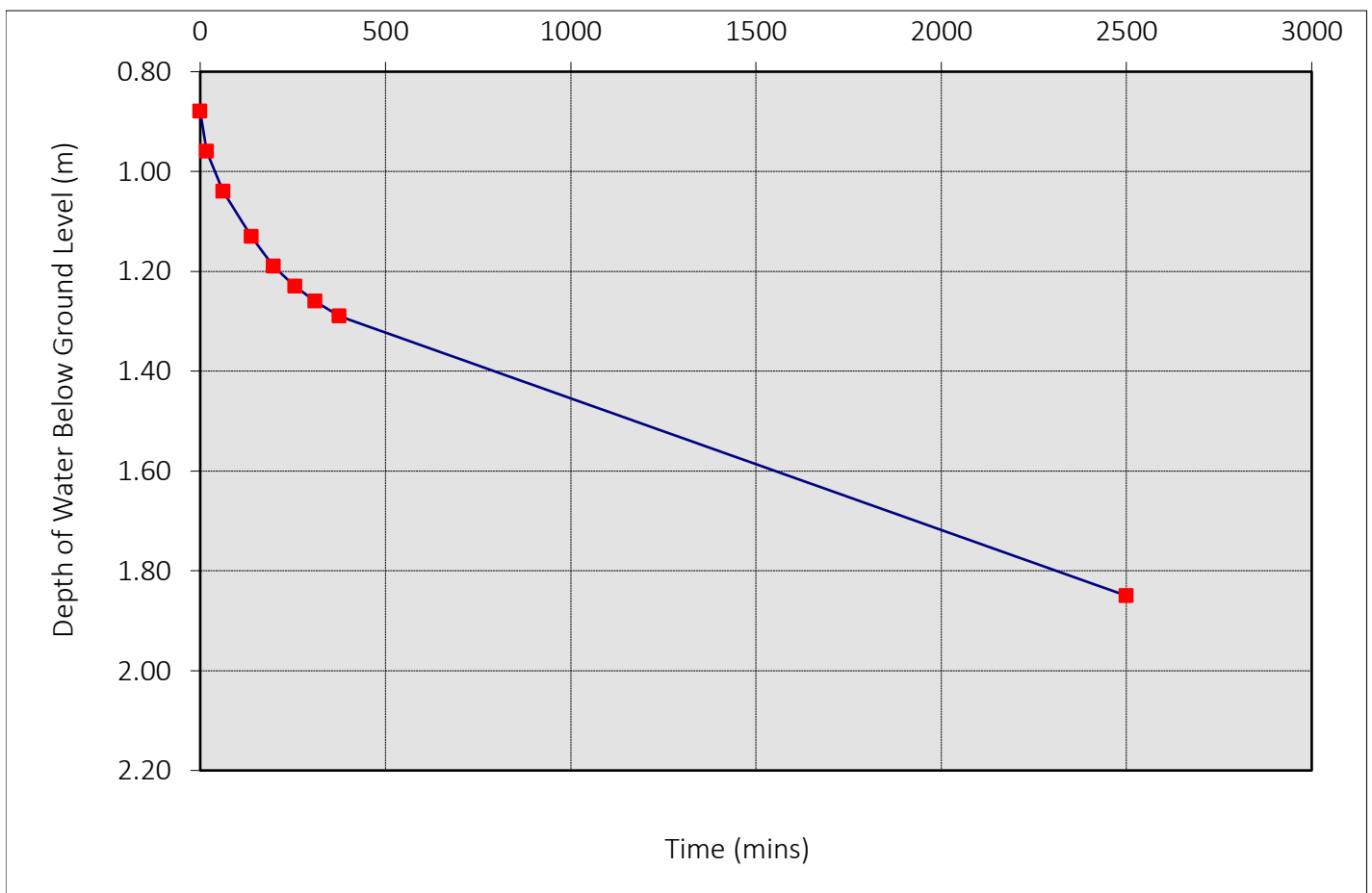
Time (min)	Depth (m BGL)
0	0.88
17	0.96
62	1.04
138	1.13
198	1.19
256	1.23
310	1.26
375	1.29
2500	1.85

Comments:

SOIL INFILTRATION RATE (m/s)

7.65E-07

75% Full (m BGL) 0.95
25% Full (m BGL) 1.85





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Tel: 07970 460 427

Email: enquiries@windowsampling.com

Web: www.windowsampling.com

TRIAL PIT RECORDTrial Pit
Number**SA01****Site:**

128A Park Avenue, Waterloooville

Engineer:

Forge Environmental Management

Plant Equipment:

5 tonne Takeuchi Slew

Client:

Mr & Mrts Spurway

Elevation mAOD:**Easting:****Northing:**

467624.00

107242.00

Start:

22/07/2019

Finish:

22/07/2019

Scale:

1:25

GROUND WATER**SAMPLING & IN SITU TESTING****STRATA RECORD**

Sheet 1 of 1

Strike	Well	Depth (m)	Depth/Type (m)		Sampler / Recovery	Depth mBGL	Depth mAOD	Key	Description
									Turf over TOPSOIL: (loose) dark grey brown slightly gravelly silty SAND.
									(Loose) grey brown slightly gravelly silty fine (medium) SAND. Gravel is medium coarse rounded flint.
							1 -1.0		(Medium dense) brown yellow locally orange brown occasionally grey white silty fine SAND. Locally poorly cemented to very weak sandstone.
							2 -2.0		
							3 -3.0		
							4 -4.0		
							5 -5.0		

Remarks / Orientation / Stability

Dry hole. Infiltration tests test carried out. Backfilled with arisings.



ES ES Sample
 ● □ Disturbed Sample
 W Water Sample
 φ Bulk Sample

WLS Windowless Sampler
 WS Window Sampler
 Depth to water strike
 Standing water depth

Job No. Y0707

TRIAL PIT RECORD

Trial Pit
Number

SA02

Site:

128A Park Avenue, Waterloo

Engineer:

Forge Environmental Management

Plant Equipment:

5 tonne Takeuchi Slew

Client:

Mr & Mrts Spurway

Elevation mAOD: Easting: Northing:

467647.00	107230.00
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Start:

22/07/2019

Finish:

22/07/2019

Scale:

1:25

GROUND WATER

SAMPLING & IN SITU TESTING

STRATA RECORD

Sheet 1 of 1

[illegible]

Remarks / Orientation / Stability

Dry hole. Infiltration tests test carried out.



ES ES Sample
 ● □ Disturbed Sample
 W Water Sample
 ⊕ Bulk Sample

WLS	Windowless Sampler
WS	Window Sampler
	Depth to water strike
	Standing water depth

Job No. Y0707



FOUNDATION TRIAL PIT LOG

Site: 128A Park Avenue, Widley,
Waterlooville, PO7 5DS

Date: 22 July 2019

Dimensions: 0.6m by 0.4m

Job No.: Y0707

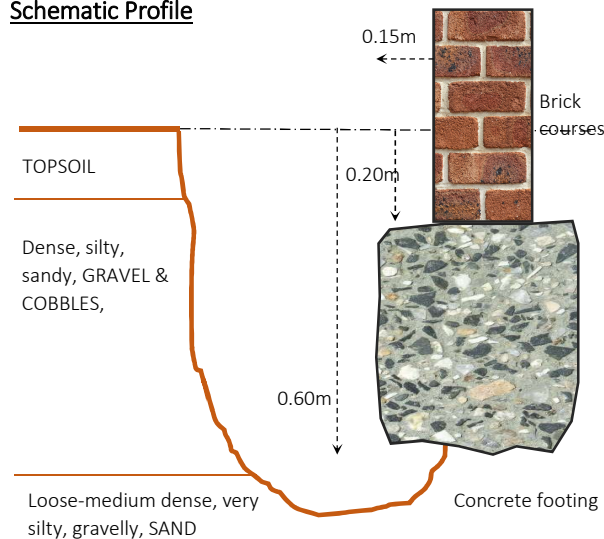
Number: Trial Pit 01

Engineer: Forge Environmental Management

Total Depth: 0.80m BGL

Remarks: Excavated against front (western) elevation.

Schematic Profile



Log

0.00-0.20m BGL: Sandy TOPSOIL.

0.20-0.70m BGL: Dense, grey yellow brown, silty, sandy GRAVEL & COBBLES of flint.

0.70-0.80m BGL: Loose to medium dense, yellow brown, very silty gravelly, fine SAND. Gravel is medium coarse, angular to sub rounded, flint.

Groundwater: Dry hole.

Hand Penetrometer Results (at base of footing) kg/cm²
N/a

Pictures



TP01: Internal view.



TP01: Location of foundation pit.