

OUR REF: A3274/22 15th July 2022

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Mr. Zahid Khalid
58 Holyrood Road
Prestwich
Manchester
M25 1PE

By Email (zahidkhalid477@gmail.com)

Dear Zahid,

Soil Infiltration Rate Assessment Letter Report
Old Market Street, Blackley

Background

A site investigation has been commissioned by Zahid Khalid (the Client) to examine the soil infiltration rates of a plot of land to the south of Old Market Street, Blackley.

Reference

Earth Environmental and Geotechnical Ltd were commissioned by the client to undertake a Geo-Environmental Investigation of the site with the following objectives:

- Assess ground conditions for drainage design purposes.

Proposed Development

The proposed development site includes 1no. residential development with associated driveway and soft landscaping. Access will be from Grant Close to the south of the site.

A development plan has been provided as Figure 1 overleaf.

Fieldwork

Over the course of one day (17th June 2022), two trial pits (SA1 to SA2) were excavated by means of a tracked excavator. All of these pits were designated for soakaway testing in accordance with BRE365. Testing was carried out by filling the excavation rapidly with water from an 8000-litre water bowser.

Due to the slow infiltration rate of both SA1 and SA2, each trial pit was only filled two times with water. However, due to onsite time constraints, the second tests were not run for the full amount of time. A plan of the testing is provided as Figure 2 overleaf.

The infiltration rate was calculated at each trial pit location. The detailed testing results for these are presented in Appendix B with a summary in Table 1.

**CONSULTING
ENGINEERS**

Geotechnical
Environmental
Ecology
Geology
Drainage
Mining

Earth Environmental &
Geotechnical Ltd
Houldsworth Mill Business &
Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Tel: 0161 975 6088

www.earthenvironmental.co.uk
info@earthenvironmental.co.uk

Bath

Kingsbury House
Kingsbury Square
Melksham
Near Bath
SN12 6HL
Tel: 01225 434237

Edinburgh

Hudson House
8 Albany Street
Edinburgh
EH1 3QB
Tel: 0131 5641789

Middlesbrough

Wilton Centre
Redcar
TS10 4RF
Tel: 01642 438125

Reading

200 Brook Drive
Green Park
Reading
RG2 6UB
Tel: 011890 253229

Earth Environmental &
Geotechnical Ltd
Registered Office:
Mentor House, Ainsworth Street,
Blackburn, Lancashire, BB1 6AY
Registered in England
No: 8436152

All trial pit locations were surveyed by use of a Trimble GeoExplorer with attached antennae. This instrument is capable of a positional accuracy of less than 50cm, depending upon satellite coverage and proximity to buildings etc. Each trial pit location was scanned using a Cable Avoidance Tool (CAT) in order to locate unrecorded underground services.

All site investigation work was supervised full time by a representative of EEG. The logging of soils and rocks has been carried out in accordance with BS5930^(2015+A1:2020) except where superseded by the soil and rock description methodology in BS EN14688-1⁽²⁰⁰²⁾, BS EN 14688-2⁽²⁰⁰⁴⁾ and BS EN 14689-1⁽²⁰⁰³⁾.

Ground Conditions Encountered

At the time of soakaway testing, the site was an unoccupied area of land demarcated by heras fencing.

According to the BGS, the site is underlain by superficial deposits of Glaciofluvial Deposits, comprising sand and gravel.

Across the development site was a layer of vegetation which was underlain by topsoil or made ground to a maximum depth of 1.30m bgl. The topsoil and made ground were underlain by a clayey silty gravelly sand.

Detailed logs of the trial pits excavated during the soakaway testing can be found in Appendix A.

Figure 1 Proposed Development Plan

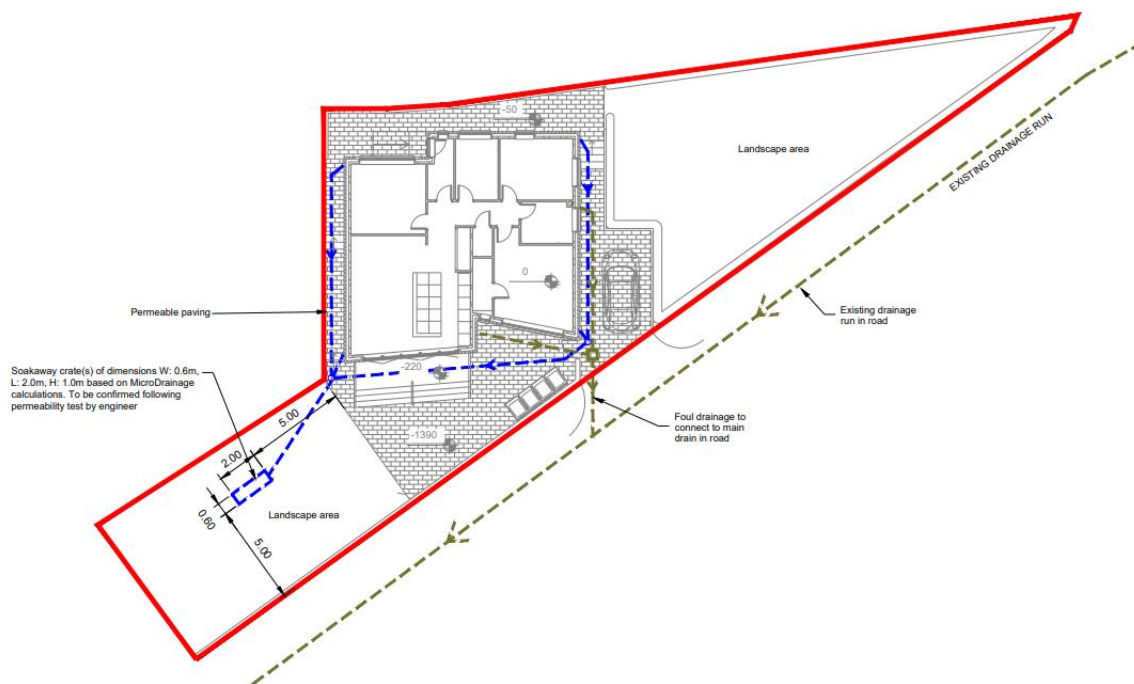


Figure 2 Soakaway Testing Plan



Soakaway Testing

Each of the soakaway pits were excavated into the natural strata which comprised of clayey slightly gravelly sand deposits. Table 1 below summarises the results of the soakaway infiltration testing for each trial pit and repeat tests. An average infiltration rate for SA1 was 1.16×10^{-5} and for SA2 was 1.15×10^{-5} metres/second.

Table 1 Soakaway Infiltration Rates

Location	Test No.	Test Depth (m bgl)	Test Duration (mins)	Fall in Water Level (m bgl)	Soil Infiltration Rate (m/s)
SA1	1	0.12 – 1.32	255	1.20	0.0000116
SA1	2	0.24 – 0.55	84	0.31	Test not completed
SA2	1	1.22 – 1.69	197	0.47	0.0000115
SA2	2	1.09 – 1.36	90	0.27	Test not completed

Conclusions

The soakaway testing results revealed the Glaciofluvial Deposits underlying the topsoil and made ground are suitable for soakaway installations with an infiltration rate of 1.16×10^{-5} in SA1 and 1.15×10^{-5} metres/second in SA2.

Should you have any queries with respect to this letter report please do not hesitate to contact me.

Yours Sincerely,



Ashley Graham
Geo-Environmental Consultant
For and on behalf of Earth Environmental & Geotechnical Ltd

Enclosed: Appendix A – Soakaway Pit Logs
Appendix B – Soakaway Testing Results



APPENDIX A

SOAKAWAY PIT LOGS



APPENDIX B

SOAKAWAY TESTING RESULTS