

Project No: 100855
Date: 19th December 2022

FAO: BTP Architects,

Re: Infiltration testing at 'Greenbrow Social Club'.

Dice Environmental have been instructed by BTP Architects to complete 2No. Soakaway tests in accordance with BRE365 at 'Greenbrow Social Club, Wythenshaw, Manchester, M23 2TU'.

Exploratory field work was undertaken on the 6th December 2022, comprising the mechanical excavation of 2No trial pits to a maximum depth of 1.7mbgl, which were subsequently utilised for infiltration testing, in accordance with the methodology outlined in BRE Digest 365.

Infiltration test locations are highlighted in Appendix A.

Infiltration test results with Infiltration rates and a general soil description for each location are in Appendix B.

I trust that the content of this letter is suitable for your requirements; however, should you require any additional information, please do not hesitate to contact me.

Yours Sincerely

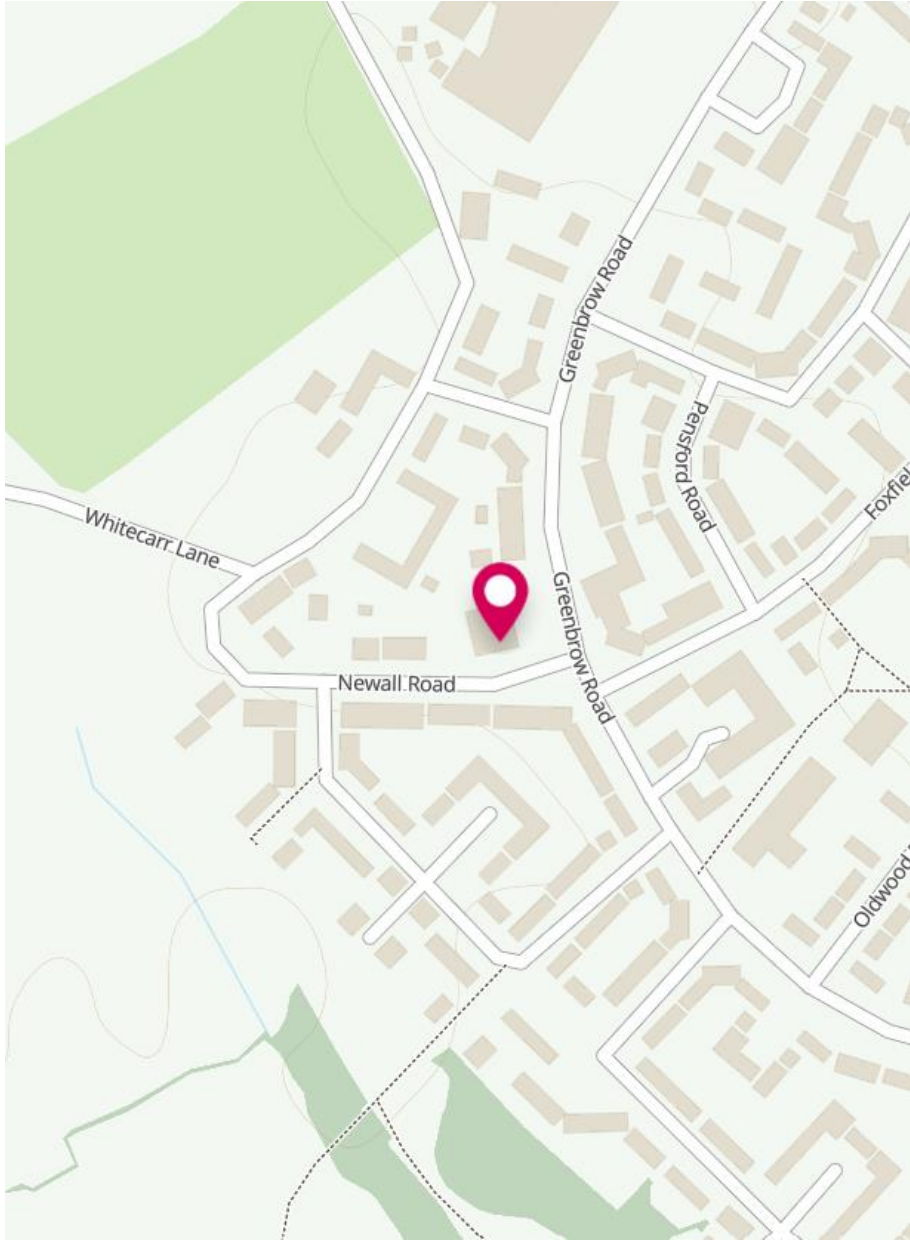
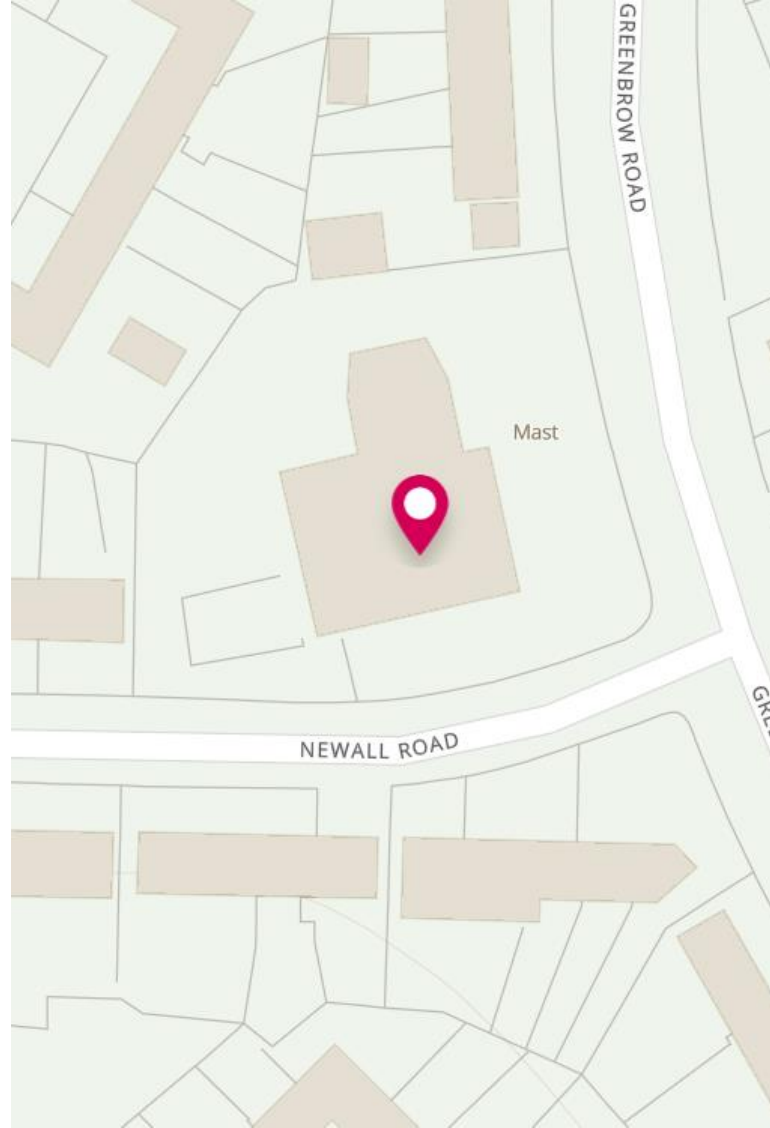


Jake Bayne MSc MEnvSc CEnv
Director

Appendix A – Infiltration test location plan

Appendix B – Infiltration test results in accordance with BRE365

APPENDIX A



Title Site Location		
Reference 100855		Date 07/12/2022
Site Address Greenbrow Social Club, Wythenshawe, Manchester, M23 2TU		
Legend  Approximate Site Centre		
Scale NTS	Drawn AMD	Figure Number Fig.1



Title

Site Layout

Reference

100855

Date

07/12/2022

Site Address

Greenbrow Social Club,
Wythenshawe,
Manchester,
M23 2TU

Legend

Scale

NTS

Drawn

AMD

Figure Number

Fig.2



Title

SI Plan

Reference

100855

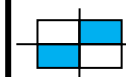
Date

07/12/2022

Site Address

Greenbrow Social Club,
Wythenshawe,
Manchester,
M23 2TU

Legend



Trial Pit with
Infiltration Testing

Scale

NTS

Drawn

AMD

Figure Number

Fig.3

APPENDIX B

INSITU SOAKAWAY TEST RESULTS

Page 1 of 1

Trial pit No.: SA1

Soil Profile:

Depth (m)		Description
From:	To:	
0.00	0.25	Made Ground - reworked topsoil
0.25	0.40	MADE GROUND - large cobbles.
0.40	0.90	Gravelly clayey SAND.
0.90	1.20	Slightly gravelly sandy CLAY.

Sketch plan of test zone

Not to scale

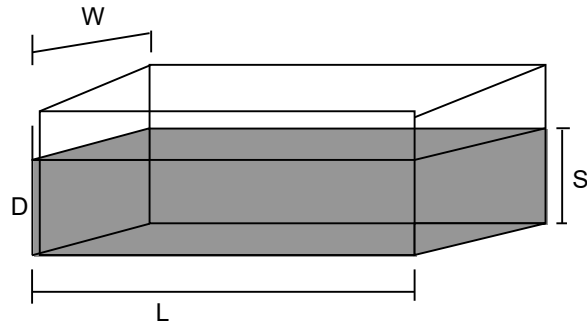
All dimensions in metres.

D = Depth of test pit = 1.4

W = Width of test pit = 0.8

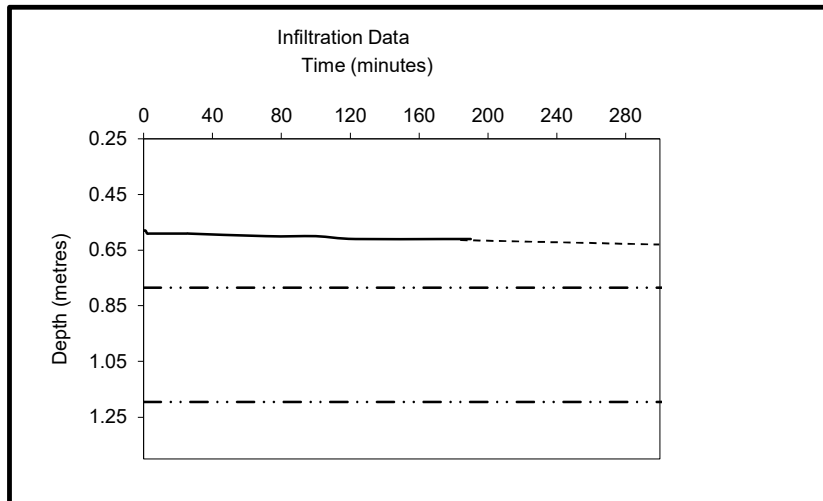
L = Length of test pit = 1.8

S = Storage depth (of water) = 0.82



Soakaway Test Run 1

Test Date: 06/12/2022



Time (minutes)	Depth (m)
0	0.58
1	0.58
2	0.59
3	0.59
4	0.59
5	0.59
6	0.59
7	0.59
25	0.59
26	0.59
71	0.60
100	0.60
123	0.61
174	0.61
190	0.61

Notes:

Extrapolation of results indicate that the soakaway would fail to drain 75% of the start volume within a 24hr period.

Therefore, this test is considered to have failed, and soakaways are not considered to be viable in this location.

Test and analysis carried out in general accordance with BRE Digest 365

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Site: Greenbrow Social Club
Client: btp Architects

INSITU SOAKAWAY TEST RESULTS

Page 1 of 2

Trial pit No.: SA2

Soil Profile:

Depth (m)	Description
From: To:	
0.00 0.40	Made Ground - black gravelly sand.
0.40 1.50	Slightly gravelly sandy CLAY.
1.50 1.70	Slightly gravelly slightly sandy CLAY.

Sketch plan of test zone

Not to scale

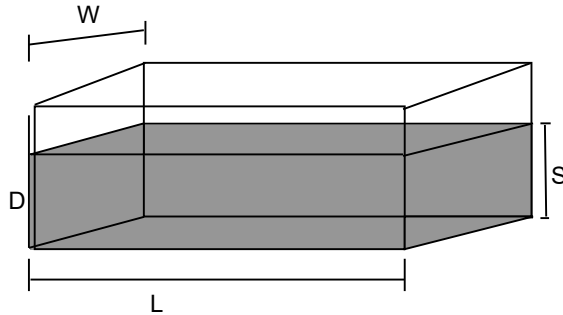
All dimensions in metres.

D = Depth of test pit = 1.7

W = Width of test pit = 1.0

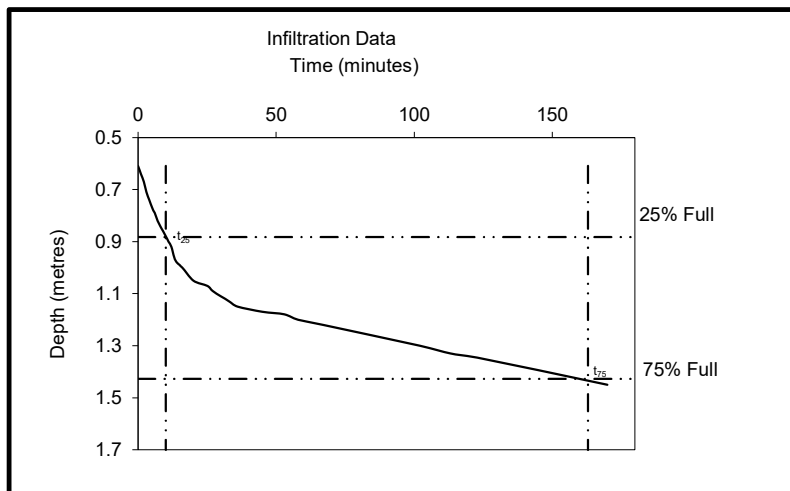
L = Length of test pit = 1.8

S = Storage depth (of water) = 1.09



Soakaway Test Run 1

Test Date: 06/12/2022



Time (minutes)	Depth (m)
0	0.61
1	0.64
2	0.67
3	0.71
4	0.74
5	0.77
6	0.79
7	0.82
8	0.84
9	0.86
10	0.88
11	0.90
12	0.92
13	0.96
14	0.98
15	0.99
16	1.00
20	1.05
25	1.07
27	1.09
30	1.11
33	1.13
36	1.15
45	1.17
53	1.18
58	1.20
67	1.22
102	1.30
113	1.33
125	1.35
170	1.45

Notes:

Therefore:

$$S = 1.09 \text{ m} \quad a_{p50} = 4.85 \text{ m}^2 \quad V_{p75-25} = 0.981 \text{ m}^3$$

From the above graph,

$$t_{p25} = 10 \text{ (min)} \quad t_{p75} = 163 \text{ (min)}$$

$$\text{Soil Infiltration Rate: } f = \frac{V_{p75-25} \times N}{a_{p50} \times t_{p75-25}} \quad f_{run1} = 2.20E-05 \text{ m/s}$$

$$\text{or } = 7.93E-02 \text{ m/hr}$$

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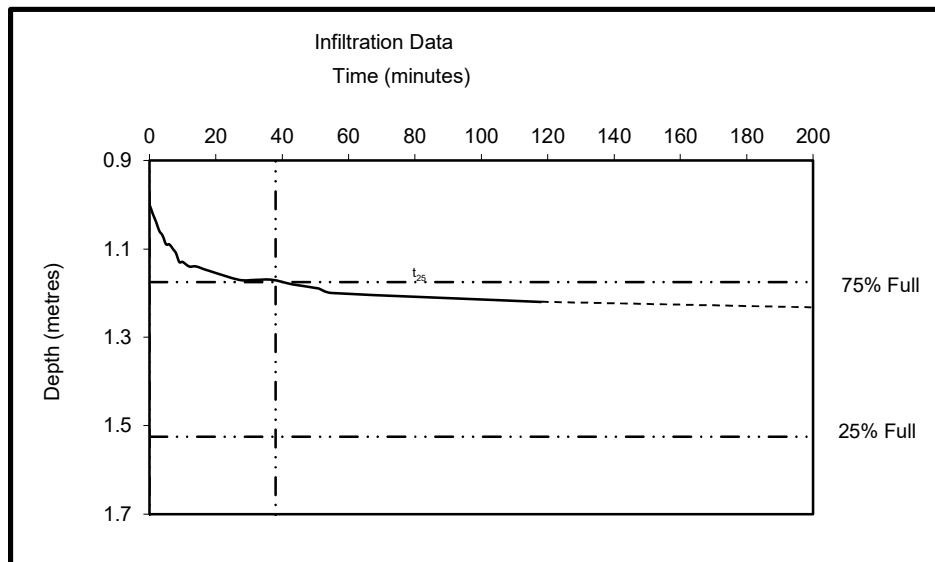
INSITU SOAKAWAY TEST RESULTS

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Trial pit No.: SA2

Soakaway Test Run 2

Test Date: 06/12/2022



Time (minutes)	Depth (m)
0.0	1.00
1.0	1.02
2.0	1.04
3.0	1.06
4.0	1.07
5.0	1.09
6.0	1.09
7.0	1.10
8	1.11
9	1.13
10	1.13
12	1.14
14	1.14
18	1.15
27	1.17
32	1.17
37	1.17
43	1.18
51	1.19
55	1.20
118	1.22

Notes:

Extrapolation of results indicate that the soakaway would fail to drain 25% of the start volume within a 24hr period.

Therefore, this test is considered to have failed, and soakaways are not considered to be viable in this location.

Test and analysis carried out in general accordance with BRE Digest 365

Job No.: 100855
Site: Greenbrow Social Club
Client: btp Architects

 **Dice**
Environmental