BROWNFIELD SOLUTIONS LTD

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AF/C5061/14401

4th July 2025

Lidl GB Ltd
Manor Park
Runcorn
WA7 1NT

For the Attention of Mr R Lawton

Dear Robert

Re: Lowry House, Mauldeth Road West, Chorlton - Infiltration Testing Results

We are writing to report on the results of the soil infiltration tests undertaken at the above site. This report should be read in conjunction with BSL Phase II Geo-Environmental Assessment Report (Ref. MS/C5061/11249 issued September 2022).

The aim of the supplementary investigation was to provide infiltration rates in general accordance with BRE 365 in order to progress drainage design at the site.

Proposed Development
The proposed development is for commercial end use comprising a steel framed Lidl retail building with associated car park and soft landscaping areas as shown on drawing No. XX-XX-DR-A-91002 Proposed Site Plan -Option 2 provided by the client. The infiltration testing was undertaken to assist with preliminary SuDS designs for the development of the proposed car park.

Site Works
Two trial pits (SA101 to SA102) were excavated to depths of 2.00m bgl using a JCB 3CX on the 12th June 2025. The locations and depths of the tests were specified by the client prior to the intrusive investigation. The locations of the trial pits are shown on the attached Infiltration Test Location Plan (Drawing No. C5061/03).The logs are presented in Appendix A and the ground conditions are summarised below.

Ground Conditions
Reference to the BGS Geology of Britain Map Viewer indicates that the solid geology beneath the site comprises the Wilmslow Sandstone Formation, this stratum typically comprises sandstone. This is shown to be overlain by superficial deposits comprising Glaciofluvial Sheet Deposits which typically comprise sands and gravels.

The previous Phase II ground investigation undertaken by BSL (ref. MS/C5061/11249 Rev A) showed that the ground conditions generally comprised of granular made ground (representative of demolition material), overlying medium dense sands followed by stiff clay with varying amounts of sand and gravel as minor constituents.

Made Ground
Made ground was encountered in both SA101 and SA102, from ground level to 1.00m bgl in both locations. The made ground generally comprised hardstanding black tarmacadam from ground level

to 0.10m bgl underlain by black gravelly sand with low ash content to 1.00m bgl. Gravel primarily comprised of brick, concrete, slag, sandstone and metal.

Natural Superficial Strata
In SA101 and SA102, the made ground was underlain by a light grey fine to medium sand from 1.00m to 2.00m bgl.

Solid Geology
The solid geology of the Wilmslow Sandstone Formation was not encountered during this phase of investigation.

Soakaway Methodology
Due to collapse of both the made ground and natural being recorded in boreholes during the previous site investigation, the soakaway pits were filled with 20mm pea gravel prior to the undertaking of the infiltration test in order to prevent collapse which could potentially impact the infiltration data.

Results
The results of the infiltration tests are summarised below and indicate generally good drainage conditions, as shown in the table below. Detailed infiltration results are presented in Appendix B. The highest infiltration rates were recorded in SA102 with the best being $9.99x10^{-5}$m/s, but all tests showed an infiltration rate in the order of 10^{-5} m/s.

Location	Response Zone (m)	Infiltration Rate (m/s)		
		TEST 1	TEST 2	TEST 3
SA101	1.00 - 2.00	$9.30x10^{-5}$	$7.92x10^{-5}$	-
SA102	1.00 - 2.00	$9.99x10^{-5}$	$8.39x10^{-5}$	$8.39x10^{-5}$

Assessment
The soakaway tests undertaken in the selected locations indicate good drainage conditions. Based on the infiltration rates obtained, on the order of 10^{-5} m/s, it is likely that drainage to soakaways will be feasible at the site. We recommend the design of soakaway drainage is carried out in accordance with BRE 365 and CIRIA C753. Consideration should also be given to future maintenance, where infiltration capacity can be reduced as a result of blinding through ingress of fines.

Closing Remarks
Based on the results and the assessment, drainage to soakaways and other SuDS features is likely to be feasible at the subject site.

If drainage of the highway to soakaways is to be considered it is suggested that this is discussed with the Local Authority at the earliest opportunity, to confirm the adequacy of proposed testing and to allow their inspection of the test results.

We trust the above meets your requirements. If you have any queries, then please do not hesitate to contact the undersigned.

Yours sincerely
For Brownfield Solutions Ltd

Produced by: **Checked and approved by:**

[redacted]

Enc Drawings
Appendix A – Exploratory Hole Logs
Appendix B – Infiltration Test Results

Follow us on

DRAWINGS

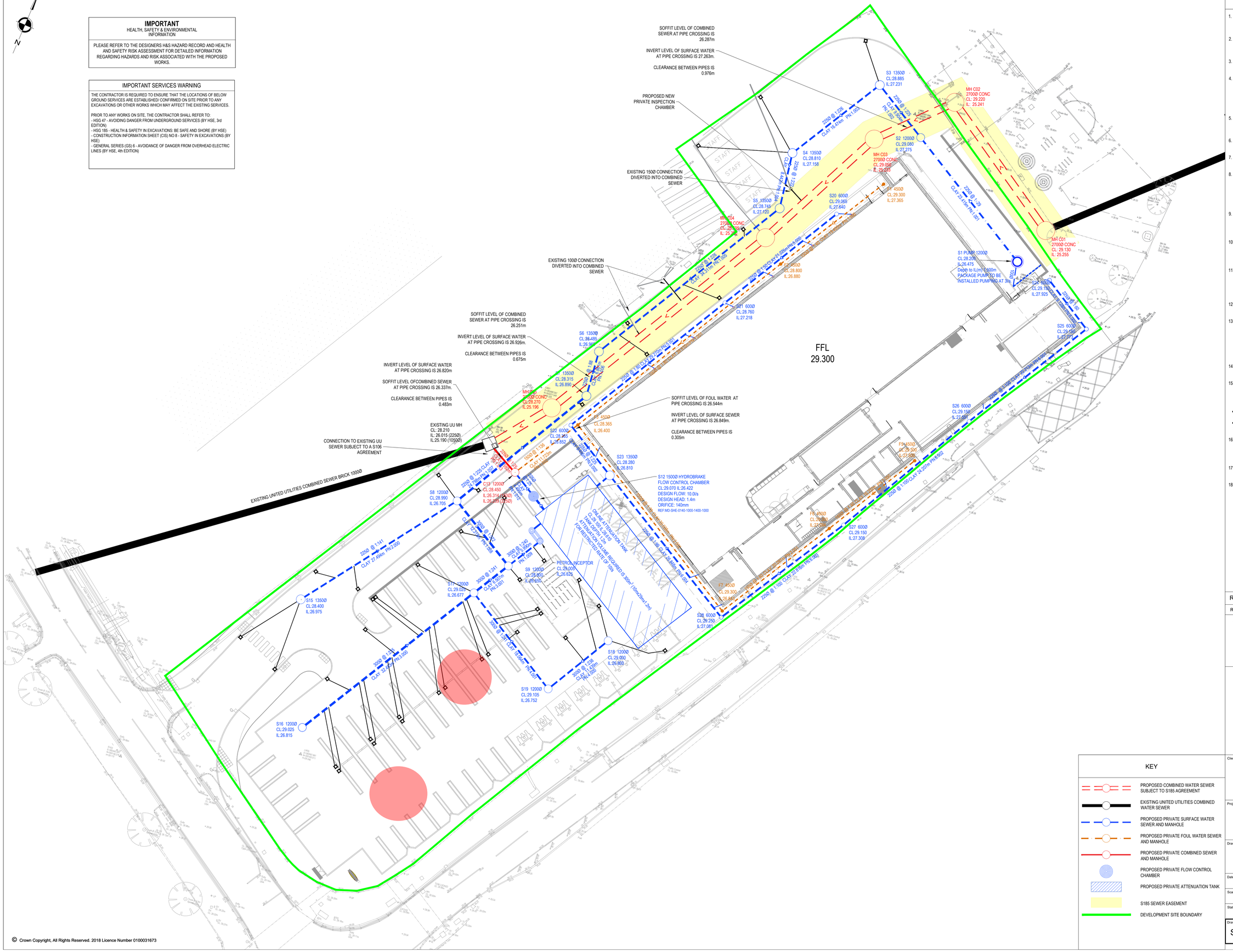
IMPORTANT
HEALTH, SAFETY & ENVIRONMENTAL INFORMATION

PLEASE REFER TO THE DESIGNERS H&S HAZARD RECORD AND HEALTH AND SAFETY RISK ASSESSMENT FOR DETAILED INFORMATION REGARDING HAZARDS AND RISK ASSOCIATED WITH THE PROPOSED WORKS.

IMPORTANT SERVICES WARNING

THE CONTRACTOR IS REQUIRED TO ENSURE THAT THE LOCATIONS OF BELOW GROUND SERVICES ARE ESTABLISHED/ CONFIRMED ON SITE PRIOR TO ANY EXCAVATIONS OR OTHER WORKS WHICH MAY AFFECT THE EXISTING SERVICES.

PRIOR TO ANY WORKS ON SITE, THE CONTRACTOR SHALL REFER TO:
- HSG 47 - AVOIDING DANGER FROM UNDERGROUND SERVICES (BY HSE, 3rd EDITION)
- HSG 185 - HEALTH & SAFETY IN EXCAVATIONS: BE SAFE AND SHORE (BY HSE)
- CONSTRUCTION INFORMATION SHEET (CIS) NO 8 - SAFETY IN EXCAVATIONS (BY HSE)
- GENERAL SERIES (GS) 6 - AVOIDANCE OF DANGER FROM OVERHEAD ELECTRIC LINES (BY HSE, 4th EDITION)


SOFFIT LEVEL OF COMBINED SEWER AT PIPE CROSSING IS 26.287m
INVERT LEVEL OF SURFACE WATER AT PIPE CROSSING IS 27.263m.
CLEARANCE BETWEEN PIPES IS 0.976m
PROPOSED NEW PRIVATE INSPECTION CHAMBER
EXISTING 150Ø CONNECTION DIVERTED INTO COMBINED SEWER
EXISTING 100Ø CONNECTION DIVERTED INTO COMBINED SEWER
SOFFIT LEVEL OF COMBINED SEWER AT PIPE CROSSING IS 26.251m
INVERT LEVEL OF SURFACE WATER AT PIPE CROSSING IS 26.926m.
CLEARANCE BETWEEN PIPES IS 0.675m
INVERT LEVEL OF SURFACE WATER AT PIPE CROSSING IS 26.820m
SOFFIT LEVEL OFCOMBINED SEWER AT PIPE CROSSING IS 26.337m.
CLEARANCE BETWEEN PIPES IS 0.483m
EXISTING UU MH CL: 28.210 IL: 26.015 (2250) IL:25.190 (1050Ø)
CONNECTION TO EXISTING UU SEWER SUBJECT TO A S106 AGREEMENT
EXISTING UNITED UTILITIES COMBINED SEWER BRICK 1000Ø
SOFFIT LEVEL OF FOUL WATER AT PIPE CROSSING IS 26.544m
INVERT LEVEL OF SURFACE SEWER AT PIPE CROSSING IS 26.849m.
CLEARANCE BETWEEN PIPES IS 0.305m
FFL 29.300
S3 1350Ø CL:28.885 IL:27.231
MH C02 2700Ø CONC CL: 29.220 IL: 25.241
S2 1200Ø CL:29.080 IL:27.275
MH C03 2700Ø CONC CL:29.050 IL: 25.223
S4 1350Ø CL:28.810 IL:27.158
S5 1350Ø CL:28.745 IL:27.420
S20 600Ø CL:29.065 IL:27.640
S1 450Ø CL:29.300 IL:27.365
MH C04 2700Ø CONC CL:29.000 IL: 25.000
S1 PUMP 1200Ø CL:28.200 IL:26.475 Depth to IL(m):2.500m PACKAGE PUMP TO BE INSTALLED PUMPING AT 3ltrs
MH C01 2700Ø CONC CL: 29.130 IL: 25.255
S21 600Ø CL:28.760 IL:27.218
S22 600Ø CL:28.965 IL:26.852
S23 1350Ø CL:28.280 IL:26.810
S6 1350Ø CL:28.485 IL:26.985
S7 1350Ø CL:28.315 IL:26.890
MH C05 2700 CONC CL:28.270 IL: 25.196
S24 600Ø CL:29.150 IL:27.925
S25 600Ø CL:29.150 IL:27.971
S26 600Ø CL:29.150 IL:27.996
S27 600Ø CL:29.150 IL:27.308
S28 600Ø CL:29.250 IL:27.081
F26 450Ø CL:29.300 IL:27.590
F27 450Ø CL:29.300 IL:27.540
S12 1500Ø HYDROBRAKE FLOW CONTROL CHAMBER CL:29.070 IL:26.422 DESIGN FLOW: 10.0l/s DESIGN HEAD: 1.4m ORIFICE: 140mm REF:MD-SHE-0140-1000-1400-1000
C13 1200Ø CL:28.450 IL:26.314 (1200) IL:26.139 (1250)
S8 1200Ø CL:28.990 IL:26.705
S9 1200Ø CL:28.800 IL:26.625
PETROL INCEPTOR CL:29.025 IL:26.625
ONLINE ATTENUATION TANK CL:29.000 IL:26.010 ATTENUATION VOLUME REQUIRED IS 300m³ (10m×20m×1.2m) FOR RESTRICTED RATE OF 10l/s
S17 1200Ø CL:29.025 IL:26.677
S18 1200Ø CL:29.050 IL:26.800
S19 1200Ø CL:29.105 IL:26.752
S15 1350Ø CL:28.400 IL:26.975
S16 1200Ø CL:29.025 IL:26.815
2250 @ 1:225 CLAY 16.141m PN 1.000
2250 @ 1:226 CLAY 16.474m PN 1.000
2250 @ 1:29 CLAY 23.413m PN 1.001
2250 @ 1:60 CLAY 34.119m PN 1.000
2250 @ 1:60 CLAY 34.119m PN 1.000
2250 @ 1:60 CLAY 34.119m PN 1.000



SITE LOCATION

NEAREST POSTCODE: M21 7AA

SITE ENTRANCE WHAT3WORDS: ///REAR.LEGEND.ROPES



REV	DATE	DESCRIPTION	BY	CKD

BROWNFIELD SOLUTIONS LTD
GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

CLIENT
LIDL GB LTD

PROJECT TITLE
LOWRY HOUSE, CHORLTON

DRAWING TITLE
SITE LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C5061/01	-	NTS	04/04/22

DRAWN BY	CHECKED BY
SD	JEM



KEY

APPROXIMATE SITE BOUNDARY

SOAKAWAY TEST LOCATION

NOTES

1. ALL DIMENSIONS TO BE CHECKED ON SITE BEFORE COMMENCING WORKS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ARCHITECT & ENGINEER FOR VERIFICATION. FIGURED DIMENSIONS ONLY ARE TO BE TAKEN FROM THIS DRAWING.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS REPORTS. THIS DRAWING IS COPYRIGHT OF BSL.
3. DRAWING NOT FOR CONSTRUCTION PURPOSES.

REV	DATE	DESCRIPTION	BY	CKD

BROWNFIELD SOLUTIONS LTD
GEO-ENVIRONMENTAL ENGINEERING EXCELLENCE

CLIENT
LIDL LTD

PROJECT TITLE
LOWRY HOUSE, CHORLTON

DRAWING TITLE
INFILTRATION TEST LOCATION PLAN

DRAWING No.	REVISION	SCALE	DATE
C5061/03	-	NTS	23/06/25

DRAWN BY	CHECKED BY
CMC	PH

APPENDIX A

Exploratory Hole Logs

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
SA101
Sheet 1 of 1

PROJECT NO:	C5061	**CO-ORDS:**	**Hole Type**: TP
PROJECT NAME:	LOWRY HOUSE, CHORLTON	**LEVEL:**	**Scale**: 1:25
CLIENT:	LIDL GB LTD	**DATES:**	12/06/25

Logged	Checked
CMC	PH

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	D		0.10			MADE GROUND: Black tarmacadam.
							Geotextile membrane encountered at 0.3m
							MADE GROUND: Black gravelly sand with low ash content. Sand is fine to course. Gravel is sub-angular fine to coarse of brick, concrete, slag, sandstone, and metal.
	1.00-2.00	D		1.00			Light grey fine to medium SAND.
▽				2.00			End of Trial Pit at 2.00m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Location scanned out with GPR, CAT and Genny by BSL engineer.
2. Small groundwater seepage at 2.00m bgl.
3. Soakaway was undertaken within trial pit, between 1.00m and 2.00m bgl.
4. Soakaway was filled with pea gravel to prevent collapse of granular soils.
5. Excess arisings left stockpiled onsite.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

BROWNFIELD SOLUTIONS LTD

Trial Pit Log

No.
SA102
Sheet 1 of 1

PROJECT NO:	C5061	**CO-ORDS:**	**Hole Type** TP
PROJECT NAME:	LOWRY HOUSE, CHORLTON	**LEVEL:**	**Scale** 1:25
CLIENT:	LIDL GB LTD	**DATES:** 12/06/25	**Logged** CMC / **Checked** PH

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.00-1.00	D		0.10			MADE GROUND: Black tarmacadam.
							Geotextile membrane encountered at 0.3m
							MADE GROUND: Black granually sand with low ash content. Sand is fine to course, gravel is sub angular fine to course of brick, concrete, slag, sandstone, and metal.
	1.00-2.00	D		1.00			Light grey fine to medium SAND.
				2.00			End of Trial Pit at 2.00m

1.0
2.0
3.0
4.0
5.0

Remarks

1. Location scanned out with GPR, CAT and Genny by BSL engineer.
2. No groundwater encountered.
3. Soakaway was undertaken within trial pit, between 1.00m and 2.00m bgl.
4. Soakaway was filled with pea gravel to prevent collapse of granular soils.
5. Excess arising left stockpiled onsite.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

APPENDIX B

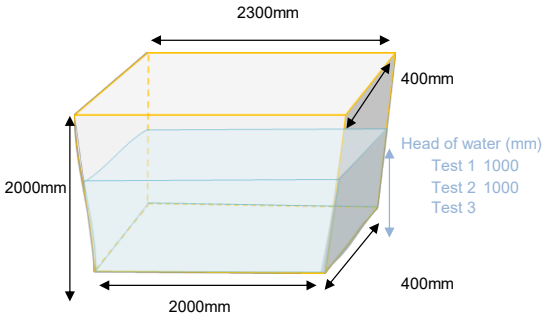
Infiltration Test Results

Percolation Test	LIDL LTD	Date of Test: 12/06/2025
	LOWRY HOUSE, CHORLTON	Logged By: CMC
SA101	C5061	Checked By: PH

BROWNFIELD SOLUTIONS LTD

Dimensions (mm)	TEST 1	TEST 2	TEST 3
Length at Top	2300	2300	
Length at Bottom	2000	2000	
Width at Top	400	400	
Width at Bottom	400	400	
Depth Tested (Head of Water)	1000	1000	
Depth of Excavation	2000	2000	
Volume of Water (m3)	0.86	0.86	
Void Ratio	0.3	0.3	
Factored Volume of Water (m3)	0.258	0.258	
Strata Description	Light grey SAND.		
Pit Details	Single size gravel fill (10mm).		

Test Pit Construction



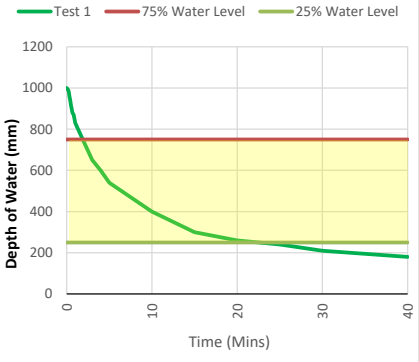
Site Recorded Data

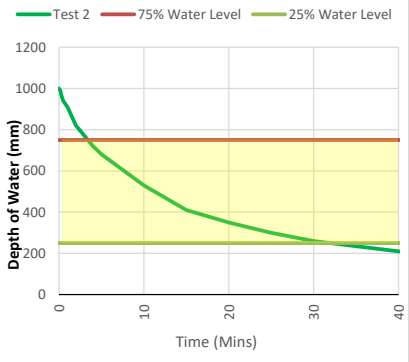
Test 1			Test 2			Test 3		
Time (mins)	Depth to water (mm)	Head of water (mm)	Time (mins)	Depth to water (mm)	Head of water (mm)	Time (mins)	Depth to water (mm)	Head of water (mm)
0.00	1000	1000	0.00	1000	1000			
0.17	1010	990	0.17	1010	990			
0.25	1020	980	0.25	1030	970			
0.33	1040	960	0.33	1040	960			
0.42	1060	940	0.42	1050	950			
0.50	1080	920	0.50	1060	940			
0.67	1120	880	0.67	1070	930			
0.83	1130	870	0.83	1080	920			
1.00	1170	830	1.00	1090	910			
2.00	1260	740	2.00	1180	820			
3.00	1350	650	3.00	1230	770			
4.00	1400	600	4.00	1280	720			
5.00	1460	540	5.00	1320	680			
10.00	1600	400	10.00	1470	530			
15.00	1700	300	15.00	1590	410			
20.00	1740	260	20.00	1650	350			
25.00	1760	240	25.00	1700	300			
30.00	1790	210	30.00	1740	260			
40.00	1820	180	40.00	1790	210			
			50.00	1840	160			

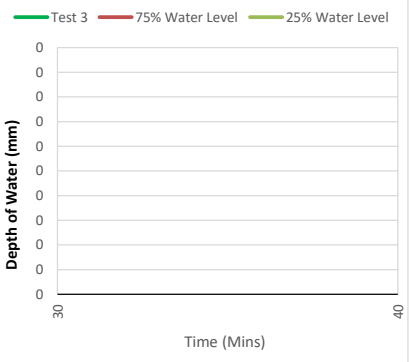
Percolation Test	**LIDL LTD**	Date of Test: 12/06/2025
	LOWRY HOUSE, CHORLTON	Logged By: CMC
SA101	C5061	Checked By: PH

BROWNFIELD SOLUTIONS LTD

Data Analysis







Soil Infiltration Rate Calculation

	Test 1	Test 2	Test 3
Water Level 1	750.000	750.000	
Water Level 2	250.000	250.000	
Time to drain from Water Level 1 to Level 2 (n	23.000	27.000	
Volume of Water Discharged m3)	0.4300000	0.4300000	
Discharge Area (m3)	3.350	3.350	
Soil Infiltration Rate (m/min)	0.0055808	0.0047540	
Soil Infiltration Rate (m/sec)	9.30E-05	7.92E-05	

Compliancy Check

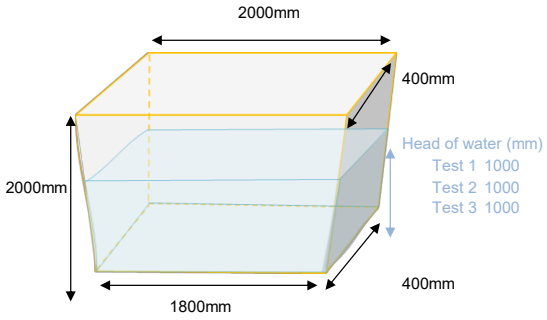
	Test 1	Test 2	Test 3
Water Level at 75% effective depth (mm)	750	750	
Water Level at 25% effective depth (mm)	250	250	
	Compliant with BRE 365	Compliant with BRE 365	

Percolation Test	LIDL LTD	Date of Test: 12/06/2025
	LOWRY HOUSE, CHORLTON	Logged By: CMC
SA102	C5061	Checked By: PH

BROWNFIELD SOLUTIONS LTD

Dimensions (mm)	TEST 1	TEST 2	TEST 3
Length at Top	2000	2000	2000
Length at Bottom	1800	1800	1800
Width at Top	400	400	400
Width at Bottom	400	400	400
Depth Tested (Head of Water)	1000	1000	1000
Depth of Excavation	2000	2000	2000
Volume of Water (m3)	0.76	0.76	0.76
Void Ratio	0.3	0.3	0.3
Factored Volume of Water (m3)	0.228	0.228	0.228
Strata Description	Light grey SAND.		
Pit Details	Single size gravel fill (10mm).		

Test Pit Construction

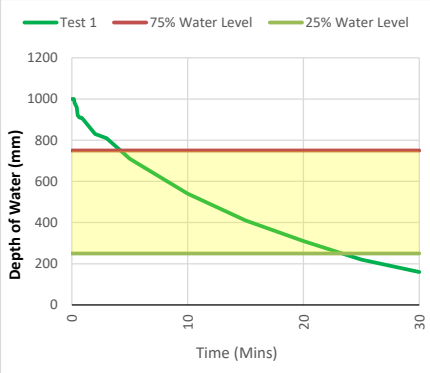


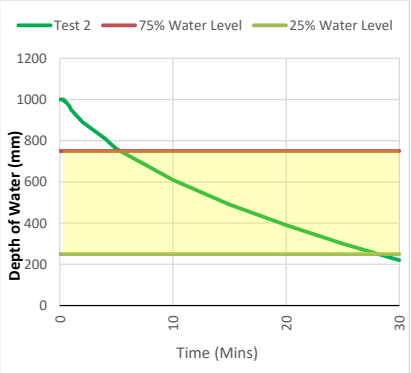
Site Recorded Data

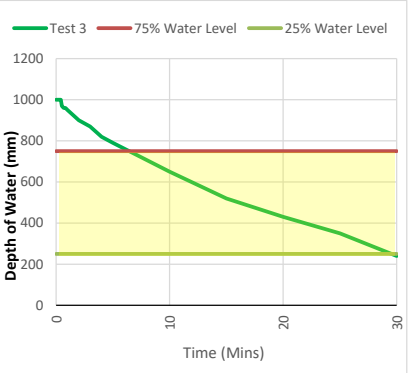
Test 1			Test 2			Test 3		
Time (mins)	Depth to water (mm)	Head of water (mm)	Time (mins)	Depth to water (mm)	Head of water (mm)	Time (mins)	Depth to water (mm)	Head of water (mm)
0.00	1000	1000	0.00	1000	1000	0.00	1000	1000
0.17	1000	1000	0.17	1000	1000	0.17	1000	1000
0.25	1020	980	0.25	1000	1000	0.25	1000	1000
0.33	1030	970	0.33	1000	1000	0.33	1000	1000
0.42	1040	960	0.42	1010	990	0.42	1000	1000
0.50	1080	920	0.50	1010	990	0.50	1030	970
0.67	1090	910	0.67	1020	980	0.67	1040	960
0.83	1090	910	0.83	1030	970	0.83	1040	960
1.00	1100	900	1.00	1050	950	1.00	1050	950
2.00	1170	830	2.00	1110	890	2.00	1100	900
3.00	1190	810	3.00	1150	850	3.00	1130	870
4.00	1240	760	4.00	1190	810	4.00	1180	820
5.00	1290	710	5.00	1240	760	5.00	1210	790
10.00	1460	540	10.00	1390	610	10.00	1350	650
15.00	1590	410	15.00	1510	490	15.00	1480	520
20.00	1690	310	20.00	1610	390	20.00	1570	430
25.00	1780	220	25.00	1700	300	25.00	1650	350
30.00	1840	160	30.00	1780	220	30.00	1760	240

Percolation Test	**LIDL LTD**	Date of Test: 12/06/2025	BROWNFIELD SOLUTIONS LTD
	LOWRY HOUSE, CHORLTON	Logged By: CMC	
SA102	C5061	Checked By: PH	

Data Analysis







Soil Infiltration Rate Calculation

	Test 1	Test 2	Test 3
Water Level 1	750.000	750.000	750.000
Water Level 2	250.000	250.000	250.000
Time to drain from Water Level 1 to Level 2 (n	21.000	25.000	25.000
Volume of Water Discharged m3)	0.3800000	0.3800000	0.3800000
Discharge Area (m3)	3.020	3.020	3.020
Soil Infiltration Rate (m/min)	0.0059918	0.0050331	0.0050331
Soil Infiltration Rate (m/sec)	9.99E-05	8.39E-05	8.39E-05

Compliancy Check

	Test 1	Test 2	Test 3
Water Level at 75% effective depth (mm)	750	750	750
Water Level at 25% effective depth (mm)	250	250	250
	Compliant with BRE 365	Compliant with BRE 365	Compliant with BRE 365