

Technical Note

Project: 19 Parkside Road, Reading

SMA Ref: 7188

Subject: Drainage Statement

Doc Ref. 7188 – DS TN Issue 05

Prepared by: ERL

Date: 25/09/2025

Checked by: JOK

Date: 25/09/2025

Revised by: MP

Date: 27/01/2026

1.0 INTRODUCTION

- 1.1 Stuart Michael Associates have been instructed by Mr Richard Stimpson to provide a surface water and foul water drainage strategy for land at 19 Parkside Road, Reading, RG30 2BT.
- 1.2 The application is for the 'phased outline planning permission for 4 no. residential dwellings, associated demolition of outbuildings with access from Parkside Road and Kearsley Road at Land rear of 19 Parkside Road, Reading.'
- 1.3 The Ordnance Survey national grid reference for the approximate centre of the site is 469540E, 172801N. The approximate area of the Site is 0.33ha.
- 1.4 This Technical Note has been produced in accordance with the Reading Borough Council Sustainable Design and Construction Supplementary Planning Document adopted December 2019, Reading Borough Council Local Plan adopted November 2019, and CIRIA SuDS Manual C753.
- 1.5 The proposed site layout is included as **Appendix A**.

2.0 EXISTING DRAINAGE

- 2.1 The topographical survey undertaken by Geopoint in December 2023 is included as **Appendix B**.
- 2.2 The topographical survey indicates a number of existing inspection chambers, gullies and downpipes across the Site.

3.0 SURFACE WATER DRAINAGE STRATEGY

- 3.1 The destination for surface water runoff should be prioritised as set out in Requirement H3 Part 3 of the Building Regulations Approved Document H (2002 Edition), which states:

Rainwater should discharge to one of the following listed in order of priority:

- (a) An adequate soakaway or some adequate infiltration system; or, where this is not reasonably practicable,
- (b) A watercourse; or, where that is not reasonably practicable,
- (c) A sewer

- 3.2 There are no watercourses within the vicinity of the site to provide a point of discharge.

- 3.3 British Geological Survey (BGS) mapping indicates that the site is underlain by superficial deposits of Lynch Hill Gravel Member (Sand and gravel), and bedrock geology of Lambeth Group (Clay, silt and sand).
- 3.4 A ground investigation was conducted for a site approximately 40m south-east from the Site. The infiltration testing indicated that infiltration was appropriate for a soakaway. The sub strata indicated that there were several soils including gravely clayey sand overlying clayey sandy gravel. The lowest infiltration rate at the site was 4.67×10^{-6} m/s.
- 3.5 Two trial pits were excavated to conduct BRE365 Soakage Testing. Trial pit SA1 showed Topsoil to 0.25m, Made Ground (with Clay) to 1.55m, Sand to 1.8m, Clay to 2.1m and Sand 3.25m. From 1.55m it was indicated that the ground was either Lynch Hill Gravel Member or Lambeth Group-Reading Formation.
- 3.6 Trial Pit SA2 showed Topsoil to 0.25m, Made Ground (with Clay) to 1.65m, Dense darkish brown gravelly clayey SAND/gravelly sandy CLAY to 2.70m, slightly sandy gravel to 3.25m. From 1.65m it was indicated that the ground was Lynch Hill Gravel Member.
- 3.7 The infiltration testing at the adjacent site, as part of the ground investigation study, was undertaken in accordance with BRE365. Extracts of this ground investigation are included as **Appendix F**.
- 3.8 However, as this ground investigation was completed for another site, a site-specific intrusive ground investigation will need to be conducted prior to detailed design. The investigation would include infiltration testing and seasonal ground water monitoring to ensure the water table is not too high to affect the use of soakaways.
- 3.9 Due to the local geology and the infiltration rates found through soakaway testing in nearby areas, it is considered that infiltration methods will be feasible for the disposal of surface water runoff from the proposed development.
- 3.10 Reading Borough Council SuDS guidance states that all major developments must incorporate SuDS as appropriate (outlined in Policy EN18: Flooding and Sustainable Drainage Systems of the Reading Borough Council Local Plan) and in line with the Government's Technical Standards. Smaller schemes are encouraged to incorporate SuDS where possible.
- 3.11 Policy EN18:
- "Development will be directed to areas at lowest risk of flooding in the first instance, following the Sequential and Exceptions Test set out in the NPPF, and taking into account the effects of climate change. It will consider flooding from all sources, including fluvial, surface water, groundwater and sewer flooding. Where development in areas at risk of flooding is necessary, it will not reduce the capacity of the flood plain to store floodwater, impede the flow of floodwater or in any way increase the risks to life and property arising from flooding. Wherever possible, development should be designed to reduce flood risk, both on-and off-site".

Proposed Development Layout

- 3.12 It is proposed that all surface water runoff from the development will be attenuated and infiltrated via the use of porous paving and soakaways. Porous paving is proposed within part of the access road and all private parking bays and a soakaway proposed within the gardens of units 3 and 4. The porous paving and soakaways will provide attenuation storage for all storm events up to and including the 1 in 100-year event plus 40% climate change event.

- 3.13 Water butts are also proposed on each property to provide rainwater harvesting opportunities for the residents to use recreationally. Water butts can catch the first 5mm of rainfall during a storm event, which can help mitigate against flash flood events.
- 3.14 The retained dwelling on Site will continue to utilise the existing drainage, which is indicated to be discharge of surface water using a soakaway. The topographical survey indicates that there are inspection chambers adjacent to the building, but it does not decipher between foul or surface water.
- 3.15 A CCTV route and condition survey will need to be conducted prior to commencement of works to establish the existing drainage for the retained dwelling on Site. This requirement can be conditioned on any planning permission.
- 3.16 The surface water drainage strategy is included as **Appendix C**.
- 3.17 Surface water calculations for the permeable paving and soakaways are included as **Appendix D**.

4.0 WATER QUALITY MANAGEMENT

- 4.1 Appropriate pollution control measures will be included in the surface water drainage system to minimise the risk of contamination or pollution entering the receiving groundwater from surface water runoff from the development.
- 4.2 **Table 1** details the pollution hazard indices for the Site as stated by CIRIA C753. The indices range from 0 (no pollution hazard for this contaminant type) to 1 (high pollution hazard for this contaminant type).

Land Use	Pollution Hazard	Total Suspended solids (TSS)	Metals	Hydro-carbons
Individual property driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change	Low	0.5	0.4	0.4

Table 1: Pollution Hazard indices for land use classification

- 4.3 In accordance with CIRIA Report C753: The SuDS Manual, a “SuDS Management Train” process will be undertaken to assure that the proposed drainage strategy provides appropriate levels of risk management for the receiving ground, as shown in **Table 2**.

SuDS Component	Interception	Primary Treatment	Secondary Treatment
Pervious pavements	Y	Y	

Table 2: Indicative suitability of SuDS components within the Management Train

- 4.4 To deliver adequate treatment, selected SuDS components must have a total pollution index (for each contaminant type) that equals or exceeds the pollution hazard index. The proposed SuDS components for the site, and their mitigation indices, are produced in **Table 3**.

SuDS Component	Total Suspended solids (TSS)	Metals	Hydro-carbons
Constructed permeable pavement (where a suitable filtration layer is included that provides treatment, and including a geotextile at the base separating the foundation from the subgrade) underlain by a soil with good contaminant attenuation potential of at least 300mm in depth	0.7	0.6	0.7

Table 3: Indicative SuDS mitigation indices for discharges to groundwater

- 4.5 For the redevelopment of the site into residential dwellings, it is considered that sufficient pollution treatment is provided within the proposed SuDS Management Train to surface water before infiltrating into the ground, minimising risk to water quality.
- 4.6 A typical maintenance schedule for porous pavements and raingardens in line with The SuDS Manual C753 is included as **Appendix E**.

5.0 WASTEWATER DRAINAGE STRATEGY

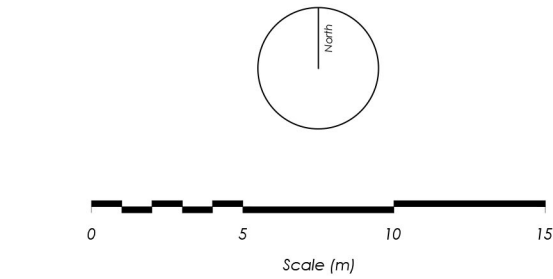
- 5.1 It is proposed to discharge wastewater to the existing surrounding Thames Water Utilities Limited (TWUL) sewers via a gravity connection and via the use of a private pumping station. TWUL mapping indicates there is a foul sewer located within Kearsley Road to the northwest and within Parkside Road in the east. Due to the levels on site, it is proposed to have two separate foul outfall locations.
- 5.2 Foul flows from units 3 and 4 will discharge via a private foul pumping station into the TWUL foul manhole 4802 within Kearsley Road.
- 5.3 Foul flows from units 1 and 2 will be discharged via a private foul pumping station located at the south of the Site, and into Parkside Road via a new connection between TWUL foul manholes 5801 and 6701.
- 5.4 TWUL have a duty to serve the development needs and will be required to undertake further investigation, including modelling, to ensure that their network has sufficient capacity for their entire development.
- 5.5 The proposed foul Drainage Strategy can be seen within **Appendix C**.

6.0 CONCLUSION

- 6.1 The proposed drainage strategy is designed to accommodate the increase in impermeable area in the Site.
- 6.2 Surface water on Site will infiltrate into the underlying ground via the use of soakaways and permeable paving. Water butts are also proposed on each unit to help cope with initial rainfall and provide opportunities for rainwater harvesting.
- 6.3 The proposed foul drainage strategy incorporates two separate outfalls. A private foul pumping station is proposed from units 3 and 4 into the existing TWUL sewers within Kearsley Road. Foul flows from units 1 and 2 will be conveyed into the existing TWUL foul sewer located in Parkside Road via a separate private foul pumping station.

Appendix A

Proposed Layout



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- Key:
- Existing Tree Removed
 - Existing Tree Retained
 - Existing Tree Root Protection Area
 - Existing Hedge Retained
 - New Tree

C B A	01.09.25	Drawing Revised
	12.08.25	Drawing Revised
	28.07.25	Drawing Revised
Revisions		
Client		
Mr R Stimpson		
Project		
Residential Development 19 Parkside Road Reading RG30 2BT		
Status		
Planning		
Date		
2025.07.03		
Scale		Size
1:250		A1
Title		
Illustrative Development Layout		
Number	22.19-021	Revision
		C

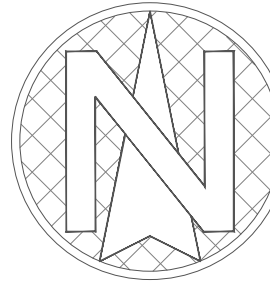
Spires Architects

9 Monks Way | Reading | RG30 3DP
Tel: 07495 529905

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Appendix B

Topographical Survey



LEGEND

AV	Air Valve	ME	Manhole Electricity
BB	Belisha Beacon	MF	Manhole Foul
BI	Illum Bollard	MH	Manhole General
BL	Bollard	MK	Marker Post
BM	Bench Mark	MRF	Metal Railing Fence
BP	Brick Pillar	MS	Manhole Surface Water
BPS	Block Paving Slabs	MW	Water Supply/Meter
BRK	Brick	NB	Notice Board
BS	Bus Stop/Shelter	OHC	Over Head Cable
BW	Brick Wall	P	Post
BRW	Brick Retaining Wall	PB	Post Box
CB	Telephone Box	PI	Pipe
CBF	Close Boarded Fence	RE	Rodding Eye
CC	CCTV Camera	RG	Road Gully
Ce	Cats Eye	RN	Road Name Plate
CL	Cover Level	RP	Reflector Post
CLF	Chain Link Fence	PRF	Post & Rail Fence
CONC	Concrete	RS	Road Sign
CPS	Concrete Paving Slabs	PWF	Post & Wire Fence
CW	Concrete Wall	Sap	Sapling
CRW	Concrete Ret. Wall	SMP	Sheet Metal Piling
DK	Drop Kerb	SL	Soffit Level
EB	Electricity Box	Stu	Stump
EP	Electricity Pole	SP	Sign Post
FB	Flower Bed	SV	Stop Valve
FH	Fire Hydrant	SW	Stay Wire
FL	Flood Light	TH	Threshold Level
FS	Flag Staff	TL	Traffic Light
FP	Footpath	TP	Telegraph Pole
G	Gully	TPS	Tactile Paving
HW	Headwall	TSR	Tubular Steel Railings
IC	Inspection Cover	TV	Cable TV Point
IL	Invert Level	TC	Traffic Camera
IRF	Iron Railing Fence	TW	Top of wall
KW	Kerb Weir Inlet	VP	Vent
LB	Litter Bin	WL	Water level
LP	Lamp Post	WMP	Wire Mesh Fence
MB	Manhole Telecom	WO	Washout
MC	Manhole Cable	WPR	Wooden Post & Rail

NOTES

1. The Grid is OSGB 36 using OSTN15 & OSGB15 on the OS Active Network
2. All levels are related to OS Datum (Newlyn)
3. Contours are shown at 0.25m intervals

Rev	Date	Description	Checked
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geopoint.
Geospatial Engineering & Surveying

Client	Richard Stimpson			
Project	19 Parkside Road, Reading, RG30 2BT			
Title	Topographical Survey			
Drawing No.	Geo23-127_T			
Scale	1:500 @ A3	Date	21/12/2023	
Drawn	DOK	Checked	DOK	Approved DOK
Geopoint Ltd. Unit 8 Jupiter House Calleva Park Aldermaston Reading				

Appendix C

Proposed Drainage Strategy

Appendix D

Proposed Surface Water Calculations

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
Porous 2	0.075	5.00	58.440	1200	469533.273	172784.652	1.000	57.440
Porous 1	0.025	5.00	58.710		469478.249	172807.573	1.000	57.710
Soakaway 1	0.011	5.00	58.300		469478.469	172774.683	1.600	56.700
Soakaway 2	0.008	5.00	58.370		469488.887	172777.715	1.600	56.770

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	0.0		

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	10	0
30	0	10	0
100	0	10	0
100	40	10	0

Node Porous 2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.01683	Invert Level (m)	57.440	Slope (1:X)	150.0
Side Inf Coefficient (m/hr)	0.01683	Time to half empty (mins)	605	Depth (m)	
Safety Factor	2.0	Width (m)	3.000	Inf Depth (m)	
Porosity	0.30	Length (m)	113.000		

Node Porous 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.01683	Invert Level (m)	57.710	Slope (1:X)	50.0
Side Inf Coefficient (m/hr)	0.01683	Time to half empty (mins)	548	Depth (m)	1.000
Safety Factor	2.0	Width (m)	4.000	Inf Depth (m)	1.000
Porosity	0.30	Length (m)	55.000		

Node Soakaway 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.01683	Safety Factor	2.0	Invert Level (m)	56.700
Side Inf Coefficient (m/hr)	0.01683	Porosity	0.95	Time to half empty (mins)	4403

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	18.0	18.0	0.800	18.0	18.0

Node Soakaway 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.01683	Safety Factor	2.0	Invert Level (m)	56.770
Side Inf Coefficient (m/hr)	0.01683	Porosity	0.95	Time to half empty (mins)	4403

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	14.0	14.0	0.800	14.0	14.0

Results for 2 year +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute summer	Porous 2	328	57.868	0.428	2.8	12.8972	0.0000	OK
720 minute summer	Porous 1	465	58.090	0.380	0.7	3.9693	0.0000	OK
480 minute summer	Soakaway 1	392	56.842	0.142	0.4	2.4198	0.0000	OK
1440 minute winter	Soakaway 2	960	56.904	0.134	0.1	1.7827	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
480 minute summer	Porous 2	Infiltration	0.6
720 minute summer	Porous 1	Infiltration	0.2
480 minute summer	Soakaway 1	Infiltration	0.0
1440 minute winter	Soakaway 2	Infiltration	0.0

Results for 30 year +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Porous 2	232	58.134	0.694	7.3	33.3401	0.0000	OK
180 minute summer	Porous 1	180	58.330	0.620	4.4	10.5212	0.0000	OK
720 minute summer	Soakaway 1	735	57.067	0.367	0.6	6.2728	0.0000	OK
720 minute winter	Soakaway 2	690	57.131	0.361	0.3	4.8021	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
240 minute winter	Porous 2	Infiltration	0.9
180 minute summer	Porous 1	Infiltration	0.4
720 minute summer	Soakaway 1	Infiltration	0.0
720 minute winter	Soakaway 2	Infiltration	0.0

Results for 100 year +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Porous 2	236	58.231	0.791	9.2	43.0863	0.0000	OK
180 minute winter	Porous 1	176	58.417	0.707	3.8	13.6787	0.0000	OK
960 minute summer	Soakaway 1	975	57.189	0.489	0.6	8.3680	0.0000	OK
720 minute summer	Soakaway 2	735	57.237	0.467	0.6	6.2140	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
240 minute winter	Porous 2	Infiltration	1.0
180 minute winter	Porous 1	Infiltration	0.4
960 minute summer	Soakaway 1	Infiltration	0.0
720 minute summer	Soakaway 2	Infiltration	0.0

Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
360 minute winter	Porous 2	344	58.423	0.983	9.2	62.8095	0.0000	OK
240 minute winter	Porous 1	232	58.566	0.856	4.3	20.0375	0.0000	OK
2160 minute winter	Soakaway 1	2040	57.411	0.711	0.3	12.1589	0.0000	OK
1440 minute winter	Soakaway 2	1350	57.438	0.668	0.3	8.8783	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)
360 minute winter	Porous 2	Infiltration	1.1
240 minute winter	Porous 1	Infiltration	0.5
2160 minute winter	Soakaway 1	Infiltration	0.0
1440 minute winter	Soakaway 2	Infiltration	0.0

Appendix E

SuDS Management & Maintenance

Table 20.15 Operation and maintenance requirements for pervious pavements

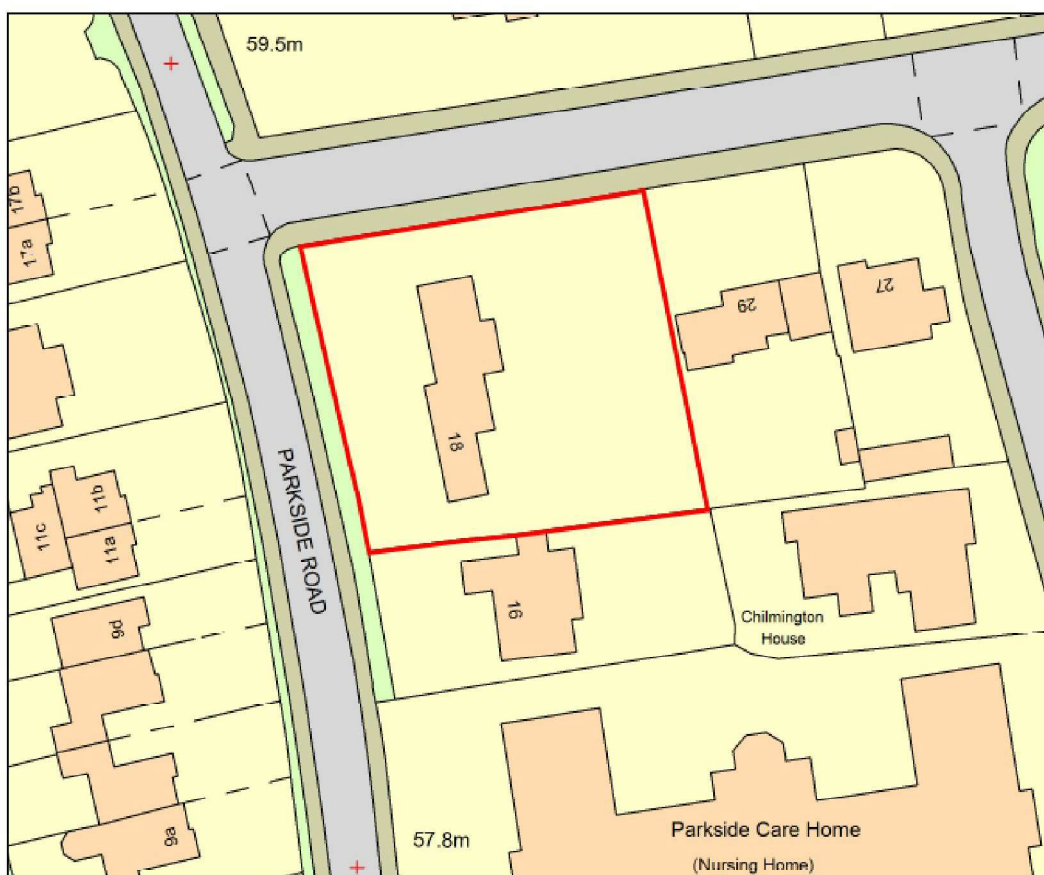
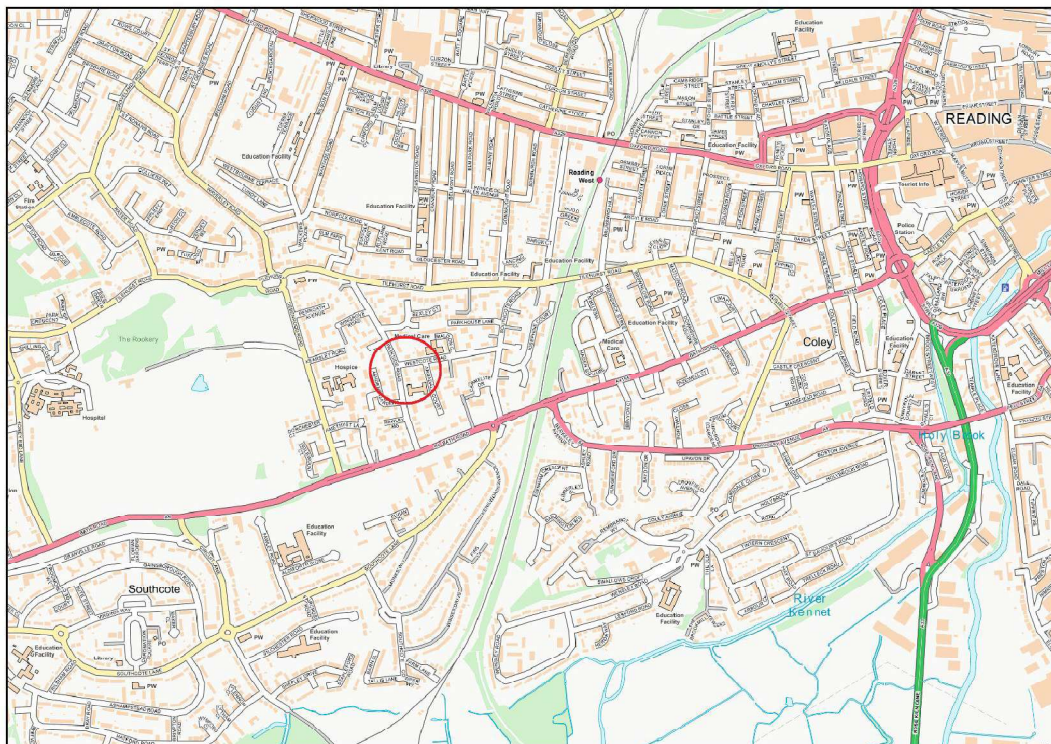
Maintenance Schedule	Required action	Frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface).	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations - pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment.
Occasional maintenance	Stabilise and mow contributing and adjacent areas.	As required.
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying.	As required - once per year on less frequently used pavements
Remedial actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving.	As required.
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material.	As required.
	Rehabilitation of surface and upper sub-structure by remedial sweeping.	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging).
Monitoring	Initial inspection.	Monthly for three months after installation.
	Inspect for evidence of poor operation and/or weed growth - if required, take remedial action.	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies.	Annually.
	Monitor inspection chambers	Annually.

Table 13.1 Operation and maintenance requirements for soakaways

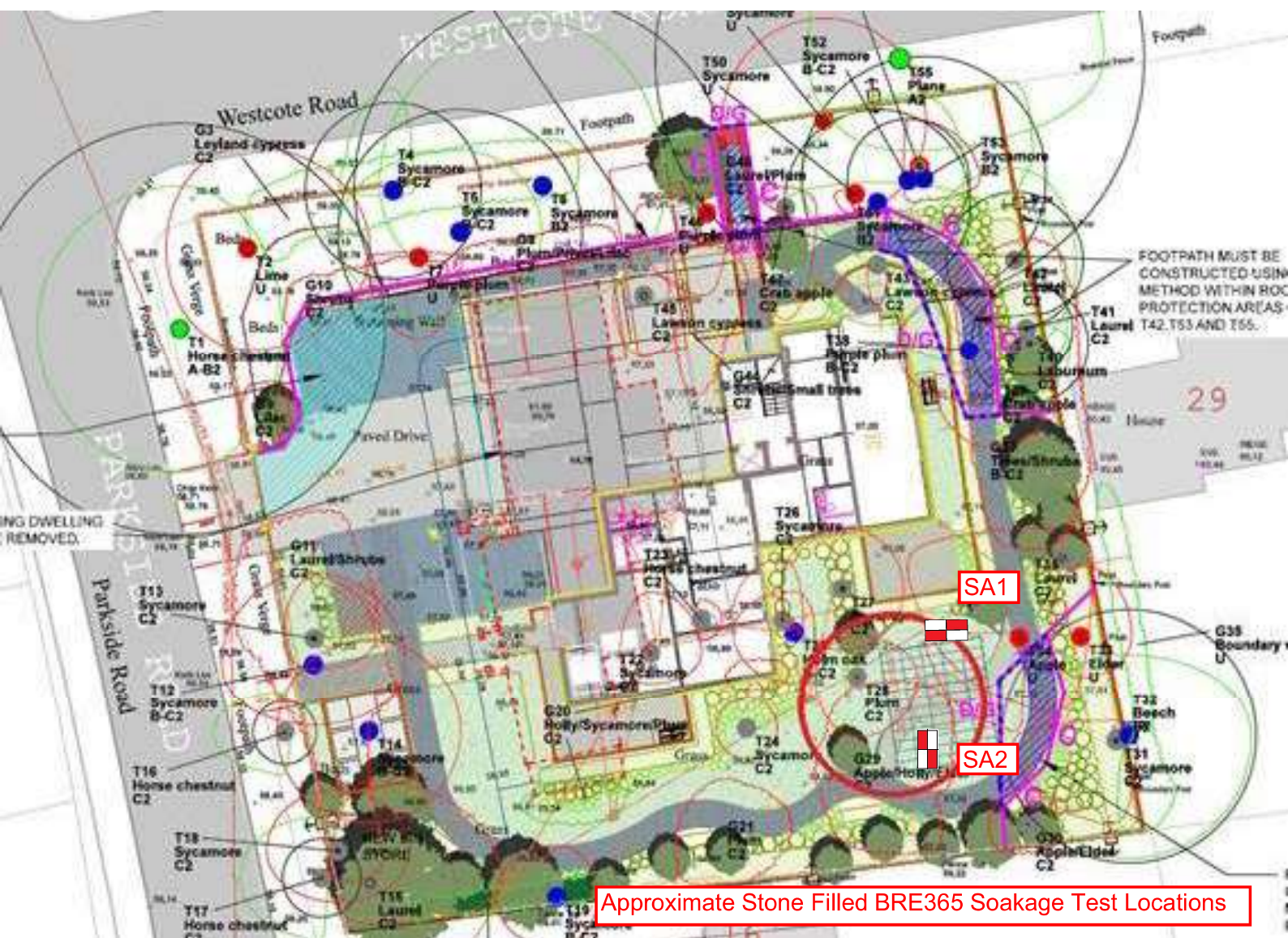
Maintenance Schedule	Required action	Frequency
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	Annually.
	Cleaning of gutters and any filters on downpipe.	Annually (or as required based on inspections).
	Trimming of any roots that may be causing blockages	Annually (or as required).
Occasional maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	As required.
Remedial actions	Reconstruct soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs.	As required.
	Replacement of clogged geotextile (will require reconstruction of soakaway).	As required.
Monitoring	Inspect silt traps and note rate of sediment accumulation	Monthly in the first year and then annually.
	Check soakaway to ensure emptying is occurring.	Annually.

Appendix F

Extracts of Ground Investigation



SOAKAGE TEST LOCATIONS



 iGeo Limited 183 Long Lane Tilehurst Reading RG31 6YW	REMARKS: Soakage Trial Pits Excavated on 10th November 2022
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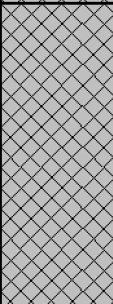
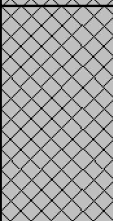
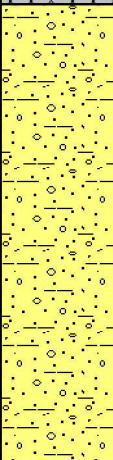
REMARKS: Soakage Trial Pits Excavated on 10th November 2022

B=BULK SAMPLE

W=WATER SAMPLE

SPT=STANDARD PENETRATION TEST

CPT=CONE PENETRATION TEST

PAGE: 4		iGeo-22-165					TRIALPIT SA2		
DATE:13.09.22		18 Parkside Road, Reading, RG30 2DB							
DESCRIPTION	REDUCED	DEPTH	LEGEND	SAMPLE		THICKNESS	SPT	REMARKS	
	LEVEL m			m	TYPE				DEPTH
TOPSOIL		0.00				0.25		Soakage Trial Pit (1.9m x 0.45m x 3.1m average depth)	
MADE GROUND: Soft brown sandy silty CLAY, with fine to coarse sub-rounded flint gravel		0.25				0.20			
MADE GROUND: Firm to stiff brown & occasionally dark brown silty CLAY, with occasional fine to coarse sub-rounded flint gravel, also occasional coal & rare brick fragments		0.45				0.70		Over WS1	
MADE GROUND: Very stiff (desiccated) brown silty CLAY, with occasional fine to coarse sub-rounded & sub-angular flint gravel (brick at side at 1.5m)		1.15				0.50		Variable horizon	
Dense darkish brown gravelly clayey SAND / gravelly sandy CLAY. Gravel is fine to coarse sub-rounded & sub-angular flint [Probable Natural or Reworked, Lynch Hill Gravel Member]		1.65				1.05			
Medium dense orange brown slightly clayey sandy GRAVEL. Gravel is fine to coarse sub-rounded flint. Occasional flint cobbles [Lynch Hill Gravel Member]		2.70				0.65		Water fill depths: 1st Fill ~2.6m 2nd Fill ~2.4m 3rd Fill ~2.23m A 50mm perforated standpipe was installed, before the trial pit was backfilled with a single sized 20mm flint gravel (voids ratio 37.6%) to the surface. Water level dataloggers were then installed before the pits had water added (3 fills)	
		3.35						The trial pit was dry & stable on completion	
 iGeo Limited 183 Long Lane Tilehurst Reading RG31 6YW			REMARKS: Soakage Trial Pits Excavated on 10th November 2022						
U100=100mm dia. UNDISTURBED SAMPLE B=BULK SAMPLE W=WATER SAMPLE			U38=38mm dia. UNDISTURBED SAMPLE SPT=STANDARD PENETRATION TEST			D=SMALL DISTURBED SAMPLE CPT=CONE PENETRATION TEST			

PAGE: 5

DATE:13.09.22

iGeo-22-165

18 Parkside Road, Reading, RG30 2DB

SOAKAGE TESTS

Soakaway Design Calculations to BRE365 (DG 365 Revised 2016)

Soakage Test Number SA1

Trial Pit Soakage Test

Soakage Pit Length [m] 2.00
Soakage Pit Width [m] 0.45
Soakage Pit Depth [m] 3.10
TP Test Base (if different) [m] 3.10
Pit Voids [%] 37.6

(100% if an open pit,
30% or measured if stone)

Borehole Soakage Test

Borehole Diameter [m]
Standpipe Diameter [m]
Borehole Depth [m]
BH Test Base (if different) [m]
Bentonite Seal Depth [m]
Borehole Surround Voids [%]

(100% if an open Borehole
30% if stone)

First Fill

Date (dd/mm/yy)	Hours (24hr)	Mins	Elapsed Time	Depth to Water (m)	Collapsing Observed (°C)
10/11/22	14	26	0	2.131	
10/11/22	14	27	1	2.195	
10/11/22	14	28	2	2.257	
10/11/22	14	29	3	2.325	
10/11/22	14	30	4	2.381	
10/11/22	14	32	6	2.485	
10/11/22	14	34	8	2.575	
10/11/22	14	36	10	2.653	
10/11/22	14	38	12	2.731	
10/11/22	14	40	14	2.801	
10/11/22	14	42	16	2.875	
10/11/22	14	44	18	2.936	
10/11/22	14	46	20	3.000	
10/11/22	14	50	24	3.084	

Remarks:

Test effective depth [m] 0.97

Vp75 [m] = 2.37325

Tp75 [mins] = 3.86

Vp25 [m] = 2.85775

Tp25 [mins] = 15.57

Soil Infiltration Rate [m/s] = 7.125E-05

Onsite Extrapolation Ratio = 0.6 (over 1 extrapolated)

Second Fill

Date (dd/mm/yy)	Hours (24hr)	Mins	Elapsed Time	Depth to Water (m)	Collapsing Observed (°C)
11/11/22	09	41	0	2.041	
11/11/22	09	43	2	2.122	
11/11/22	09	45	4	2.194	
11/11/22	09	47	6	2.266	
11/11/22	09	50	9	2.349	
11/11/22	09	53	12	2.424	
11/11/22	09	56	15	2.492	
11/11/22	09	59	18	2.557	
11/11/22	10	03	22	2.634	
11/11/22	10	07	26	2.710	
11/11/22	10	12	31	2.791	
11/11/22	10	17	36	2.863	
11/11/22	10	24	43	2.937	
11/11/22	10	34	53	3.018	
11/11/22	10	47	66	3.083	

Remarks:

Test effective depth [m] 1.06

Vp75 [m] = 2.31

Tp75 [mins] = 7.46

Vp25 [m] = 2.84

Tp25 [mins] = 34.01

Soil Infiltration Rate [m/s] = 3.219E-05

Onsite Extrapolation Ratio = 0.5 (over 1 extrapolated)

Third Fill

Date (dd/mm/yy)	Hours (24hr)	Mins	Elapsed Time	Depth to Water (m)	Collapsing Observed (°C)
11/11/22	14	39	0	2.066	
11/11/22	14	41	2	2.123	
11/11/22	14	44	5	2.205	
11/11/22	14	47	8	2.270	
11/11/22	14	49	10	2.311	
11/11/22	14	55	16	2.416	
11/11/22	15	00	21	2.485	
11/11/22	15	06	27	2.570	
11/11/22	15	12	33	2.641	
11/11/22	15	18	39	2.712	
11/11/22	15	25	46	2.787	
11/11/22	15	34	55	2.865	
11/11/22	15	46	67	2.940	
11/11/22	16	06	87	3.014	
11/11/22	16	52	133	3.092	

Remarks:

Test effective depth [m] = 1.03

Vp75 [m] = 2.32

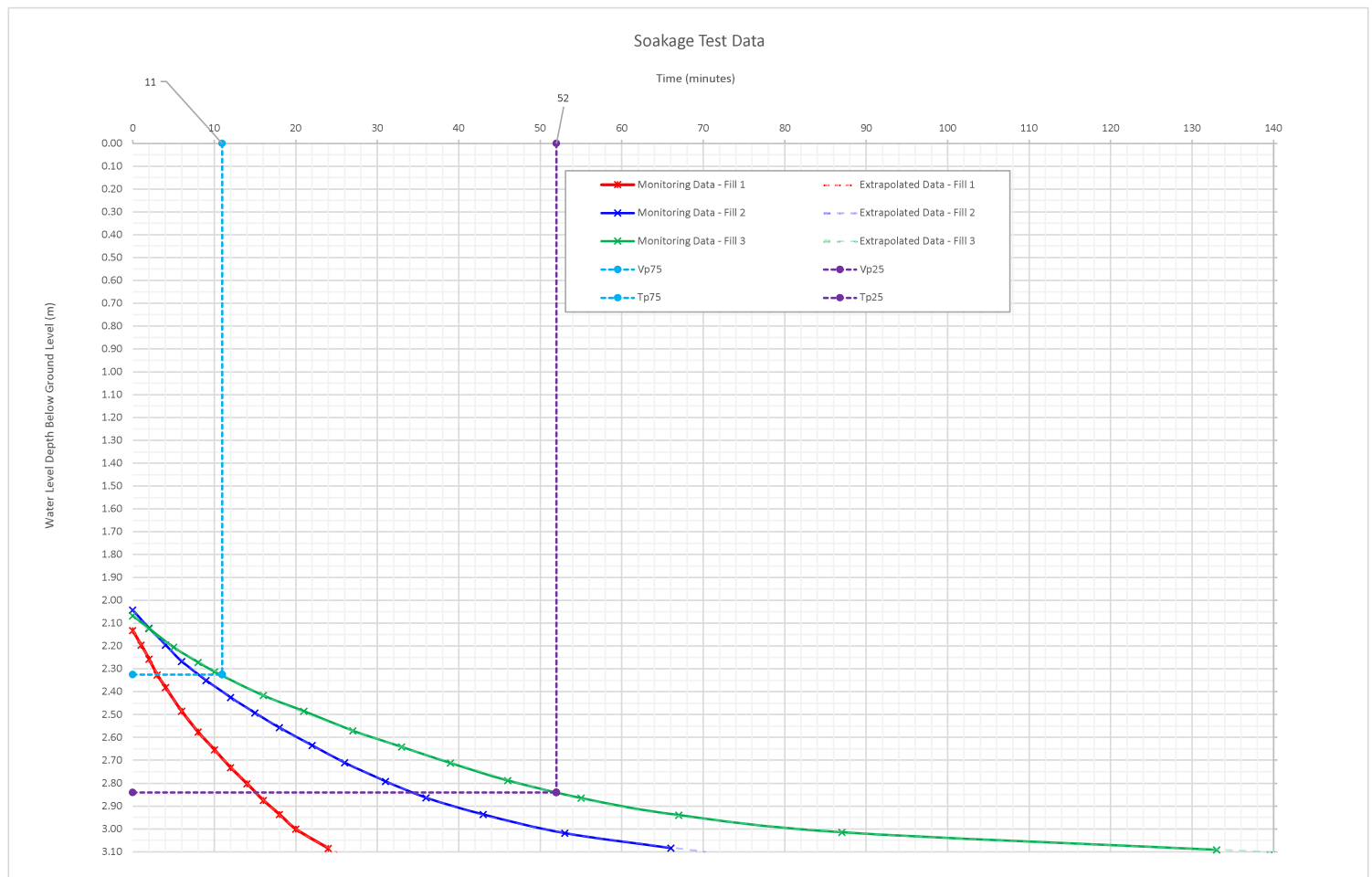
Tp75 [mins] = 10.95

Vp25 [m] = 2.84

Tp25 [mins] = 51.95

Soil Infiltration Rate [m/s] = 2.071E-05

Onsite Extrapolation Ratio = 0.4 (over 1 extrapolated)

Slowest Soil Infiltration Rate [m/s] = 2.071E-05

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iGeo-22-165

18 Parkside Road, Reading, RG30 2DB

SOAKAGE TESTS

Soakaway Design Calculations to BRE365 (DG 365 Revised 2016)

Soakage Test Number SA2

Trial Pit Soakage Test

Soakage Pit Length [m] 1.90
Soakage Pit Width [m] 0.45
Soakage Pit Depth [m] 3.10
TP Test Base (if different) [m] 3.10
Pit Voids [%] 37.6

(100% if an open pit,
30% or measured if stone)

Borehole Soakage Test

Borehole Diameter [m]
Standpipe Diameter [m]
Borehole Depth [m]
BH Test Base (if different) [m]
Bentonite Seal Depth [m]
Borehole Surround Voids [%]

(100% if an open Borehole
30% if stone)

First Fill					
Date (dd/mm/yy)	Hours (24hr)	Mins	Elapsed Time	Depth to Water (m)	Collapsing Observed (°C)
10/11/22	13	40	0	2.599	
10/11/22	13	41	1	2.623	
10/11/22	13	43	3	2.675	
10/11/22	13	46	6	2.714	
10/11/22	13	50	10	2.742	
10/11/22	13	56	16	2.777	
10/11/22	14	04	24	2.812	
10/11/22	14	14	34	2.850	
10/11/22	14	27	47	2.887	
10/11/22	14	43	63	2.923	
10/11/22	15	00	80	2.956	
10/11/22	15	29	109	2.992	
10/11/22	16	05	145	3.027	
10/11/22	16	46	186	3.064	
10/11/22	17	48	248	3.100	
Remarks:					

Test effective depth [m] 0.50
Vp75 [m] = 2.72425 Tp75 [mins] = 7.77
Vp25 [m] = 2.97475 Tp25 [mins] = 94.88

Soil Infiltration Rate [m/s] = 7.582E-06
Onsite Extrapolation Ratio = 0.4 (over 1 extrapolated)

Second Fill					
Date (dd/mm/yy)	Hours (24hr)	Mins	Elapsed Time	Depth to Water (m)	Collapsing Observed (°C)
11/11/22	09	30	0	2.394	
11/11/22	09	31	1	2.435	
11/11/22	09	32	2	2.473	
11/11/22	09	34	4	2.513	
11/11/22	09	37	7	2.547	
11/11/22	09	41	11	2.585	
11/11/22	09	45	15	2.610	
11/11/22	09	57	27	2.663	
11/11/22	10	09	39	2.702	
11/11/22	10	24	54	2.744	
11/11/22	10	42	72	2.785	
11/11/22	11	01	91	2.821	
11/11/22	11	30	120	2.861	
11/11/22	12	01	151	2.903	
11/11/22	12	33	183	2.942	
Remarks:					

Test effective depth [m] 0.71
Vp75 [m] = 2.57 Tp75 [mins] = 9.46
Vp25 [m] = 2.92 Tp25 [mins] = 167.28

Soil Infiltration Rate [m/s] = 4.767E-06
Onsite Extrapolation Ratio = 0.9 (over 1 extrapolated)

Third Fill					
Date (dd/mm/yy)	Hours (24hr)	Mins	Elapsed Time	Depth to Water (m)	Collapsing Observed (°C)
11/11/22	14	30	0	2.235	
11/11/22	14	31	1	2.265	
11/11/22	14	34	4	2.341	
11/11/22	14	38	8	2.393	
11/11/22	14	45	15	2.457	
11/11/22	14	54	24	2.520	
11/11/22	15	06	36	2.585	
11/11/22	15	23	53	2.651	
11/11/22	15	46	76	2.714	
11/11/22	16	19	109	2.777	
11/11/22	17	02	152	2.841	
11/11/22	17	58	208	2.908	
11/11/22	19	14	284	2.970	
11/11/22	21	08	398	3.036	
11/11/22	23	55	565	3.100	
Remarks:					

Test effective depth [m] = 0.87
Vp75 [m] = 2.45 Tp75 [mins] = 14.35
Vp25 [m] = 2.88 Tp25 [mins] = 185.97

Soil Infiltration Rate [m/s] = 4.676E-06
Onsite Extrapolation Ratio = 0.3 (over 1 extrapolated)

Slowest Soil Infiltration Rate [m/s] = 4.676E-06

