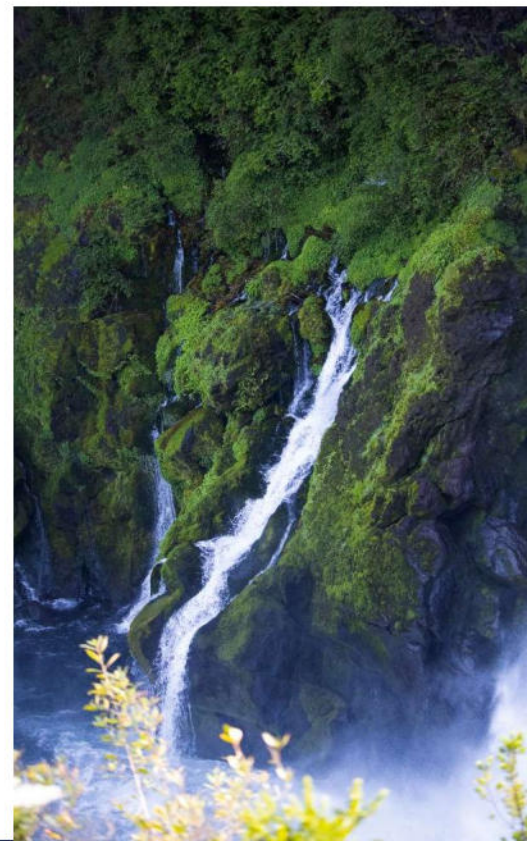




Stokes Farm, Binfield

Drainage Strategy

degadea
water, civils and environment

Site Address: Stokes Farm
Binfield Road
Wokingham
RG40 5PR

UK Experts in Flood Modelling, Flood Risk
Assessments, and Surface Water Drainage Strategies

degadea
water, civils and environment

Document Issue Record

Project: Drainage Strategy

Prepared for: S Findlay

Reference: AEG7350_RG40_Wokingham_07

Site Location: Stokes Farm, Binfield Road, Wokingham, RG40 5PR

Issue	Date	Author	Check	Auth.	Comments
1	06/05/2026	Alex Crossette	James Mahoney	James Mahoney	Draft - First issue

Please Note:

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1. Introduction

- 1.1. Aegaea were commissioned by the Client to prepare a Drainage Strategy to support the discharge of Condition 8 associated with the planning application (ref.243098) at the below address.

Site Overview

- 1.2. The site of the proposed development is located at Stokes Farm, Binfield Road, Wokingham, RG40 5PR, as shown outlined in red in Figure 1 below.



Figure 1: Site Location Plan

- 1.3. The site is located to the south-east of Binfield Road, the north-west of Wokingham town centre, and to the east of Popeswood, which are predominantly residential areas.
- 1.4. To the north, the site fronts onto open pasture, woodland and another redundant poultry shed. To the south the site is adjacent to Keephatch Meadows, a SANG/Thames SPA mitigation greenspace over 100m away, sitting between the site and A329. To the east, the barn opens out onto open countryside and woodland, and the west opens out towards the access road and more pasture.

- 1.5. The application site measures 1,430m² or 0.143 hectares (ha).
- 1.6. Wokingham Borough Council is the Local Planning Authority and is designated as the Lead Local Flood Authority (LLFA).
- 1.7. Thames Water is the Sewage Undertaker for the area.

Development Proposals

- 1.8. Planning consent has been with granted conditions for the change of use of an agricultural building to 5 no. residential dwellings with associated works. The Proposed Site Plan is contained within Appendix A.
- 1.9. Condition 8 of the Decision Notice states the following:

"No occupation of the building for residential use shall take place until surface water drainage strategy which includes details of the drainage system for the site have been submitted to and approved in writing by the LLFA. The details shall include how the site currently drains and will be drained after proposed development with consideration to SuDS. The approved scheme shall be implemented prior to the first occupation of the development and shall be maintained in the approved form for as long as the development remains on the site."

2. Surface Water Drainage Strategy

Existing Drainage System

- 2.1. Surface water runoff from the existing building roof discharges to a 100mm diameter surface water drainage pipe, which outfalls via gravity, at an uncontrolled rate, to an existing drainage ditch located approximately 90m to the north of the building, within land owned by the client.
- 2.2. There are no public surface water or combined sewers within the vicinity of the site.

Infiltration Testing

- 2.3. Soilsmap Viewer (LandIS) indicates that the site is in an area of “slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils with impeded drainage”.
- 2.4. British Geological Survey (BGS) data indicates that the site borders two bedrocks underlying the site, “Claygate Member-Sand, silt and Clay” and “London Clay Formation - Clay, silt and sand”.
- 2.5. Infiltration testing has been carried out on site to the BRE 365 methodology by Clear Environmental Limited in February 2026, as contained in Appendix B.
- 2.6. Trial pits were excavated and filled with water to assess the infiltration rates. Due to the observed infiltration characteristics, TP01 – TP04 could not be refilled three times recommended within the guidance.
- 2.7. Given the results, infiltration drainage is not considered to be a viable solution at the site and an alternative solution in line with the SuDS hierarchy is to be sought.

Drainage Hierarchy

- 2.8. Current guidance indicates that the following surface water disposal options should be considered, listed in order of preference.
 - i. **Disposal via on-site infiltration systems:** As mentioned above, infiltration has been discounted.
 - ii. **Disposal to a watercourse/drainage ditch:** As mentioned above, an existing drainage ditch is located approximately 90m to the north of the building, within land owned by the client, and currently accepts surface water runoff from the existing building.

- iii. **Disposal to surface water sewer:** There are no public surface water sewers located within the vicinity of the site.
- iv. **Disposal to combined sewer:** There are no public combined sewers located within the vicinity of the site.

Proposed Drainage Strategy

- 2.9. In accordance with the SuDS hierarchy, it is proposed that surface water flows from the proposed residential dwellings are to discharge at a controlled rate to the existing drainage pipe, which currently discharges to the existing drainage ditch.
- 2.10. The calculated greenfield runoff rate is very low due to the nature of the proposed development. It is considered that a 1.0 l/s discharge rate is the lowest acceptable discharge rate that can be incorporated into the proposed drainage strategy without unnecessarily increasing the risk of blockage and sedimentation. Therefore, a total peak discharge rate from the proposed development of 1.0 l/s is proposed.
- 2.11. Run-off from the roof areas will be conveyed via the underground piped network system and a catchpit to remove silt and/or organic matter, prior to discharging into a proposed manhole on the line of the existing drainage pipe.
- 2.12. Attenuation is provided in the form of a below ground geocellular tank.
- 2.13. SuDS/bioretention planters are proposed at the bottom of rainwater pipes to intercept and provide treatment of surface water flows from the proposed roof areas.
- 2.14. All proposed on-site drainage has been designed to accommodate surface water runoff from all impermeable areas on site (712m²/0.0712ha), including all modelled 1 in 100-year storm events plus 40% climate change.
- 2.15. The proposed surface water drainage strategy, including layout and details, can be found in Appendix C. Supporting surface water drainage calculations are contained within Appendix D.

3. Future Surface Water Drainage Maintenance

General Maintenance

- 3.1. The surface water drainage network will be managed throughout the lifetime by the owners of the proposed development.
- 3.2. All drainage, whether piped or SuDS require regular maintenance. The tables below provide an overview of general maintenance tasks and frequency of which they need to be undertaken.
- 3.3. The required maintenance for each component making up the drainage system is scheduled in the tables below, based on CIRIA report C753 – The SuDS manual.

SuDS Checklist

- 3.4. The following lists the SuDS components and extra features which are found on site:
 - **Manholes and inspection chambers** are provided on pipe bends or junctions and will allow access and cleaning of the system as necessary.
 - **Below ground drainage** pipes convey water and should be free from obstruction at all times to allow free flow.
 - **Catchpits** will provide surface water treatment by allowing silt and other particles to settle in their bases, limiting ingress into the system.
 - **Orifice Plate (Flow Control)** is a surface water regulator. It is entirely self-activating and requires no manual intervention.
 - **ACO Channel/Yard Gullies/Highway Gullies** collect surface water runoff and direct flows to the below ground surface water drainage network.

Surface Water Drainage Systems

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Inspect for sediment and debris in catchpit manholes and gullies. Clean out as required	Twice Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional Maintenance	Remove sediment and debris in catchpits, gullies, attenuation devices and inside concrete manhole rings.	As required, based on inspections.
Remedial actions	Reconstruct and/or replace components, if performance deteriorates or failure/blockage occurs.	As required
	Replacement of clogged components (flow restriction)	As required
Monitoring	Inspect silt traps/gullies/catchpits and note rate of sediment accumulation.	Monthly in the first year and then annually
	Check attenuation devices	Annually

General maintenance for Surface Water Drainage Systems as per CIRIA C753

Geocellular Attenuation Tank

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

- 3.5. Maintenance will usually be carried out manually, although a suction tanker can be used for sediment/debris removal for large systems. If maintenance is not undertaken for long periods, deposits can become hard packed and require considerable effort to remove.

Orifice Flow Control

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Remove sediment and debris from flow control chambers and upstream manholes	Monthly (for the first 12 months, then 6 monthly).
Remedial Actions	Replace or clean orifice plate if performance deteriorates or failure occurs.	As necessary.
Monitoring	Check flow control to ensure emptying is occurring.	Quarterly and post high intensity storm event.

SuDS/Bioretention Planter

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Inspection of the tank for debris and sediment build-up, inlets/outlets/withdrawal device, overflow areas, filters.	Annually (and following poor performance)
	Cleaning of tank, inlets, outlets, gutters, withdrawal devices and roof drain filters of silts and other debris	Annually (and following poor performance)
Occasional Maintenance	Cleaning and/or replacement of any filters	Three monthly (or as required)
Remedial Actions	Repair of overflow erosion damage or damage to tank	As required

4. Pollution Prevention & Water Quality Management

SuDS Mitigation Indices

- 4.1. Chapter 26 of the CIRIA C753 The SuDS Manual, provides design advice to meet water quality standards by adopting the SuDS train treatment mechanism and thereby reduce the risk of pollution by evaluating potential pollution hazards at the outset.
- 4.2. The proposed site layout provides the opportunity to introduce SuDS into the scheme to reduce potential contaminant risk further. Runoff from 'other roofs (typically commercial/industrial roofs)' generally viewed as low risk (as per Table 26.2 of C753), shown in the tables below.

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Other roofs (typically commercial/industrial roofs)	Low	0.3	0.2 (up to 0.8)	0.05

Pollutant Hazard Indices

	Mitigation Indices				Indices for Calculation		
	TSS	Metals	Hydrocarbons		TSS	Metals	Hydrocarbons
Rainwater Harvesting/Bioretention systems	0.8	0.8	0.8	100%	0.8	0.8	0.8
Total Mitigation Indices score					0.8	0.8	0.8
Sufficiency of Pollution Mitigation Indices					Sufficient (No additional mitigation required)		

SuDS Mitigation Indices

- 4.3. The mitigation indices offered by the proposed SuDS/Bioretenction planter features exceed the hazard indices from other roofs (typically commercial/industrial roofs) and therefore provides adequate mitigation. It is therefore considered that the proposed SuDS features on site are appropriate and acceptable in terms of water quality.

5. Foul Drainage Strategy

Existing Drainage Arrangements

- 5.1. It is understood that there are no existing formal foul drainage arrangements at the site.
- 5.2. There are no public foul or combined sewers within the vicinity of the site.

Drainage Hierarchy

- 5.3. Current guidance indicates that the following foul drainage disposal options should be considered, listed in order of preference:

To a foul/combined sewer: As mentioned above, there are no public foul or combined sewers within the vicinity of the site.

Discharge to ground: As mentioned in Section 2 above, a discharge to ground, i.e. drainage field, is considered not to be feasible.

Disposal to a watercourse: As mentioned above, an existing drainage ditch is located approximately 90m to the north of the building, within land owned by the client.

Cesspool/Cesspit: As an outfall to the existing drainage ditch has been considered viable, the use of a cesspool/cesspit has been discounted.

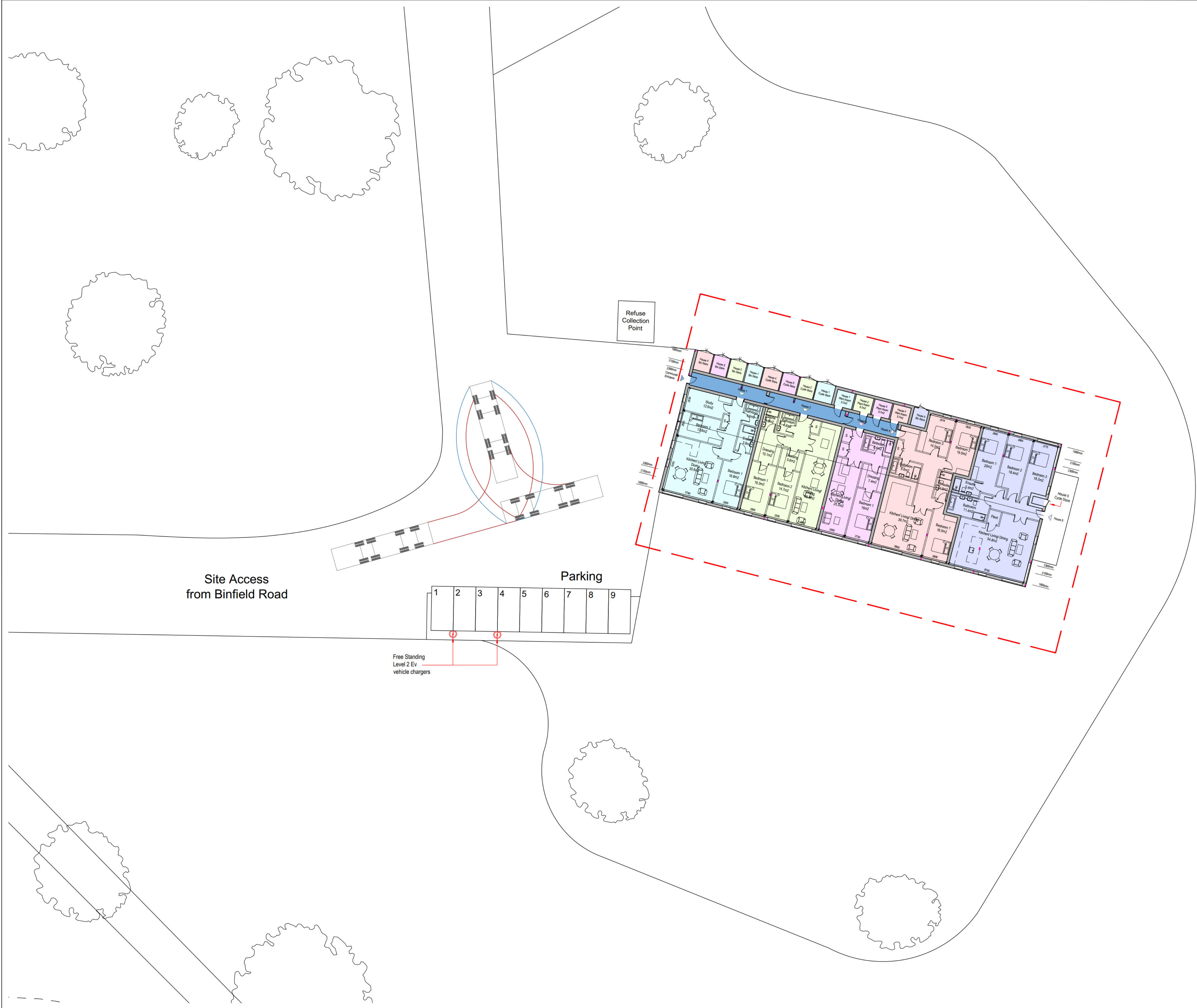
Proposed Drainage Strategy

- 5.4. In accordance with the foul drainage hierarchy, it is proposed that foul flows arising from the proposed dwellings are to be conveyed via gravity to a sewage treatment plant (STP), whereby treated flows from the STP will be conveyed via gravity to the existing drainage pipe, which currently discharges to the existing drainage ditch.
- 5.5. The proposed STP will need to be sized to accommodate the daily flows from the development, which has been calculated based on British Flows and Loads – 4 “Sizing Criteria, Treatment Capacity for Sewage Treatment Systems”, as below.

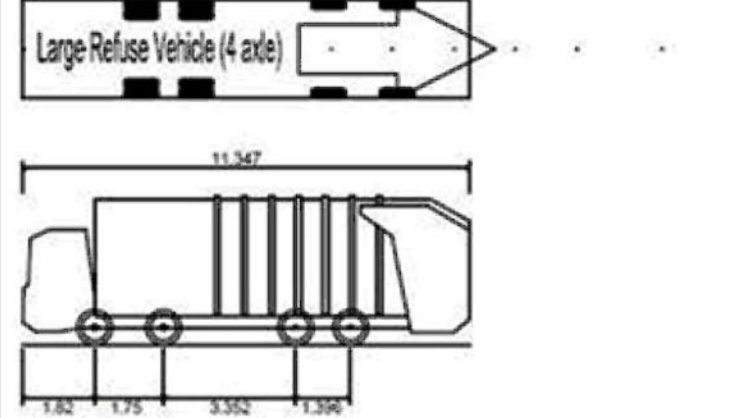
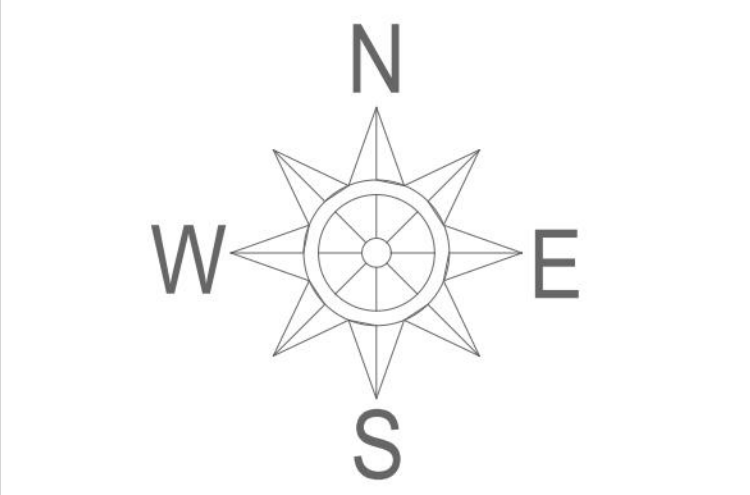
Plot	No. of Bedrooms	Population (P)
Plot 1	2	4
Plot 2	2	4
Plot 3	1	3
Plot 4	1	3
Plot 5	4	6
Total		20

- 5.6. Where the calculated total population (P) for a group of houses exceeds 12 P then some reduction may be made to allow for the balancing effects on daily flow of a group of houses; therefore, an adjustment factor of 0.9 can be applied.
- 5.7. Based on the above, the total population is $20 \times 0.9 = 18 P$.
- 5.8. The estimated daily flow from the existing farmhouse and new dwelling has been calculated as 2.7m^3 , based on 150 litres per person per day.
- 5.9. The proposed foul drainage arrangements are shown in Appendix C.

Appendix A - Proposed Site Plan



- Notes:
- 1) ALL DIMENSIONS, LEVELS AND CLEARANCES TO BE CHECKED ON SITE PRIOR TO WORKS COMMENCING
 - 2) THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER PROJECT RELATED DRAWINGS, SPECIFICATIONS AND DOCUMENTS
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 - 5) THE COPYRIGHT OF THE DRAWING AND DESIGN IS THE PROPERTY OF JSA ARCHITECTS LTD. THIS INFORMATION HAS BEEN ISSUED UNDER SPECIFIC TERMS FOR THIS PROJECT AND MAY ONLY BE USED AND REPRODUCED ACCORDINGLY



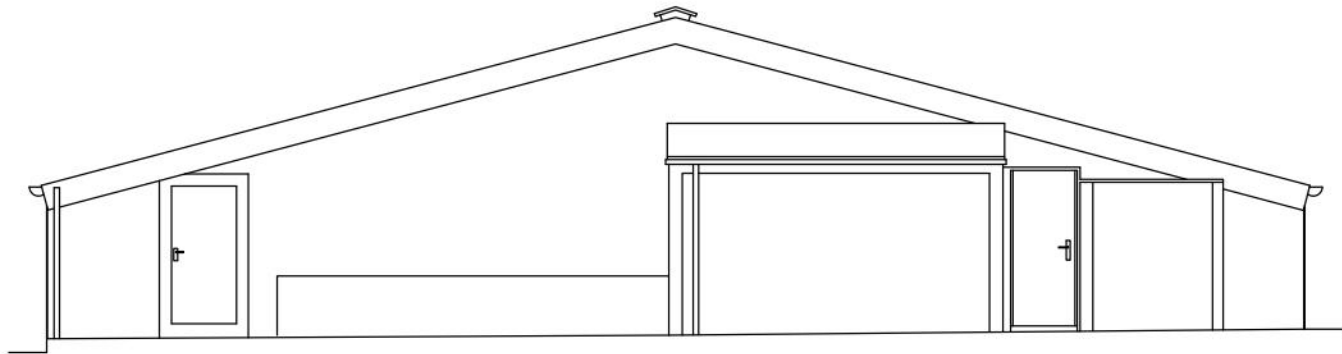
Large Refuse Vehicle (4 axle)	11.347m
Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to Lock Time	6.00s
Wall to Wall Turning Radius	11.330m

D	Cycle Store Amended	JN	27/01/25
C	Parking Amended	JN	21/01/25
REV:	DESCRIPTION:	BY:	DATE:
STATUS: Planning			

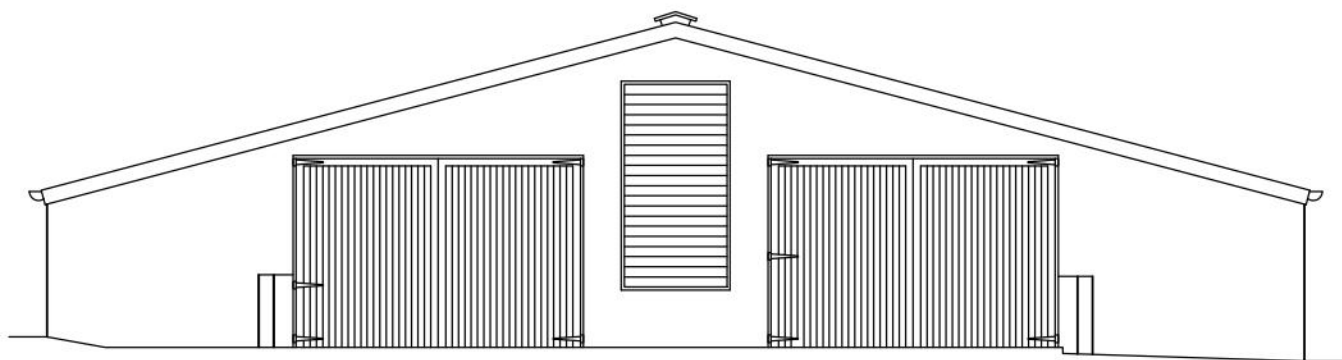
j**sa** architects
Tavistock House
Waltham Road
Maidenhead SL6 3NH
01628 828 241-4
reception@jsaarchitects.com
www.jsaarchitects.com

SITE:	Stokes farm Binfield Road, Wokingham RG40 5PR
CLIENT:	Mr & Mrs Baker

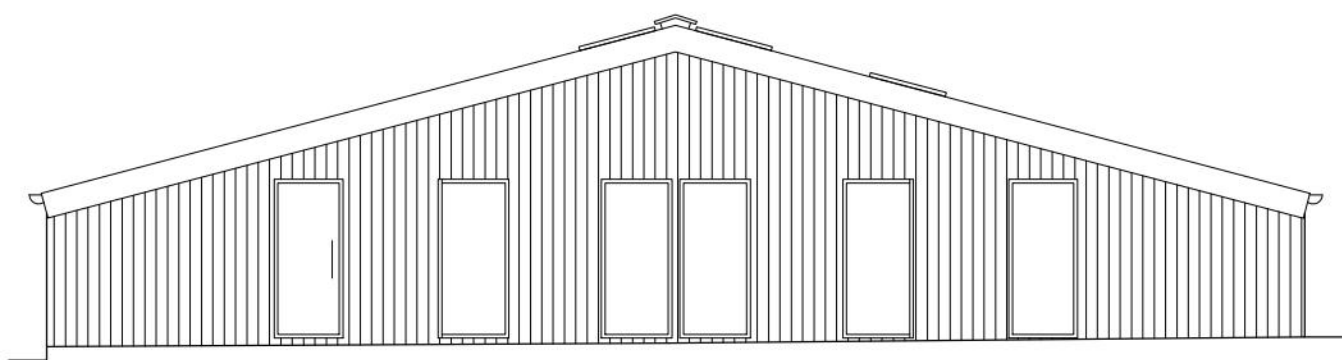
TITLE: Proposed Site Plan			
SCALE AT A1: 1:200	DATE: 10/24	DRAWN: JN	CHECKED: CP
PROJECT: FSFW6	DRAWING NO: PL_101		REVISION: D



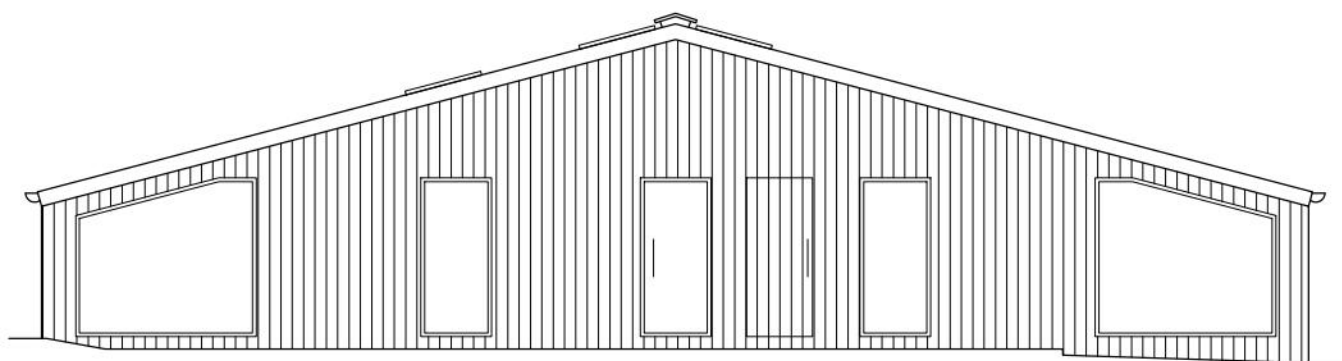
Existing Western Elevation



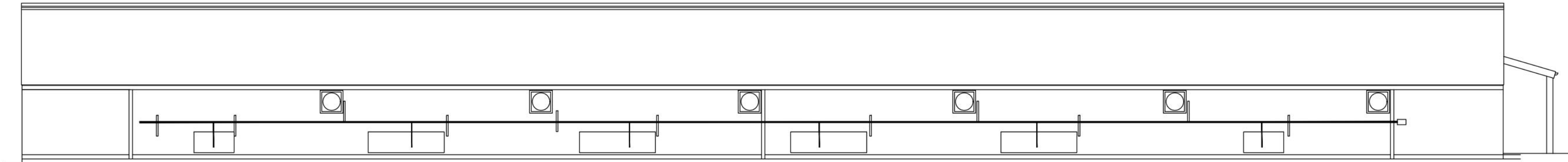
Existing Eastern Elevation



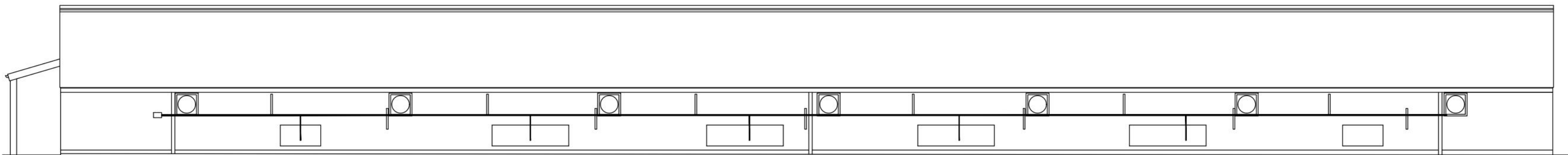
Proposed Western Elevation



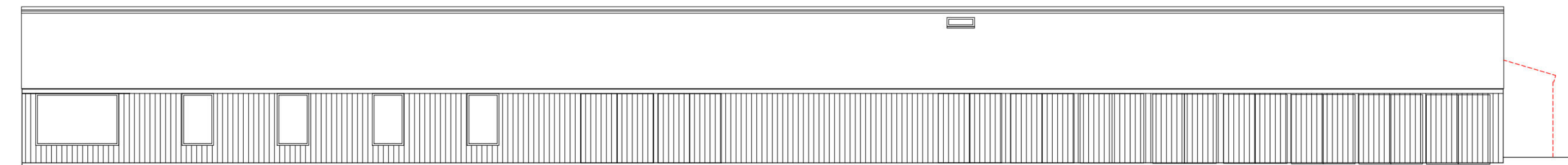
Proposed Eastern Elevation



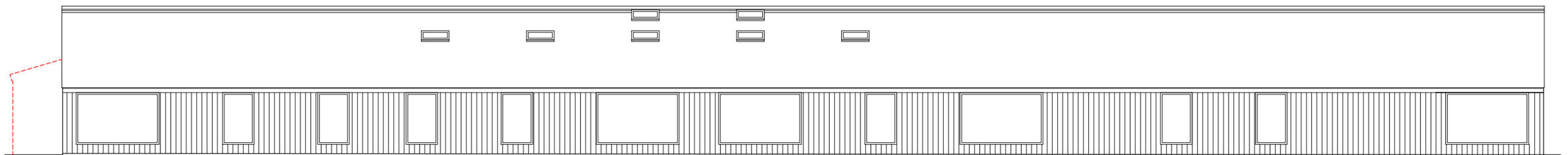
Existing Northern Elevation



Existing Southern Elevation



Proposed Northern Elevation



Proposed Southern Elevation

- Notes:
- 1) ALL DIMENSIONS, LEVELS AND CLEARANCES TO BE CHECKED ON SITE PRIOR TO WORKS COMMENCING
 - 2) THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER PROJECT RELATED DRAWINGS, SPECIFICATIONS AND DOCUMENTS
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C	Cycle Store Added	JN	27/01/25
B	Additional Skylights Added	JN	21/01/25
REV:	DESCRIPTION:	BY:	DATE:
STATUS:		Planning	

j

s

a

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SITE:	Stokes farm Binfield Road, Wokingham RG40 5PR
CLIENT:	Mr & Mrs Baker

TITLE: Existing & Proposed Elevations			
SCALE AT A1: 1:100	DATE: 09/24	DRAWN: JN	CHECKED: CP
PROJECT: FSFW6	DRAWING NO: PL_400	REVISION: C	

Appendix B - Infiltration Test Results

Our Ref: 260307

30 March 2026

Mr Tim Findlay,
Stokes Farm,
Binfield Road,
Wokingham,
Berkshire,
RG40 5PR

BRE 365 Soakaway Assessment – Stokes Farm, Binfield Road, Wokingham, RG40 5PR

Scope and Objectives

Clear Environmental Limited (Clear) was commissioned by Mr Tim Findlay (the 'Client') to undertake a BRE 365 Soakaway Assessment at Stokes Farm, Binfield Road, Wokingham, RG40 5PR (hereafter referred to as the 'site').

Purpose of Works

The purpose of this report is to provide information on the underlying ground conditions, infiltration rates and groundwater regime to assess the viability of infiltration and to inform future drainage design.

Scope of Works

- ≡ Progression of 5No. mechanically excavated trial pits to a maximum depth of 2.50m below ground level (bgl);
- ≡ Undertake 2No. Soakaway Tests in general accordance with BRE 365 guidance.
- ≡ Undertake 2No. percolation tests in general accordance with BS 6297:2007+A1:2008.
- ≡ Provision of a factual and interpretive report providing the calculated infiltration rates and records of ground conditions.

Limitations

This report presents Clear's observations, findings, and conclusions based on the information available and site conditions as understood at the time of reporting. These findings may be subject to change should material new information become available following the date of issue.

This report has been prepared specifically for the Client. It may not be relied upon by any other party without Clear's prior written agreement, which will typically require the execution of a reliance letter incorporating our standard terms and conditions. Where reliance has been granted to third parties, this will be noted in the report.

Site Constraints

Soakaway testing was undertaken in general accordance with BRE Digest 365. Percolation testing was undertaken in general accordance with BS 6297:2007+A1:2008. Trial pits were excavated and filled with water to assess the infiltration rates.

Results reflect conditions at the test locations only and may not represent the wider site. Variations in soil type, groundwater or compaction could affect soakaway performance and should be considered in design.

Due to the observed infiltration characteristics, TP01 – TP04 could not be refilled three times recommended within the guidance.

Site Location

A site location plan is presented below.



Figure 1: Site Location Plan

Ground Conditions

Ground Conditions Encountered

The ground conditions encountered during the excavation of the trial pits are summarised below. An Exploratory Hole Location Plan is presented in Enclosure I.

Trial Pit Logs are presented in Enclosure II.

Strata Description	Top Depth (m bgl)	Bottom Depth (m bgl)	Thickness (m)
Made Ground	Ground Level	0.30 – 0.40	0.30 – 0.40
Silty CLAY with variably secondary constituent proportion of sand and gravel	0.30 – 0.40	>2.50	>2.20

Made Ground

Made Ground was encountered from ground level comprising brown clayey gravelly sand with gravels of flint and red brick.

Claygate Member

Deposits considered representative of the Claygate Member were recorded comprising orangish brown silty slightly gravelly / gravelly slightly sandy / sandy clay underlain by silty clay to a maximum proven depth of 2.50m bgl.

Groundwater

No groundwater was encountered during progression of the trial pits.

Soakaway Testing Results

Soakaway testing was completed in general accordance with BRE 365.

The table below summarises the results, which are also contained as Enclosure III.

Location	Infiltration Rate (ms ⁻¹)	Infiltration Rate for Design	Comments
TP01	Test 1 N/A	Fail	Negligible infiltration was observed over the 3-hour monitoring period.
	Test 2 N/A		
	Test 3 N/A		
TP02	Test 1 N/A	Fail	The water levels did not fall at all over the 3-hour monitoring period.
	Test 2 N/A		
	Test 3 N/A		

Percolation Testing Results

Percolation testing was undertaken in general accordance with BS 6297:2007+A1:2008. A summary of the results is presented in the table below, with full details provided in Enclosure II.

Location	Infiltration Rate (s/mm)		Infiltration Rate for Design	Comments
TP03	Test 1	N/A	Fail	The water levels did not fall at all over the 3-hour monitoring period.
	Test 2	N/A		
	Test 3	N/A		
TP04	Test 1	N/A	Fail	
	Test 2	N/A		
	Test 3	N/A		

Closing Remarks

Testing demonstrated negligible infiltration performance.

Given the results, infiltration drainage is not considered to be a viable solution at this site.

The results of the testing should be passed to a drainage engineer to design a suitable scheme.

Ben Lawry BSc(Hons) FGS

Director

For and on behalf of Clear Environmental Ltd

Mobile: 07769178244

Email: ben@clearenviro.co.uk

Enclosure I – Exploratory Hole Location Plan

Legend

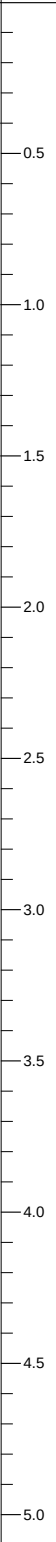
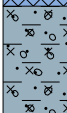
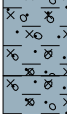
- Trial Pits
- Site Boundary

Figure Title	
Exploratory Hole Location Plan	
Site Location	
Stokes Farm, Binfield Road, Wokingham, RG40 5PR	
Job Number	Figure Number
260307	260307.01
Prepared By	Date
BJL	24/03/2026
Client	
Mr Tim Findlay	

Enclosure II – Exploratory Hole Logs

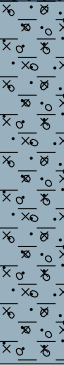
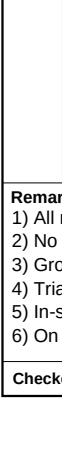
Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Stokes Farm	Project No. 260307	Start Date 2026-02-09	End Date 2026-02-09	

Client Mr Tim Findlay	Consultant Clear Environmental Limited	Contractor
--------------------------	---	------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (thickness) (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
						(0.40)		MADE GROUND: Grass overlay. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is anuglar to sub-rounded flint and red brick.	
						0.40		Orangish brown mottled grey silty slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-rounded flint.	
						(0.60)			
						1.00		Orangish brown mottled grey silty sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-rounded flint.	
						(0.30)			
						1.30		Orangish brown mottled grey silty CLAY.	
						(0.20)			
						1.50		End of Trial Pit at 1.50m	
									2.0
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Stokes Farm	Project No. 260307	Start Date 2026-02-09	End Date 2026-02-09	

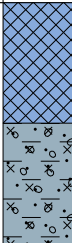
Client Mr Tim Findlay	Consultant Clear Environmental Limited	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata	
		Depth (m)	Type/ Ref	Results			Legend	Description
						(0.30)		MADE GROUND: Grass overlay. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is anuglar to sub-rounded flint and red brick.
						0.30		Orangish brown mottled grey silty slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-rounded flint.
						(1.20)		
						1.50		End of Trial Pit at 1.50m
								
								

Remarks 1) All recorded strengths and densities based on visual observations of ease of excavation. 2) No direct visual or olfactory evidence of mobile contamination. 3) Groundwater was not encountered. 4) Trial pit terminated at 1.50m bgl. 5) In-situ soakaway test undertaken in pit. 6) On completion, the trial pit was backfilled with arisings and made safe at the surface ...	Method, Plant, Stability, Dimensions 0.00 - 1.50m TP Stable L = 1.20m W = 0.40m	Logger BL
	Checked By: BL Approved By: BL	

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Stokes Farm	Project No. 260307		Start Date	End Date

Client Mr Tim Findlay	Consultant Clear Environmental Limited	Contractor
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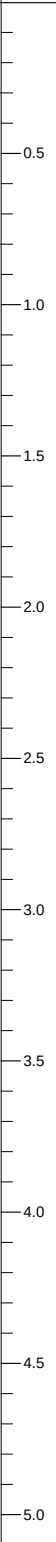
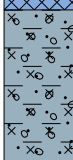
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (thickness) (m)	Strata																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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						(0.40)		MADE GROUND: Grass overlay. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is anuglar to sub-rounded flint and red brick.	0.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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Remarks 1) All recorded strengths and densities based on visual observations of ease of excavation. 2) No direct visual or olfactory evidence of mobile contamination. 3) Groundwater was not encountered. 4) Trial pit terminated at 0.80m bgl. 5) In-situ percolation test undertaken in pit. 6) On completion, the trial pit was backfilled with arisings and made safe at the surface ...	Method, Plant, Stability, Dimensions 0.00 - 0.80m TP Stable L = 0.30m W = 0.30m	Logger BL	

Checked By: BL Approved By: BL

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Stokes Farm	Project No. 260307		Start Date	End Date

Client Mr Tim Findlay	Consultant Clear Environmental Limited	Contractor
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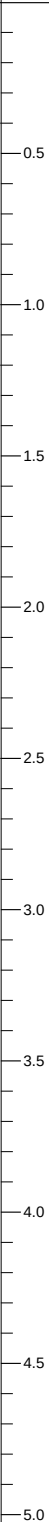
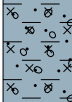
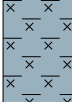
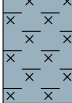
Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (thickness) (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
						(0.30)		MADE GROUND: Grass overlay. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is anuglar to sub-rounded flint and red brick.	
						0.30			
						(0.50)			
						0.80	End of Trial Pit at 0.80m		

Remarks 1) All recorded strengths and densities based on visual observations of ease of excavation. 2) No direct visual or olfactory evidence of mobile contamination. 3) Groundwater was not encountered. 4) Trial pit terminated at 0.80m bgl. 5) In-situ percolation test undertaken in pit. 6) On completion, the trial pit was backfilled with arisings and made safe at the surface ...	Method, Plant, Stability, Dimensions	Logger
	0.00 - 0.80m TP	BL
	Stable	
	L = 0.30m W = 0.30m	

Checked By: BL Approved By: BL

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:25
Project Name Stokes Farm	Project No. 260307		Start Date	End Date

Client Mr Tim Findlay	Consultant Clear Environmental Limited	Contractor
--------------------------	---	------------

Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata			
		Depth (m)	Type/ Ref	Results			Legend	Description		
						(0.40)		MADE GROUND: Grass overlay. Brown clayey gravelly SAND. Sand is fine to coarse. Gravel is anuglar to sub-rounded flint and red brick.		
						0.40		Orangish brown mottled grey silty slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-rounded flint.		
						(0.60)				
						1.00		Orangish brown mottled grey silty sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub-rounded flint.		
						(0.20)				
						1.20		Orangish brown mottled grey silty CLAY.		
										
										
						(1.30)				
										
						2.50	End of Trial Pit at 2.50m			

Remarks 1) All recorded strengths and densities based on visual observations of ease of excavation. 2) No direct visual or olfactory evidence of mobile contamination. 3) Groundwater was not encountered. 4) Trial pit terminated at 2.50m bgl. 5) On completion, the trial pit was backfilled with arisings and made safe at the surface.	Method, Plant, Stability, Dimensions 0.00 - 2.50m TP Stable L = 1.40m W = 0.60m	Logger BL
	Checked By: BL Approved By: BL	

Enclosure III – BRE 365 Soakaway and BS 6297:2007+A1:2008 Percolation Test Results

Project Number	260307	Location	TP01
----------------	--------	----------	------

Calculated Infiltration Rate (ms⁻¹)

=

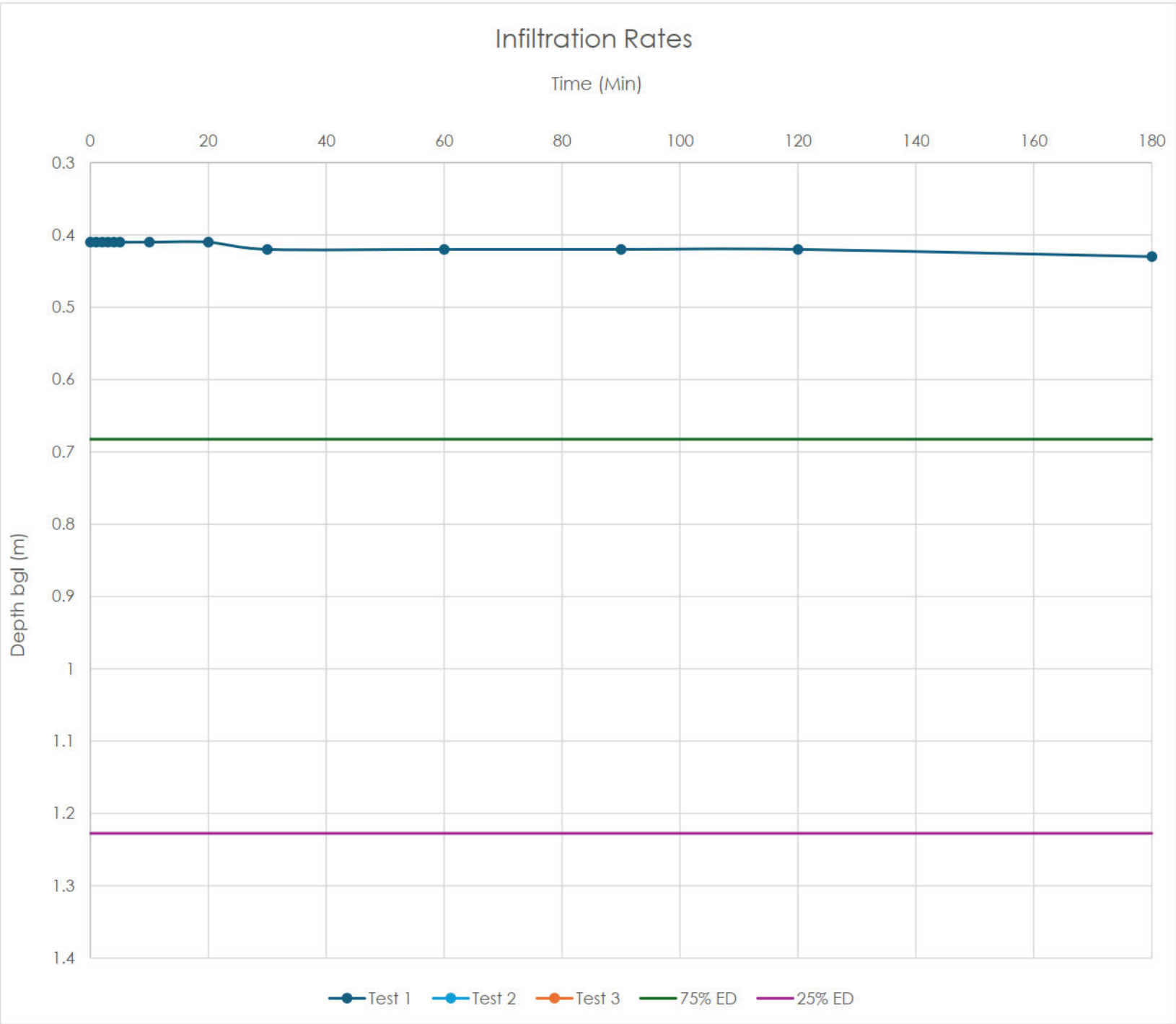
FAIL

Time (min)	Water Level bgl (m)		
	Test No.		
	Test 1	Test 2	Test 3
0	0.41		
1	0.41		
2	0.41		
3	0.41		
4	0.41		
5	0.41		
10	0.41		
20	0.41		
30	0.42		
60	0.42		
90	0.42		
120	0.42		
180	0.43		

Notes
Soakaway testing was undertaken in general accordance with BRE Digest 365. A trial pit was excavated and filled with water to assess the infiltration rates.

Results reflect conditions at the test location only and may not represent the wider site. Variations in soil type, groundwater or compaction could affect soakaway performance and should be considered in design.

Test 1 Rate	Test 2 Rate	Test 3 Rate
NA	NA	NA



Pit Width (m)	0.4	Pit Length (m)	1.2	Pit Depth (m)	1.5
---------------	-----	----------------	-----	---------------	-----

Project Number	260307	Location	TP02
----------------	--------	----------	------

Calculated Infiltration Rate (ms⁻¹)

=

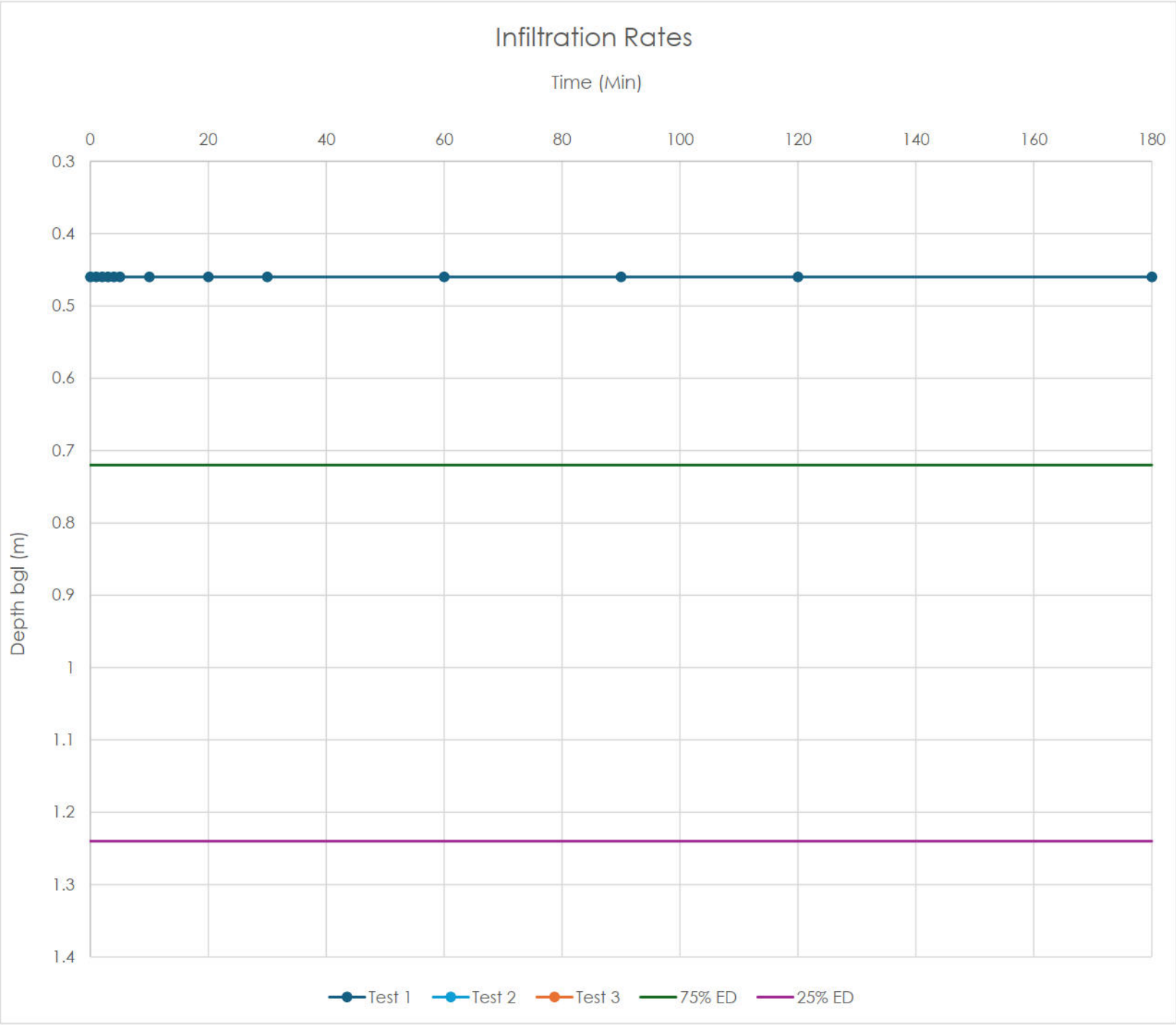
FAIL

Time (min)	Water Level bgl (m)		
	Test No.		
	Test 1	Test 2	Test 3
0	0.46		
1	0.46		
2	0.46		
3	0.46		
4	0.46		
5	0.46		
10	0.46		
20	0.46		
30	0.46		
60	0.46		
90	0.46		
120	0.46		
180	0.46		

Notes
Soakaway testing was undertaken in general accordance with BRE Digest 365. A trial pit was excavated and filled with water to assess the infiltration rates.

Results reflect conditions at the test location only and may not represent the wider site. Variations in soil type, groundwater or compaction could affect soakaway performance and should be considered in design.

Test 1 Rate	Test 2 Rate	Test 3 Rate
NA	NA	NA



Pit Width (m)	0.4	Pit Length (m)	1.2	Pit Depth (m)	1.5
---------------	-----	----------------	-----	---------------	-----

Project Number

260307

Location

TP03

Percolation Value (secs/mm)

=

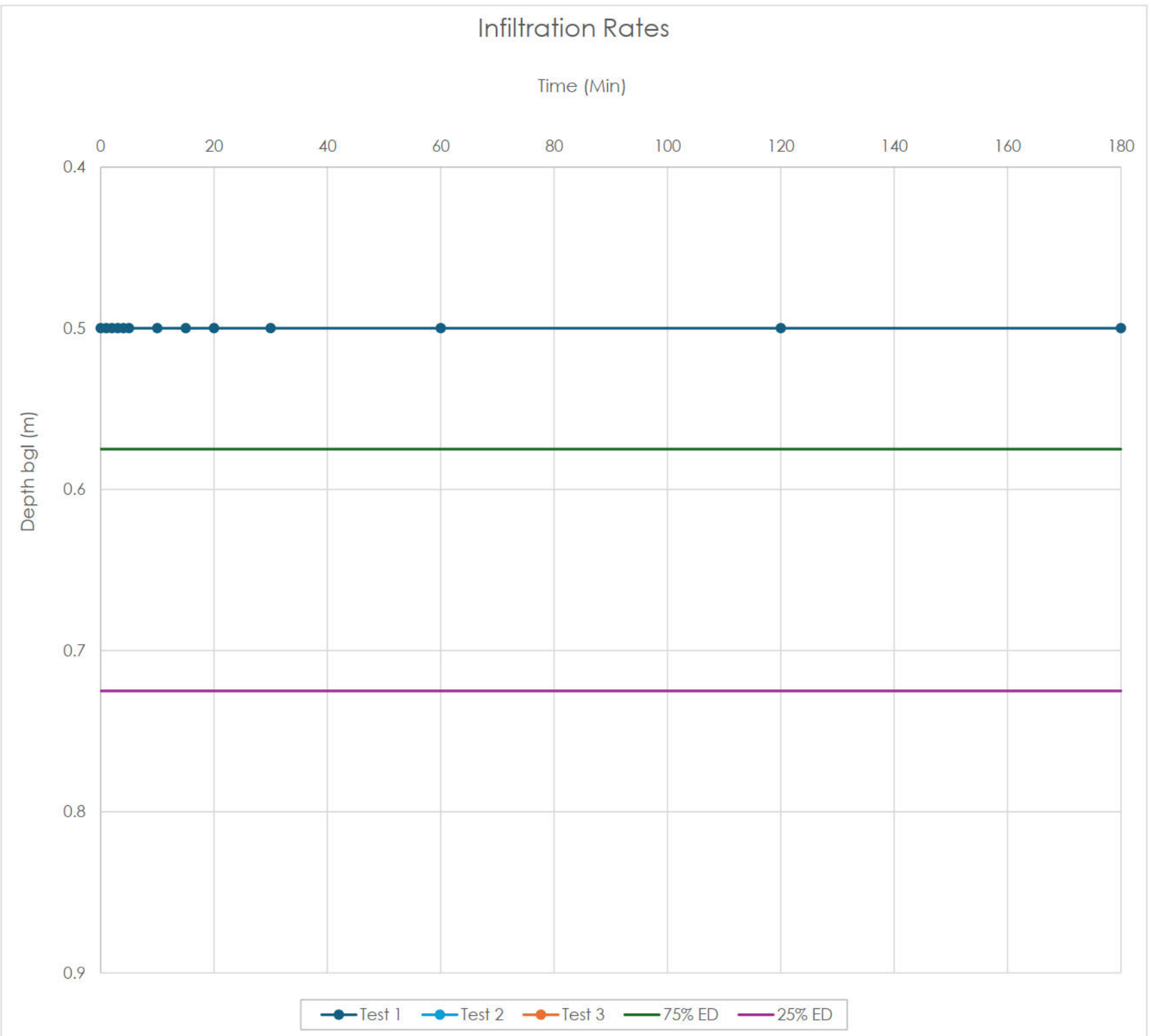
FAIL

Time (min)	Water Level bgl (m)		
	Test No.		
	Test 1	Test 2	Test 3
0	0.50	0.00	0.00
1	0.50		
2	0.50		
3	0.50		
4	0.50		
5	0.50		
10	0.50		
15	0.50		
20	0.50		
30	0.50		
60	0.50		
120	0.50		
180	0.50		

Notes

In accordance with the methodology set out in Approved Document H of the Building Regulations, soakaway testing is undertaken using trial holes measuring approximately 300 mm by 300 mm in plan, excavated to a depth extending 300 mm below the proposed base of the soakaway. These trial holes are then filled with water, and the time taken for the water level to fall from 75% to 25% of the effective depth is recorded to assess infiltration rates.

On this site, Clear Environmental were instructed to undertake the testing between 0.50m and 0.80m below ground level.



Pit Width (m) 0.3

Pit Length (m) 0.3

Pit Depth (m) 0.8

Test 1 Rate

N/A

Test 2 Rate

N/A

Test 3 Rate

N/A

Project Number 260307 Location TP04

Percolation Value (secs/mm)

=

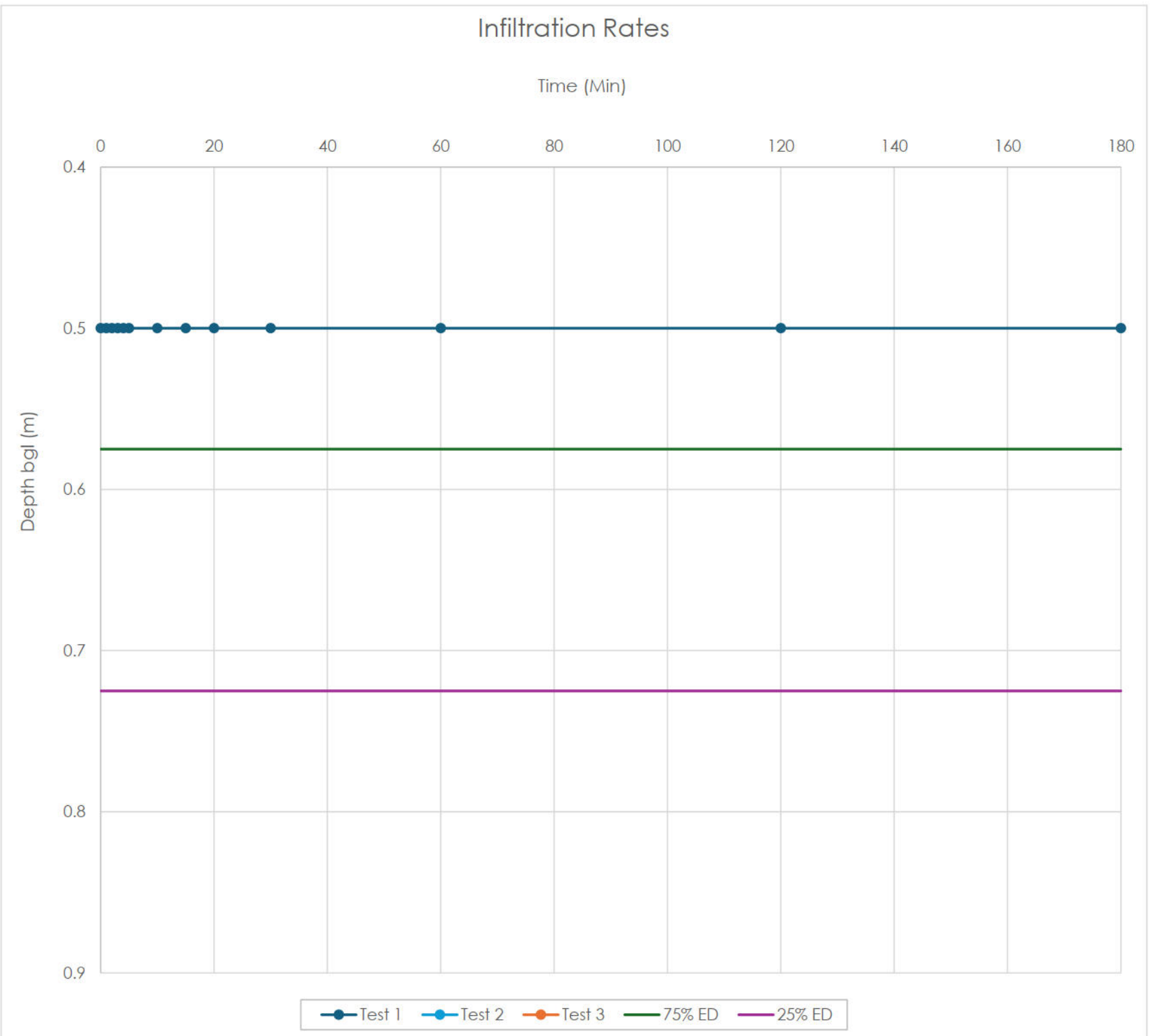
FAIL

Time (min)	Water Level bgl (m)		
	Test No.		
	Test 1	Test 2	Test 3
0	0.50	0.00	0.00
1	0.50		
2	0.50		
3	0.50		
4	0.50		
5	0.50		
10	0.50		
15	0.50		
20	0.50		
30	0.50		
60	0.50		
120	0.50		
180	0.50		

Notes

In accordance with the methodology set out in Approved Document H of the Building Regulations, soakaway testing is undertaken using trial holes measuring approximately 300 mm by 300 mm in plan, excavated to a depth extending 300 mm below the proposed base of the soakaway. These trial holes are then filled with water, and the time taken for the water level to fall from 75% to 25% of the effective depth is recorded to assess infiltration rates.

On this site, Clear Environmental were instructed to undertake the testing between 0.50m and 0.80m below ground level.



Pit Width (m) 0.3

Pit Length (m) 0.3

Pit Depth (m) 0.8

Test 1 Rate

Test 2 Rate

Test 3 Rate

N/A

N/A

N/A

Guidance / Limitations

Soakaway testing is undertaken in accordance with BRE Digest 365 (2016). Testing typically comprises the excavation of a trial pit to the proposed formation level, followed by controlled filling and monitoring of water levels over time to calculate the infiltration rate.

Where boreholes are utilised, permeability testing (falling head or rising head) is carried out in accordance with BS 5930 to provide supporting geotechnical data.

If infiltration drainage is progressed, the following key design and risk considerations should be addressed:

- ≡ **Ground contamination:** Soakaways should not discharge through potentially contaminated Made Ground. This must be assessed at the site investigation stage to avoid mobilising contaminants and creating a controlled waters risk.
- ≡ **Environment Agency requirements:** In some settings, soakaways may need to operate as sealed systems accepting roof water only.
- ≡ **Highway drainage:** Interceptors are typically required for highway runoff. The adopting authority should be consulted at an early stage to confirm acceptance of infiltration proposals.
- ≡ **Groundwater protection:** The base of the soakaway must not be located below the highest recorded groundwater level. As good practice, a minimum of 1m of unsaturated soil should be maintained beneath the soakaway base to provide attenuation and protect underlying aquifers.
- ≡ **Building proximity:** Soakaways should not be located within 5m of buildings. Where chalk is present, this should increase to a minimum of 10m. Where dissolution features are known to the present, this should increase to a minimum of 20m or preferably alternative drainage methods to soakaways be considered.
- ≡ **Topography and levels:** Site levels and slopes must be considered to prevent ponding or uncontrolled down-slope discharge.
- ≡ **Regulatory compliance:** Construction must comply with current Building Regulations Part H and associated guidance.

Limitations

This report has been prepared solely for the named Client and for the specific site and purpose described. It should not be relied upon for any other use without written agreement from Clear Environmental Limited.

The assessment is based on information available at the time of writing, including site investigation data, desk study information and third-party records. We cannot guarantee the accuracy or completeness of third-party data.

Ground conditions are inherently variable. Observations and test results relate only to the specific locations and depths investigated. Conditions between or beyond these points may differ.

Infiltration rates derived from BRE 365 testing represent conditions at the time of testing only and may vary due to seasonal groundwater fluctuations, soil moisture conditions, weather patterns or future site disturbance.

Groundwater levels recorded during the investigation reflect conditions at the time of measurement only. No long-term monitoring has been undertaken unless explicitly stated.

The report does not constitute a detailed contamination risk assessment unless expressly stated. If unexpected contamination, Made Ground, groundwater or unusual ground conditions are encountered during construction, works should cease and specialist advice sought.

Recommendations are based on the proposed development layout and levels provided at the time of instruction. Changes to site levels, formation depths, drainage layout or building design may require reassessment.

Final approval of drainage proposals remains subject to acceptance by the relevant statutory bodies (e.g. Local Planning Authority, Lead Local Flood Authority, Environment Agency or Highway Authority where applicable).

This report provides geotechnical and/or environmental parameters for design purposes only. Detailed structural design, sizing calculations and construction methodology remain the responsibility of the appointed designer and contractor.

No warranty is provided that the investigation has identified all potential subsurface obstructions, buried services, voids or anomalous features. Service searches and appropriate safe digging practices remain the responsibility of the contractor.

Clear Environmental Limited accepts no liability for use of this report by third parties unless expressly agreed in writing.

This report does not constitute verification of the suitability, design, construction or performance of any existing soakaway system.

Appendix C - Proposed Drainage Strategy

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
REFER TO THE RELEVANT CONSTRUCTION (DESIGN AND MANAGEMENT)
DOCUMENTATION WHERE APPLICABLE.
IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY
A COMPETENT CONTRACTOR, WORKING WHERE APPROPRIATE TO AN
APPROVED METHOD STATEMENT.

1. THIS DRAWING IS INDICATIVE ONLY AND SUBJECT TO CHANGE DURING DETAILED DESIGN AND APPROVALS FROM RELEVANT STATUTORY BODIES.
2. CHANGES OF EXISTING PROPOSED STATUTORY UNDERTAKERS APPROPRIATE AND/OR TO CROSSING PROPOSED EXCAVATIONS ARE TO BE CONFIRMED PRIOR TO START ON SITE.
3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE CHECKED AND APPROVED ENGINEERING DETAILS, SPECIFICATIONS, GEOTECHNICAL AND OTHER RELEVANT DOCUMENTATION PROVIDED.
4. THIS DRAWING IS SCHEMATIC FOR CLARITY ONLY. POSITIONS OF PIPES AND MANHOLES MAY VARY ON SITE DUE TO SITE CONDITIONS.
5. WHERE EXISTING OR PROPOSED TREES ARE ADJACENT TO ACCESS ROADS OR DRAINAGE, ROOT BARRIERS (TYPE AND DEPTH) ARE REQUIRED TO PREVENT STRUCTURAL DAMAGE.
6. ANY ANOMALY OR CONTRADICTIONS BETWEEN ANY OF THE ABOVE IS TO BE REPORTED IMMEDIATELY.
7. THIS DESIGN IS TO BE CONFORMANT WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND BUILDING LEGISLATION ETC.
8. ALL PIPE SIZES, CHAMBER DEPTHS, SIZE & QUANTITY ARE TO BE REVIEWED BY DETAILED DESIGN. ALL ADAPTED PIPE WORK, ROUTING AND EASEMENTS SUBJECT TO FULL DESIGN REVIEW AND APPROVAL BY THE RELEVANT BODIES.
9. DRAINAGE DESIGN IS SUBJECT TO DETAILED LEVELS AND FORMAL VERIFICATION DESIGN.
10. SUBJECT TO DETAILED DESIGN AND APPROVAL.
11. COVER LEVELS BASED ON EXISTING TOPOGRAPHICAL SURVEY AND LIDAR DATA AND TO BE CONFIRMED DURING DETAILED DESIGN.
12. LEVELS AND CO-ORDINATES SET TO LOCAL GRID AND TO BE CONFIRMED BEFORE CONSTRUCTION.

	RESIDENTIAL CURTILAGE BOUNDARY
	PROPOSED SURFACE WATER DRAINAGE
	PROPOSED RODDING EYE
	PROPOSED SuDS/BIORETENTION PLANTER
	PROPOSED DRAINAGE CHANNEL
	PROPOSED CELLULAR ATTENUATION TANK
	PROPOSED FOUL DRAINAGE
	PROPOSED SEWAGE TREATMENT PLANT
	EXISTING DITCH SHOWN INDICATIVELY
	EXISTING SURFACE WATER DRAINAGE PIPE SHOWN INDICATIVELY

A01	01.05.26	FIRST ISSUE	AC
Rev	Date	Description	By

Client

S FINDLAY

Project
STOKES FARM,
BINFIELD

PROPOSED DRAINAGE STRATEGY

Project No. AEG7350		Drawing No. CIV-001		Revision A01
Drawn AC	Checked JM	Approved JM	Date MAY 2026	Scale @ A1 1:200

DISCHARGE OF CONDITIONS

dega
water, civis and environment



degadea
water, civils and environment

Appendix D - Proposed Surface Water Drainage Calculations

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
RE 1	0.012	5.00	99.850	300	-328.006	65.756	0.650	99.200
S1	0.012	5.00	99.860	450	-307.366	58.139	0.860	99.000
S2	0.012	5.00	99.900	450	-288.370	51.128	1.035	98.865
S3	0.012	5.00	99.400	450	-281.058	70.936	0.775	98.625
S4	0.012	5.00	99.350	450	-304.900	79.833	1.000	98.350
S5 (CP)			99.320	600	-303.027	84.910	1.020	98.300
S6			99.200	600	-298.647	96.785	1.000	98.200
C1			99.200	600	-294.366	99.365	1.340	97.860
C2			99.000	450	-282.984	106.225	1.310	97.690
RE 2	0.012	5.00	99.350	300	-325.525	87.490	0.700	98.650

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	RE 1	S1	22.001	0.600	99.200	99.000	0.200	110.0	150	5.38	50.0
1.001	S1	S2	20.249	0.600	99.000	98.865	0.135	150.0	150	5.80	50.0
1.002	S2	S3	21.115	0.600	98.865	98.700	0.165	128.0	150	6.19	50.0
1.003	S3	S4	25.448	0.600	98.625	98.350	0.275	92.5	225	6.50	50.0
1.004	S4	S5 (CP)	5.411	0.600	98.350	98.300	0.050	108.2	225	6.58	50.0
1.005	S5 (CP)	S6	12.657	0.600	98.300	98.200	0.100	126.6	225	6.76	50.0
1.006	S6	C1	4.998	0.600	98.200	97.860	0.340	14.7	100	6.80	50.0
1.007	C1	C2	13.289	0.600	97.860	97.690	0.170	78.2	100	7.05	50.0
2.000	RE 2	S4	22.000	0.600	98.650	98.425	0.225	97.8	150	5.36	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.957	16.9	2.2	0.500	0.710	0.012	0.0	36	0.657
1.001	0.818	14.5	4.3	0.710	0.885	0.024	0.0	57	0.718
1.002	0.887	15.7	6.5	0.885	0.550	0.036	0.0	67	0.844
1.003	1.359	54.0	8.7	0.550	0.775	0.048	0.0	61	1.006
1.004	1.256	49.9	13.0	0.775	0.795	0.072	0.0	78	1.057
1.005	1.160	46.1	13.0	0.795	0.775	0.072	0.0	81	0.999
1.006	2.025	15.9	13.0	0.900	1.240	0.072	0.0	69	2.258
1.007	0.871	6.8	13.0	1.240	1.210	0.072	0.0	100	0.895
2.000	1.016	18.0	2.2	0.550	0.775	0.012	0.0	35	0.691

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	22.001	110.0	150	Circular_Default Sewer Type	99.850	99.200	0.500	99.860	99.000	0.710
1.001	20.249	150.0	150	Circular_Default Sewer Type	99.860	99.000	0.710	99.900	98.865	0.885
1.002	21.115	128.0	150	Circular_Default Sewer Type	99.900	98.865	0.885	99.400	98.700	0.550
1.003	25.448	92.5	225	Circular_Default Sewer Type	99.400	98.625	0.550	99.350	98.350	0.775
1.004	5.411	108.2	225	Circular_Default Sewer Type	99.350	98.350	0.775	99.320	98.300	0.795
1.005	12.657	126.6	225	Circular_Default Sewer Type	99.320	98.300	0.795	99.200	98.200	0.775
1.006	4.998	14.7	100	Circular_Default Sewer Type	99.200	98.200	0.900	99.200	97.860	1.240
1.007	13.289	78.2	100	Circular_Default Sewer Type	99.200	97.860	1.240	99.000	97.690	1.210
2.000	22.000	97.8	150	Circular_Default Sewer Type	99.350	98.650	0.550	99.350	98.425	0.775

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	RE 1	300	Manhole	Adoptable	S1	450	Manhole	Adoptable
1.001	S1	450	Manhole	Adoptable	S2	450	Manhole	Adoptable
1.002	S2	450	Manhole	Adoptable	S3	450	Manhole	Adoptable
1.003	S3	450	Manhole	Adoptable	S4	450	Manhole	Adoptable
1.004	S4	450	Manhole	Adoptable	S5 (CP)	600	Manhole	Adoptable
1.005	S5 (CP)	600	Manhole	Adoptable	S6	600	Manhole	Adoptable
1.006	S6	600	Manhole	Adoptable	C1	600	Manhole	Adoptable
1.007	C1	600	Manhole	Adoptable	C2	450	Manhole	Adoptable
2.000	RE 2	300	Manhole	Adoptable	S4	450	Manhole	Adoptable

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
Ratio-R	0.400	Starting Level (m)	
Summer CV	1.000	Check Discharge Rate(s)	x
Winter CV	1.000	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	40	0	0

Node S6 Online Orifice Control

Flap Valve	✓	Design Depth (m)	0.900	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	98.200	Diameter (m)	0.024		

Node S6 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	98.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	125.0	0.0	0.400	125.0	0.0	0.401	0.0	0.0

Results for 1 year 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
15 minute summer	RE 1	10	99.235	0.035	2.1	0.0025	0.0000	OK
15 minute summer	S1	10	99.055	0.055	4.2	0.0087	0.0000	OK
15 minute summer	S2	11	98.932	0.067	6.2	0.0107	0.0000	OK
15 minute summer	S3	11	98.684	0.059	8.2	0.0094	0.0000	OK
15 minute summer	S4	11	98.435	0.085	12.2	0.0136	0.0000	OK
15 minute summer	S5 (CP)	11	98.384	0.084	12.3	0.0237	0.0000	OK
360 minute winter	S6	336	98.340	0.140	1.8	10.8433	0.0000	SURCHARGED
360 minute winter	C1	344	97.877	0.017	0.4	0.0049	0.0000	OK
360 minute winter	C2	344	97.707	0.017	0.4	0.0000	0.0000	OK

15 minute summer	RE 2	10	98.685	0.035	2.1	0.0025	0.0000	OK
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Link Event (Velocity)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	RE 1	1.000	S1	2.1	0.467	0.123	0.0987	
15 minute summer	S1	1.001	S2	4.1	0.619	0.284	0.1355	
15 minute summer	S2	1.002	S3	6.2	0.824	0.393	0.1578	
15 minute summer	S3	1.003	S4	8.2	0.746	0.151	0.2807	
15 minute summer	S4	1.004	S5 (CP)	12.3	0.900	0.245	0.0737	
15 minute summer	S5 (CP)	1.005	S6	12.3	1.057	0.266	0.1533	
15 minute winter	S6	1.006	C1	0.3	0.909	0.021	0.0029	
360 minute winter	C1	1.007	C2	0.4	0.484	0.063	0.0118	12.3

15 minute summer	RE 2	2.000	S4	2.1	0.673	0.114	0.0671	
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Results for 30 year 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
15 minute summer	RE 1	10	99.257	0.057	5.3	0.0041	0.0000	OK
15 minute summer	S1	10	99.095	0.095	10.5	0.0150	0.0000	OK
15 minute summer	S2	11	98.996	0.131	15.7	0.0208	0.0000	OK
15 minute summer	S3	11	98.720	0.095	20.5	0.0152	0.0000	OK
15 minute summer	S4	11	98.502	0.152	30.6	0.0242	0.0000	OK
240 minute winter	S5 (CP)	244	98.463	0.163	5.4	0.0461	0.0000	OK
240 minute winter	S6	236	98.462	0.262	5.4	25.2559	0.0000	SURCHARGED
240 minute winter	C1	240	97.880	0.020	0.6	0.0057	0.0000	OK
240 minute winter	C2	240	97.710	0.020	0.6	0.0000	0.0000	OK

15 minute summer	RE 2	10	98.705	0.055	5.3	0.0039	0.0000	OK
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Link Event (Velocity)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	RE 1	1.000	S1	5.2	0.587	0.310	0.1965	
15 minute summer	S1	1.001	S2	10.4	0.748	0.719	0.2807	
15 minute summer	S2	1.002	S3	15.5	1.000	0.987	0.3254	
15 minute summer	S3	1.003	S4	20.5	0.916	0.379	0.5680	
15 minute summer	S4	1.004	S5 (CP)	30.7	1.113	0.615	0.1491	
15 minute summer	S5 (CP)	1.005	S6	30.7	1.460	0.665	0.2937	
15 minute winter	S6	1.006	C1	0.5	0.930	0.029	0.0036	
240 minute winter	C1	1.007	C2	0.6	0.533	0.087	0.0149	14.1

30 minute summer	RE 2	2.000	S4	4.7	0.804	0.262	0.1447	
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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	RE 1	12	99.559	0.359	9.6	0.0255	0.0000	FLOOD RISK
15 minute summer	S1	12	99.503	0.503	17.1	0.0800	0.0000	SURCHARGED
15 minute summer	S2	12	99.295	0.430	25.1	0.0684	0.0000	SURCHARGED
480 minute winter	S3	448	98.911	0.286	4.0	0.0455	0.0000	SURCHARGED
480 minute winter	S4	448	98.911	0.561	6.0	0.0892	0.0000	SURCHARGED
480 minute winter	S5 (CP)	448	98.911	0.611	5.8	0.1729	0.0000	SURCHARGED
480 minute winter	S6	448	98.911	0.711	5.7	47.8199	0.0000	FLOOD RISK
480 minute winter	C1	448	97.886	0.026	1.0	0.0074	0.0000	OK
480 minute winter	C2	448	97.716	0.026	1.0	0.0000	0.0000	OK
480 minute winter	RE 2	448	98.911	0.261	1.0	0.0185	0.0000	SURCHARGED

Link Event (Velocity)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	RE 1	1.000	S1	8.2	0.632	0.486	0.3873	
15 minute summer	S1	1.001	S2	16.4	0.932	1.135	0.3565	
15 minute summer	S2	1.002	S3	24.5	1.393	1.565	0.3651	
15 minute summer	S3	1.003	S4	33.5	0.946	0.619	0.7997	
15 minute summer	S4	1.004	S5 (CP)	51.6	1.297	1.032	0.2152	
15 minute summer	S5 (CP)	1.005	S6	51.3	1.656	1.113	0.4628	
30 minute winter	S6	1.006	C1	0.6	0.928	0.041	0.0046	
480 minute winter	C1	1.007	C2	1.0	0.616	0.146	0.0215	27.9
15 minute winter	RE 2	2.000	S4	8.9	0.817	0.497	0.2897	