Drainage Statement

Longwater Road, Finchampstead
15557
For Stonebond Properties Ltd

Tullys

Bringing engineering excellence to life

Report for

Stonebond Properties Ltd

Project No: 15557

Longwater Road, Finchampstead

Issued By

Julian Turner

Date

27 January 2026

Approved By

Paul Tittle

Drainage Statement

15557-TUL-XX-XX-RP-S-9001

Issue	Status	Issued	Approved	Date
01	First Issue	JCT	PAJT	27/01/2026
02	Final Draft	JCT	PAJT	30/01/2026

Tullys

Sheridan House
Forest Row
East Sussex, RH18 5EA

2nd Floor
201 Borough High Street
London, SE1 1JA

tullys.uk

Copyright and Non-Disclosure Notice

The contents and layout of this document are subject to copyright owned by Tully De'Ath (Consultants) Limited (© Tully De'Ath Limited 2009) save to the extent that copyright has been legally assigned by us to another party or is used by Tully De'Ath (Consultants) Limited under license. To the extent that we own the copyright in this document, it may not be copied or used without our prior written agreement for any purpose other than the purpose indicated in this document. The methodology (if any) contained in this document is provided to you in confidence and must not be disclosed or copied to third parties without the prior written agreement of Tully De'Ath (Consultants) Limited. Disclosure of that information may constitute an actionable breach of confidence or may otherwise prejudice our commercial interests. Any third party who obtains access to this document by any means will, in any event, be subject to the Third Party Disclaimer set out below.

Third-Party Disclaimer

Any disclosure of this document to a third-party is subject to this disclaimer. The document was prepared by Tully De'Ath (Consultants) Limited at the instruction of, and for use by, our client named on the front of the document. It does not in any way constitute advice to any third-party who is able to access it by any means. Tully De'Ath (Consultants) Limited excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage howsoever arising from reliance on the contents of this document. We do not however exclude our liability (if any) for personal injury or death resulting from our negligence, for fraud or any other matter in relation to which we cannot legally exclude liability.

Contents

1 Introduction 4
2 Summary of Planning Condition 4
3 Proposed Drainage Strategy 5
4 Conclusion 5
Appendix A - Flood Risk Assessment & Drainage Strategy Addendum Report 6
Appendix B - Drainage Layout 7
Appendix C - Drainage Calculations 8

1 Introduction

1.1 Tullys have been commissioned by Stonebond Properties Ltd to provide a Drainage Statement report for the development at Land East of Longwater Road, Longwater Road, Finchampstead, Wokingham, RG40 3TS.

1.2 This statement has been prepared to inform the Local Planning Authority (LPA) and the Lead Local Flood Authority (LLFA) on the design development of the surface water drainage for the development.

1.3 The site has received planning permission (Ref: 241567) for:

Full application for the proposed erection of 38no.dwellings (Use Class C3), together with associated outdoor space and landscaping, drainage infrastructure, hard and soft landscaping, parking, access, and associated works.

1.4 This Drainage Statement has been prepared to provide information relating to Condition 28 (Drainage) of the approved planning permission.

1.5 In preparing this drainage statement reference has been made to the Flood Risk Assessment and Drainage Strategy Addendum report 794-DES-ARC-30429 v2 dated 29/11/2024 by RPS Consulting Services Ltd.

2 Summary of Planning Condition

2.1 Condition 28 of the planning permission for the development states:

The development hereby permitted shall be carried out fully in accordance with the provisions set out in the Flood Risk Assessment and Drainage Strategy Addendum report 794-DES-ARC-30429 v2 dated 29/11/2024.

2.2 The report sets out the following criteria in relation to the Drainage Strategy:

- Ground conditions determine that infiltration is not feasible
- Greenfield run-off Q1 5.35 l/s, Qbar 6.29 l/s, Q30 14.48l/s, Q100 20.08 l/s
- Discharge of surface water is to a watercourse (approx.210m) to the southwest of the site
- Surface water is collected and conveyed by a gravity sewer system which feeds into an on-site attenuation basin
- The attenuation basin accommodates flows up to the 1 in 100 year +40% climate change critical storm event
- Outflow from attenuation basin restricted to 4.6 l/s
- Foul water conveyed by a gravity sewer system to a foul water pumping station located in the south of the site. Foul flows pumped to the existing 150mm diameter public foul water sewer located in Longwater Road to the northwest

2.3 Refer to Appendix A for Flood Risk Assessment and Drainage Strategy Addendum Report.

3 Proposed Drainage Strategy

3.1 The proposed drainage strategy accords with the approved drainage strategy addendum report with two amendments.

3.2 The surface water outfall to the attenuation basin is proposed to the adjacent existing ditch running along the southern boundary of the site via a new headwall. The ditch discharges downstream into the wetlands/lakes to the southeast.

3.3 The outflow from the attenuation basin into the ditch is restricted by means of a vortex flow control, limiting the peak flow to 5.4l/s for all storms events to up to 1 in 100 year return period plus a 40% allowance for climate change.

3.4 The foul water will be conveyed by a gravity sewer system to a foul water pumping station located in the south of the site. Foul flows will then be pumped to the existing 150mm diameter public foul water sewer (at chamber 6701) located in the public right of way which forms the northern boundary of the site.

3.5 Refer to Appendix B for Drainage Layout.

3.6 Refer to Appendix C for Drainage Calculations.

4 Conclusion

4.1 The approved drainage strategy has been updated to incorporate the amended outfall locations for foul and surface water.

4.2 The surface water discharge rate to the adjacent ditch has been restricted to 5.4 l/s, which is less than Qbar (6.29 l/s).

4.3 The attenuation basin has been designed to accommodate the critical storm event for the 1 in 100 year return period plus a 40% allowance for climate change.

4.4 The foul flows will be pumped to the existing 150mm diameter public foul water sewer (at chamber 6701) located in the public right of way

4.5 Based on the above conclusions it is considered that the proposed development and drainage strategy meet planning requirements.

Appendix A - Flood Risk Assessment & Drainage Strategy Addendum Report

LAND EAST OF LONGWATER ROAD, FINCHAMPSTEAD

Flood Risk Assessment and Drainage Strategy Addendum

794-DES-ARC-30429
Longwater Road, Finchampstead
2
November 2024

rpsgroup.com

Document status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
1	Addendum	J. Grady	E. Bullen	C. Patmore	20.11.2024
2	Revised layout added	J. Hughes	E. Bullen	C. Patmore	29.11.2024

Approval for issue

C. Patmore	29.11.2024

The report has been prepared for the exclusive use and benefit of our client and solely for the purpose for which it is provided. Unless otherwise agreed in writing by R P S Group Limited, any of its subsidiaries, or a related entity (collectively 'RPS') no part of this report should be reproduced, distributed or communicated to any third party. RPS does not accept any liability if this report is used for an alternative purpose from which it is intended, nor to any third party in respect of this report. The report does not account for any changes relating to the subject matter of the report, or any legislative or regulatory changes that have occurred since the report was produced and that may affect the report.

The report has been prepared using the information provided to RPS by its client, or others on behalf of its client. To the fullest extent permitted by law, RPS shall not be liable for any loss or damage suffered by the client arising from fraud, misrepresentation, withholding of information material relevant to the report or required by RPS, or other default relating to such information, whether on the client's part or that of the other information sources, unless such fraud, misrepresentation, withholding or such other default is evident to RPS without further enquiry. It is expressly stated that no independent verification of any documents or information supplied by the client or others on behalf of the client has been made. The report shall be used for general information only.

Prepared by:

RPS Consulting Services Ltd

4th Floor, 1 Newhall Street
Birmingham
B3 3NH

Prepared for:

Catesby Strategic Land Ltd and Stonebond Properties (Guildford) Ltd

Contents

1 INTRODUCTION 1

2 SITE DESCRIPTION AND DEVELOPMENT PROPOSAL 2
Site Description 2
Development Proposals 2

3 FLOOD RISK SOURCES 3
Fluvial Flooding 3
Surface Water Flooding 3
Reservoir Flooding 4
Sewer Flooding 4
Groundwater Flooding 4
Other Sources of Flooding 5

4 DRAINAGE STRATEGY 6
Existing Surface Water Drainage 6
Existing Foul Water Drainage 6
Consideration of Drainage Hierarchy 7
Proposed Surface Water Drainage 7
Site Specific SuDS Benefits 8
Attenuation Basin 9
Water Quality 9
Proposed Foul Water Drainage 9
Maintenance and Adoption 10

5 SUMMARY AND CONCLUSIONS 14

Tables

Table 1: Greenfield Runoff Rates 6
Table 2. Attenuation Basin Suggested Maintenance Schedule 11
Table 3. Flow Control Manhole Suggested Maintenance Schedule 12
Table 4. Inlet and Outlet Headwalls Suggested Maintenance Schedule 12
Table 5. Proposed mitigation 14

Figures

Figure 1. Site Location 2

Appendices

Appendix A – Development Plans 15
Appendix B – Thames Water Sewer Records 16
Appendix C – Greenfield Runoff Rate 17
Appendix D – Soakaway Testing 18
Appendix E - Drainage Strategy 19
Appendix F – Causeway Calculations 20

1 INTRODUCTION

1.1 RPS was commissioned by Catesby Strategic Land Ltd and Stonebond Properties (Guildford) Ltd to prepare an addendum to the Flood Risk Assessment (ref: 794-DES-ARC-30429_Longwater Rd, Finchampstead_FRA_v2 dated 20240607) previously produced for land to the east of Longwater Road, Finchampstead, RG40 3TT, in relation to the proposed development of up to 38 dwellings and associated infrastructure.

1.2 The addendum will address updates to the development proposals, and associated drainage strategy and flood constraints for the site.

2 SITE DESCRIPTION AND DEVELOPMENT PROPOSAL

Site Description

2.1 The site is located at National Grid Reference SU 79644 62704, is irregular in shape and occupies an area of approximately 2.3 hectares (ha). The site location is presented in Figure 1.

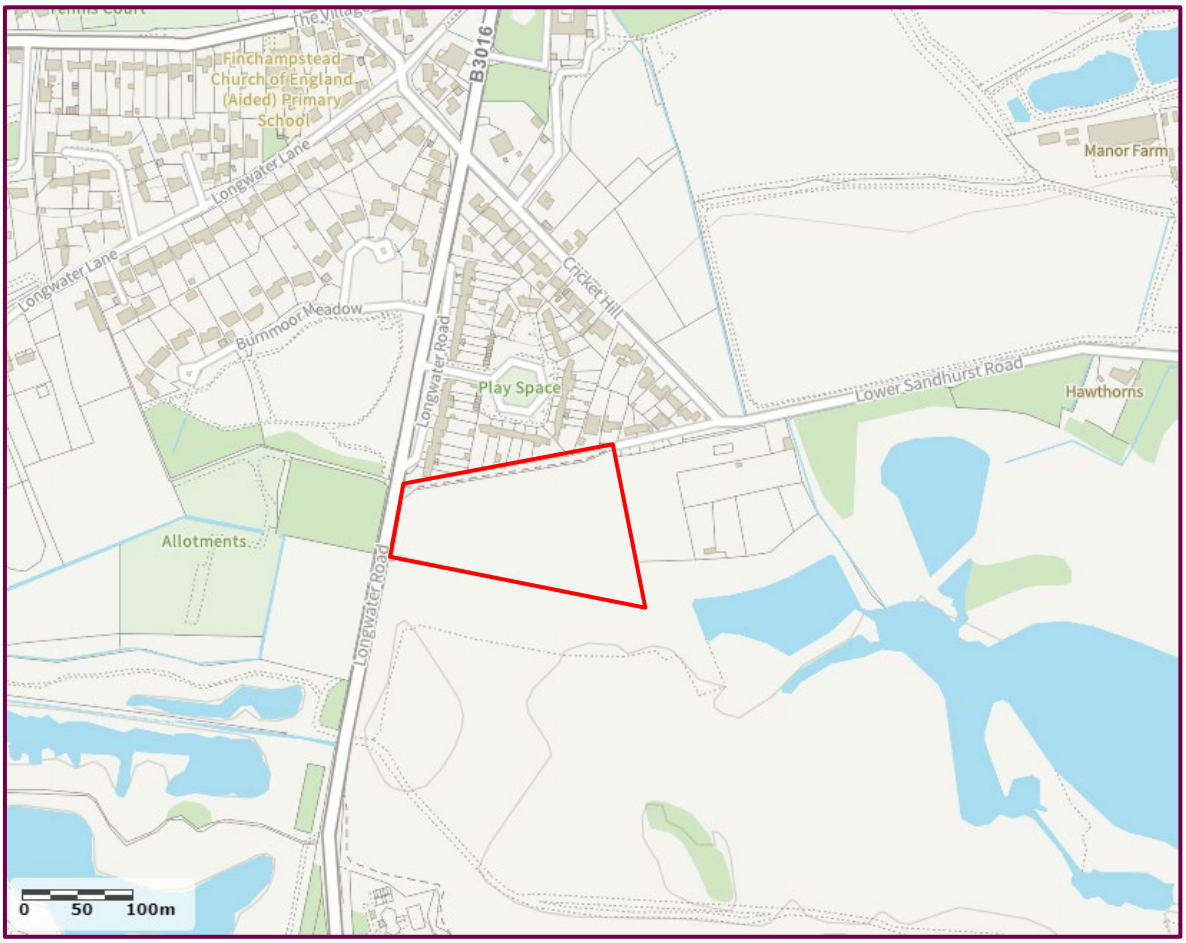


Figure 1. Site Location

2.2 The site is currently occupied by greenfield land.

Development Proposals

2.3 The proposed development comprises

"Erection of 38 no. residential dwellings, together with associated parking, landscaping and open space".

2.4 Development plans are shown in Appendix A.

2.5 The proposed use of the site is classified as 'More Vulnerable' within the PPG.

3 FLOOD RISK SOURCES

3.1 Below is a summary of the flood risk sources at the site. Please note, a review of the available flood mapping has confirmed that this information has not changed from the original FRA for each source of flooding. As mentioned below, mapping is available online, but is also provided within Section 6 and 8 of the FRA.

Fluvial Flooding

3.2 The EA Flood Map for Planning[1], which is available online, indicates that the site is located within Flood Zone 1, whereby the annual probability of flooding from fluvial or tidal sources is classified as less than 1 in 1,000 (0.1%) chance of flooding from rivers or the sea in any given year.

Surface Water Flooding

3.3 The EA's Flood Map for Surface Water[2], which is available online, indicates that the majority of the site is at 'Very Low' risk of surface water flooding. The southeast corner of the site and southern boundary are at predominantly 'low' risk of surface water flooding, with some very small patches of 'medium' risk. The proposed plots are located outside of surface water flood risk extents, as shown in Figure 2 below.

3.4 Once the site is developed, the proposed surface water drainage strategy will intercept and manage surface water runoff. This will ensure that surface water generated onsite will be managed sustainably.

[1] https://flood-map-for-planning.service.gov.uk/

[2] https://www.gov.uk/check-long-term-flood-risk

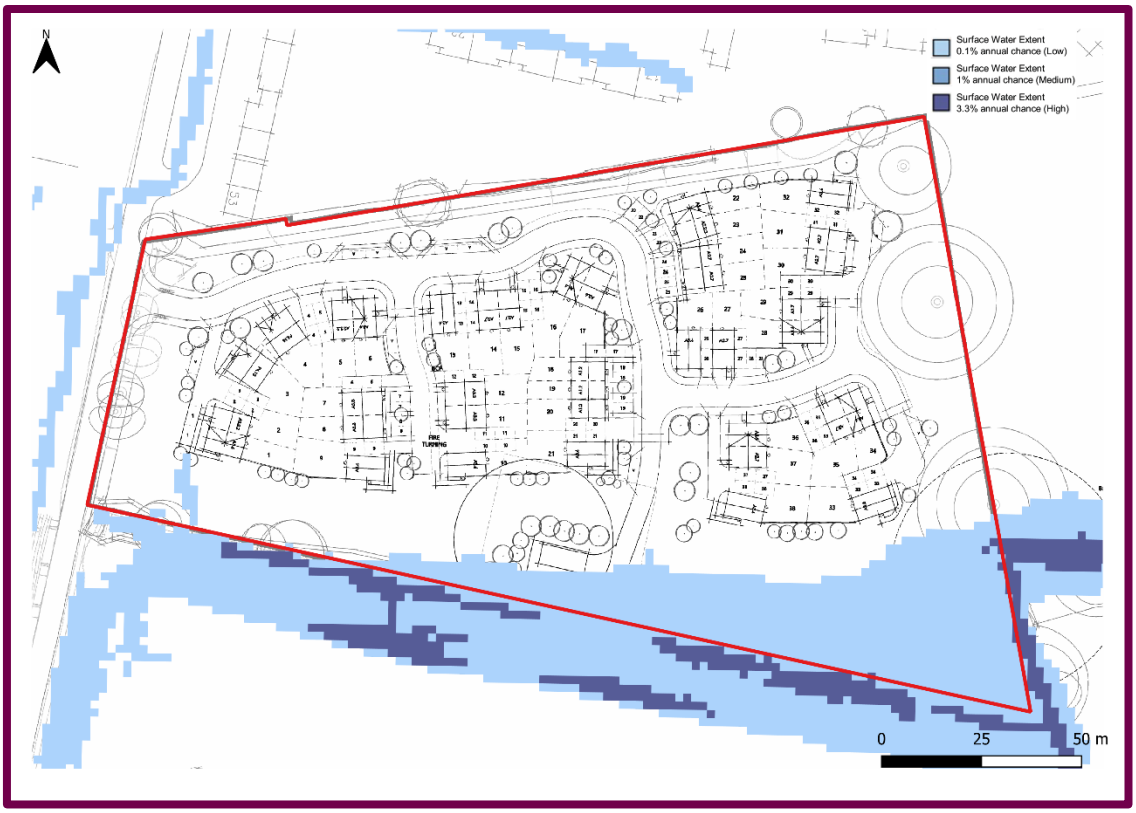


Figure 2. Surface Water Extents and Development Layout (extract from EA surface water flood mapping Nov 2024)

Reservoir Flooding

3.5 EA reservoir mapping[3] indicates that the site is not located within an area potentially at risk from reservoir flooding.

Sewer Flooding

3.6 The TW sewer records (copies are contained within the original FRA and reproduced as Appendix B) indicate that there are currently no surface water sewers located within the site boundary. Once the site is developed, the drainage system will be designed to accommodate flows up to the 1 in 100 year +40% climate change storm event.

Groundwater Flooding

3.7 The Wokingham Borough Council (WBC) SFRA[4] does not identify any historic incidents of groundwater flooding in Finchampstead. The SFRA Susceptibility to Groundwater Flooding Map indicates that the site is located in an area with limited potential for groundwater flooding to occur. The site-specific assessment of the site in the SFRA indicates that there is potential for basement flooding as a result of the groundwater flood risk. No basements are proposed on the site.

[3] https://www.gov.uk/check-long-term-flood-risk

[4] https://www.wokingham.gov.uk/sites/wokingham/files/2023-07/1.%20WBC%20SFRA%202020%20Report.pdf

3.8 BGS borehole logs (contained within the original FRA) indicate that the groundwater table is approximately 1-1.2m bgl. It is recommended that a groundwater monitoring study is undertaken in winter months prior to the commencement of construction.

Other Sources of Flooding

3.9 As with any urban location, there is the potential risk of a break in a water main causing localised flooding at the site. A burst pipe can result in flooding of roads and property. Areas at most risk are low points in topography along open roads. The development proposals will be designed to ensure that any overland flows are routed away from buildings and intercepted by gullies and or drainage channels, therefore potential risks posed by a break in a water main can be considered negligible.

4 DRAINAGE STRATEGY

Existing Surface Water Drainage

4.1 TW sewer records, included for reference in Appendix B indicate that there are no public surface water sewers located within the site boundary.

4.2 Public surface water sewers are located within the vicinity of the site, most notably a 225mm diameter sewer located in Burnmoor Meadow to the northwest.

4.3 The greenfield nature of the site means that surface water will slowly soak into the ground (infiltrate), be intercepted by vegetation or run off by way of overland flow, according to the soil characteristics and following the topography of the site.

4.4 Greenfield runoff rates for the site have been calculated by way of Interim Code of Practice for Sustainable Drainage Systems (ICP SUDS). This implements a pro rata IH124 methodology, for sites below 50ha in size. The calculation has been included for reference within Appendix C and outputs are summarised within Table 2.

Return Period	Greenfield Runoff Rate (l/s)
Q1	5.35
QBar	6.29
Q30	14.48
Q100	20.08

Table 1: Greenfield Runoff Rates

Existing Foul Water Drainage

4.5 TW sewer records are included for reference in Appendix B indicating that a 150mm diameter public foul water sewer is located in the site. This sewer is located along the northern boundary, flowing in a westerly direction to a foul pumping station located approximately 130m west of the site.

Consideration of Drainage Hierarchy

4.4 The PPG advises of the following hierarchy for the disposal of surface water;

1. Infiltration;
2. To a surface water body;
3. To a surface water sewer, highway drain or another drainage system; or
4. To a combined sewer.

The drainage hierarchy has been considered as follows.

Infiltration

4.5 The soakaway testing undertaken at the site concluded that an infiltration to 75% was unachievable and an accurate infiltration rate could not be calculated for any of the soakaway tests. As a result, an alternative method for disposing of surface water will be considered. Soakaway testing is included as Appendix D.

To a Surface Water Body

4.6 It is proposed to discharge surface water to a nearby watercourse, located to the southwest of the site. The ordinary watercourse is located outside of the site boundary. Therefore third party consent may be required from the landowner, and permission should be sought to establish this outfall to the ordinary watercourse.

To a Surface Water Sewer, Highway Drain or Another Drainage System

4.7 TW records indicate that the closest surface water sewer is located on Burnmoor Meadow, to the northwest of the site. This is at a higher elevation and may require pumping, however, as an outfall to a surface water body is proposed, discharging to a surface water sewer has not been considered.

To a Combined Sewer

4.8 TW records indicate there are no combined sewers located in the vicinity of the site. As an outfall is proposed to a surface water body, discharging to a combined sewer has not been considered.

Proposed Surface Water Drainage

4.9 Based on the current information available, the proposed surface water drainage strategy will make use of local attenuation with a positive outfall.

4.10 The Conceptual Drainage Strategy illustrating drainage proposals based upon a discharge to a nearby ordinary watercourse is provided within Appendix E. The strategy has been designed based upon the following parameters:

- Total Site Area = 2.290 ha
- Total Impermeable Area plus 10% Urban Creep Allowance = 0.7 ha
- Greenfield Runoff Rate = 6.29 l/s

- Restriction Rate = 4.6 l/s
- Storage requirement for 1 in 100 year +40% Climate Change event = 465m³

4.11 It is proposed that surface water will be collected and conveyed, by a gravity sewer system and attenuated prior to discharge in an attenuation basin located in the southeast corner of the site. Surface water will outfall to an ordinary watercourse located to the southwest of the site at a restricted rate of 4.6l/s

4.12 Surface water storage is provided within an attenuation basin, providing a total storage volume of 465m³. Surface water calculations are provided in Appendix F for reference, demonstrating that the proposed drainage network can accommodate flows up to the 1 in 100 year +40% climate change storm event.

4.13 A surface water outfall is proposed to an ordinary watercourse located approximately 250m to the southwest of the site. A 300mm diameter surface water sewer will be installed in Longwater Road, with a headwall outfall into the watercourse as it passes under the road. An ordinary watercourse consent will be required from the LLFA for the outfall. As the ordinary watercourse is located outside of the site boundary, third party consent may be required from the landowner, and permission should be sought to establish this outfall to the ordinary watercourse.

4.14 It should be noted that both the Conceptual Drainage Strategy indicated within Appendix G, and supporting calculations within Appendix H, are preliminary, and as such, subject to further detailed design and approval by the relevant authorities. However, the designs illustrate that surface water arising from the development may be sustainably managed such that it does not pose a flood risk, either to proposed or existing development, up to and including the 1 in 100 year +40% climate change storm event.

Site Specific SuDS Benefits

4.16 Sustainable drainage is a departure from the traditional approach to draining sites. There are some key principles that influence the planning and design process enabling SuDS to mimic natural drainage by:

- storing run-off and releasing it slowly (attenuation);
- allowing water to soak into the ground (infiltration);
- slowly transporting (conveying) water on the surface;
- filtering out pollutants;
- allowing sediments to settle out by controlling the flow of water.

4.17 CIRIA has produced several guidance documents covering a range of water management scenarios. A summary of the publications used as reference when the site drainage strategy was produced are listed below.

- Planning for SUDS – making it happen (C687)
- Site handbook for the construction of SUDS (C698)
- The SUDS Manual 2015 (C753)
- Sustainable Drainage Systems – Hydraulic, structural and water quality advice (C609)

Attenuation Basin

4.18 The attenuation basin will allow peak flow rates to be reduced and enable flows to be limited to significantly below the existing run-off rate during storm events. The SuDS features are also useful in providing water treatment predominantly through the settlement of silts and suspended sediments. The basin will take the form of a depression within the application site and can be landscaped to provide aesthetic and amenity value. Planting can be used to improve biodiversity and attract wildlife.

Water Quality

4.19 Surface water run-off should be managed by SuDS that are designed to attenuate flows and to avoid water quality impacts downstream. To demonstrate that surface water arising from the development will be appropriately treated prior to discharge, the Simple Index Approach, as outlined within the SuDS Manual (CIRIA C753) has been followed.

4.20 As stated in the SuDS Manual 2015 (C753), the risk posed by surface water runoff to the receiving environment is a function of:

- the pollution hazard at a particular site (i.e. the *pollutant source*)
- the effectiveness of SuDS treatment components in reducing levels of pollutants to environmentally acceptable levels, groundwater (i.e. the *pollutant pathway*)
- the sensitivity of the receiving environment (i.e. the *environmental receptor*).

4.21 The most significant pollutant load within the site will arise from individual property driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change. These have an identified pollutant hazard level of ‘Low’ as per the SuDS Manual (CIRIA C753) Table 26.2, with identified pollutant hazard indices of 0.5 for Total Suspended Solids (TSS), 0.4 for Metals, and 0.4 for Liquid Hydrocarbons.

4.22 The attenuation basin, as proposed, has identified mitigation indices (The SuDS Manual, CIRIA C753, Table 26.3), of 0.5 for TSS, 0.5 for Metals and 0.6 for Liquid Hydrocarbons. Mitigation indices therefore exceed maximum anticipated pollutant hazard indices. This confirms that surface water arising from the development will receive an appropriate level of treatment in advance of discharge from site.

4.23 The maintenance and adoption of the SuDS features are described below.

Proposed Foul Water Drainage

4.24 As illustrated by the Conceptual Drainage Strategy in Appendix E, it is proposed that foul water will be conveyed by a gravity sewer system to a foul water pumping station located in the south of the site. Foul flows will then be pumped to the existing 150mm diameter public foul water sewer located in Longwater Road to the northwest.

4.25 It is recommended that a pre-planning enquiry is submitted to TW, to confirm whether there is capacity within the local sewer network to accommodate foul water from the proposed development.

4.26 The foul water connection into the existing network will be subject to the successful submission of a Section 106 agreement under the Water Industry Act and approval from TW.

Maintenance and Adoption

4.27 A specialist management company will be identified at the detailed design stage and appointed to maintain the SuDS features for the lifetime of the development.

4.28 Tables 2 to 4, below, indicate the envisaged maintenance activities associated with the proposed attenuation basin, associated headwalls and the flow control manhole, along with the approximate frequency within which they should be completed.

Table 2. Attenuation Basin Suggested Maintenance Schedule

Maintenance schedule	Require Action	Typical Frequency
Regular Maintenance	Remove litter and debris	As required potentially monthly
	Cut grass – public areas	Monthly (during growing season)
	Cut grass – meadow grass in and around basin	Half yearly (spring, before nesting season, and autumn)
	Inspect vegetation to pond edge and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Hand cut submerged and emergent aquatic plants (at minimum of 0.1m above pond base; include max 25% of pond surface)	Annually
	Remove 25% of bank vegetation from waters edge to a minimum of 1m above water level	Annually
	Tidy all dead growth before start of growing season	Annually
	Remove sediment from forebay	1 – 5 years, or as required
	Remove sediment from one quadrant of the main body of ponds without sediment forebays	2 – 10 years (usually)
Occasional Maintenance	Remove sediment from the main body of big ponds, when pool volume is reduced by 20%	>25 years (usually)
Remedial Actions	Repair of erosion or other damage	As required
	Aerate pond when signs of eutrophication are detected	As required
	Realignment of rip rap or other damage	As required
	Repair/rehabilitation of inlets, outlets and overflows	As required
Monitoring	Inspect structures for evidence of poor operation	Monthly/after large storms
	Inspect banksides, structures, pipework etc. for evidence of physical damage	Monthly/after large storms
	Inspect water body for signs of eutrophication	Monthly (May - October)
	Inspect silt accumulation rates and establish appropriate removal frequencies	Half yearly
	Check penstocks and other mechanical devices	Half yearly

Table 3. Flow Control Manhole Suggested Maintenance Schedule

Maintenance schedule	Require Action	Typical Frequency
Regular Maintenance	Inspect vegetation above and around flow control chamber and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Remove sediment from flow control chambers	Annually
	Flow control devices: Check for and clear obstructions	Quarterly
Remedial Actions	Repair of Penstock and flow control device	As required
Monitoring	Inspect structures for evidence of poor operation	Monthly/after large storm
	Inspect structures, flow control and pipework etc. for evidence of physical damage	Monthly/after large storm
	Inspect silt accumulation rates and establish appropriate removal frequencies	Half yearly

Table 4. Inlet and Outlet Headwalls Suggested Maintenance Schedule

Maintenance schedule	Require Action	Typical Frequency
Regular Maintenance	Litter removal	As required
	Inspect vegetation above and around headwall and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Tidy all dead growth before start of growing season	Annually
	Remove sediment from aprons	Annually
	Flap valves and grilles: Check for and clear obstructions	Quarterly
Remedial Actions	Repair of erosion or other damage around headwalls	As required
Monitoring	Inspect structures for evidence of poor operation	Monthly/after large storms
	Inspect structures, pipework etc. for evidence of physical damage	Monthly/after large storms

Inspect silt accumulation rates and establish appropriate removal frequencies	Half yearly
Check flap valves	Half yearly

5 SUMMARY AND CONCLUSIONS

5.1 The aim of the addendum is to address updates to the development proposals, and associated drainage strategy and flood constraints for the site.

5.2 The potential flood risks to the site, and the measures proposed to mitigate the identified risks, are summarised in Table 5.

Table 5. Proposed mitigation

Source of Flooding	Identified Risk			Mitigation Proposed	Residual Risk		
	L	M	H		L	M	H
Fluvial/ Tidal	✓			No mitigation required	✓		
Sewers	✓			No mitigation required	✓		
Surface Water	✓			All residential dwellings have been located outside of the surface water flood extents. The proposed drainage strategy will intercept and manage surface water run off at the site to the 1 in100 year+40% event.	✓		
Groundwater	✓			Potentially high groundwater table may require SuDS features to be lined to prevent groundwater ingress.	✓		
Other Sources (e.g. reservoirs, water mains)	✓			No mitigation required	✓		

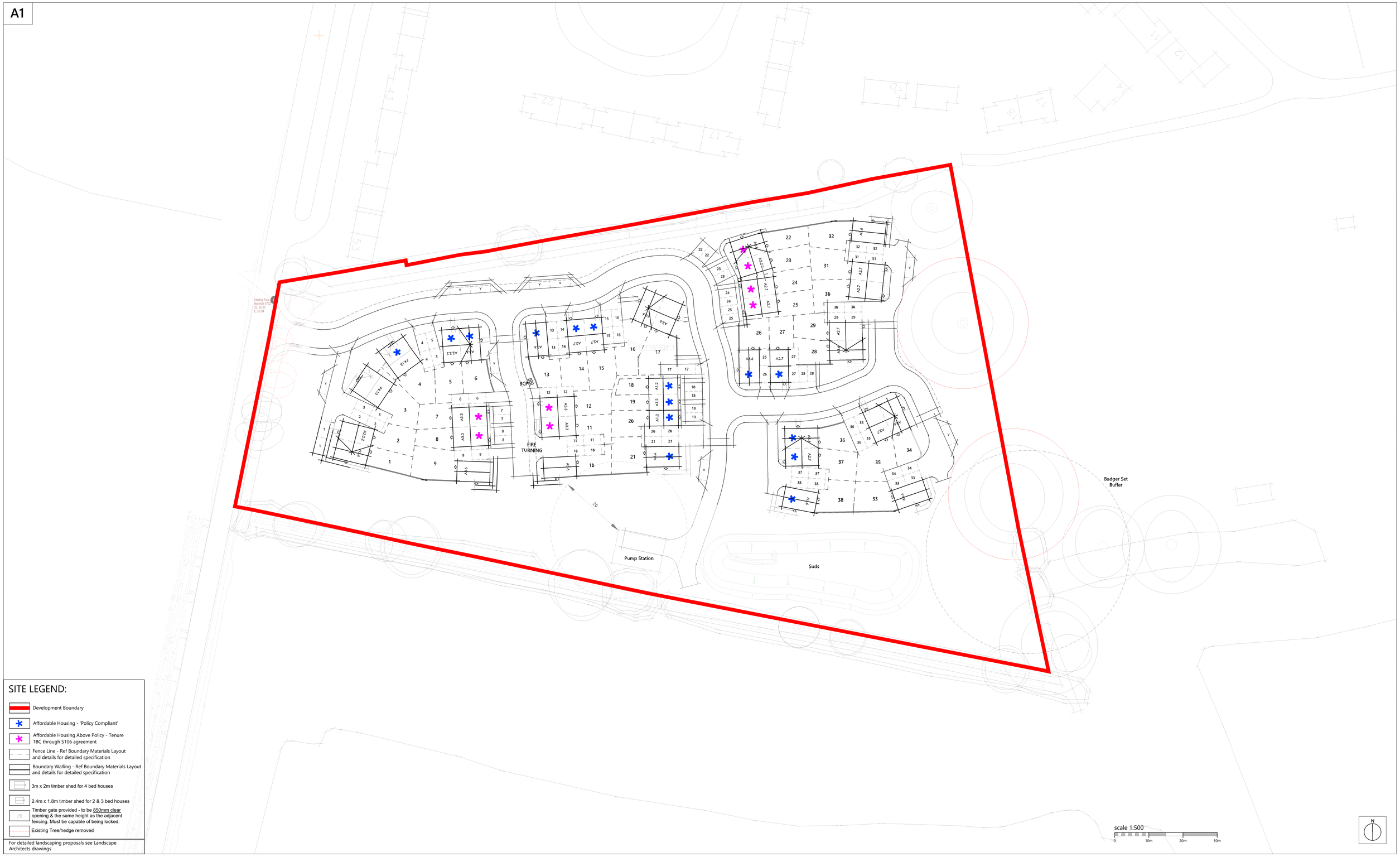
5.3 The EA Flood Map for Planning, which is available online, indicates that the site is located within Flood Zone 1, whereby the annual probability of flooding from fluvial or tidal sources is classified as less than 1 in 1000 year.

5.4 It is proposed that surface water will be conveyed and attenuated prior to discharge within an attenuation basin. Surface water will be discharged to a nearby watercourse at a restricted rate. Surface water arising from the development will be sustainably managed such that it does not pose a flood risk, either to proposed or existing development, to the 1 in 100 year +40% climate change storm event.

5.5 Overall, it has been demonstrated that the flood risks to the development can be managed, without increasing flood risk elsewhere, and will not result in an increase in flood risk off-site.

Appendix A – Development Plans

A1



SITE LEGEND:

- Development Boundary
- Affordable Housing - 'Policy Compliant'
- Affordable Housing Above Policy - Tenure TBC through S106 agreement
- Fence Line - Ref Boundary Materials Layout and details for detailed specification
- Boundary Walling - Ref Boundary Materials Layout and details for detailed specification
- 3m x 2m timber shed for 4 bed houses
- 2.4m x 1.8m timber shed for 2 & 3 bed houses
- Timber gate provided - to be 850mm clear opening & the same height as the adjacent fencing. Must be capable of being locked.
- Existing Tree/hedge removed

For detailed landscaping proposals see Landscape Architects drawings

Romsey T:01794 367703
Portishead T:01275 407000
London T:01794 367703

www.thrivearchitects.co.uk

Rev	Description	Date	Au	Ch
A	Issued for Planning	31.05.24	MK	
B	Amended to suit CMP-02	16.10.24	MK	
	Amended to suit Client comments	21.10.24	MK	
	Amended to suit Engineer's comments	23.10.24	MK	
	Amended to allow 19.2m RPA.	01.11.24	RA/MK	
	Affordable annotations added, engineer's info added.	19.11.24	MK	

This drawing is the copyright of Thrive Architects Ltd ©. All rights reserved. Ordnance Survey Data © Crown Copyright. All rights reserved. Licence No. 100007359. Permission is granted to scale from this drawing for the purposes of **Local Authority Planning Applications only**. For all other purposes DO NOT scale from this drawing. Contractors, Sub-contractors and suppliers are to check all relevant dimensions and levels of the site and building before commencing any shop drawings or building work. Any discrepancies should be recorded to the Architect. Where applicable this drawing is to be read in conjunction with the Consultants' drawings / Clients' Construction Specification.

Project	**Land at Longwater Road, Finchampstead**		
Drawing	**Coloured Site Layout**		
Client	**Catesby Estates PLC & Stonebond Properties (Guildford) Limited**		
Job no.	**CATE230603**	Date	**26.03.24**
Dwg no.	**CSL01**	Rev.	**B**
Author	**MK**	Checked	
Scale	**1:500 at A1**		
Status	PLANNING	Office	**Romsey**
Client ref.			

thrive. architects

Appendix B – Thames Water Sewer Records

CommercialDW Drainage and Water Enquiry Sewer Map- CDWS/CDWS Standard/2017_3571212

The width of the displayed area is 500m

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates no survey information is available.

Manhole Reference	Manhole Cover Level	Manhole Invert Level
6701	56.7	54.5
7702	56.91	55.02
6704	58.4	57.12
6703	58.53	56.65
6801	59.58	57.53
5701	55.01	53.76
5702	55.04	53.84
571A	n/a	n/a
571B	n/a	n/a
5703	n/a	n/a
5704	n/a	n/a
5705	57.63	56.31
581A	n/a	n/a
5706	57.84	56.22
5707	58.29	56.05
6702	58.49	56.17

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Sewer Key - Commercial Drainage and Water Enquiry

Public Sewer Types (Operated & Maintained by Thames Water)

Foul: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

Air Valve

Dam Chase

Fitting

Meter

Vent Column

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

Control Valve

Drop Pipe

Ancillary

Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

Outfall

Undefined End

Inlet

Other Symbols

Symbols used on maps which do not fall under other general categories

Public/Private Pumping Station

Change of characteristic indicator (C.O.C.I.)

Invert Level

Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

Proposed

Abandoned Sewer

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.

2) All measurements on the plans are metric.

3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.

4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

5) 'na' or '0' on a manhole level indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Searches on 0118 925 1504.

Appendix C – Greenfield Runoff Rate

GRM Development Solutions Limited
Laurus House
Centrum 100
First Avenue
Burton On Trent
DE14 2WH

Telephone: (01283) 551249
Facsimile: (01283) 211968
Email: info@grm-uk.com
Web Site: www.grm-uk.com

Our Ref: P7995 SA.1
Date: 28/06/2017

Mr James Finlay,
Catesby Property Group,
Catesby House,
5B Tournament Drive
Edgehill Drive,
Warwick
CV34 6LG

Dear James,

RE: Longwater Road, Finchampstead – Soakaway Testing

Further to your instruction, GRM attended site between the 20th and 21st June 2017 to undertake soakaway infiltration testing at the above location. Testing was undertaken at four locations (SA-01 to SA-04) to test the underlying strata and determine the feasibility of the use of soakaway drainage. The tests were undertaken in general accordance with the methodology outlined within BRE 365.

Ground Conditions

The British Geological Survey (BGS) map for the area indicates that River Terrace Deposits (comprising sand and gravel) overly the Bagshot Formation (comprising sand).

The four soakaway trial pits were excavated to depths of between 1.7m to 2.0m begl. Topsoil was recorded to depths of between 0.3m to 0.4m begl, the River Terrace Deposits were recorded below the topsoil in all four holes as either brown or light grey very clayey fine to coarse SAND or very sandy CLAY with gravel of quartzite and chert and were recorded to depths of 1.7m to depths exceeding 1.9m begl. The underlying Bagshot Formation was only recorded in SA-04 from 1.7m begl as a light brown slightly clayey fine to coarse SAND. An exploratory hole location plan, the exploratory hole logs and site photographs are enclosed for reference.

Groundwater was encountered in all holes as damp strata between 1.2m and 1.5m begl, SA-04 recorded ingress at 1.7m begl.

A land drain was encountered within SA-04 at a depth of 1.1m begl on the northern and southern face of the soakaway pit, and it is believed to have run north to south following local topography. No water was observed within the drain throughout the site works.

Soakaway Testing

The following table below indicates the calculated infiltration rates:-

Location	Depth of Soakaway Pit (m)	Infiltration Material	25% Effective Drainage	75% Effective Drainage	Infiltration Rate (m/s)
SA01 Test 1	1.80	River Terrace Deposits	NO	NO	-
SA02 Test 1	1.70	River Terrace Deposits	YES	NO	-
SA03 Test 1	1.9	River Terrace Deposits	YES	NO	-
SA04 Test 1	2.0	River Terrace Deposits and Bagshot Formation	YES	NO	-

Results have been enclosed for reference.

Summary

An infiltration to 75% was unachievable and an accurate infiltration rate could not be calculated for any of the soakaways. High fines content of the soils has resulted in low infiltration rates, as none of the soakaways were close to 75% an estimated rate calculated by extrapolation could not be undertaken.

Accordingly, it is recommended that an alternative method of disposing of surface water is sought.

This report should be forwarded to the projects drainage engineer for review and consideration in the design process. The use of permeable paving, or shallow swales, where granular strata is present, may be possible.

I trust that the above is sufficient for your current purposes, however if you have any queries please do not hesitate to contact us.

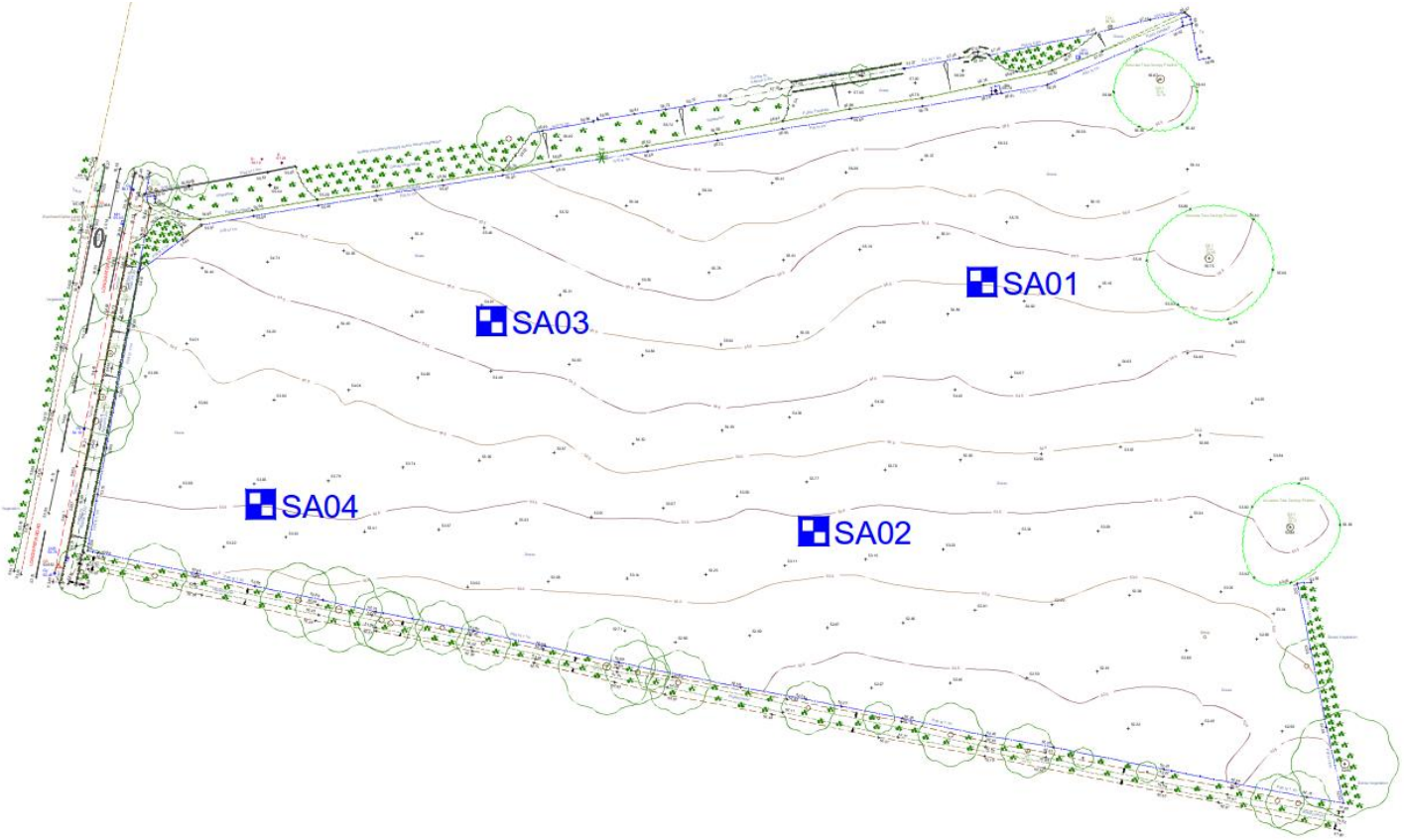
Yours sincerely

George Salloway
Geo-Environmental Scientist

Clive Kirby
Principal Geologist

Enclosed:

- Exploratory Hole Location Plan
- Exploratory Hole Logs
- Site Photographs
- Soakaway Results



DO NOT SCALE

GRM Development Solutions Ltd
Laurus House, Centrum 100
Burton-on-Trent, Staffs, DE14 2WH
Tel: 01283 551249 Fax: 01283 211968
info@grm-uk.com www.grm-uk.com

CLIENT:

Catesby Estates Ltd

PROJECT:

Longwater Road, Finchampstead

TITLE:

Soakaway Location Plan

SCALE@SIZE	ISSUE:
NTS	1
DESIGN/DRAWN : GS	DATE: June 2017
PROJECT No: P7995	DRAWING No:

© GRM Development Solutions Ltd
© Crown Copyright. AL 100014100

GRM Development Solutions Ltd
Laurus House,
First Avenue, Centrum 100,
Burton-on-Trent, DE14 2WH
Tel (HQ): 01283 551249
Email: info@grm-uk.com

Trial Pit Log

Trial Pit No
SA-01
Sheet 1 of 1

Site Name: Longwater Road, Finchampstead

Ground Level (mAOD)

Client: Catesby Estates Ltd

GRM Project Ref: P7995

Coordinates
479684 E
162722 N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Light brown clayey, slightly gravelly fine to coarse SAND. Gravel is fine to coarse, subangular to subrounded chert. TOPSOIL
				0.30			Orange brown mottled grey, very clayey, slightly gravelly fine to coarse SAND with pockets of sandy clay throughout. Gravel is fine to coarse, subrounded quartzite. RIVER TERRACE DEPOSITS
	0.70 - 0.80	D		0.70			Firm orange brown mottled grey, very sandy CLAY. Sand is fine to coarse. Pockets of sandy silt and rare organic material observed. RIVER TERRACE DEPOSITS
							Becoming grey mottled brown and slightly gravelly from 1.8m. Gravel is fine to medium subangular to subrounded chert.
	1.60 - 1.70	D					
				1.80			End of Pit at 1.80m

1
2
3
4

Date Excavated: 20/06/2017
Date Backfilled: 21/06/2017
Shoring: Not used.
Stability: Stable during excavation.
Plant Used: JCB 3CX
Logged by: GS

Groundwater Observations:
Pockets of damp clayey sand recorded from 1.4m begl.

Trial Pit Dimensions (m):
0.60
1.80

Reason for termination of Trial Pit:
Target depth acquired.

General Remarks: Soak away test undertaken.

Strata consistencies/densities determined by observation only

Version: FINAL

Scale: 1:25

GRM Development Solutions Ltd
Laurus House,
First Avenue, Centrum 100,
Burton-on-Trent, DE14 2WH
Tel (HQ): 01283 551249
Email: info@grm-uk.com

Trial Pit Log

Trial Pit No
SA-02
Sheet 1 of 1

Site Name: Longwater Road, Finchampstead

Ground Level (mAOD)

Client: Catesby Estates Ltd

GRM Project Ref: P7995

Coordinates
479660 E
162675 N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Light brown clayey, slightly gravelly fine to coarse SAND. Gravel is fine to medium, subangular to subrounded chert and quartzite. TOPSOIL
				0.30			Light brown very clayey fine to coarse SAND. RIVER TERRACE DEPOSITS
	0.60 - 0.70	D		0.60			Soft brown very sandy, slightly gravelly CLAY. Sand is fine to coarse, gravel is fine to coarse, subrounded quartzite and chert. RIVER TERRACE DEPOSITS
				0.80			Firm orangish brown mottled grey sandy CLAY with pockets of grey sandy silt. Sand is fine to coarse. RIVER TERRACE DEPOSITS
				1.00			Light grey clayey to very clayey, slightly gravelly fine to coarse SAND. Gravel is fine to coarse, subangular to subrounded chert and quartzite. RIVER TERRACE DEPOSITS
	1.10 - 1.20	D					
	1.60 - 1.70	D					
				1.70			End of Pit at 1.70m

1
2
3
4

Date Excavated: 20/06/2017
Date Backfilled: 21/06/2017
Shoring: Not used.
Stability: Stable during excavation.
Plant Used: JCB 3CX
Logged by: GS

Groundwater Observations:
Becoming damp at approximately 1.2m begl

Trial Pit Dimensions (m):
0.60
1.90

Reason for termination of Trial Pit:
Target depth acquired.

General Remarks: Soak away test undertaken.

Strata consistencies/densities determined by observation only

Version: FINAL

Scale: 1:25

GRM Development Solutions Ltd
Laurus House,
First Avenue, Centrum 100,
Burton-on-Trent, DE14 2WH
Tel (HQ): 01283 551249
Email: info@grm-uk.com

Trial Pit Log

Trial Pit No
SA-03
Sheet 1 of 1

Site Name: Longwater Road, Finchampstead

Ground Level (mAOD)

Client: Catesby Estates Ltd

GRM Project Ref: P7995

Coordinates
479610 E
162718 N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	D					Light brown clayey, slightly gravelly fine to coarse SAND. Gravel is fine to coarse, subangular to subrounded chert. TOPSOIL
	0.40 - 0.50	D		0.30			Light brown, very clayey, fine to coarse SAND, with pockets of sandy clay throughout. RIVER TERRACE DEPOSITS
	0.90 - 1.00	D		0.70			Firm light brown mottled grey, very sandy, slightly gravelly CLAY, with pockets of clayey sand observed. Sand is fine to coarse, gravel is fine to coarse, subangular to subrounded chert and quartzite. RIVER TERRACE DEPOSITS
	1.50 - 1.60	D		1.90			End of Pit at 1.90m

1
2
3
4

Date Excavated: 20/06/2017
Date Backfilled: 21/06/2017
Shoring: Not used.
Stability: Stable during excavation.
Plant Used: JCB 3CX
Logged by: GS

Groundwater Observations:
Pockets of damp clayey sand recorded from 1.4m begl.

Trial Pit Dimensions (m):
0.60 × 1.80

Reason for termination of Trial Pit:
Target depth acquired.

General Remarks: Soak away test undertaken.

Strata consistencies/densities determined by observation only

Version: FINAL

Scale: 1:25

GRM Development Solutions Ltd
Laurus House,
First Avenue, Centrum 100,
Burton-on-Trent, DE14 2WH
Tel (HQ): 01283 551249
Email: info@grm-uk.com

Trial Pit Log

Trial Pit No
SA-04
Sheet 1 of 1

Site Name: Longwater Road, Finchampstead

Ground Level (mAOD)

Client: Catesby Estates Ltd

GRM Project Ref: P7995

Coordinates
479582 E
162676 N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.30 - 0.40	D		0.40			Light brown clayey, slightly gravelly fine to coarse SAND. Gravel is fine to coarse, subangular to subrounded chert. TOPSOIL
	0.50 - 0.60	D					Soft to firm, orangish brown mottled grey, sandy (locally very sandy), slightly gravelly CLAY. Sand is fine to coarse, gravel is fine to coarse, subangular to subrounded chert and quartzite. RIVER TERRACE DEPOSITS *Rare organic material from 0.7m begl.* *Land drain observed between 1.0m to 1.2m begl.*
	1.30 - 1.40	D		1.20			Light grey clayey to very clayey, slightly gravelly fine to coarse SAND. Gravel is fine to coarse, subangular to subrounded chert and quartzite. RIVER TERRACE DEPOSITS *Becoming slightly clayey and very gravelly at 1.5m begl.*
	1.50 - 1.60	D					
▼	1.80 - 1.90	D		1.70			Light brown slightly clayey fine to coarse SAND. BAGSHOT FORMATION
				2.00			End of Pit at 2.00m

1
2
3
4

Date Excavated: 20/06/2017
Date Backfilled: 21/06/2017
Shoring: Not used.
Stability: Stable during excavation.
Plant Used: JCB 3CX
Logged by: GS

Groundwater Observations:
Damp strata recorded at 1.5m begl, ingress observed at 1.7m begl and pooling at base of pit.

Trial Pit Dimensions (m):
0.60 × 1.90

Reason for termination of Trial Pit:
Target depth acquired.

General Remarks: Soak away test undertaken.

Strata consistencies/densities determined by observation only

Version: FINAL

Scale: 1:25

SA-01

SA-01 excavated material

SA-02

SA-02 excavated material

DO NOT SCALE

GRM Development Solutions Ltd
Laurus House, Centrum 100
Burton-on-Trent, Staffs, DE14 2WH
Tel: 01283 551249 Fax: 01283 211968
info@grm-uk.com www.grm-uk.com

CLIENT:

Catesby Estates Ltd

PROJECT:

Land off Longwater Road, Finchampstead

TITLE:

Site Work Photographs

SCALE@SIZE	ISSUE:
NTS	
DESIGN/DRAWN : GS	DATE: June 2017
PROJECT No: P7995	DRAWING No:

© GRM Development Solutions Ltd
© Crown Copyright. AL 100014100

SA-03 with soakaway crate

SA-03 excavated material

SA-04

SA-04 (+1hrs)

SA-04 excavated material

DO NOT SCALE

GRM Development Solutions Ltd
Laurus House, Centrum 100
Burton-on-Trent, Staffs, DE14 2WH
Tel: 01283 551249 Fax: 01283 211968
info@grm-uk.com www.grm-uk.com

CLIENT:

Catesby Estates Ltd

PROJECT:

Land off Longwater Road, Finchampstead

TITLE:

Site Work Photographs

SCALE@SIZE	ISSUE:
NTS	
DESIGN/DRAWN : GS	DATE: June 2017
PROJECT No: P7995	DRAWING No:

© GRM Development Solutions Ltd
© Crown Copyright. AL 100014100

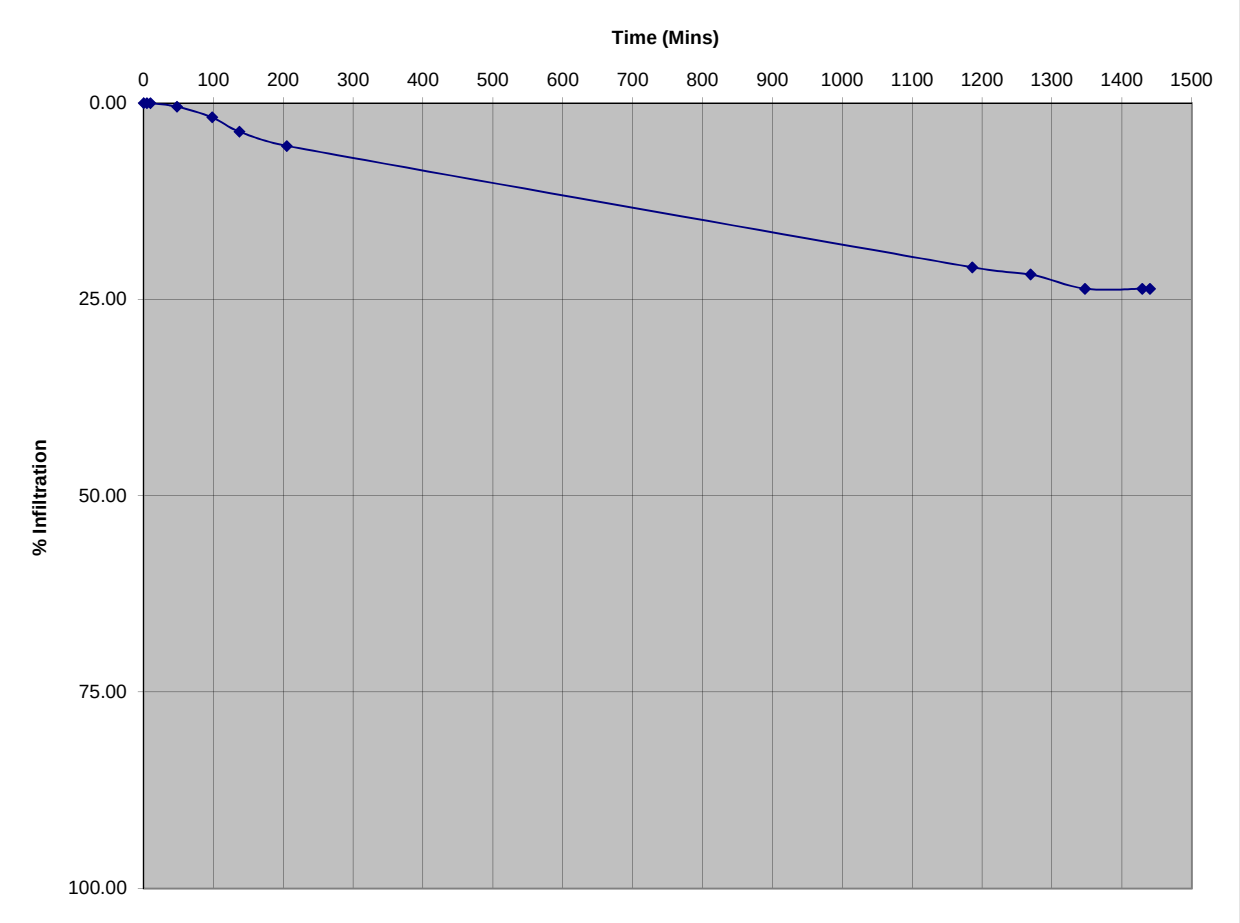
NAME OF SITE	Longwater Road, Finchampstead	
Project No.	P7995	
Soakaway Test No.	SA01 TEST 1	
Depth of pit begl	1.800	m
Pipe above ground	0.000	m
Water level at start of test	0.700	m
Start depth begl	0.700	m

Pit width	0.600	m
Pit length	1.900	m
Volume	1.254	m3
Base area	1.140	m2
Side area	2.090	m2

Time (mins)	Depth begl	% empty
0	0.700	0.00
5	0.700	
10	0.700	
48	0.705	0.45
98	0.720	1.82
137	0.740	3.64
205	0.760	5.45
1186	0.930	20.91
1269	0.940	21.82
1347	0.960	23.64
1429	0.960	23.64
1440	0.960	23.64
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	

Depth at 25% empty	0.975	m
Depth at 75% empty	1.525	m
Vp75-25	0.627	m3
Depth at 50% empty	1.250	m
Area of base at 50% empty	1.140	m2
Area of sides at 50% empty	2.750	m2
Area of pit at 50% empty	3.890	m2
Time at 25% empty	n/a	Mins
Time at 75% empty	n/a	Mins
tp75-25	#VALUE!	Mins
Soil Infiltration (q) =	#VALUE!	**m/min**
	#VALUE!	**m/sec**

The data used for the time at 75% empty has been estimated using engineering judgement from the data recorded on site.



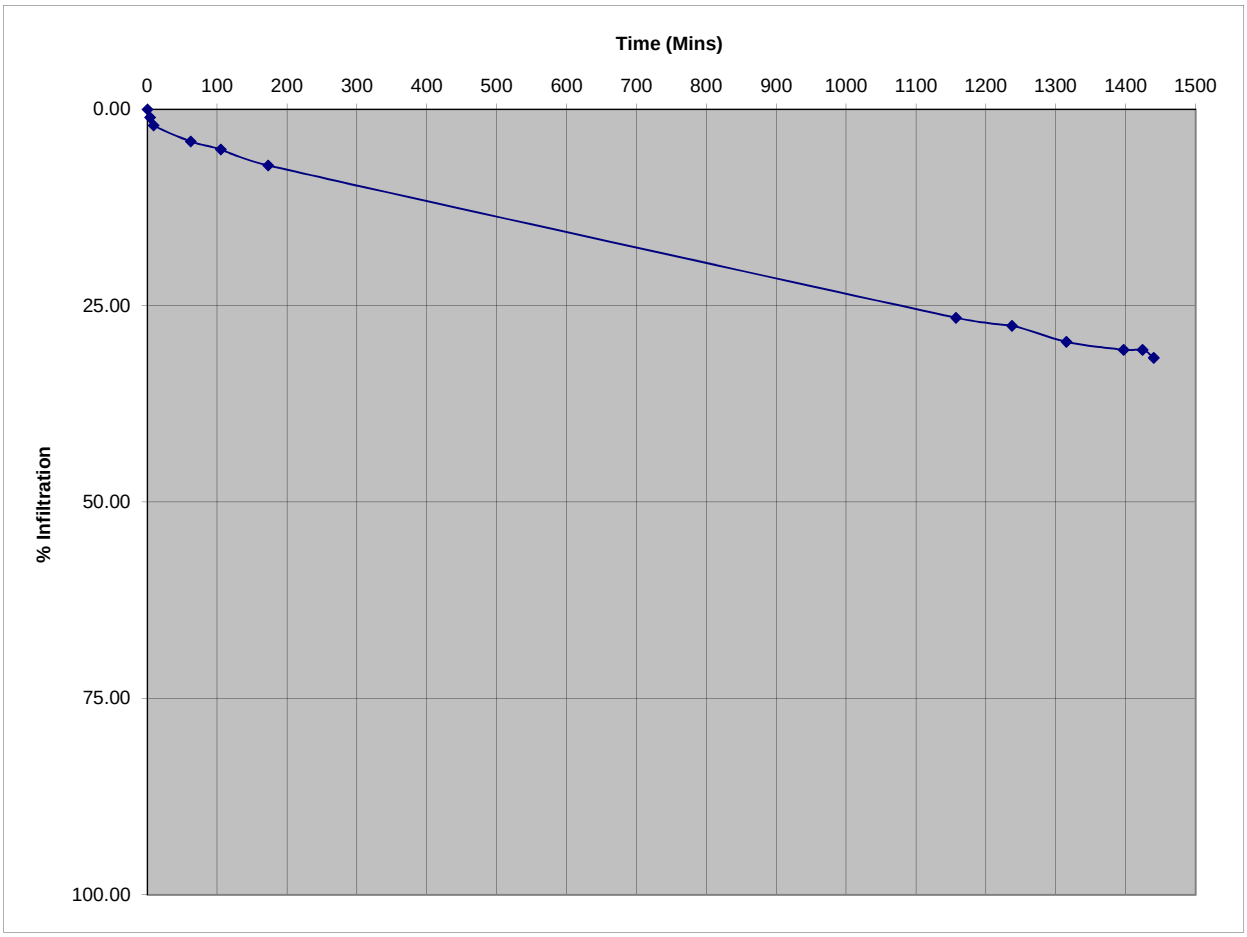
NAME OF SITE	Longwater Road, Finchampstead	
Project No.	P7995	
Soakaway Test No.	SA02 TEST 1	
Depth of pit begl	1.700	m
Pipe above ground	0.000	m
Water level at start of test	0.720	m
Start depth begl	0.720	m

Pit width	0.600	m
Pit length	1.900	m
Volume	1.117	m3
Base area	1.140	m2
Side area	1.862	m2

Time (mins)	Depth begl	% empty
0	0.720	0.00
4	0.730	1.02
9	0.740	2.04
62	0.760	4.08
105	0.770	5.10
173	0.790	7.14
1157	0.980	26.53
1237	0.990	27.55
1315	1.010	29.59
1397	1.020	30.61
1424	1.020	30.61
1440	1.030	31.63
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	

Depth at 25% empty	0.965	m
Depth at 75% empty	1.455	m
Vp75-25	0.559	m3
Depth at 50% empty	1.210	m
Area of base at 50% empty	1.140	m2
Area of sides at 50% empty	2.450	m2
Area of pit at 50% empty	3.590	m2
Time at 25% empty	1090.00	Mins
Time at 75% empty	n/a	Mins
tp75-25	#VALUE!	Mins
Soil Infiltration (q) =	#VALUE!	**m/min**
	#VALUE!	**m/sec**

The data used for the time at 75% empty has been estimated using engineering judgement from the data recorded on site.



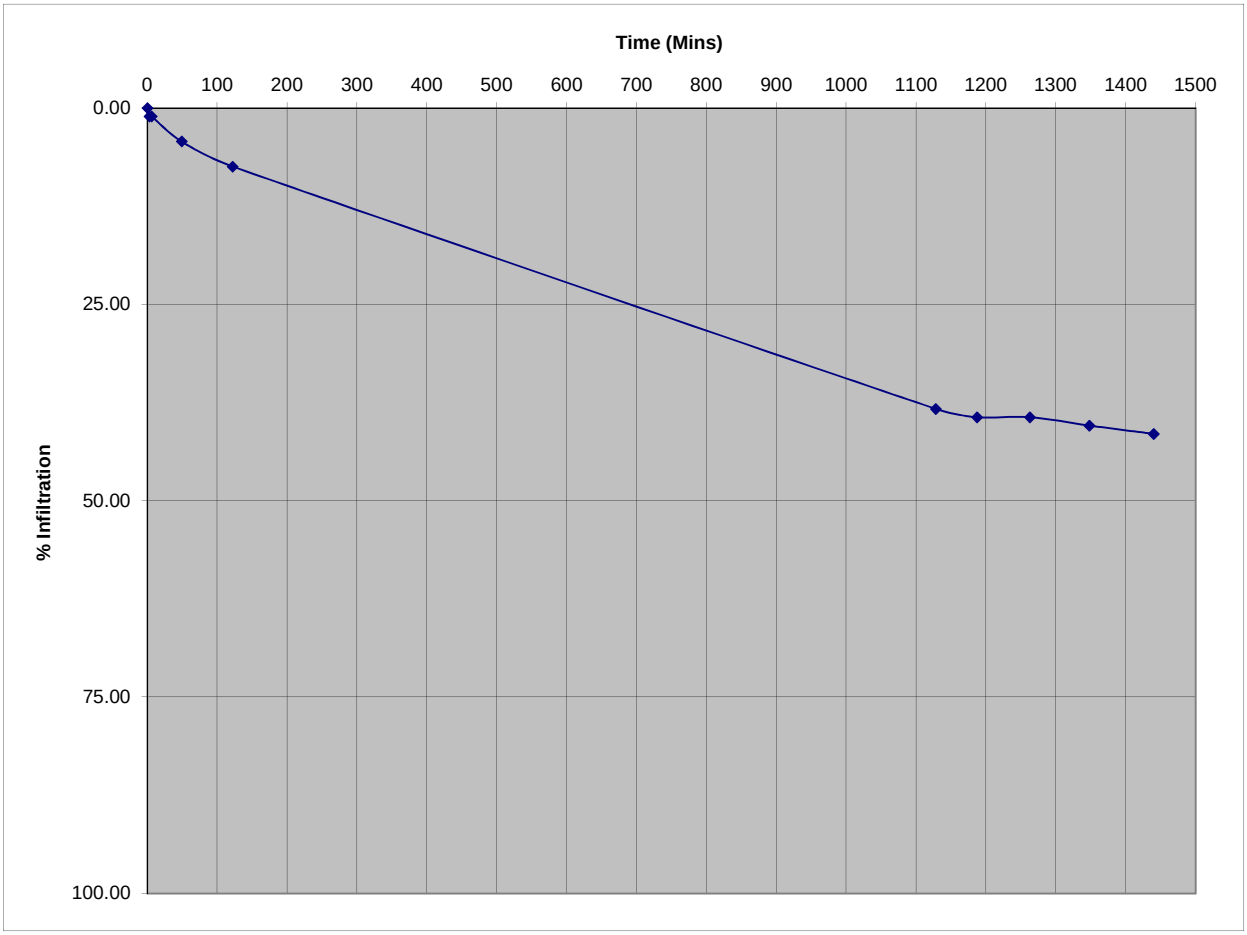
NAME OF SITE	Longwater Road, Finchampstead	
Project No.	P7995	
Soakaway Test No.	SA03 TEST 1	
Depth of pit begl	1.900	m
Pipe above ground	0.000	m
Water level at start of test	0.960	m
Start depth begl	0.960	m

Pit width	0.600	m
Pit length	1.800	m
Volume	1.015	m3
Base area	1.080	m2
Side area	1.692	m2

Time (mins)	Depth begl	% empty
0	0.960	0.00
3	0.970	1.06
6	0.970	1.06
49	1.000	4.26
122	1.030	7.45
1128	1.320	38.30
1187	1.330	39.36
1263	1.330	39.36
1348	1.340	40.43
1440	1.350	41.49
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	

Depth at 25% empty	1.195	m
Depth at 75% empty	1.665	m
Vp75-25	0.508	m3
Depth at 50% empty	1.430	m
Area of base at 50% empty	1.080	m2
Area of sides at 50% empty	2.256	m2
Area of pit at 50% empty	3.336	m2
Time at 25% empty	700.00	Mins
Time at 75% empty	n/a	Mins
tp75-25	#VALUE!	Mins
Soil Infiltration (q) =	#VALUE!	**m/min**
	#VALUE!	**m/sec**

The data used for the time at 75% empty has been estimated using engineering judgement from the data recorded on site.



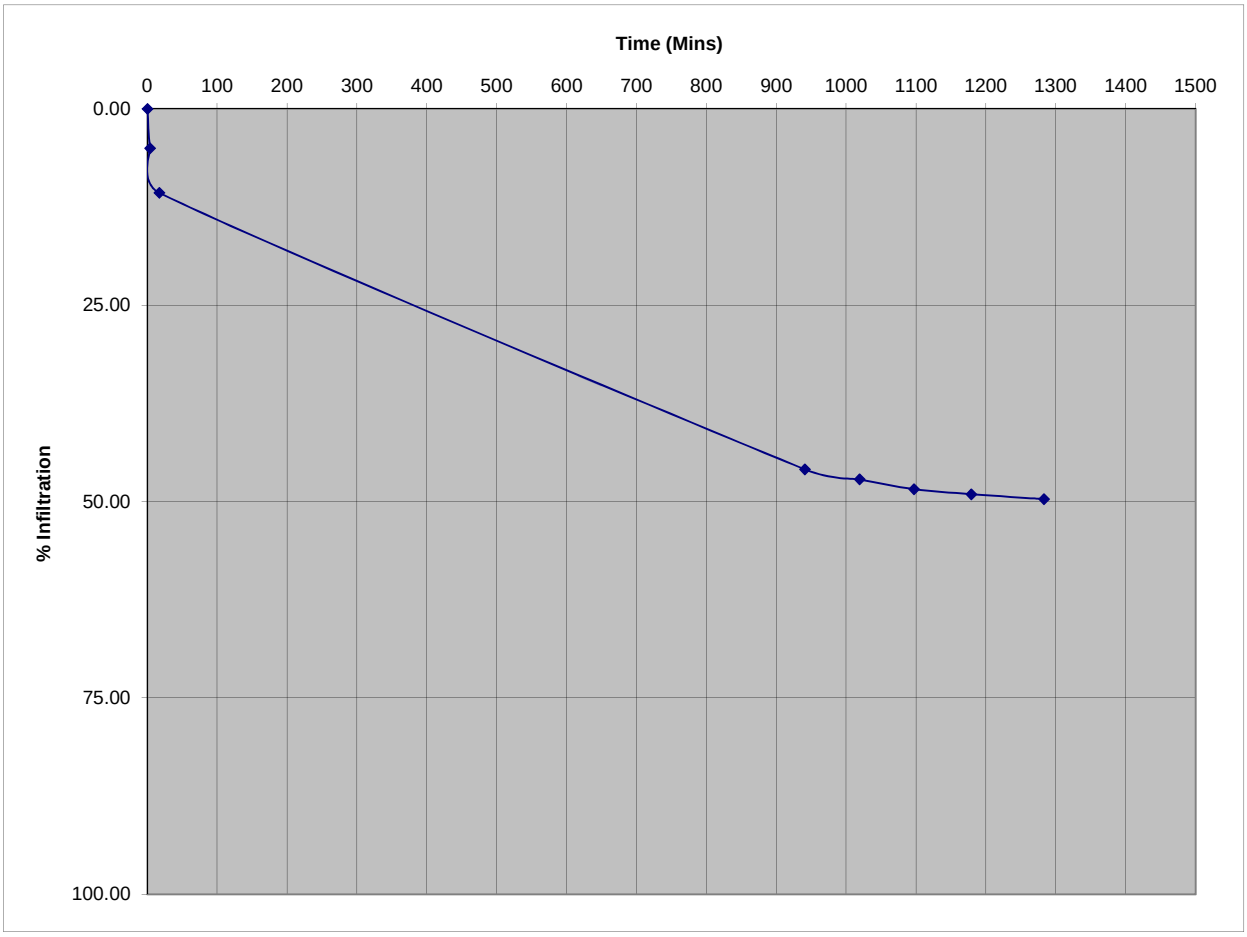
NAME OF SITE	Longwater Road, Finchampstead	
Project No.	P7844	
Soakaway Test No.	SA04 TEST 1	
Depth of pit begl	2.000	m
Pipe above ground	0.000	m
Water level at start of test	0.410	m
Start depth begl	0.410	m

Pit width	0.600	m
Pit length	1.900	m
Volume	1.813	m3
Base area	1.140	m2
Side area	3.021	m2

Time (mins)	Depth begl	% empty
0	0.410	0.00
4	0.490	5.03
17	0.580	10.69
941	1.140	45.91
1019	1.160	47.17
1097	1.180	48.43
1179	1.190	49.06
1283	1.200	49.69
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	
	0.000	

Depth at 25% empty	0.808	m
Depth at 75% empty	1.603	m
Vp75-25	0.906	m3
Depth at 50% empty	1.205	m
Area of base at 50% empty	1.140	m2
Area of sides at 50% empty	3.975	m2
Area of pit at 50% empty	5.115	m2
Time at 25% empty	380.00	Mins
Time at 75% empty	n/a	Mins
tp75-25	#VALUE!	Mins
Soil Infiltration (q) =	#VALUE!	**m/min**
	#VALUE!	**m/sec**

The data used for the time at 75% empty has been estimated using engineering judgement from the data recorded on site.



Appendix D – Soakaway Testing

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Calculated by:	Craig Walker
Site name:	Finchamstead
Site location:	Finchamstead

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:	51.35739° N
Longitude:	0.85818° W
Reference:	104911559
Date:	Mar 18 2024 16:51

Runoff estimation approach

IH124

Site characteristics

Total site area (ha): 2.29

Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Soil characteristics

	Default	Edited
SOIL type:	3	3
HOST class:	N/A	N/A
SPR/SPRHOST:	0.37	0.37

Hydrological characteristics

	Default	Edited
SAAR (mm):	674	674
Hydrological region:	6	6
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 30 years:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Growth curve factor 200 years:	3.74	3.74

Notes

(1) Is Q_{BAR} < 2.0 l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is SPR/SPRHOST ≤ 0.3?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

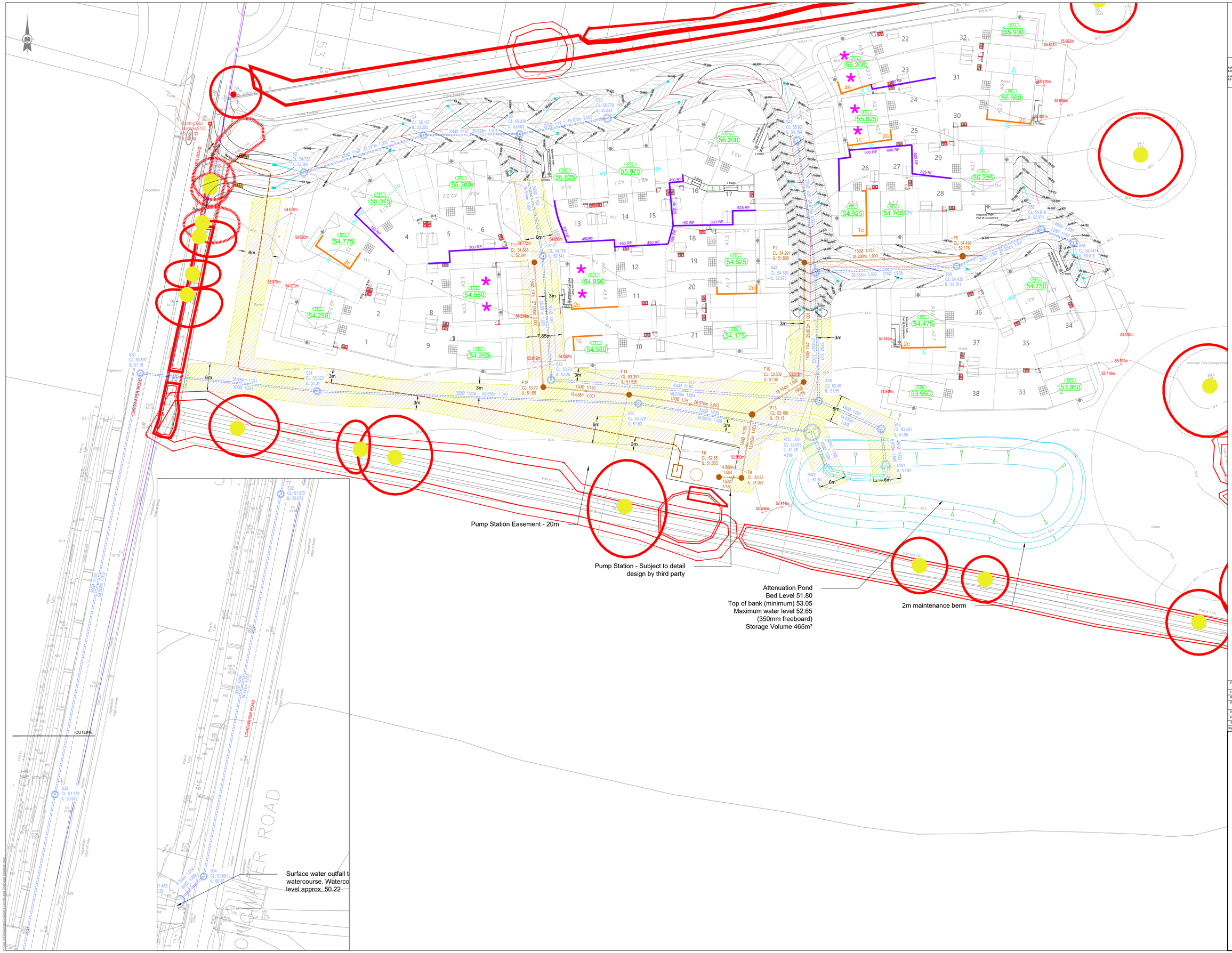
Greenfield runoff rates

Default Edited

Q_{BAR} (l/s):	6.29	6.29
1 in 1 year (l/s):	5.35	5.35
1 in 30 years (l/s):	14.48	14.48
1 in 100 year (l/s):	20.08	20.08
1 in 200 years (l/s):	23.54	23.54

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

Appendix E -Drainage Strategy



© 2019 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
3. This drawing should be read in conjunction with all other relevant drawings and specifications.

For guidance only. Do not scale off this drawing

PRELIMINARY
SUBJECT TO DETAILED DESIGN

This drawing illustrates a sketch proposal only and as such is subject to detailed site investigation including ground conditions and contaminants, drainage, design and planning/density negotiations. The layout may be based upon an enlargement of an O.S. sheet or other small scale plans and its accuracy will need to be verified by survey. Full risk analysis under the C.D.M. Regulations has not been undertaken.

KEY

FOUL WATER
Manhole
Pipe line

SURFACE WATER
Manhole
Pipe line

OTHER
Existing foul sewer
Rising Main
FINISHED FLOOR LEVEL — FFL 12.45
RETAINING FEATURES
EXPOSED BRICKWORK & NO. COURSES — 2c
EASEMENT
PRIVATE DRIVE SPOT LEVELS — 12.450m

Site Impermeable Area estimation (inc. 10% allowance for urban creep on plots & garages) = 0.7ha
Greenfield run-off rate 6.29l/s/ha
Proposed discharge rate 4.6l/s
Storage required for 1 in 100 + 40% return period = 465m³
1:20 garden gradients were assumed for retaining features

Rev	Description	By	Ckd	Date
P07	Latest planning layout added. Plots 18-20 parking bays amended	CW	AG	29.11.24
P06	Layer properties updated to ensure drawing clarity	RM	CW	20:11:24
P05	Updated to include latest architectural layout	RM	CW	20:11:24
P04	Steps added to rear gardens to reduce retaining features. Spot levels added to private drives	RM	CW	19:11:24
P03	Updated to suit latest layout	RM	CW	15:11:24
P02	Formal Issue	RM	CW	06:06:24
P01	Draft Issue	RM	CW	04:06:24

A TETRA TECH COMPANY
4th Floor, 1 Newhall Street, Birmingham,
West Midlands B3 3NH
T: +44 121 622 8520 E: rpswlv@rpsgroup.com

Client: Catesby Strategic Land and Stonebond Properties (Guildford) Ltd.

Project: Land off Longwater Road Finchampstead

Title: Levels and Drainage Strategy

Status	Scale	Date Created
Preliminary	1:250 @A0	24.024.2024

Task Team Manager	Information Author	Task Information Manager
AG	CW	AG

Document Number
304429-RPS-xx-xx-DR-C-001
Project Code - Originator - Zone - Level - Type - Role - Drawing Number

RPS Project Number	Suitability	Revision
794-DES-ARC-30429	S4	P07

rpsgroup.com

Appendix F – Causeway 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)	1.000
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	x
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)
S2	0.061	5.00	54.755	1350	479549.397	162720.660	1.391
S4	0.027	5.00	55.157	1200	479575.271	162728.745	1.955
S53	0.072	5.00	55.779	1350	479615.103	162732.411	1.536
S6	0.005	5.00	55.438	1200	479596.097	162729.039	2.436
S10	0.031	5.00	54.750	1200	479601.082	162702.591	1.909
S12	0.047	5.00	53.700	1350	479602.919	162675.823	1.450
S38	0.023	5.00	54.441	1350	479715.967	162705.531	1.425
S52	0.020	5.00	54.619	1350	479709.030	162708.352	1.648
S40	0.162	5.00	54.435	1200	479690.662	162700.376	1.734
S48	0.064	5.00	55.621	1350	479656.217	162727.597	1.427
S42	0.052	5.00	54.189	1350	479660.156	162699.053	1.616
S16	0.047	5.00	53.400	1350	479660.816	162671.227	1.450
S46			53.451	1350	479674.347	162665.144	1.551
HW1			53.050		479675.174	162658.221	1.180
HW2			53.050		479662.305	162657.417	1.250
S51			52.975	3000	479659.372	162664.454	1.195
S50			53.329	1200	479621.783	162670.657	1.709
S54			53.322	1200	479552.303	162673.350	1.982
S30			53.897	1200	479514.016	162677.242	2.717
S32			51.972	1350	479495.536	162586.035	1.300
S34			51.881	1350	479478.864	162503.256	1.561
HW3			51.453		479474.400	162498.833	1.163

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	S2	S4	27.107	0.600	53.364	53.202	0.162	167.3	225	5.45	50.0
1.001	S4	S6	20.828	0.600	53.202	53.077	0.125	166.6	225	5.79	50.0
2.000	S53	S6	19.302	0.600	54.243	53.077	1.166	16.6	225	5.10	50.0
1.002	S6	S10	26.914	0.600	53.002	52.841	0.161	167.2	300	6.16	50.0
1.003	S10	S12	26.831	0.600	52.841	52.400	0.441	60.8	300	6.38	49.7

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	1.008	40.1	11.0	1.166	1.730	0.061	0.0	80	0.862
1.001	1.010	40.2	15.9	1.730	2.136	0.088	0.0	98	0.951
2.000	3.231	128.5	13.0	1.311	2.136	0.072	0.0	48	2.088
1.002	1.213	85.7	29.8	2.136	1.609	0.165	0.0	122	1.105
1.003	2.019	142.7	35.2	1.609	1.000	0.196	0.0	101	1.681

Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

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)
1.004	S12	S16	58.079	0.600	52.250	51.950	0.300	193.6	450	7.05	47.2
3.000	S38	S52	7.488	0.600	53.016	52.971	0.045	166.4	225	5.12	50.0
3.001	S52	S40	20.025	0.600	52.971	52.851	0.120	166.9	225	5.45	50.0
3.002	S40	S42	30.535	0.600	52.701	52.573	0.128	238.6	375	5.89	50.0
4.000	S48	S42	28.815	0.600	54.194	52.723	1.471	19.6	225	5.16	50.0
3.003	S42	S16	27.834	0.600	52.573	52.025	0.548	50.8	375	6.07	50.0
1.005	S16	S46	14.835	0.600	51.950	51.900	0.050	296.7	450	7.26	46.5
1.006	S46	HW1	6.972	0.600	51.900	51.870	0.030	232.4	450	7.35	46.2
1.007	HW1	HW2	12.894	0.600	51.870	51.800	0.070	184.2	600	7.47	45.8
1.008	HW2	S51	7.624	0.600	51.800	51.780	0.020	381.2	600	7.57	45.5
1.009	S51	S50	38.097	0.600	51.780	51.620	0.160	238.1	300	8.19	43.6
1.010	S50	S54	69.533	0.600	51.620	51.340	0.280	248.3	300	9.36	40.6
1.011	S54	S30	38.484	0.600	51.340	51.180	0.160	240.5	300	10.00	39.1
1.012	S30	S32	93.060	0.600	51.180	50.672	0.508	183.2	300	11.34	36.4
1.013	S32	S34	84.441	0.600	50.672	50.320	0.352	239.9	300	12.73	34.0
1.014	S34	HW3	6.284	0.600	50.320	50.290	0.030	209.5	300	12.83	33.8

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)
1.004	1.457	231.8	41.4	1.000	1.000	0.243	0.0	128	1.112
3.000	1.011	40.2	4.2	1.200	1.423	0.023	0.0	49	0.657
3.001	1.009	40.1	7.8	1.423	1.359	0.043	0.0	67	0.786
3.002	1.168	129.1	37.0	1.359	1.241	0.205	0.0	137	1.015
4.000	2.970	118.1	11.6	1.202	1.241	0.064	0.0	47	1.898
3.003	2.547	281.3	58.0	1.241	1.000	0.321	0.0	115	2.020
1.005	1.175	186.8	102.7	1.000	1.101	0.611	0.0	239	1.202
1.006	1.329	211.4	102.0	1.101	0.730	0.611	0.0	220	1.317
1.007	1.791	506.3	101.2	0.580	0.650	0.611	0.0	181	1.413
1.008	1.241	350.9	100.5	0.650	0.595	0.611	0.0	219	1.077
1.009	1.014	71.7	96.3	0.895	1.409	0.611	0.0	300	1.027
1.010	0.993	70.2	89.6	1.409	1.682	0.611	0.0	300	1.006
1.011	1.009	71.3	86.3	1.682	2.417	0.611	0.0	300	1.022
1.012	1.158	81.9	80.3	2.417	1.000	0.611	0.0	242	1.313
1.013	1.011	71.4	75.1	1.000	1.261	0.611	0.0	265	1.136
1.014	1.082	76.5	74.7	1.261	0.863	0.611	0.0	241	1.227

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	27.107	167.3	225	Circular	54.755	53.364	1.166	55.157	53.202	1.730
1.001	20.828	166.6	225	Circular	55.157	53.202	1.730	55.438	53.077	2.136
2.000	19.302	16.6	225	Circular	55.779	54.243	1.311	55.438	53.077	2.136
1.002	26.914	167.2	300	Circular	55.438	53.002	2.136	54.750	52.841	1.609

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S2	1350	Manhole	Adoptable	S4	1200	Manhole	Adoptable
1.001	S4	1200	Manhole	Adoptable	S6	1200	Manhole	Adoptable
2.000	S53	1350	Manhole	Adoptable	S6	1200	Manhole	Adoptable
1.002	S6	1200	Manhole	Adoptable	S10	1200	Manhole	Adoptable

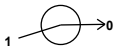
Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

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)
1.003	26.831	60.8	300	Circular	54.750	52.841	1.609	53.700	52.400	1.000
1.004	58.079	193.6	450	Circular	53.700	52.250	1.000	53.400	51.950	1.000
3.000	7.488	166.4	225	Circular	54.441	53.016	1.200	54.619	52.971	1.423
3.001	20.025	166.9	225	Circular	54.619	52.971	1.423	54.435	52.851	1.359
3.002	30.535	238.6	375	Circular	54.435	52.701	1.359	54.189	52.573	1.241
4.000	28.815	19.6	225	Circular	55.621	54.194	1.202	54.189	52.723	1.241
3.003	27.834	50.8	375	Circular	54.189	52.573	1.241	53.400	52.025	1.000
1.005	14.835	296.7	450	Circular	53.400	51.950	1.000	53.451	51.900	1.101
1.006	6.972	232.4	450	Circular	53.451	51.900	1.101	53.050	51.870	0.730
1.007	12.894	184.2	600	Circular	53.050	51.870	0.580	53.050	51.800	0.650
1.008	7.624	381.2	600	Circular	53.050	51.800	0.650	52.975	51.780	0.595
1.009	38.097	238.1	300	Circular	52.975	51.780	0.895	53.329	51.620	1.409
1.010	69.533	248.3	300	Circular	53.329	51.620	1.409	53.322	51.340	1.682
1.011	38.484	240.5	300	Circular	53.322	51.340	1.682	53.897	51.180	2.417
1.012	93.060	183.2	300	Circular	53.897	51.180	2.417	51.972	50.672	1.000
1.013	84.441	239.9	300	Circular	51.972	50.672	1.000	51.881	50.320	1.261
1.014	6.284	209.5	300	Circular	51.881	50.320	1.261	51.453	50.290	0.863

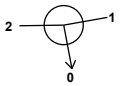
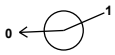
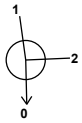
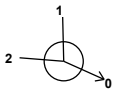
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.003	S10	1200	Manhole	Adoptable	S12	1350	Manhole	Adoptable
1.004	S12	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
3.000	S38	1350	Manhole	Adoptable	S52	1350	Manhole	Adoptable
3.001	S52	1350	Manhole	Adoptable	S40	1200	Manhole	Adoptable
3.002	S40	1200	Manhole	Adoptable	S42	1350	Manhole	Adoptable
4.000	S48	1350	Manhole	Adoptable	S42	1350	Manhole	Adoptable
3.003	S42	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
1.005	S16	1350	Manhole	Adoptable	S46	1350	Manhole	Adoptable
1.006	S46	1350	Manhole	Adoptable	HW1		Junction	
1.007	HW1		Junction		HW2		Junction	
1.008	HW2		Junction		S51	3000	Manhole	Adoptable
1.009	S51	3000	Manhole	Adoptable	S50	1200	Manhole	Adoptable
1.010	S50	1200	Manhole	Adoptable	S54	1200	Manhole	Adoptable
1.011	S54	1200	Manhole	Adoptable	S30	1200	Manhole	Adoptable
1.012	S30	1200	Manhole	Adoptable	S32	1350	Manhole	Adoptable
1.013	S32	1350	Manhole	Adoptable	S34	1350	Manhole	Adoptable
1.014	S34	1350	Manhole	Adoptable	HW3		Junction	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S2	479549.397	162720.660	54.755	1.391	1350				
						0	1.000	53.364	225
S4	479575.271	162728.745	55.157	1.955	1200	1	1.000	53.202	225
									
						0	1.001	53.202	225

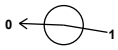
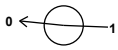
Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S53	479615.103	162732.411	55.779	1.536	1350				
						0	2.000	54.243	225
S6	479596.097	162729.039	55.438	2.436	1200		1	2.000	53.077	225
							2	1.001	53.077	225
							0	1.002	53.002	300
S10	479601.082	162702.591	54.750	1.909	1200		1	1.002	52.841	300
							0	1.003	52.841	300
S12	479602.919	162675.823	53.700	1.450	1350		1	1.003	52.400	300
							0	1.004	52.250	450
S38	479715.967	162705.531	54.441	1.425	1350				
						0	3.000	53.016	225
S52	479709.030	162708.352	54.619	1.648	1350		1	3.000	52.971	225
						0	3.001	52.971	225
S40	479690.662	162700.376	54.435	1.734	1200		1	3.001	52.851	225
									
						0	3.002	52.701	375
S48	479656.217	162727.597	55.621	1.427	1350				
						0	4.000	54.194	225
S42	479660.156	162699.053	54.189	1.616	1350		1	4.000	52.723	225
							2	3.002	52.573	375
						0	3.003	52.573	375
S16	479660.816	162671.227	53.400	1.450	1350		1	3.003	52.025	375
							2	1.004	51.950	450
						0	1.005	51.950	450
S46	479674.347	162665.144	53.451	1.551	1350		1	1.005	51.900	450
						0	1.006	51.900	450
HW1	479675.174	162658.221	53.050	1.180			1	1.006	51.870	450
						0	1.007	51.870	600
HW2	479662.305	162657.417	53.050	1.250			1	1.007	51.800	600
						0	1.008	51.800	600

Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
S51	479659.372	162664.454	52.975	1.195	3000		1	1.008	51.780	600
							0	1.009	51.780	300
S50	479621.783	162670.657	53.329	1.709	1200		1	1.009	51.620	300
							0	1.010	51.620	300
S54	479552.303	162673.350	53.322	1.982	1200		1	1.010	51.340	300
							0	1.011	51.340	300
S30	479514.016	162677.242	53.897	2.717	1200		1	1.011	51.180	300
							0	1.012	51.180	300
S32	479495.536	162586.035	51.972	1.300	1350		1	1.012	50.672	300
							0	1.013	50.672	300
S34	479478.864	162503.256	51.881	1.561	1350		1	1.013	50.320	300
							0	1.014	50.320	300
HW3	479474.400	162498.833	51.453	1.163			1	1.014	50.290	300

Simulation Settings

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

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440

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

Node S51 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	51.780	Product Number	CTL-SHE-0102-4600-0960-4600
Design Depth (m)	0.960	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	4.6	Min Node Diameter (mm)	1200

Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

Node HW2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	51.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	396.5	0.0	0.400	536.9	0.0	0.800	687.0	0.0	1.200	846.1	0.0
0.100	430.2	0.0	0.500	573.5	0.0	0.900	725.9	0.0			
0.200	465.2	0.0	0.600	610.8	0.0	1.000	765.4	0.0			
0.300	500.8	0.0	0.700	648.6	0.0	1.100	805.4	0.0			

Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	10	53.443	0.079	10.8	0.1132	0.0000	OK
15 minute summer	S4	11	53.302	0.100	15.5	0.1130	0.0000	OK
15 minute summer	S53	10	54.292	0.049	12.8	0.0702	0.0000	OK
15 minute summer	S6	11	53.126	0.124	28.6	0.1401	0.0000	OK
15 minute summer	S10	11	52.945	0.104	33.9	0.1173	0.0000	OK
15 minute summer	S12	11	52.377	0.127	42.1	0.1820	0.0000	OK
15 minute summer	S38	10	53.066	0.050	4.1	0.0712	0.0000	OK
15 minute summer	S52	11	53.039	0.068	7.7	0.0967	0.0000	OK
15 minute summer	S40	10	52.840	0.139	36.2	0.1571	0.0000	OK
15 minute summer	S48	10	54.242	0.048	11.4	0.0683	0.0000	OK
15 minute summer	S42	10	52.685	0.112	56.3	0.1604	0.0000	OK
15 minute summer	S16	11	52.204	0.254	105.4	0.3630	0.0000	OK
15 minute summer	S46	11	52.118	0.218	104.2	0.3118	0.0000	OK
15 minute summer	HW1	11	52.050	0.180	103.7	0.0000	0.0000	OK
360 minute summer	HW2	264	52.020	0.220	27.2	95.3874	0.0000	OK
360 minute summer	S51	264	52.020	0.240	4.8	1.6948	0.0000	OK
360 minute summer	S50	264	51.672	0.052	4.6	0.0585	0.0000	OK
360 minute summer	S54	264	51.392	0.052	4.6	0.0589	0.0000	OK
360 minute summer	S30	264	51.228	0.048	4.6	0.0540	0.0000	OK
360 minute summer	S32	264	50.723	0.051	4.6	0.0735	0.0000	OK
360 minute summer	S34	264	50.371	0.051	4.6	0.0726	0.0000	OK
360 minute summer	HW3	264	50.339	0.049	4.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S2	1.000	S4	10.7	0.733	0.267	0.3972	
15 minute summer	S4	1.001	S6	15.3	0.926	0.381	0.3440	
15 minute summer	S53	2.000	S6	12.8	2.022	0.099	0.1219	
15 minute summer	S6	1.002	S10	28.6	1.170	0.334	0.6598	
15 minute summer	S10	1.003	S12	34.1	1.630	0.239	0.5612	
15 minute summer	S12	1.004	S16	41.8	0.656	0.180	3.7402	
15 minute summer	S38	3.000	S52	4.1	0.495	0.101	0.0617	
15 minute summer	S52	3.001	S40	7.5	0.767	0.187	0.1961	
15 minute summer	S40	3.002	S42	35.8	1.111	0.277	0.9877	
15 minute summer	S48	4.000	S42	11.3	1.865	0.096	0.1743	
15 minute summer	S42	3.003	S16	56.0	1.650	0.199	1.1024	
15 minute summer	S16	1.005	S46	104.2	1.239	0.558	1.2468	
15 minute summer	S46	1.006	HW1	103.7	1.536	0.491	0.4710	
15 minute summer	HW1	1.007	HW2	103.3	3.037	0.204	0.5414	
360 minute summer	HW2	1.008	S51	4.8	0.185	0.014	0.7567	
360 minute summer	S51	Hydro-Brake®	S50	4.6				
360 minute summer	S50	1.010	S54	4.6	0.563	0.065	0.5645	
360 minute summer	S54	1.011	S30	4.6	0.596	0.064	0.2954	
360 minute summer	S30	1.012	S32	4.6	0.602	0.056	0.7064	
360 minute summer	S32	1.013	S34	4.6	0.577	0.064	0.6696	
360 minute summer	S34	1.014	HW3	4.6	0.594	0.060	0.0484	121.6

Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	11	53.518	0.154	31.4	0.2209	0.0000	OK
15 minute summer	S4	11	53.435	0.233	44.8	0.2633	0.0000	SURCHARGED
15 minute summer	S53	10	54.325	0.082	37.0	0.1176	0.0000	OK
15 minute summer	S6	11	53.246	0.244	82.0	0.2764	0.0000	OK
15 minute summer	S10	11	53.038	0.197	97.3	0.2229	0.0000	OK
15 minute summer	S12	11	52.592	0.342	120.9	0.4899	0.0000	OK
15 minute summer	S38	10	53.114	0.097	11.8	0.1395	0.0000	OK
15 minute summer	S52	10	53.095	0.124	22.0	0.1770	0.0000	OK
15 minute summer	S40	10	52.962	0.261	104.8	0.2947	0.0000	OK
15 minute summer	S48	10	54.278	0.084	32.9	0.1195	0.0000	OK
15 minute summer	S42	11	52.795	0.222	162.7	0.3179	0.0000	OK
15 minute summer	S16	11	52.524	0.574	298.6	0.8208	0.0000	SURCHARGED
240 minute winter	S46	240	52.312	0.412	54.7	0.5893	0.0000	OK
240 minute winter	HW1	240	52.312	0.442	54.3	0.0000	0.0000	OK
240 minute winter	HW2	240	52.312	0.512	53.6	248.6613	0.0000	OK
240 minute winter	S51	240	52.312	0.532	5.5	3.7599	0.0000	SURCHARGED
15 minute summer	S50	13	51.673	0.053	4.6	0.0602	0.0000	OK
15 minute summer	S54	16	51.393	0.053	4.7	0.0595	0.0000	OK
15 minute summer	S30	17	51.230	0.050	4.7	0.0562	0.0000	OK
15 minute summer	S32	22	50.724	0.052	4.8	0.0741	0.0000	OK
15 minute summer	S34	26	50.371	0.051	4.6	0.0729	0.0000	OK
15 minute summer	HW3	26	50.339	0.049	4.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S2	1.000	S4	30.9	0.904	0.771	0.9326	
15 minute summer	S4	1.001	S6	43.7	1.167	1.088	0.7590	
15 minute summer	S53	2.000	S6	36.9	2.148	0.287	0.4325	
15 minute summer	S6	1.002	S10	82.1	1.478	0.958	1.4873	
15 minute summer	S10	1.003	S12	97.9	2.071	0.686	1.2983	
15 minute summer	S12	1.004	S16	121.1	0.864	0.522	8.3590	
15 minute summer	S38	3.000	S52	11.7	0.603	0.290	0.1454	
15 minute summer	S52	3.001	S40	21.6	1.006	0.538	0.4305	
15 minute summer	S40	3.002	S42	103.4	1.405	0.801	2.2799	
15 minute summer	S48	4.000	S42	32.6	2.497	0.276	0.3766	
15 minute summer	S42	3.003	S16	159.9	1.665	0.568	2.4811	
15 minute summer	S16	1.005	S46	297.6	1.881	1.593	2.2728	
240 minute winter	S46	1.006	HW1	54.3	1.134	0.257	1.0800	
240 minute winter	HW1	1.007	HW2	53.6	1.410	0.106	3.0853	
240 minute winter	HW2	1.008	S51	5.5	0.289	0.016	1.9831	
240 minute winter	S51	Hydro-Brake®	S50	4.6				
15 minute summer	S50	1.010	S54	4.7	0.699	0.067	0.5708	
15 minute summer	S54	1.011	S30	4.7	0.674	0.065	0.3048	
15 minute summer	S30	1.012	S32	4.8	0.746	0.058	0.7125	
15 minute summer	S32	1.013	S34	4.6	0.608	0.065	0.6735	
15 minute summer	S34	1.014	HW3	4.6	0.595	0.060	0.0487	64.5

Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S2	11	54.755	1.391	56.1	1.9905	1.9543	FLOOD
15 minute summer	S4	11	54.644	1.442	67.1	1.6313	0.0000	SURCHARGED
15 minute summer	S53	11	54.696	0.453	66.2	0.6480	0.0000	SURCHARGED
15 minute summer	S6	11	54.365	1.363	123.6	1.5413	0.0000	SURCHARGED
15 minute summer	S10	11	53.983	1.142	143.9	1.2918	0.0000	SURCHARGED
15 minute summer	S12	11	53.419	1.169	183.3	1.6724	0.0000	FLOOD RISK
15 minute summer	S38	11	54.262	1.246	27.1	1.7835	0.0000	FLOOD RISK
15 minute summer	S52	11	54.249	1.278	36.4	1.8287	0.0000	SURCHARGED
15 minute summer	S40	11	54.153	1.452	172.6	1.6425	0.0000	FLOOD RISK
15 minute summer	S48	11	54.341	0.147	58.8	0.2104	0.0000	OK
15 minute summer	S42	11	53.862	1.289	272.2	1.8449	0.0000	SURCHARGED
15 minute summer	S16	11	53.195	1.245	491.3	1.7818	0.0000	FLOOD RISK
480 minute winter	S46	472	52.678	0.778	53.1	1.1132	0.0000	SURCHARGED
480 minute winter	HW1	472	52.678	0.808	52.8	0.0000	0.0000	SURCHARGED
480 minute winter	HW2	472	52.678	0.878	52.4	485.5772	0.0000	SURCHARGED
480 minute winter	S51	472	52.678	0.898	5.2	6.3482	0.0000	FLOOD RISK
15 minute winter	S50	11	51.674	0.054	4.6	0.0608	0.0000	OK
15 minute summer	S54	14	51.393	0.053	4.7	0.0597	0.0000	OK
15 minute summer	S30	16	51.230	0.050	4.6	0.0561	0.0000	OK
1440 minute summer	S32	660	50.723	0.051	4.6	0.0737	0.0000	OK
1440 minute winter	S34	630	50.371	0.051	4.6	0.0728	0.0000	OK
1440 minute winter	HW3	630	50.339	0.049	4.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S2	1.000	S4	42.4	1.065	1.057	1.0781	
15 minute summer	S4	1.001	S6	60.3	1.515	1.501	0.8284	
15 minute summer	S53	2.000	S6	61.9	2.085	0.482	0.7677	
15 minute summer	S6	1.002	S10	119.2	1.692	1.390	1.8953	
15 minute summer	S10	1.003	S12	143.5	2.052	1.005	1.8894	
15 minute summer	S12	1.004	S16	181.7	1.147	0.784	9.2022	
15 minute summer	S38	3.000	S52	26.2	0.660	0.653	0.2978	
15 minute summer	S52	3.001	S40	51.2	1.289	1.277	0.7964	
15 minute summer	S40	3.002	S42	170.8	1.548	1.323	3.3679	
15 minute summer	S48	4.000	S42	56.2	2.526	0.476	0.9689	
15 minute summer	S42	3.003	S16	268.4	2.434	0.954	3.0700	
15 minute summer	S16	1.005	S46	489.8	3.092	2.622	2.3505	
480 minute winter	S46	1.006	HW1	52.8	0.956	0.250	1.1047	
480 minute winter	HW1	1.007	HW2	52.4	1.287	0.104	3.6319	
480 minute winter	HW2	1.008	S51	5.2	0.283	0.015	2.1475	
480 minute winter	S51	Hydro-Brake®	S50	4.6				
15 minute winter	S50	1.010	S54	4.7	0.695	0.067	0.5712	
15 minute summer	S54	1.011	S30	4.6	0.677	0.065	0.3022	
15 minute summer	S30	1.012	S32	4.7	0.750	0.058	0.7023	
1440 minute summer	S32	1.013	S34	4.6	0.577	0.064	0.6719	
1440 minute winter	S34	1.014	HW3	4.6	0.595	0.060	0.0486	359.2

Flow+ v10.8 Copyright © 1988-2024 Causeway Technologies Ltd

Appendix B - Drainage Layout

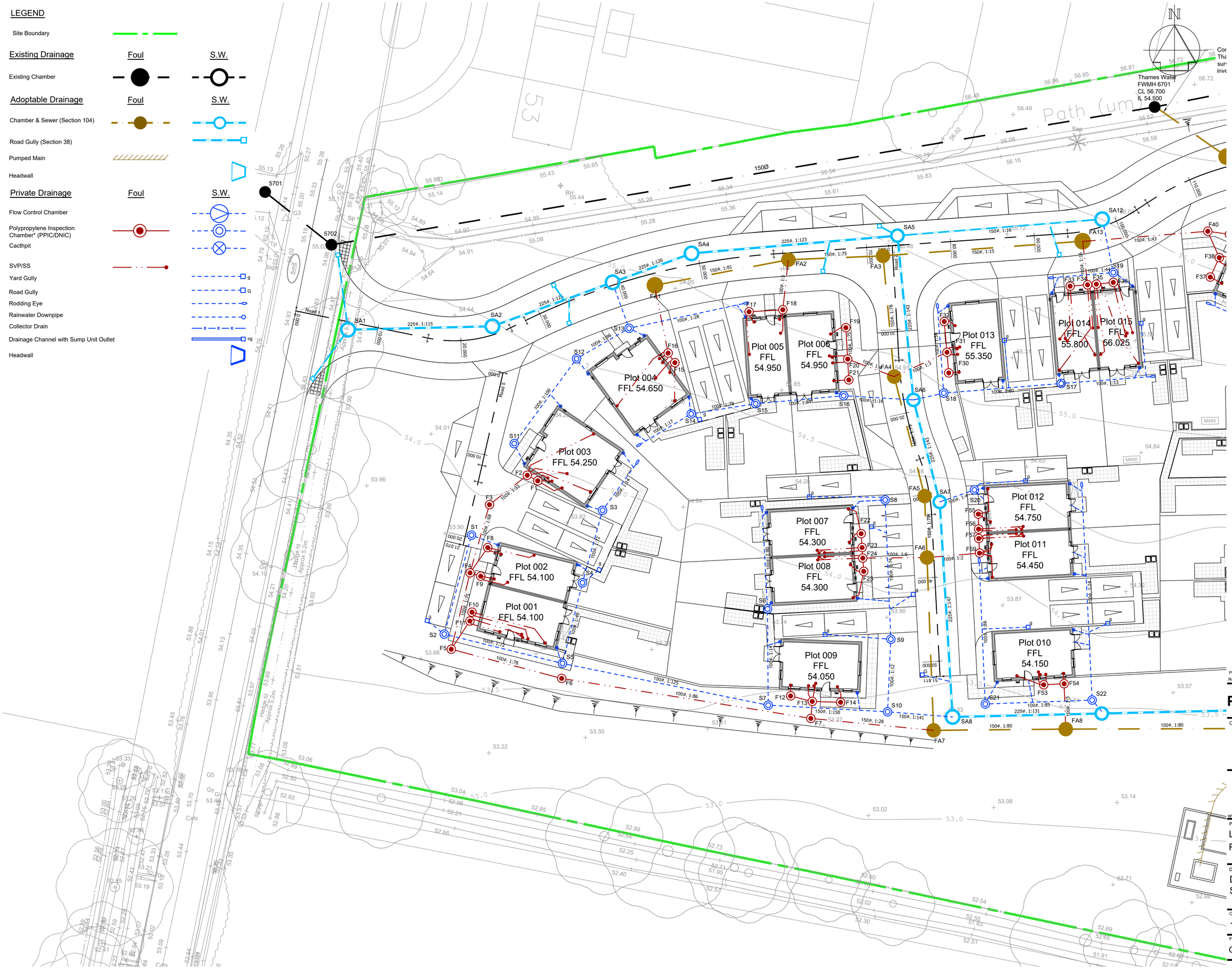
LEGEND

Site Boundary

Existing Drainage	Foul	S.W.
Existing Chamber		

Adoptable Drainage	Foul	S.W.
Chamber & Sewer (Section 104)		
Road Gully (Section 38)		
Pumped Main		
Headwall		

Private Drainage	Foul	S.W.
Flow Control Chamber		
Polypropylene Inspection Chamber* (PPIC/DNIC)		
Cacthpit		
SVP/SS		
Yard Gully		g
Road Gully		G
Rodding Eye		
Rainwater Downpipe		
Collector Drain		c
Drainage Channel with Sump Unit Outlet		cg
Headwall		



General Notes

Rev	Date	Description	By	Ckd
P01	30.01.26	First issue.	WC	JCT

PRELIMINARY

SUITABILITY CODE

CLIENT

Stonebond.

Tullys

www.tullys.uk info@tullys.uk 01342 828000

PROJECT

LONGWATER ROAD,
FINCHAMPSTEAD

DRAWING TITLE

Drainage Layout
Sheet 1

Originator No.	Scale	Revision
15557	1:200 @ A1	P01

PROJECT - ORIGINATOR - VOLUME - LEVEL - TYPE - ROLE - NUMBER

GUI003-TUL-XX-00-DR-C-95-710

General Notes

LEGEND

Site Boundary

Existing Drainage	Foul	S.W.
Existing Chamber		

Adoptable Drainage	Foul	S.W.
Chamber & Sewer (Section 104)		
Road Gully (Section 38)		
Pumped Main		
Headwall		

Private Drainage	Foul	S.W.
Flow Control Chamber		
Polypropylene Inspection Chamber* (PPIC/DNIC)		
Cacthpit		
SVP/SS		
Yard Gully		g
Road Gully		G
Rodding Eye		
Rainwater Downpipe		
Collector Drain		
Drainage Channel with Sump Unit Outlet		cg
Headwall		

Rev	Date	Description	By	Ckd
P01	30.01.26	First issue.	WC	JCT

PRELIMINARY

SUITABILITY CODE

CLIENT

Stonebond.

Tullys

www.tullys.uk info@tullys.uk 01342 828000

PROJECT

LONGWATER ROAD,
FINCHAMPSTEAD

DRAWING TITLE

Drainage Layout
Sheet 2

Originator No.	Scale	Revision
15557	1:200 @ A1	P01

PROJECT - ORIGINATOR - VOLUME - LEVEL - TYPE - ROLE - NUMBER

GUI003-TUL-XX-00-DR-C-95-711

General Notes

LEGEND

Site Boundary

Existing Drainage	Foul	S.W.
Existing Chamber		

Adoptable Drainage	Foul	S.W.
Chamber & Sewer (Section 104)		
Road Gully (Section 38)		
Pumped Main		
Headwall		

Private Drainage	Foul	S.W.
Flow Control Chamber		
Polypropylene Inspection Chamber* (PPIC/DNIC)		
Cacthpit		
SVP/SS		
Yard Gully		g
Road Gully		G
Rodding Eye		
Rainwater Downpipe		
Collector Drain		c
Drainage Channel with Sump Unit Outlet		cg
Headwall		

Rev	Date	Description	By	Ckd
P01	30.01.26	First issue.	WC	JCT

PRELIMINARY

SUITABILITY CODE

CLIENT

Stonebond.

Tullys

www.tullys.uk info@tullys.uk 01342 828000

PROJECT

LONGWATER ROAD, FINCHAMPSTEAD

DRAWING TITLE

Proposed Drainage Layout Sheet 3

Originator No.	Scale	Revision
15557	1:200 @ A1	P01

PROJECT - ORIGINATOR - VOLUME - LEVEL - TYPE - ROLE - NUMBER

GUI003-TUL-XX-00-DR-C-95-712

Appendix C - Drainage Calculations

Catchment Area -SA1 Type : Catchment Area

Area (m²)	217.805

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area Type : Catchment Area

Area (m²)	677.151

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (1) Type : Catchment Area

Area (m²)	81.128

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (2) Type : Catchment Area

Area (m²)	326.41

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (3) Type : Catchment Area

Area (m²)	322.553

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (4) Type : Catchment Area

Area (m²)	202.891

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (5) Type : Catchment Area

Area (m²)	219.682

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (6) Type : Catchment Area

Area (m²)	211.976

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (7) Type : Catchment Area

Area (m²)	121.394

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (8) Type : Catchment Area

Area (m²)	107.127

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (9) Type : Catchment Area

Area (m²)	272.945

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (10) Type : Catchment Area

Area (m²)	174.585

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (11) Type : Catchment Area

Area (m²)	571.91

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (12) Type : Catchment Area

Area (m²)	348.354

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (13) Type : Catchment Area

Area (m²)	123.566

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (14) Type : Catchment Area

Area (m²)	35.574

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (15) Type : Catchment Area

Area (m²)	218.204

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (16) Type : Catchment Area

Area (m²)	192.314

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (17) Type : Catchment Area

Area (m²)	146.408

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (18) Type : Catchment Area

Area (m²)	263.408

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (19) Type : Catchment Area

Area (m²)	111.32

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (20) Type : Catchment Area

Area (m²)	148.034

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (21) Type : Catchment Area

Area (m²)	153.419

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (22) Type : Catchment Area

Area (m²)	180.414

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (23) Type : Catchment Area

Area (m²)	103.257

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (24) Type : Catchment Area

Area (m²)	349.922

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (25) Type : Catchment Area

Area (m²)	94.125

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (26) Type : Catchment Area

Area (m²)	134.986

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (27) Type : Catchment Area

Area (m²)	106.784

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (28) Type : Catchment Area

Area (m²)	97.619

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (29) Type : Catchment Area

Area (m²)	58.113

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (30) Type : Catchment Area

Area (m²)	182.315

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (31) Type : Catchment Area

Area (m²)	262.727

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (32) Type : Catchment Area

Area (m²)	218.156

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (33) Type : Catchment Area

Area (m²)	105.507

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (34) Type : Catchment Area

Area (m²)	113.407

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Catchment Area (35)

Type : Catchment Area

Area (m²)	296.99

Dynamic Sizing

Runoff Method	Time of Concentration
Summer Volumetric Runoff	0.900
Winter Volumetric Runoff	0.900
Time of Concentration (hrs)	5.00
Percentage Impervious (%)	100

Project:	Date:		
Longwater Road, Finchampstead	11/12/2025		
	Designed by:	Checked by:	Approved By:
	CH	JCT	-
Report Details:	Company Address:		
Type: Junctions Storm Phase: 15557-SW Adoptable	TULLYS		

Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SA10	Manhole	479617.903	162733.678	55.756	1.425	54.331	Circular	1.200
SA11	Manhole	479654.143	162736.394	55.557	1.439	54.118	Circular	1.200
SA4	Manhole	479596.479	162732.274	55.321	2.516	52.804	Circular	1.200
SA5	Manhole	479597.770	162714.598	55.311	2.636	52.675	Circular	1.200
SA3	Manhole	479571.969	162730.165	54.833	1.808	53.025	Circular	1.200
SA15	Manhole	479712.448	162709.024	54.800	1.425	53.375	Circular	1.200
SA12	Manhole	479659.813	162712.875	54.784	1.458	53.326	Circular	1.200
SA16	Manhole	479689.970	162700.207	54.758	1.583	53.175	Circular	1.200
SA6	Manhole	479601.511	162700.575	54.595	2.045	52.550	Circular	1.200
SA2	Manhole	479549.889	162722.367	54.431	1.231	53.200	Circular	1.200
SA13	Manhole	479660.468	162699.258	54.354	1.617	52.737	Circular	1.200
SA14	Manhole	479659.769	162682.817	54.040	1.703	52.337	Circular	1.200
SA8	Manhole	479658.628	162676.262	53.798	1.827	51.971	Circular	1.200
SA7	Manhole	479603.046	162674.983	53.416	1.066	52.350	Circular	1.200
SA9	Manhole	479662.170	162666.083	53.400	1.500	51.900	Circular	1.200
SA1	Manhole	479533.036	162719.849	54.670	1.345	53.325	Circular	1.200
SA17	Manhole	479678.877	162646.288	53.050	1.300	51.750	Circular	1.200

Name	Part Family	Lock
SA10	Cylindrical Structure Slab Top Circular Frame SI	None
SA11	Cylindrical Structure Slab Top Circular Frame SI	None
SA4	Cylindrical Structure Slab Top Circular Frame SI	None
SA5	Cylindrical Structure Slab Top Circular Frame SI	None
SA3	Cylindrical Structure Slab Top Circular Frame SI	None
SA15	Cylindrical Structure Slab Top Circular Frame SI	None
SA12	Cylindrical Structure Slab Top Circular Frame SI	None
SA16	Cylindrical Structure Slab Top Circular Frame SI	None
SA6	Cylindrical Structure Slab Top Circular Frame SI	None

SA2	Cylindrical Structure Slab Top Circular Frame SI	None
SA13	Cylindrical Structure Slab Top Circular Frame SI	None
SA14	Cylindrical Structure Slab Top Circular Frame SI	None
SA8	Cylindrical Structure Slab Top Circular Frame SI	None
SA7	Cylindrical Structure Slab Top Circular Frame SI	None
SA9	Cylindrical Structure Slab Top Circular Frame SI	None
SA1		None
SA17		None

Project: Longwater Road, Finchampstead	Date: 11/12/2025			Tullys
	Designed by: CH	Checked by: JCT	Approved By: -	
Report Details: Type: Junctions Storm Phase: 15557-SW Adoptable	Company Address: TULLYS			

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
SA10	Inlet	Catchment Area (4)	(None)	No Restriction
	Inlet (1)	Catchment Area (12)	(None)	No Restriction
SA11	Inlet	Catchment Area (5)	(None)	No Restriction
	Inlet (1)	Catchment Area (13)	(None)	No Restriction
	Inlet (2)	Catchment Area (24)	(None)	No Restriction
	Inlet (3)	Catchment Area (6)	(None)	No Restriction
SA4	Inlet	1.001	(None)	No Restriction
	Inlet (1)	1.008	(None)	No Restriction
	Inlet (2)	Catchment Area (3)	(None)	No Restriction
	Inlet (3)	Catchment Area (23)	(None)	No Restriction
SA5	Inlet	1.002	(None)	No Restriction
	Inlet (1)	Catchment Area (17)	(None)	No Restriction
SA3	Inlet	1.000	(None)	No Restriction
	Inlet (1)	Catchment Area (2)	(None)	No Restriction
	Inlet (2)	Catchment Area (1)	(None)	No Restriction
SA15	Inlet	Catchment Area (27)	(None)	No Restriction
	Inlet (1)	Catchment Area (31) Catchment Area (29)	(None)	No Restriction
	Inlet (3)	Catchment Area (28)	(None)	No Restriction
	Inlet (4)	Catchment Area (10)	(None)	No Restriction
	Inlet (5)	Catchment Area (11)	(None)	No Restriction
SA12	Inlet	1.009	(None)	No Restriction
	Inlet (1)	Catchment Area (7)	(None)	No Restriction
	Inlet (2)	Catchment Area (14)	(None)	No Restriction
	Inlet (3)	Catchment Area (25)	(None)	No Restriction
SA16	Inlet	1.012	(None)	No Restriction
	Inlet (1)	Catchment Area (9)	(None)	No Restriction
	Inlet (2)	Catchment Area (26)	(None)	No Restriction
	Inlet (3)	Catchment Area (30)	(None)	No Restriction
SA6	Inlet	1.003	(None)	No Restriction
	Inlet (1)	Catchment Area (20)	(None)	No Restriction
	Inlet (2)	Catchment Area (21)	(None)	No Restriction
	Inlet (3)	Catchment Area (18)	(None)	No Restriction
SA2	Inlet	Pipe	(None)	No Restriction
	Inlet (1)	Catchment Area	(None)	No Restriction
SA13	Inlet	1.013	(None)	No Restriction
	Inlet (1)	1.010 Catchment Area (32)	(None)	No Restriction
	Inlet (2)	Catchment Area (8)	(None)	No Restriction
	Inlet (3)	Catchment Area (15) Catchment Area (33)	(None)	No Restriction
SA14	Inlet	1.011	(None)	No Restriction
	Inlet (1)	Catchment Area (16)	(None)	No Restriction
	Inlet (2)	Catchment Area (34)	(None)	No Restriction
SA8	Inlet	1.005	(None)	No Restriction
	Inlet (1)	1.011 (1)	(None)	No Restriction
SA7	Inlet	1.004 Catchment Area (22)	(None)	No Restriction
	Inlet (1)	Catchment Area (19)	(None)	No Restriction
SA9	Inlet	1.006 Catchment Area (35)	(None)	No Restriction
SA1	Inlet	Catchment Area -SA1	(None)	No Restriction
SA17	Inlet	Pipe (2)	(None)	No Restriction

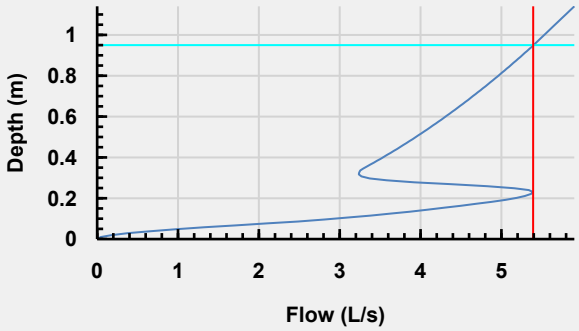
Project:	Date:		
Longwater Road, Finchampstead	11/12/2025		
	Designed by:	Checked by:	Approved By:
	CH	JCT	-
Report Details:	Company Address:		
Type: Junctions Storm Phase: 15557-SW Adoptable	TULLYS		

Tullys

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SA10	Outlet	1.008	Free Discharge
SA11	Outlet	1.009	Free Discharge
SA4	Outlet	1.002	Free Discharge
SA5	Outlet	1.003	Free Discharge
SA3	Outlet	1.001	Free Discharge
SA15	Outlet	1.012	Free Discharge
SA12	Outlet	1.010	Free Discharge
SA16	Outlet	1.013	Free Discharge
SA6	Outlet	1.004	Free Discharge
SA2	Outlet	1.000	Free Discharge
SA13	Outlet	1.011	Free Discharge
SA14	Outlet	1.011 (1)	Free Discharge
SA8	Outlet	1.006	Free Discharge
SA7	Outlet	1.005	Free Discharge
SA9	Outlet	Pipe (1)	Free Discharge
SA1	Outlet	Pipe	Free Discharge
SA17	Outlet	(None)	Hydro-Brake®

Invert Level (m)	51.750
Design Depth (m)	0.950
Design Flow (L/s)	5.4
Objective	Minimise Upstream Storage Requirements
Application	Surface Water Only
Sump Available	☐
Unit Reference	CHE-0105-5400-0950-5400



Pond

Type : Pond

Dimensions

Exceedance Level (m)	53.050
Depth (m)	1.250
Base Level (m)	51.800
Freeboard (mm)	0
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	4.20
Total Volume (m³)	840.715

Depth (m)	Area (m²)	Volume (m³)
0.000	447.00	0.000
1.250	927.00	840.715

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Pipe (1)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	Pipe (2)
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	52.082
Friction Scheme	Manning's n
n	0.03

Project: Longwater Road, Finchampstead	Date: 11/12/2025		
	Designed by: CH	Checked by: JCT	Approved By: -
Report Details: Type: Inflow Summary Storm Phase: 15557-SW Adoptable	Company Address: TULLYS		

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (m²)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (m²)
Catchment Area	SA2		Time of Concentration	677.151	100	0	100	677.151
Catchment Area (1)	SA3		Time of Concentration	81.128	100	0	100	81.128
Catchment Area (2)	SA3		Time of Concentration	326.410	100	0	100	326.410
Catchment Area (3)	SA4		Time of Concentration	322.553	100	0	100	322.553
Catchment Area (4)	SA10		Time of Concentration	202.891	100	0	100	202.891
Catchment Area (5)	SA11		Time of Concentration	219.682	100	0	100	219.682
Catchment Area (6)	SA11		Time of Concentration	211.976	100	0	100	211.976
Catchment Area (7)	SA12		Time of Concentration	121.394	100	0	100	121.394
Catchment Area (8)	SA13		Time of Concentration	107.127	100	0	100	107.127
Catchment Area (9)	SA16		Time of Concentration	272.945	100	0	100	272.945
Catchment Area (10)	SA15		Time of Concentration	174.585	100	0	100	174.585
Catchment Area (11)	SA15		Time of Concentration	571.910	100	0	100	571.910
Catchment Area (12)	SA10		Time of Concentration	348.354	100	0	100	348.354
Catchment Area (13)	SA11		Time of Concentration	123.566	100	0	100	123.566
Catchment Area (14)	SA12		Time of Concentration	35.574	100	0	100	35.574
Catchment Area (15)	SA13		Time of Concentration	218.204	100	0	100	218.204
Catchment Area (16)	SA14		Time of Concentration	192.314	100	0	100	192.314
Catchment Area (17)	SA5		Time of Concentration	146.408	100	0	100	146.408
Catchment Area (18)	SA6		Time of Concentration	263.408	100	0	100	263.408
Catchment Area (19)	SA7		Time of Concentration	111.320	100	0	100	111.320
Catchment Area (20)	SA6		Time of Concentration	148.034	100	0	100	148.034
Catchment Area (21)	SA6		Time of Concentration	153.419	100	0	100	153.419
Catchment Area (22)	SA7		Time of Concentration	180.414	100	0	100	180.414
Catchment Area (23)	SA4		Time of Concentration	103.257	100	0	100	103.257
Catchment Area (24)	SA11		Time of Concentration	349.922	100	0	100	349.922
Catchment Area (25)	SA12		Time of Concentration	94.125	100	0	100	94.125
Catchment Area (26)	SA16		Time of Concentration	134.986	100	0	100	134.986
Catchment Area (27)	SA15		Time of Concentration	106.784	100	0	100	106.784
Catchment Area (28)	SA15		Time of Concentration	97.619	100	0	100	97.619
Catchment Area (29)	SA15		Time of Concentration	58.113	100	0	100	58.113
Catchment Area (30)	SA16		Time of Concentration	182.315	100	0	100	182.315
Catchment Area (31)	SA15		Time of Concentration	262.727	100	0	100	262.727
Catchment Area (32)	SA13		Time of Concentration	218.156	100	0	100	218.156

Catchment Area (33)	SA13		Time of Concentration	105.507	100	0	100	105.507
Catchment Area (34)	SA14		Time of Concentration	113.407	100	0	100	113.407
Catchment Area (35)	SA9		Time of Concentration	296.990	100	0	100	296.990
Catchment Area -SA1	SA1		Time of Concentration	217.805	100	0	100	217.805
TOTAL		**0.0**		**7552.479**				**7552.479**

Project:	Date:		
Longwater Road, Finchampstead	11/12/2025		
	Designed by:	Checked by:	Approved By:
	CH	JCT	-
Report Details:	Company Address:		
Type: Outfall Details Storm Phase: 15557-SW Adoptable	TULLYS		

Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
SA17	Free Discharge			

Project: Longwater Road, Finchampstead	Date: 11/12/2025			Tullys
	Designed by: CH	Checked by: JCT	Approved By: -	
Report Details: Type: Junctions Summary Storm Phase: 15557-SW Adoptable	Company Address: TULLYS			

FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SA10	FEH: 100 years: +40 %: 6.00 hrs: Winter	55.756	54.331	54.351	0.020	2.6	0.022	0.000	2.6	48.583	OK
SA11	FEH: 100 years: +40 %: 6.00 hrs: Winter	55.557	54.118	54.150	0.032	4.2	0.037	0.000	4.2	79.825	OK
SA4	FEH: 100 years: +40 %: 6.00 hrs: Winter	55.321	52.804	52.902	0.097	10.7	0.110	0.000	10.7	200.993	OK
SA5	FEH: 100 years: +40 %: 6.00 hrs: Winter	55.311	52.675	52.753	0.078	11.3	0.089	0.000	11.3	213.902	OK
SA3	FEH: 100 years: +40 %: 6.00 hrs: Winter	54.833	53.025	53.090	0.065	6.1	0.074	0.000	6.1	114.872	OK
SA15	FEH: 100 years: +40 %: 6.00 hrs: Winter	54.800	53.375	53.430	0.055	6.0	0.062	0.000	6.0	112.085	OK
SA12	FEH: 100 years: +40 %: 6.00 hrs: Winter	54.784	53.326	53.360	0.034	5.4	0.039	0.000	5.4	101.982	OK
SA16	FEH: 100 years: +40 %: 6.00 hrs: Winter	54.758	53.175	53.231	0.056	8.7	0.064	0.000	8.7	164.127	OK
SA6	FEH: 100 years: +40 %: 6.00 hrs: Summer	54.595	52.550	52.729	0.179	13.8	0.203	0.000	13.9	263.283	OK
SA2	FEH: 100 years: +40 %: 6.00 hrs: Winter	54.431	53.200	53.254	0.054	4.2	0.061	0.000	4.2	78.938	OK
SA13	FEH: 100 years: +40 %: 6.00 hrs: Winter	54.354	52.737	52.812	0.075	17.2	0.085	0.000	17.2	323.295	OK
SA14	FEH: 100 years: +40 %: 6.00 hrs: Summer	54.040	52.337	52.697	0.360	18.4	0.408	0.000	18.3	349.309	Surcharged
SA8	FEH: 100 years: +40 %: 8.00 hrs: Winter	53.798	51.971	52.694	0.723	31.9	0.818	0.000	31.8	664.152	Surcharged
SA7	FEH: 100 years: +40 %: 6.00 hrs: Summer	53.416	52.350	52.717	0.367	15.2	0.415	0.000	15.1	287.218	Surcharged
SA9	FEH: 100 years: +40 %: 8.00 hrs: Winter	53.400	51.900	52.692	0.792	33.1	0.896	0.000	33.1	690.284	Surcharged
SA1	FEH: 100 years: +40 %: 6.00 hrs: Winter	54.670	53.325	53.351	0.026	1.0	0.029	0.000	1.0	19.212	OK
SA17	FEH: 100 years: +40 %: 8.00 hrs: Winter	53.050	51.750	52.689	0.939	5.5	1.062	0.000	5.4	234.529	OK

Project: Longwater Road, Finchampstead	Date: 11/12/2025			Tullys
	Designed by: CH	Checked by: JCT	Approved By: -	
Report Details: Type: Junctions Summary Storm Phase: 15557-SW Adoptable	Company Address: TULLYS			

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SA10	FEH: 30 years: +0 %: 6.00 hrs: Winter	55.756	54.331	54.347	0.015	1.5	0.017	0.000	1.5	27.782	OK
SA11	FEH: 30 years: +0 %: 6.00 hrs: Winter	55.557	54.118	54.142	0.025	2.4	0.028	0.000	2.4	45.658	OK
SA4	FEH: 30 years: +0 %: 6.00 hrs: Winter	55.321	52.804	52.873	0.069	6.1	0.078	0.000	6.1	114.761	OK
SA5	FEH: 30 years: +0 %: 6.00 hrs: Winter	55.311	52.675	52.732	0.057	6.5	0.065	0.000	6.5	122.124	OK
SA3	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.833	53.025	53.073	0.048	3.5	0.055	0.000	3.5	65.561	OK
SA15	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.800	53.375	53.416	0.041	3.4	0.047	0.000	3.4	64.110	OK
SA12	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.784	53.326	53.352	0.026	3.1	0.030	0.000	3.1	58.285	OK
SA16	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.758	53.175	53.218	0.043	5.0	0.048	0.000	5.0	93.869	OK
SA6	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.595	52.550	52.615	0.065	8.0	0.073	0.000	8.0	150.595	OK
SA2	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.431	53.200	53.240	0.040	2.4	0.045	0.000	2.4	45.048	OK
SA13	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.354	52.737	52.793	0.056	9.8	0.063	0.000	9.8	184.848	OK
SA14	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.040	52.337	52.381	0.045	10.6	0.051	0.000	10.6	200.266	OK
SA8	FEH: 30 years: +0 %: 8.00 hrs: Summer	53.798	51.971	52.318	0.347	18.3	0.393	0.000	18.2	381.502	Surcharged
SA7	FEH: 30 years: +0 %: 6.00 hrs: Winter	53.416	52.350	52.418	0.068	8.8	0.077	0.000	8.8	165.300	OK
SA9	FEH: 30 years: +0 %: 8.00 hrs: Summer	53.400	51.900	52.317	0.417	19.0	0.472	0.000	18.9	396.468	Surcharged
SA1	FEH: 30 years: +0 %: 6.00 hrs: Winter	54.670	53.325	53.345	0.020	0.6	0.022	0.000	0.6	10.973	OK
SA17	FEH: 30 years: +0 %: 8.00 hrs: Summer	53.050	51.750	52.316	0.566	5.4	0.640	0.000	5.4	187.045	OK

Project: Longwater Road, Finchampstead	Date: 11/12/2025			Tullys
	Designed by: CH	Checked by: JCT	Approved By: -	
Report Details: Type: Junctions Summary Storm Phase: 15557-SW Adoptable	Company Address: TULLYS			

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SA10	FEH: 2 years: +0 %: 6.00 hrs: Winter	55.756	54.331	54.343	0.011	0.8	0.013	0.000	0.8	14.303	OK
SA11	FEH: 2 years: +0 %: 6.00 hrs: Winter	55.557	54.118	54.136	0.018	1.2	0.020	0.000	1.2	23.440	OK
SA4	FEH: 2 years: +0 %: 6.00 hrs: Winter	55.321	52.804	52.852	0.048	3.1	0.054	0.000	3.1	59.039	OK
SA5	FEH: 2 years: +0 %: 6.00 hrs: Winter	55.311	52.675	52.716	0.041	3.3	0.046	0.000	3.3	62.824	OK
SA3	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.833	53.025	53.059	0.034	1.8	0.039	0.000	1.8	33.735	OK
SA15	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.800	53.375	53.405	0.030	1.7	0.034	0.000	1.7	32.896	OK
SA12	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.784	53.326	53.345	0.019	1.6	0.022	0.000	1.6	29.959	OK
SA16	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.758	53.175	53.206	0.031	2.6	0.035	0.000	2.6	48.149	OK
SA6	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.595	52.550	52.596	0.046	4.1	0.052	0.000	4.1	77.447	OK
SA2	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.431	53.200	53.229	0.029	1.2	0.033	0.000	1.2	23.190	OK
SA13	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.354	52.737	52.776	0.040	5.0	0.045	0.000	5.0	94.921	OK
SA14	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.040	52.337	52.369	0.032	5.5	0.037	0.000	5.5	102.809	OK
SA8	FEH: 2 years: +0 %: 6.00 hrs: Winter	53.798	51.971	52.049	0.078	9.9	0.088	0.000	10.0	187.806	OK
SA7	FEH: 2 years: +0 %: 6.00 hrs: Winter	53.416	52.350	52.399	0.049	4.5	0.056	0.000	4.5	84.999	OK
SA9	FEH: 2 years: +0 %: 8.00 hrs: Summer	53.400	51.900	52.008	0.108	10.0	0.122	0.000	10.1	208.823	OK
SA1	FEH: 2 years: +0 %: 6.00 hrs: Winter	54.670	53.325	53.339	0.014	0.3	0.016	0.000	0.3	5.645	OK
SA17	FEH: 2 years: +0 %: 8.00 hrs: Summer	53.050	51.750	52.004	0.254	5.4	0.287	0.000	5.4	193.884	OK

Project: Longwater Road, Finchampstead	Date: 11/12/2025			Tullys
	Designed by: CH	Checked by: JCT	Approved By: -	
Report Details: Type: Stormwater Controls Summary Storm Phase: 15557-SW Adoptable	Company Address: TULLYS			

FEH: 100 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Pond	FEH: 100 years: +40 %: 8.00 hrs: Winter	52.690	52.690	0.890	0.890	33.1	535.733	0.000	0.000	5.5	235.535		36.277

Status
OK

FEH: 30 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Pond	FEH: 30 years: +0 %: 8.00 hrs: Summer	52.316	52.316	0.516	0.516	18.9	275.197	0.000	0.000	5.4	187.725		67.266

Status
OK

FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Avg. Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (hrs)	Percentage Available (%)
Pond	FEH: 2 years: +0 %: 8.00 hrs: Summer	52.004	52.004	0.204	0.204	10.1	98.135	0.000	0.000	5.4	194.062		88.327

Status
OK

2nd Floor,
201 Borough High Street,
London SE1 1JA

Sheridan House
Forest Row
East Sussex, RH18 5EA

© Tullys, 2022

tullys.uk