

Cross Homes Lewes Ltd

Land at Hammonds Ridge, Burgess Hill

Surface Water and Foul Water Drainage Strategy and Flood risk Assessment

**REPORT REF.
2602420-ACE-XX-00-RP-C-0301**

July 2026

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Contents

	Page
1. Introduction	1
2. Baseline Conditions	4
3. Surface Water Drainage Strategy	5
4. Foul Water Drainage	13
5. Conclusion	14

Appendices

- Appendix A: Proposed Site Plan
- Appendix B: Greenfield Runoff Rate Calculations
- Appendix C: Southern Water Asset Plans
- Appendix D: Microdrainage Calculations
- Appendix E: 2602420-D01 Surface Water Drainage Strategy Drawing

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Draft	MSL	MJR	MSL	02/07/26
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1. Introduction

Overview

- 1.1. Ardent Consulting Engineers, hereafter referred to as Ardent, has been appointed by Cross Homes Lewes Ltd to produce a Surface Water Drainage Strategy for Land at Selby Close, Hammonds Ridge (hereafter referred to as 'the site'). The application site lies within the administrative boundary of Mid Sussex District Council.

Site Location

- 1.2. The Site is located at Hammonds Ridge, Burgess Hill, RH15 9RG. The site can be located by National Grid Reference TQ 30306 18367. The development site is approximately 0.22ha in area, the site location is shown in **Figure 1** below and **Appendix A**.
- 1.3. The site comprises of an existing parking area to be demolished and removed. The existing development comprises mostly hardstanding and to be considered mostly impermeable.
- 1.4. The site is bounded to the north, south and west by a residential development and east by Hammonds Ridge road.



Figure 1: Site Location Plan

Development Proposals

- 1.5. The proposal comprises of 9 new residential units with associated landscaping and parking. The development plan layouts can be found below in **Figure 2** and in **Appendix A**.



Figure 2: Site Layout

2. Baseline Conditions

Hydrology

- 2.1. There are no Main Rivers or Ordinary Watercourses within the site boundary. The nearest Main River is the **River Adur (East Branch)**, located approximately **1.3 km west** of the site. There are no watercourses immediately adjoining the development site.
- 2.2. The topographical survey indicates that the site has relatively shallow variations in ground level, with spot levels generally ranging between approximately **36.0 m AOD and 37.1 m AOD** across the development site. The highest ground is located towards the northern and north-western parts of the site, with lower ground adjacent to the eastern boundary fronting Hammonds Ridge and localised depressions within the existing hardstanding. Overall, the site exhibits gentle gradients with no significant changes in level.

Ground Conditions / Geology

- 2.3. *British Geological Survey (BGS) mapping indicates that the site is underlain by the **Tunbridge Wells Sand Formation**, comprising interbedded sandstones and siltstones of the Hastings Group.*
- 2.4. *The LandIS Soilsclapes mapping classifies the site as being underlain by **slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils**. Consequently, infiltration drainage may be constrained.*

Flood Risk

- 2.5. The Environment Agency Flood Map for Planning indicates that the site lies entirely within **Flood Zone 1**, which has a **low probability** of fluvial flooding (less than 0.1% annual probability). The site is therefore considered to be at **very low risk** of flooding from rivers and the sea.
- 2.6. Environment Agency Risk of Flooding from Surface Water mapping indicates there is generally **very low to low risk** of surface water flooding across the site. Any residual surface water runoff generated by the proposed development will be managed

through an appropriately designed sustainable drainage system (SuDS), ensuring post-development runoff rates do not exceed existing greenfield runoff rates.

3. Surface Water Drainage Strategy

Existing Surface Water Discharge

- 3.1. The planning redline boundary equates to approximately 0.22ha, of which 0.08ha is currently impermeable. Approximately 0.14ha of the post development area will be impermeable.
- 3.2. Although several existing manholes are present within the site, their locations indicate that they are unlikely to serve the drainage of the existing hardstanding areas. No drainage records have been provided to confirm the presence or extent of an existing surface water drainage system within the site, and it is therefore assumed that the site does not benefit from a formal surface water drainage network. This assumption should be confirmed through detailed drainage investigations and utility record searches prior to construction.
- 3.3. Greenfield runoff rates from the site have been determined using the *ICP SuDS Mean Annual Flow Method*.
- 3.4. The peak runoff rates generated from the Modified Rational Method and Greenfield calculations, undertaken for the 1 in 2 year, 1 in 30 and 1 in 100-year, 5 minutes storm, are provided in **Appendix B**.
- 3.5. A summary of the Greenfield runoff rates are provided in **Table 2-1** below.

Scenario	Area	$Q_{Bar.}$	$Q_{1yr.}$	$Q_{30yr.}$	$Q_{100yr.}$
Existing Greenfield Runoff (l/s)	0.22 ha	2.0 l/s	1.7 l/s	4.9 l/s	6.5 l/s

Table 2-1: Equivalent Greenfield Runoff Rates

Drainage Hierarchy

3.6. In accordance with the NPPF Planning Practice Guidance, surface water runoff should be disposed of according to the following hierarchy:

1. Into the ground (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.

3.7. These are assessed in full below.

Into the Ground (Infiltration)

3.8. This is not feasible due to the close proximity of proposed and neighbouring building foundations, as well as the low permeability noted in the *LandIS* 'Soilscapes' map.

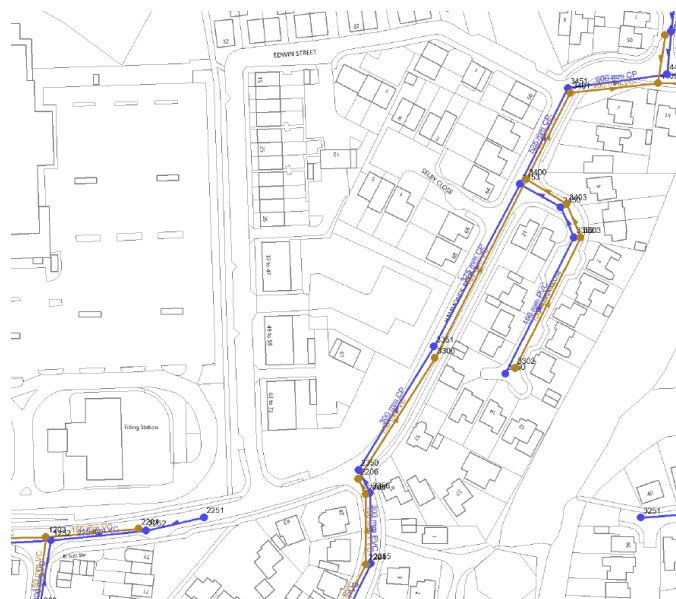
3.9. Considering the above, infiltration has conservatively been discounted as a feasible means of discharge.

To a Surface Water Body

3.10. There are no surface water bodies in the vicinity of the site into which to discharge.

To a surface water sewer, highway drain, or another drainage system

3.11. To the east of the site, an existing Southern Water sewer is located within Hammonds Ridge. Enclosed within **Appendix F** – Southern Water Response Letter 'DSA000045385' informs that a pre-development capacity check was conducted to determine the capacity available for the existing Southern Water drainage network in Hammonds Ridge, there is currently adequate capacity to accommodate a surface water flow of 1.0l/s to manhole reference MH 3351.



Constraints	The benefits of rainwater harvesting on a specific design storm event cannot be quantified, due to the seasonal availability of storage within the structure.
Opportunities	Water butts could be utilised on rainwater downpipes near communal gardens for irrigation purposes.
Type	<i>Swales etc. (Permeable Conveyance)</i>
Constraints	Significant land requirement to accommodate 1:3 side slopes.
Opportunities	Limited space for provision of such features.
Type	<i>Bio Retention Systems</i>
Constraints	Limited potential given the existing site restraints.
Opportunities	None.
Type	<i>Living Roofs</i>
Constraints	Limited potential due to placement of PV panel, roof planting and structural implications
Opportunities	None.
Type	<i>Attenuation Tanks (End of Line Treatment)</i>
Constraints	Cost, material export, vehicle loading and carbon footprint
Opportunities	Should attenuation be required this could be achieved through oversized pipework or geocellular attenuation tanks.

Table 2-2: C753 SuDS Management Train

3.14. Following consideration of the CIRIA C753 guidance the most viable SuDS option for the development site is considered to be lined permeable paving as well as a geocellular attenuation tank beneath the road. This will provide the necessary storage and treatment for up to the 1 in 100-year storm event, including an allowance of 45% for climate change. Rainwater pipes from the roof will tie directly into the below ground drainage, runoff from all hard paved areas to drain directly to permeable paved areas then connecting to the below ground system. The below ground system then connects to the existing Southern Water drainage, Hammonds Ridge.

3.15. Please refer to Drawing No. **2602420-D01** within **Appendix E** for the proposed surface water drainage layout.

Surface Water Quality

- 3.16. Permeable paving has been incorporated within the Drainage Strategy. As identified in "SuDS for Roads" - Scotland, permeable paving provides two stages of treatment, firstly within the grit layer and geotextile which the blocks are bedded on, and secondly, the underlying gravel media comprising washed, no-fines material of adequate depth, i.e. 0.53m from the surface to base of the system.
- 3.17. The maintenance of all SuDS components will be in accord with the best practice and the CIRIA Manual C753.
- 3.18. In determining the necessary SuDS treatment methods, reference is made to Table 26.2 and Table 26.3 of the SuDS Manual (CIRIA C753), which have been duplicated in **Tables 2-4 & 2-5** on the following pages. The tables outline the 'Simple Index Approach' which sets out the water treatment criteria in relation to land use and SuDS performance evidence. To ensure sufficient treatment is proposed, the total pollution mitigation index of the selected SuDS methods must equal or exceed the pollution hazard index for the site.

Land Use	Pollution Hazard Level	Total Suspended Solids	Metals	Hydro-carbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/industrial roofs)	Low	0.3	0.2	0.05
Individual property driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change (eg schools, offices)	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (e.g. hospitals, retail), all roads except low traffic roads and trunk roads/motorways	Medium	0.7	0.6	0.7
Sites with heavy pollution, sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways	High	0.8	0.8	0.9

Table 2-4: Pollution Hazard Indices for Different Land Use Classifications

Type of SuDS Component	Mitigation Indices		
	Total Suspended Solids	Metals	Hydrocarbons
Filter Strip	0.4	0.4	0.5
Filter Drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bio-retention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8

Table 2-5: Indicative SuDS Mitigation Indices

3.19. Using the indices shown in **Tables 2-4 and 2-5**, it is demonstrated in **Tables 2-6** that the proposals will be able to achieve suitable levels of treatment prior to leaving the site.

	Pollution Hazard Level	Total Suspended Solids	Metals	Hydro-carbons
Pollution Hazard Indices	Low	0.5	0.4	0.4
Pollution Mitigation Indices	Permeable Pavement	0.7	0.6	0.7
Result		+0.2	+0.2	+0.3

Table 2-6: Indicative SuDS Mitigation Indices for discharge to surface water

3.20. The maintenance of all SuDS components will be in accordance with best practice and the CIRIA C753 publication "The SuDS Manual". The recommended operation and maintenance requirements for the SuDS are provided in **Table 2-7 to Table 2-9** below.

3.21. A private management company will be appointed to maintain the unadopted elements of the surface water drainage network, including the permeable paving, attenuation tank and flow control chamber.

<i>Maintenance Schedule</i>	<i>Required Action</i>	<i>Frequency</i>
<i>Regular Maintenance</i>	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly
	Debris removal from catchment surface (where may cause risks to performance).	Monthly
	Remove Sediment from Hydrobrake Chamber and gullies.	Annually or as required
<i>Remedial Actions</i>	Repair/rehabilitation of inlets, outlet and vents.	As required
<i>Monitoring</i>	Inspect/check all inlets, outlets, air vents and access points to ensure that they are in good condition and operating as designed	Annually and after large storms

Table 2-7: Maintenance Regime for Geocellular Tanks

<i>Maintenance Schedule</i>	<i>Required Action</i>	<i>Frequency</i>
<i>Regular Maintenance</i>	Remove sediment and debris from inspection chambers and the Hydrobrake chamber	Annually
	Cleaning of gutters and any filters on downpipes	Annually
	Remove any root ingress	As required
<i>Occasional Maintenance</i>	CCTV survey of drains to check alignment, cracking and joint displacement	10 year intervals

Table 2-8: Maintenance Regime for Drainage Pipes

Land at Hammonds Ridge, Burgess Hill 2602420-ACE-XX-00-RP-C-0301
Surface Water and Foul Water Drainage Strategy and Flood risk Assessment
July 2026

<i>Maintenance Schedule</i>	<i>Required Action</i>	<i>Frequency</i>
<i>Regular Maintenance</i>	Brushing and vacuuming	3 times/year at end of winter, mid-summer, after autumn leaf fall, or as required based on site specific observations of clogging or manufacturers recommendations
<i>Occasional Maintenance</i>	Removal of weed	As required
<i>Remedial Actions</i>	Rehabilitation of surface and upper sub-structure	As required (if infiltration performance is reduced as a consequence of significant clogging)
<i>Monitoring</i>	Initial inspection	Once 3 months after installation
	Inspect for evidence of poor operation and/or weed growth. If required take remedial action	6-monthly
	Inspect silt accumulation rates	Annually
	Monitor inspection chambers	Annually

Table 2-9: Maintenance Regime for Permeable Pavements

4. Foul Water Drainage

- 4.1. Proposed Drainage Strategy available in **Appendix E** shows the proposed foul water network is to discharge 9no. units via gravity to existing Southern Water manhole reference MH 3300, at a required discharge rate of 0.08l/s.
- 4.2. There is currently inadequate capacity within the foul sewerage network to accommodate a foul water flow of 0.08l/s for the development to existing Southern Water manhole reference MH 3300. There is currently only capacity for 50% of the development (4.5 units at 0.045l/s) to discharge to MH 3300. Please refer to **Appendix F** for correspondence with Southern Water relating to foul water.
- 4.3. Southern Water has a duty to provide Network capacity from the point of practical connection (point of equivalent or larger diameter pipe) funded by the New Infrastructure Charge.

5. Conclusions

- 5.1. Surface Water Drainage Strategy has been prepared to support the proposed redevelopment of the site at Selby Close, Hammonds Ridge. The strategy has been developed in accordance with the drainage hierarchy set out within the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance, taking account of the site's physical constraints, existing drainage infrastructure and opportunities for the incorporation of Sustainable Drainage Systems (SuDS).
- 5.2. Infiltration has been discounted as a feasible means of surface water disposal due to the anticipated low permeability of the underlying soils and the proximity of existing and proposed building foundations. No suitable surface water body is located within the vicinity of the site. Consequently, the preferred drainage solution comprises lined permeable paving and below-ground geocellular attenuation storage, with surface water runoff attenuated and discharged at a restricted rate (1.0l/s) to the existing Southern Water surface water manhole MH 3351, Hammonds Ridge.
- 5.3. The site is located in Flood Zone 1, indicating a very low risk of flooding from rivers, the sea, and surface water. Residual surface water runoff will be managed via a sustainable drainage system (SuDS) to ensure post-development rates do not exceed existing greenfield levels.
- 5.4. The proposed drainage network has been designed to accommodate the 1 in 1 year, 1 in 30 year and 1 in 100 year rainfall events, including a 45% allowance for climate change. The proposed SuDS features will provide both attenuation and water quality treatment in accordance with the principles of the CIRIA SuDS Manual (C753), whilst restricting post-development discharge rates to the equivalent greenfield runoff rate, thereby providing an improvement over the existing site.
- 5.5. A maintenance regime has been identified for all components of the proposed drainage system to ensure that the SuDS continue to operate effectively throughout the lifetime of the development. Responsibility for the maintenance of the private drainage infrastructure will rest with an appropriately appointed management company.
- 5.6. It is therefore concluded that the proposed surface water drainage strategy provides a sustainable, practical and policy-compliant solution for the development. The

strategy will effectively manage surface water runoff, minimise flood risk both on and off the site, and deliver a suitable long-term drainage solution without placing additional pressure on the receiving drainage network.

5.7. Southern Water have been contacted regarding a foul water capacity check, please refer to **Appendix F** for correspondence with Southern Water relating to foul water.

5.8. Foul capacity is currently lacking; however, the relevant water company is statutorily required by legislation and case law to upgrade its system to meet the demands of the new development. There is agreement to accept an occupation condition as suggested by the water company.

Appendix A – Proposed Site Layout

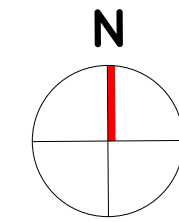


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Do not scale from this drawing for the purpose of construction. Work to indicated dimensions only. All dimensions to be confirmed on site. This drawing is to be read in conjunction with other drawings in this series and all relevant consultants drawings and documentation where applicable. This drawing has been produced for the specific client and project identified below and is not intended for use by any other person or for any other purpose other than indicated on this drawing. Please report any discrepancy on this drawing to Datum Architects for clarification. © Datum Architects Ltd.

0 10m 20m
1:200 scale

Rev	Description	Issued By	Issue Date



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Client

CROSS HOMES (LEWES) LTD

Project

**HAMMONDS RIDGE, BURGESS HILL,
RH15 9HT**

Drawing Title

PROPOSED BLOCK PLAN

Drawing Scale(s) Status

1:200 @ A1 1:400 @ A3 **PLANNING**

Drawing Number PROJECT - STAGE - DRAWING - REVISION

DA2603-P-03_A

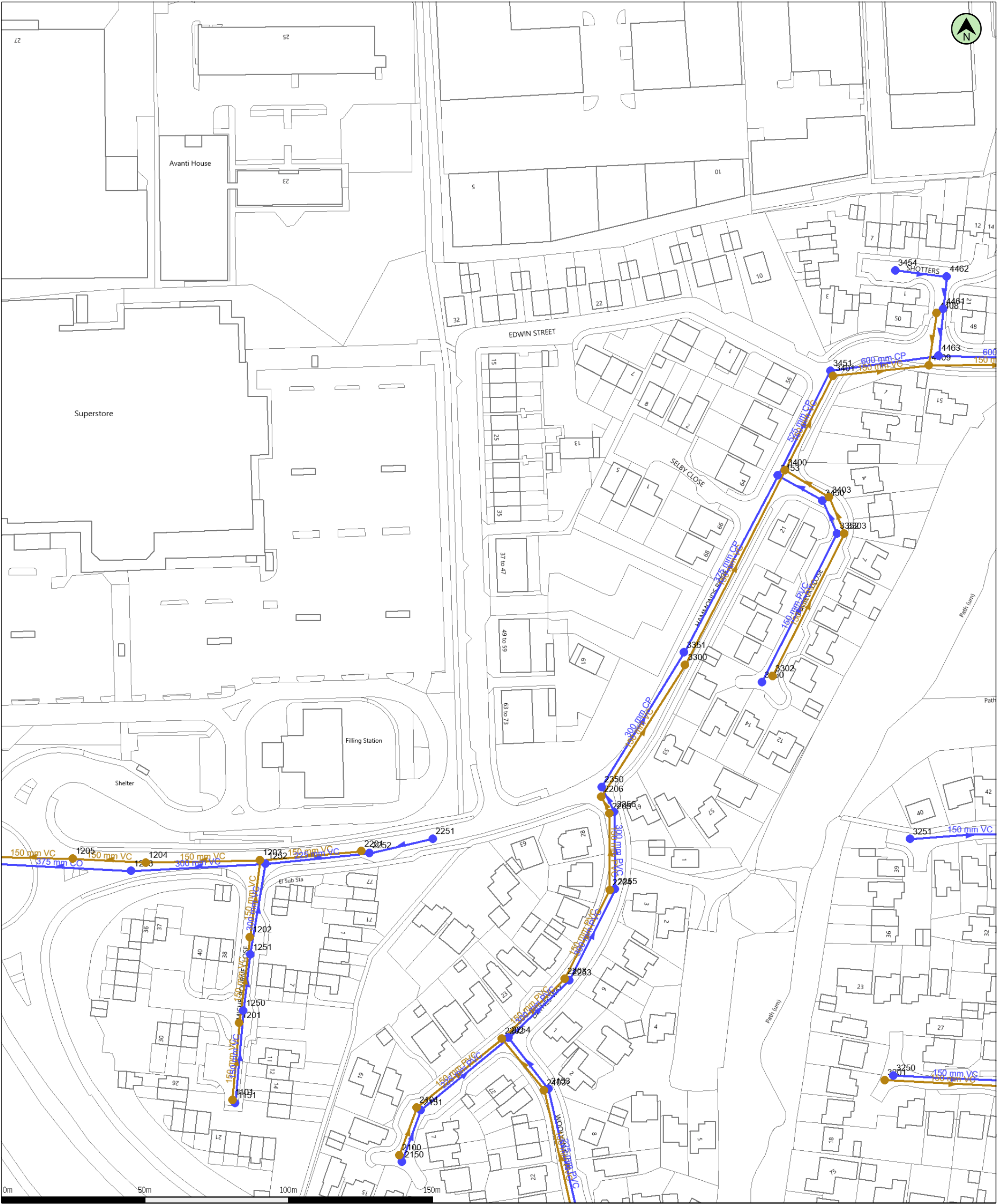
Appendix B – Greenfield Runoff Rate Calculations

Pre-development discharge

Site Makeup	Greenfield ▼
Greenfield Method	FEH ▼
Positively Drained Area (ha)	0.220
SAAR (mm)	830
Host	1 ▼
BFIHost	0.233
Region	7 ▼
QBar/QMed conversion factor	1.136
Betterment (%)	0
	Calc
QMed (l/s)	1.8
QBar (l/s)	2.0

Return Period (years)	Growth Factor	Q (l/s)
1	0.85	1.7
30	2.40	4.9
100	3.19	6.5

Appendix C – Southern Water Asset Plans



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Data updated: 19/06/26

Scale: 1:1250
Map Centre: 530251,118367

Date: 02/07/26
Our Ref: 2162376 - 1

Wastewater Plan A3
Powered by digdat

ilevy@ardent-ce.co.uk

Land at Shelby Close



The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2026 Ordnance Survey AC0000808122. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

Appendix D – Microdrainage Calculations

Ardent Consulting Engineers		Page 1
4th Floor, Diamond House 36-38 Hatton Garden London EC1N 8EB		
Date 08/07/2026 16:58 File NETWORK.MDX	Designed by mlogan Checked by	
Micro Drainage	Network 2020.1	

STORM SEWER DESIGN by the Modified Rational Method

Pipe Sizes STANDARD Manhole Sizes STANDARD

Designed with Level Soffits

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	10.087	0.067	150.6	0.078	5.00	0.0	0.600	o	150	Pipe/Conduit	
1.001	25.637	0.171	150.0	0.060	0.00	0.0	0.600	o	225	Pipe/Conduit	

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.21	34.750	0.078	0.0	0.0	0.0	0.82	14.4	10.6
1.001	50.00	5.61	34.608	0.138	0.0	0.0	0.0	1.07	42.4	18.7

Ardent Consulting Engineers		Page 3
4th Floor, Diamond House 36-38 Hatton Garden London EC1N 8EB		
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Micro Drainage		Network 2020.1

PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	150	1	36.400	34.750	1.500	Open Manhole	1200
1.001	o	225	2	36.400	34.608	1.567	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	10.087	150.6	2	36.400	34.683	1.567	Open Manhole	1200
1.001	25.637	150.0		36.750	34.437	2.088	Open Manhole	0

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.001		36.750	34.437	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff 0.750 Additional Flow - % of Total Flow 0.000
 Areal Reduction Factor 1.000 MADD Factor * 10m³/ha Storage 2.000
 Hot Start (mins) 0 Inlet Coefficient 0.800
 Hot Start Level (mm) 0 Flow per Person per Day (l/per/day) 0.000
 Manhole Headloss Coeff (Global) 0.500 Run Time (mins) 60
 Foul Sewage per hectare (l/s) 0.000 Output Interval (mins) 1

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.350		

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Micro Drainage		Network 2020.1

Online Controls for Storm

Hydro-Brake® Optimum Manhole: 2, DS/PN: 1.001, Volume (m³): 2.2

Unit Reference	MD-SHE-0042-1000-1600-1000
Design Head (m)	1.600
Design Flow (l/s)	1.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	42
Invert Level (m)	34.608
Minimum Outlet Pipe Diameter (mm)	75
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.600	1.0	Kick-Flo®	0.373	0.5
Flush-Flo™	0.185	0.6	Mean Flow over Head Range	-	0.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.6	1.200	0.9	3.000	1.3	7.000	2.0
0.200	0.6	1.400	0.9	3.500	1.4	7.500	2.0
0.300	0.6	1.600	1.0	4.000	1.5	8.000	2.1
0.400	0.5	1.800	1.1	4.500	1.6	8.500	2.1
0.500	0.6	2.000	1.1	5.000	1.7	9.000	2.2
0.600	0.6	2.200	1.1	5.500	1.7	9.500	2.3
0.800	0.7	2.400	1.2	6.000	1.8		
1.000	0.8	2.600	1.2	6.500	1.9		

Ardent Consulting Engineers		Page 5
4th Floor, Diamond House 36-38 Hatton Garden London EC1N 8EB		
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Micro Drainage Network 2020.1		

Storage Structures for Storm

Complex Manhole: 2, DS/PN: 1.001

Cellular Storage

Invert Level (m) 34.608 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	100.0	0.0	0.801	0.0	0.0
0.800	100.0	0.0			

Porous Car Park

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 10.0
Membrane Percolation (mm/hr) 1000 Length (m) 19.0
Max Percolation (l/s) 52.8 Slope (1:X) 80.0
Safety Factor 2.0 Depression Storage (mm) 5
Porosity 0.30 Evaporation (mm/day) 3
Invert Level (m) 35.608 Membrane Depth (mm) 350

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Storm

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH
FEH Rainfall Version	2013
Site Location	GB 530287 118369 TQ 30287 18369
Data Type	Point
Cv (Summer)	0.750
Cv (Winter)	0.840

```
Margin for Flood Risk Warning (mm) 300.0      DVD Status OFF
      Analysis Timestep   Fine Inertia Status OFF
      DTS Status         ON
```

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	2, 30, 100
Climate Change (%)	0, 0, 45

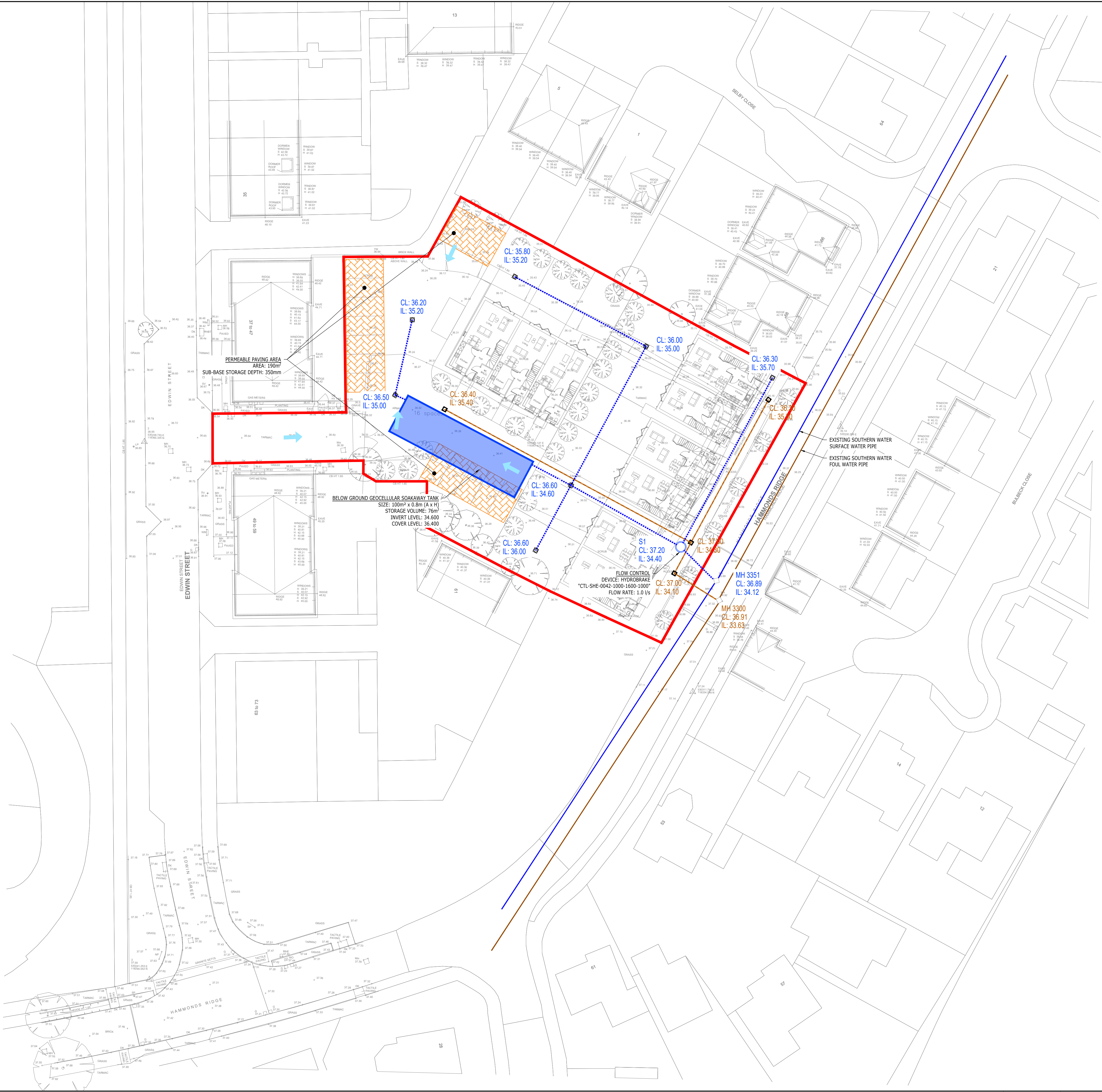
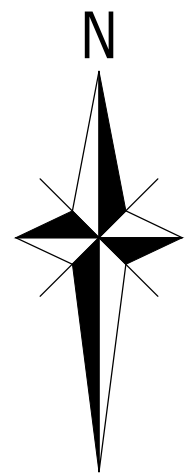
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water
									Level (m)
1.000	1 480	Winter	2	+0%	30/15	Summer			34.874
1.001	2 480	Winter	2	+0%	2/240	Winter			34.873

PN	US/MH Name	Surcharged	Flooded			Half Drain	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)		
1.000	1	-0.026	0.000	0.15			1.9	OK	
1.001	2	0.040	0.000	0.02		400	0.6	SURCHARGED	

Ardent Consulting Engineers				Page 7					
4th Floor, Diamond House 36-38 Hatton Garden London EC1N 8EB									
Date 08/07/2026 16:58		Designed by mlogan							
File NETWORK.MDX		Checked by							
Micro Drainage				Network 2020.1					
<u>30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>									
<u>Simulation Criteria</u>									
Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000									
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000									
Hot Start Level (mm) 0 Inlet Coefficient 0.800									
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000									
Foul Sewage per hectare (l/s) 0.000									
Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0									
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0									
<u>Synthetic Rainfall Details</u>									
Rainfall Model FEH									
FEH Rainfall Version 2013									
Site Location GB 530287 118369 TQ 30287 18369									
Data Type Point									
Cv (Summer) 0.750									
Cv (Winter) 0.840									
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF									
Analysis Timestep Fine Inertia Status OFF									
DTS Status ON									
Profile(s) Summer and Winter									
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440									
Return Period(s) (years) 2, 30, 100									
Climate Change (%) 0, 0, 45									
WARNING: Half Drain Time has not been calculated as the structure is too full.									
									Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
1.000	1	480 Winter	30	+0%	30/15 Summer				35.162
1.001	2	480 Winter	30	+0%	2/240 Winter				35.160
									</

Ardent Consulting Engineers				Page 8					
4th Floor, Diamond House 36-38 Hatton Garden London EC1N 8EB									
Date 08/07/2026 16:58		Designed by mlogan							
File NETWORK.MDX		Checked by							
Micro Drainage				Network 2020.1					
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>									
<u>Simulation Criteria</u>									
Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000									
Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000									
Hot Start Level (mm) 0 Inlet Coefficient 0.800									
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000									
Foul Sewage per hectare (l/s) 0.000									
Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0									
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0									
<u>Synthetic Rainfall Details</u>									
Rainfall Model FEH									
FEH Rainfall Version 2013									
Site Location GB 530287 118369 TQ 30287 18369									
Data Type Point									
Cv (Summer) 0.750									
Cv (Winter) 0.840									
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF									
Analysis Timestep Fine Inertia Status OFF									
DTS Status ON									
Profile(s) Summer and Winter									
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440									
Return Period(s) (years) 2, 30, 100									
Climate Change (%) 0, 0, 45									
WARNING: Half Drain Time has not been calculated as the structure is too full.									
									Water
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
1.000	1	960 Winter	100	+45%	30/15 Summer				36.383
1.001	2	960 Winter	100	+45%	2/240 Winter				36.381
									</

Appendix E – 2602420-D01 Surface Water Drainage Strategy Drawing

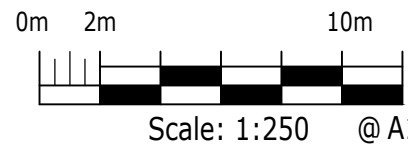


CDM NOTES:

1. THE ATTENTION OF THE CLIENT AND THE PRINCIPAL CONTRACTOR IS DRAWN TO THE FOLLOWING POTENTIAL RISKS IN CONJUNCTION WITH THE PROPOSED ON-SITE AND OFF-SITE WORKS AS DESIGNED FOR THIS PROJECT.
2. WORKS IN THE VICINITY OF LIVE SERVICES INCLUDING GAS, ELECTRICITY AND BT WILL BE NECESSARY AND THE ADVICE OF ALL STATUTORY SERVICE COMPANIES MUST BE SOUGHT BEFORE ANY WORKS COMMENCE.
3. WORKS WITHIN AND ABUTTING THE EXISTING HIGHWAY WILL ENTAIL TRAFFIC HAZARDS AND ALL APPROPRIATE SAFETY MEASURES INCLUDING BARRIERS, SIGNS AND LIGHTING MUST BE UNDERTAKEN TO THE APPROVAL OF THE LOCAL AUTHORITY, THE HIGHWAY AUTHORITY AND THE POLICE DEPARTMENT.
4. HAZARDOUS MATERIALS INCLUDING CEMENT AND BITUMINOUS MATERIALS ARE SPECIFIED AND THE MANUFACTURERS ADVICE ON SAFE HANDLING PROCEDURES MUST BE OBTAINED AND MADE CLEAR TO ALL OPERATIVES.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL EXISTING SERVICES WITHIN THE VICINITY OF THE WORKS HAND DUG AND ENSURE THESE ARE PROTECTED THROUGHOUT THE DURATION OF THE WORKS. ALL UTILITY PLANT SHOULD BE CLEARLY MARKED ON THE GROUND PRIOR TO COMMENCEMENT OF THE WORKS.
6. THE CONTRACTOR MUST ENSURE ALL WORKING AREAS ARE FULLY SECURE.

LEGEND

- DEVELOPMENT BOUNDARY
- PROPOSED FOUL WATER SEWER & INSPECTION CHAMBER
- PROPOSED SURFACE WATER SEWER & MANHOLE (WITH MANHOLE REF. No.)
- INDICATIVE EXISTING SOUTHERN WATER SURFACE WATER DRAINAGE
- INDICATIVE EXISTING SOUTHERN WATER FOUL WATER DRAINAGE
- PROPOSED PERMEABLE PAVING
- PROPOSED GEOCELLULAR TANK
- INDICATIVE EXCEEDANCE FLOW ROUTE



Rev	Description	Drm	Chk	App	Date
Purpose:		Status:			
FOR INFORMATION ONLY		-			

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Client

CROSS HOMES LEWES LTD

Project Title:

LAND AT SHELBY CLOSE,
HAMMONDS RIDGE

Drawing Title:

PROPOSED DRAINAGE STRATEGY

Drawn by IL	Checked by IL	Approved by MSL	Revision -
A1 Scale 1:250@A1		Date 08.07.2026	
Drawing Number 2602420-ACE-XX-00-DR-C-SK01			

Appendix F – Southern Water Response Letter 'DSA000045385'



Martin Roberts
GTA Civils & Transport Ltd
Maple House
192-198 London Road
Burgess Hill
West Sussex
RH15 9RD

Your ref
21349

Our ref
DSA000045385

Date
15 July 2025

Contact
Tel 0330 303 0119

Dear Mr Roberts,

Level 1 Capacity Check Enquiry: Hammonds Ridge. Burgess Hill, West Sussex, RH15 9QE.

We have completed the capacity check for the above development site and the results are as follows:

Foul Water

The enquiry has been reassessed to determine the capacity available for 0.08 l/s at manhole reference TQ30183300, Grid Reference: 5303016 , 118345.

There is currently inadequate capacity within the foul sewerage network to accommodate a foul flow of 0.08 l/s for the above development at manhole reference TQ30183300. The proposed development would increase flows to the public sewerage system which may increase the risk of flooding to existing properties and land. Additional off-site sewers or improvements to existing sewers will be required to provide sufficient capacity to service the development. Southern Water has a duty to provide Network capacity from the point of practical connection (point of equivalent or larger diameter pipe) funded by the New Infrastructure Charge.

Southern Water aim to provide this within 24 months following the date that planning has been granted for developments not identified as strategic sites in our current business plan. Strategic sites are larger developments and will often take longer than 24 months for a full solution to be provided.

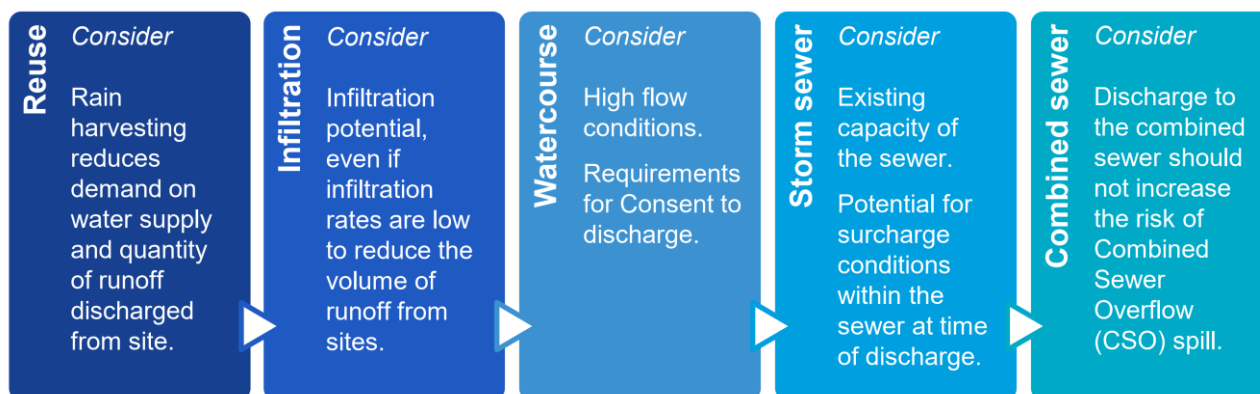
Please note: There is currently only capacity for 50% of the development (4.5 units at 0.045 l/s)

Surface Water

The enquiry has been reassessed to determine the capacity available for 1.0 l/s at manhole reference TQ30183351, Grid Reference: 530315 , 118350.

There is currently adequate capacity in the local surface water/foul sewerage network to accommodate a surface water flow of 1.0 l/s for the above development at manhole reference TQ30183351.

Although capacity in the surface water network has been identified, in all situations where surface water is being considered for discharge to our network, we require the below hierarchy for surface water to be followed which is reflected in part H3 of the Building Regulations. Whilst reuse does not strictly form part of this hierarchy, Southern Water would encourage the consideration of reuse for new developments.



Guidance on Building Regulations is here: gov.uk/government/publications/drainage-and-waste-disposal-approved-document-h

We would welcome the opportunity to engage with you on the design for disposal of surface water, with a particular focus on the potential for incorporating Sustainable Drainage Systems (SuDS), for this development at the earliest opportunity and we recommend that civil engineers and landscape architects work together and with Southern Water.

Where a surface water connection to the foul or combined sewer is being considered, this should be agreed by the Lead Local Flood Authority, in consultation with Southern Water.

It should be noted that although the above assessment indicates that there is capacity available for your proposed surface water flows the LLFA (Local Lead Flood Authority) may impose/request that a lower flow is discharged to the public surface water sewer.

If the excess surface water flows are to be attenuated on site, it could have a significant effect on any proposed Sewer Adoption (S104) Agreements. Any attenuation proposals should be agreed before any works are implemented on site. Where capacity is limited/restricted, agreement should be sought if you are to include any highway drainage within your proposals as Southern Water is not obligated to accept highway flows.

New Infrastructure Charging

Please note as of 1st April 2018 we have moved to the “New Connections Services Charging Arrangements”. We understand that this may cause uncertainty for customers, particularly where they may have already committed to a development based on previous charging arrangements. We have worked with our stakeholders and Water UK to agree a set of principles by which we will base our charges. Please read through our new charging arrangement documents available at the following link: [Connecting Charging Arrangements - Southern Water](#)

Alternatively, New Appointees and Variations (NAVs), also known as ‘inset’ companies, can provide new connection services or take ownership of the new water and wastewater connection infrastructure provided for a new development. NAVs are appointed by Ofwat and replace the regional water company. It is for the developer to choose whether to use a NAV or the regional water company to supply services for new sites, according to certain legal criteria.

Connecting to our network

It should be noted that this information is only a hydraulic assessment of the existing sewerage network and does not grant approval for a connection to the public sewerage system. A formal Sewer Connection (S106) application is required to be completed and approved by Southern Water Services. To make an application visit: developerservices.southernwater.co.uk

Please note the information provided above does not grant approval for any designs/drawings submitted for the capacity analysis. The results quoted above are only valid for 12 months from the date of issue of this letter. **Any revisions in flow rate or alternative point of connection will require a new Pre-Planning Application to be submitted.**

Please get in touch via the Get Connected customer dashboard if you have any queries.

Should it be necessary to contact us please quote our above reference number in all communications relating to this application by email at southernwaterplanning@southernwater.co.uk

Yours sincerely,

Future Growth Planning Team
Developer Services

southernwater.co.uk/developing-building/planning-your-development