



Land to the East of College Lane
Hurstpierpoint, Hassock

**Flood Risk Assessment and Drainage
Strategy**

For

Remmus Homes

Document Control Sheet

Land to the East of College Lane
Hurstpierpoint, Hassock
Remmus Homes

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
21/08/2026	Final	LJ/AU	JM
02/09/2026	Final	LJ/AU	JM



Motion
232 High Street
Guildford
Surrey
GU1 3JF
T 01483 531300
F 01483 531333
E info@motion-uk.co.uk
W www.motion-uk.co.uk

Contents

1.0	Introduction	1
2.0	Site Description	2
3.0	Legislative and Policy Framework	4
4.0	Current Flood Risk	9
5.0	Future Flood Risk & Climate Change	12
6.0	Summary of Flood Risk	13
7.0	Surface Water Drainage Strategy	14
8.0	Surface Water Runoff Quality	20
9.0	Residual Risk and Infrastructure Maintenance	22
10.0	Exceedance Events.....	23
11.0	Compliance with the National Standards for SuDS.....	24
12.0	Proposed Foul Water Drainage.....	26
13.0	Summary and Conclusions	27

Appendices

A	Proposed Site Layout
B	Site Location Plan
C	EA's Flood Map for Planning
D	EA's RoFSW Maps
E	Topographic Survey
F	BGS Geology Map
G	Southern Water and WSCC Asset Location Plans
H	Envirocheck FSR: Groundwater Flooding Maps
I	Envirocheck FSR: Historic Flood Map
J	QMED Runoff Calculations
K	Proposed Drainage Strategy Layout
L	Correspondence between Motion and WSCC
M	InfoDrainage Modelling Results
N	Drainage Management and Maintenance Plan
O	Exceedance Plan
P	Southern Water Developer Services Foul Flow Excel Calculation

1.0 Introduction

- 1.1 This Flood Risk Assessment (FRA) and Drainage Strategy has been produced by Motion on behalf of their client, Remmus Homes. It supports the planning application for the construction of six residential dwellings at the development site, Land to the East of College Lane, Hurstpierpoint, Hassocks.
- 1.2 A site layout of the proposed new residential dwellings can be seen in **Appendix A**.
- 1.3 The site location plan can be seen in **Appendix B**.
- 1.4 The 0.487 hectare (ha) site is located within Flood Zone 1 according to the Environment Agency's (EA's) Flood Map for Planning (**Appendix C**).
- 1.5 With reference to the EA's Risk of Flooding from Surface Water (RoFSW) map in **Appendix D**, the majority of the site is in the very low surface water flood risk category (areas outside of the 1 in 1,000-year return period).
- 1.6 A drainage strategy is required to demonstrate how the development will manage and discharge surface water generated in all rainfall events up to and including the 1 in 100-year + 45% storm.
- 1.7 This FRA and drainage strategy has been produced to discuss the flood risks to the proposed development, from all sources. This FRA and drainage strategy will also define how the site will manage its surface water so that the development does not increase flood risk in the area or to neighbouring properties/land.
- 1.8 This drainage strategy follows the guidance set out in:
 - ▶ National Planning Policy Framework (NPPF)
 - ▶ Planning Practice Guidance (PPG) to the National Planning Policy Framework
 - ▶ CIRIA SuDS Manual 2015 (C753)
 - ▶ Environment Agency Rainfall Runoff Management for Developments
 - ▶ Non-Statutory Technical Standards for SuDS (NSTS)
 - ▶ New National Standards for SuDS
- 1.9 This FRA and drainage strategy report pertains only to the design of the drainage system for the built site. It does not provide details of how the site will be drained during the construction phase. This is considered to be temporary works and can only be prescribed and provided by the eventual appointed contractor.
- 1.10 Similarly, this report does not provide information on how the drainage infrastructure will be protected during the construction phase of the project. The provision of this information is, again, the responsibility of the appointed contractor.

2.0 Site Description

Table 2.1 – Site Summary

Site Name	Land to the East of College Lane
Location	Hurstpierpoint, Hassocks
Grid Reference	TQ 29157 17011
Site Area	The red line boundary area is 4,872 m ² (0.487 ha)
Development Type	Erection of 6no. dwelling with associated landscaping, open space, parking and creation of new vehicular access from College Lane
Flood Zone	Flood Zone 1
Flood Risk Vulnerability Classification	More Vulnerable
Surface Water Flood Risk	Very Low
Local Water Authority	Southern Water
Local Planning Authority	Mid Sussex District Council (MSDC)
Lead Local Flood Authority	West Sussex County Council (WSCC)

Site Location and Description

- 2.1 The red line boundary is around 0.487 ha, and the existing site is accessible from College Lane in Hurstpierpoint.
- 2.2 The site currently consists of an open field.
- 2.3 The proposed development is for the erection of 6no. dwellings with associated landscaping, open space, parking and creation of a new vehicular access from College Lane. A copy of the proposed site layout can be seen in **Appendix A**.

Topography

- 2.4 A topographical survey was carried out in October 2024 by Maltby Surveys Limited and the associated mapping can be seen in **Appendix E**.
- 2.5 The highest part of the site is located on the south-western boundary with an elevation of approximately 35.50 metres Above Ordnance Datum (mAOD) and the site generally falls in a north easterly direction with levels of approximately 32.00 mAOD on the north-eastern boundary.

Geology

- 2.6 The British Geological Survey (BGS) online 1:50,000 Geoindex mapping identifies that the underlying bedrock geology is Weald Clay Formation - Mudstone. No superficial deposits are listed in the BGS online 1:50,000 Geoindex mapping.
- 2.7 The nearest BGS borehole scan on the BGS online mapping, within the same bedrock geology, is approximately 2.25 km west of the site (TQ21NE38). The borehole logs shows Clay down to approximately 4m (**Appendix F**).

- 2.8 Defra's Magic Map application lists the soil as being slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils.

Infiltration Potential

- 2.9 No infiltration testing has been carried out to date on the basis that the Weald Clay, which extends to depth below ground, would not be conducive to infiltration.
- 2.10 This follows the advice of literature values for infiltration in clay soils (BS 7533-13:2009), which suggests that they have infiltration rates typically of the order of 1×10^{-8} to 1×10^{-10} . Table 25.1 of CIRIA C753 supports this by suggesting infiltration rates of less than 3×10^{-8} are possible.
- 2.11 Infiltration rates lower than 1.0×10^{-6} m/s are not generally conducive to infiltration and usually only System B (partial infiltration) infiltration features are possible, if at all. If infiltration rates are indeed as low as 1×10^{-8} , then infiltration would not be possible on site.
- 2.12 In reflection of the above constraints, the drainage strategy will not pursue infiltration as a means of surface water discharge from the development.

Existing Drainage Regime

- 2.13 Southern Water Asset Location Plans can be seen in **Appendix G**. These show that there is a single 300mm VC (Vitreous Clay) foul sewer running south-north along College Lane.
- 2.14 Southern Water Asset Location Plan show that there is no existing below ground surface water system within the vicinity of the site.
- 2.15 WSCC highway drainage plan included in **Appendix G** indicates an existing 225mm highway carrier drain running east-west along the northern verge of College Lane collecting the surface water run-off from College Lane via highway gullies.

Hydrogeology

- 2.16 Groundwater Source Protection Zones (SPZ's) are defined around groundwater abstraction sources such as wells, boreholes and springs that are used for public drinking water supply.
- 2.17 SPZ's show the risk of contamination to groundwater from any activities that might cause pollution in the area. The closer the activity to the source of abstraction, the greater the risk. The maps show three main zones; inner – Zone 1; outer – Zone 2 and; total catchment – Zone 3.
- 2.18 Defra's Magic Map was reviewed to see where the site is in relation to the Groundwater SPZ's, and this shows that the site is not within a Groundwater SPZ.
- 2.19 The groundwater vulnerability map within Defra's Magic Map lists the underlying geology as unproductive.

Hydrology

- 2.20 There are no watercourses within or on the boundary of the site. The nearest known open water body is an ordinary watercourse that flows east-west approximately 230m north of the site.
- 2.21 The nearest designated Main River is the Herrings Stream, which is around 840m to the north of the site.

3.0 Legislative and Policy Framework

- 3.1 LLFA's have a responsibility under the FWMA to develop, maintain, apply and monitor the application of a strategy for local flood risk in their area. Local flood risk is defined as flood risk arising from local sources, such as surface water run-off, groundwater and ordinary watercourses (i.e. non-main rivers). The EA plays a role in managing, maintaining and regulating activity around the watercourses designated as Main Rivers.

The National Planning Policy Framework

- 3.2 The NPPF sets out the Government's national policies on different aspects of land use planning in England in relation to flood risk. The Planning Practice Guidance (PPG) to the NPPF provides further information on the policies set out in the NPPF. It encourages development to take place in areas of lower flood risk wherever possible and stresses the importance of preventing increases in flood risk off-site to the wider catchment area. This includes ensuring that flood risk is considered at all stages of the planning process, avoiding inappropriate development in areas at risk of flooding and directing development away from those areas where risks are highest.
- 3.3 The process of directing development away from those areas where risks are highest is the Sequential Test. It covers all forms of flooding, and this is covered in Paragraphs 23 and 24 of the NPPF. Following the December 2024 update to the NPPF, Paragraph 175 was added that states that development can be appropriate on sites with flood risk "in situations where a site-specific flood risk assessment demonstrates that no built development within the site boundary, including access or escape routes, land raising or other potentially vulnerable elements, would be located on an area that would not be at risk of flooding from any source, now and in the future". This essentially means that if a sequential approach is applied within the site boundary, and areas of flood risk now and in the future are avoided, that flood risk should not prevent the development coming forward and that the Sequential Test is not required.

The Environment Agency Flood Map for Planning

- 3.4 The updated Environment Agency's Flood Map for Planning was released on 25th March 2025. This updated and new National Flood Risk Assessment (NaFRA) uses both existing detailed local information and improved national data, includes the potential impact of climate change on flood risk, based on UK Climate Projections (UKCP18) and shows potential flood depths. This allows the Flood Map for Planning to provide much higher resolution maps that make it easier to see where there is risk.
- 3.5 The New NaFRA Flood Map for Planning remains split into 'Flood Zones', which demarcate the extent of flooding from rivers or the sea for different return periods.
- 3.6 Table 3.1, on the next page, lists the flood zone categories and explains the flood risk probabilities they represent.

Table 3.1 – Flood Zone Categories

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding (shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of tidal flooding (land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of tidal flooding (land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	This zone comprises land where water must flow or be stored in times of flood, which is typically the 1 in 30-year flood event or greater. Local planning authorities should identify in their SFRAs areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map, but may be distinguished in Product 4 information, for example)

- 3.7 A site-specific FRA is required for proposals of 1ha or greater in Flood Zone 1, all proposals for development in Flood Zones 2 and 3, or in an area within Flood Zone 1 that has critical drainage problems (as notified to the local planning authority by the EA). There are flood risk in the site and the site is over 1ha in area, thus flood risk from all sources will be reviewed for the completeness of the application.
- 3.8 An FRA should identify and assess the risks of all forms of flooding and demonstrate how these flood risks will be managed so that a development remains safe throughout its lifetime, taking climate change into account.
- 3.9 Within each Flood Zone, a key factor in determining planning applications for development is the flood risk vulnerability of a development. Table 2 of the PPG to the NPPF categorises different development types according to their vulnerability to flooding. These categories are:
- ▶ Essential infrastructure;
 - ▶ Highly vulnerable development;
 - ▶ More vulnerable development;
 - ▶ Less vulnerable development, and;
 - ▶ Water-compatible development.
- 3.10 Within the different Flood Zones each of the above development categories are considered appropriate or not permissible. The Technical Guidance to the NPPF lists these as:

Flood Zone 1:

- ▶ All the development categories listed above are appropriate.

Flood Zone 2:

- ▶ Water-compatible, less vulnerable development, more vulnerable development and essential infrastructure is appropriate in this zone.

Flood Zone 3a:

- ▶ Water-compatible and less vulnerable development is appropriate in this zone. Highly vulnerable development should not be permitted in this zone.

Flood Zone 3b:

- ▶ Only water-compatible development and essential infrastructure that must be there should be permitted in this zone.

- 3.11 The above information sets out the basis by which developments must be assessed in terms of flood risk. Later in this report, the development proposals will be reviewed against the Flood Zone in which they are located, and an assessment will be made of the appropriateness of the development, as per the advice within the PPG to the NPPF.

The New National Standards for SuDS

- 3.12 On 19 June 2025 the UK government published its new National Standards for Sustainable Drainage Systems (SuDS). The new standards are a minor evolution of industry standards and current best practice, many of which practitioners and design engineers had already been actively incorporating in recent years. Therefore, while the New National Standards do not fundamentally change current standards, they are a welcome step in clarifying points that had previously been uncertain and has enshrined them in a single piece of guidance.
- 3.13 The standards emphasise how sustainable drainage and flood risk should be considered in developments, and the importance of site appraisal and early, integrated design with the site's natural features and proposed infrastructure.
- 3.14 The New National Standards for SuDS outline that;
- ▶ SuDS are mandatory for major developments and drainage strategies must conform with the new national criteria and LLFA guidance.
 - ▶ There is a stronger emphasis on the 'four pillars' of SuDS. Drainage strategies must demonstrate benefits for water quantity and quality as well as amenity, and biodiversity. This pushes designers to incorporate more surface level SuDS and rely less on below-ground attenuation.
 - ▶ There is more clarity on long-term adoption & maintenance of SuDS system and LPA's will expect clearer maintenance and management strategies for drainage systems and require stronger evidence of deliverability.
- 3.15 As stated before, this is a minor evolution of the current approach to drainage design, but there are subtle differences in the design factors, which could lead to an increase in size of attenuation features. In addition to the above overarching principles of the New National Standards for SuDS, there are seven core standards that are to be achieved in drainage design. These are:

Standard 1 – Runoff destinations (Drainage hierarchy)

- 3.16 Surface water runoff must be discharged following a strict five-tier sustainability hierarchy, prioritising solutions that keep water close to where it falls:

Priority 1: Collected for non-potable reuse (e.g. rainwater harvesting)

Priority 2: Infiltrated to ground

Priority 3: Discharged to an above-ground surface water body

Priority 4: Discharged to a surface water sewer or piped system

Priority 5: Discharged to a combined sewer

- 3.17 Use of lower-priority options must be robustly justified.

Standard 2 – Management of everyday rainfall (interception)

- 3.18 SuDS must manage frequent, small rainfall events at source, with the key points being:

- ▶ The first 5mm of rainfall should be intercepted within the development.
- ▶ Interception should prevent runoff for most rainfall events, across both summer and winter seasons.
- ▶ Interception can typically be delivered through features like green roofs, rain gardens, permeable paving, and bioretention.

Standard 3 – Management of extreme rainfall and flooding

- 3.19 SuDS must manage intense and extreme rainfall events to reduce flood risk:

- ▶ Control surface water runoff rates and volumes to greenfield runoff rates.
- ▶ Safely manage exceedance flows without negative impact on third party land.
- ▶ Ensure flooding (where unavoidable) is shallow, slow, and low-hazard.
- ▶ Prevent flooding of buildings and critical infrastructure.

Standard 4 – Water quality

- 3.20 SuDS must protect and improve water quality:

- ▶ Designs must be based on a site-specific water quality risk assessment.
- ▶ Drainage features should treat runoff according to the pollution risks of the proposed land use and this should be in accordance with Chapter 26 of the CIRIA SuDS Manual (C753).
- ▶ Multiple treatment stages are expected where risks are high (discharge to protected waters, for example)

Standard 5 – Amenity

- 3.21 SuDS must deliver positive placemaking outcomes, not just drainage quantity benefits:

- ▶ Contribute to attractive, usable, and safe spaces.
- ▶ Support recreation, wellbeing, and visual quality.
- ▶ Be integrated into landscaping and public realm design.

Standard 6 – Biodiversity

- 3.22 SuDS must enhance the natural environment:

- ▶ Deliver biodiversity benefits, aligned with Biodiversity Net Gain ambitions.
- ▶ Use vegetated, nature-based solutions wherever possible.
- ▶ Support habitats for plants, invertebrates, and wildlife.

Standard 7 – Design for construction, operation, maintenance, and structural integrity

- 3.23 SuDS must be designed for their whole lifecycle:

- ▶ They should be safe and effective to construct.
- ▶ They should include clear, deliverable maintenance and management plans.

- ▶ They must remain structurally sound over their design life.
- ▶ They should allow for decommissioning or adaptation (if required).

3.24 The specific points below should be borne in mind by designers and included in any drainage strategies:

- ▶ Standard 2 provides explicit guidance on the management of everyday rainfall. The first 5mm of rainfall (the 'first flush') must be managed by interception and should not leave the site. Instead, it should either be collected for reuse, infiltrated into the ground, or else captured, conveyed, and stored within SuDS features (but there are specific criteria that make this last point acceptable).
- ▶ The latest standards now formalise that the minimum permissible infiltration rate for discharging surface water via a 'System A' (Total Infiltration) solution. The minimum infiltration coefficient that can support an infiltration-based drainage solution is 1.0×10^{-6} m/sec. Additionally, the standards now add that the half drain in the 3.3% AEP event should be less than 24 hours.
- ▶ A 'relaxation factor' should instead be applied to the target greenfield runoff rates on brownfield site. It defines that the maximum relaxation factor for runoff rates should be no greater than five times the greenfield rates. This allows for easier implementation on heavily developed urban sites, especially where LLFA's previously demanded greenfield runoff rates.
- ▶ The New National Standards confirm a previous 'grey area' by stating that SuDS features should be included in the contributing catchment area. It also notes that there is no requirement to provide attenuation for external overland flows entering the site, but these flows should be considered for capacity of the pipe network.
- ▶ Standard 3 of the New National Standards for SuDS clarifies the expectations with regards to urban creep. It says "within developments an urban creep uplift factor shall be applied by adding a percentage increase *to the calculated area of the impermeable area within the property curtilages. This shall be 10% for all developments unless there are no external private permeable spaces, for example, flats and apartments, when it shall be 0%.*"

3.25 The proposed development at College Lane acknowledges the requirements of the New National Standards for SuDS and will deliver them through the drainage strategy, where they are achievable alongside the competing technical and regulatory constraints.

4.0 Current Flood Risk

- 4.1 Flooding can arise from a variety or combination of sources. These may be natural, or artificial and may be affected by climate change. These are discussed, below, in the following two sections and are summarised in Table 6.1, which is in Chapter 6.

Tidal Flooding

- 4.2 The site is not in proximity of a tidally influenced river, thus College Lane cannot be considered at risk of tidal flooding.

Fluvial Flooding

- 4.3 The EA's Flood Map for Planning (**Appendix C**) shows that the site is within Flood Zone 1, thus is at very low risk of flooding from rivers.

Flood Risk and Appropriateness of the Proposed Development

- 4.4 According to the classifications in the NPPF the site is considered to be 'more vulnerable'.
- 4.5 Table 3 of the PPG to the NPPF (see below) states that 'more vulnerable' development is appropriate in Flood Zone 1, thus the development is appropriate in this location.

Table 3 of the NPPF – Flood Risk Vulnerability and Flood Zone Compatibility

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	✗	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	✗	✗	✗	✓*

Key:

✓ Development is appropriate

✗ Development should not be permitted.

Surface Water Flooding

- 4.6 Surface water, or pluvial flooding, results from rainfall-generated overland flow, where rainwater has not yet reached a watercourse or sewer and where the local drainage systems become overwhelmed. Pluvial flooding often occurs during short, very intense storms, but can also occur during longer periods of rainfall when the ground is already saturated, or where land has low permeability due to development.
- 4.7 In these conditions surface water can build up where the topography allows it to converge or pond. Where it gathers it will travel down prevailing gradients. Pluvial flooding then occurs at locations where

significant surface water flow paths converge, at localised low points and/or due to overland obstructions. In urban areas pluvial flooding often occurs where the built environment channels overland flow routes (down roads that are bounded by kerbs, for example) or where there are obstacles to the natural overland flow routes. Boundary walls and buildings are often the main causes and, hence, the likelihood of pluvial flooding to impact property and built-up areas.

- 4.8 Pluvial flooding is exacerbated in many cases by the mistreatment or failure of the below ground infrastructure (including partial or full blockages of gullies and/or within the combined sewers and the accumulation of fats, oils and greases within the sewer networks).
- 4.9 The EA's Risk of Flooding from Surface Water (RoFSW) map was updated and refined in January 2025. The map uses improvements in data, technology and modelling and includes information and input from LLFAs, where this is available. This New National Model (NNM) for surface water represents a significant improvement over previous national-scale models and, generally speaking, has shown a reduction in overall surface water flood risk (when compared with the previous RoFSW mapping) with more targeted risk areas that tie in better with local land features and overall topography.
- 4.10 The EA's Risk of Flooding from Surface Water (RoFSW) maps for College Lane can be found in **Appendix D**. This shows that the entire site is at very low surface water flood risk (areas outside the 1 in 1,000-year return period). This risk of flooding would not preclude the proposed development, which is appropriate within a low surface water flood risk area.

Groundwater Flooding

- 4.11 There are no flood risk maps for groundwater, as stated by the Environment Agency in their 2011 guidance note 'flooding from groundwater'. Mapping products currently available only show areas where the geological and hydrogeological conditions *may* combine to cause groundwater flooding, but they should not be considered as groundwater flood risk maps. They only show *susceptibility* to groundwater flooding.
- 4.12 There are several mapping products that depict areas that may be susceptible to groundwater flooding, but they are not comparable in detail to the risk maps developed for fluvial, tidal and surface water, such as those used by practitioners and risk management authorities to support planning decisions. The mapping does not show the likelihood of groundwater flooding occurring and can only be considered as a hazard, but not a risk-based dataset.
- 4.13 As such, the mapping products can be viewed as indicative at best and should only be used as a prompt to review site-based information to determine whether groundwater is a risk factor that should be considered. Indeed, the Environment Agency state that:

"The susceptibility data should not be used on its own to make planning decisions at any scale and, in particular, should not be used to inform planning decisions at the site scale. The susceptibility data cannot be used on its own to indicate risk of groundwater flooding."

- 4.14 This FRA will review the groundwater flooding susceptibility mapping available, which has been supplied in an Envirocheck Landmark Flood Screening Report (FSR) and can be seen in **Appendix H**.

BGS Geological Indicators of Flooding

- 4.15 The BGS Geological Indicators of Flooding map shows that the site is not in an area with geological indicators of groundwater flooding.

BGS Groundwater Flooding Susceptibility

- 4.16 The BGS Groundwater Flooding Susceptibility map shows that the site is not in an area where there is potential for groundwater flooding to occur.

Geosmart Information Groundwater Flood Map

- 4.17 The Geosmart Information Groundwater Flood Map places the site in an area of 'negligible' risk.

Groundwater Flood Risk Summary

- 4.18 The site at College Lane is not in an area with potential for groundwater flooding to occur or with geological indicators of groundwater flooding. Due to this and being in an area of 'negligible' risk, it can be seen that the development site is at very low groundwater flood risk.

Flooding from Infrastructure Failure

- 4.19 Sewer flooding can occur when the capacity of the infrastructure is exceeded by excessive flows, or because of a reduction in capacity due to collapse, siltation, blockage, or if the downstream system becomes surcharged. This can lead to the sewers flooding onto the surrounding ground via manholes and gullies, which can generate overland flows.
- 4.20 Typically, sewer systems are constructed to accommodate rainstorms with a 30-year return period or less, depending on their age. Consequently, rainstorm events greater than 1 in 30-years would be expected to result in surcharging of some parts of the sewer system. In fact, due to most gullies being poorly maintained and often partially blocked with silt, leaves and other debris, their capacity is often estimated to be closer to the 1 in 10-year storm.
- 4.21 All Water Companies have a statutory obligation to maintain a register of properties/areas which have reported records of flooding from the public sewerage system, and this is shown on the 'DG5 Flood Register'. This includes records of flooding from foul sewers, combined sewers and surface water sewers that are deemed to be public and maintained by the Water Company.
- 4.22 The DG5 Flood Register only records sewer flooding incidents per postcode area and over a 10-year period, thus is not detailed in its resolution but it can provide an indicator of areas that have persistent sewer flooding problems.
- 4.23 The 2024 Strategic Flood Risk Assessment (SFRA) for MSDC references historical incidents of flooding detailed by Southern Water in their 'DG5' database. This database records properties that have experienced flooding, either internally or externally, over the last 10 years as a result of sewer flooding.
- 4.24 The SFRA identifies the 'BN6 9' postcode area has had 12 registered incidents of sewer flooding in the last 10 years. This is a low number over a postcode that covers a wide area, thus it can be concluded that College Lane is at very low real risk of sewer flooding.

Flooding from Artificial sources

- 4.25 The EA provides a map showing the maximum potential flood extent should all reservoirs with a capacity of greater than 25,000 cubic metres fail and release the water they hold.
- 4.26 The map shows that the site would not experience flooding in this scenario.
- 4.27 There are no other artificial sources of flooding (such as canals) in the vicinity of the site that could cause flooding.

Historic Flooding

- 4.28 The Envirocheck Landmark FSR includes a map showing recorded flood outlines, which can be seen in [Appendix I](#).
- 4.29 This map shows that the site has no record of flooding in the past. Thus the Historic Flood Map supports this report's conclusion that the site is at low risk of flooding and that the proposed development is appropriate in this location.

5.0 Future Flood Risk & Climate Change

- 5.1 The NPPF and the supporting PPG sets out how flood risk should be considered over the lifetime of a development. This requires an increase in flood risk due to climate change to be taken into account. Both peak river flows and rainfall intensity should be assessed.

Peak River Flows

- 5.2 The EA's NaFRA2 Flood Map for Planning incorporates climate change allowances for the 2080s epoch (covering 2070–2125), which reflects the expected lifespan of a residential development.
- 5.3 With this allowance applied, the site remains at very low risk of fluvial flooding, as shown in Figure 5.1 below. As the site lies within Flood Zone 1, future fluvial flood risk does not require further assessment.

Figure 5.1 – Future fluvial flood risk (2070 to 2125)



Peak Rainfall Intensity and Climate Change

- 5.4 The proposed development site is within the Adur and Ouse Management Catchment. The peak rainfall climate change allowances are as follows in Table 5.1, below:

Table 5.1 – Climate Change Predictions for Adur and Ouse Management Catchment

1 in 30-year Rainfall Event	Central Allowance	Upper End Allowance
2050's epoch	20%	35%
2070's epoch	20%	40%
1 in 100-year Rainfall Event	Central Allowance	Upper End Allowance
2050's epoch	20%	45%
2070's epoch	25%	45%

- 5.5 **Appendix D** has included the future surface water flood risk dataset with climate change allowances applied. This identifies that, the site remains at very surface water flood risk in the future.

6.0 Summary of Flood Risk

- 6.1 Historic, current and future flood risk, from all sources, has been reviewed in the context of the proposed development at College Lane. A summary of these flood risks is summarised in Table 6.1, below. The allocation of overall flood risk shows the residual flood risk once the site-specific conditions have been taken into account.

Table 6.1 – Summary of Flood Risk From All Sources

Flood Source	Risk Level				Comment
	High	Medium	Low	Very Low	
Fluvial				X	The site is in Flood Zone 1.
Tidal				X	The site is not at risk of tidal flooding.
Groundwater				X	The site is in an area where susceptibility to groundwater is thought to be very low.
Surface Water				X	The site is at very low risk of surface water flooding.
Canals				X	No canals in the local area.
Reservoirs				X	No reservoirs in the local area.
Infrastructure Failure				X	No indication that local drainage infrastructure would cause elevated levels of flood risk.
Increase due to Climate Change				X	Very low increase in flood risk due to future peak river flows and rainfall increases due to climate change.

7.0 Surface Water Drainage Strategy

Sustainable Drainage Overview

- 7.1 Current planning policy and EA guidance requires developments to employ SuDS (Sustainable Drainage Systems) techniques wherever feasible. Careful design of SuDS features can ensure that a development's surface water drainage closely reflects the natural hydrology of the pre-developed site.
- 7.2 SuDS will attenuate and treat surface water run-off quantities at the source (source control) in line with NPPF and EA policies.
- 7.3 Source control systems treat surface water close to the point of origin, in features such as soakaways, permeable paving and swales, to name a few.
- 7.4 The key benefits of SuDS are as follows:
 - ▶ Improving water quality over a conventional piped system by removing pollutants from diffuse pollutant sources (e.g., roads);
 - ▶ Improving amenity through the provision of open green space;
 - ▶ Improving biodiversity through increased areas for wildlife habitat; and
 - ▶ Enabling a natural drainage regime that recharges groundwater (where possible).
- 7.5 SuDS provide a flexible approach to drainage, with a wide range of components from soakaways to large-scale basins or ponds. The individual techniques should be used where possible in a management train that mimics the natural pre-developed pattern of drainage.

Site Area

- 7.6 The site areas to undergo development are to be assessed as follows in Table 7.1, below, which is inclusive of urban creep.

Table 7.1 – Site Areas

Breakdown of Site Areas	Proposed (ha)
Hardstanding	0.090
Dwellings (Roof Areas)	0.089

Greenfield Runoff Rate

- 7.7 The greenfield runoff rates have been calculated using the QMED value, which is the index flood in the Flood Estimation Handbook (FEH) and is based on the 2022 dataset. QMED has been calculated for rural and urban values in InfoDrainage using the catchment descriptors methodology, which includes the following input variables:
 - ▶ Site Location
 - ▶ SAAR – Standard Average Annual Rainfall 1961 – 1990 (mm)
 - ▶ SPR Host - Standard percentage runoff derived from HOST soils data
 - ▶ URBEXT - The extent of urban and suburban cover
 - ▶ BFIHOST - Baseflow index derived from Hydrology of Soil Types (HOST) soils data
 - ▶ FARL - Index of flood attenuation due to reservoirs and lakes

7.8 The QMED calculation can be seen in **Appendix J**, but the outputs are summarised in Table 7.2, below.

Table 7.2 - QMED Rural/Urban Values

QMED Rural (l/s)	QMED Urban (l/s)
2.9	2.9

7.9 The above greenfield runoff rates will be used to guide the appropriate surface water discharge rates and volumes from the development.

Urban Creep

7.10 In accordance with WSCC's Policy for the Management of Surface Water, urban creep is recognised as playing a key role in future flood risk.

7.11 WSCC have produced their own guidance on the percentage of urban creep that should be applied. They state that the consideration of urban creep should be assessed on a site-by-site basis but is limited to residential development only. The allowances set out in Table 5.2 of WSCC LLFA Policy for the Management of Surface Water must be applied to the impermeable area within the property curtilage according to the proposed development density. Table 5.2 is shown below.

Table 5.2 of WSCC LLFA Policy for the Management of Surface Water

Residential development density (Dwellings per hectare)	Change allowance (% of impermeable area)
≤25	10
30	8
35	6
45	4
≥50	2
Flats & Apartments	0

7.12 A precautionary approach has been taken, which means that an urban creep increase of 10% has been applied to the impermeable areas within the residential curtilages of the proposed development (this does not include the roads or pathways, because these are not within the residential curtilages and are not subject to the process of urban creep).

7.13 The 10% increase in impermeable areas has been included in the hydraulic design of the drainage strategy and applied at the appropriate points in the drainage system. The impermeable areas presented in Table 7.1 above incorporate an allowance for urban creep.

Drainage Strategy Overview

7.14 As discussed in Section 2 of this report, the desk-based geology information indicates that infiltration will not be feasible at the site due to the clay-based geology. Therefore, infiltration cannot be considered a viable means of surface water discharge for the development.

7.15 The drainage strategy for the site has been developed on the premise that infiltration of surface water is not possible.

7.16 Therefore, the proposed drainage strategy comprises a System C (non-infiltration) permeable pavement and an attenuation basin to manage surface water runoff. Surface water will discharge to the existing highway carrier drain along College Lane at a restricted rate of 2.9 l/s.

- 7.17 The proposed site layout of the drainage strategy can be seen in **Appendix K** of this report.
- 7.18 This outlines the proposed drainage strategy for the development. The design criteria achieved by the proposed drainage strategy, and how it has been developed in accordance with the sequential check of the drainage hierarchy, is discussed below.

Design Criteria

- 7.19 The drainage strategy has been designed in accordance with the design criteria outlined in WSCC's LLFA Policy for the Management of Surface Water. This ensures that the current drainage strategy accords with local policy requirements (as well as those of the NPPF). In brief, this includes:
- ▶ Using FEH 2022 Annual Maximum Catchment data rather than FSR data.
 - ▶ Using a runoff coefficient (CV) value of 1.0 in all hydraulic modelling (for both summer and winter storms, both of which have been assessed in the model).
 - ▶ Reducing the MADD Factor (which assumes 10m³ of pipe storage per hectare) to zero.
 - ▶ 10 % Urban Creep allowance has been considered and included in parts of the site to which it applies.
 - ▶ The full suite of rainfall events has been used (up to the 5,760-minute storm, which is maximum allowable when using FEH data).
- 7.20 The proposed drainage strategy for the development and how it has been designed has been outlined. With specific reference to how the proposed drainage strategy has been considered within each tier of the drainage hierarchy, this is discussed, below.

The Drainage Hierarchy

- 7.21 The NPPF states that opportunities to reduce overall flood risk should be sought and achieved through sustainable development and careful drainage design. This can be achieved through the layout and form of development, including green infrastructure and the appropriate application of sustainable drainage systems (SuDS). SuDS are designed to control surface water runoff close to where it falls and mimic natural drainage as closely as possible. They provide opportunities to:
- ▶ Reduce the causes and impacts of flooding;
 - ▶ Remove pollutants from urban run-off at source;
 - ▶ Combine water management with green space with benefits for amenity, recreation and biodiversity.³
- 7.22 To deliver SuDS benefits and ensure that a development reduces overall flood risk, there is an established hierarchy of surface water drainage methods that should be considered. The most preferable and sustainable are at the top and the least preferable and least sustainable at the bottom.
- 7.23 The drainage hierarchy is a sequential check that intends to ensure that all practical and reasonable measures are taken to manage surface water as high up the hierarchy (with '1' being the highest) as possible, and that the amount of surface water managed at the bottom of the hierarchy is minimised. The Planning Practice Guidance to the National Planning Policy Framework (NPPF) states that "*Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable*".
- 7.24 The drainage hierarchy presented in the NPPF presents only four tiers of drainage options. This has been expanded on and adopted by others and now can be viewed as the following:
1. Store rainwater for later use
 2. Use infiltration techniques, such as porous surface in non-clay areas

3. Attenuate rainwater in ponds or open water features for gradual release
4. Attenuate rainwater by storing in tanks or sealed water features for gradual release
5. Discharge rainwater direct to watercourse
6. Discharge rainwater to a surface water sewer/drain
7. Discharge rainwater to the combined sewer
8. Discharge rainwater to the foul sewer

- 7.25 The first two tiers of the drainage hierarchy ensure that surface water is retained within the site boundary and does not increase flood risk to others. This is always the most preferable method of surface water management.
- 7.26 The next six tiers of the hierarchy provide regional control, but with decreasing levels of pollution removal and reduced potential for amenity and habitat creation.
- 7.27 Within the lower six tiers of the drainage hierarchy, there must be some form of flow restriction, so that off-site surface water discharge resembles greenfield runoff rates, as much as is reasonably practicable. This requires on-site storage facilities, which may include ponds, swales, subsurface storage tanks and System C (non-infiltration) permeable pavements with flow control devices. Again, methods that provide the most potential for amenity and pollution removal should be favoured.
- 7.28 With regards to the proposed development and its drainage strategy, the tiers of the drainage hierarchy that have been achieved are summarised in Table 7.3, on the next page:

Table 7.3 - Compliance with the Drainage Hierarchy

Tier	Discharge Method	Used?	Notes
1	Store rainwater for later use	✓	Water Butts are to be used on the downpipes of the dwellings.
2	Use infiltration techniques	✗	Infiltration is not viable on this site due to the local geology.
3	Attenuate rainwater in ponds or open water features	✓	The drainage strategy will use a SuDS basin to attenuate surface water.
4	Attenuate rainwater by storing in tanks or sealed water features	✓	The drainage strategy will use System C 'non-infiltration' pervious pavement.
5	Discharged rainwater direct to a watercourse	✗	This tier of the drainage hierarchy is not viable due to no watercourses in the vicinity of the site.
6	Discharged rainwater to a surface water sewer/drain	✓	Proposed to discharge surface water into the existing highway carrier drain along College Lane.
7	Discharged rainwater to the combined sewer	✗	This tier of the drainage hierarchy will not be required.
8	Discharged rainwater to the foul sewer	✗	This tier of the drainage hierarchy will not be required.

Tier 1 – Store rainwater for later use

- 7.29 Water re-use systems can rarely manage 100% of the surface water discharged from a development. This requires the surface water yield from the building and hardstanding areas to balance perfectly with the demand from the proposed development; too much demand will result in a lack of water supply; too little demand will cause the storage systems to become overwhelmed and could result in flooding when the next rainfall event happens. Consequently, even if there are opportunities and a need for rainwater recycling systems, further solutions for attenuating and discharging surface water will almost always be required.
- 7.30 There is likely to be a moderate rainwater yield from the roof areas of the development that could be used for domestic non-potable uses. Additionally, the proposed development includes landscaping that may benefit from having a supply of recycled rainwater for the watering of gardens, flowerbeds, etc.
- 7.31 The opportunity for water re-use and recycling on site has been explored and this report recommends the use of water butts for each proposed dwelling. These will reduce the reliance on potable water supplies during activities such as gardening and car washing. They can also provide small amounts of storage for surface water. The typical types and storage volumes of water butts are in Table 7.4, below:
- 7.32 Water butts can also provide small amounts of storage for surface water and can often assist in achieving zero discharge for rainfall depths up to 5mm, which covers 50% of annual rainfall events (according to the EA's Rainfall Runoff Management for Developments report – SC030219).

Table 7.4 – Types and Storage Volumes of water butts

Typical Water Butt Options	Dimensions (m)	Storage Volume Provided
Type 1 (wall-mounted - small)	1.22 x 0.46 x 0.23	100 litres (0.10m ³)
Type 2 (standard house water butt)	0.9 x 0.68 diameter	210 litres (0.21m ³)
Type 3 (large house water butt)	1.26 x 1.24 x 0.8	510 litres (0.50m ³)
Type 4 (column tank – very large)	2.23 x 1.28 diameter	2000 litres (2.00m ³)

- 7.33 This report recommends that a 'Type 2' standard water butt is installed on the six proposed dwellings. This approximately equates to up to 1,260 litres (1.26m³) of surface water attenuation and recycled water on site.
- 7.34 The surface water storage available in the water butts has not been included in any hydraulic calculations as it can't be guaranteed that they will be empty at the start of a rainfall event.

Tier 3 - Attenuate rainwater in ponds or open water features for gradual release

- 7.35 Ponds and open water features are SuDS features that offer surface water attenuation, pollution mitigation and amenity and biodiversity benefits and an attenuation basin is proposed on this site.
- 7.36 The attenuation basin will cover areas of 217.5m²; have side slopes of 1 in 3; have depths of 1.2m; and have an attenuation storage volume of 106m³. Surface water runoff will be restricted by a Flow Control Chamber that will control discharge to 2.9 l/s for the 100 year + 45% climate change critical rainfall event.

Tier 4 - Attenuate rainwater by storing in tanks or sealed water features

- 7.37 It is intended to use System C 'non-infiltration' pervious pavements for parts of the shared road. The indicative design features of the pervious pavements are as follows:

- ▶ Total Area: 81 m² and 177 m²
- ▶ 80mm Concrete Block Permeable Pavements (CBPP)
- ▶ 50mm Type 2/6mm Sharp Grit or Clean Sand
- ▶ Separating Permeable Geotextile
- ▶ 450mm Type 4/20 Coarse Graded Aggregate (CGA) subbase (nominal porosity = 30%)
- ▶ Impermeable separating geomembrane at the sides and base

7.38 The total depth of the pervious pavements is 580mm, with an effective storage depth of 500mm. Please note that the above depth of CGA has been designed on its hydraulic requirements and surface water storage capacity. At the detailed design stage, the depth of the CGA, which forms the foundation of the pavement, may need to be refined once the bearing capacity of the sub-grade is known.

7.39 Surface water falling directly onto the pervious pavement, at the front and the rear of the site, will drain into the sub-base, percolating through the joints in the pavements and then through the sharp grit and the geotextile. Surface water will then percolate through the CGA sub-base towards the flow control and be discharged into the highway carrier drain at a runoff rate of 2.9 l/s.

Tier 6 - Discharge rainwater to a surface water sewer/drain

7.40 This tier of the drainage hierarchy will discharge surface water from the permeable pavement and attenuation basin to the existing highway carrier drain along College Lane at a restricted rate of 2.9 l/s.

7.41 In order to provide sufficient capacity, the pipe will need to be upsized from 225mm to 300mm. Correspondence between Motion and WSCC, included in **Appendix L**, confirm that any proposed connection will need to deliver a betterment to the existing drainage system.

InfoDrainage Hydraulic Modelling

7.42 The drainage strategy has been designed using InfoDrainage's hydraulic modelling software.

7.43 The results of the InfoDrainage hydraulic modelling for the development can be seen in **Appendix M**.

7.44 The results of the hydraulic modelling shows that the surface water drainage strategy as outlined above can attenuate and discharge the surface water generated in the 1 in 100-year + 45% climate change critical storm event with no flooding. This manages flood risk on- and off-site and reduces overall local flood risk.

7.45 The impermeable areas will be constructed as pervious pavements. The Interpave document Guide to the Design, Construction and Maintenance of Concrete Block Permeable Pavements edition 6 states 'Concrete block permeable pavements reduce the volume of rainfall that flows out from them significantly and the time it takes for the water to flow out is much longer than for conventional drainage systems. Studies reported in CIRIA report C 582 (CIRIA, 2001) have shown that some 11% to 45% of rainfall flows out from the pavement during a rainfall event. Subsequently over the 2 to 4 days after an event, more water flows out to give a total outfall of between 55% and 100%'. On this basis, it is concluded that the long-term storage volumes provided by pervious pavements are likely to be more than what is indicated by the half drain times in the hydraulic calculations.

7.46 Adjacent areas of hardstanding will comply with building regulations and divert water away from the proposed buildings. The top surface of the pervious pavement should finish at least 150mm below any adjoining DPC level. Advice should always be sought from the manufacturer.

7.47 Therefore, this proposal is considered appropriate because the surface water drainage system manages flood risk on- and off-site and reduces overall local flood risk for the 1 in 100-year + 45% climate change critical storm event.

8.0 Surface Water Runoff Quality

- 8.1 The NPPF states that development should not have a detrimental impact on the environment, including the water environment. The technical guidance to the NPPF provides further advice on the benefits of ensuring runoff quality is to an appropriate standard.
- 8.2 The CIRIA SuDS Manual provides guidance on the treatment of surface water runoff. With regards to the proposed development, Table 4.3 of the CIRIA SuDS Manual rates the pollution hazard from roof water runoff as 'very low'. The only requirement for roof water runoff is the removal of gross solids and sediments, which would be achieved using catchpits and silt traps upstream of the permeable surfacing and throughout the drainage network.
- 8.3 With regards to the shared road, Table 4.3 of the CIRIA SuDS Manual rates the pollution hazard from residential car parking and low traffic roads as 'low'. To mitigate a 'low' pollution hazard, the CIRIA SuDS Manual recommends using a simple index approach in line with Section 26.7.1. This is discussed, below.
- 8.4 Table 26.2 of the CIRIA SuDS Manual provides pollution hazard indices for different land use classifications. The land use classification that requires consideration for low traffic roads and parking areas is in Table 8.1 below.

Table 8.1 - Excerpt from Table 26.2 of CIRIA SuDS Manual

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydro-Carbons
Individual property driveways, residential car parks, low traffic roads (e.g. cul-de-sacs, homezones and general access roads) with less than 300 traffic movements per day.	Low	0.5	0.4	0.4

- 8.5 To deliver adequate pollution treatment and mitigation, the CIRIA SuDS Manual recommends using a SuDS component that has a total pollution mitigation index (for each contaminant type) that equals or exceeds the pollution hazard index (for each contaminant type).
- 8.6 Table 26.3 of the CIRIA SuDS Manual provides indicative SuDS mitigation indices for each SuDS type when discharging to surface waters. Table 8.2, below, which is an excerpt from Table 26.3, shows the mitigation index for permeable pavements.

Table 8.2 - Pollution Mitigation Indices for Permeable Pavements

Type of pollution removal component	Total Suspended Solids (TSS)	Metals	Hydro-Carbons
Permeable Pavements	0.7	0.6	0.7

- 8.7 The mitigation indices for permeable pavements exceed those of the highest pollution hazard index figures from Table 8.1.
- 8.8 The site will also include SuDS basins, thus some surface water will pass through two mitigation components. Where two mitigation components are used in series, the SuDS manual states that:

$$\text{Total SuDS mitigation index} = \text{mitigation index (component one)} + 0.5 \text{ mitigation index (component two)}$$

8.9 The SuDS basin will provide the below mitigation indices as in Table 8.3:

Table 8.3 - Pollution Mitigation Indices for Secondary SuDS Feature

Type of pollution removal component	Total Suspended Solids (TSS)	Metals	Hydro-Carbons
SuDS Basin	0.25 (0.5 ÷ 2)	0.30 (0.6 ÷ 2)	0.30 (0.6 ÷ 2)

8.10 And the total mitigation indices for the site will be as per Table 8.4, below, which shows the mitigation indices for secondary SuDS features added to the mitigation indices for the primary SuDS feature:

Table 8.4 - Total Pollution Mitigation Offered by Permeable Paviours and SuDS Basin:

Contaminant Type	Pollution Hazard Index	Pollution Mitigation Index	Difference
Total Suspended Solids	0.5	0.95 (0.7 + 0.25)	+ 0.45
Metals	0.4	0.9 (0.6 + 0.30)	+ 0.50
Hydrocarbons	0.4	1.00 (0.7 + 0.30)	+ 0.60

8.11 The above evidence shows how the permeable surfaces provide sufficient pollution mitigation on their own, but with the SuDS basin following the permeable paviours, they combine to ensure all pollution hazards are completely mitigated.

9.0 Residual Risk and Infrastructure Maintenance

- 9.1 Whilst the drainage strategy for the development has been designed to attenuate surface water from the 1 in 100-year plus 45% rainfall event, plus an inclusion for urban creep, there could be a small residual risk of flooding due to blockage or failure or poor performance of on-site infrastructure. Therefore, appropriate and regular maintenance of the drainage infrastructure should be undertaken by the site management company or their agents.
- 9.2 To assist with this process, a Drainage Management and Maintenance Plan has been prepared, which sets out the principles for the long-term management and maintenance of the proposed surface water drainage system on the development. The Drainage Management and Maintenance Plan can be seen in **Appendix N**.
- 9.3 The purpose of this document is to ensure that those responsible for site maintenance have a robust inspection and maintenance plan going forwards. This will help ensure the optimum operation of the surface water drainage system and that it will be regularly maintained for the lifetime of the development. This will contribute to reducing the risk of surface water flooding both on- and off-site.

10.0 Exceedance Events

- 10.1 Exceedance events are those greater than the design rainfall event (i.e., greater than the 1 in 100-year rainfall event plus 45% for climate change).
- 10.2 Any rainfall events greater than the design rainfall event may cause flooding due to them 'exceeding' the capacity of the drainage system. In this situation it is imperative to check whether flooding would occur and, if so, whether it needs to be contained on site. Exceedance flows should not ingress into any properties on site and should not cause nuisance to any neighbouring sites or buildings.
- 10.3 Because the drainage system is not shown to flood in the InfoDrainage hydraulic model, it has some 'freeboard' within it that would provide attenuation during exceedance events. This allows for the attenuation of some surface water in storms beyond the 1 in 100-year + 45% event.
- 10.4 Should an exceedance event cause the drainage system to surcharge, the topography of the site and the road network would direct surface water flows and, using these factors as a guide, a high-level plan of exceedance flows has been produced to show the pathway that exceedance flows would take across the site. This can be seen in [Appendix O](#).

11.0 Compliance with the National Standards for SuDS

- 11.1 The seven core standards for SuDS, as laid out in the National Standards for SuDS, were presented in Section 3 of this report.
- 11.2 This section will review how the drainage strategy has attained the seven core standards for SuDS, which is presented below.

Standard 1 – Runoff destinations (Drainage hierarchy) - ✓

- 11.3 With regards to the proposed development and its drainage strategy, the tiers of the drainage hierarchy that have been achieved are outlined in Table 11.1, below. These are the highest available tiers, as demonstrated by the discussion of the geoenvironmental characteristics and constraints discussed in Section 2 of this report.

Table 11.1 – Compliance with Standard 1 and the Drainage Hierarchy

Tier	Discharge Method	Used?	Notes
1	Collected for non-potable use	✓	Water Butts are to be used on the downpipes of the dwellings.
2	Use infiltration techniques	✗	Infiltration is not viable on this site due to the local geology.
3	Discharged to an above ground surface water body	✗	This tier is not viable due to no watercourses in the vicinity of the site.
4	Discharged to a surface water sewer, or another piped surface water drainage system	✓	Proposed to discharge surface water into the existing highway carrier drain along College Lane.
5	Discharged to a combined sewer	✗	This tier will not be required.

Standard 2 – Management of everyday rainfall (interception) - ✓

- 11.4 It is recommended that a rainwater harvesting system is installed for each dwelling. Also permeable paving and an attenuation basin is being used which will all contribute to meeting Standard 2.
- 11.5 Therefore, between the water butts, the permeable pavements and the open SuDS features, there is confidence that adequate interception, as required by Standard 2 of the National Standards for SuDS, has been provided. It is recognised that some of the technical criteria of Standard 2 means that infiltration has not been fully provided by each individual SuDS feature on their own, but together and in a SuDS train there is sufficient evidence of interception and the attainment of Standard 2 by the overall drainage system.

Standard 3 – Management of extreme rainfall and flooding - ✓

- 11.6 The hydraulic modelling carried out in InfoDrainage, as presented in **Appendix M**, shows that the proposed development can manage all surface water arising from current and future impermeable areas (with inclusions for urban creep and climate change) can be attenuated and discharged at the QMED greenfield runoff rate. This can be achieved without any flooding and is inclusive of all factors of safety.

- 11.7 Exceedance has also been considered and planned for.

Standard 4 – Water quality - ✓

- 11.8 Section 8 of this report has demonstrated that the proposed development can mitigate all expected pollution hazards that will arise on site using the specified SuDS features, complying with the requirements of Chapter 26 of the CIRIA SuDS Manual (C753).

Standard 5 – Amenity - ✓

- 11.9 The proposed drainage strategy uses surface level SuDS, that tie into the landscape and provide visual interest and a sense of space. The permeable pavements will also provide an interesting textured resin-bound surface to increase visual appeal (over tarmac for example).

Standard 6 – Biodiversity - ✓

- 11.10 The SuDS strategy uses a SuDS basin of which can be planted and maintained to provide biodiversity benefits and will support BNG targets, as required.

Standard 7 – Design for construction, operation, maintenance, and structural integrity - ✓

- 11.11 By using surface-level SuDS in the drainage strategy, a system that is safe to construct and is sustainable to use and maintain, and safely integrates into the development, has been specified.
- 11.12 A clear and detailed management and maintenance plan has been produced, which specifies how the drainage system should be maintained in perpetuity.

12.0 Proposed Foul Water Drainage

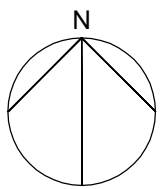
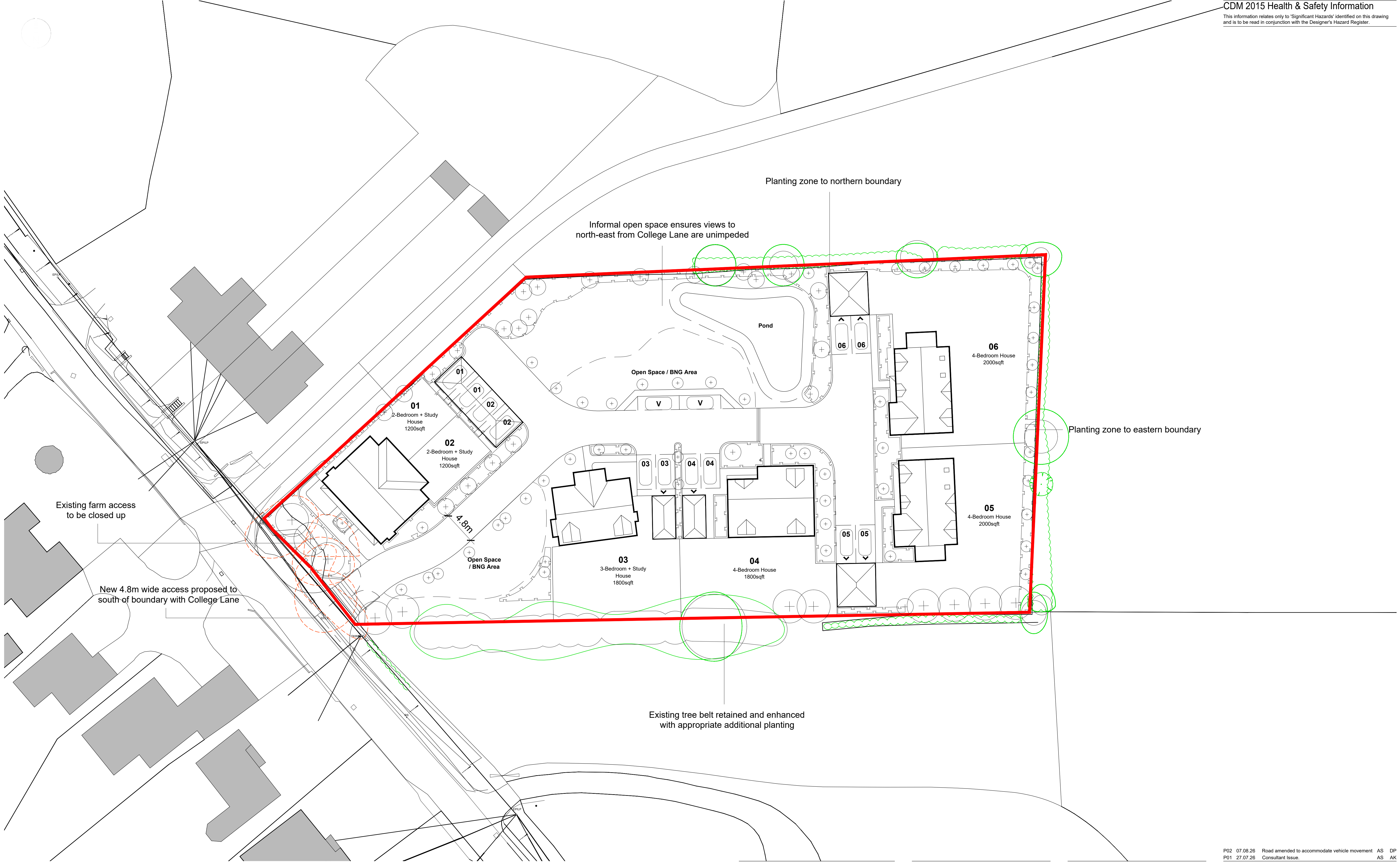
- 12.1 Southern Water Asset Location Plans can be seen in **Appendix G**. These show that there is a single 300mm VC (Vitreous Clay) foul sewer running south-north along College Lane.
- 12.2 Noting the presence of the public foul sewer along College Lane, it is proposed to discharge the foul waste from the site by gravity to Manhole 0001.
- 12.3 The gravity foul flow rate from the proposed development has been based on the following assumptions using the Southern Water Developer Services Foul Flow Excel Calculation:
- ▶ 125 litres per head per day
 - ▶ Occupancy of 2.4 persons per dwelling
 - ▶ Infiltration of groundwater is minimised to the low rate of 10% of base flow
 - ▶ A Peaking Factor of 2.5
- 12.4 Using the Southern Water Developer Services Foul Flow Excel Calculation in **Appendix P**, the gravity foul flow rate from the proposed development for 6 dwellings is estimated to be 0.05 l/s. Therefore it is anticipated that the sewer in College Lane, which has a diameter of 300mm, would have capacity for the minimal additional average foul sewage flows of 0.05 l/s from the development.
- 12.5 With regards to the foul discharge from the development, all Water and Sewerage Companies (WaSC's) have a legal obligation under Section 94 of the Water Industry Act 1991 (the Act) to provide developers with the right to connect to a public sewer regardless of capacity issues. This, in conjunction with Section 91(1) of the Act effectively means that Southern Water cannot object or for the LPA to refuse to grant planning permission on the grounds of insufficient capacity or that no improvement works are planned for an area. The case precedent for this is a Supreme Court decision in Barratt Homes vs Welsh Water, in which the court held that the developer has an absolute right to connect to the existing sewer, whether or not it overloads the system. It ruled that the specific wording of the legislation allows for this right to be exercised, at no cost to the developer, apart from the normal connection charges.
- 12.6 Where local sewerage infrastructure constraints are identified, network reinforcements are delivered by the WaSC through New Infrastructure Charges on developers. For non-strategic sites, the WaSC company have a maximum of 24 months to deliver sewerage improvements from the date of the outline or full planning consent.

13.0 Summary and Conclusions

- 13.1 This FRA and drainage strategy has been produced by Motion on behalf of their client, Remmus Homes. It supports the planning application for the construction of six residential dwellings at Land to the East of College Lane, Hurstpierpoint, Hassocks.
- 13.2 The EA's Flood Map for Planning shows that the site is within Flood Zone 1. Under the NPPF, residential development is classified as 'More Vulnerable'. Table 3 of the Technical Guidance confirms that 'More Vulnerable' development is appropriate in Flood Zone 1. Therefore, the proposed development is suitable for its location.
- 13.3 The EA's RoFSW mapping indicates that the entire site is currently at very low risk of surface water flooding and will remain so in the future.
- 13.4 The site is at very low risk of groundwater flooding, with no identified potential for groundwater flood to occur or geological indicators of groundwater flooding.
- 13.5 The 2024 SFRA identifies the 'BN6 9' postcode area has had 12 registered incidents of sewer flooding in the last 10 years. This is a low number over a postcode that covers a wide area, thus it can be concluded that College Lane is at very low real risk of sewer flooding.
- 13.6 All other forms of flooding, including tidal, reservoir, canal, artificial sources, and historic events, are assessed as low or very low risk to the site and the proposed development.
- 13.7 In terms of surface water management, opportunities for water re-use and recycling on site has been explored and this report recommends the use of a water butt for the dwellings. This will reduce the reliance on potable water supplies during activities such as gardening.
- 13.8 As discussed in Section 2 of this report, the desk-based geology information indicates that infiltration will not be feasible at the site due to the clay-based geology. Therefore, infiltration cannot be considered a viable means of surface water discharge for the development.
- 13.9 The drainage strategy comprises a System C (non-infiltration) permeable pavement and an attenuation basin to manage surface water runoff. Surface water will discharge to the existing highway carrier drain along College Lane at a restricted rate of 2.9 l/s.
- 13.10 The results of the hydraulic modelling show that the drainage strategy as outlined above can attenuate and discharge surface water generated in the 1 in 100-year + 45% rainfall event without flooding. This manages flood risk on- and off-site and reduces overall local flood risk without creating an excessive blockage risk.
- 13.11 This drainage strategy has been hydraulically modelled in InfoDrainage's with parameters in accordance with current NPPF and LLFA standards, which includes the use of FEH2022 data. The hydraulic modelling has shown that the proposed drainage strategy can provide the requisite attenuation for surface water generated up to and including the 1 in 100-year + 45% rainfall event, with negligible flooding.
- 13.12 The proposed surface water drainage strategy is also able to mitigate all pollution hazards created on site using SuDS features and no further pollution mitigation is needed.
- 13.13 Residual risk has been addressed through the development of a drainage management and maintenance plan that provides a framework through which the site's drainage system should be managed in perpetuity.
- 13.14 In conclusion, the site is at low risk of flooding and the proposed drainage strategy can discharge the 1 in 100-year + 45% rainfall event with no flooding. As such, flood risk and surface water management should not form an impediment to the progress of this planning application.

Appendix A

Proposed Site Layout



Client's Name
Remmus Homes

Drawing Title
Site Layout

Drawn AS Checked AK Date 27.07.26

Job No 7759 Drawing No PL-03 Rev P02

Status
PRELIMINARY

Job Title
College Lane
Hurstpierpoint

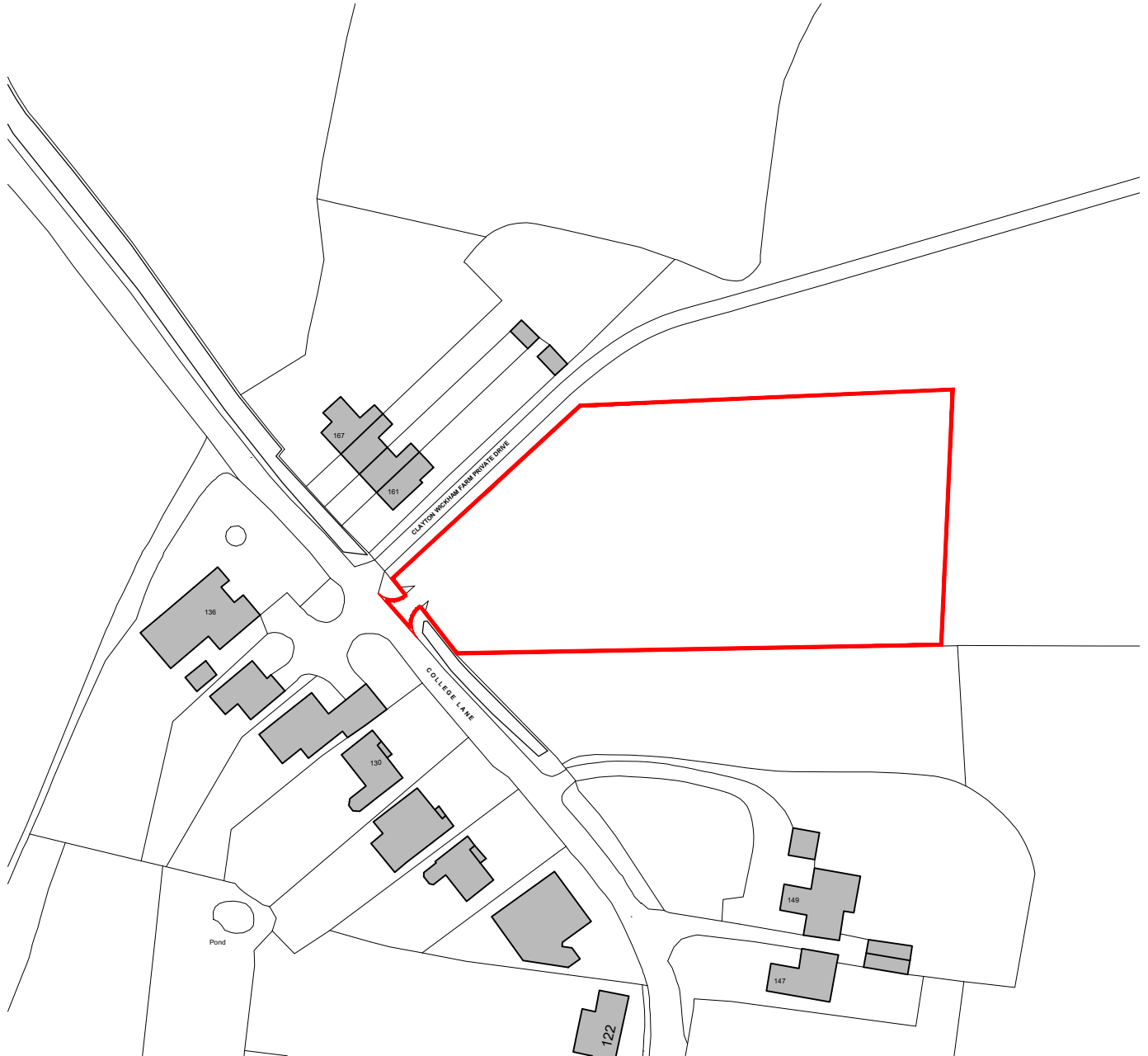
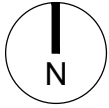
Scale
1:250 @ A1 / 1:500 @ A3
metres 5 10 15 20

P02	07.08.26	Road amended to accommodate vehicle movement	AS	DP
P01	27.07.26	Consultant Issue.	AS	AK
Rev	Date	Revision Details	Dr	Ch



Appendix B

Site Location Plan



Ordnance Survey, (c) Crown Copyright 2022. All rights reserved. Licence number 100022432

Proposed Application Boundary

Client's Name
Remmus Homes

Job Title
**Land to the East of College Lane,
Hassocks**

Drawing Title
Location Plan

Scale
1:1250 @ A4

metres 10 20 30 40 50

Drawn	Checked	Date
LT	AK	19.08.22
Job No	Drawing No	Rev
MP-RH-CL	LOC 01	A
Status		

PRELIMINARY

A	04.10.22	Bell mouth added	LT
Rev	Date	Revision Details	Dr Ch

ECE Architecture

London: 76 Great Suffolk Street
London, SE1 0BL
T 0207 928 2773 E london@ecearchitecture.com
Sussex: 64 - 68 Brighton Road, Worthing
West Sussex, BN11 2EN
T 01903 248777 E sussex@ecearchitecture.com
Bristol: Westworks, Beacon Tower
Colston Street, Bristol, BS1 4XE
T 0117 214 1101 E bristol@ecewestworks.com
www.ecearchitecture.com

Appendix C

EA's Flood Map for Planning

Flood map for planning

Your reference
Unspecified

Location (easting/northing)
529150/117008

Created
29 July 2026 17:03

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following**:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2026 AC0000807064. <https://flood-map-for-planning.service.gov.uk/os-terms>



Flood map for planning

Your reference

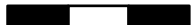
Unspecified

Location (easting/northing)
529150/117008

Scale
1:2,500

Created
29 Jul 2026 17:03

-  Selected area
-  Flood zone 3
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Water storage area


0 20 40 60m

Hurst Wickham

Appendix D

EA's RoFSW Maps

Datasets

Surface water

[Show](#)

Climate change

Present day

[Show](#)

Annual likelihood of flooding

1 in 1000

[Show](#)

Depth in millimetres

Full extent of flooding

[Show](#)



Datasets

Surface water

[Show](#)

Climate change

Present day

[Show](#)

Annual likelihood of flooding

1 in 100

[Show](#)

Depth in millimetres

Full extent of flooding

[Show](#)



Datasets

Surface water

[Show](#)

Climate change

Present day

[Show](#)

Annual likelihood of flooding

1 in 30

[Show](#)

Depth in millimetres

Full extent of flooding

[Show](#)



Datasets

Surface water

[Show](#)

Climate change

2061 to 2125

[Show](#)

Annual likelihood of flooding

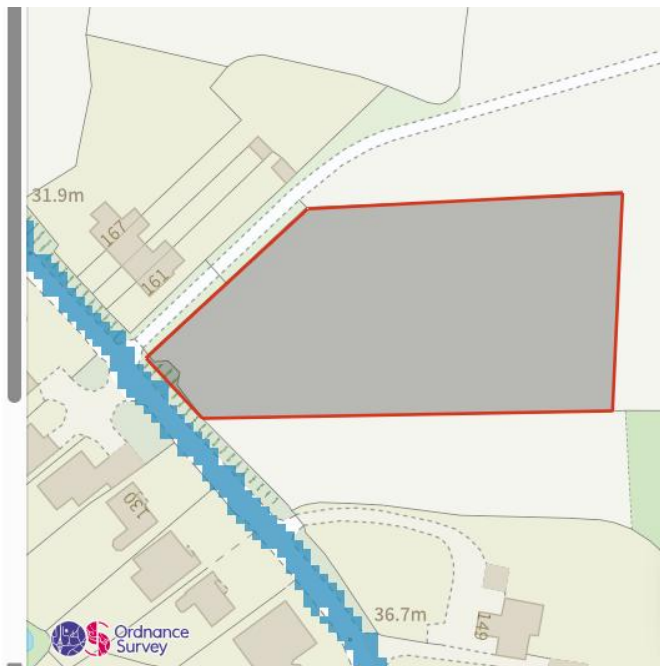
1 in 1000

[Show](#)

Depth in millimetres

Full extent of flooding

[Show](#)



Datasets

Surface water

[Show](#)

Climate change

2061 to 2125

[Show](#)

Annual likelihood of flooding

1 in 100

[Show](#)

Depth in millimetres

Full extent of flooding

[Show](#)



Datasets

Surface water

[Show](#)

Climate change

2061 to 2125

[Show](#)

Annual likelihood of flooding

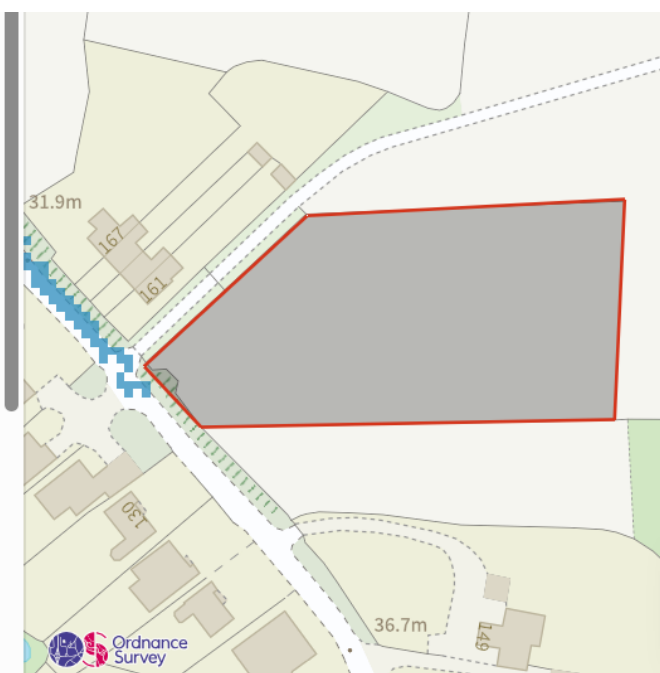
1 in 30

[Show](#)

Depth in millimetres

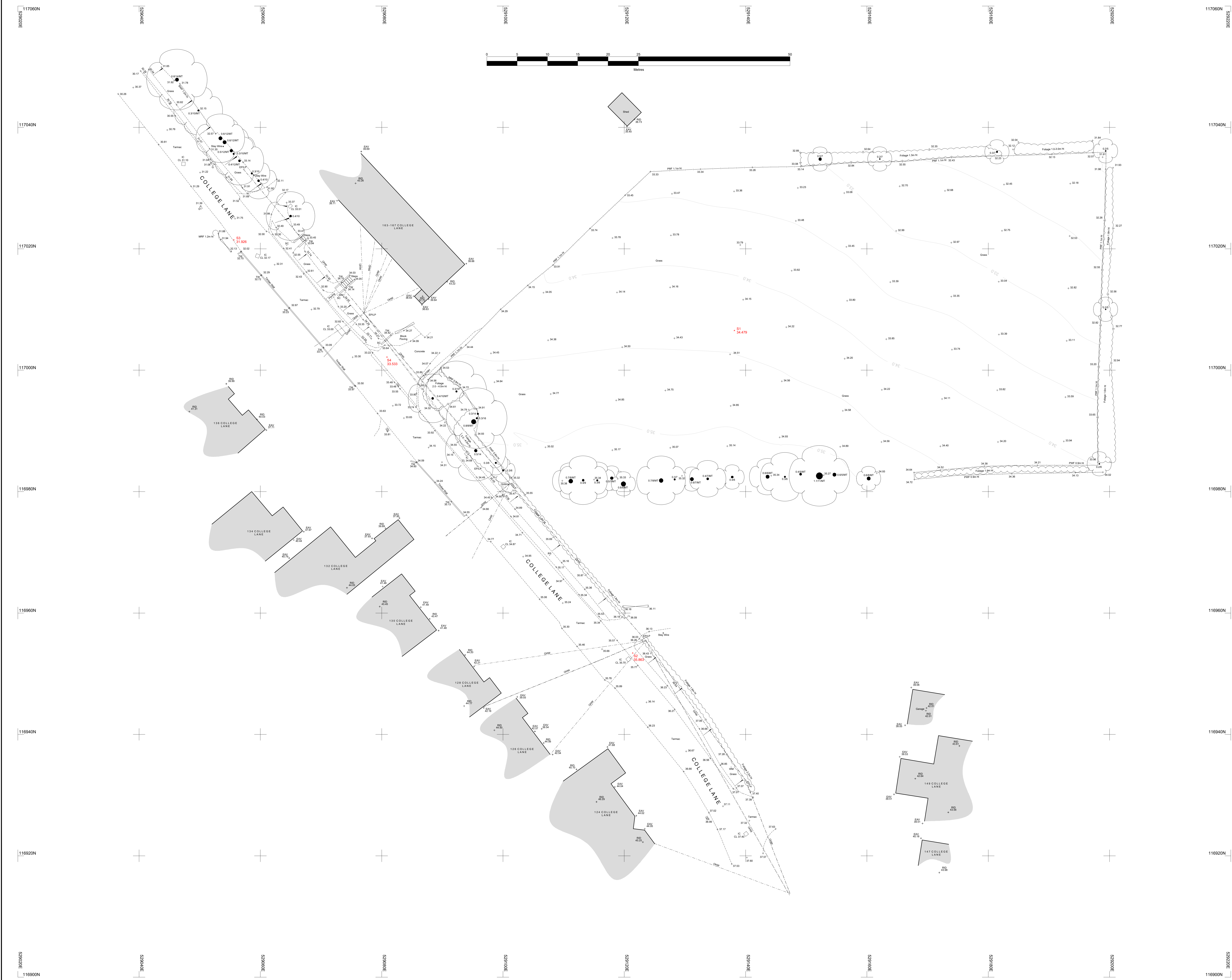
Full extent of flooding

[Show](#)



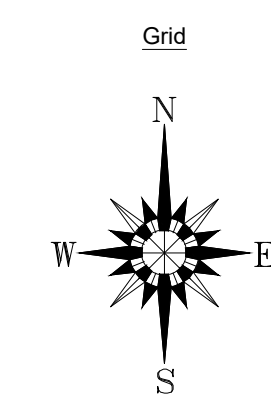
Appendix E

Topographic Survey



SURVEY STATIONS - COORDINATE SCHEDULE			
Station	Easting	Northing	Level
S1	529138.141	117000.548	34.478
S2	529121.380	116953.403	35.863
S3	529095.630	117021.464	31.926
S4	529080.864	117002.162	33.533

Survey station S2 has a direct relationship to the Ordnance Survey active network. All other stations have been descaled about this point. The scale factor for these quoted stations is 1. This is effectively a local coordinate system with a good connection to the OS to facilitate overlaying of further OS digital data. Please contact Maltby Surveys if further clarification is required.



LEGEND	
BANKING	WALL
BUSHES & HEDGES	BUILDING
TREES	OPEN SIDED BUILDING
GATES	GLASS ROOFED
ABBREVIATIONS (WHERE APPLICABLE)	
ARCH HEAD HEIGHT	ARKH
ARCH SPRINGER HEIGHT	ASPH
ARCH SPRINGER LEVEL	ASL
AIR VALVE	AV
BELLSIA BEACON	BL
BRITISH TELECOM BOX	BTB
BRITISH TELECOM MANHOLE	BTMH
BROWWORK	BRWK
BUS STOP	BS
CABLE TV	CATV
COVER LEVEL	CL
CABLE MARKER	CM
COLUMN	CP
CONCRETE POST	CP
EAVES LEVEL	EAV
ELECTRICAL COVER	ELEC
ELECTRICITY CONTROL BOX	EP
ELECTRICITY POLE	EP
FLORER BED	FB
FINISHED FLOOR LEVEL	FLL
FIRE HYDRANT	FH
FLOOR LEVEL	FL
FLAG STAFF	FS
GAS PIPE	GP
GAS VALVE	GV
GATE STOP	G
GATE STOP	GS
INSPECTION COVER	IC
INVERT LEVEL	I
LAMP POST	LP
MARKER	MKR
MONITORING WELL	MW
NOTICE BOARD	NB
OVERHEAD WIRE	OW
PARKING METER	PM
ROOF LEVEL	RL
ROAD SIGN	RS
ROOFING EYE	RE
RETAINING WALL	RTW
RAIN WATER PIPE	RWP
SOLICIT VALVE	SV
STOP COOK	SC
SOFT LEVEL	SOP
STRUCTURAL SLAB LEVEL	SSL
THREE STUMP	ST
SOL AND VENT PIPE	SVP
THRESHOLD LEVEL	TL
TELEGRAPH POLE	TP
TELEPHONE CALL BOX	TCB
TOP OF KERB	TK
TOP OF WALL	TW
UNABLE TO SURVEY	UTS
VENT PIPE	VP
WATER METER	WM
WATER LEVEL	WL
WASH OUT	WO
WASTE PIPE	WP
WATER TANK	WT
WATER VALVE	WV
FENCES	
BARBED WIRE FENCE	BWF
CORRUGATED IRON FENCE	CIF
CLOSE BOARD FENCE	CBF
CHALK LAY FENCE	CLF
CHESTNUT PALING FENCE	CPF
FENCE POST	FP
INTERTWINED FENCE	INF
IRON RAILING FENCE	IRF
LARCH LAP FENCE	LLF
METAL RAILING FENCE	MLF
POST AND CHAIN FENCE	PCF
POST FENCE	PF
POST AND RAIL FENCE	PRF
POST AND WIRE FENCE	PWF
STEEL PALISADE SECURITY FENCE	SPF
TUBULAR STEEL RAIL FENCE	TSRF

REV.	NOTES	DWN	DATE
A			

Notes:
Grid and levels relate to OS GPS Active Network.
Sheet is North orientated unless stated.

Maltby Surveys Ltd

2 QUEENS ROAD
HAYWARDS HEATH
WEST SUSSEX
RH16 1EB
Tel: 01444 416246
E-Mail: mis@maltbysurveys.com
WebSite: www.maltbysurveys.com

SURVEYED

BA

DRAWN

BA

CHECKED

AKM

Remmus Homes Ltd

SCALE

1/200 (A0 Sheet)

College Lane, Hurstpierpoint, BN6 9AF

TOPOGRAPHICAL SURVEY

Job No

Rev

Drawing Number

24/233

-

24/233/100

Date

OCT 2024

Appendix F

BGS Geology Map



RECORD OF BOREHOLE 8/U

TQ 21 NE -38

Boring method		Shell and Auger		Location Embankment Chainage 7760m					
Boring equipment		Pilcon Wayfarer 20		National Grid Reference TQ 26914 16884				Sheet 1 of 1	
Boring diameter (mm)		150 to 4.00m		Contractor WIMPEY LABORATORIES LIMITED				Date Commenced 1.2.80	
Casing diameter (mm)		150 to 3.10m		Contractor's Job Reference S/16465				Ground Level (m) AOD 36.35	
Depth (m)	Sample	In situ test	Date & casing depth (m)	Depth to Water (m)	Strata Thickness (m)	Strata Depth (m)	Strata Description	Level (m) AOD	Legend
0.50	U		1/2 Nil		0.40	0.40	TOPSOIL	35.95	
0.95	D				1.00		Soft to firm mottled grey and light brown very silty CLAY		
1.00	U		Nil			1.40		34.95	
1.45	D				1.10		Firm thinly laminated dark grey and brown silty CLAY		
1.50	U		Nil						
1.95	D								
2.00	U*		2.00			2.50		33.85	
2.00-2.50	BD		2.50	2.50*					
2.50	U			2.70**					
2.95	D				0.70		Very stiff thinly laminated light grey silty CLAY with partings of white silt:		
3.00	U		3.00			3.20		33.15	
3.45	D						Very stiff to hard thinly laminated dark grey silty CLAY with partings of white silt		
3.50	U		3.10						
3.95	D			Dry		4.00		32.35	
END OF BOREHOLE									
Remarks									
Ground-water was encountered at a depth of 2.50m as a slight seepage which was sealed off by casing at a depth of 2.70m.									
Key to symbols & abbreviations in Preface notes									

A23 BOLNEY TO BRIGHTON

Figure
15

Appendix G

Southern Water and WSCC Asset Location Plans



(c) Crown copyright and database rights 2024 Ordnance Survey 100031673

Date: 21/03/24

Scale: 1:1250

Map Centre: 529172,116918

Data updated: 12/01/24

Our Ref: 1427104 - 1

Wastewater Plan A3

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 2024 Ordnance Survey 100031673 .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.

Foul Gravity Sewer	Combined Gravity Sewer	Culverted Water Course or Treated Effluent	Surface Water Gravity Sewer
Rising Main, Vacuum or Syphon	Combined Outfall	Surface Water Outfall	Surface Water Inlet
Foul Manhole	Combined Manhole	Surface Water Manhole	Side Entry Manhole, Decarcation Chamber, Dummy Manhole or Surface Water Soakaway
Combined Pumping Station	Surface Water Pumping Station	Foul Pumping Station	Water Treatment Works
Section 104 Area	Building Over Agreement Area		

pallen@motion.co.uk

College Lane

1eahur





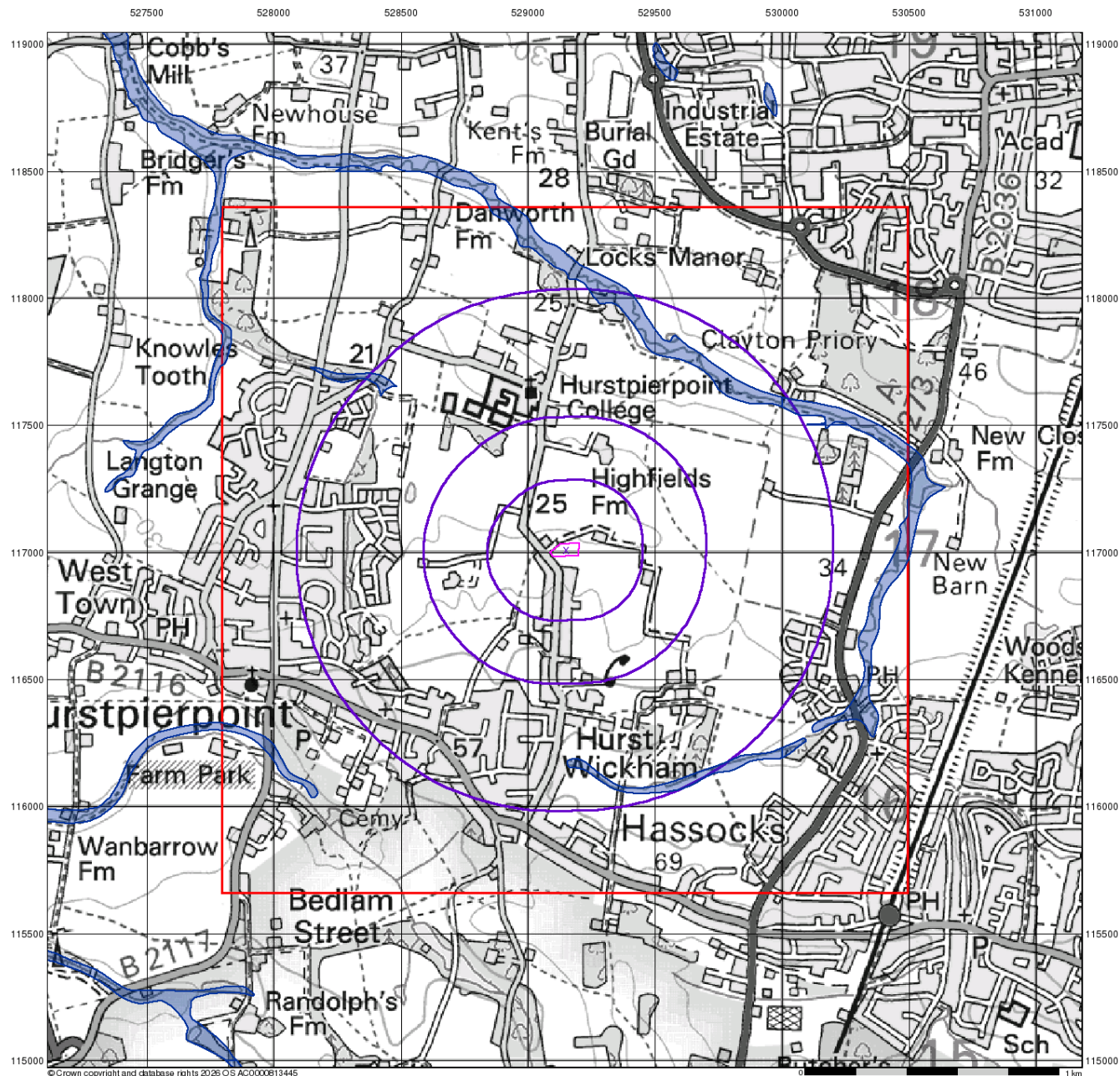
© Crown copyright and database rights 2024 OS AC0000849983. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-license, distribute or sell any of this data to third parties in any form.

College Lane, Hassocks – Existing Drainage Layout.



Appendix H

Envirocheck FSR: Groundwater Flooding Maps



© Crown copyright and database rights 2025 OS AC0000613445

motion BGS Flood Data (1:50,000)

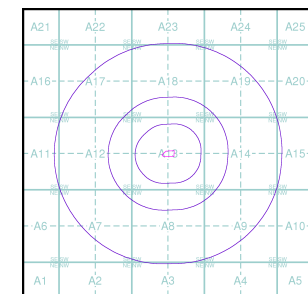
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

BGS Geological Indicators of Flooding

-  Coastal
-  Inland
-  Bodies of Water

BGS Flood Data Map - Slice A



Order Details

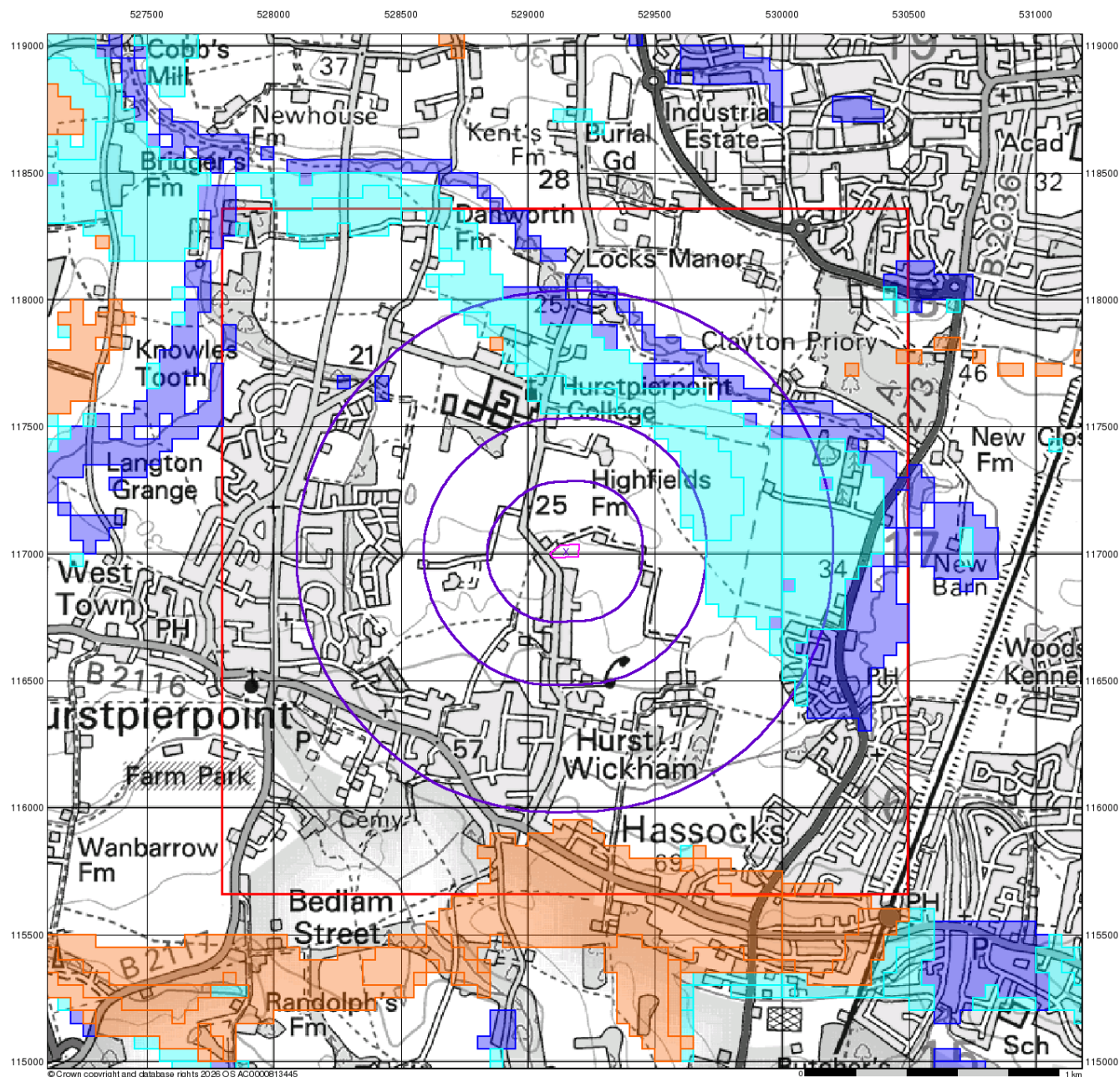
Order Number: 408742814 1 1
 Customer Ref: 1rhur/2410054 - LJ
 National Grid Reference: 529150, 117010
 Slice: A
 Site Area (Ha): 0.49
 Search Buffer (m): 1000

Site Details

, 161, College Lane, Hurstpierpoint, Hassocks, BN6 9AF

Landmark
 INFORMATION GROUP

Tel: 0330 036 6618
 Fax: 0844 844 9951
 Web: www.envirowatch.co.uk



© Crown copyright and database rights 2025 OS AC0000613445

motion

BGS Flood Data (1:50,000)

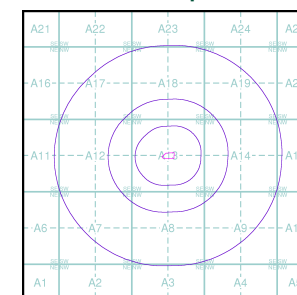
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Slice
-  Map ID

BGS Groundwater Flooding Susceptibility

-  Potential for Groundwater Flooding to Occur at Surface
-  Potential for Groundwater Flooding of Property Situated Below Ground Level
-  Limited Potential for Groundwater Flooding to Occur

BGS Flood Data Map - Slice A



Order Details

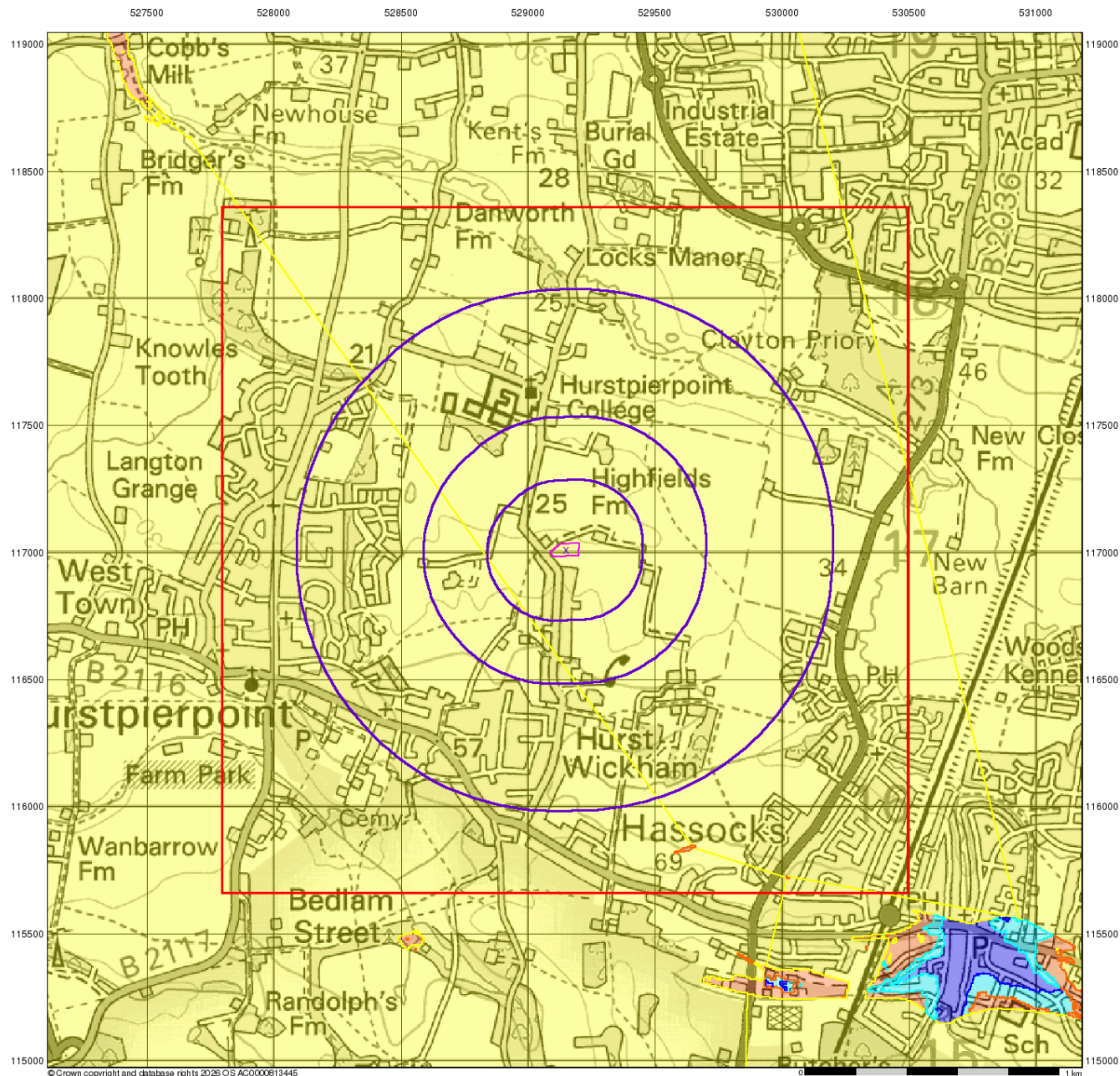
Order Number: 408742814_1_1
 Customer Ref: 1rhur/2410054 - LJ
 National Grid Reference: 529150, 117010
 Slice: A
 Site Area (Ha): 0.49
 Search Buffer (m): 1000

Site Details

, 161, College Lane, Hurstpierpoint, Hassocks, BN6 9AF

Landmark
 INFORMATION GROUP

Tel: 0330 036 6618
 Fax: 0844 844 9951
 Web: www.ernirocheck.co.uk



GeoSmart Information Groundwater Flood Map (1:50,000)

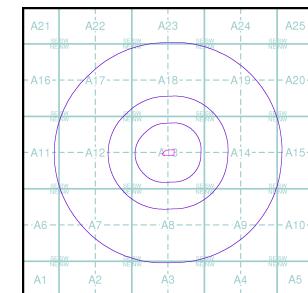
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice

GeoSmart Information Groundwater Flooding Risk

- High Risk
- Moderate Risk
- Low Risk
- Negligible Risk

GeoSmart Information Groundwater Flood Map - Slice A



Order Details

Order Number: 408742814 1 1
 Customer Ref: 1rhur/2410054 - LJ
 National Grid Reference: 529150, 117010
 Slice: A
 Site Area (Ha): 0.49
 Search Buffer (m): 1000

Site Details

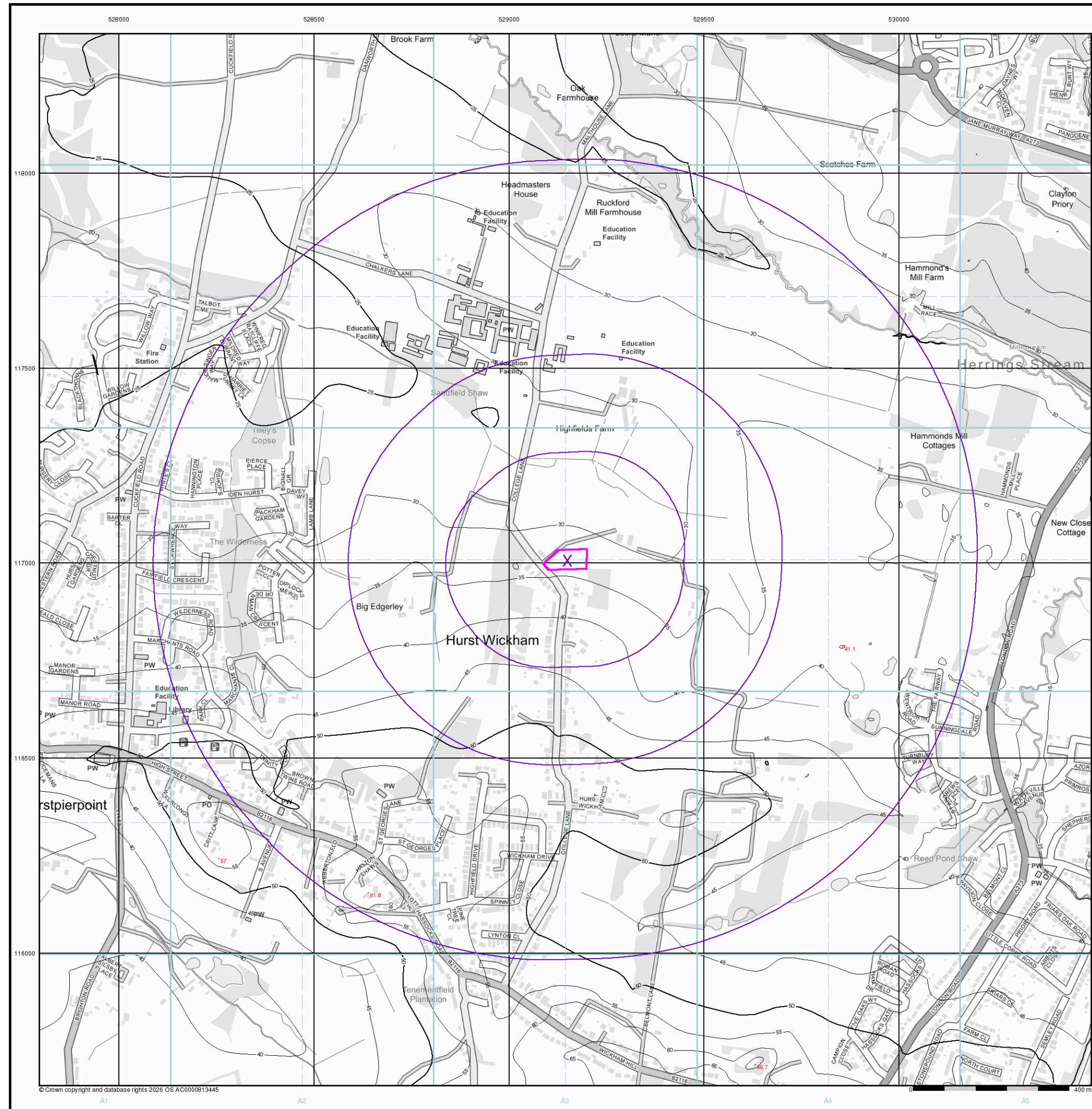
, 161, College Lane, Hurstpierpoint, Hassocks, BN6 9AF

Landmark
 INFORMATION GROUP

Tel: 0330 036 6618
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

Appendix I

Envirocheck FSR: Historic Flood Map



© Crown copyright and database rights 2026 OS AC0000813445

motion

EANRW Historic Flood Map (1:10,000)

General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Map ID

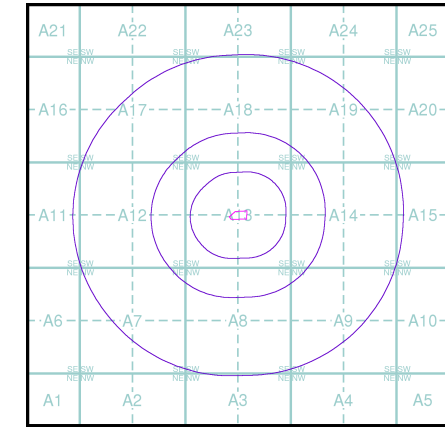
Historic Flood Events Data

- | | |
|--|--|
|  Channel Capacity Exceeded (no raised defences) |  Obstruction/Blockage - Culvert |
|  Channel Capacity Exceeded /Surface Water |  Obstruction/Blockage - Debris Screen |
|  Groundwater/High Water Table |  Operational Failure/ Breach of Defence |
|  Local Drainage/Surface Water |  Other |
|  Mechanical Failure |  Overtopping of Defences |
|  Obstruction/Blockage - Bridge |  Surface Water |
|  Obstruction/Blockage - Channel |  Unknown |
|  Historical Flood Liabilities | |

Contours (height in metres)

- Standard Contour  105  Mean Low Water
- Master Contour  100  Mean High Water
- Spot Height  167.8

EANRW Historic Flood Map - Slice A



Order Details

Order Number: 408742814_1_1
Customer Ref: 1rhur/2410054 - LJ
National Grid Reference: 529150, 117010
Slice: A
Site Area (Ha): 0.49
Search Buffer (m): 1000

Site Details

, 161, College Lane, Hurstpierpoint, Hassocks, BN6 9AF

Landmark
INFORMATION GROUP

Tel: 0330 036 6618
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

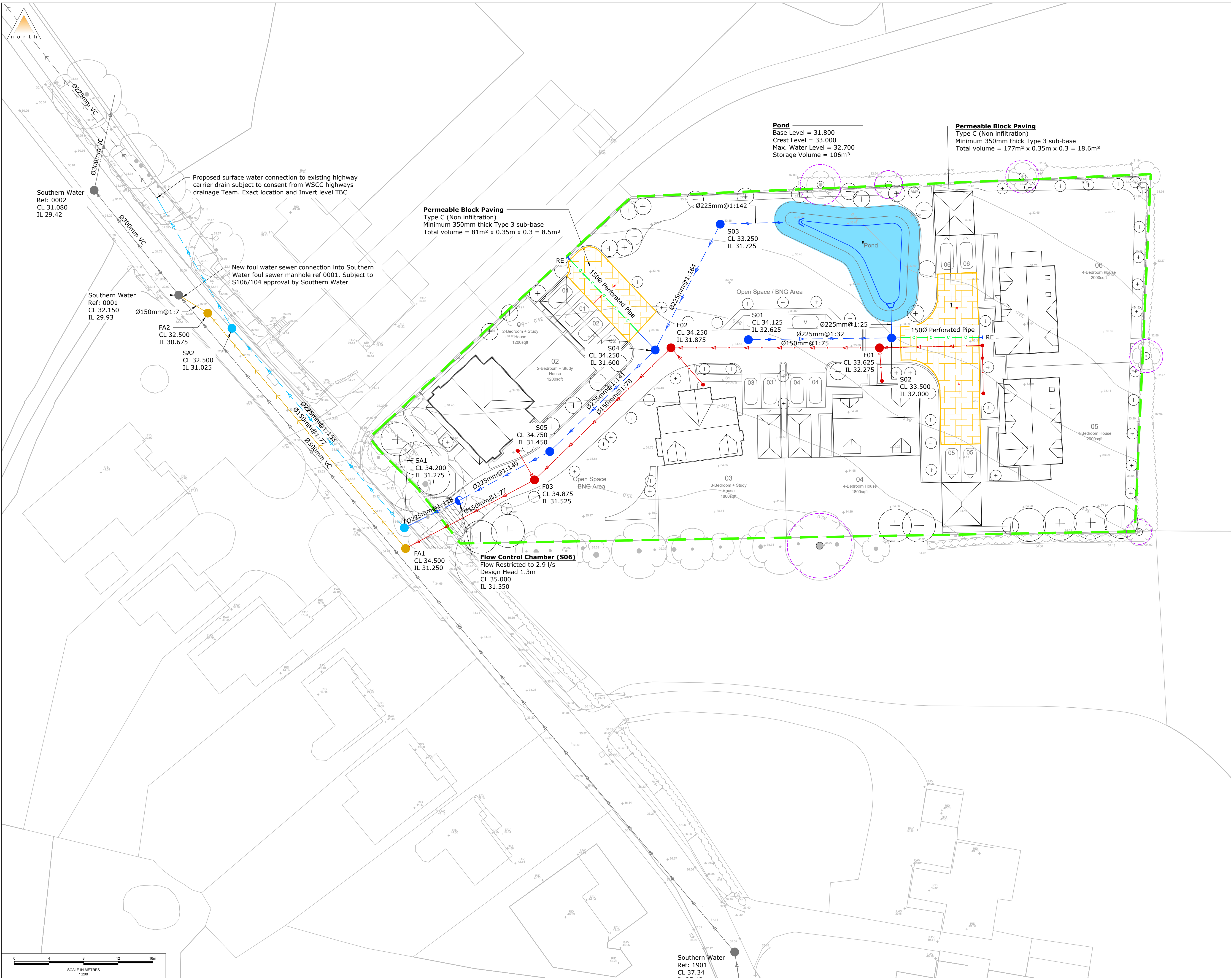
Appendix J

QMED Runoff Calculations

Motion		Page 1
84 North Street	1rhhur-2410054	
Guildford	Land to the East of	
GU1 4AU	College Lane, Hassocks	
Date 06/11/2024 15:10	Designed by AU	
File	Checked by	
Innovyze	Source Control 2020.1.3	
ICP SUDS Mean Annual Flood Input Return Period (years)100SAAR (mm)900Urban0.000 Area (ha)0.500Soil0.450Region NumberRegion 7 Results1/s QBAR Rural2.9 QBAR Urban2.9 Q100 years9.4 Q1 year2.5 Q30 years6.7 Q100 years9.4		
©1982-2020 Innovyze		

Appendix K

Proposed Drainage Strategy Layout



- Notes**
- All levels and dimensions are to be checked on site before any work commences. All dimensions are in metres unless stated otherwise.
 - This drawing has been based upon survey information supplied by Maltby Surveys Ltd and Motion cannot guarantee the accuracy of the data provided.
 - Any discrepancies should be reported to the architect and/or engineer immediately, so that clarification can be sought prior to the commencement of works.
 - This drawing should be read in conjunction with all other relevant architect and engineering details, drawings and specification.
 - All works to be adopted system are to be carried out in accordance with Water UK - Design and Construction Guidance and Southern Water Local practice.
 - All private rainwater pipes and internal foul soil pipes are to be set out in accordance with the architect layout.
 - Pipes and channels constructed within private drainage to be either:
 - Concrete to BS EN 1916 & BS 5911
 - Extra Strength Vitrified Clay to BS EN 295
 - Unplasticised PVC to BS EN 1401 (Not to be used in adoptable drainage and beneath basement slab)
 - Ductile Iron to BS EN 598. Ductile Iron to BS EN 598. For use within pile caps and ground beams. Ductile iron pipes to have a cement mortar lining.
 - All private drainage is to be 100mmØ laid at a minimum gradient of 1 in 80, or 1 in 40 where no toilets are connected, for foul drains and 1 in 100 for surface water, unless otherwise stated.
 - 350mm minimum cover is to be provided for pipes laid in soft/paved areas, and 900mm minimum cover is to be provided for pipes laid beneath roads/driveways unless not practical. This is based on a uPVC system for private surface water and foul drainage.
 - All pipes shall be laid soffit to soffit with outgoing pipes unless otherwise stated.
 - All private drainage to be in accordance with the Building Regulations Approved Document 'H' (2019 edition). It is the contractors responsibility to ensure compliance with these regulations.
 - Manholes situated within areas accessible to motor vehicles are to be fitted with suitable strength covers and frames (Class D400 frames unless stated otherwise).
 - Shallow private drainage may require protection using concrete surround or paving slabs bridging the trench, subject to NHBC Inspector's requirements. In areas where 450mm cover to private sewer is not achievable, protective measures should be undertaken as above.
 - The contractor is to keep a record of any variations made on site, including the relocation of sewers or drains, for their 'As-Built' drawings - to be prepared upon project completion.

- Legend**
- Site Boundary
 - Existing Surface Water Highway Carrier Drain
 - Existing Public Foul Water Sewer
 - Existing Public Foul Water Manhole
 - New Surface Water Gravity Pipe
 - New Surface Water Manhole
 - New Surface Water Flow Control Chamber
 - New SW Inspection Chamber [Ø450mm]
 - New Surface Water Rodding Eye
 - New Surface Water Collector Drain
 - Denotes sub-base to fall towards collector drain
 - New Adopted SW Manhole [Ø1200mm] (Subject To Consent From WSCC)
 - New Adopted Surface Water Sewer (Subject To Consent From WSCC)
 - New Foul Water Gravity Pipe
 - New Foul Water Manhole
 - New FW Inspection Chamber [Ø450mm]
 - New Adopted Foul Water Sewer (Subject To S106/104 Approval)
 - New Adopted FW Manhole [Ø1200mm] (Subject To S106/104 Approval)
 - New Surface Water Outfall Headwall
 - New Surface Water Pond
 - Permeable Block Paving (Type C Non - Infiltration)
 - Root Protection Area

P02	Second Issue	AM	LJ	JM	02/09/2026
P01	First Issue	AU	AU	JM	19/08/2026
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion
Guldford - Reading - London
www.motion.co.uk



Project:
Land to the East of College Lane
Hassocks

Title:
Drainage Strategy

Scale: 1:250 (@ A1)

Drawing:
2410054-0500

Revision:
P02

Appendix L

Correspondence between Motion and WSCC

Laura Jagiela

From: Kevin Macknay <kevin.macknay@westsussex.gov.uk>
Sent: 19 March 2025 09:40
To: Alal Uddin
Cc: Andrew Howick
Subject: RE: 1rhur - Land to East of College Lane, Hassocks, BN6 9AF

Alal,

Further to your recent email.

Both Thames Water and Southern Water have recently changed their policy with regards to surface water connections to existing foul sewers.

WSCC's highway drainage system will not have been designed to take additional 3rd party flow. Therefore, if WSCC were to allow a connection from a new development we would want to see betterment of the existing system. In this case that would be enlarging the existing system from 225mm to 300mm. This may be something you want to consider as an alternative to laying a new outfall from your proposed site.

Regards,

Kevin

Kevin Macknay
Drainage and Flooding Lead Professional
Highways, Transport and Planning
Place Services
West Sussex County Council

 CALL  IM  EMAIL

Location: West Sussex County Council, 1st Floor, Northleigh, County Hall, Chichester PO19 1RQ

Contact: **Internal:** 26429 | **External:** +44 (0)330 222 6429 | **Mobile:** +44 (0)7540 641819

E-mail: kevin.macknay@westsussex.gov.uk



[Report a problem with a road or pavement](#) or [raise a highways related enquiry](#)

Follow us at  [@WSHighways](#)

From: Alal Uddin <auddin@motion.co.uk>
Sent: 14 March 2025 16:58
To: Kevin Macknay <kevin.macknay@westsussex.gov.uk>
Cc: Jason Morgans <jmorgans@motion.co.uk>
Subject: RE: 1rhur - Land to East of College Lane, Hassocks, BN6 9AF

Hi Kevin,

Hope your well.

I don't suppose you remember we had a telecon conversation in November 2024 last year with regards to a site at the Land to the East of College Lane, Hassocks BN6 9AF.

Just to recap on the conversation we had was to propose the on-site surface water runoff to discharge into the existing 225mm highway carrier drain along College Lane.

There are 3 possible options for disposing the proposed surface water from this site.

- Option 1 - Discharge to a nearby watercourse/ditch in College Lane (subject to approval by LLFA)
- Option 2 - Discharge to an existing highway carrier drain in College Lane – (subject to approval by WSCC)
- Option 3 - Discharge to an existing 300mm foul water sewer in College Lane (subject to approval by SW)

Option 3 is now not viable as Thames Water have changed the legislation recently to not permit any new surface water runoff into the foul system.

Option 1 most sustainable option however, longer length of surface water gravity sewer to be laid in College Lane approximately 200m from the nearest watercourse/ditch. Refer to attached

Therefore, we wanted to make contact with WSCC to see if under any circumstances you will allow a connection to discharge the on-site surface water runoff to the existing 225mm highway carrier drain located approximately 8m from the proposed site. The flow will be discharge at a controlled flow rate to the greenfield runoff rate 2.9 l/s for this 05ha site.

I understand from our conversation that WSCC have previously given consent where there was no alternative solution to drain the on-site surface water runoff and when the watercourse was approximately 150m from the proposed development.

I have provided below a screenshot showing the approximate location to the nearest watercourse/ditch and attached the WSCC existing highway carrier drain layout that you had sent me .



Should you require any further information please do not hesitate to contact me. In the meantime, I look forward in hearing from you soon.

Alal Uddin | Principal Engineer

motion | 84 North Street, Guildford, GU1 4AU

t 01483 531300 | m 07747 398650 | e auddin@motion.co.uk | w www.motion.co.uk

LinkedIn | X

From: Alal Uddin

Sent: 07 November 2024 16:43

To: Kevin Macknay <kevin.macknay@westsussex.gov.uk>

Cc: Jason Morgans <jmorgans@motion.co.uk>

Subject: RE: College Lane, Hassocks [Filed 07 Nov 2024 16:43]

Hi Kevin,

Thank you for your swift response and providing the information in such a short time. Much appreciated.

Regards

From: Kevin Macknay <kevin.macknay@westsussex.gov.uk>

Sent: 07 November 2024 16:33

To: Alal Uddin <auddin@motion.co.uk>

Subject: College Lane, Hassocks

Further to our recent conversation. Please find attached all the information we have about the existing highway drainage along College Lane.
It would appear the existing carrier drain in a 225mm pipe.

Regards,

Kevin

Kevin Macknay

Drainage and Flooding Lead Professional
Highways, Transport and Planning
Place Services
West Sussex County Council

 CALL  IM  EMAIL

Location: West Sussex County Council, 1st Floor, Northleigh, County Hall, Chichester PO19 1RQ

Contact: Internal: 26429 | External: +44 (0)330 222 6429 | Mobile: +44 (0)7540 641819

E-mail: kevin.macknay@westsussex.gov.uk



[Report a problem with a road or pavement](#) or [raise a highways related enquiry](#)

Follow us at  [@WSHighways](https://twitter.com/WSHighways)

LEGAL DISCLAIMER

This email and any attachments are confidential and intended solely for the persons addressed. If it has come to you in error please reply to advise us but you should not read it, copy it, show it to anyone else nor make any other use of its content. West Sussex County Council takes steps to ensure emails and attachments are virus-free but you should carry out your own checks before opening any attachment.

The information in this email is confidential and is intended solely for the addressee(s). Access to this email by anyone else is unauthorised. If you are not an intended recipient, you must not read, use or disseminate the information contained in this email. Any views expressed in this message are those of the individual sender, except where the sender specifically states them to be the views of Motion. Any personal information we obtain will be processed in accordance with the relevant Privacy Notice which can be accessed at our website under data subject privacy

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Appendix M

InfoDrainage Modelling Results

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			

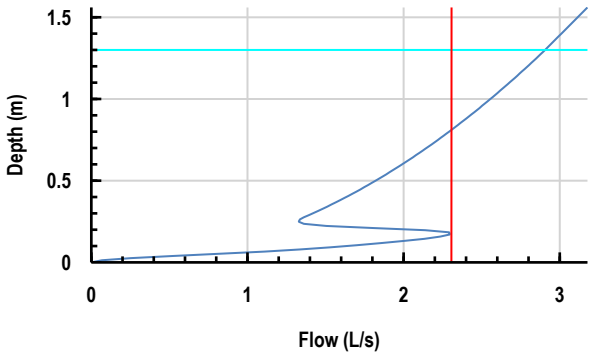
Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
S02	Manhole	529162.121	117012.589	33.500	1.500	32.000	Circular	1.200
S03	Manhole	529137.781	117029.086	33.250	1.525	31.725	Circular	1.200
S01	Manhole	529141.855	117012.384	34.125	1.500	32.625	Circular	1.200
S04	Manhole	529128.379	117010.895	34.250	2.650	31.600	Circular	1.200
S05	Manhole	529113.134	116996.204	34.750	3.300	31.450	Circular	1.200
S06 (Flow Control Chamber)	Manhole	529100.031	116989.110	35.000	3.650	31.350	Circular	1.200
SA1	Manhole	529092.126	116985.181	34.200	2.925	31.275	Circular	1.200
SA2	Manhole	529067.698	117014.544	32.500	1.475	31.025	Circular	1.200

Name	Lock
S02	None
S03	None
S01	None
S04	None
S05	None
S06 (Flow Control Chamber)	None
SA1	None
SA2	None

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
S02	Inlet	Catchment Area 1 Catchment Area 4 Catchment Area 5 1.000 2.000	(None)	No Restriction
	Inlet (1)	Catchment Area 3	(None)	No Restriction
	Inlet (2)	Catchment Area 15	(None)	No Restriction
S03	Inlet	1.002	(None)	No Restriction
S01	Inlet	Catchment Area 7	(None)	No Restriction
	Inlet (1)	Catchment Area 6 Catchment Area 16	(None)	No Restriction
S04	Inlet	Catchment Area 11	(None)	No Restriction
	Inlet (1)	1.003	(None)	No Restriction
	Inlet (2)	Catchment Area 8	(None)	No Restriction
S05	Inlet	Catchment Area 10 3.000	(None)	No Restriction
	Inlet (1)	1.004	(None)	No Restriction
S06 (Flow Control Chamber)	Inlet	1.005	(None)	No Restriction
	Inlet (1)	Catchment Area 12	(None)	No Restriction
	Inlet (2)	Catchment Area 9	(None)	No Restriction
SA1	Inlet	Catchment Area 13	(None)	No Restriction
SA2	Inlet	Catchment Area 14	(None)	No Restriction
SA1	Inlet	1.006	(None)	No Restriction
SA2	Inlet	1.007	(None)	No Restriction

Project: 1rhhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Details: Type: Junctions Storm Phase: Phase		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			

Outlets			
Junction	Outlet Name	Outgoing Connection	Outlet Type
S02	Outlet	1.001	Free Discharge
S03	Outlet	1.003	Free Discharge
S01	Outlet	1.000	Free Discharge
S04	Outlet	1.004	Free Discharge
S05	Outlet	1.005	Free Discharge
S06 (Flow Control Chamber)	Outlet	1.006	Hydro-Brake®
	Invert Level (m)	31.350	
	Design Depth (m)	1.300	
	Design Flow (L/s)	2.9	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☐	
	Unit Reference	CHE-0073-2900-1300-2900	
			
SA1	Outlet	1.007	Free Discharge

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks	Date: 30/07/2026			
	Designed by: AU	Checked by: AU	Approved By: JM	
	Report Details: Type: Stormwater Controls Storm Phase: Phase			
Company Address: 84 North Street Guildford GU1 4AU				



Pond

Type : Pond

Dimensions

Exceedance Level (m)	33.000
Depth (m)	1.200
Base Level (m)	31.800
Freeboard (mm)	300
Initial Depth (m)	0.000
Porosity (%)	100
Average Slope (1:X)	3.00
Total Volume (m³)	105.910

Depth (m)	Area (m²)	Volume (m³)
0.000	70.00	0.000
1.200	217.50	164.356

Outlets

Outlet

Outgoing Connection	1.002
Outlet Type	Free Discharge

Advanced

Perimeter	Circular
Length (m)	21.168
Friction Scheme	Manning's n
n	0.035

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks	Date: 30/07/2026		
	Designed by: AU	Checked by: AU	Approved By: JM
Report Details: Type: Stormwater Controls Storm Phase: Phase	Company Address: 84 North Street Guildford GU1 4AU		



Porous Paving 1

Type : Porous Paving

Dimensions	
Exceedance Level (m)	33.500
Depth (m)	0.580
Base Level (m)	32.920
Paving Layer Depth (mm)	50
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	25.422
Long. Slope (1:X)	200.00
Width (m)	6.970
Total Volume (m³)	28.176

Outlets	
Outlet	
Outgoing Connection	2.000
Outlet Type	Orifice
Diameter (m)	0.028
Coefficient of Discharge	0.600
Invert Level (m)	32.920

Advanced	
Conductivity (m/hr)	500.0



Porous Paving 2

Type : Porous Paving

Dimensions	
Exceedance Level (m)	34.150
Depth (m)	0.580
Base Level (m)	33.570
Paving Layer Depth (mm)	50
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	15.042
Long. Slope (1:X)	200.00
Width (m)	5.397
Total Volume (m³)	12.909

Outlets	
Outlet	
Outgoing Connection	3.000
Outlet Type	Orifice
Diameter (m)	0.028
Coefficient of Discharge	0.600
Invert Level (m)	33.570

Advanced	
Conductivity (m/hr)	500.0

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
		Designed by: AU	Checked by: AU		Approved By: JM
Report Details: Type: Manhole Schedule Storm Phase: Phase		Company Address: 84 North Street Guildford GU1 4AU			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
S02	33.500 32.000	Diameter / Length: 1.200	{1} 1.000	Pipe	32.000	Diam/Width:225	Manhole
E:529162.121 N:117012.589	1.500		{2} 2.000	Pipe	32.000	Diam/Width:150	
			{a} 1.001	Pipe	32.000	Diam/Width:225	Not Applicable
S03	33.250 31.725	Diameter / Length: 1.200	{1} 1.002	Pipe	31.725	Diam/Width:225	Manhole
E:529137.781 N:117029.086	1.525		{a} 1.003	Pipe	31.725	Diam/Width:225	Not Applicable
S01	34.125 32.625	Diameter / Length: 1.200					Manhole
E:529141.855 N:117012.384	1.500		{a} 1.000	Pipe	32.625	Diam/Width:225	Not Applicable
S04	34.250 31.600	Diameter / Length: 1.200	{1} 1.003	Pipe	31.600	Diam/Width:225	Manhole
E:529128.379 N:117010.895	2.650		{2} 3.000	Pipe	31.600	Diam/Width:150	
			{a} 1.004	Pipe	31.600	Diam/Width:225	Not Applicable
S05	34.750 31.450	Diameter / Length: 1.200	{1} 1.004	Pipe	31.450	Diam/Width:225	Manhole
E:529113.134 N:116996.204	3.300		{a} 1.005	Pipe	31.450	Diam/Width:225	Not Applicable
S06 (Flow Control Chamber)	35.000 31.350	Diameter / Length: 1.200	{1} 1.005	Pipe	31.350	Diam/Width:225	Manhole
E:529100.031 N:116989.110	3.650		{a} 1.006	Pipe	31.350	Diam/Width:225	Not Applicable
SA1	34.200 31.275	Diameter / Length: 1.200	{1} 1.006	Pipe	31.275	Diam/Width:225	Manhole
E:529092.126 N:116985.181	2.925		{a} 1.007	Pipe	31.275	Diam/Width:225	Not Applicable

Project: 1rhhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
		Designed by: AU	Checked by: AU		Approved By: JM
Report Details: Type: Manhole Schedule Storm Phase: Phase		Company Address: 84 North Street Guildford GU1 4AU			

Name	Cover Level (m) Invert Level (m)	Manhole Size (m)	Connection Details				Type
Coordinates (m)	Depth (m)		Incoming Connections	Connection Type	Connection Invert (m)	Connection Size (mm)	Junction Type
			Outgoing Connections				Cover
SA2	32.500 31.025	Diameter / Length: 1.200	{1} 1.007	Pipe	31.025	Diam/Width:225	Manhole
E:529067.698 N:117014.544	1.475						Not Applicable

Project: 1rhhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
		Designed by: AU	Checked by: AU		Approved By: JM
Report Details: Type: Inflow Summary Storm Phase: Phase		Company Address: 84 North Street Guildford GU1 4AU			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area 1	S02		Time of Concentration	0.004	100	10	110	0.004
Catchment Area 2	Porous Paving 1		Time of Concentration	0.026	100	0	100	0.026
Catchment Area 3	S02		Time of Concentration	0.013	100	10	110	0.014
Catchment Area 4	S02		Time of Concentration	0.012	100	10	110	0.013
Catchment Area 5	S02		Time of Concentration	0.012	100	10	110	0.013
Catchment Area 6	S01		Time of Concentration	0.002	100	10	110	0.002
Catchment Area 7	S01		Time of Concentration	0.002	100	10	110	0.002
Catchment Area 8	S04		Time of Concentration	0.011	100	10	110	0.012
Catchment Area 9	S06 (Flow Control Chamber)		Time of Concentration	0.014	100	10	110	0.015
Catchment Area 10	S04		Time of Concentration	0.007	100	10	110	0.008
Catchment Area 11	S04		Time of Concentration	0.018	100	0	100	0.018
Catchment Area 12	S05		Time of Concentration	0.006	100	0	100	0.006
Catchment Area 13	S06 (Flow Control Chamber)		Time of Concentration	0.003	100	0	100	0.003
Catchment Area 14	S06 (Flow Control Chamber)		Time of Concentration	0.002	100	0	100	0.002
Catchment Area 15	S02		Time of Concentration	0.004	100	10	110	0.004
Catchment Area 16	S01		Time of Concentration	0.027	100	0	100	0.027
Catchment Area 17	Porous Paving 2		Time of Concentration	0.008	100	0	100	0.008
TOTAL		0.0		0.171				0.179

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Title: Rainfall Analysis Criteria		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Use Catchment Values
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall		
FEH		Type: FEH
Site Location	GB 529184 117017 TQ 29184 17017	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period	
Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations	
Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			



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

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
S02	FEH: 2 years: +0 %: 15 mins: Summer	33.500	32.000	32.069	0.069	17.1	0.078	0.000	16.7	7.708	OK
S03	FEH: 2 years: +0 %: 15 mins: Summer	33.250	31.725	31.901	0.176	2.9	0.199	0.000	1.9	2.145	OK
S01	FEH: 2 years: +0 %: 15 mins: Summer	34.125	32.625	32.666	0.041	6.8	0.046	0.000	6.7	2.959	OK
S04	FEH: 2 years: +0 %: 15 mins: Summer	34.250	31.600	31.901	0.301	11.9	0.340	0.000	2.0	4.026	Surcharged
S05	FEH: 2 years: +0 %: 15 mins: Summer	34.750	31.450	31.901	0.451	3.8	0.510	0.000	1.9	2.393	Surcharged
S06 (Flow Control Chamber)	FEH: 2 years: +0 %: 15 mins: Summer	35.000	31.350	31.900	0.550	4.3	0.622	0.000	1.9	2.998	Surcharged
SA1	FEH: 2 years: +0 %: 15 mins: Summer	34.200	31.275	31.308	0.033	1.9	0.037	0.000	1.9	2.628	OK
SA2	FEH: 2 years: +0 %: 15 mins: Summer	32.500	31.025	31.057	0.032	1.9	0.000	0.000	1.9	2.628	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
S02	FEH: 30 years: +40 %: 15 mins: Summer	33.500	32.000	32.171	0.171	51.9	0.194	0.000	50.2	22.624	OK
S03	FEH: 30 years: +40 %: 15 mins: Summer	33.250	31.725	32.171	0.446	34.0	0.504	0.000	2.0	11.981	Surcharged
S01	FEH: 30 years: +40 %: 15 mins: Summer	34.125	32.625	32.697	0.072	20.7	0.082	0.000	20.4	9.002	OK
S04	FEH: 30 years: +40 %: 15 mins: Summer	34.250	31.600	32.169	0.569	35.6	0.644	0.000	5.0	14.414	Surcharged
S05	FEH: 30 years: +40 %: 15 mins: Summer	34.750	31.450	32.170	0.720	12.8	0.815	0.000	2.3	5.691	Surcharged
S06 (Flow Control Chamber)	FEH: 30 years: +40 %: 15 mins: Summer	35.000	31.350	32.176	0.826	13.0	0.935	0.000	2.3	6.388	Surcharged
SA1	FEH: 30 years: +40 %: 15 mins: Summer	34.200	31.275	31.311	0.036	2.3	0.041	0.000	2.3	3.375	OK
SA2	FEH: 30 years: +40 %: 15 mins: Summer	32.500	31.025	31.060	0.035	2.3	0.000	0.000	2.3	3.375	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Details: Type: Junctions Summary Storm Phase: Phase		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flooded Volume

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
S02	FEH: 100 years: +45 %: 15 mins: Summer	33.500	32.000	32.272	0.272	67.5	0.307	0.000	65.0	29.186	Surcharged
S03	FEH: 100 years: +45 %: 15 mins: Summer	33.250	31.725	32.271	0.546	43.8	0.617	0.000	2.1	16.780	Surcharged
S01	FEH: 100 years: +45 %: 15 mins: Summer	34.125	32.625	32.708	0.083	26.9	0.094	0.000	26.5	11.694	OK
S04	FEH: 100 years: +45 %: 15 mins: Summer	34.250	31.600	32.302	0.702	46.3	0.794	0.000	6.6	19.349	Surcharged
S05	FEH: 100 years: +45 %: 15 mins: Summer	34.750	31.450	32.323	0.873	16.9	0.988	0.000	2.5	7.449	Surcharged
S06 (Flow Control Chamber)	FEH: 100 years: +45 %: 15 mins: Summer	35.000	31.350	32.334	0.984	16.9	1.113	0.000	2.5	7.973	Surcharged
SA1	FEH: 100 years: +45 %: 15 mins: Summer	34.200	31.275	31.312	0.037	2.5	0.042	0.000	2.4	3.614	OK
SA2	FEH: 100 years: +45 %: 15 mins: Summer	32.500	31.025	31.061	0.036	2.4	0.000	0.000	2.4	3.614	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
		Designed by: AU	Checked by: AU		Approved By: JM
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Company Address: 84 North Street Guildford GU1 4AU			



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

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)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Porous Paving 1	FEH: 2 years: +0 %: 360 mins: Summer	33.139	32.984	0.091	0.064	1.5	4.933	0.000	0.4	7.035		82.491	OK
Porous Paving 2	FEH: 2 years: +0 %: 240 mins: Summer	33.700	33.600	0.054	0.030	0.6	1.173	0.000	0.2	1.975		90.912	OK
Pond	FEH: 2 years: +0 %: 240 mins: Summer	32.023	32.023	0.223	0.223	8.2	17.926	0.000	3.2	29.672		83.074	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Resident Volume

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)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Porous Paving 1	FEH: 30 years: +40 %: 360 mins: Summer	33.286	33.146	0.239	0.226	3.7	13.002	0.000	0.8	17.978		53.855	OK
Porous Paving 2	FEH: 30 years: +40 %: 180 mins: Summer	33.785	33.669	0.140	0.099	1.8	3.111	0.000	0.5	4.605		75.903	OK
Pond	FEH: 30 years: +40 %: 360 mins: Winter	32.499	32.499	0.699	0.699	11.0	73.894	0.000	2.5	65.157	195	30.229	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase		Designed by: AU	Checked by: AU		Approved By: JM
		Company Address: 84 North Street Guildford GU1 4AU			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Resident Volume

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)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Half Drain Down Time (mins)	Percentage Available (%)	Status
Porous Paving 1	FEH: 100 years: +45 %: 360 mins: Summer	33.358	33.231	0.311	0.311	4.7	17.055	0.000	0.9	22.894	125	39.468	OK
Porous Paving 2	FEH: 100 years: +45 %: 180 mins: Summer	33.825	33.710	0.179	0.140	2.3	4.072	0.000	0.6	6.000		68.456	OK
Pond	FEH: 100 years: +45 %: 480 mins: Winter	32.695	32.695	0.895	0.895	11.7	105.061	0.000	2.7	93.032	420	0.802	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
		Designed by: AU	Checked by: AU		Approved By: JM
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address: 84 North Street Guildford GU1 4AU			



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

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.000	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S01	S02	34.125	32.666	0.055	2.959	0.9	0.07	6.7	OK
1.003	FEH: 2 years: +0 %: 60 mins: Summer	Pipe	S03	S04	33.250	31.963	0.225	5.362	0.3	0.08	3.4	Surcharge d
1.004	FEH: 2 years: +0 %: 30 mins: Summer	Pipe	S04	S05	34.250	31.935	0.225	5.110	0.5	0.14	6.3	Surcharge d
1.005	FEH: 2 years: +0 %: 360 mins: Summer	Pipe	S05	S06 (Flow Control Chamber)	34.750	32.020	0.225	47.977	0.1	0.05	2.1	Surcharge d
1.006	FEH: 2 years: +0 %: 720 mins: Summer	Pipe	S06 (Flow Control Chamber)	SA1	35.000	31.986	0.035	67.865	0.6	0.05	2.3	Surcharge d
3.000	FEH: 2 years: +0 %: 120 mins: Summer	Pipe	Porous Paving 2	S04	34.225	33.614	0.150	1.204	0.0	0	0.2	OK
2.000	FEH: 2 years: +0 %: 360 mins: Summer	Pipe	Porous Paving 1	S02	33.627	33.013	0.018	7.032	1.0	0	0.4	OK
1.002	FEH: 2 years: +0 %: 60 mins: Winter	Pipe	Pond	S03	33.000	31.963	0.201	6.080	0.5	0.1	4.4	OK
1.001	FEH: 2 years: +0 %: 15 mins: Summer	Pipe	S02	Pond	33.500	32.069	0.064	7.708	2.0	0.16	16.7	OK
1.007	FEH: 2 years: +0 %: 600 mins: Winter	Pipe	SA1	SA2	34.200	31.311	0.036	64.282	0.6	0.05	2.3	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
		Designed by: AU	Checked by: AU		Approved By: JM
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address: 84 North Street Guildford GU1 4AU			



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.000	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S01	S02	34.125	32.697	0.107	9.002	1.1	0.22	20.4	OK
1.003	FEH: 30 years: +40 %: 480 mins: Winter	Pipe	S03	S04	33.250	32.484	0.225	72.304	0.4	0.06	2.5	Surcharge d
1.004	FEH: 30 years: +40 %: 15 mins: Winter	Pipe	S04	S05	34.250	32.169	0.225	0.715	0.4	0.13	5.8	Surcharge d
1.005	FEH: 30 years: +40 %: 240 mins: Summer	Pipe	S05	S06 (Flow Control Chamber)	34.750	32.490	0.225	54.795	0.2	0.06	2.7	Surcharge d
1.006	FEH: 30 years: +40 %: 360 mins: Winter	Pipe	S06 (Flow Control Chamber)	SA1	35.000	32.497	0.038	99.756	0.6	0.06	2.7	Surcharge d
3.000	FEH: 30 years: +40 %: 120 mins: Summer	Pipe	Porous Paving 2	S04	34.225	33.696	0.150	3.671	0.0	0	0.5	OK
2.000	FEH: 30 years: +40 %: 360 mins: Summer	Pipe	Porous Paving 1	S02	33.627	33.165	0.150	17.974	0.2	0.01	0.8	Surcharge d
1.002	FEH: 30 years: +40 %: 60 mins: Summer	Pipe	Pond	S03	33.000	32.365	0.225	1.295	0.6	0.1	4.2	Surcharge d
1.001	FEH: 30 years: +40 %: 15 mins: Summer	Pipe	S02	Pond	33.500	32.171	0.225	22.624	1.9	0.48	50.2	OK
1.007	FEH: 30 years: +40 %: 360 mins: Winter	Pipe	SA1	SA2	34.200	31.314	0.039	99.621	0.6	0.06	2.7	OK

Project: 1rhur - 2410054 Land to the east of College Lane Hassocks		Date: 30/07/2026			
		Designed by: AU	Checked by: AU		Approved By: JM
Report Details: Type: Connections Summary Storm Phase: Phase		Company Address: 84 North Street Guildford GU1 4AU			



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Flow

Connection	Storm Event	Connection Type	From	To	Upstream Cover Level (m)	Max. US Water Level (m)	Max. Flow Depth (m)	Discharge Volume (m³)	Max. Velocity (m/s)	Flow / Capacity	Max. Flow (L/s)	Status
1.000	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S01	S02	34.125	32.708	0.143	11.694	1.1	0.29	26.5	OK
1.003	FEH: 100 years: +45 %: 60 mins: Winter	Pipe	S03	S04	33.250	32.517	0.225	0.545	0.2	0.08	3.2	Surcharge d
1.004	FEH: 100 years: +45 %: 15 mins: Winter	Pipe	S04	S05	34.250	32.275	0.225	0.951	0.3	0.17	7.5	Surcharge d
1.005	FEH: 100 years: +45 %: 480 mins: Winter	Pipe	S05	S06 (Flow Control Chamber)	34.750	32.694	0.225	122.125	0.1	0.07	2.9	Surcharge d
1.006	FEH: 100 years: +45 %: 480 mins: Winter	Pipe	S06 (Flow Control Chamber)	SA1	35.000	32.693	0.040	142.618	0.6	0.06	2.9	Surcharge d
3.000	FEH: 100 years: +45 %: 120 mins: Summer	Pipe	Porous Paving 2	S04	34.225	33.736	0.150	4.825	0.0	0	0.6	Surcharge d
2.000	FEH: 100 years: +45 %: 360 mins: Summer	Pipe	Porous Paving 1	S02	33.627	33.241	0.150	22.890	0.3	0.01	0.9	Surcharge d
1.002	FEH: 100 years: +45 %: 30 mins: Winter	Pipe	Pond	S03	33.000	32.400	0.225	0.454	0.6	0.11	4.7	Surcharge d
1.001	FEH: 100 years: +45 %: 15 mins: Summer	Pipe	S02	Pond	33.500	32.272	0.225	29.186	2.0	0.62	65.0	Surcharge d
1.007	FEH: 100 years: +45 %: 480 mins: Winter	Pipe	SA1	SA2	34.200	31.316	0.040	142.478	0.6	0.07	2.9	OK

Appendix N

Drainage Management and Maintenance Plan



Land to the East of College Lane
Hurstpierpoint, Hassock

**Sustainable Drainage Management and
Maintenance Plan**

For

Remmus Homes

Document Control Sheet

Land to the East of College Lane
Hurstpierpoint, Hassock
Remmus Homes

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
21/08/2026	Final	Laura Jagiela	Jason Morgans



Motion
84 North Street
Guildford
GU1 4AU
T 01483 531300
F 01483 531333
E info@motion.co.uk
W www.motion.co.uk

Contents

1.0 Introduction 1

2.0 Maintenance Categories 2

3.0 The Sustainable Surface Water Drainage System 3

4.0 General Maintenance Principles 4

5.0 Inspection and Maintenance Frequency of Components 6

1.0 Introduction

- 1.1 This document sets out the principles for the long-term management and maintenance of the proposed sustainable drainage system at Land to the East of College Lane.
- 1.2 The purpose of this document is to ensure that the site management company or their agents have a robust inspection and maintenance plan going forwards. This ensures the optimum operation of the sustainable surface water drainage system and that it will be continually maintained for the lifetime of the development. This will contribute to reducing the risk of surface water flooding both on- and off-site.
- 1.3 All those responsible for maintenance should follow relevant health and safety legislation for all activities listed within this report (including lone working, if relevant). Method statements and risk assessments should always be undertaken and made available, if requested.
- 1.4 This document has been produced by Motion on behalf of their client, Remmus Homes. This document describes the typical management and maintenance tasks that are known at the design stage (maintenance frequencies and typical tasks, for example). These have been drawn from industry guidance such as CIRIA C753 - The SuDS Manual – and manufacturer's own guidance.
- 1.5 Maintenance is considered as a construction activity under the CDM Regulations 2015. Under the CDM Regulations, it is a requirement that a competent person be appointed to carry out a required role. CDM defines a competent person as an individual with sufficient knowledge of the specific tasks to be undertaken, as well as sufficient experience and ability to carry out their duties in relation to the task in a way that secures health and safety on site.
- 1.6 In recognition of the requirements of the CDM Regulations 2015, this sustainable drainage management and maintenance plan expects that the maintenance work will be carried out by a competent person who must have prior knowledge of the drainage components and SuDS systems on site.
- 1.7 There are limitations on what this document can prescribe at this time. At this stage this document cannot name the specific individuals who will carry out the maintenance and what equipment is to be used. Related to this, this document is unable to provide method statements for exactly how maintenance practices will be carried out. These can only be determined at the time of the maintenance being carried out and the exact maintenance need. Therefore, this is to be the responsibility of the site management company and/or the individuals carrying out the work. We urge those who are carrying out the maintenance to record this information and make it available to the Local Planning Authority (LPA), if required to do so. This drainage management and maintenance plan needs to be a living document that is owned and maintained by the adopting site management company.

2.0 Maintenance Categories

2.1 There are three categories of maintenance activities referred to in this report. These are:

Regular maintenance (including inspections and monitoring)

- ▶ Regular maintenance consists of basic tasks done on a frequent and predictable schedule, including inspections, vegetation management, and litter, silt and debris removal.

Occasional maintenance

- ▶ Occasional maintenance comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks (sediment removal is an example).

Remedial maintenance

- ▶ Remedial maintenance comprises of intermittent tasks that may be required to rectify faults associated with the system. The likelihood of faults can be minimised by correct installation, regular inspection and timely maintenance. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events and, as such, timings are difficult to predict.
- ▶ This document should be read in conjunction with the design drawings of the sustainable drainage system, so that the location and type of each feature can be recognised and understood.

3.0 The Sustainable Surface Water Drainage System

- 3.1 The proposed sustainable surface water drainage system is made up of a number of components. These include:
- ▶ Attenuation Basin
 - ▶ Permeable paving
 - ▶ Catchpit manholes/silt traps
 - ▶ Manholes
 - ▶ Pipes
 - ▶ Water Butts
- 3.2 All components should be installed in accordance with the manufacturer's instructions and to the levels/arrangement as defined on the designer's drawings. Not doing so will invalidate any warranty provided by the manufacturer.
- 3.3 All maintenance and cleaning must be carried out in accordance with manufacturer's recommendations and by competent and suitably qualified staff, as defined in the CDM regulations 2015.

4.0 General Maintenance Principles

- 4.1 All surface water drainage systems, whether piped gravity systems or Sustainable Drainage Systems (SuDS), require regular maintenance to keep them working at optimum efficiency and capacity. The maintenance of the sustainable surface water drainage system on the development should be carried out alongside other regular maintenance tasks on site.
- 4.2 Timely and adequate maintenance will increase the lifespan of all the drainage components. Inadequate maintenance will do the reverse. Therefore, the projected lifespan and anticipated replacement date of each drainage component cannot be forecast at the time of this document being produced.
- 4.3 The site management company and/or their agents are responsible for the maintenance of the sustainable surface water drainage system.
- 4.4 Construction activities can create and discharge significant quantities of sediment that will quickly clog the sustainable surface water drainage system. Therefore, construction-stage sediment removal is required immediately post-construction. This may require several cleans of the system during the first year after installation. The construction site manager should assess this and carry out cleaning as necessary.
- 4.5 Catchpit manholes/silt traps will be specified upstream of the attenuation storage and permeable paving. They will remove gross solids and the majority of silts. It is important that any debris build-up in the catchpit manholes/silt traps is removed at regular intervals. This will reduce the risk of the permeable paving becoming silted up. It will maintain its design capacity and function.
- 4.6 Cleaning should also take place after large storms when there have been increased surface water flows and visible entrainment and deposition of debris.
- 4.7 An increased frequency of inspection and maintenance should be programmed into the autumn and winter months in acknowledgement that:
 - ▶ Leaf fall from deciduous trees in autumn will result in an increased amount of leaf litter and an elevated blockage risk of drainage infrastructure.
 - ▶ Increased rainfall during winter months will result in greater quantities of water moving through the drainage system and a greater input of silt and other debris.
- 4.8 Table 4.1, below, gives an overview of typical maintenance tasks and the frequency with which they need to be undertaken. Section 5 – Inspection and Maintenance Frequency of Components – will assign typical maintenance frequencies and tasks to the specific components used within the sustainable surface water drainage system used on the development.

Table 4.1: Typical maintenance tasks and frequencies

Activity	Indicative Frequency	Typical Tasks
Routine/regular maintenance	Monthly to annually	▶ Litter picking ▶ Silt removal ▶ Inspection of all inlets, outlets and control structures ▶ Weed removal and invasive plant control
Occasional maintenance	Annually up to 25 years	▶ Silt control around components ▶ Vegetation management around components ▶ Sweeping of pavement areas to remove surface silt ▶ Silt removal from catchpits, cellular storage structures
Remedial maintenance	As required	▶ Inlet/outlet repairs ▶ Erosion repairs ▶ Reinstatement of edgings ▶ Reinstatement following pollution ▶ Removal of silt build-up and leaf litter after storms ▶ Repair of vandalism ▶ Replacement of any blocked filter membranes/materials

5.0 Inspection and Maintenance Frequency of Components

- 5.1 Table 5.1 below lists each of the components used within the site's sustainable surface water drainage system. It suggests an indicative maintenance frequency for each component and ascribes typical maintenance tasks to them.
- 5.2 This list is not exhaustive, nor is it prescriptive. As mentioned in Section 3, additional, unscheduled maintenance may be required following adverse weather conditions or after autumn leaf falls. Additional maintenance tasks may be required to adequately clean and maintain individual components.
- 5.3 The list of components should be cross-referenced with the designer's drawings so that the location of each component can be identified.
- 5.4 It is the responsibility of the site management company and/or their agents to ensure that all necessary maintenance activities are carried out in a timely manner and that the design performance of each drainage component is preserved.
- 5.5 If there is any uncertainty regarding the correct and safe methods of cleaning, or what equipment should be used, the manufacturer should be consulted.

Table 5.1: Maintenance Frequency and Task for Drainage Components

Activity	Indicative Frequency	Anticipated Tasks
Pipes	As required	▶ Identify any pipes that may not be operating properly and employ a competent, qualified contractor to inspect using CCTV. ▶ If the pipe is blocked with silt or debris, the pipe should be jetted clean from an upstream access point. All silt and debris should be captured and removed at a downstream access point. ▶ Inspect once clean. ▶ If any other defects are encountered (cracks, displaced joints, root ingress), appropriate solutions should be discussed with a competent and qualified contractor. These services are usually provided by the same companies that offer CCTV surveys and pipe jetting services.
Manholes	Annually	▶ Inspect/identify any damage or areas that are not operating correctly ▶ Remove silt, litter, leaves and other detritus. ▶ Inspect once clean.
Catchpit Manholes/Silt Traps	Twice a year, before and after autumn/winter	▶ Inspect/identify any damage or areas that are not operating correctly ▶ Remove silt, litter, leaves and other detritus. ▶ Inspect once clean.
Attenuation Basins	Monthly in Summer, as required in Winter	▶ Responsibility should be with landscape contractors. ▶ Maintenance tasks are not that different from standard public open space. ▶ Adequate access needs to be provided to the area.

		▶ Regular mowing should take place across maintenance access routes, amenity areas, across embankments and the main storage area. Remaining areas can remain as 'meadow'. Mowed grass lengths of 75 – 100mm are appropriate. ▶ Grass clippings should be disposed of off-site. ▶ Any dead growth should be cleared before the start of the growing season. ▶ Any permanently wet areas with emergent aquatic vegetation should be managed as ponds or wetlands. ▶ Remove any sediment build-up as required. ▶ Check any inlets and outlets for blockages and clear as required. ▶ Check any flow control devices, if present.
Permeable paving	Once a year after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations.	▶ Agitate surface by means of mechanical sweeping or vacuuming to ensure no vegetation or moss is allowed to establish and grow in the joints. ▶ Mechanical sweeping of pavements and refilling of joints with the correct aggregate need only be carried out at intervals of 5 years or so ▶ Remove weeds from the surface through the application of glyphosate-based weed killers ▶ Stabilise and mow contributing and adjacent areas. ▶ Inspect once clean. ▶ See Table 20.15 of CIRIA C753 for more information. ▶ Permeable paving has a nominal 25 year lifespan, if correctly and regularly maintained. ▶ When subjected to low level oil drips permeable pavements can continue to biodegrade hydrocarbons indefinitely. ▶ Major oil spills have the potential to contaminate the surface and the underlying crushed stone. In the event of a major oil spill, the area of block pavements and crushed stone that is affected should be removed, cleaned and reinstalled.
Water Butts	Annually in Autumn to Winter	▶ Remove falling leaves and seeds from guttering or those that have found their way into the water butt. ▶ Water may stagnate slightly. If so, use a water butt cleaning disc into the tank. ▶ In autumn and winter, drain water off every 10 days (or less) to make sure that water butts don't overflow and that water is kept moving. This will stop larvae and flies from using the water butt. ▶ Use safe products such as vinegar to clean the outside of the tank and the inside of the

		lid and be careful not to contaminate water with chemicals. ▶ At least once a year, completely empty the water butt and scrub it out with warm soapy water and then rinse thoroughly. This is best done at a time when the water butt is already nearly empty (end of summer) or when it can readily refill (winter)
--	--	---

5.6 Upon completion of maintenance activities, a record should be kept of the work carried out. This should be retained and an annual maintenance report should be compiled, which should include the following:

- ▶ Observations resulting from inspections
- ▶ Maintenance and operation activities undertaken during the year
- ▶ Recommendations for inspections and maintenance programmes for the following year

5.7 On the last page of this document is a table with suggested information should be recorded and included with the maintenance plan. As mentioned in the introduction to this document, this should be a living document and regularly updated, as required.

5.8 The Local Planning Authority may request to check and sign off any maintenance activities. Therefore, it is the recommendation that the LPA is contacted prior to any scheduled routine maintenance. The table mentioned above and on the next page, as well as the annual maintenance report, should be offered to the LPA for their records and approval.

Date	Component requiring maintenance	Issues prompting maintenance	Scheduled maintenance (Y/N)	Maintenance carried out	Additional works required (Y/N). If yes, please detail	Next scheduled date of inspection and maintenance

Appendix O

Exceedance Plan



- Notes
1. All levels and dimensions are to be checked on site before any work commences. All dimensions are in metres unless stated otherwise.
 2. This drawing has been based upon survey information supplied by other companies and Motion cannot guarantee the accuracy of the data provided.
 3. Any discrepancies should be reported to the architect and/or engineer immediately, so that clarification can be sought prior to the commencement of works.
 4. This drawing should be read in conjunction with all other relevant architect and engineering details, drawings and specification.

- Legend
- Site Boundary
 - Exceedance Route - Direction of Flow

P01	First Issue	LJ	LJ	JM	13/08/2026
Rev.	Description	Drm	Chk	App	Date

Drawing Status:

FOR PLANNING
NOT FOR CONSTRUCTION

motion

Guildford - Reading - London
www.motion.co.uk



Project:
**Land to the East of College Lane
Hassocks**

Title:
Exceedance Plan

Scale: 1:200 (@ A1)

Drawing:
2410054-9000

Revision:
P01

Appendix P

Southern Water Developer Services Foul Flow Excel Calculation

Development Size (Number of Units)	N	6	
Site Area (Ha)	A	0.487	
Development Density per 4ha	D	49.28	
Per Capita Flow -Litres/ head / day	G	125	
Infiltration – Percentage	I	10	
Occupancy – Persons/Dwelling	O	2.4	
Dry Weather Flow multiplier (PF - Peaking Factor) (SD –Storm Duration– minutes)		SD	PF
		30 - 240	2.5
		240 - 480	2
		>480	1.4
Allowance for misconnected surface water			
Population – Number of people	P	14.4	
Misconnected surface water allowance m²/property	M	2.1	

Assume storm duration of 360 minutes, thus a default value of '2'

Refer to Row 4 and compare to the integers in Columns B20 to B24 and enter the corresponding value from Columns C20 to C24

Design Flow (litres/day) 4,692.60
Design Flow (litres/sec) 0.05

Development Density (Properties / 4Ha)	Misconnected surface water allowance m ² /property
<=100	2.10
120	1.60
140	1.10
180	0.60
>=200	0.30