

LUNCE'S HILL, HAYWARDS HEATH

Flood Risk Assessment



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FRA
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REPORT

Quality Management

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Approval for issue

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1 INTRODUCTION

- 1.1 RPS was commissioned to undertake a Flood Risk Assessment (FRA) for the outline planning permission sought for the proposed residential development at Lunce's Hill, Haywards Heath, RH16 4QT.
- 1.2 The aim of the FRA is to outline the potential for the site to be impacted by flooding, the impacts of the proposed development on flooding in the vicinity of the site, and the proposed measures which could be incorporated into the development to mitigate the identified risk. The report has been produced in accordance with the guidance detailed in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance (PPG).
- 1.3 This report has been produced in consultation with the Environment Agency (EA) and the Lead Local Flood Authorities (LLFA). The site is not located within an Internal Drainage Board (IDB) District.
- 1.4 The desk study was undertaken by reference to information provided / published by the following bodies:
- Environment Agency;
 - British Geological Survey (BGS);
 - Multi-Agency Geographic Information for the Countryside (MAGIC);
 - Mid Sussex District Council (MSDC);
 - Lewes District Council (LDC);
 - East Sussex County Council (ESCC) (LLFA);
 - West Sussex County Council (WSCC) (LLFA);
 - Ordnance Survey (OS) and
 - Southern Water.

2 PLANNING POLICY CONTEXT

National Planning Policy

2.1 The National Planning Policy Framework (NPPF)¹ was released in March 2012 and was updated in December 2024. The document advises of the requirements for a site-specific Flood Risk Assessment (FRA) for any of the following cases (Planning and Flood Risk paragraph 181 (footnote 63)):

- All proposals (including minor development and change of use) located within the EA designated floodplain, recognised as either Flood Zone 2 (medium probability) or Flood Zone 3 (high probability);
- All proposals of 1 hectare (ha) or greater in an area located in Flood Zone 1 (low probability);
- All proposals within an area which has critical drainage problems (as notified to the Local Planning Authority by the EA);
- Land identified in a strategic flood risk assessment as being at increased flood risk in future; and
- Where proposed development may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

2.2 Paragraph 182 of the updated NPPF identifies that applications which could affect drainage on or around the site should incorporate sustainable drainage systems to control flow rates and reduce volumes of runoff; and which are proportionate to the nature and scale of the proposal. These should provide multifunctional benefits wherever possible, through facilitating improvements in water quality and biodiversity, as well as benefits for amenity. Sustainable drainage systems provided as part of development proposals should:

- a. Take account of advice from the Lead Local Flood Authority;
- b. Have appropriate proposed minimum operational standards; and
- c. Have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development.

2.3 Defra published their 'National standards for sustainable drainage systems (SuDS)² in June 2025. These are supported by the revised NPPF.

Climate Change

2.4 The NPPF and supporting planning practice guidance on Flood Risk and Coastal Change explain when and how flood risk assessments should be used. This includes demonstrating how flood risk will be managed now and over the development's lifetime, taking climate change into account.

¹<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

²<https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds>

Peak River Flow Allowances

- 2.5 In May 2022, the EA updated advice on climate change allowances to support the NPPF. Peak river flow allowances³ show the anticipated changes to peak flow by management catchment. Management catchments are sub-catchments of river basin districts. Peak River Flow Allowances should be considered for locations that are currently in Flood Zone 1 but might be in Flood Zone 2 or 3 in the future.
- 2.6 EA guidance on the application of climate change allowance is dependent on the proposed development vulnerability. As the development is Residential, this application is deemed as More Vulnerable. The EA require that for sites that are currently in Flood Zone 1 but might be in Flood Zone 2 or 3 in the future, the central allowance should be used to assess climate change. Residential developments have a lifetime of 100 years therefore will fall into the 2080s epoch.
- 2.7 The proposed site is located within the Adur and Ouse Management Catchment for which the following peak river flow allowances are applicable.

Table 1. Adur and Ouse Management Catchment Peak River Flow Allowances

Epoch	Central	Higher Central	Upper End
2020s	16%	23%	40%
2050s	18%	28%	57%
2080s	37%	55%	107%

- 2.8 Based on the lifetime of the development and the vulnerability classification, an allowance of 37% is appropriate. Peak River Flow Allowances are considered to ensure the safety of people using the development when planning safe access, escape routes and places of refuge. Due to the nature of the flood risk at the site, it is deemed that flood risk will be managed and will not impact safe access/egress, and therefore does not require further consideration.

Peak Rainfall Allowances

- 2.9 Peak Rainfall Allowances are used to consider how increased rainfall affects surface water flood risk and the design of drainage systems to manage the increased rainfall.
- 2.10 New guidance requires that for developments with a lifetime beyond 2100, Flood Risk Assessments and Strategic Flood Risk Assessments should assess the upper end allowances for the 2070s epoch for both the 1% and 3.3% annual exceedance probability events. The proposed site is located within the Adur and Ouse Management Catchment for which the following Peak Rainfall Allowances are applicable.

Table 2. Adur and Ouse Management Catchment Peak Rainfall Allowances

3.3% Annual Exceedance Rainfall Event		
Epoch	Central	Upper
2050s	20%	35%
2070s	20%	40%
1% Annual Exceedance Rainfall Event		
Epoch	Central	Upper

³ <https://environment.data.gov.uk/hydrology/climate-change-allowances/river-flow>

2050s	20%	45%
2070s	25%	45%

2.11 Based on the above information, an allowance of 45% is appropriate and this should be included within the design of the conceptual surface water management strategy for the development.

Local Planning Policy

Lewes District Council

2.12 The Core Strategy was adopted by Lewes District Council in May 2016⁴, and contains the following policies relating to flood risk and drainage:

Core Policy 12 – Flood Risk, Coastal Erosion, Sustainable Drainage and Slope Stability

The local planning authority will seek to reduce the impact and extent of flooding and damage from slope failure. This will be achieved by:

1. *Steering development away from areas of flood risk (as identified in the latest Environment Agency and SFRA flood risk and climate change maps) where possible. Development in areas of flood risk will be required to meet the national Sequential and Exception tests, where relevant.*
2. *Where site specific flood risk assessments are required, directing applicants to demonstrate that the development and its means of access will be safe from flooding without increasing the risk of flooding elsewhere. Development should seek to reduce overall flood risk where possible.*
3. *Requiring flood protection, resilience, resistance and mitigation measures appropriate to the specific requirements of the site. Such measures will be expected to have regard to the character of the natural and built environment of the site and surroundings, to climate change implications and to biodiversity.*
4. *Liaising closely with the Environment Agency and East Sussex County Council on development and flood risk.*
5. *Seeking the appropriate management of surface water run-off and ensuring there is no increase in surface water run-off from new developments. This will include requiring new development to incorporate Sustainable Drainage Systems (SuDS), unless it is demonstrated that SuDS are not technically appropriate. The local planning authority will consult East Sussex County Council, the lead local flood authority, on the whole life management and maintenance of SuDS.*
6. *Ensuring development avoids areas of undeveloped coastline unless it specifically requires a rural coastal location, meets the sequential test and does not have other adverse impacts.*
7. *Preventing development on unstable areas of coastline and areas at risk of erosion and slope failure, such as those identified in the South Downs Shoreline Management Plan.*

The local planning authority will work with partners and applicants to implement the current Shoreline Management Plan, Catchment Flood Management Plan and other relevant flood/coastal protection strategies and plans.

⁴ https://www.lewes-eastbourne.gov.uk/media/1718/Adopted-Joint-Core-Strategy-2016/pdf/Adopted_Joint_Core_Strategy_2016.pdf?m=1682440920647

Mid Sussex District Council

- 2.13 The District Plan was adopted by Mid Sussex District Council in March 2018⁵, and contains the following policies relating to flood risk and drainage:

DP41: Flood Risk and Drainage

Strategic Objectives: 1) To promote development that makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change; and 12) To support sustainable communities which are safe, healthy and inclusive.

Evidence Base: Gatwick Sub Region Water Cycle Study; Strategic Flood Risk Assessment; Water. People. Places SuDS guidance.

Proposals for development will need to follow a sequential risk-based approach, ensure development is safe across its lifetime and not increase the risk of flooding elsewhere. The District Council's Strategic Flood Risk Assessment (SFRA) should be used identify areas at present and future flood risk from a range of sources including fluvial (rivers and streams), surface water (pluvial), groundwater, infrastructure and reservoirs.

Particular attention will be paid to those areas of the District that have experienced flooding in the past and proposals for development should seek to reduce the risk of flooding by achieving a reduction from existing run-off rates.

Sustainable Drainage Systems (SuDS) should be implemented in all new developments of 10 dwellings or more, or equivalent non-residential or mixed development unless demonstrated to be inappropriate, to avoid any increase in flood risk and protect surface and ground water quality. Arrangements for the long term maintenance and management of SuDS should also be identified.

For the redevelopment of brownfield sites, any surface water draining to the foul sewer must be disconnected and managed through SuDS following the remediation of any previously contaminated land.

SuDS should be sensitively designed and located to promote improved biodiversity, an enhanced landscape and good quality spaces that improve public amenities in the area, where possible.

The preferred hierarchy of managing surface water drainage from any development is:

- *Infiltration Measures*
- *Attenuation and discharge to watercourses; and if these cannot be met,*
- *Discharge to surface water only sewers.*

Land that is considered to be required for current and future flood management will be safeguarded from development and proposals will have regard to relevant flood risk plans and strategies.

DP42: Water Infrastructure and the Water Environment

Strategic Objectives: 1) To promote development that makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change; 6) To ensure that development is accompanied by the necessary infrastructure in the right place at the right time that supports development and sustainable communities. This includes the provision of efficient and sustainable transport networks.

⁵ <https://www.midsussex.gov.uk/media/3406/mid-sussex-district-plan.pdf>

Evidence Base: Building Regulations (Approved Document G); Gatwick Sub Region Water Cycle Study; DCLG Housing Standards Review: Technical Consultation, September 2014; South East Water - Water Resources Management Plan 2014, Strategic Flood Risk Assessment.

New development proposals must be in accordance with the objectives of the Water Framework Directive, and accord with the findings of the Gatwick Sub Region Water Cycle Study with respect to water quality, water supply and wastewater treatment and consequently the optional requirement under Building Regulations – Part G applies to all new residential development in the district. Development must meet the following water consumption standards:

- *Residential units should meet a water consumption standard of 110 litres per person per day (including external water use);*
- *Non-residential buildings should meet the equivalent of a ‘Good’ standard, as a minimum, with regard to the BREEAM water consumption targets for the development type.*

Development proposals which increase the demand for off-site service infrastructure will be permitted where the applicant can demonstrate;

- *that sufficient capacity already exists off-site for foul and surface water provision. Where capacity off-site is not available, plans must set out how appropriate infrastructure improvements approved by the statutory undertaker will be completed ahead of the development’s occupation; and*
- *that there is adequate water supply to serve the development.*

Planning conditions will be used to secure necessary infrastructure provision.

Development should connect to a public sewage treatment works. If this is not feasible, proposals should be supported by sufficient information to understand the potential implications for the water environment.

The development or expansion of water supply or sewerage/sewage treatment facilities will normally be permitted, either where needed to serve existing or proposed new development, or in the interests of long term water supply and waste water management, provided that the need for such facilities outweighs any adverse land use or environmental impacts and that any such adverse impact is minimised.

- 2.14 The Lewes District Council SFRA (published October 2009) and the Mid Sussex District Council SFRA (published July 2024) identify and map flood risk from all sources at borough-wide scales as well as providing guidance on producing site specific FRAs. Relevant information from the SFRA has been referenced throughout this FRA report.

3 CONSULTATION

Environment Agency

- 3.1 The EA were contacted for site specific flood information on 23rd August 2024 and confirmed that the site was within Flood Zone 1. However, they could not provide detailed model data for the Pellingford Brook located on site and advised that further modelling would be required as the JFLOW model was produced using generalised flood extents data, providing limited information on flood depths. The information provided by the EA is included as Appendix A.

Lead Local Flood Authorities

- 3.2 The site is partially within the administrative boundaries of East Sussex County Council and West Sussex County Council. Both are classed as the Lead Local Flood Authority for their respective county. Consultation has been sought with these councils regarding site-specific constraints at the site.

East Sussex County Council

- 3.3 East Sussex County Council drainage team were contacted on 27th August 2024. Their response is provided in Appendix B. They provided the following guidance related to proposed planning applications:

- *As a minimum, development should be outside of the 1%AEP surface water risk extent (RoFSW), an assessment of risk over the lifespan of development due to climate change can be made or the 0.1% AEP RoFSW extent can be used as a robust worst case.*
- *The plan layout and supporting levels information must demonstrate that property is not at risk of flooding from existing overland flows, and that the design to alter or divert surface water flood risk is feasible. Existing overland flow paths should not be allowed to inundate proposed development attenuation storage such that the volume could be reduced at the commencement of the design storm. Alterations to existing surface water flow paths which could result in increased flood risk to third parties should be supported by 2D modelling in accordance with current EA modelling guidance.*
- *The site has a large plan area and we would welcome surface features which achieve sustainable drainage requirements and are incorporated into the layout as a landscape led multifunctional SuDS approach.*
- *Discharge to a watercourse is acceptable via formal positive drain and headwall. Ordinary watercourse consent is required prior to construction and separate to Town and Country Planning requirements. The technical design would be assessed as part of a discharge of conditions application and an application would be made to ESCC Watercourse Consenting. Alterations to existing watercourses and culverting should be avoided wherever possible and must be justified and the minimum necessary. Any culverts should be straight and not have intermediate chambers or turns.*

- 3.4 Additionally, East Sussex County Council provided a 'WaterRide' report containing site specific flood information, which has been summarised below and included in full as Appendix B. It should be noted that the east of the site is not under the jurisdiction of East Sussex and has not been included in their response.

- The site is entirely within Flood Zone 1.
- Surface water flood risk is predicted at 0.1% AEP (1 in 1000 year) in the southern half of the site, a localised area in the west and along the on-site watercourse and associated drains in the east. The maximum depth for this event is 1.14m. 1% AEP event (1 in 100 year) is predicted in the south of the site with a maximum depth of 1m, and 3.3% AEP event

(1 in 1000) is predicted in the southeast corner of the site and along the watercourse and eastern drains, with a maximum depth of 0.93m.

- No flood incidents have been recorded on site.
- Depths and flow direction of surface water for the 0.1% AEP (1 in 1000) event are recorded on site and show that there is a main surface water flow path in the south, flowing west to east. Additionally, surface water is flowing from the north to the south via secondary flow paths from on site drains in the central and eastern parcels. Depths are primarily between 0m and 0.30m in the southwest, and 0.60m to 0.90m in the southeast.
- There is limited potential for groundwater flooding to occur throughout the site.
- The entirety of the recorded area is located within Drainage Risk Area 3. This is defined as an area where infiltration techniques are likely to be inappropriate.
- Water table depths show that the site is estimated to have depth of 3m – 5m below surface, dependent on seasonal changes in groundwater.
- There is potential for a geohazard on site, therefore the potential for or consequences of infiltration or ground stability should be considered before installing infiltration SuDS.
- An ordinary watercourse is present on site, and a drainage asset is indicated to run from the north to the west.
- No Section 19 Investigations, Land Drainage Investigations or SWMP hotspots are located on or adjacent to the site.

West Sussex County Council

3.5 West Sussex County Council Flood Risk Management Team were consulted on September 19th 2024, and a pre-planning flood risk report was provided detailing further information of flood risk on site. This has been summarised below, and a full report is provided in Appendix C.

- The site does not lie within Flood Zone 2 or 3 and is not currently located in EA flood warning or alert areas.
- The site is in an area of high to low risk of surface water. There is surface water flow path shown through the site from the west along the southern boundary of the site below the ordinary watercourse.
- WSCC have no records of surface water or groundwater flood events within the site, however there are some events in the surrounding area.
- The site is within an area that is at a negligible risk to groundwater flooding.
- There are no historical flood incidents present on site.
- Haywards Heath and Lindfield is identified in the WSCC Local Flood Risk Management Strategy 2013 as a wet spot (an area where houses may be more susceptible to floods). However, the site is just south of this area, and not deemed to be within the wet spot zone.

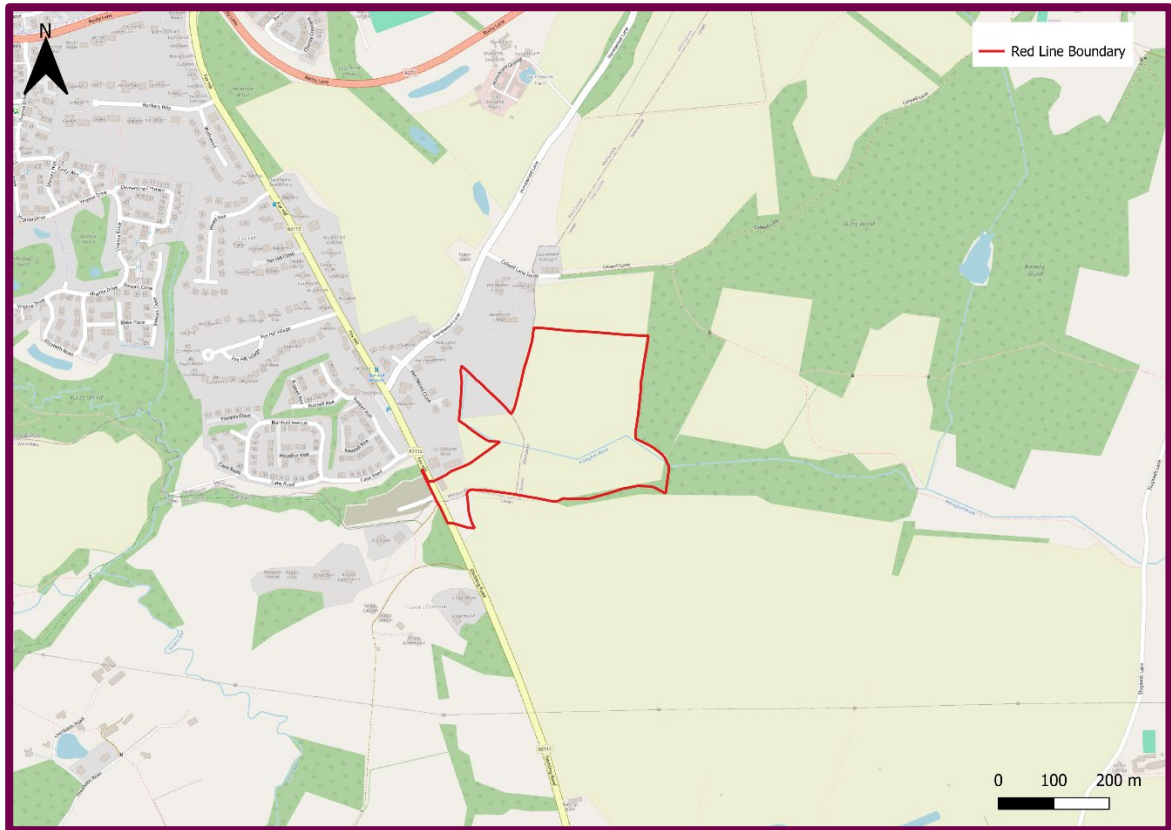
Internal Drainage Board

3.6 The site is not located within an IDB District.

4 SITE DESCRIPTION

Site Description

- 4.1 The site is located to the South of Haywards Heath and is approximately 8.81 hectares (ha) in size. The site location is presented in Figure 1.



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Figure 1. Site Location

Surrounding Land Uses

- 4.2 The site is greenfield, agricultural land, with an existing barn in the southwest. The site is bounded:

- to the north by Colwell Lane and agricultural land beyond;
- to the east by ancient woodland;
- to the south by undeveloped agricultural land; and
- The B2112 (Lunce’s Hill) and residential dwellings to the west.

- 4.3 There are no designated sensitive areas (e.g. Special Area of Conservation (SAC), Special Protection Area (SPA) or Site of Special Scientific Interest (SSSI)) within 1km of the site.

Topography

- 4.4 A topographical survey was undertaken for the site by CD Surveys LTD in August 2024. The survey indicates the highest elevations are in the northwest boundary, peaking at 36.62 metres above ordnance datum (m AOD). In the southeast of the site elevations are 33.50m AOD and around

32.61m AOD in the south. The lowest elevations are present in the southwest at 32.05m AOD, demonstrating a dominant north eastern slope. The topographic survey is located in Appendix D.

Site Walkover

- 4.5 A site visit was undertaken by RPS on the 16th September 2024. The site is noted as having a gradient with the site sloping slightly towards the north, and a gentle upward slope from the site entrance in the east to the southeast corner. The ground was slightly wet underfoot at the time of the site visit. A general view of the site is provided in Figure 2.



Figure 2. General view of the site from the northeast, looking south

- 4.6 Pellingford Brook, shown in Figure 3, runs from the northwest to the east of the site. The site was relatively overgrown at the time of the site visit., and some areas of the watercourse were inaccessible or thick with vegetation, particularly in the northeast. In areas that could be observed, the northwest appeared relatively dry, and water flow in the brook was observed in the east. Additionally, a network of ditches are present on site, in the southern and central boundaries of each land parcel present on site. The ditches were free of water at the time of the site visit.
- 4.7 The site was observed to be undeveloped, agricultural land, with the exception of a barn which is present in the southwest.



Figure 3. Pellingford Brook

5 PROPOSED DEVELOPMENT

- 5.1 The proposal comprises '*Outline planning application for the erection of up to 130 dwellings, together with the change of use of an existing barn for a flexible community and/or commercial use, along with associated outdoor space and landscaping, drainage infrastructure, hard and soft landscaping, parking, access and associated works (all matters reserved except for access).*'
- 5.2 The proposed use of the site is classified as 'More Vulnerable' within the PPG.
- 5.3 Development plans are shown in Appendix E.

6 HYDROLOGICAL SETTING

Nearby Watercourses

- 6.1 OS Mapping indicates that the nearest surface water feature is the Pellingford Brook, an ordinary watercourse running through the site from the northwest to the east. The Pellingford Brook becomes an EA Main River when it leaves the site to the east. Additionally, associated ditches are present on site in between parcels of land in the central area and the west, running in a southerly direction.
- 6.2 There are no ponds or surface water features within 100m of the site.
- 6.3 Beyond those, no other significant waterbodies within or close to the site boundaries are indicated by OS mapping.

Fluvial / Tidal Flood Risk Classification

- 6.4 Due to the distance in land, the site is not considered to be subject to tidal mechanisms.
- 6.5 OS Mapping indicates that the nearest surface water feature is the Pellingford Brook located on site, flowing from the northwest to the east of the site. The Pellingford Brook appears to begin approximately 20m northwest of the site, and continues through the site to the east, eventually flowing into the River Ouse located further east.
- 6.6 The EA's Flood Map for Planning , which is available online, identifies areas at risk of flooding from Rivers and the Sea. The EA designated Flood Zones are categorised as the following:
- Flood Zone 1 – Land assessed as having a less than 0.1% (1 in 1,000) annual probability of flooding.
 - Flood Zone 2 – Land assessed as having between 0.1% - 1% (1 in 100 to 1 in 1,000) annual probability of river flooding or 0.1% - 0.5% (1 in 200 to 1 in 1,000) annual probability of sea flooding and accepted recorded flood outlines.
 - Flood Zone 3 – Areas shown to be at a 1% (1 in 100) or greater annual probability of river flooding or 0.5% (1 in 200) or greater annual probability of flooding from the sea.
- 6.7 The EA Flood Map for Planning⁶ (accessed August 2025) indicates that the southeast portion of the site is located within Flood Zones 2 and 3. The remainder of the site is located within Flood Zone 1. The EA Flood Map for planning has been included as Figure 4.

⁶ <https://flood-map-for-planning.service.gov.uk/>

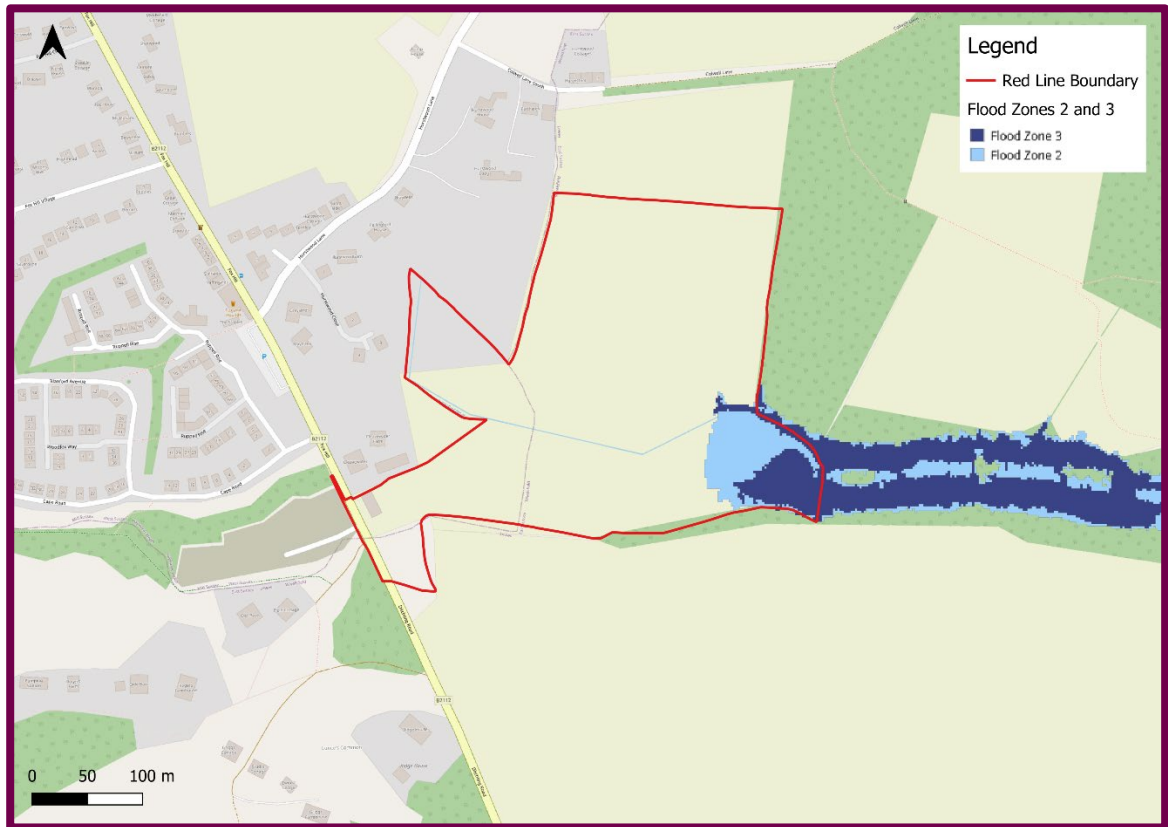


Figure 4. EA Flood Map for Planning

6.8 Figure 5 below shows the Flood Zone extents overlain on the planning layout. This indicates that several properties within the southeastern corner of the site fall within Flood Zone 2.

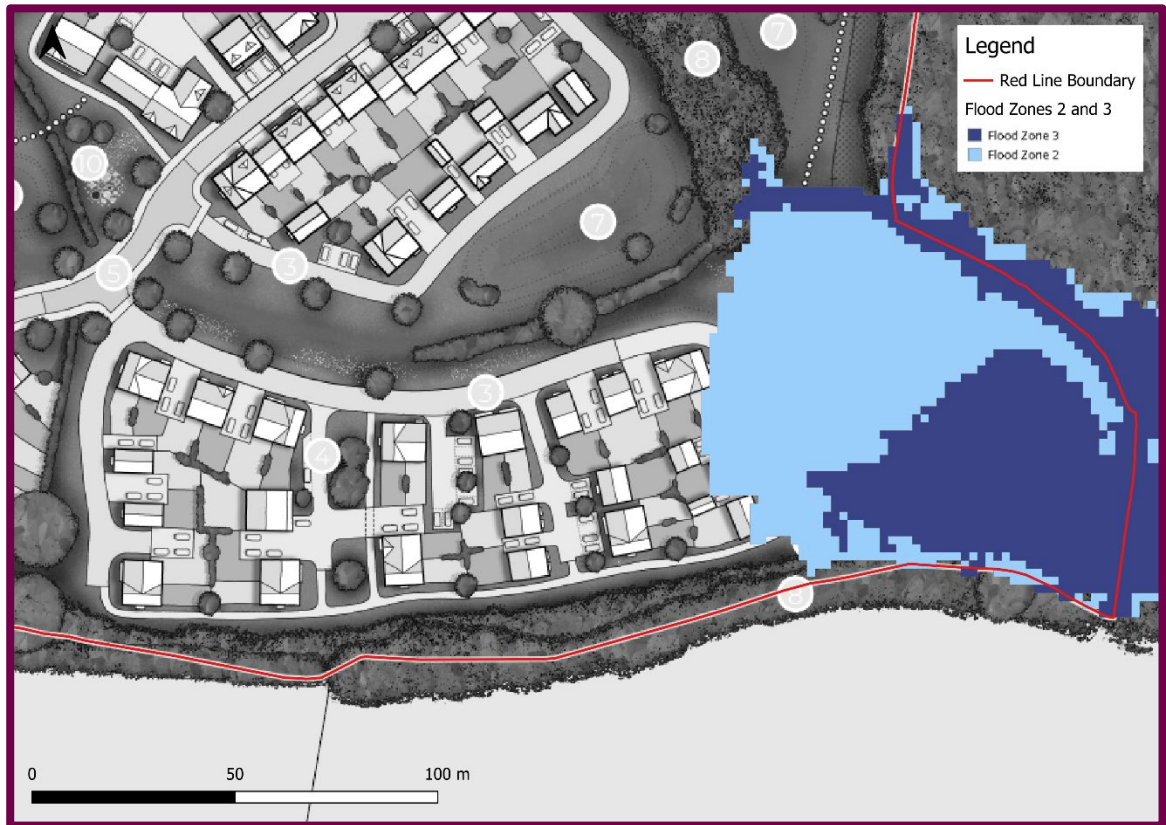


Figure 5. Flood Map for Planning – Flood Zones 2 and 3

6.9 The recently updated EA Flood Map for planning also now shows extents for Rivers and Sea with an allowance for climate change. As shown in Figure 6 below, the Rivers and Sea mapping indicates that south east corner of the Site is located within the Rivers and Sea extents.

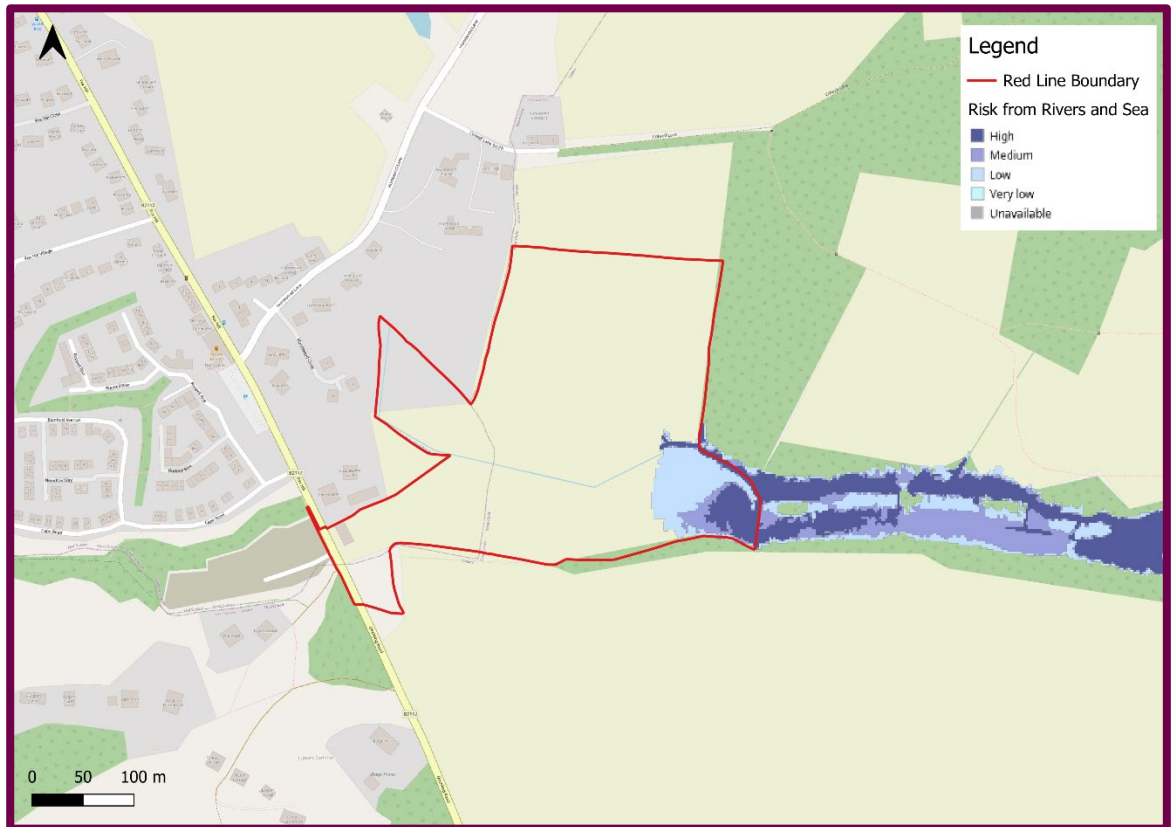


Figure 6. Risk from Rivers and Sea

6.10 It should be noted, that although the site now falls within Flood Zone 2 and 3, the detailed hydraulic modelling undertaken for the site provides a site-specific understanding of the flood mechanisms of the site. As discussed below, this has been used to inform the development proposals and steer development away from areas at risk from flooding.

EA Flood Alert Area

6.11 The EA defines a Flood Alert Area as “geographical areas where it is possible for flooding to occur from rivers sea and in some locations groundwater”.

6.12 The Site is not located within a Flood Alert Area.

EA Flood Warning Area

6.13 The EA defines a Flood Warning Area as “geographical areas where we expect flooding to occur and where we provide a Flood Warning Service. They generally contain properties that are expected to flood from rivers or the sea and in some areas, from groundwater.”

6.14 The site is not located within a Flood Warning Area.

Surface Water Flood Risk Classification

6.15 The EA's Flood Map for Surface Water⁷ (accessed February 2025), shows that land in the west and the south of the site has a 'Low' and 'Medium' risk of surface water flooding. Additionally, 'High' risk of surface water flooding is shown within the site in localised areas in the southeast, west and adjacent to the Pellingford Brook. This appears to be a flow path associated with the watercourse, flowing off-site to the east. The surface water flood map has been included as Figure 7. The surface water flood extents between 2040 and 2060 are also shown in Figure 8. Compared with the present day surface water mapping, the 2040-2060 mapping shows a marginal increase in the surface water flood extents. As per the February 2025 mapping, the areas of 'high' risk are more extensive on the 2040-2060 mapping, particularly in the south of the site.

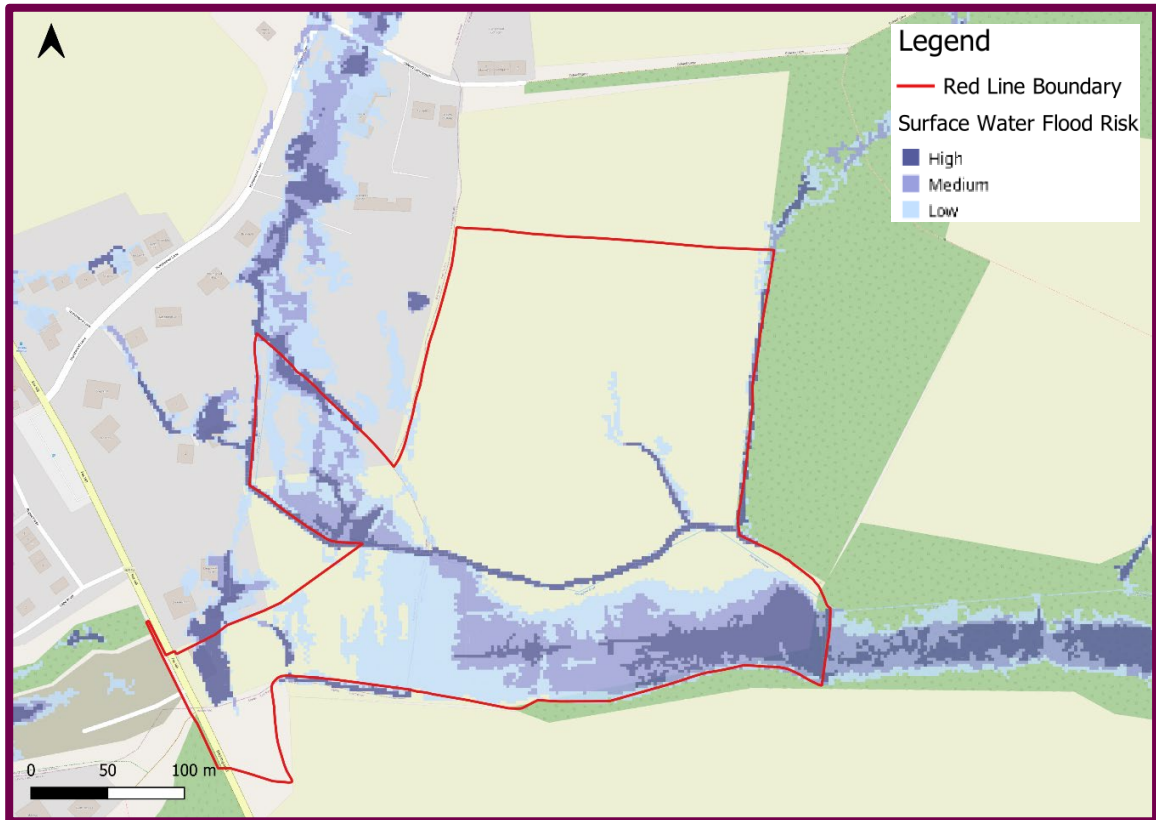


Figure 7. Surface Water Flood Risk Present Day

⁷ <https://check-long-term-flood-risk.service.gov.uk/>

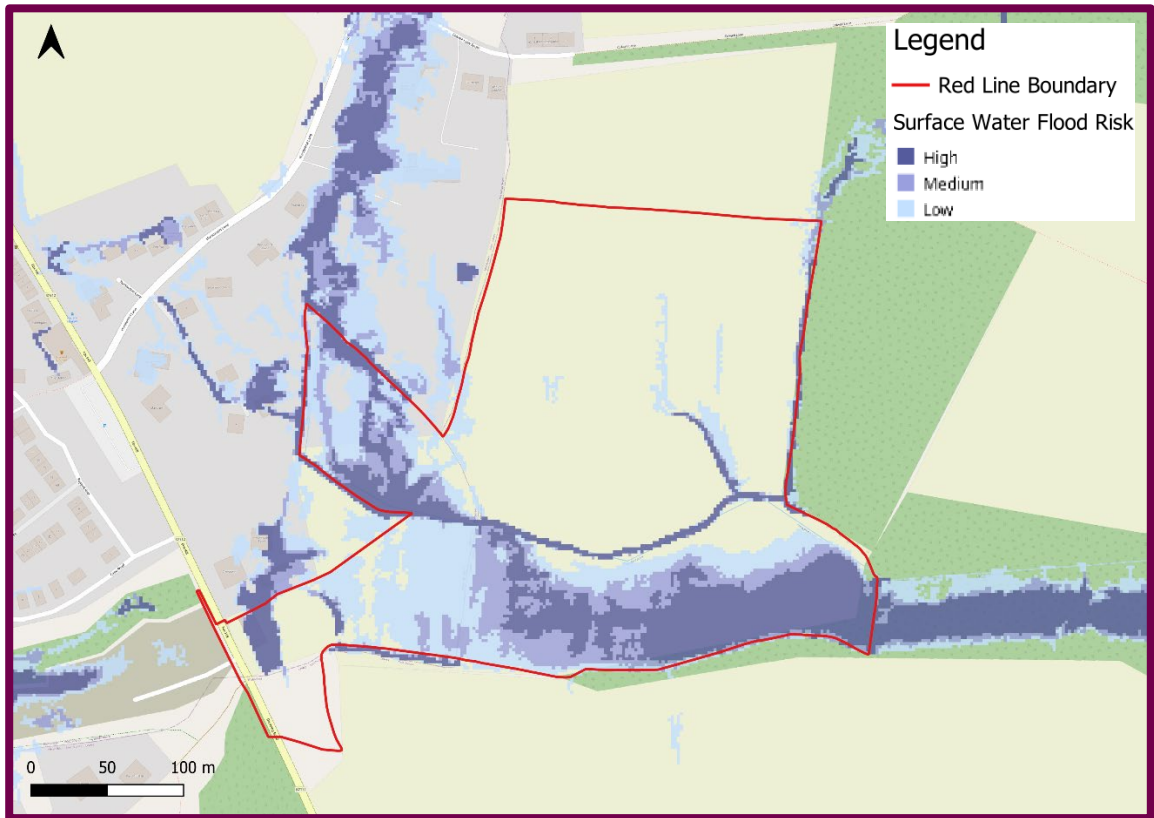


Figure 8. Surface Water Flood Risk Between 2040 and 2060

6.16 Figure 9 below illustrates the surface water extents against the development layout. The majority of the development is located outside of the 'High' risk surface water extents. The northern portion of the development is mostly at 'Very Low' risk, with some smaller areas at 'Low' risk. The southern portion of the development is mostly located within 'Low' and 'Medium' risk areas, with 3 properties located in 'High' risk surface water extents.

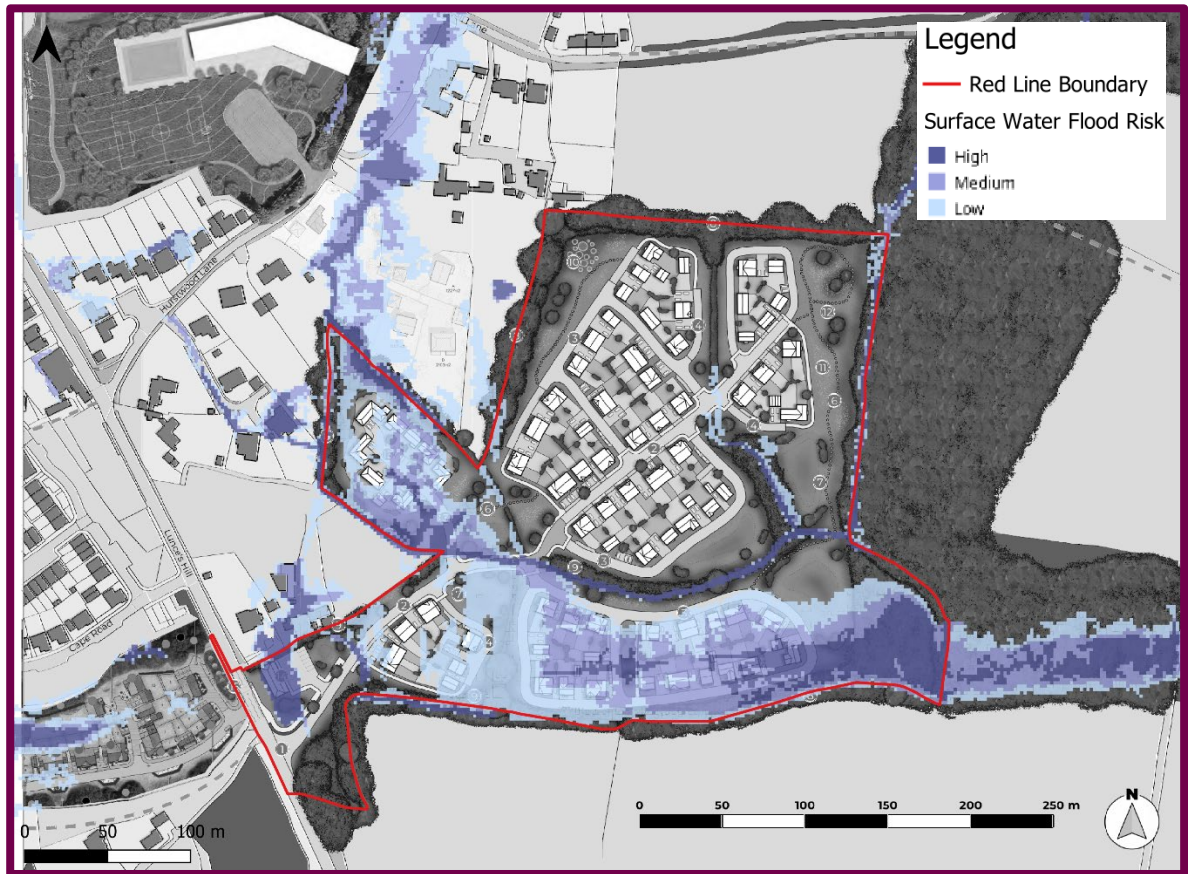


Figure 9. Surface Water Extents and Development Layout

- 6.17 Surface water flows primarily travel west to east through the site, with some limited areas of north to south flow. Depths are indicated to mainly below 300mm, and up to 600mm to 900mm in the southeast.
- 6.18 East Sussex County Council have advised that development on site should avoid the 1% (medium risk) surface water extent. Therefore, the proposed development should account for potential overland flows in the southern and western portion of the site.

Hydraulic Modelling Results

- 6.1.1 A hydraulic surface water modelling exercise was undertaken for the site, which aimed to provide a greater understanding of the site and wider catchment baseline conditions, alongside assessing flood risk to the proposed scheme and its potential impact on off-site flood risk and flow patterns.
- 6.1.2 As outlined within the report, provided in Appendix F, the 1 in 100 year +45% climate change extent is seen around the channel and ditches, but also has a large extent in the southeast corner of the site. Small, isolated areas of ponding are also seen in the south of the site and as water enters from the west. The highest depths, except for the channel and field drains, are seen in the southeast corner at between 300 mm and 900 mm. Depths in other flooded areas remain below 300mm.
- 6.1.3 The primary mechanism of flooding at the site is the large surface water flow pathway that exists in the south of the site and flows out beyond the site boundary to the southeast.
- 6.1.4 The baseline model results have been used to inform the proposed development design and flood risk mitigation.
- 6.1.5 The proposed scheme has been modelled, representing areas of storage, a bund, along with new culverts. The proposed roads and buildings within the proposed site plan have also been represented.

- 6.1.6 The model results have demonstrated at the Outline Planning Application stage that there is a viable scheme incorporating flood risk mitigation measures. The scheme appropriately reduces flood risk to more vulnerable land uses within the proposed development scheme. There is no increase in off-site flooding up to the 1 in 100 year flood with climate change allowance.

Reservoir Flood Risk Classification

- 6.19 The EA's Flood Map for Reservoirs⁸ (accessed February 2025) also indicates that the sites are not located within an area potentially at risk from reservoir flooding.

⁸ <https://check-long-term-flood-risk.service.gov.uk/>

7 HYDROGEOLOGICAL SETTING

- 7.1 British Geological Survey (BGS) online mapping⁹ (1:50,000 scale) indicates that part of the site is situated on Head deposits, comprising clay, silt, sand and gravel. There are no records of superficial deposits across the remainder of the site. This is underlain by Upper Tunbridge Wells Sand, comprising sandstone and siltstone.
- 7.2 There are no BGS boreholes within the site boundary.
- 7.3 The soils are described as ‘Slightly acid loamy and clayey soils with impeded drainage’ by Soilsclapes¹⁰.
- 7.4 MAGIC Map’s¹¹ Aquifer Designation Mapping indicates that the superficial deposits at the site are classified as a ‘Secondary (undifferentiated)’ Aquifer. These formations have varying characteristics in different locations. The bedrock at the site is classified as a ‘Secondary A’ Aquifer. These formations are formed of permeable layers capable of supporting water supplies at a local scale, in some cases forming an important source of base flow to rivers.
- 7.5 MAGIC Map’s¹² Source Protection Zone (SPZ) mapping indicates that the site is not located within a groundwater SPZ.

⁹ <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>

¹⁰ <https://www.landis.org.uk/soilsclapes/>

¹¹ <https://magic.defra.gov.uk/magicmap.aspx>

¹² <https://magic.defra.gov.uk/magicmap.aspx>

8 EXISTING DRAINAGE / WATER MAINS

- 8.1 Southern Water plans of public sewers, included as Appendix G, indicates that a foul rising main passes through the site from the west to the north east. No surface water sewers are indicated to be present within the site boundary.
- 8.2 Two water mains are indicated to pass through the site from the south east and south west towards the north.

9 FLOOD RISK AND MITIGATION

9.1 The key sources of flooding that could potentially impact the site are discussed below:

Fluvial / Tidal Flooding

9.2 The EA Flood Map for Planning indicates that the majority of the site is located within Flood Zone 1. The south east corner of the site is located within Flood Zones 2 and 3.

9.3 The PPG details the suitability of different land uses within each flood zone. The proposed land use, residential, is classified as 'More Vulnerable'. More Vulnerable land uses within Flood Zone 1 and 2 are deemed acceptable. The proposed development is located outside of Flood Zone 3.

9.4 As previously mentioned, hydraulic modelling has been undertaken for the site which provides a site-specific understanding of surface water flooding mechanisms. Due to the fluvial extents at the site, it is determined that this can be used as a proxy for the updated fluvial risk to the site, and the proposed mitigation and design considerations applied to the development are also applicable to mitigating the fluvial flood risk.

9.5 Flood risk from fluvial / tidal flooding is considered to be Medium.

Flooding from Sewers

9.6 The site is greenfield land, however sewer records indicate a rising foul sewer passes through the site.

9.7 The Mid Sussex District Council SFRA mapping indicates that incidences of external sewer flooding have occurred in the within the vicinity of the site, however no specific details have been provided.

9.8 The Lewes District Council SFRA does not indicate that sewer flooding has occurred in the vicinity of the site postcode.

9.9 Flood risk from sewer flooding is considered to be medium.

Surface Water Flooding (Overland Flow)

9.10 This can occur during intense rainfall events, when water cannot soak into the ground or enter drainage systems.

9.11 The west and the south of the site has a 'Low' and 'Medium' risk of surface water flooding. Additionally, 'High' risk of surface water flooding is shown within the site in localised areas in the southeast, west and adjacent to the Pellingford Brook.

9.12 The majority of the development is located outside of the 'High' risk surface water extents. The northern portion of the development is mostly at 'Very Low' risk, with some smaller areas at 'Low' risk. The southern portion of the development is mostly located within 'Low' and 'Medium' risk areas, with one property located in 'High' risk surface water extents.

9.13 Flows across the site primarily travel west to east, with some limited areas of north to south flow. Depths are indicated to mainly be 'Below 150mm' and '150 to 300mm' in the south west areas, and '600 to 900mm' in the south eastern areas.

9.14 A hydraulic modelling exercise has been undertaken for the site, the conclusions of which have determined, at the Outline Planning Application stage that there is a viable scheme incorporating flood risk mitigation measures. The scheme appropriately reduces flood risk to more vulnerable land uses within the proposed development scheme. There is no increase in off-site flooding up to the 1 in 100 year flood with climate change allowance.

- 9.15 Flood risk from surface water flooding is considered to be High, however with the implementation of aforementioned mitigation, this can be suitably managed.

Groundwater Flooding

- 9.16 This can occur in low-lying areas when groundwater levels rise above surface levels, or within underground structures.
- 9.17 British Geological Survey (BGS) online mapping indicates that part of the site is situated on Head deposits, comprising clay, silt, sand and gravel. There are no records of superficial deposits across the remainder of the site. This is underlain by Upper Tunbridge Wells Sand, comprising sandstone and siltstone. The soils are described as 'Slightly acid loamy and clayey soils with impeded drainage' by Soilscales.
- 9.18 Information received from East Sussex and West Sussex County Council suggests that the site is unlikely to be at risk from groundwater flooding.
- 9.19 The site is within Drainage Risk Area 3 (as identified by the ESCC Drainage Report in Appendix B) and as a result, infiltration techniques are unlikely to be effective.
- 9.20 No basement levels are proposed within the development.
- 9.21 Flood risk from groundwater flooding is considered to be low.

Other Sources

- 9.22 The EA Flood Map and Mid Sussex District Council SFRA mapping confirms that the site is located outside of reservoir flooding extents.
- 9.23 As with any urban location, there is the risk of a break in a water main causing localised flooding at the site. A burst pipe can result in flooding of roads and property. Areas at most risk are low points in topography along open roads and tunnels. The development proposals will be designed to ensure that any overland flows are routed away from buildings and intercepted by gullies and or drainage channels, therefore potential risks posed by a break in a water main can be considered negligible.
- 9.24 No canals are located within 1km of the development.

Proposed Mitigation

- 9.25 The development proposals will be designed to ensure that any overland flows are routed away from buildings and intercepted by gullies and or drainage channels. Where possible, levels should fall away from buildings, and areas where water could dam up against structures should be avoided, even if drainage is provided.
- 9.26 Due to the surface water risk at the site, it is likely that finished floor levels will need to be raised at least 300mm above maximum surface water flood depths. Flood depths will be confirmed by surface water modelling, which is currently being undertaken.
- 9.27 If any permeable areas are not formally drained, it should then be demonstrated that flood flow routes and depths would not affect property, car park areas or other such infrastructure. Overland flows should be routed towards gullies where applicable and not into third party land.
- 9.28 Implementing a surface water drainage system for the site, will protect third parties as surface water will be intercepted and not be allowed to run-off at an uncontrolled rate.
- 9.29 A basic level of flood resistance and resilience can be achieved by following good building practice and complying with the requirements of the Building Regulations 2010 and the supporting 'Approved Documents'. The EA's Floodline Publication 'Damage Limitation' provides information on flood proofing measures.

- 9.30 The implementation of a surface water drainage strategy will ensure that once the site is developed, surface water will be intercepted and managed. This will provide a betterment on the existing situation and ensure flood risk does not increase for the site and surrounding areas.
- 9.31 To mitigate the surface water flood risk on site, measures will be incorporated into the development proposals to ensure the surface water flow path is managed, such that it will not pose a risk to the proposed dwellings and offsite flood risk is not increased. These mitigation measures could take the form of storage areas to provide flood compensation and widening the watercourse to provide a more formalised flow path.

Event Exceedance

- 9.32 As recommended above, the implementation of a surface water drainage system will work to ensure that surface water flows are appropriately managed to reduce the risk to the development.
- 9.33 Following the implementation of a surface water drainage strategy, a residual risk will remain for the proposed development. By ensuring on-site sewers are designed in accordance with Building Regulations and the latest Sewerage Sector Guidance, this will take account of overland flood flow routes and divert any excess surface water around and away from proposed buildings to mitigate flood risk.

10 DRAINAGE STRATEGY

Introduction

10.1 The site has approximately 0.868 ha (hectares). The type of development proposed is classed as ‘more vulnerable’ residential development, with a design life of 100 years. Therefore, for the purposes of this assessment, taking into account the Environment Agency’s climate change allowances (published in May 2022), a 45% increase in peak rainfall intensity has been included as a climate change allowance, which caters up to the year 2125. No climate change guidance is available beyond 2125.

Existing Surface Water Runoff Rates

Greenfield Runoff Rate

10.2 The greenfield nature of the site means that surface water will slowly soak into the ground (infiltrate), be intercepted by vegetation or run off by way of overland flow, according to the soil characteristics and following the topography of the site. The greenfield runoff rate per hectare (ha) for the proposed impermeable areas have been calculated using the FEH Method. The greenfield rates are presented in Table 3 below and provided in Appendix H.

Table 3. Greenfield Runoff (Based on 1ha)

Return Period	Greenfield Runoff Rate (l/s)
Q1	5.1
QBar	5.96
Q30	13.7
Q100	19

Consideration of Drainage Hierarchy

10.3 The recently issued DEFRA “National standards for sustainable drainage systems (SuDS)” (Published June 2025) advises of the following hierarchy for the disposal of surface water.

“Runoff from the development shall be discharged to the following final destinations, to the maximum extent practicable, in accordance with the below hierarchy:

- priority 1: collected for non-potable use
- priority 2: infiltrated to ground
- priority 3: discharged to an above ground surface water body
- priority 4: discharged to a surface water sewer, or another piped surface water drainage system
- priority 5: discharged to a combined sewer

Note 1: priority 1 is the highest priority and priority 5 is the lowest.

10.4 The drainage hierarchy has been considered as follows.

Priority 1 - Collected for non-potable use

- 10.5 The use of non-potable water within the development will be considered as the masterplan develops.

Priority 2 - Infiltration

- 10.6 The near surface geology is unlikely to be suitable for the use of soakaway drainage.

Priority 3 - To a Surface Water Body

- 10.7 Where infiltration is not feasible, discharging to a surface water body should be considered, subject to proximity of nearby watercourses in accordance with LLFA requirements. Where drainage needs to cross third party land, relevant consent will be required. In addition, appropriate consent will be required for surface water discharge into Main Rivers / Ordinary Watercourses/Canals.
- 10.8 Pellingford Brook is located within the site boundary. Drainage to this waterbody is considered the most suitable option.

Priority 4 - To a Surface Water Sewer, Highway Drain or Another Drainage System

- 10.9 Sewer networks within the vicinity of the site are operated by Southern Water. Asset Location Plans indicate there are no surface water sewers within the site boundary which can be used as a connection point.

Priority 5 - To a Combined Sewer

- 10.10 Sewer networks within the vicinity of the site are operated by Southern Water. Asset Location Plans indicate there are no surface water sewers within the site boundary of the site which can be used as a connection point.

Proposed Surface Water Drainage

- 10.11 Southern Water sewer records, located in Appendix G, indicate that there are no existing public surface water sewers within the Site Boundary.
- 10.12 Under the terms of Section 3 of Approved Document H3 of the Building Regulations 2010 (2015 edition), soakaways should be utilised as the primary means of surface water disposal. If infiltration testing undertaken in accordance with BRE:365 (2016) provides an unfavourable infiltration rate across the site or contaminated ground is present within the site, other methods of sustainable drainage should be considered. A surface water connection to an existing watercourse should be considered prior to a connection into the public sewerage system.
- 10.13 The Conceptual Drainage Strategy illustrating drainage proposals is provided within Appendix I.
- 10.14 Surface water flows will be conveyed via a piped network towards attenuation basins located across the site, before discharging into the watercourse at a restricted rate. A summary of proposal is included below and Causeway Flow Quick Storage Estimates (QSE) are provided in Appendix J.

Attenuation Pond 1

- QSE = 492m³ to 688m³
- Proposed Storage Volume = 512m³

Attenuation Pond 2

- QSE = 653m³ to 912m³
- Proposed Storage Volume = 678m³

Attenuation Pond 3

- QSE = 561m³ to 784m³
- Proposed Storage Volume = 736m³

Attenuation Pond 4

- QSE = 176m³ to 246m³
- Proposed Storage Volume = 333m³

Attenuation Pond 5

- QSE = 141m³ to 197m³
- Proposed Storage Volume = Two 83m³ ponds interconnected by a 600mm pipe; therefore 166m³ total.

10.15 No existing surface water drainage has been identified within the boundary of the site. Should any drainage features be located serving off site areas, it may be necessary that these are diverted or incorporated within the on-site drainage proposals.

10.16 It should be noted that both the Conceptual Drainage Strategy indicated within Appendix I, and calculations within Appendix J, are preliminary, and as such, subject to further detailed design and approval by the relevant authorities. However, the designs illustrate that surface water arising from the development may be sustainably managed such that it does not pose a flood risk, either to proposed or existing development, to the 1 in 100 year + climate change storm event including an additional allowance for future 'urban creep'.

Site Specific SuDS Benefits

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

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

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

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

Attenuation Basin

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

provide aesthetic and amenity value. Planting can be used to improve biodiversity and attract wildlife.

Water Quality

- 10.20 Surface water run-off should be managed by SuDS that are designed to attenuate flows and to avoid water quality impacts downstream. To demonstrate that surface water arising from the development will be appropriately treated prior to discharge, the Simple Index Approach, as outlined within the SuDS Manual (CIRIA C753) has been followed.
- 10.21 As stated in the SuDS Manual 2015 (C753), the risk posed by surface water runoff to the receiving environment is a function of:
 - the pollution hazard at a particular site (i.e. the *pollutant source*)
 - the effectiveness of SuDS treatment components in reducing levels of pollutants to environmentally acceptable levels, groundwater (i.e. the *pollutant pathway*)
 - the sensitivity of the receiving environment (i.e. the *environmental receptor*).
- 10.22 The most significant pollutant load within the site will arise from individual property driveways, residential car parks, low traffic roads and non-residential car parking with infrequent change. These have an identified pollutant hazard level of 'Low as per the SuDS Manual (CIRIA C753) Table 26.2, with identified pollutant hazard indices of 0.5 for Total Suspended Solids (TSS), 0.4 for Metals, and 0.4 for Liquid Hydrocarbons.
- 10.23 To deliver adequate treatment, the selected SuDS components should have a total pollution mitigation index (for each contaminant type) that equals or exceeds the pollution hazard index (for each contaminant type).
- 10.24 The information summarised in Table 4 below indicates that suitable pollution mitigation provision would be afforded through the use of the attenuation basin.

Table 4: Summary of Pollution Hazard and Mitigation Indices for Site and Proposed SuDS components

Pollution	Pollution Hazard	SuDS Component	TSS	Metal	Hydro-carbons
Hazard Indices	Low	-	0.5	0.4	0.4
SuDS Mitigation	-	Attenuation Basin	0.5	0.5	0.6
Total SuDS Mitigation	-	-	0.5	0.5	0.6

- 10.25 This confirms that surface water arising from the development will receive an appropriate level of treatment in advance of discharge from site. Landscaping may also provide additional surface water treatment in advance of discharge.
- 10.26 The maintenance and adoption of the SuDS features are described below.

Proposed Foul Water Drainage

- 10.27 It is proposed to discharge foul water from the development to the existing foul water sewer in Fox Hill via a rising main to MH 770F. This is subject to confirmation of levels, discharge rates and capacity from Southern Water.
- 10.28 The foul water connection into the existing network will be subject to the successful submission of a Section 106 agreement under the Water Industry Act and approval from Southern Water.

Maintenance and Adoption

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

Tables 5 to 7, below, indicate the envisaged maintenance activities associated with the proposed attenuation basin, associated headwalls, and the flow control manhole, along with the approximate frequency within which they should be completed.

Table 5: Attenuation Basin Suggested Maintenance Schedule

Maintenance schedule	Require Action	Typical Frequency
Regular Maintenance	Remove litter and debris	As required potentially monthly
	Cut grass – public areas	Monthly (during growing season)
	Cut grass – meadow grass in and around basin	Half yearly (spring, before nesting season, and autumn)
	Inspect vegetation to pond edge and remove nuisance plants (for first 3 years)	Monthly (at start, then as required)
	Hand cut submerged and emergent aquatic plants (at minimum of 0.1m above pond base; include max 25% of pond surface)	Annually
	Remove 25% of bank vegetation from waters edge to a minimum of 1m above water level	Annually
	Tidy all dead growth before start of growing season	Annually
	Remove sediment from forebay	1 – 5 years, or as required
	Remove sediment from one quadrant of the main body of ponds without sediment forebays	2 – 10 years (usually)
Occasional Maintenance	Remove sediment from the main body of big ponds, when pool volume is reduced by 20%	>25 years (usually)
Remedial Actions	Repair of erosion or other damage	As required

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	Aerate pond when signs of eutrophication are detected	As required
	Realignment of rip rap or other damage	As required
	Repair/rehabilitation of inlets, outlets and overflows	As required
Monitoring	Inspect structures for evidence of poor operation	Monthly/after large storms
	Inspect banksides, structures, pipework etc. for evidence of physical damage	Monthly/after large storms
	Inspect water body for signs of eutrophication	Monthly (May - October)
	Inspect silt accumulation rates and establish appropriate removal frequencies	Half yearly
	Check penstocks and other mechanical devices	Half yearly

Table 6: Inlet and Outlet Headwalls Suggested Maintenance Schedule

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

Table 7: Flow Control Manhole Suggested Maintenance Schedule

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

11 SEQUENTIAL TEST AND EXCEPTION TEST

Vulnerability Classification

- 11.1 In accordance with the Flood Risk Vulnerability Classification in Annex 3 of the NPPF, a housing development is classified as a 'More Vulnerable' development in flood risk terms.
- 11.2 The majority of the site is located within Flood Zone 1, with areas in the south east of the site located within Flood Zone 2 and 3. More Vulnerable development is deemed permitted within Flood Zone 1 and 2. An exception test is required for More Vulnerable development located within Flood Zone 3.

Sequential Test

- 11.3 The NPPF requires the Local Authority to apply the Sequential Test in consideration of new development. The aim of the Test is to steer new development to areas at the lowest probability of flooding.
- 11.4 The revised section of the NPPF (December 2024) on "planning and flood risk" makes it clear that the flood sequential test is intended to be applied to all sources of flood risk, not just river/sea flooding. Paragraph 174 and 175 of the NPPF states:
- "The aim of the sequential test is to steer new development to areas with the lowest risk of flooding from any source. Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding. The strategic flood risk assessment will provide the basis for applying this test."*
- "The sequential test should be used in areas known to be at risk now or in the future from any form of flooding, except 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 be at risk of flooding from any source, now and in the future (having regard to potential changes in flood risk)."*
- 11.5 The approach we have taken is to look at all sources of flooding at the site, to determine whether a flood sequential test is required – i.e. we have assessed the development to establish whether it is an area with the lowest risk of flooding from any source.
- 11.6 The majority of the site is located within Flood Zone 1, with areas in the south east of the site located within Flood Zone 2 and 3. As per the 'flood risk vulnerability and flood zone 'incompatibility'' table¹³, More Vulnerable development is deemed suitable within Flood Zone 1 and 2, without the application of the Exception Test.
- 11.7 Large areas of the site are at 'Very Low' risk of surface water flooding. Areas of 'Low to High' surface water flood risk are present across the site. These are associated with the watercourses present and an existing surface water flow path.
- 11.8 The site is not considered to be at flood risk from groundwater or reservoir flood risk.
- 11.9 Following good building practice and complying with the requirements of the Building Regulations 2010 and the supporting 'Approved Documents', will further reduce the likelihood of flooding affecting properties at the site.
- 11.10 It should be noted that an update to the to the NPPF technical guidance (National flood risk standing advice for local planning authorities, dated 23rd August 2024 ("When development is exempt from the sequential test") states:

¹³ <https://www.gov.uk/guidance/flood-risk-and-coastal-change#table2>

“You may not need a sequential test if development can be laid out so that only elements such as public open space, biodiversity and amenity areas are located in areas at risk of any source of current or future flooding.”

- 11.11 This is now mirrored in Paragraph 175 of the updated NPPF.
- 11.12 Residential development parcels have been steered based upon the results of the site-specific hydraulic modelling. The exercise also determines there is no increase in off-site flooding up to the 1 in 100 year flood with climate change allowance. It has been determined that the results can also be applied to the fluvial extents within the site boundary, and therefore, development has been steered away from all areas of flood risk.

The Exception Test

- 11.13 According to Table 3 of the PPG, more vulnerable developments are considered appropriate within Flood Zone 1 and 2 without the requirement to apply the Exception Test. The proposed development is located outside of Flood Zone 3.

12 SUMMARY AND CONCLUSIONS

- 12.1 The aim of the FRA is to outline the potential for the site to be impacted by flooding, the potential impacts of the development on flooding both onsite and in the vicinity, and the proposed measures which can be incorporated into the development to mitigate the identified risks. The report has been produced in accordance with the guidance detailed in the NPPF.
- 12.2 The potential flood risks to the site, and the measures proposed to mitigate the identified risks, are summarised in Table 8.

Table 8. Proposed mitigation

Source of Flooding	Identified Risk			Suggested Mitigation	Residual Risk		
	L	M	H		L	M	H
Fluvial	✓			No mitigation necessary	✓		
Tidal	✓			No mitigation necessary	✓		
Sewers	✓			No mitigation necessary	✓		
Surface Water			✓	Redefined flow pathways and development layout to reduce risk			✓
Groundwater	✓			No mitigation necessary	✓		
Other Sources (e.g. reservoirs, water mains)	✓			No mitigation necessary	✓		

- 12.3 The majority of the site is located within Flood Zone 1, with areas in the south east of the site located within Flood Zone 2 and 3.
- 12.4 The site is at 'Low' to 'High' risk from surface water flooding. Current suggested mitigation includes following best practice construction and design methods and implementing a surface water drainage strategy at the site. It is likely that this would minimally reduce the risk from surface water sources.
- 12.1.1 Surface water modelling has been undertaken for the site. The modelling demonstrates that there is a viable scheme incorporating flood risk mitigation measures. The scheme appropriately reduces flood risk to more vulnerable land uses within the proposed development scheme. There is no increase in off-site flooding up to the 1 in 100 year flood with climate change allowance.



APPENDICES


Appendix A

EA Consultation Response

Kesterton, Madeleine

From: PSOEastSussex <PSOEastSussex@environment-agency.gov.uk>
Sent: 28 August 2024 14:16
To: Hughes, Joshua
Subject: FW: SSD373700HF - Product 4 Request - Land off Lunces Hill, Haywards Heath, RH16 4QT
Attachments: Risk of Flooding from Surface Water- Land off Lunces Hill, Haywards Heath, RH16 4QT.pdf

You don't often get email from psoeastsussex@environment-agency.gov.uk. [Learn why this is important](#)

 **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments.



Dear Joshua,

Thank you for contacting us regarding your Product 4 Request for the Land off Lunces Hill, Haywards Heath, RH16 4QT.

Please find attached the Risk of Flooding from Surface Water Map for this location which can provide an indication of flood risk.

We hold no detailed model data for the Pellingford Brook. The Flood Zones in this area have been drawn using generalised, national scale modelling and there is also data missing at this location. Neither water depths nor water levels were outputs that were specified when we commissioned this generalised modelling for Flood Zones. Whilst the modelling process does provide some information on depth of water, it would have been possible to produce the flood extents without storing the water depth values, since water depth is only a 'by-product' of the calculation process. As the JFLOW modelling method was developed, tested and reviewed for production of the Flood Zone extents only, we currently have no information on the accuracy of the water depth data. Therefore, this modelling is **not** suitable for use in site specific Flood Risk Assessments and further modelling would be required. Please see attached JFlow Caveats document.

For FRA and pre-planning advice please see attached 'FRA Advisory Text' and 'SSD Pre-app advice note September 2019'.

For information on flooding from other sources such as surface water please contact the Lead Local Flood Authority, East Sussex County Council.

Guidance on climate change allowances and how to use them in Flood Risk Assessments can be found [here](#).

For future reference, detailed flood information and maps can be viewed using the [Long Term Flood Risk Information](#) service and [Flood Map for Planning](#) service. Flood and Coastal Risk Management asset information, and details of all planned maintenance activities can be viewed using the [Asset Management](#) Service.

You are encouraged to use and re-use the information provided freely and flexibly, however there are a few conditions. Please see licence details here: <http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>

Please do not hesitate to contact us at PSOEastSussex@environment-agency.gov.uk if you have any further queries regarding this enquiry.

Kind regards,
Alice

Alice Bevan

Partnership and Strategic Overview - East Sussex

Environment Agency | Chichester Office, Oving Road, Chichester, West Sussex, PO20 2AG

alice.bevan@environment-agency.gov.uk

Tel: 07900 051276



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Appendix 1

Product 4	Detailed Flood Risk Assessment Map, including flood zones, defences and storage areas, areas benefiting from defences, statutory main river designations, historic flood event outlines and more detailed information from hydraulic models (including model extents and 2D flood level data for specific points)
Product 5	Reports, including flood modelling reports, model user logs and guides, hydrology reports, etc
Product 6	Model Output Data, including product 5. <ul style="list-style-type: none">• flood outlines usually provided in shapefile format• 2D grids (level (h), depth (d) velocity (v) and hazard ZKU0) usually provided in ASCII or GeoTIFF format• 1D flow and level data Requires GIS software such as ArcGIS, MapInfo, QGIS or similar.
Product 7	Calibrated and Verified Model Input Data (CaVMID), including product 5. Enables customer to re-run and/or make changes to a hydraulic model. Requires specific hydraulic modelling software such as Flood Modeller, TUFLOW, or ICM InfoWorks.
Product 8	Breach Hazard Map Provides a hazard map of breaches in PDF format including, maximum flood depth, maximum flood velocity and maximum flood hazard. Please note product 8 is not available for fluvial models.

From: Hughes, Joshua <Joshua.Hughes@rps.tetrattech.com>
Sent: Friday, August 23, 2024 4:52 PM
To: SSD Enquiries <SSDEnquiries@environment-agency.gov.uk>
Subject: Product 4 Request - Land off Lunces Hill, Haywards Heath, RH16 4QT

Good Afternoon,

We wish to enquire with you regarding flood information for a proposed residential development located at land off Lunces Hill, Haywards Heath, RH16 4QT. Please find attached a location plan indicating the site boundary.

Please provide Product 4 data for the site including and historic flood records. It is understood that the site is located in Flood Zone 1, however the Pellingford Brook runs through the centre of the site. Do you have any modelled flood extents/levels for this watercourse?

We will be preparing a Flood Risk Assessment to support a planning application for this site, therefore do you have any site specific requirements for the assessment?

Please note we are also contacting the LLFA.

If you require any further information then let me know.

Kind Regards,
Josh

Josh Hughes

Consultant
RPS | Consulting UK & Ireland
4th Floor
1 Newhall St
Birmingham B3 3NH, United Kingdom
T +44 121 622 8520
D +44 1902 925 491
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Appendix B

East Sussex Consultation Response

Kesterton, Madeleine

From: Su DS Consultations - Flood <Su.DS@eastsussex.gov.uk>
Sent: 27 September 2024 13:49
To: Hughes, Joshua
Cc: Su DS Consultations - Flood
Subject: Flood Information Request - Land off Lunces Hill, Haywards Heath, RH16 4QT
Attachments: SHELAA_LW_24_022_240919_14-14.pdf; Location Plan_Haywards Heath.pdf

You don't often get email from su.ds@eastsussex.gov.uk. [Learn why this is important](#)

 **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments.



Dear Josh Hughes

Thank you for consulting with the LLFA.

I attach a 'WaterRide' report which contains site specific flood information from records held by the Council.

There is no proposed layout or drainage strategy submitted so we offer the following guidance. I note you will also consult with WSCC LLFA as the site spans both areas.

I offer the following guidance:

- As a minimum, development should be outside of the 1%AEP surface water risk extent (RoFSW), an assessment of risk over the lifespan of development due to climate change can be made or the 0.1% AEP RoFSW extent can be used as a robust worst case.
- The plan layout and supporting levels information must demonstrate that property is not at risk of flooding from existing overland flows, and that the design to alter or divert surface water flood risk is feasible. Existing overland flow paths should not be allowed to inundate proposed development attenuation storage such that the volume could be reduced at the commencement of the design storm. Alterations to existing surface water flow paths which could result in increased flood risk to third parties should be supported by 2D modelling in accordance with current EA modelling guidance.
- The site has a large plan area and we would welcome surface features which achieve sustainable drainage requirements and are incorporated into the layout as a landscape led multifunctional SuDS approach.
- The drainage hierarchy should be followed. The local geology is unlikely to support discharge to ground via infiltration to subsoil and we would not require physical ground investigation proof of inability to utilise infiltration. If infiltration is proposed, testing to BRE365 is required at planning stage as supporting evidence.
- Discharge to a watercourse is acceptable via formal positive drain and headwall. Ordinary watercourse consent is required prior to construction and separate to Town and Country Planning requirements. The technical design would be assessed as part of a discharge of conditions application and an application would be made to ESCC Watercourse Consenting. Alterations to existing watercourses and culverting should be avoided wherever possible and must be justified and the minimum necessary. Any culverts should be straight and not have intermediate chambers or turns.
- The criteria within the Defra Technical Standards for SuDS should be achieved. We also accept a simple flow control set to achieve QBar GFR for all storms including the design storm.

- Greenfield runoff should be calculated for the developed contributing area for the purposes of flow restriction. This can include private gardens and small areas of verge but should exclude landscaped areas and open space which would runoff separately to the drainage system. The best fit outline of this area should be indicated on the drainage layout.
- Water quality assessment can utilise the SuDS Manual Simple Index Approach or other suitable risk assessment.
- Sufficient design of drainage and levels must be provided at planning stage to demonstrate the functional design is feasible and meets sustainable drainage policy requirements. Exceedance paths should be shown for exceedance of inlet capacity as well as blockage or failure of key points in the system (storage and flow controls).
- Guidance on sustainable drainage is found on our webpages: www.eastsussex.gov.uk/environment/flooding/sustainable-drainage-systems. Please note the checklist for planning submissions and the policy on deepbore soakaways.

We do not have specific data on the ordinary watercourse crossing the site other than it is approximately 1.7m wide and has a catchment of approximately 390sq.km.

I hope this is sufficient to guide your designs but please let us know if you have any follow up queries.

Kind regards,

Andy French

Sustainable Drainage Advisor
Flood Risk Management - CET

SuDS@eastsussex.gov.uk



From: Hughes, Joshua <Joshua.Hughes@rps.tetrattech.com>

Sent: Tuesday, August 27, 2024 10:25 AM

To: Su DS Consultations - Flood <su.ds@eastsussex.gov.uk>

Subject: Flood Information Request - Land off Lunces Hill, Haywards Heath, RH16 4QT

Good Morning,

We wish to enquire with you regarding flood information for a proposed residential development located at land off Lunces Hill, Haywards Heath, RH16 4QT. Please find attached a location plan indicating the site boundary.

Please can you provide any flood information you hold for the site, such as flood maps and any historic flood records. The Pellingford Brook, an ordinary watercourse, runs through the site, do you hold any information on this?

We will be preparing a Flood Risk Assessment to support a planning application for this site, therefore do you have any site specific requirements for the assessment?

The site is partially located in east and west Sussex, therefore we are also contacting West Sussex County Council.

If you require any further information then let me know.

Kind Regards,
Josh

Josh Hughes

Consultant
RPS | Consulting UK & Ireland
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T +44 121 622 8520
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19/09/2024

Drainage Report

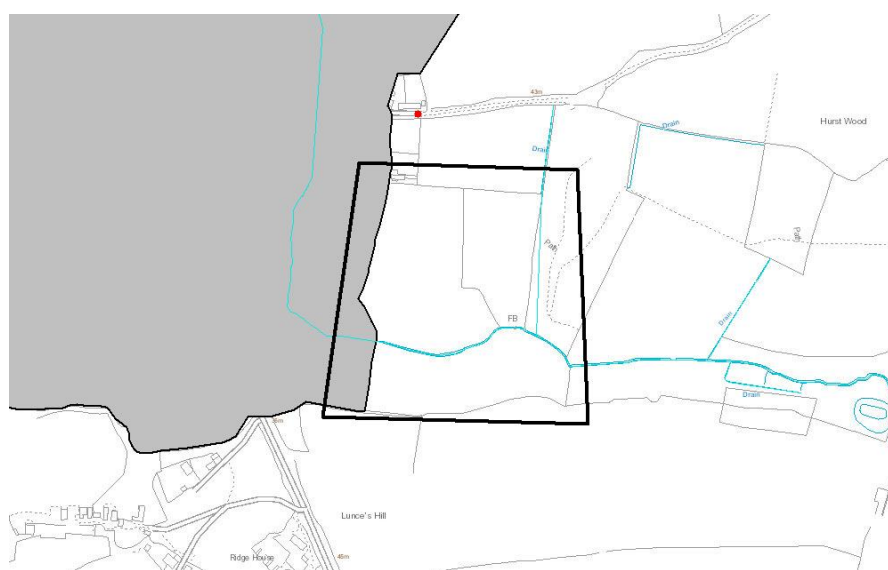
Site name: Land off Lunces Hill, Haywards Heath, RH16 4QT


ESCC Reference: SHELAA/LW/24/022,SUD/PRE/LW/24/008

Flood Risk

Flood Risk	Is any part of the site at risk?	Where to obtain additional information
Fluvial/Coastal	No	<u>Environment Agency</u>
Surface water	Yes	<u>Environment Agency</u>
Groundwater	Yes	<u>British Geological Survey</u>

The map below shows the flood incidents recorded in our database in the vicinity of the development site.



 Recorded flooding incident

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Figure 1: Recorded Flood Incidents

The table below provides details of the recorded flood incidents within the vicinity of the site.

Date	Source of flooding	Description
13/02/2020	Surface Water	Surface water flooding residential curtilage due to insufficient drainage.

Please note that our records only provide a snapshot of the flood history in the area, as the majority of incidents were compiled after the County Council was established as the Lead Local Flood Authority in 2010. Therefore, other risk management authorities, such as the Environment Agency, the Local Planning Authority and Southern Water may hold additional records.

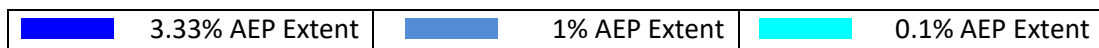
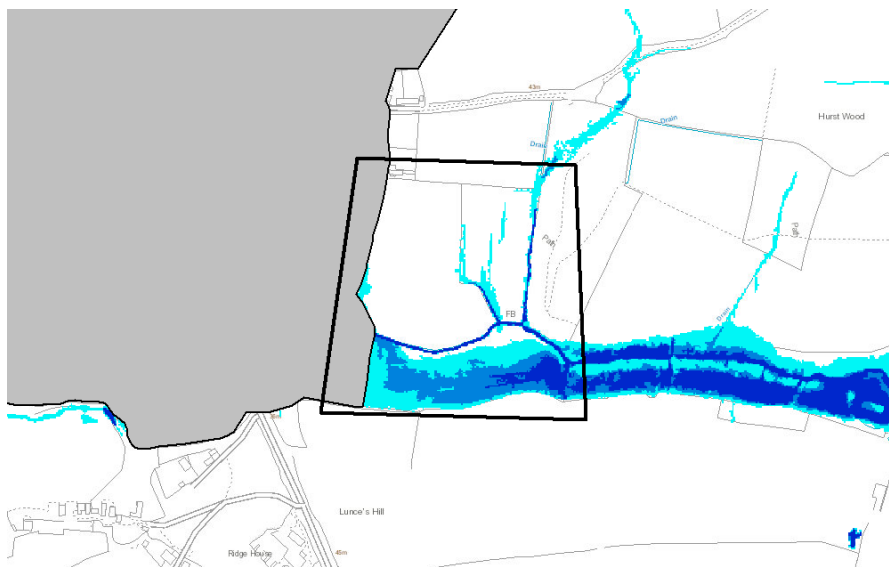
The surface water management strategy should include information on how the potential impacts of local flood risk sources on the proposed drainage arrangements have been considered and mitigated where necessary. Local flood risk sources include surface water, groundwater, sewer and ordinary watercourse flood risk.

Surface Water Flood Risk

The Environment Agency's surface water flood mapping shows the predicted surface water flood risk at the development site, and the table below gives the corresponding maximum flood depth:

Table 1: Surface Water Flood Depths

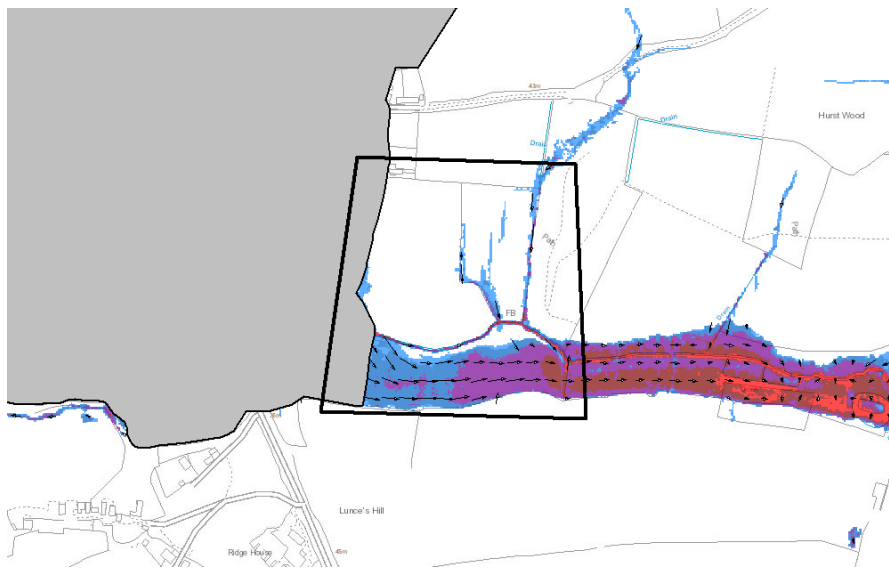
Flood Event	Maximum Depth
3.33% AEP (1 in 30 year)	0.93
1% AEP (1 in 100 year)	1.00
0.1% AEP (1 in 1000 year)	1.14








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Figure 2: Surface Water Flood Risk

The map below shows predicted depths and flow direction of surface water for the 0.1% AEP (1 in 1000) event:



	0.00 – 0.15m		0.15 – 0.30m		0.30 – 0.60m
	0.60 - 0.90m		> 0.90 m		

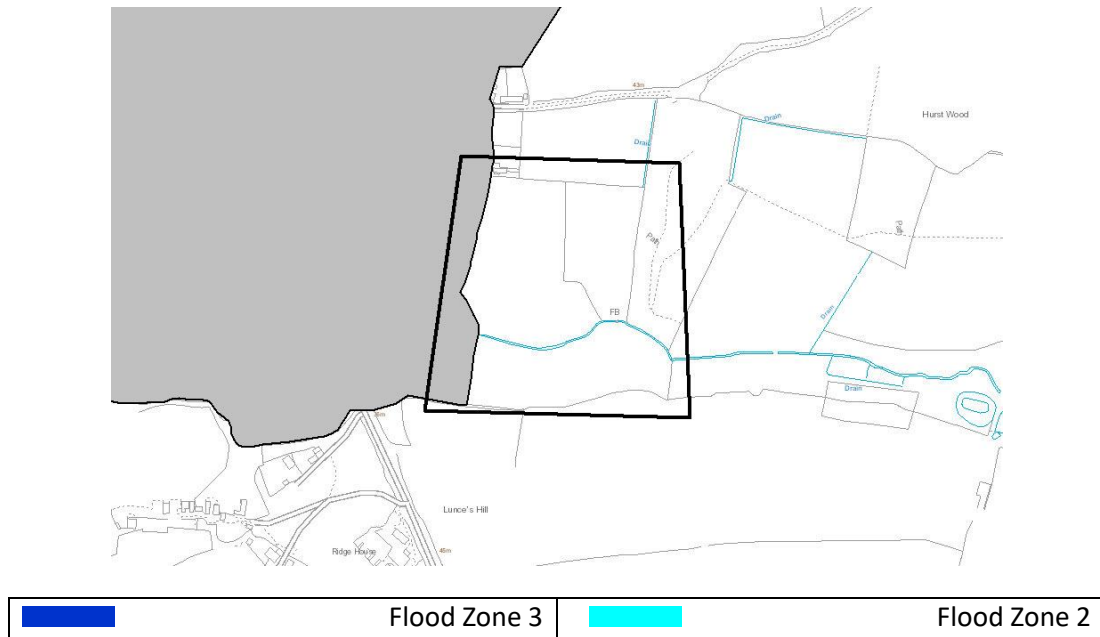
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Figure 3: 0.1% AEP depth and flow direction

Further information can be viewed online on at the Environment Agency's pages on the GOV.UK website.

Fluvial and Coastal Flood Risk

The Environment Agency's mapping shows that the property is not in the vicinity of Flood Zone 2 or Flood Zone 3.



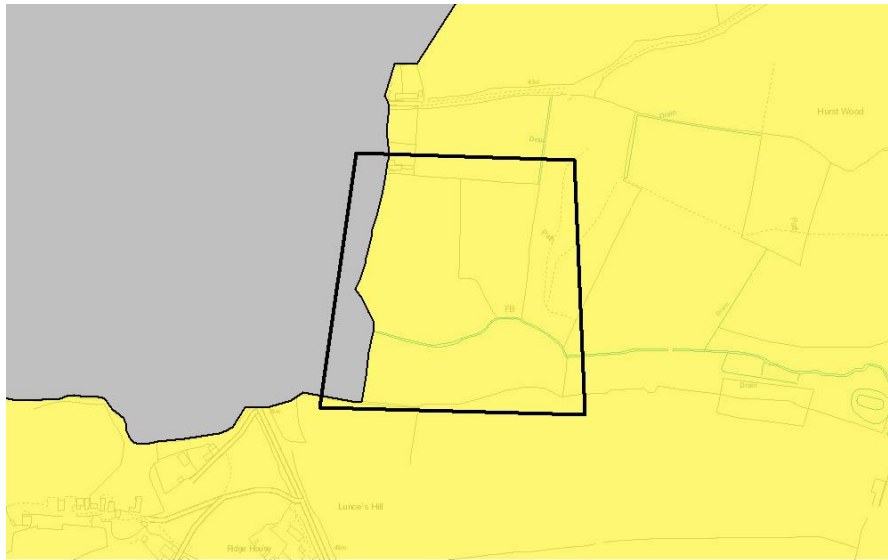
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Figure 4: Fluvial and Coastal Flood Risk

Further information can be viewed online at the Environment Agency's pages on the GOV.UK website.

Groundwater Flood Risk

Mapping from the British Geological Survey shows that there is a limited potential for groundwater flooding to occur to the site.



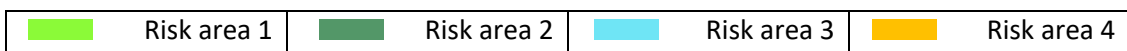
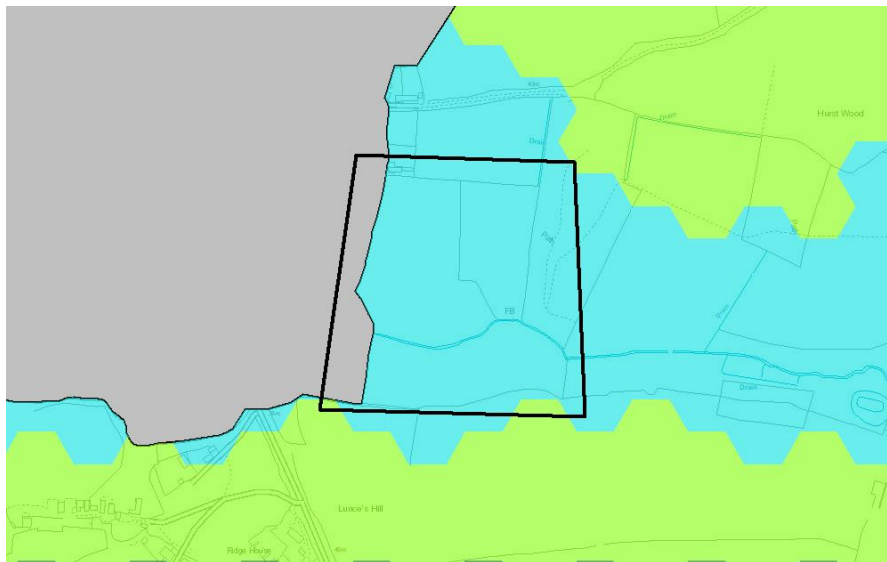
 Limited potential for groundwater flooding to occur	 Potential for groundwater flooding of property situated below ground level	 Potential for groundwater flooding to occur at surface
--	---	---

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Figure 5: Groundwater Flood Risk

Drainage Considerations

The council has carried out county wide analysis to classify East Sussex into four areas of broad drainage characteristics or Drainage Risk Areas (DRA). These spatial groupings are intended to inform the preparation of drainage strategies with development proposals, so that appropriate SuDS techniques are implemented in the county.



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Figure 6: Drainage Risk areas

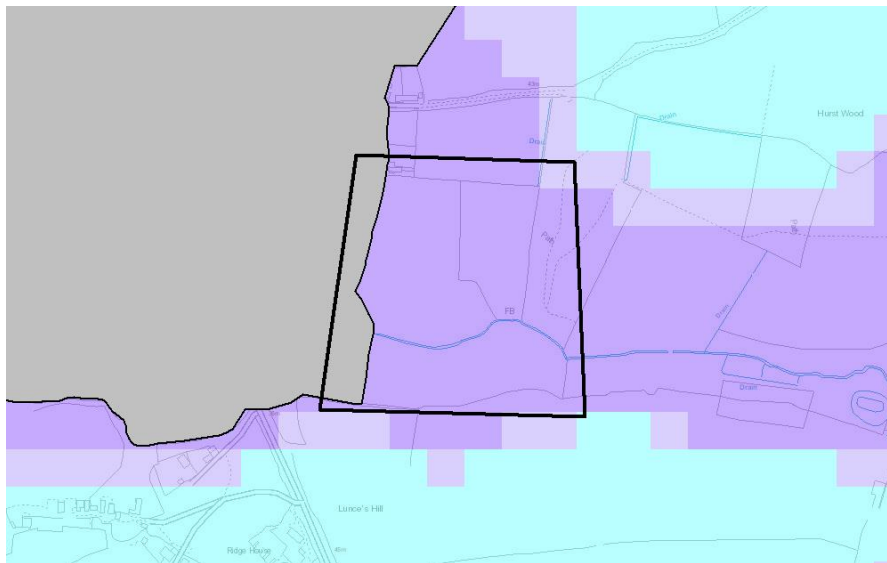
The site is shown to be within risk group 3. The site may also contain aspects of other DRA categories.

The LLFA requirements for each DRA are provided in Table 2 below.

Table 2: Drainage Risk Area Guidance

DRA Number	Colour	Guidance
1		Improvements upon greenfield runoff rates should be discussed with LLFA
2		Infiltration is unlikely, ensure an outfall can be secured
3		Infiltration techniques are likely to be inappropriate
4		Robust evidence is required to show the applicability of infiltration on site

Figure 7 below outlines the estimated water table depth for the site, based on data from the British Geological Survey. The legend contains the British Geological Survey advice for each groundwater depth band.



	>5m below surface	Observations of seasonal variations in groundwater level recommended
	3m – 5m below surface	Determine seasonal variations in groundwater level
	<3m below surface	Determine seasonal variations in groundwater level

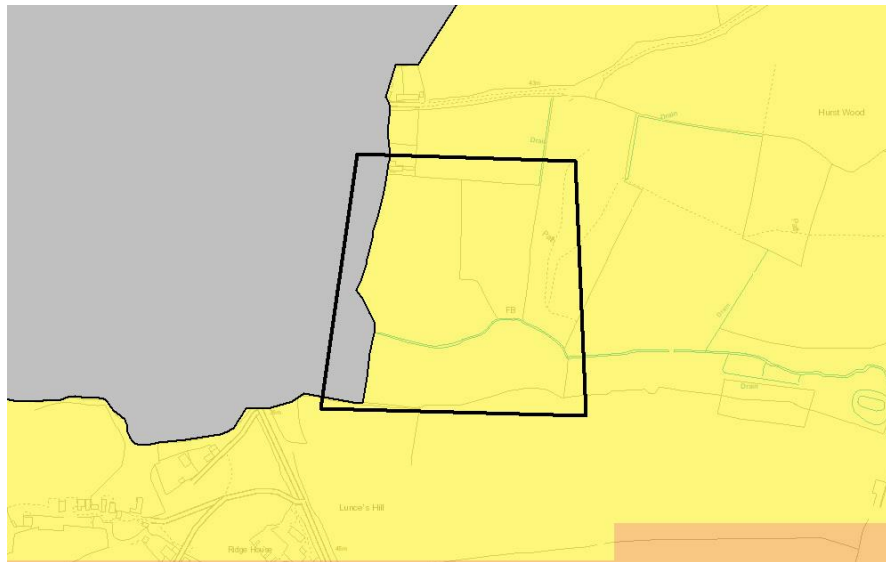
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Figure 7: Depth to Groundwater

The map indicates that the water table is <3m below the grounds surface. Therefore, seasonal variations in groundwater level should be determined.

Figure 8 below outlines the estimated ground stability for the site, based on data from the British Geological Survey. The legend contains the British Geological Survey advice for each ground stability band.

The BGS data indicates that there is the potential for a geohazard on the site. Therefore, the potential for or consequences of infiltration or ground stability should be considered before installing infiltration SuDS.



	Potential for Geohazard	Before installing infiltration SuDS consider the potential for or consequences of infiltration or ground stability
	Significant potential for Geohazard	Only install infiltration SuDS if the potential for or consequences of infiltration are considered no to be considerate
	Very significant constraints are indicated	Only install infiltration SuDS if the potential for or consequences of infiltration are considered no to be considerate

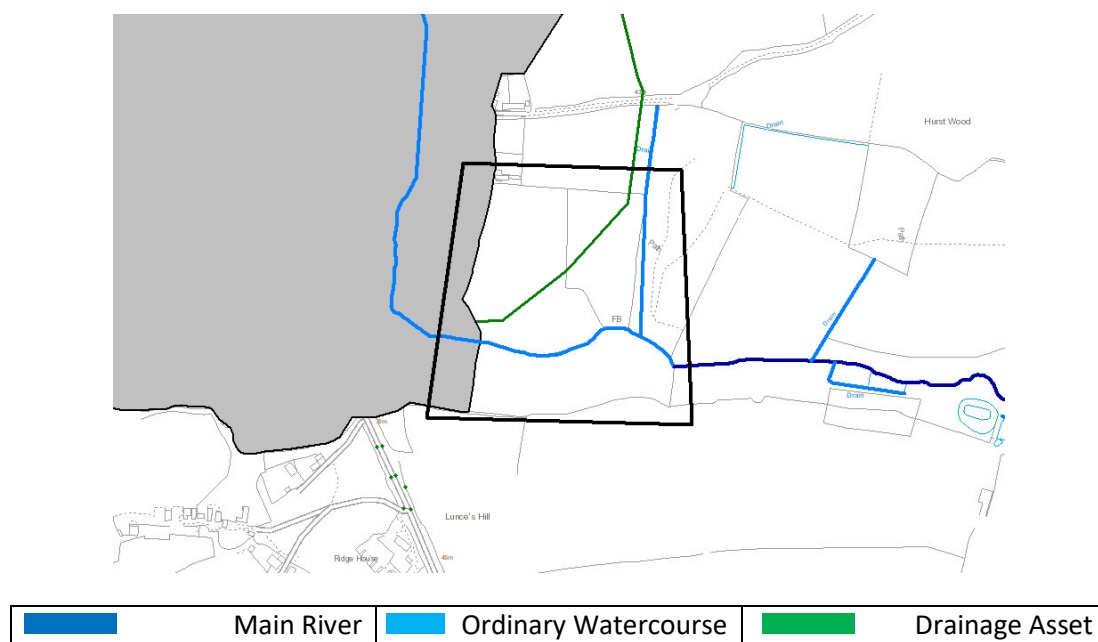
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Figure 8: Ground Stability

The information provided is guidance only. All development proposals must undertake the necessary site surveys to confirm the drainage constraints or opportunities. For further information on drainage strategy requirements, please refer to the ESCC [Guide to Sustainable Drainage Systems in East Sussex](#) and the [Local Flood Risk Management Strategy](#). The 'surface water drainage checklist' available on our website lists the information we expect to be submitted in support of a planning application

Watercourses and Drainage Assets

Watercourses and drainage assets in the vicinity of the property are shown below.



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Figure 9: Watercourses

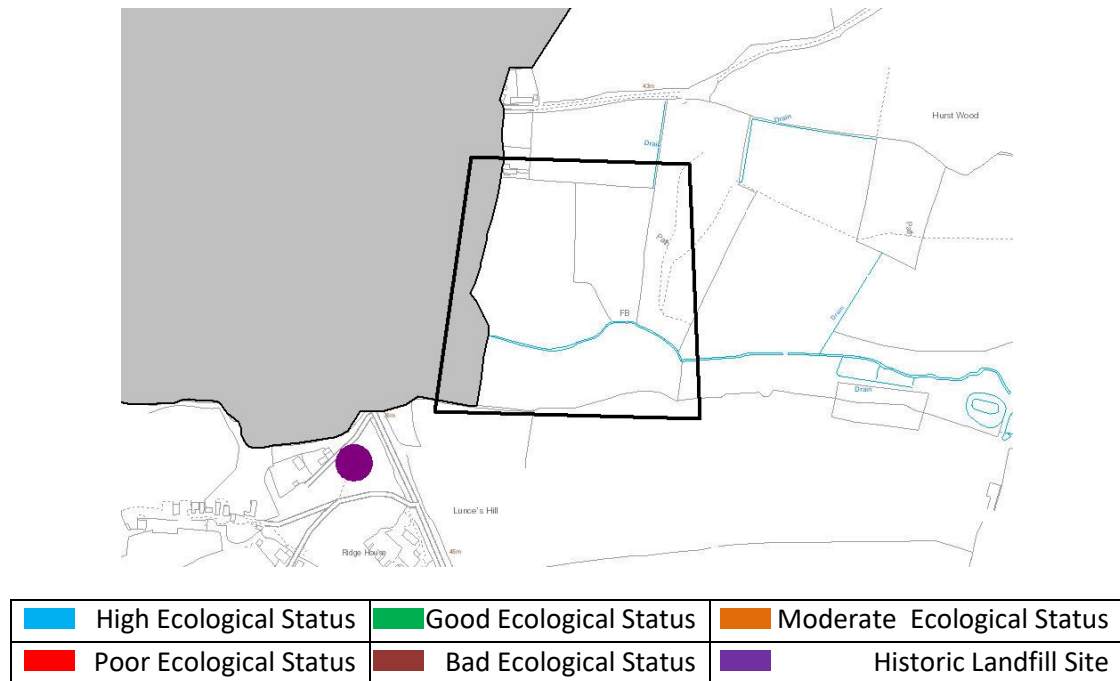
If any ordinary watercourses lie within the site boundary, any planned works to the watercourse map require a separate [Ordinary Watercourse Consent](#) from ESCC.

If a main river lies within the site boundary, any planned works to this watercourse may require an [Environmental Permit](#) (formerly Flood Defence Consent) from the Environment Agency. Contact the EA for enquiries at enquiries@environment-agency.co.uk

To connect into existing surface water and foul water systems, agreement must be obtained from Southern Water. Please refer to Southern Water for details on [the capacity of the existing sewer system](#) and applications for a [new connection](#) to the existing sewer system.

Water Quality and Landfill

Figure 10 below shows the ecological status of adjacent waterbodies, as defined by the Water Framework Directive and any historic landfill sites.



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Figure 10: Water Quality and Landfill

If the site is adjacent to a sensitive waterbody, as defined by the Water Framework Directive, the Quality of water discharged from the site is likely to be a key consideration. Contact the EA for enquiries at enquiries@environment-agency.co.uk for further information.

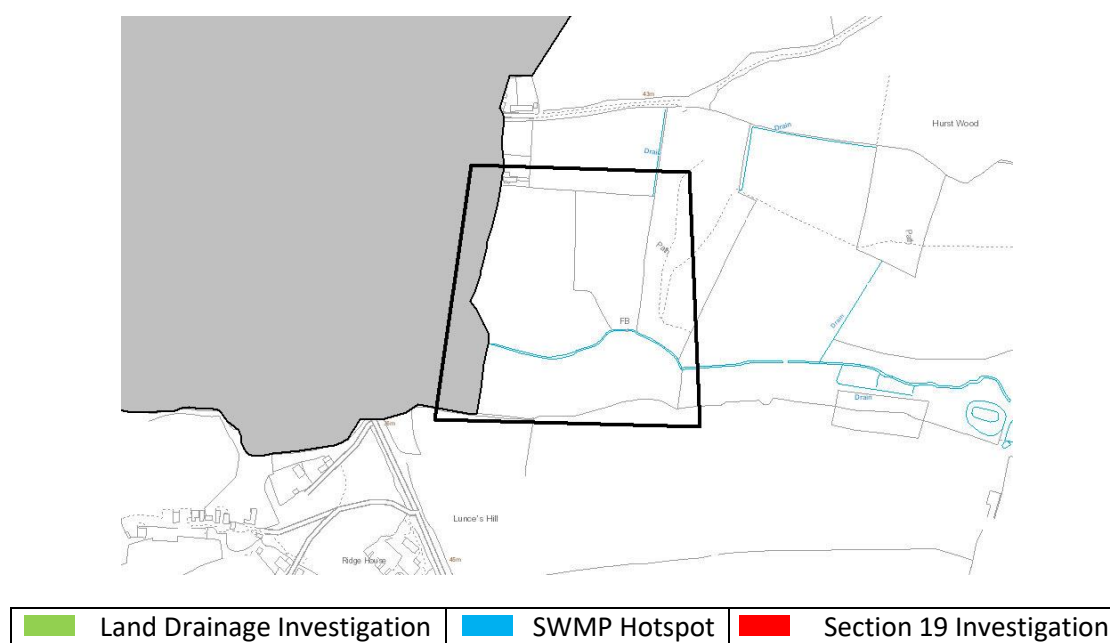
If the site is in the vicinity of a historic landfill the EA may have additional comments on the associated water quality risks.

Investigations

ESCC has undertaken a broad range of investigations into historic flooding and drainage issues including section 19 reports, Land Drainage Investigations and Surface Water Management Plans. Figure 11 below illustrates the location of these investigations.

Where a significant flood event has occurred and the responsibility for managing the risk is unclear; ESCC may undertake a formal investigation under Section 19 of the Flood and Water Management Act 2010. The published report aims to identify the responsible party and proposed response to the incident. To address less severe, localised flooding, ESCC may undertake a Land Drainage Investigation.

The [Surface Water Management Plans](#) (SWMP) in ESCC identified several risk 'hotspots'. If the site is adjacent to a hotspot, please refer to the full SWMP document for more information.



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Figure 11: Previous investigations

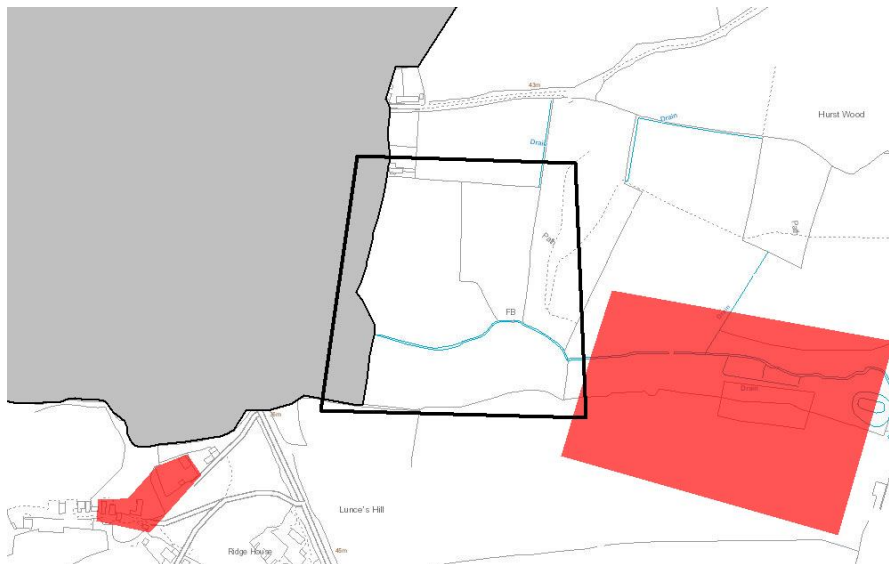
If the site is adjacent to any Section 19 Reports, Land Drainage Investigations or SWMP hotspots, please contact the Flood Risk Management Team at watercourse.consenting@eastsussex.co.uk


Other Information

The site lies with administrative area of East Sussex County Council LLFA. Additional requirements may need to be taken into consideration. Please contact the below relevant authority for further information.

East Sussex County Council LLFA	Watercourse.consenting@eastsussex.gov.uk
---------------------------------	--

Figure 12 below shows any known archaeological sites adjacent to the site. If there is an adjacent site, it is highly likely that information on the location and extent of heritage assets will be required, as well as the archaeological potential of the area. It is recommended to investigate the level of information required by contacting East Sussex Historic Environment Record (HER) at country.HER@eastsussex.gov.uk

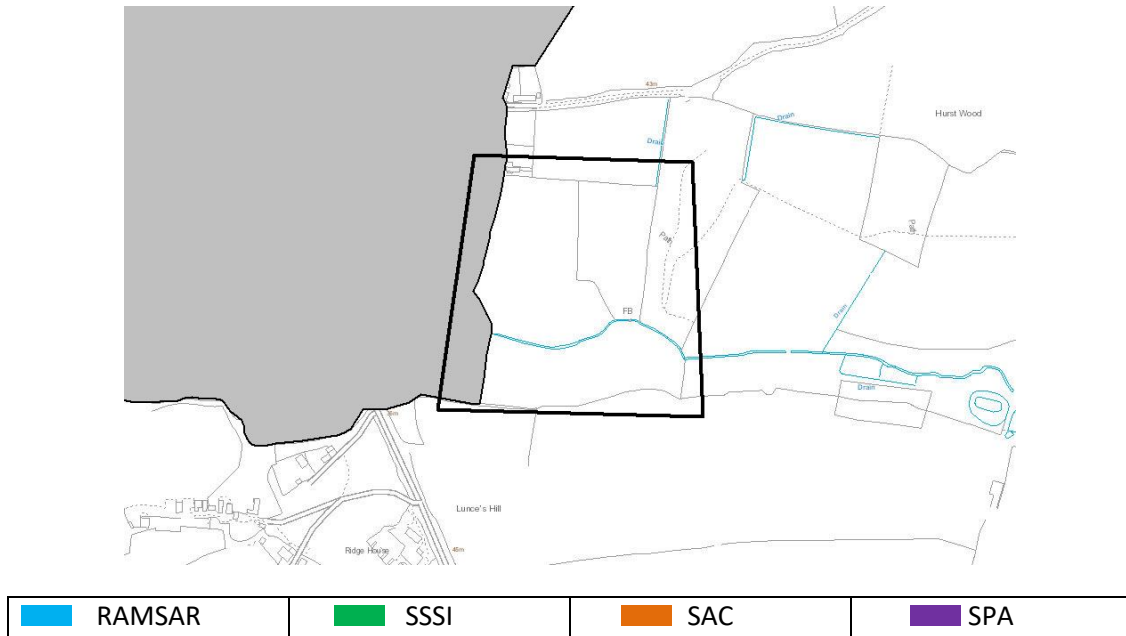


 Archaeological Site

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Figure 12: Archaeology

East Sussex contains area of international, national and local importance for biodiversity. The below Figure 13 illustrates the location of RAMSAR sites, Sites of Specific Scientific Interest (SSSI), Special Areas of Conservation (SAC) and Special Protection Areas (SPA).



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Figure 13: Biodiversity

ESCC policy states that the development should provide net gain in biodiversity where possible. Therefore Sustainable Drainage Systems (SuDS) should be designated as multifunctional features, which ensure that biodiversity can be compensated and/or enhanced.

Further information can be found in the [Guide to Sustainable Drainage Systems in East Sussex](#).

Appendix C

West Sussex Consultation Response

Eleanor Read

Flood Risk Management Officer
Flood Risk Management Team, Planning Services
03302 227048
Eleanor.read@westsussex.gov.uk
www.westsussex.gov.uk

Ground Floor,
Northleigh,
County Hall,
Chichester,
PO19 1RH



Josh Hughes
RPS Consulting Services Limited
Fourth Floor
1-3 Newhall Street
Birmingham
B3 3NH

7th October 2024

Dear Josh,

WSSC-648230291– Land off Lunce’s Hill, Haywards Heath, West Sussex, RH16 4QT

WSSC Flood Risk Management Team Level 1 Pre-Application Advice has been sought for an approximately 8.75 ha site in Mid Sussex district. It is expected that around 135 dwellings and community/farm shop will be built along with areas of open space and landscape. As this site is cross boundary between East and West Sussex, we may have a lack of information for the part of the site that is within East Sussex.

Flood Risk for Land off Lunce’s Hill:

The proposed site does not lie within Flood Zones 2 or 3 (Appendix A), however it is over 1ha therefore a Flood Risk Assessment in line with guidance from the Environment Agency ([Flood risk assessments: applying for planning permission](#)), NPPF (December 2023 version) and PPG Flood risk and coastal change (August 2022 version; this includes a Site-specific flood risk assessment checklist) will be required. Within the FRA all sources of flooding should be assessed, including flood risk from surface water, ordinary watercourses including ditches, groundwater, artificial sources such as reservoirs and existing drainage infrastructure. The site is not currently located in EA flood warning or alert areas (Appendix B).

The proposed site is in an area of high to low risk of surface water flooding as identified by the Environment Agency Risk of Surface Water Flooding map (Appendix C). There is surface water flow path shown through the site from the west along the southern boundary of the site below the ordinary watercourse. According to our records there is an ordinary watercourse which flows from Haywards Heath down the western boundary of the site then through the site in a west to east direction. The watercourse turns into main river once it leaves the site (Appendix D). There might be another watercourse along the eastern boundary of the site however as this is in East Sussex they will need to clarify this. As there is a flow path through the site, a sequential test might be needed. The Local Planning Authority leads on deciding whether a sequential/exception test is needed and sets the parameters required. As the site crosses Lewes and Mid Sussex it might be that sequential tests have to be discussed with both LPAs.

According to BGS data the bedrock for the site is sandstone and siltstone, with superficial deposits of Head-clay, silt, sand and gravel. It is noted that groundwater monitoring and infiltration testing results have not been provided for our review. These will need to be provided when the application is submitted to the Local Planning Authority. Groundwater flood risk details can be found in Appendix E.

On EA mapping there are no records of fluvial flooding within the site or surrounding area. (Appendix F). Haywards Heath and Lindfield is identified in our Local Flood Risk Management Strategy 2013 as a wet spot however the site is just outside this area (Appendix G). WSCC have no records of surface water or groundwater flood events within the site, however there are some events in the surrounding area. (Appendix H). Please note, this does not guarantee that no flooding has occurred within the site boundary or immediate vicinity as flood events might not have been reported to the Flood Risk Management Team.

SuDS Guidance:

The use of Sustainable Drainage Systems (SuDS) should be considered at an early stage in the design process, to integrate SuDS with road networks and other infrastructure. The drainage system should consider the four pillars of SuDS (water quantity, water quality, amenity, and biodiversity) and follow the surface water discharge hierarchy. We expect that investigation into infiltration potential is undertaken using methods in accordance with BRE365. If infiltration testing and groundwater monitoring results are unfavourable for draining the site using infiltration SuDS, any existing runoff rates/volumes must be controlled to a pre-development greenfield runoff rate (Q_{bar}). We would expect that above ground SuDS are used as much as possible to maximise controlling surface water runoff where it falls (e.g. water reuse, green roofs, bioretention areas, ponds, basins, swales etc.). Attenuation features (basins) should be located outside of the surface water flood risk area, otherwise they will have reduced capacity in storm events.

The FRA/Drainage Strategy should demonstrate there will be sufficient surface water quality treatment by implementing an appropriate amount of water quality treatment stages through the use of SuDS. Chapter 26 of the CIRIA SuDS Manual has lots of guidance for managing surface water quality, including tables for suitability of different SuDS components and the Simple Index Approach. Interception storage should be used in the beginning of the treatment train to ensure the drainage system manages pollutants as close to the source as possible and remove sediment upstream in the system rather than closer to the discharge location.

We would expect that any proposed surface water drainage scheme takes all opportunities to improve any existing risk of flooding to the surrounding road networks. Opportunities should also be considered on how the development may improve flood risk overall by assessing if any additional flood mitigation can be integrated into the scheme, such as storage areas in blue green corridors.

Any phasing of the development must be shown to be able to be developed with a dedicated drainage infrastructure that does not rely on any other phase to be developed. A drainage phasing timeline will be required to show how each element of the drainage system will be implemented prior to completion of the building phase. Details of the required maintenance of any SuDS features and structures

and who will be adopting these features for the lifetime of the development must be provided in accordance with the NPPF.

We require the applicant to submit information and drawings which clearly shows the proposed drainage strategy and exceedance flood flow routes for all areas of development. These plans should include the finished floor levels of all buildings, the proposed finished floor levels and potential exceedance flow route.

Details of the construction phase temporary drainage arrangements are required by the LLFA to ensure there will be no increase in flood risk due to the construction works of the development either onsite or elsewhere. A high-level assessment is required at an initial planning stage. Furthermore, the applicant will also need to submit the proposed construction phasing plans for the development to demonstrate that prior to completing the site there will be no increase in flood risk due to the interim development phases either onsite or elsewhere.

When submitting the application to the Local Planning Authority, please submit the SuDS proforma and validation checklist to assist us in reviewing the application and expedite the process. These can be found here: [Flood Risk Management: Pre-application advice](#) .

Further guidance on surface water drainage requirements for planning applications within Mid Sussex district can be found here: [Flood Risk and Drainage for Planning - Mid Sussex District Council](#)

Yours sincerely,

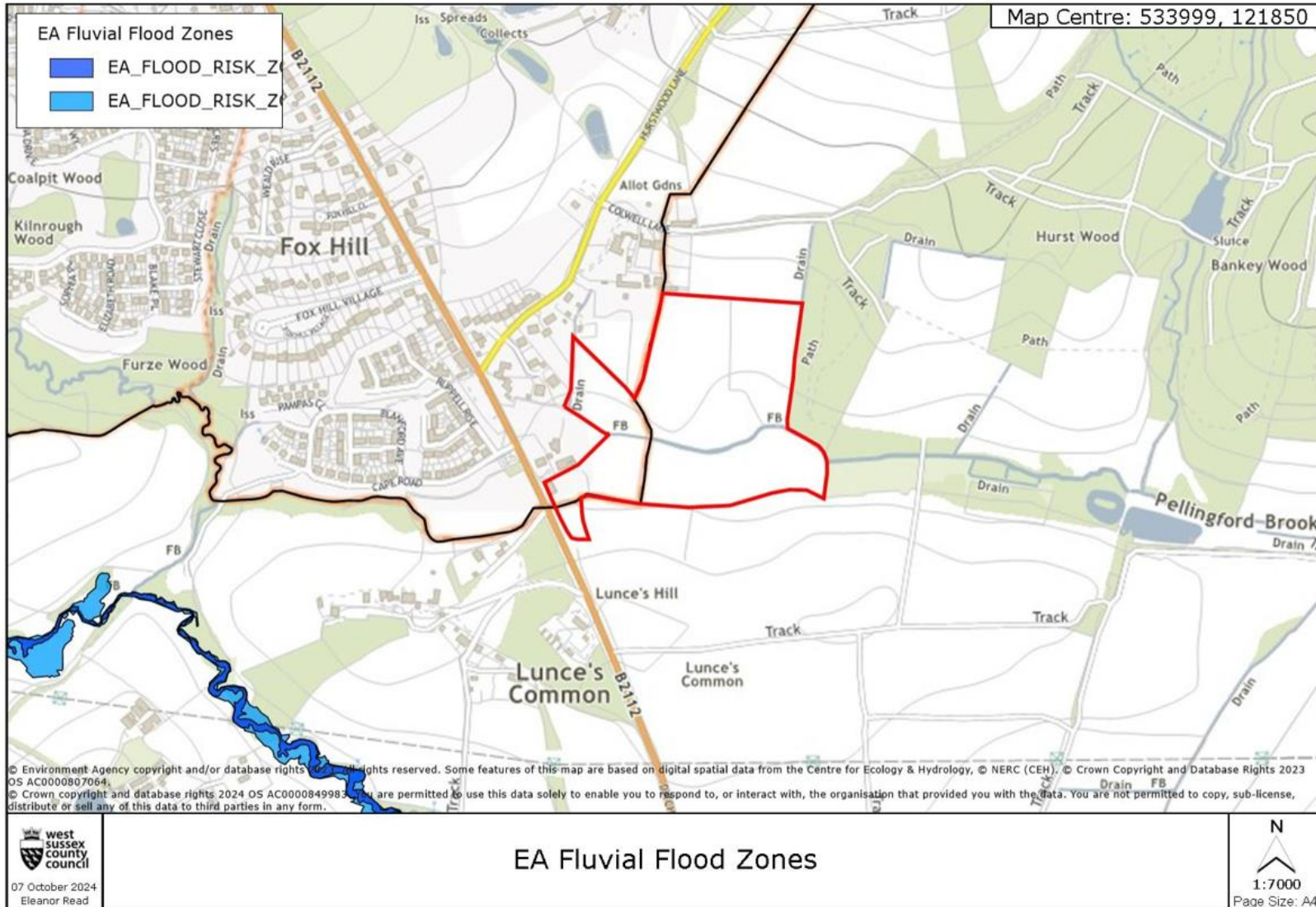
Eleanor Read

Eleanor.read@westsussex.gov.uk

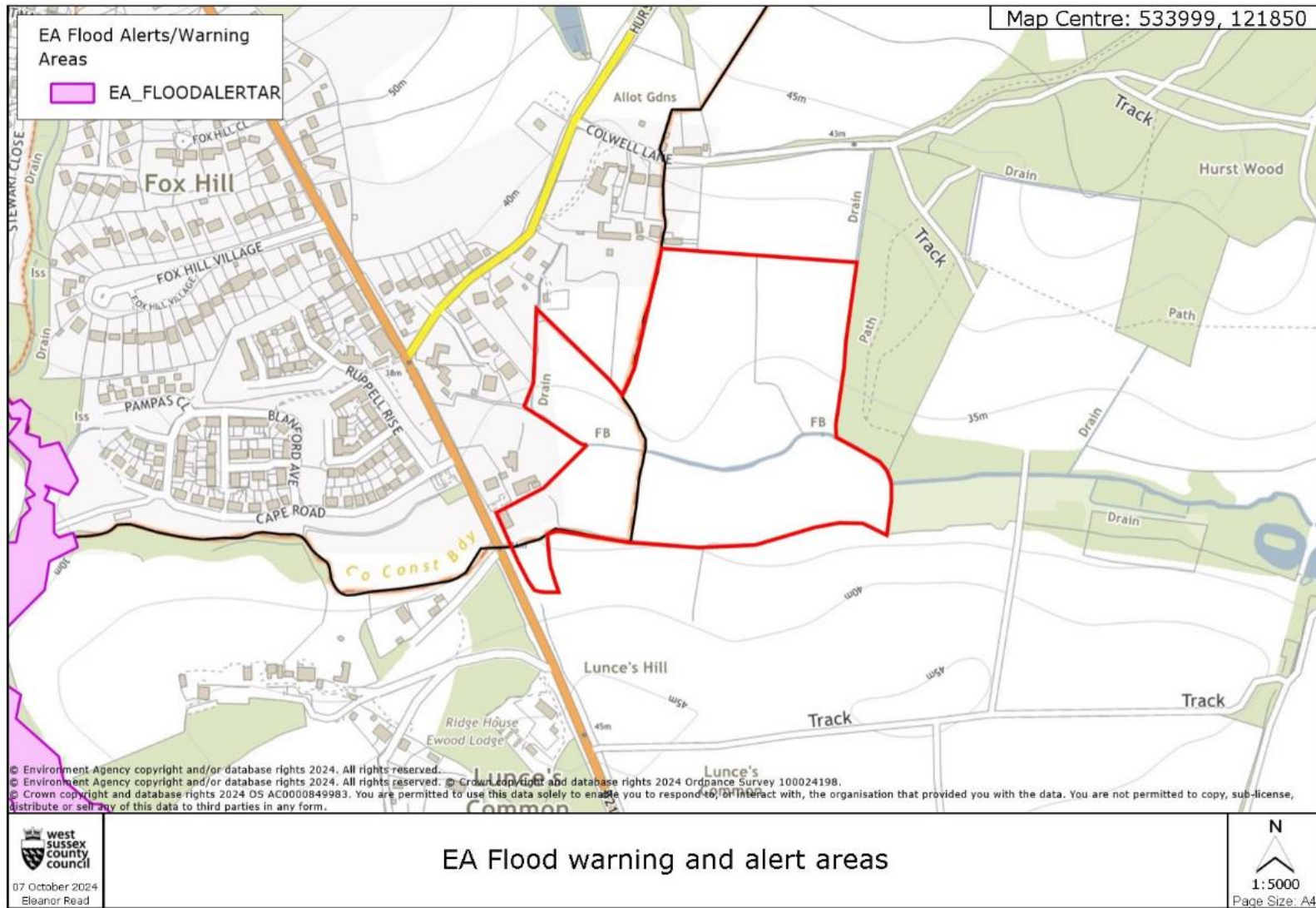
Flood Risk Management Team

Appendices

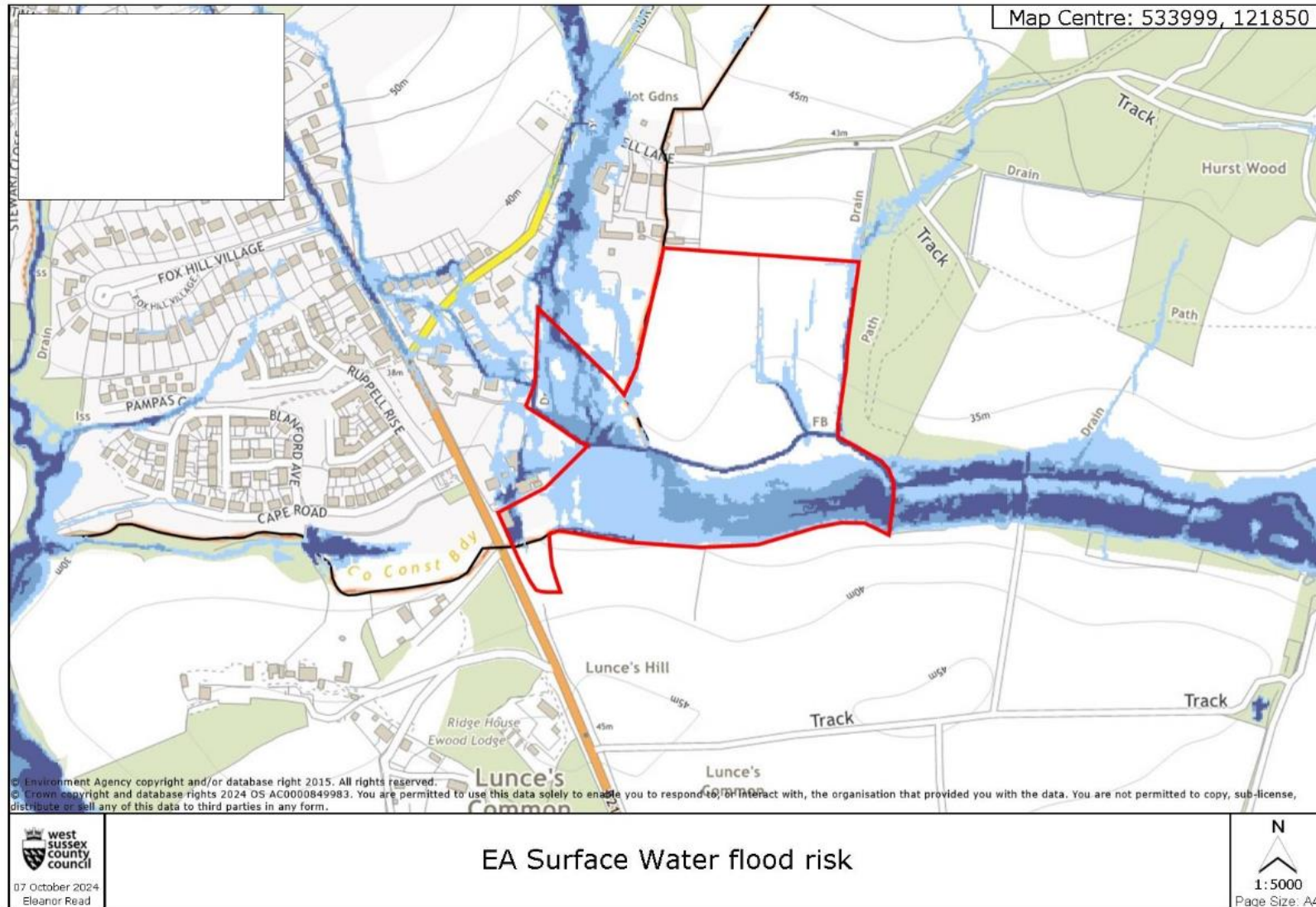
Appendix A-Fluvial Flood Risk



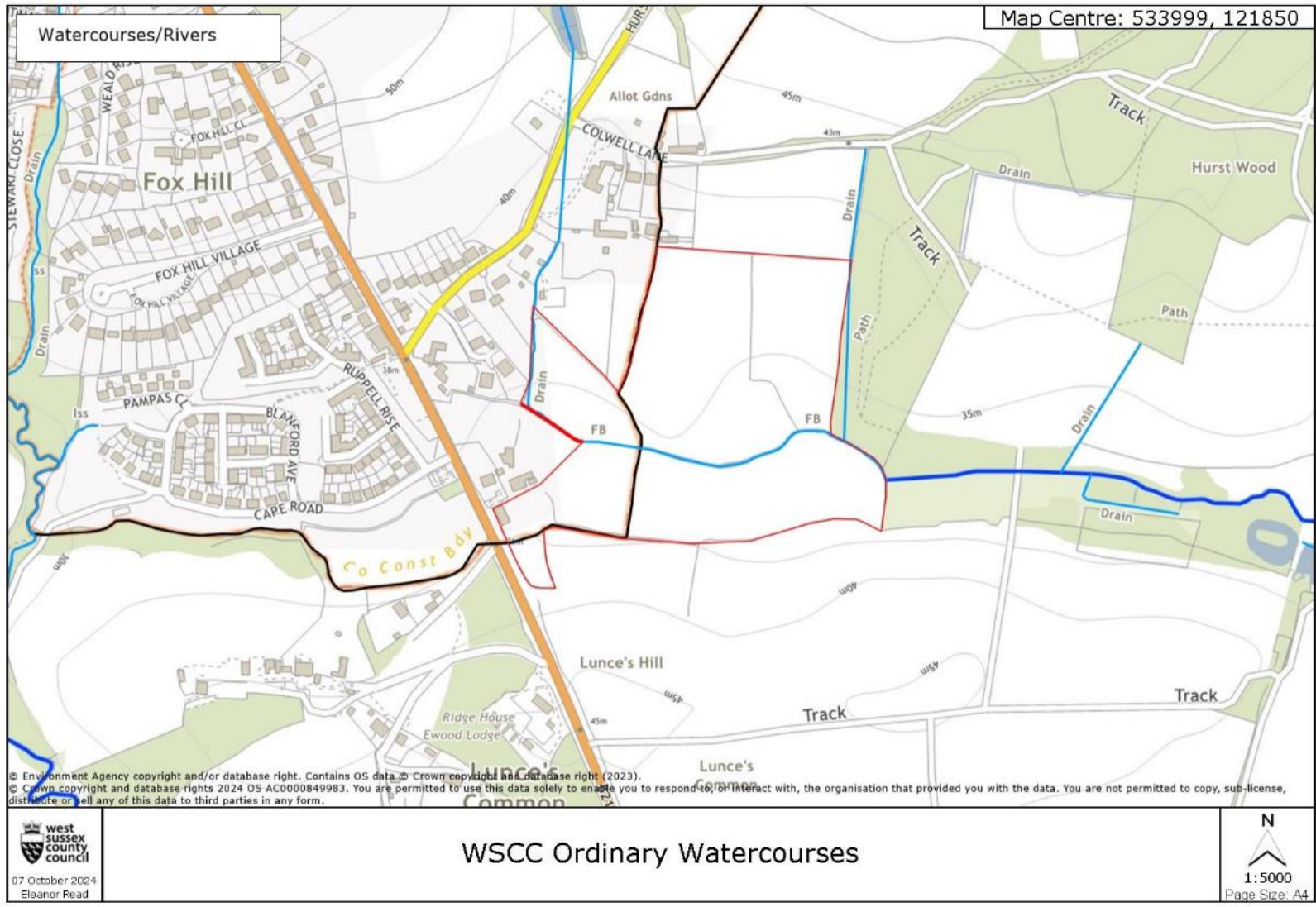
Appendix B-Flood warning and alert areas



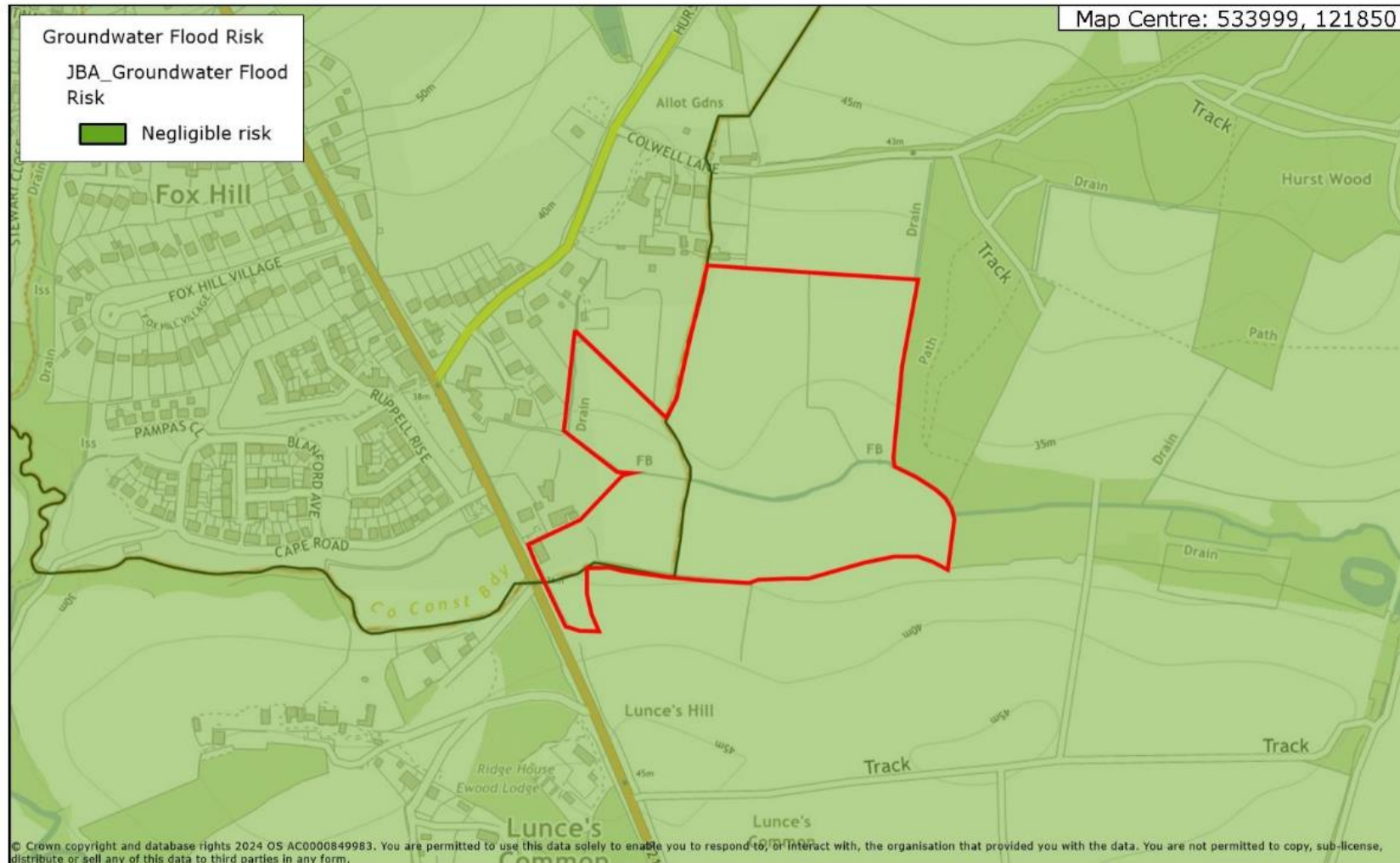
Appendix C-Surface water flood risk



Appendix D-Ordinary Watercourses



Appendix E-Susceptibility to groundwater flooding



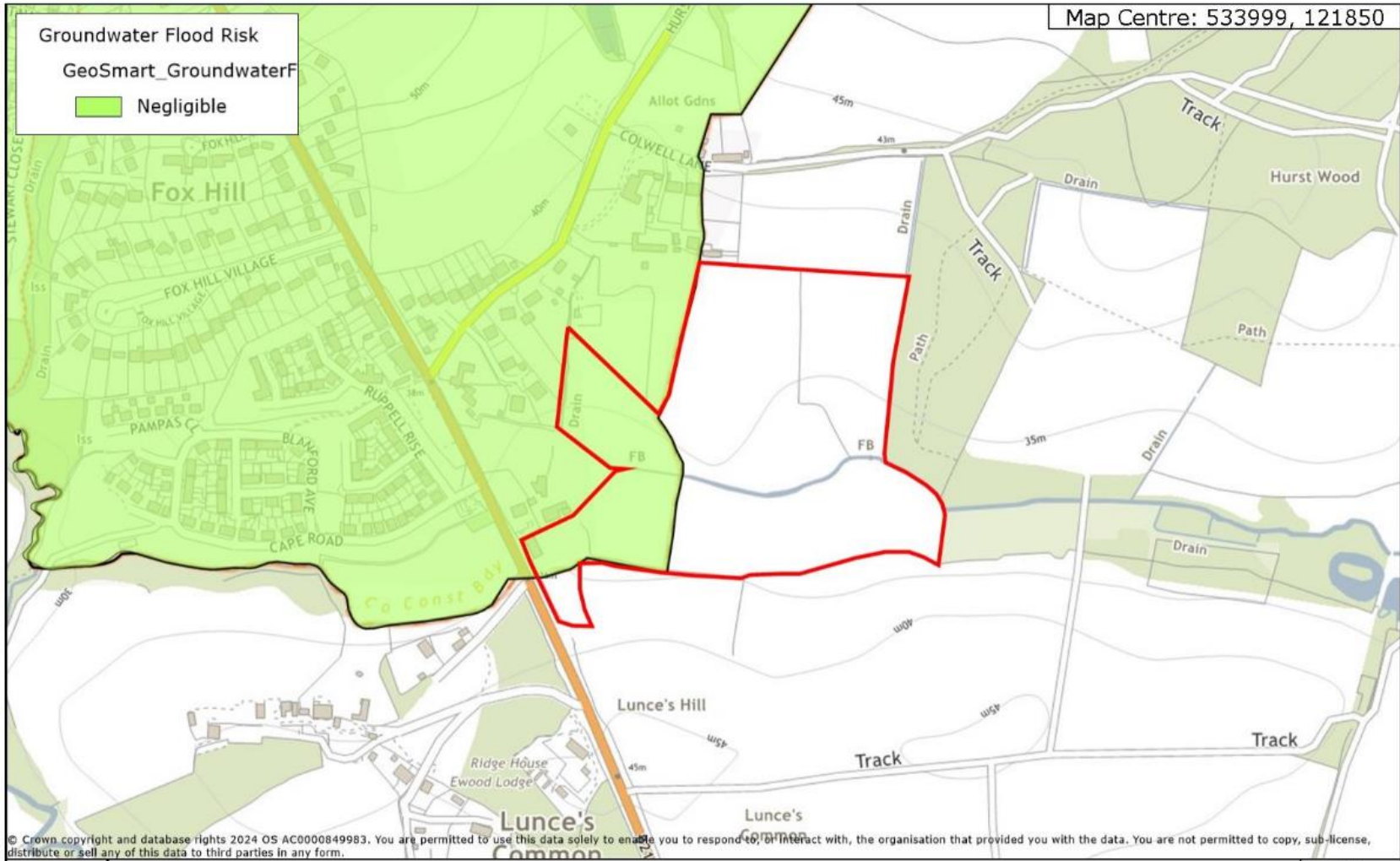
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07 October 2024
Eleanor Read

JBA Groundwater flood risk

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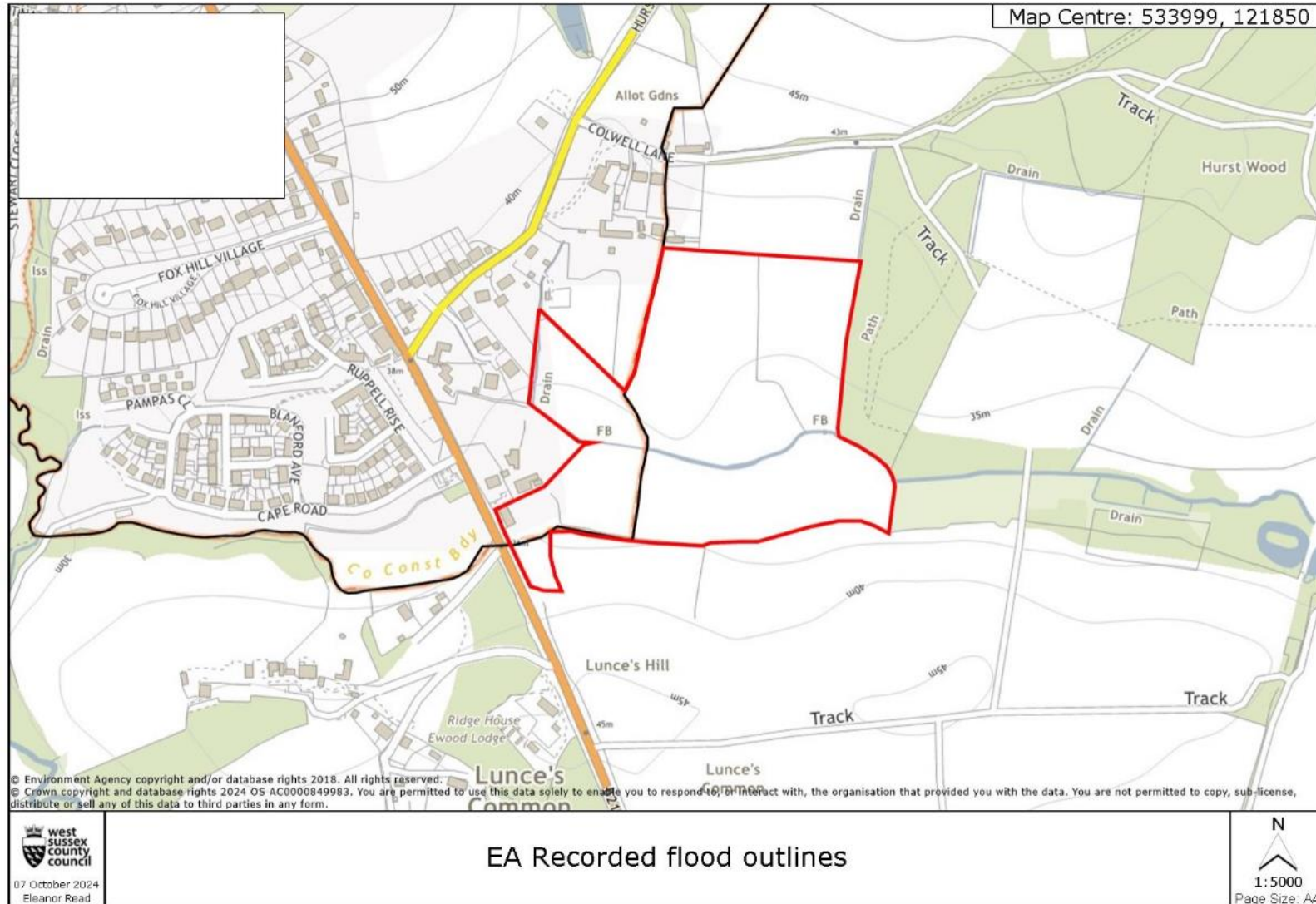


07 October 2024
Eleanor Read

Geosmart Groundwater flood risk

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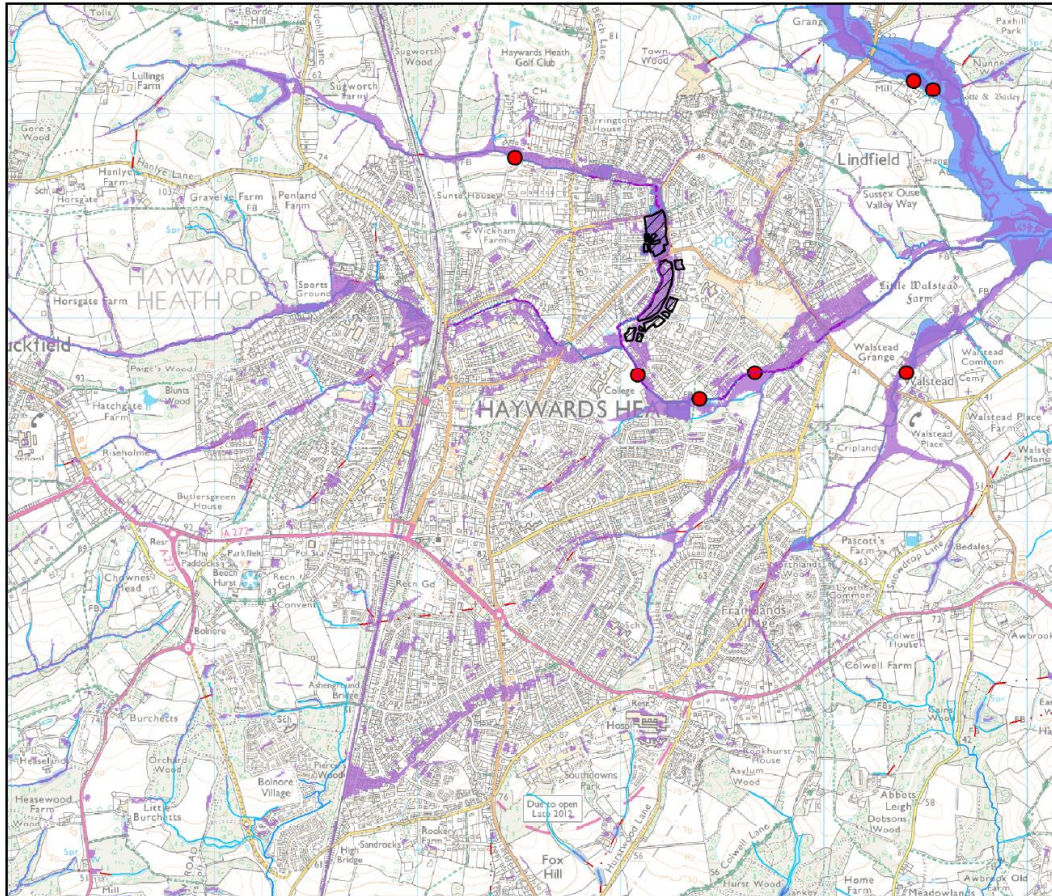
Appendix F-Environment Agency Historic Flood Map



Appendix G-Wet Spots

Wet spots show areas classified in 2013 Local Flood Risk Management Strategy where a significant number of properties may be susceptible to flooding. Haywards heath & Lindfield is identified as a Wet Spot. The site is located just to the south of this area.

Haywards Heath & Lindfield Wet Spot



Legend

- Surface Water Flood Map
1 in 200 yr rainfall event
- Rivers and Sea Flood Map
1 in 100 year river event,
1 in 200 year sea event

River obstructions

- ARTIFICIAL
- NATURAL
- UNKNOWN

River network

- Primary River
- Secondary River
- Tertiary River
- D/S of High Water Mark
- D/S of Seaward Extension
- Lake / Reservoir
- Canal
- Extended Culvert (> 50m)
- Canal Tunnel
- Underground River (inferred)
- Underground River (local knowledge)

Numbers of properties at risk from surface water vs. rivers and sea



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Appendix H-Historic Flood Incidents (WSCC)

No records within site itself (West Sussex bit)

Hurstwood Lane – Highway flooding in May 2018

Appendix D

Topographic Survey

Pt No	Spread	Bole	Height	Species
38	9.0	0.70	12.0	TREE UNKNOWN
39	8.0	0.30	12.0	TREE UNKNOWN
40	6.0	0.40	14.0	TREE UNKNOWN
41	8.0	0.60	13.0	TREE UNKNOWN
42	5.0	0.30	11.0	SILVER BIRCH
43	4.0	0.30	8.0	TREE UNKNOWN
44	5.0	0.50	13.0	TREE UNKNOWN
53	9.0	0.80	13.0	TREE UNKNOWN
54	7.0	0.50	11.0	TREE UNKNOWN
55	9.0	0.40	13.0	TREE UNKNOWN
56	5.0	0.30	9.0	TREE UNKNOWN
57	5.0	0.40	9.0	TREE UNKNOWN
58	5.0	0.40	9.0	TREE UNKNOWN
59	5.0	0.30	9.0	TREE UNKNOWN
60	5.0	0.30	9.0	TREE UNKNOWN
61	5.0	0.70	9.0	TREE UNKNOWN
62	5.0	0.30	9.0	TREE UNKNOWN
63	9.0	0.70	11.0	OAK
64	9.0	0.70	13.0	OAK
65	5.0	0.30	10.0	TREE UNKNOWN
66	5.0	0.30	10.0	TREE UNKNOWN
67	5.0	0.30	10.0	TREE UNKNOWN
68	5.0	0.30	10.0	TREE UNKNOWN
69	10.0	0.70	14.0	OAK
70	9.0	0.60	14.0	OAK
71	8.0	0.70	11.0	TREE UNKNOWN
72	8.0	0.70	13.0	TREE UNKNOWN
73	8.0	0.50	15.0	OAK
74	8.0	0.50	15.0	OAK
75	6.0	0.30	12.0	TREE UNKNOWN
76	6.0	0.50	12.0	TREE UNKNOWN
77	6.0	0.50	12.0	TREE UNKNOWN
78	6.0	0.30	9.0	TREE UNKNOWN
79	7.0	0.50	14.0	TREE UNKNOWN
80	7.0	0.50	14.0	TREE UNKNOWN
81	7.0	0.20	13.0	TREE UNKNOWN
82	7.0	0.20	13.0	TREE UNKNOWN
83	7.0	0.30	13.0	TREE UNKNOWN
84	8.0	0.60	15.0	OAK
85	8.0	0.40	13.0	OAK
86	10.0	0.60	14.0	OAK
87	10.0	0.40	7.0	OAK
88	8.0	0.50	15.0	OAK
89	10.0	0.50	15.0	OAK
90	9.0	0.30	15.0	OAK
91	9.0	0.50	15.0	OAK
92	11.0	0.60	15.0	OAK
93	9.0	0.40	15.0	OAK
94	9.0	0.40	15.0	OAK
95	8.0	0.30	12.0	OAK
96	8.0	0.30	12.0	OAK
97	8.0	0.50	12.0	OAK
98	8.0	0.50	12.0	OAK
99	8.0	0.40	13.0	OAK
100	11.0	0.70	14.0	OAK
101	10.0	0.30	13.0	OAK
102	8.0	0.50	13.0	OAK
103	10.0	0.60	13.0	OAK
104	10.0	0.70	15.0	OAK
105	5.0	0.30	10.0	OAK
106	9.0	0.60	11.0	OAK
107	10.0	0.50	14.0	OAK
108	5.0	0.30	11.0	OAK
109	5.0	0.30	9.0	OAK
110	5.0	0.20	9.0	OAK
111	5.0	0.30	8.0	OAK
112	5.0	0.30	8.0	OAK
113	5.0	0.30	11.0	OAK
114	5.0	0.30	13.0	OAK
115	4.0	0.20	9.0	OAK
116	3.0	0.20	6.0	OAK
117	11.0	0.60	14.0	OAK
118	9.0	0.50	14.0	OAK
119	10.0	0.30	14.0	OAK
120	10.0	0.50	14.0	OAK
121	10.0	0.50	14.0	OAK
122	9.0	0.50	14.0	OAK
123	9.0	0.40	14.0	OAK
124	9.0	0.70	14.0	OAK
125	9.0	0.40	14.0	OAK
126	9.0	0.30	14.0	OAK
127	9.0	0.70	14.0	OAK
128	8.0	0.30	14.0	OAK
129	7.0	0.30	13.0	OAK
130	7.0	0.30	13.0	OAK
131	7.0	0.30	13.0	OAK
132	8.0	0.40	14.0	OAK
133	8.0	0.20	14.0	OAK
134	8.0	0.20	14.0	OAK
135	8.0	0.70	14.0	OAK
136	8.0	0.30	14.0	OAK
137	5.0	0.30	12.0	OAK
138	8.0	0.60	12.0	OAK
139	7.0	0.30	12.0	OAK
140	5.0	0.20	5.0	OAK
141	5.0	0.30	11.0	OAK
142	6.0	0.40	14.0	PINE
143	6.0	0.40	14.0	PINE
144	6.0	0.40	14.0	PINE
145	6.0	0.60	14.0	PINE
146	6.0	0.30	14.0	PINE
147	4.0	0.20	12.0	PINE
148	4.0	0.20	12.0	PINE
149	5.0	0.30	11.0	OAK
150	9.0	0.80	15.0	OAK
151	9.0	0.70	15.0	OAK
152	6.0	0.30	12.0	OAK
153	7.0	0.30	13.0	OAK
154	9.0	0.60	14.0	OAK
155	6.0	0.30	14.0	TREE UNKNOWN
156	8.0	0.50	14.0	TREE UNKNOWN
157	9.0	0.80	14.0	OAK
158	6.0	0.30	13.0	TREE UNKNOWN
159	9.0	0.60	13.0	OAK
160	7.0	0.40	14.0	OAK
161	7.0	0.40	14.0	OAK
162	7.0	0.40	14.0	OAK
163	4.0	0.20	12.0	PINE
164	9.0	0.60	15.0	OAK
165	6.0	0.30	13.0	OAK
166	5.0	0.20	11.0	TREE UNKNOWN
167	8.0	0.60	13.0	TREE UNKNOWN
168	5.0	0.20	12.0	TREE UNKNOWN
169	10.0	0.80	14.0	TREE UNKNOWN
170	9.0	0.70	14.0	TREE UNKNOWN
171	9.0	0.30	14.0	TREE UNKNOWN
172	7.0	0.30	14.0	TREE UNKNOWN
173	5.0	0.20	12.0	TREE UNKNOWN
174	10.0	0.60	15.0	TREE UNKNOWN
175	8.0	0.30	15.0	TREE UNKNOWN
176	5.0	0.60	13.0	TREE UNKNOWN
177	4.0	0.30	9.0	TREE UNKNOWN
178	5.0	0.30	9.0	TREE UNKNOWN
179	6.0	0.20	11.0	TREE UNKNOWN
181	7.0	0.50	13.0	TREE UNKNOWN
182	5.0	0.30	8.0	TREE UNKNOWN
330	8.0	0.40	11.0	OAK
8000	1.0	0.30	4.0	DEAD TREE
8002	10.0	0.60	12.0	OAK
8003	8.0	0.30	10.0	OAK
8004	8.0	0.30	10.0	OAK
8005	8.0	0.30	10.0	OAK
8006	13.0	0.70	15.0	ASH
8007	11.0	0.70	15.0	ASH
8008	13.0	0.80	15.0	ASH
8009	9.0	0.30	9.0	ASH
8010	13.0	0.80	15.0	ASH
8011	15.0	0.70	16.0	ASH
8012	14.0	0.70	14.0	OAK
8013	6.0	0.50	11.0	DEAD TREE
8014	7.0	0.30	8.0	OAK
8015	11.0	0.40	12.0	OAK
8016	8.0	0.60	13.0	TREE UNKNOWN
8017	11.0	0.70	11.0	OAK
8018	15.0	1.00	14.0	OAK
8019	11.0	0.50	12.0	OAK
8020	13.0	0.80	14.0	OAK
8021	10.0	0.60	14.0	OAK
8022	8.0	0.40	12.0	OAK
8023	13.0	0.80	14.0	OAK
8024	8.0	0.50	13.0	OAK
8025	5.0	0.30	7.0	OAK
8026	12.0	0.70	14.0	OAK
8027	9.0	0.50	12.0	OAK
8028	11.0	0.60	15.0	OAK
8029	9.0	0.60	13.0	OAK
8030	10.0	0.60	13.0	OAK
8031	7.0	0.30	10.0	OAK
8032	8.0	0.30	7.0	OAK
8048	8.0	0.30	11.0	ASH
8049	8.0	0.30	11.0	TREE UNKNOWN
8050	7.0	0.30	11.0	TREE UNKNOWN
8051	7.0	0.30	11.0	TREE UNKNOWN
8052	9.0	0.50	11.0	TREE UNKNOWN
8053	10.0	0.40	11.0	TREE UNKNOWN
8054	8.0	0.30	11.0	OAK
8055	8.0	0.30	11.0	OAK
8056	8.0	0.40	11.0	OAK
8057	8.0	0.30	11.0	OAK
8058	8.0	0.40	11.0	OAK
8059	8.0	0.40	11.0	OAK
8060	6.0	0.30	9.0	CHERRY
8061	10.0	0.50	12.0	OAK
8062	10.0	0.40	12.0	OAK
8063	10.0	0.50	9.0	WILLOW
8064	10.0	0.50	9.0	WILLOW
8065	10.0	0.50	9.0	WILLOW



Notes:
 Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arborologist be consulted before any final decisions are made.
 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.

Legend:

- Fences: Various fence types and materials.
- Buildings: Footprints of buildings.
- Walls: Various wall types.
- Drains: Drainage lines and structures.
- Other: Miscellaneous features.

Sheet Layout:

1	2
3	4
5	6
7	8
9	

Coordinate Table

Stn	Easting	Northing	Level
STN10	533905.756	121714.461	34.811
STN11	533909.640	121710.829	34.537
STN11A	533909.199	121873.816	34.513
STN12	533907.192	121726.677	33.332
STN13	534166.108	121757.740	32.402
STN14	534167.061	121840.669	33.474
STN15	534163.841	121919.989	30.152
STN16	534204.537	121989.735	36.667
STN17	534206.960	122009.496	37.242
STN18	534163.019	122013.250	37.125
STN19	534201.321	122110.990	42.326
STN20	533977.640	121850.259	34.849
STN21	533972.488	121906.472	35.094
STN22	533968.638	122018.593	37.073
STN23	534004.344	122017.291	36.569
STN24	533803.395	121762.029	35.258
STN4	533786.254	121772.423	35.667
STN5	533819.125	121668.024	37.072
STN2P	533833.711	121710.852	35.580
STN2F	533831.137	121723.259	35.765
STN1R	533832.860	121816.366	37.075

Revision Details

Rev. Suffix	Date	Initial	Revision Details

Client: Catesby Estates
Location: Lunces Hill, Haywards Heath
Drawing Title: Topographical Survey Sheet 1 of 9
Job No.: 2403044
Drawing Number: C/2403044/1
Scale: 1:200m (A0)
Date: August 2024

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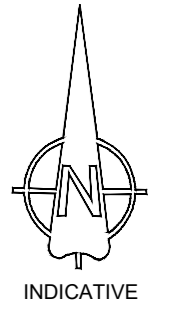
Hurstwood Cottages

Track

43.1m

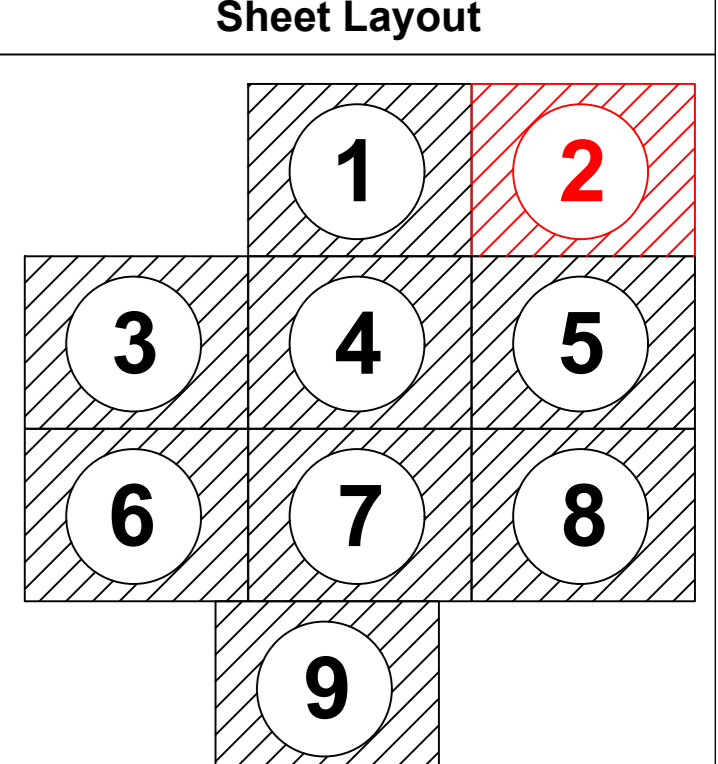


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Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.



Legend:

Fences	Buildings	Fences
Walls	Overhead Electric	Overhead Power Lines
Drains	Overhead Phone	Overhead Gas
Trees	Overhead Water	Overhead Sewer
Abandonment	Overhead Cable	Overhead Fibre



Rev. Suffix	Date	Initial	Revision Details		

Surveyor: LH Verified: LH CAD: Operator TLM: Approved By Date: 07.08.24
 Levelling: GNSS Datum: OSGB36

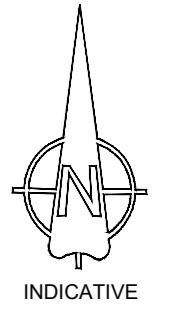
To an OS GNSS Datum

Client	Catesby Estates
Location	Lunces Hill Haywards Heath
Drawing Title	Topographical Survey Sheet 2 of 9
Job No.	2403044
Drawing Number	C/2403044/2
Scale	1:200m (A0)
Date	August 2024

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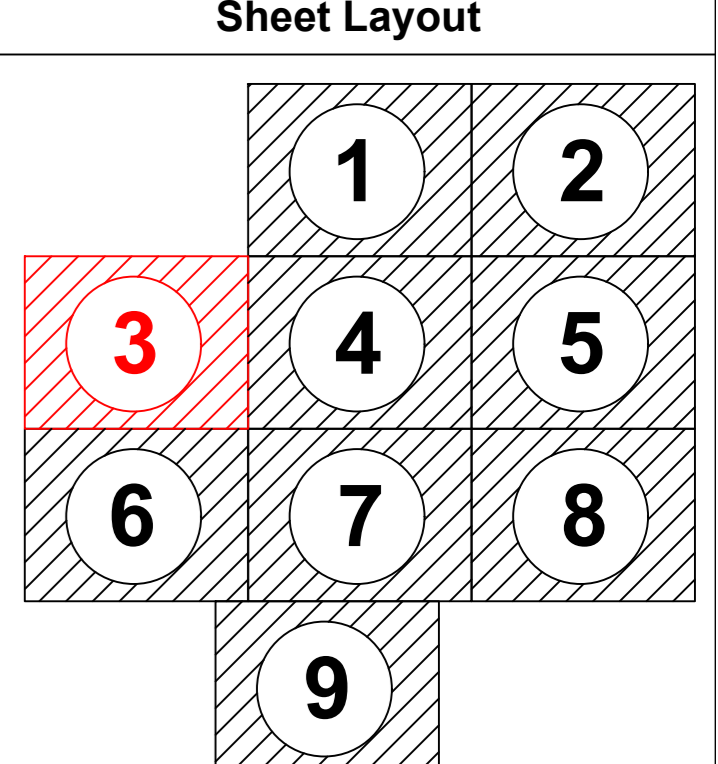


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 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.



Legend:

Fences	Buildings	Fences
Walls	Overhead Electric	Overhead Electric
Wells	Overhead Phone	Overhead Phone
Trees	Overhead Cable	Overhead Cable
Abandonment	Overhead Gas	Overhead Gas
...



Rev. Suffix	Date	Initial	Revision Details

Client			
Catesby Estates			
Location			
Lunces Hill Haywards Heath			
Drawing Title			
Topographical Survey Sheet 3 of 9			
Job No.	2403044	Old Job No.	
Drawing Number	C/2403044/3	Revision Suffix	
Scale	1:200m (A0)	Date	August 2024

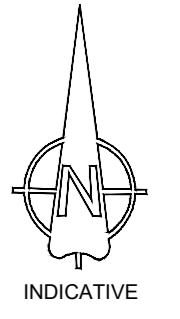
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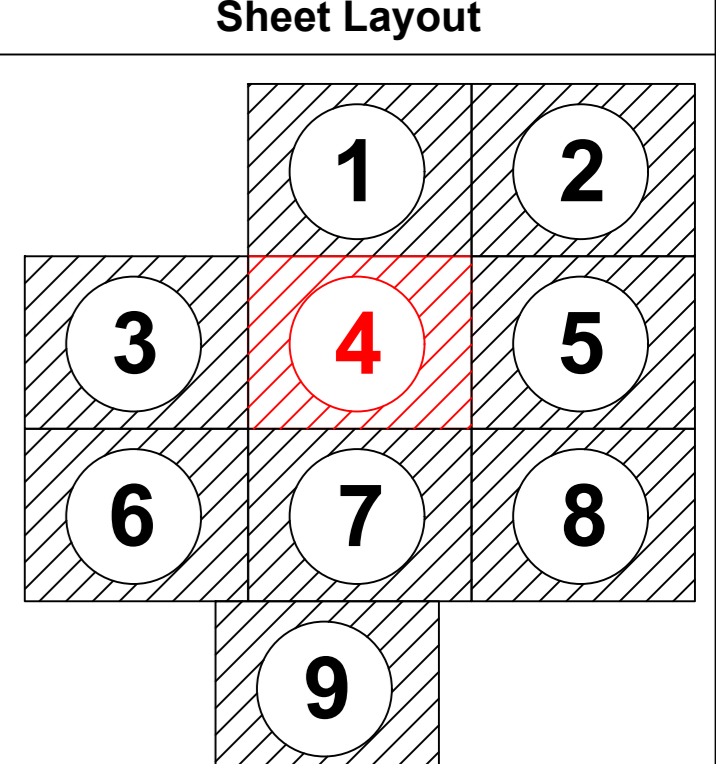


Notes:
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 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.



Legend:

Fences	Buildings	Fences
Walls	Overhead Electric	Overhead Power
Drains	Overhead Phone	Overhead Cable
Trees	Gate	Gate
Abandonment	Spot Height	Spot Height



Rev. Suffix	Date	Initial	Revision Details

To an OS GNSS Datum

Client

Catesby Estates

Location
 Lunces Hill
 Haywards Heath

Drawing Title
 Topographical Survey
 Sheet 4 of 9

Job No. 2403044 Old Job No.
 Drawing Number C/2403044/4 Revision Suffix

Scale 1:200m (A0) Date August 2024

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121800N + + + + +

121780N + + + + +

121760N + + + + +

121740N + + + + +

121720N + + + + +

121700N + + + + +

121680N + + + + +

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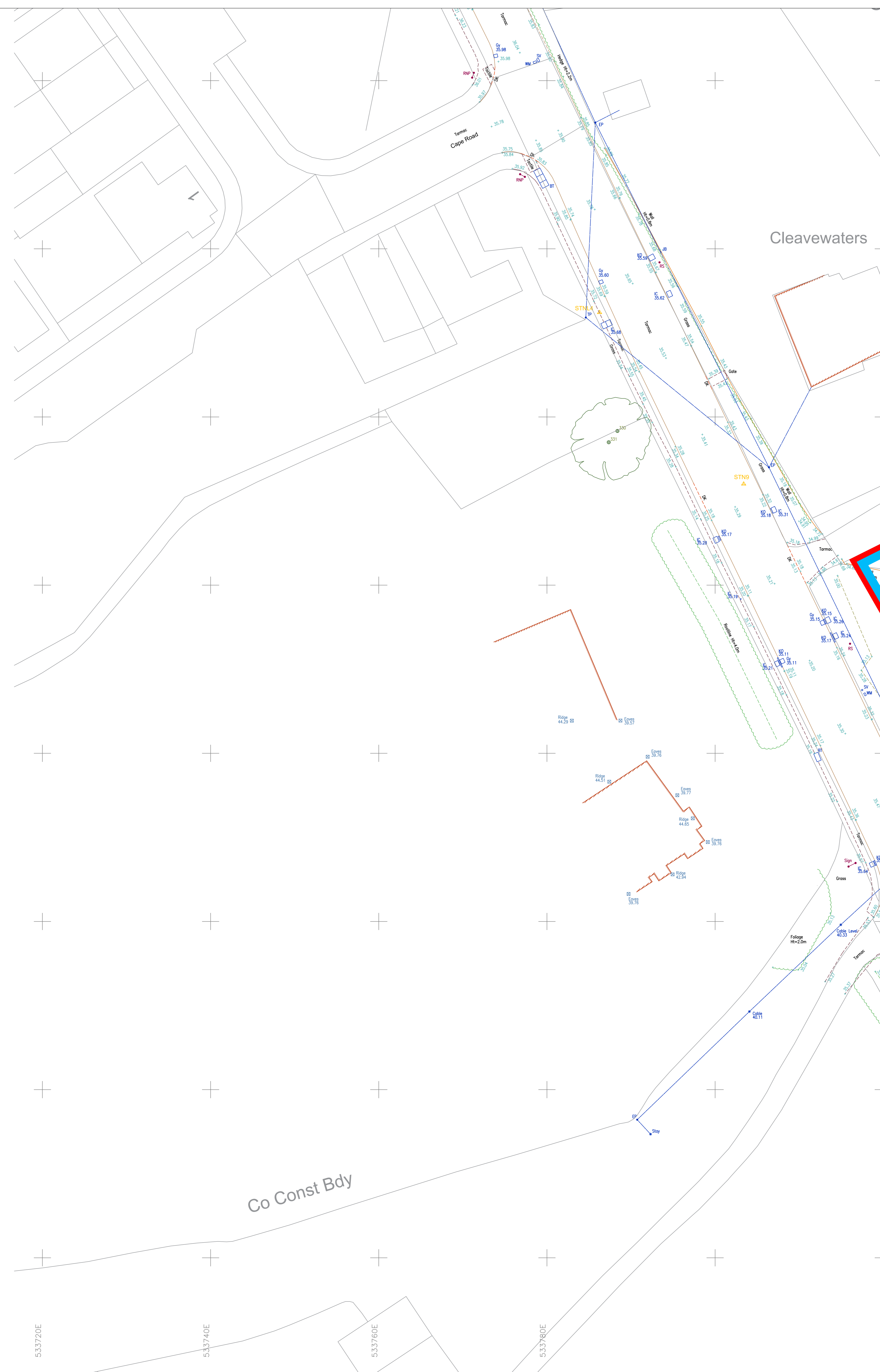
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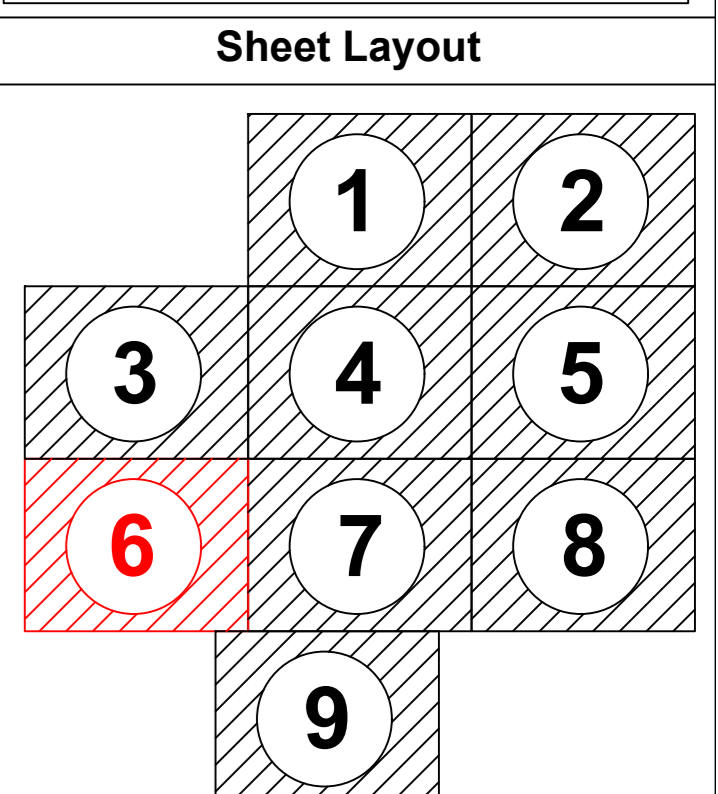
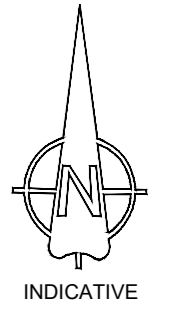
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533780E + + + + +

533800E + + + + +



Notes:
 Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arborologist be consulted before any final decisions are made.
 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.



Rev. Suffix	Date	Initial	Revision Details
Levelling	GNSS	Datum	OSGB36

To an OS GNSS Datum

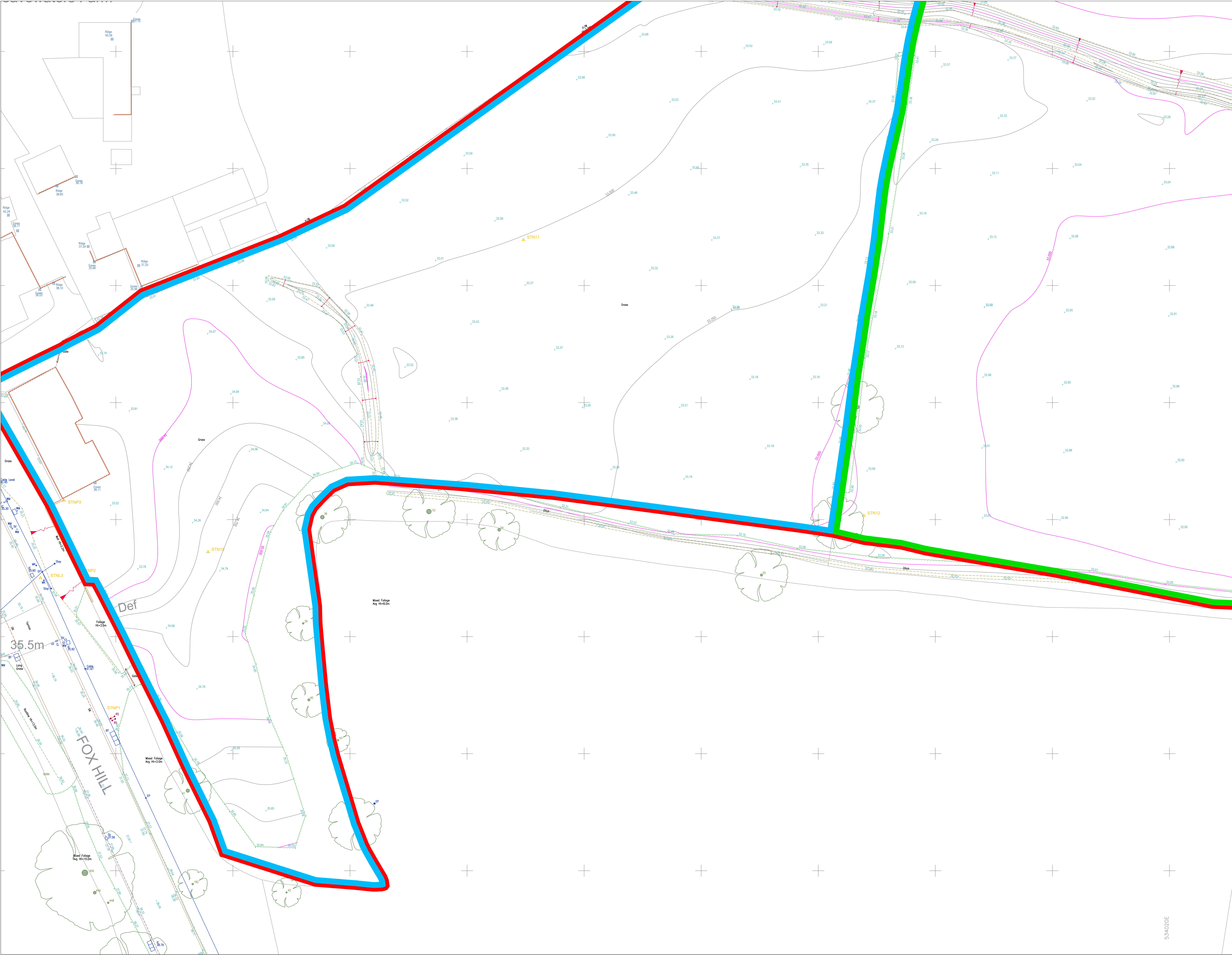
Client
Catesby Estates

Location
 Lunces Hill
 Haywards Heath

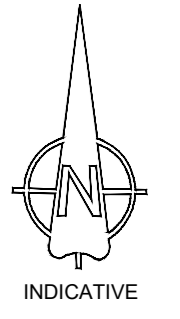
Drawing Title
**Topographical Survey
 Sheet 6 of 9**

Job No.	2403044	Old Job No.	
Drawing Number	C/2403044/6	Revision Suffix	
Scale	1:200m (A0)	Date	August 2024

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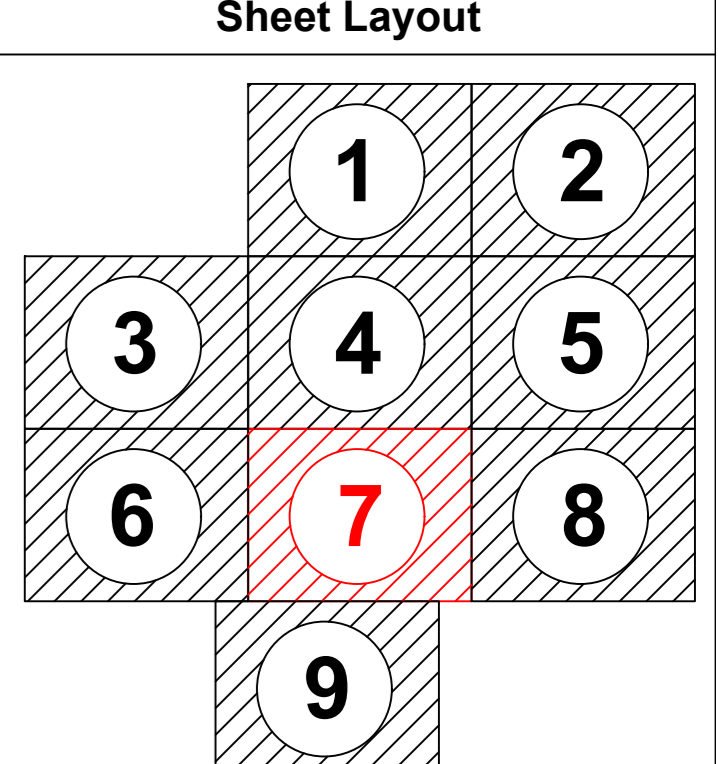


Notes:
 Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arborologist be consulted before any final decisions are made.
 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.



Legend:

Fences	Buildings	Fences
Walls	Overhead Electric	Overhead Power
Drains	Overhead Phone	Overhead Cable
Trees	Gate	Gate
Abandonment



Rev. Suffix	Date	Initial	Revision Details

Surveyor: LH Verified: LH CAD Operator: TLM Approved: JAH Date: 27.08.24
 Levelling: GNSS Datum: OSGB36

To an OS GNSS Datum

Client: Catesby Estates

Location: Lunces Hill, Haywards Heath

Drawing Title: Topographical Survey Sheet 7 of 9

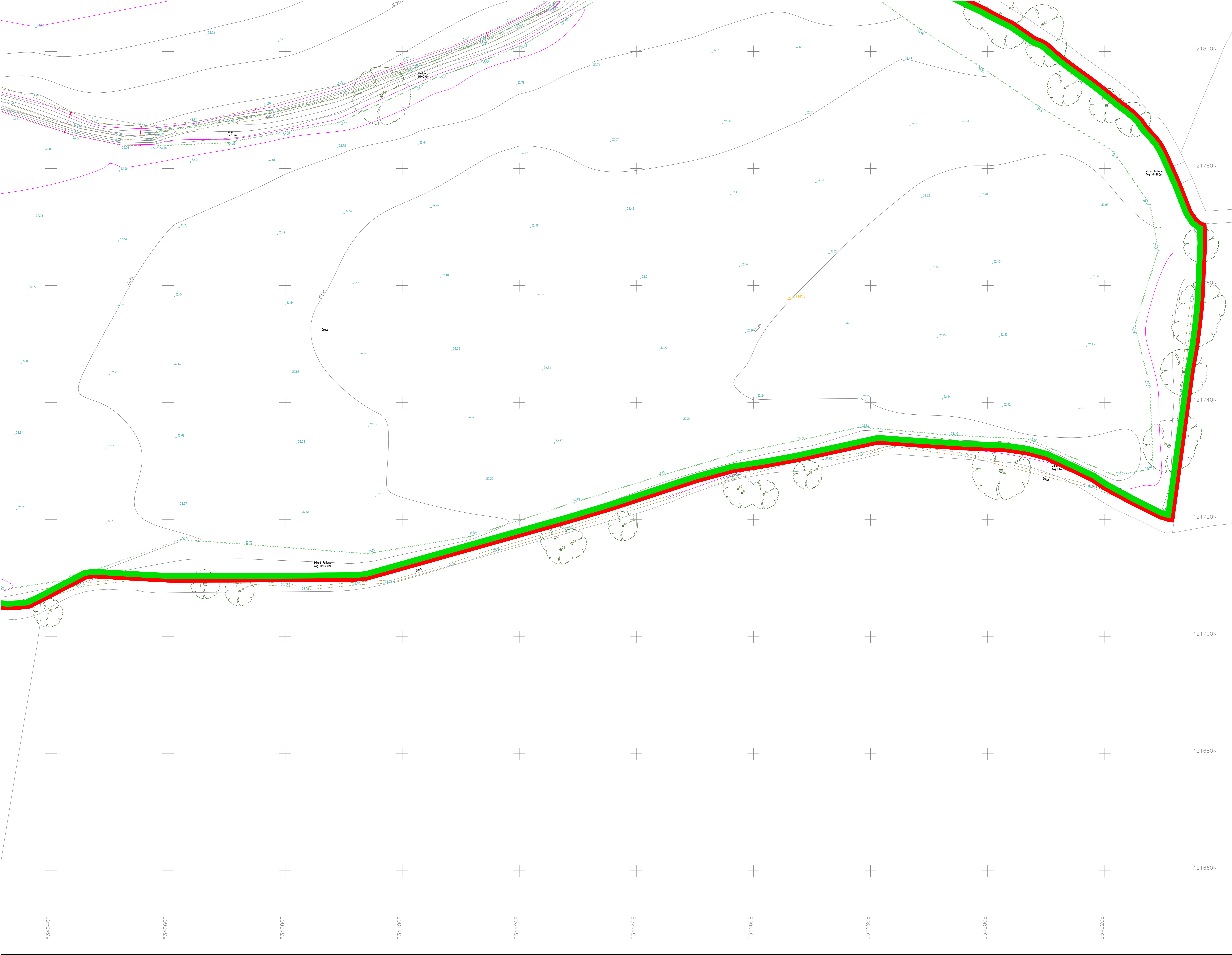
Job No. 2403044 Old Job No. Drawing Number C/2403044/7 Revision Suffix

Scale: 1:200m (A0) Date: August 2024

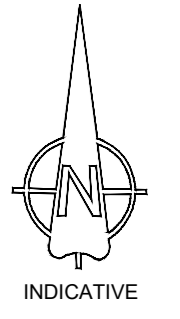
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534020E

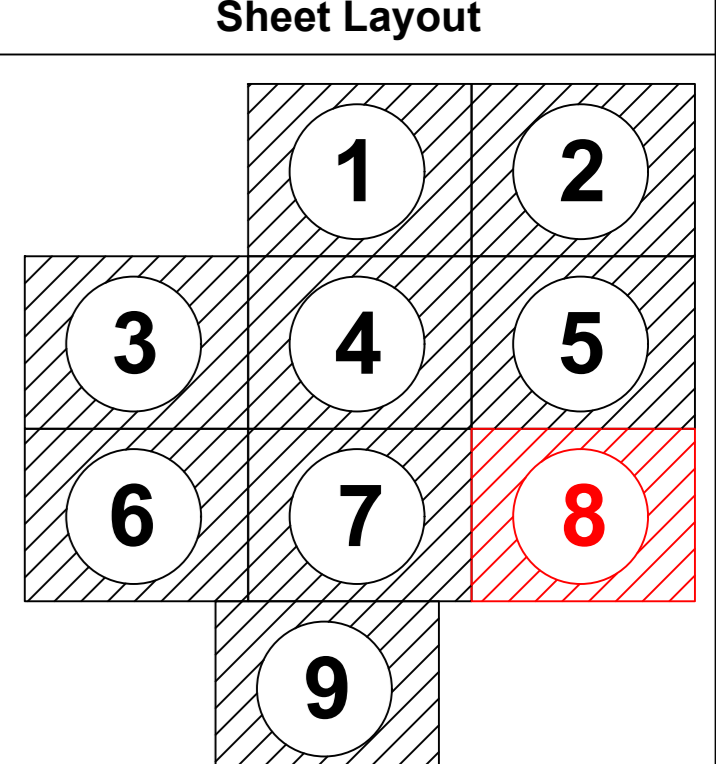


Notes:
 Whilst every effort has been made to correctly identify species of trees on the site, we advise that an arborologist be consulted before any final decisions are made.
 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.



Legend:

Fences	Buildings	Fences
Walls	Overhead Electric	Overhead Power Lines
Hedges	Overhead Phone	Overhead Gas
Trees	Gate	Well
Abandonment	Spot Height	Spot Height



Rev. Suffix	Date	Initial	Revision Details

Surveyor: LH
 Checked: LH
 Date: 07.08.24
 Datum: OSGB36
 To an OS GNSS Datum

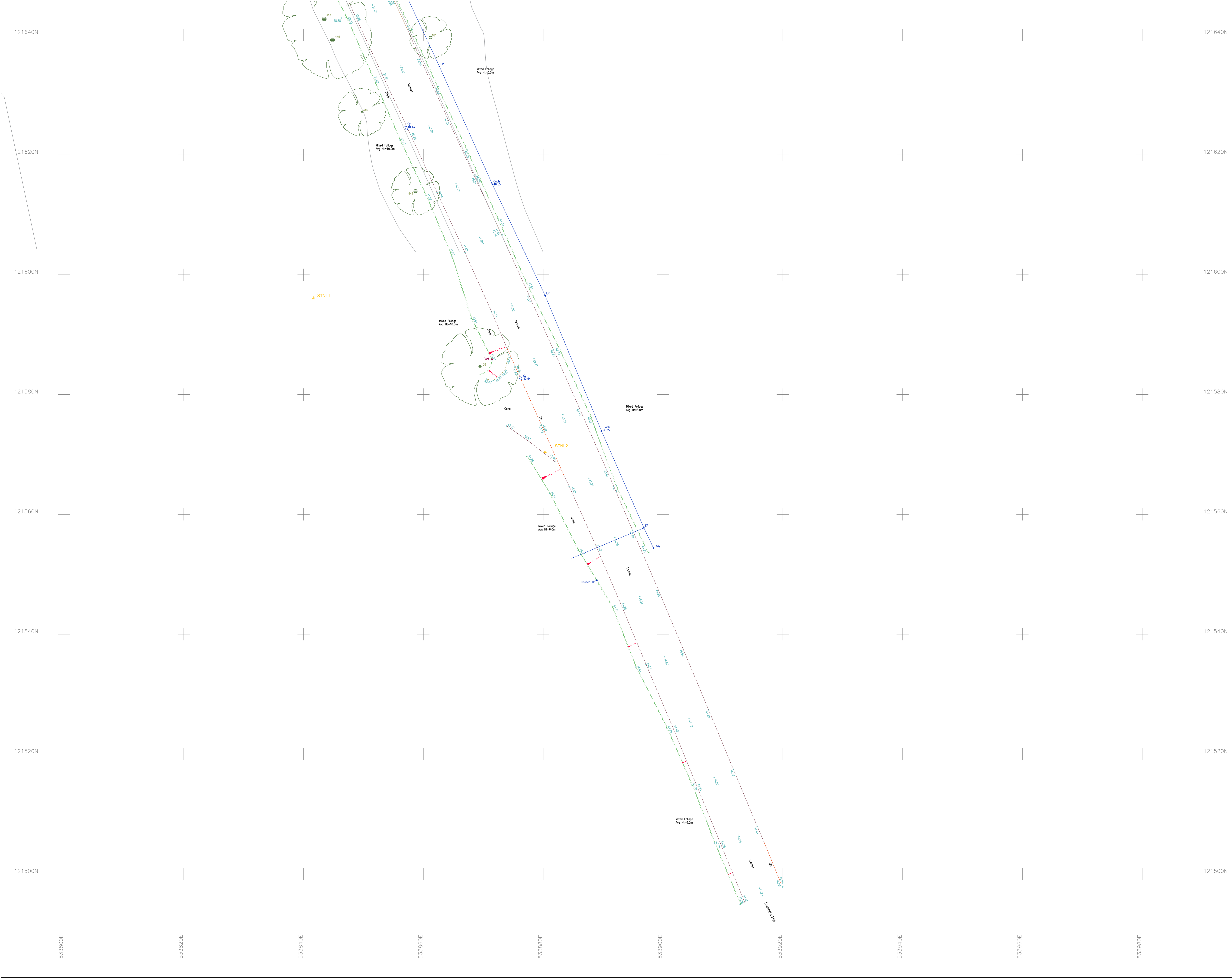
Client:
Catesby Estates

Location:
**Lunces Hill
 Haywards Heath**

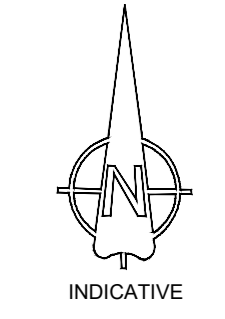
Drawing Title:
**Topographical Survey
 Sheet 8 of 9**

Job No. 2403044
 Drawing Number C/2403044/8
 Scale 1:200m (A0)
 Date August 2024

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Notes:
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 All information contained in this drawing (including digital data) should be checked and verified prior to any fabrication or construction.
 Grid coordinates are based on an OS GNSS system on a plane grid with a scale factor of 1.0000.

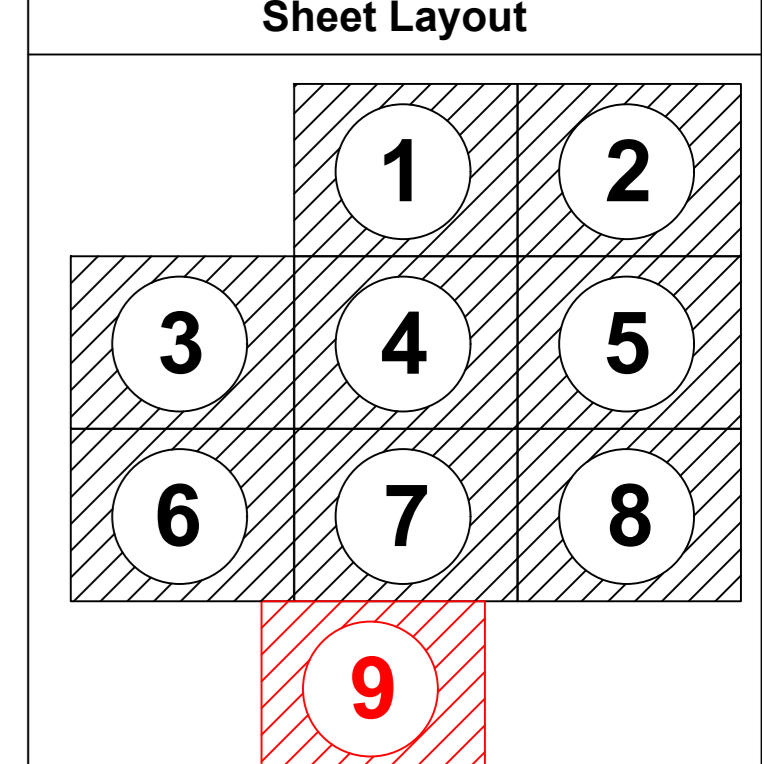


Legend:

Fences	Buildings	Fences	Spot Height
Walls	Overhead Electric	Overhead Electric	Spot Height
Edges	Overhead Phone	Overhead Phone	Spot Height
Trees	Gate	Gate	Spot Height

Abbreviations:

BRICK	CONCRETE	GLASS	IRON	STEEL	WOOD
ASPHALT	GRAVEL	SLATE	ALUMINUM	STEEL	WOOD
CONCRETE	GRAVEL	SLATE	ALUMINUM	STEEL	WOOD
CONCRETE	GRAVEL	SLATE	ALUMINUM	STEEL	WOOD



Rev. Suffix	Date	Initial	Revision Details

Surveyor	LH	Checked	LH	CAD Operator	TJM	Approved By	AKS	Date	21.08.24

To an OS GNSS Datum

Client
 Catesby Estates

Location
 Lunces Hill
 Haywards Heath

Drawing Title
 Topographical Survey
 Sheet 9 of 9

Job No.	2403044	Old Job No.	
Drawing Number	C/2403044/9	Revision Suffix	
Scale	1:200m (A0)	Date	August 2024

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Appendix E

Development Plans

Do not scale from this drawing.
 This drawing is for discussion or planning purposes only. The accuracy of this drawing may be reliant upon survey information provided by third parties. Whilst all reasonable efforts are used to ensure drawings are accurate, edge Placemaking Group Ltd accept no responsibility or liability for any reliance placed on, or use of, this plan by anyone for purposes other than those stated above or for errors arising from third party information.

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PLANNING

-  Site boundary (8.88ha)
-  Public Right of Way (PRoW)
-  Historic byway
-  1 Proposed point of vehicular, cycle and pedestrian access
-  2 Proposed primary street with 2m footpaths
-  3 Proposed shared space street
-  4 Proposed private drive
-  5 Stream crossing area
-  6 Proposed recreational footpaths
-  7 Proposed attenuation basin
-  8 Existing vegetation and trees retained and enhanced
-  9 Proposed boundary planting
-  10 Proposed LEAP
-  11 Proposed wildflower meadow
-  12 Public Open Space buffer from Ancient Woodland
-  13 Proposed farmstead style dwellings and courtyard
-  14 Flexible commercial and/or community use – retention and restoration of existing barn
-  15 Proposed puffin crossing

Rev.	Date	Description
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Land east of Lunce's Hill
 HAYWARDS HEATH


Illustrative Masterplan




Job ref: 604	Drawing number: PO1	Revision:
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Scale: 1:2000 @ A3	Date: February 2025
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 edge Placemaking Group Ltd

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 OX9 3EW

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 enquiries@edgeUD.co.uk
 www.edgeUD.co.uk



Appendix F

Hydraulic Modelling Report

Order received: 5 October 2023
Order completed: 9 October 2023

Drainage and water enquiry

CON29DW Commercial

Order reference: LS/U1764149

Your reference: 25123916

Search address:

Land At Cleavewater Lunce s Hill
Haywards Heath
West Sussex
RH16

Ordered by:

TM Property Searches Limited
1200 Delta Business Park Great Western Way
Swindon
Wiltshire
SUN5 7XZ

For enquiries regarding the information provided in this report, please contact the LandSearch team:

Tel: 0330 303 0276

Email: searches@southernwater.co.uk

Web: www.southernwater.co.uk

LandSearch
Southern Water Services
Southern House
Yeoman Road
Worthing
West Sussex
BN13 3NX



What you need to know about...

Private sewer transfer

On 1 October 2011, ownership of private sewers and lateral drains changed in accordance with The Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011. The contents of this search may not reflect these changes.

For further information please visit our website: www.southernwater.co.uk/sewer-ownership-changes.

Records searched

The following records were searched in compiling this report: the Map of Public Sewers, the Map of Waterworks, water and sewerage records, the Register of Properties subject to Internal Foul Flooding, the Register of Properties subject to Poor Water Pressure and the Drinking Water Register. Should the property not fall entirely within Southern Water's region, a copy of the records held by the relevant water company was searched.

Competition in the non-household retail market

From April 2017 non-household customers in England can choose their retailer. 'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including meter reading.

The 'wholesale' part of the water industry was not opened for competition in April 2017. This means Southern Water continues to look after the pipes and infrastructure for all its customers across Kent, Sussex, Hampshire and the Isle of Wight.

Moving

There can be a lot to do and remember when you're moving. Whether you are moving within our area, moving into our area or moving out of the area please let your retailer know.

Your order summary

Maps

1.1	Where relevant, please include a copy of an extract from the public sewer map.	Map provided
1.2	Where relevant, please include a copy of an extract from the map of waterworks	Map provided

Drainage

2.1	Does foul water from the property drain to a public sewer?	No
2.2	Does surface water from the property drain to a public sewer?	No
2.3	Is a surface water drainage charge payable?	No
2.4	Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?	Yes
2.4.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?	No
2.5	Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?	No
2.5.1	Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?	No
2.6	Are any sewers or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?	No
2.7	Has any sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?	No
2.8	Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?	No
2.9	Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.	See answer

Water

3.1	Is the property connected to mains water supply?	No
3.2	Are there any water mains, resource mains or discharge pipes within the boundaries of the property?	Yes
3.3	Is any water main or service pipe serving, or which is proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?	No
3.4	Is the property at risk of receiving low water pressure or flow?	No
3.5	What is the classification of the water supply for the property?	See answer
3.6	Is there a meter installed at this property?	No
3.7	Please include details of the location of any water meter serving the property.	See answer

Charging

4.1.1	Who is responsible for providing the sewerage services for the property?	Southern Water
4.1.2	Who is responsible for providing the water services for the property?	South East Water
4.2	Who bills the property for sewerage services?	See answer
4.3	Who bills the property for water services?	See answer

Your order summary continued

Other Information

5.1	Is there a consent on this property to discharge trade effluent under Section 118 of the Water Industry Act (1991) into the public sewerage system?	No
-----	---	----

Supplementary questions

6.1	Is there a wayleave / easement agreement giving the Water and/or Sewerage Undertaker the right to lay or maintain assets or right of access to pass through private land in order to reach the Company's assets?	Information unavailable
6.2	On the copy extract from the public sewer map, please show manhole covers, depth and invert levels where information is available.	Map provided

Maps

Public sewer map

Q. 1.1: Where relevant, please include a copy of an extract from the public sewer map.

A.: A copy of an extract from the public sewer map is provided.

Guidance Notes:

The Water Industry Act 1991 defines public sewers as those which the Company has responsibility for. Other assets and rivers, watercourses, ponds, culverts or highway drains may be shown for information purpose only.

Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an "as constructed" record. It is recommended these details be checked with the developer.

Map of waterworks

Q. 1.2: Where relevant, please include a copy of an extract from the map of waterworks.

A.: A copy of an extract of the map of waterworks is provided.

Guidance Notes:

Assets other than vested water mains may be shown on the plan for information only.

The Company is not responsible for private supply pipes connecting the property to the public water main and does not hold details of these. These may pass through land outside of the control of the seller, or may be shared with adjacent properties. The buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Drainage

Foul water

Q. 2.1: Does foul water from the property drain to a public sewer?

A.: The Company's records indicate that foul water from the property does not drain to the public sewerage system.

Guidance Notes:

The Company is not responsible for private drains and sewers that connect the property to the public sewerage system and does not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility, with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

The copy extract will show known public sewers in the vicinity of the property. It should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

If foul water does not drain to the public sewerage system the property may have private facilities in the form of a cesspit, septic tank or other type of treatment plant.

Surface water

Q. 2.2: Does surface water from the property drain to a public sewer?

A.: The Company's records indicate that surface water from the property does not drain to the public sewerage system. If the property was constructed after 6 April 2015 the surface water drainage may be served by a Sustainable Drainage System. Further information may be available from the developer.

Guidance Notes:

The Company is not responsible for private drains and sewers that connect the property to the public sewerage system and does not hold details of these.

The property owner will normally have sole responsibility for private drains serving the property and may have shared responsibility, with other users, if the property is served by a private sewer which also serves other properties. These may pass through land outside of the control of the seller and the buyer may wish to investigate whether separate rights or easements are needed for their inspection, repair or renewal.

The copy extract will show known public sewers in the vicinity of the property. It should be possible to estimate the likely length and route of any private drains and/or sewers connecting the property to the public sewerage system.

In some cases company records do not distinguish between foul and surface water connections to the public sewerage system. If on inspection the buyer finds that the property is not connected for surface water drainage, the property may be eligible for a rebate of the surface water drainage charge. Details can be obtained from the Company.

If surface water does not drain to the public sewerage system the property may have private facilities in the form of a soakaway or private connection to a watercourse.

Surface water drainage charge

Q. 2.3: Is a surface water drainage charge payable?

A.: Records confirm that a surface water drainage charge is not applicable at this property. If the property was constructed after 6 April 2015 the surface water drainage may be served by a Sustainable Drainage System. Further information may be available from the developer.

Guidance Notes:

Where surface water from a property does not drain to the public sewerage system no surface water drainage charges are applicable.

If on inspection the buyer finds that the property is not connected for surface water drainage, the buyer should contact their retailer.

Public sewers within the boundary of the property

Q. 2.4: Does the public sewer map indicate any public sewer, disposal main or lateral drain within the boundaries of the property?

A.: The public sewer map included indicates that there is a public sewer, disposal main or lateral drain within the boundaries of the property. However, from 1 October 2011 there may be additional public sewers, disposal mains or lateral drains which are not recorded on the public sewer map but which may further prevent or restrict development of the property.

Guidance Notes:

The approximate boundary of the property has been determined by reference to the Ordnance Survey record or the map supplied.

The presence of a public sewer within the boundary of the property may restrict further development within it.

Southern Water Services has a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of Southern Water Services or its contractors needing to enter the property to carry out work.

Please note if the property was constructed after 1 July 2011 any sewers and/or lateral drain within the boundary of the property are the responsibility of the householder.

Public pumping station within the boundary of the property

Q. 2.4.1: Does the public sewer map indicate any public pumping station or any other ancillary apparatus within the boundaries of the property?

A.: The public sewer map included indicates that there is no public pumping station within the boundaries of the property. Any other ancillary apparatus is shown on the public sewer map and referenced on the legend.

Guidance Notes:

The approximate boundary of the property has been determined by reference to the Ordnance Survey record or the map supplied.

The presence of a pumping station within the boundary of the property may restrict further development within it.

Southern Water Services has a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of Southern Water Services or its contractors needing to enter the property to carry out work.

It should be noted that only private pumping stations installed before 1 July 2011 will be transferred into the ownership of Southern Water Services.

Public sewers near to the property

Q. 2.5: Does the public sewer map indicate any public sewer within 30.48 metres (100 feet) of any buildings within the property?

A.: The public sewer map indicates that there are no public sewers within 30.48 metres (100 feet) of a building within the property.

Guidance Notes:

From 1 October 2011 there may be additional lateral drains and/or public sewers which are not recorded on the public sewer map but are also within 30.48 metres (100 feet) of a building within the property.

The presence of a public sewer within 30.48 metres (100 feet) of a building within the property can result in the local authority requiring a property to be connected to the public sewer.

The measure is estimated from the Ordnance Survey record, between a building within the boundary of the property and the nearest public sewer.

Public pumping station near to the property

Q. 2.5.1: Does the public sewer map indicate any public pumping station or any other ancillary apparatus within 50 metres of any buildings within the property?

A.: The public sewer map included indicates that there is no public pumping station within 50 metres of any buildings within the property. Any other ancillary apparatus is shown on the public sewer map and referenced on the legend.

Guidance Notes:

The measure is estimated from the Ordnance Survey record, between a building within the boundary of the property and the nearest pumping station.

It should be noted that only private pumping stations installed before 1 July 2011 will be transferred into the ownership of Southern Water Services.

Public adoption of sewers and lateral drains

Q. 2.6: Are any sewers or lateral drains serving, or which are proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?

A.: Records indicate that the sewers serving the development, of which this property forms part, are not the subject of an application for adoption under Section 104 of the Water Industry Act 1991. Where the property is part of an established development it would not normally be subject to an adoption agreement under Section 104 of the Water Industry Act 1991.

Guidance Notes:

This enquiry is of interest to purchasers of new homes who will want to know whether or not the property will be linked to a public sewer.

Where the property is part of a very recent or ongoing development and the sewers are not the subject of an adoption application, buyers should consult with the developer to ascertain the extent of private drains and sewers for which they will hold maintenance and renewal liabilities.

Final adoption is subject to the developer complying with the terms of the adoption agreement under Section 104 of the Water Industry Act 1991.

Any sewers and/or lateral drains within the boundary of the property are not the subject of an adoption agreement and remain the responsibility of the householder. Adoptable sewers are normally those situated in the public highway.

Building over a public sewer, disposal main or drain

Q. 2.7: Has the sewerage undertaker approved or been consulted about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain?

A.: There are no records in relation to any approval or consultation about any plans to erect a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain. However, the sewerage undertaker might not be aware of a building or extension on the property over or in the vicinity of a public sewer, disposal main or drain.

Guidance Notes:

Buildings or extensions erected over a sewer in contravention of Building Control may have to be removed or altered.

From 1 October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership and the sewerage undertaker may not have approved or been consulted about any plans to erect a building or extension on the property or in the vicinity of these.

Risk of flooding due to overloading public sewers

Q. 2.8: Is the building which is or forms part of the property at risk of internal flooding due to overloaded public sewers?

A.: The building is not recorded as being at risk of internal flooding due to overloaded public sewers. From 1 October 2011 private sewers, disposal mains and lateral drains were transferred into public ownership. It is therefore possible that a building may be at risk of internal flooding due to an overloaded public sewer which the sewerage undertaker is not aware of. For further information it is recommended that enquiries are made of the vendor.

Guidance Notes:

A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.

"Internal flooding" from the public sewers is defined as flooding, which enters a building or passes below a suspended floor.

For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.

"At Risk" properties are defined as properties that have suffered or are likely to suffer internal flooding from the public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the sewerage undertaker's reporting procedure.

Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included.

Buildings may be at risk of flooding but not identified where flooding incidents have not been reported to the sewerage undertaker.

Public sewers are defined as those for which the sewerage undertaker holds statutory responsibility under the Water Industry Act 1991.

It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the sewerage undertaker. This report excludes flooding from the private sewers and drains and the sewerage undertaker makes no comment upon this matter.

Sewage treatment works

Q. 2.9: Please state the distance from the property to the nearest boundary of the nearest sewage treatment works.

A.: The nearest sewage treatment works is 1.6 kilometres South of the property. The name of the sewage treatment works is WIVELSFIELD WTW, which is the responsibility of Southern Water Services, Southern House, Yeoman Road, Worthing, West Sussex, BN13 3NX.

Guidance Notes:

The nearest sewage treatment works will not always be the sewage treatment works serving the catchment within which the property is situated.

The sewerage undertaker's records were inspected to determine the nearest sewage treatment works.

It should be noted that there may be a private sewage treatment works closer than the one detailed above that have not been identified.

Water

Connection to mains water supply

Q. 3.1: Is the property connected to mains water supply?

A.: Records indicate that the property is not connected to mains water supply and water is therefore likely to be provided by virtue of a private supply.

Guidance Notes:

The situation should be checked with the current owner of the property.

Details of private supplies are not kept by the water undertaker.

Water mains, resource mains or discharge pipes

Q. 3.2: Are there any water mains, resource mains or discharge pipes within the boundaries of the property?

A.: The map of waterworks is provided by South East Water whose records indicate that there are water mains, resource mains or discharge pipes within the boundaries of the property.

Guidance Notes:

The boundary of the property has been determined by reference to the Ordnance Survey record or the map supplied.

The presence of a public water main within the boundary of the property may restrict further development within it.

Water undertakers have a statutory right of access to carry out work on their assets, subject to notice. This may result in employees of the water undertaker or its contractors needing to enter the property to carry out work.

Adoption of water mains and services pipes

Q. 3.3: Is any water main or service pipe serving, or which is proposed to serve the property, the subject of an existing adoption agreement or an application for such an agreement?

A.: Records confirm that water mains or service pipes serving the property are not the subject of an existing adoption agreement or an application for such an agreement.

Guidance Notes:

This enquiry is of interest to purchasers of new homes who will want to know whether or not the property will be linked to the mains water supply.

Risk of low water pressure or flow

Q. 3.4: Is the property at risk of receiving low water pressure or flow?

A.: Records confirm that the property is not recorded by the water undertaker as being at risk of receiving low water pressure or flow.

Guidance Notes:

"Low water pressure" means water pressure below the regulatory reference level which is the minimum pressure when demand on the system is not abnormal.

The reference level of service is a flow of 9 litres/minute at a pressure of 10 metres head on the customer's side of the main stop tap (mst). The reference level of service must be applied on the customer's side of a meter or any other company fittings that are on the customer's side of the main stop tap.

The reference level applies to a single property. Where more than one property is served by a common service pipe, the flow assumed in the reference level must be appropriately increased to take account of the total number of properties served.

For two properties, a flow of 18 litres/minute at a pressure of 10 metres head on the customers side of the mst is appropriate. For three or more properties the appropriate flow should be calculated from the standard loadings provided in BS6700 or Institute of Plumbing handbook.

Water companies include properties receiving pressure below the reference level, provided that allowable exclusions do not apply (i.e. events which can cause pressure to temporarily fall below the reference level). Refer to list below:

Abnormal demand: This exclusion is intended to cover abnormal peaks in demand and not the daily, weekly or monthly peaks in demand which are normally expected. Companies exclude properties which are affected by low pressure only on those days with the highest peak demands. During the year companies may exclude, for each property, up to five days of low pressure caused by peak demand.

Planned maintenance: Companies exclude low pressures caused by planned maintenance. It is not intended that companies identify the number of properties affected in each instance. However, companies must maintain sufficiently accurate records to verify that low pressure incidents that are excluded because of planned maintenance are actually caused by maintenance.

One-off incidents: This exclusion covers a number of causes of low pressure; mains bursts; failures of company equipment (such as PRVs or booster pumps); firefighting; and action by a third party. However, if problems of this type affect a property frequently, they cannot be classed as one-off events and further investigation will be required before they can be excluded.

Low pressure incidents of short duration: Properties affected by low pressures which only occur for a short period, and for which there is evidence that incidents of a longer duration would not occur during the course of the year, may be excluded.

Water hardness

Q. 3.5: What is the classification of the water supply for the property?

A.: The water supplied to the property has an average water hardness of 89 mg/l calcium carbonate which is defined as "Moderately soft" by South East Water.

Guidance Notes:

The hardness of water depends on the amount of calcium in it – the more it contains, the harder the water is.

There is no UK or European standard set for the hardness of drinking water. More information on water hardness can be found on the Drinking Water Inspectorates' website: <http://www.dwi.gov.uk/>

Water hardness can be expressed in various indices for example the hardness settings for dishwashers are commonly expressed in Clark's degrees, but check with the manufacturer as there are also other units. The following table explains how to convert mg/l calcium and mg/l calcium carbonate classifications.

To convert from:	to Clark degrees	to French degrees	to German degrees
mg/l calcium	multiply by 0.18	multiply by 0.25	multiply by 0.14
mg/l calcium carbonate	multiply by 0.07	multiply by 0.10	multiply by 0.056

Water meters

Q. 3.6: Is there a meter installed at this property?

A.: According to our records there is no meter installed at the property.

Guidance notes:

From April 2017 non-household customers in England can choose their retailer.

'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including water meter reading.

Where the property is not served by a water meter and the customer wishes to consider this method of charging they should contact their water retailer.

Water meter location

Q. 3.7: Please include details of the location of any water meter serving the property.

A.: Records indicate that the property is not served by a water meter.

Additional meter information

No further information.

Guidance Notes:

From April 2017 non-household customers in England can choose their retailer.

'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including water meter reading.

Where the property is not served by a water meter and the customer wishes to consider this method of charging they should contact their water retailer.

Charging

Sewerage undertakers

Q. 4.1.1: Who is responsible for providing the sewerage services for the property?

A.: Southern Water is responsible for providing the sewerage services for the property.

Guidance Notes:

The 'wholesale' part of the water industry did not open for competition in April 2017. This means that Southern Water continues to operate the network of pipes, mains and treatment works.

As a wholesaler, Southern Water sells sewerage services to the companies who enter the retail market. In some instances, wholesalers will still need to interact directly with customers. For example, customers will still contact Southern Water to report internal sewer flooding.

Water undertakers

Q. 4.1.2: Who is responsible for providing the water services for the property?

A.: South East Water is responsible for providing the water services for the property.

Guidance Notes:

The 'wholesale' part of the water industry did not open for competition in April 2017. This means that water undertakers continue to operate the network of pipes, mains and treatment works.

As a wholesaler, water undertakers sell water services to the companies who enter the retail market. In some instances, wholesalers will still need to interact directly with customers. For example, customers will still contact water undertakers to report leaks.

Sewerage bills

Q. 4.2: Who bills the property for sewerage services?

A.: If you wish to know who bills the sewerage services for this property then you will need to contact the current owner. For a list of all potential retailers of sewerage services for the property please visit www.open-water.org.uk.

Guidance Notes:

From April 2017 non-household customers in England can choose their retailer.

'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including meter reading.

Water bills

Q. 4.3: Who bills the property for water services?

A.: If you wish to know who bills the water services for this property then you will need to contact the current owner. For a list of all potential retailers of water services for the property please visit www.open-water.org.uk.

Guidance Notes:

From April 2017 non-household customers in England can choose their retailer.

'Retail' refers to the way in which customers are billed for their water and sewerage as well as customer services including meter reading.

Other information

Trade effluent consents

Q. 5.1: Is there a consent on this property to discharge trade effluent under Section 118 of the Water Industry Act (1991) into the public sewerage system?

A.: The trader operating at this commercial property does not hold either a Trade Effluent Consent, or an acknowledgement of a trade effluent discharge, as issued by Southern Water.

Guidance Notes:

Please note, any existing consent is dependent on the business being carried out at the property and will not transfer automatically upon change of ownership.

Any change of ownership from the current incumbent of a property will require the negotiation of a new trade effluent consent or a new acknowledgement between the new incumbent and Southern Water.

Supplementary questions

Wayleaves and easements

Q. 6.1: Is there a wayleave / easement agreement giving the Water and/or Sewerage Undertaker the right to lay or maintain assets or right of access to pass through private land in order to reach the Company's assets?

A.: Records relating to wayleaves / easements are not available for inclusion in this report.

Guidance notes:

This question relates only to private agreements between Southern Water acting in a private capacity and a landowner. Such contracts may often be part of a conveyance or land transfer, or a deed of grant of easement.

If there is no formal easement, then a sewer or water main may have been constructed following the service of notice under the provisions of the Public Health Act 1936, Water Act 1945, Water Act 1989 or Water Industry Act 1991 as applicable. The Company does not hold copies of these notices. However, in the absence of evidence to the contrary there is a legal presumption that all matters were properly dealt with. All rights and obligations relating to sewers and water mains are now covered by the Water Industry Act 1991.

Where rights exist at the boundary of the property, but we are not sure of the exact correlation, we will answer "Yes" to this question.

A documentary right can exist even if the physical asset itself has not yet been laid, or has been moved, or removed. Likewise the position of the right and of the asset may differ. You may also find that an asset is protected both with contractual rights and statutory rights. Please consult your solicitor as to why this may happen, and its effects.

We refer to "defined" assets for the following reasons: Often a contract may give Southern Water an express right to install and maintain assets within an area but without stating the exact position or route of such assets. Also, the law may imply rights where none have been mentioned specifically in a related contract, such as a conveyance. Finally, rights may come into being through long use. In any of these cases the rights are undefined, and although Southern Water may need to rely on them from time to time, as we cannot map the rights accurately, we will answer "No" to this question.

Information obtainable from physical inspection (including Trial Bore Holes) overrides information contained in the report.

Any error in answering this question is not to be regarded as a waiver of Southern Water's rights or title, or an agreement or representation that Southern Water is prepared to vary or discharge any of its rights or title.

Manholes

Q. 6.2: On the copy extract from the public sewer map, please show manhole covers, depth and invert levels where information is available.

A.: A copy of an extract from the public sewer map is included which shows manhole cover, depth and invert levels where the information is available.

Guidance Notes:

The Water Industry Act 1991 defines public sewers as those which the Company has responsibility for. Other assets and rivers, watercourses, ponds, culverts or highway drains may be shown for information purpose only.

Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an "as constructed" record. It is recommended these details be checked with the developer.

The Company is not responsible for private drains and sewers that connect the property to the public sewerage system and does not hold details of these.

The copy extract will show known public sewers in the vicinity of the property.

DISCLAIMER: These replies and information, including that shown on the enclosed plan(s), are given on the distinct understanding that neither the Company nor any of its representatives is legally liable for its accuracy or for any action or omission to act whatsoever by anyone on the strength of that information, save as to obvious error. In particular, any person proposing to construct or excavate on land on the basis of information hereby provided should carry out all necessary on-site investigations.

Appendix one: Terms and expressions

"the 1991 Act" means the Water Industry Act 1991(i);

"the 2000 Regulations" means the Water Supply (Water Quality) Regulations 2000(ii);

"the 2001 Regulations" means the Water Supply (Water Quality) Regulations 2001(iii);

"adoption agreement" means an agreement made or to be made under Section 51A(1) or 104(1) of the 1991 Act(iv);

"bond" means a surety granted by a developer who is a party to an adoption agreement;

"bond waiver" means an agreement with a developer for the provision of a form of financial security as a substitute for a bond;

"calendar year" means the twelve months ending with 31 December;

"discharge pipe" means a pipe from which discharges are made or are to be made under Section 165(1) of the 1991 Act;

"disposal main" means (subject to Section 219(2) of the 1991 Act) any outfall pipe or other pipe which:

- (a) is a pipe for the conveyance of effluent to or from any sewerage disposal works, whether of a sewerage undertaker or of any other person; and
- (b) is not a public sewer;

"drain" means (subject to Section 219(2) of the 1991 Act) a drain used for the drainage of one building or any buildings or yards appurtenant to buildings within the same curtilage;

"effluent" means any liquid, including particles of matter and other substances in suspension in the liquid;

"financial year" means the twelve months ending with 31 March;

"lateral drain" means:

- (a) that part of a drain which runs from the curtilage of a building (or buildings or yards within the same curtilage) to the sewer with which the drain communicates or is to communicate; or
- (b) (if different and the context so requires) the part of a drain identified in a declaration of vesting made under Section 102 of the 1991 Act or in an agreement made under Section 104 of that Act(v);

"licensed water supplier" means a company which is the holder for the time being of a water supply licence under Section 17A(1) of the 1991 Act(vi);

"maintenance period" means the period so specified in an adoption agreement as a period of time:

- (a) from the date of issue of a certificate by a sewerage undertaker to the effect that a developer has built (or substantially built) a private sewer or lateral drain to that undertaker's satisfaction; and
- (b) until the date that private sewer or lateral drain is vested in the sewerage undertaker;

"map of waterworks" means the map made available under section 198(3) of the 1991 Act(vii) in relation to the information specified in subsection (1A);

"private sewer" means a pipe or pipes which drain foul or surface water, or both, from premises, and are not vested in a sewerage undertaker;

"public sewer" means, subject to Section 106(1A) of the 1991 Act(viii), a sewer for the time being vested in a sewerage undertaker in its capacity as such, whether vested in that undertaker:

- (a) by virtue of a scheme under Schedule 2 to the Water Act 1989(ix);
- (b) by virtue of a scheme under Schedule 2 to the 1991 Act(x);
- (c) under Section 179 of the 1991 Act(xi); or
- (d) otherwise;

"public sewer map" means the map made available under Section 199(5) of the 1991 Act(xii);

"resource main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a trunk main, which is or is to be used for the purpose of:

- (a) conveying water from one source of supply to another, from a source of supply to a regulating reservoir or from a regulating reservoir to a source of supply; or
- (b) giving or taking a supply of water in bulk;

"sewerage services" includes the collection and disposal of foul and surface water and any other services which are required to be provided by a sewerage undertaker for the purpose of carrying out its functions;

"sewerage undertaker" means the company appointed to be the sewerage undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated;

"surface water" includes water from roofs and other impermeable surfaces within the curtilage of the property;

"water main" means (subject to Section 219(2) of the 1991 Act) any pipe, not being a pipe for the time being vested in a person other than the water undertaker, which is used or to be used by a water undertaker or licensed water supplier for the purpose of making a general supply of water available to customers or potential customers of the undertaker or supplier, as distinct from for the purpose of providing a supply to particular customers;

"water meter" means any apparatus for measuring or showing the volume of water supplied to, or of effluent discharged from any premises;

"water supplier" means the company supplying water in the water supply zone, whether a water undertaker or licensed water supplier;

"water supply zone" means the names and areas designated by a water undertaker within its area of supply that are to be its water supply zones for that year; and

"Water undertaker" means the company appointed to be the water undertaker under Section 6(1) of the 1991 Act for the area in which the property is or will be situated.

In this report, references to a pipe, including references to a main, a drain or a sewer, shall include references to a tunnel or conduit which serves or is to serve as the pipe in question and to any accessories for the pipe.

- (i) 1991 c.56.
- (ii) S.I. 2000/3184. These Regulations apply in relation to England.
- (iii) S.I. 2001/3911. These Regulations apply in relation to Wales.
- (iv) Section 51A was inserted by Section 92(2) of the Water Act 2003 (c. 37). Section 104(1) was amended by Section 96(4) of that Act.
- (v) Various amendments have been made to Sections 102 and 104 by section 96 of the Water Act 2003.
- (vi) Inserted by Section 56 of and Schedule 4 to the Water Act 2003.
- (vii) Subsection (1A) was inserted by Section 92(5) of the Water Act 2003.
- (viii) Section 106(1A) was inserted by Section 99 of the Water Act 2003.
- (ix) 1989 c.15.
- (x) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
- (xi) To which there are various amendments made by Section 101(1) of and Schedule 8 to the Water Act 2003.
- (xii) Section 199 was amended by Section 97(1) and (8) of the Water Act 2003.

Appendix two: A guide to new development

The information contained below is for general guidance only. It is recommended that Southern Water's Developer Services department be contacted for further details concerning new infrastructure development.

Wastewater information

Sewer requisitions

It may be necessary for a developer to request that Southern Water provides a public sewer to connect a development site to the existing public system. The developer is responsible for the cost of the work, although a discount will be applied based on the future predicted income from the development served by the new sewer.

Sewer diversions

If a public sewer crosses private land, it may be possible for the landowner/developer to request the sewer be diverted. In the majority of cases Southern Water will allow the developer to undertake this work under close supervision. Whether Southern Water or the developer undertakes the diversionary works the costs are the responsibility of the developer.

Building-over sewers

Public sewers are afforded statutory protection and consequently there is no right to build over or in close proximity to a public sewer. If an existing public sewer either crosses a development site or is located in close proximity to a development site it is essential that a developer contact Southern Water.

Sewer connections

A developer can serve notice on Southern Water that it wishes to make a connection to the public sewerage system. The developer must provide 21 days' notice and the work will be supervised by Southern Water.

Water information

Water requisitions

It may be necessary for a developer to request that Southern Water provides both:

- (a) A public water main to connect a development site to the existing public system and,
- (b) On-site public water mains to serve the individual properties.

In both cases the developer is responsible for the cost of the work, although a discount will be applied based on the future predicted income from the development.

It is possible for the developer to lay the on-site mains themselves under a Self-Lay Agreement. Further details are available from Southern Water.

Water main diversions

The building over or in close proximity to public water mains is not permitted. A developer must request that Southern Water undertakes a diversion of a water main that is affected by a development.

Water connections

A developer can request a new connection to a public water main. This work will be undertaken by Southern Water.

Contact us

For specific information on Southern Water's Developer Services service, including details on how to contact the right person, please visit our website: www.southernwater.co.uk/developers-and-builders-overview.

Appendix three: CON29DW Commercial Terms and Conditions

1 Introduction

- 1.1 These Terms set out the terms which will apply in respect of any Orders You place with us for a (i) Report (as defined in clause 2.1 below) and/or (ii).
- 1.2 These Terms may need to be amended from time to time and have a publication date which will be updated when any changes are made. Every time You wish to place an Order, please check these Terms to ensure You understand the terms which apply at that time, as they may have changed since any earlier order You may have placed.
- 1.3 If You do not accept these Terms You must not place any Orders with us.
- 1.4 If You are trading as a business, it is also Your responsibility to ensure that prior to placing an Order on behalf of a Client, that You make Your Client aware of the Terms, and that they accept them.

2 Interpretations & Definitions

- 2.1 In addition to any defined terms, the following words shall have the following meanings:
- “Commercial Property” means the address(es) or location(s) of a commercial property provided by You when You place an Order.
 - “Report” means the report known as the “Commercial CON29DW” prepared by us providing drainage and water information in relation to a Commercial Property.
 - “Client” means the person, company or body (including where required, their mortgage lender) for whom You have agreed to supply one or more Reports in the normal course of Your business.
 - “Map” means any Ordnance Survey map (and any data contained therein) provided as part of the Services.
 - “Order” means any request for a Report made by You to us.
 - “Terms” means these terms and conditions for Commercial CON29DW enquiries and General Terms means any general commercial terms in effect between the parties.
 - ‘You’ and ‘Your’ means the person, firm or company requesting the provision of property-related and company search information and reports from us.
 - ‘We’, ‘Our’ and ‘Us’ means Southern Water Services Limited, being a company registered in England and Wales with company number 2366670, and whose registered office address is at Southern Water Services LTD, Southern House, Yeoman Road, Worthing, West Sussex, BN13 3NX, and whose principle place of trading is at Southern House, Yeoman Road, Worthing, West Sussex, BN13 3NX.
 - ‘Website’ means <https://www.southernwater.co.uk/>
 - ‘Services’ means the provision of a Report.

3 Placing Orders and our Agreement

- 3.1 Your Order constitutes an offer by You to purchase Report(s) from us.
- 3.2 When You place an Order, You will receive an e-mail from us acknowledging that we have received Your Order but this does not mean we have accepted Your Order.
- 3.3 We may choose not to accept Your Order, but on the rare occasion that this may occur, we will aim to notify You within 24 hours. For the avoidance of doubt, no contract will exist between Us until we have expressly accepted Your Order.

4 Cancellation rights As a consumer

- 4.1 Where You are an individual consumer (and not acting for purposes wholly or mainly relating to Your trade, business, craft or profession), You have specific legal rights relating to cancellation of any Order You may place. You may cancel Your Order at any time within 14 days after the day on which the contract is entered into (“Cancellation Period”)
- 4.2 To exercise the right to cancel, You must tell us of Your decision to cancel this contract by a clear statement.
- 4.3 Where You are ordering a Report as a consumer, due to Your cancellation rights, we will not process Your Order or provide the Report to You before the end of the Cancellation Period unless You provide Your express consent and You acknowledge that You will lose the right to cancel the contract under regulation 29(1) of the Consumer Contracts (Information, Cancellation, and Additional Charges) Regulation 2013.
- 4.4 In addition to these rights, where we are able to, we will cancel any Order in accordance with our cancellation policy, which can be found on our Website.

As a Business

- 4.5 The Cancellation Period does not apply to Your Order if You are placing the Order wholly or mainly for purposes relating to Your trade, business, craft or profession.
- 4.6 If You cancel Your Order other than in accordance with this clause You may be liable for fees as detailed in our cancellation policy at: [Drainage and water searches \(southernwater.co.uk\)](https://www.southernwater.co.uk/drainage-and-water-searches)

5 The Report

- 5.1 We will prepare the Report using the Commercial Property details You provide at the time You place Your Order. The Report You receive will rely on the accuracy, completeness, and legibility of the address and/or plans You supply with Your Order.
- 5.2 The Report is produced only for use in relation to Commercial Properties, development or land which require the provision of drainage and water information and cannot be used for residential properties, development of land or any property to be developed as a single, residential, domestic property. Where You require a report for a residential property, You can order a different report from us, and different terms shall apply.
- 5.3 The Report provides information as to the indicative location and connection status of existing services and other information relating to drainage and water enquiries and should not be relied on for any other purpose (including the potential and/or suitability for any other connections to be made to existing services).
- 5.4 As You may expect, the information contained in the Report can change on a regular basis so we cannot be responsible to You or if You are trading as a business to Your Client for any change in the information contained in the Report after the date on which the Report was produced (as shown in the Report).
- 5.5 The Report does not give details about the actual state or condition of the Commercial Property nor should it be used or taken to indicate or exclude actual suitability or unsuitability of the Commercial Property for any particular purpose, or be relied upon for determining saleability or value, or used as a substitute for any physical investigation or inspection. Further advice and information from appropriate experts and professionals should always be obtained.
- 5.6 We will send the Report to the address You have provided in Your Order, including email address for online Orders.
- 5.7 You agree only to use the Report for the purpose for which it is supplied in accordance with these Terms.
- 5.8 Where we accept Your Order:
- a we will provide the Services with reasonable skill and care; and
 - b Your Order will be fulfilled within a reasonable period.
- 5.9 In providing the Report, we will comply with all laws and regulations which apply to the provision of the Report including ensuring that we have all the necessary licences and permissions, including intellectual property rights to provide the Report.
- 5.10 It is Your responsibility to ensure that Your Order, and the Report meet Your requirements if You are trading as a business the requirements of Your Client.
- 5.11 In providing You with this Report, we will comply with the Drainage & Water Searches Network (DWSN) Standards.

6 Disclaimers with regard to the Reports

- 6.1 The position and depth of apparatus shown on any maps attached to the Report are approximate, and are furnished as a general guide only, and no warranty as to its correctness is given or implied. The exact positions and depths should be obtained by excavation trial holes and the maps must not be relied on in the event of excavation or other works made in the vicinity of The Company's apparatus. Please be aware of specific disclaimers included in the Maps.

7 Intellectual Property Rights

- 7.1 The Report You receive is confidential and is intended for (a) Your own internal or personal purposes and/or (b) where You are trading as a business, the personal use of Your Client. The Report shall not be used or copied (in whole or in part) for any other use whatsoever, whether for commercial gain or otherwise.
- 7.2 We grant You a non-exclusive and non-transferable licence:
- a to make copies of the Reports (except the Map) for Your own internal purposes;
 - b to incorporate the Reports (other than the Map) into any written advice You provide in the normal course of Your business; and
 - c to disclose the Reports, where You are trading as a business, in the normal course of Your business to:
 - i Your Client; and or
 - ii anyone who is acquiring or considering acquiring an interest in or charge over the property to which the Report relates, and their professional advisers.
- 7.3 You must not alter any part of the Report including altering, removing or obscuring any logos and/or branding which is contained in a Report.
- 7.4 All intellectual property rights, including trademarks, domain names and copyright in the Reports are owned by us and/or our licensors.
- 7.5 Any Maps contained in any Report are protected by Crown Copyright. The Maps must not be used for any purpose other than as part of the Report. Neither You nor anyone You provide the Report to may reproduce the Maps without paying for a separate licence from Ordnance Survey.
- 7.6 No intellectual or other property rights are transferred or licensed to You or where You are trading as a business to Your Client or any other person except to the extent set out in these terms.
- 7.7 You agree to compensate us against any losses, costs, claims, damages and/or expenses which we incur and/or suffer as a result of any breach of any intellectual property rights or obligations (set out in any of the Terms) by You, or where You are trading as a business to Your Client or any party to whom You provide a copy of the Report.

8 Additional Intellectual Property Right Provisions

- 8.1 The enquiries in the Report are protected by copyright by the Law Society of 113 Chancery Lane, London WC2A 1PL and must not be used for any purpose which is not expressly set out in these Terms.
- 8.2 The answers and information in the Report are protected by copyright by Southern Water Services.

9 Liability

- 9.1 This paragraph sets out the exclusions to and limitations on our liability to You and if You are trading as a business to Your Client.
- 9.2 We will not be liable to You (and/or if You are trading as a business to Your Client) in contract, tort, negligence, breach of statutory duty, misrepresentation or otherwise:
- a if we do not accept Your Order,
 - b for any inaccuracies, mistakes or omissions in the Reports unless any such liability arises as a direct consequence of our negligence.
- 9.3 Notwithstanding the above, nothing affects any party's liability for (a) death or personal injury arising from its negligence, (b) liability for fraud or fraudulent misrepresentation and / or (c) any other liability which cannot be excluded or limited under applicable law.
- 9.4 In addition to the TPO redress scheme covering consumers, TPO will also provide redress for small businesses (including Charities and Trusts) that meet the following criteria:
- o a small business (or group of companies) with an annual turnover of less than £3 million;
 - o a charity with an annual income of less than £3 million;
 - o a Trust with a net asset value of less than £3 million

10 Additional Provision relating to our Liability to You for the Report

- 10.1 Subject to clause 9.3, our total liability to You and/or if You are trading as a business to Your Client, whether for breach of contract, tort, negligence, breach of statutory duty, misrepresentation or otherwise, arising under or in connection with these Terms and/or the provision of a Report limited to £10 million pounds in aggregate.

11 Customer Complaints Procedure

- 11.1 Southern Water Services offer a robust complaints procedure which can be found on our Website or [here](https://www.southernwater.co.uk/media/default/PDFs/CON29DW-complaints-procedure1.pdf).
<https://www.southernwater.co.uk/media/default/PDFs/CON29DW-complaints-procedure1.pdf>
- 11.2 If Your complaint has gone through our complaints procedure and You are dissatisfied with the response or it has exceeded our response timescales, You may refer Your complaint for consideration under The Property Ombudsman Scheme (TPOs). You can obtain further information by visiting www.tpos.co.uk or email admin@tpos.co.uk

12 General

- 12.1 These Terms (and any General Terms or other documents referred to herein) are the only terms and conditions that shall apply to any Order and the provision of a Report by us to You and shall constitute the entire agreement between You and us and supersede, replace, and extinguish any previous arrangement, understanding or agreement between us relating to such Report.
- 12.2 Any dispute or claim arising out of or in connection with these terms and or their subject matter or formation (including non-contractual disputes or claims) shall be governed by the laws of England and Wales. Any dispute (including any non-contractual disputes or claims) shall be subject to the exclusive jurisdiction of the courts of England and Wales.
- 12.3 If there is any conflict or inconsistency between the provisions of these Terms and any other General Terms, the provisions of these Terms shall prevail.
- 12.4 In the event of any conflict of inconsistency between any information on the Website describing the features of the Report and these Terms, then these Terms shall prevail.
- 12.5 Where You are acting wholly or mainly in the normal course of Your trade, business, craft or profession Your Client is entitled to the benefit of these Terms. Save as provided in this clause
- 12.6 It is not intended that any other person who is not a party to these Terms has any right to enforce any term of these Terms under the Contracts (Rights of Third Parties) Act 1999.

These Terms and conditions are available in larger print for those with impaired vision.

Appendix four: Complaints procedure

When we get it wrong

You deserve the highest standard of service from us, but sometimes we make mistakes. If we do, please let us know and we will investigate and review your concerns.

Whilst we always try to resolve all complaints straight away, if this is not possible and you are not happy with the course of action taken by us, you can ask us to escalate the issue internally or take your complaint to an independent third party.

How you contact us

Firstly please call us and we will try to sort out your problem straight away. You can:

Call us between 8am and 5pm, Monday to Friday on 0330 303 0276

Email us at searches@southernwater.co.uk

Write to us at LandSearch, Southern Water Services, Southern House, Yeoman Road, Worthing, West Sussex, BN13 3NX.

What you can expect

You will receive a full, fair and courteous response from someone who can effectively deal with your problem.

If we can remedy the problem straight away we will do it but if we cannot immediately resolve your problem we will keep you informed of actions being taken.

The process

We will try to resolve any telephone contact or complaint at the time of the call, however, if that isn't possible, we will take the details of your complaint and we will investigate and get back to you within 10 working days.

We will respond to written complaints within 10 working days of the date received, but we will always aim to respond more quickly. Depending on the scale of investigation required, we will keep you informed of the progress and update you with new timescales if necessary.

If you are still not satisfied with our response or action we will refer the matter to a Senior Manager for resolution. At your request we will liaise with a third party representative acting on your behalf.

Our commitment to you

If we find your complaint to be justified, or we have made any errors that substantially change the outcome in your search result, we will refund the search fee. We will also provide you with a revised search and undertake the necessary action to put things right as soon as practically possible. You will be kept informed of the progress of any action required.

If you remain dissatisfied

While we aim to resolve your complaint first time, in the event that we are unable to resolve the issue to your satisfaction, ultimately you can contact a third party. Please make sure that you have followed the process above first, if not, your complaint will be passed back to us.

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman Scheme (TPOS):

The Property Ombudsman scheme, Milford House, 43-55 Milford Street, Salisbury SP1 2BP

Telephone: 01722 333306

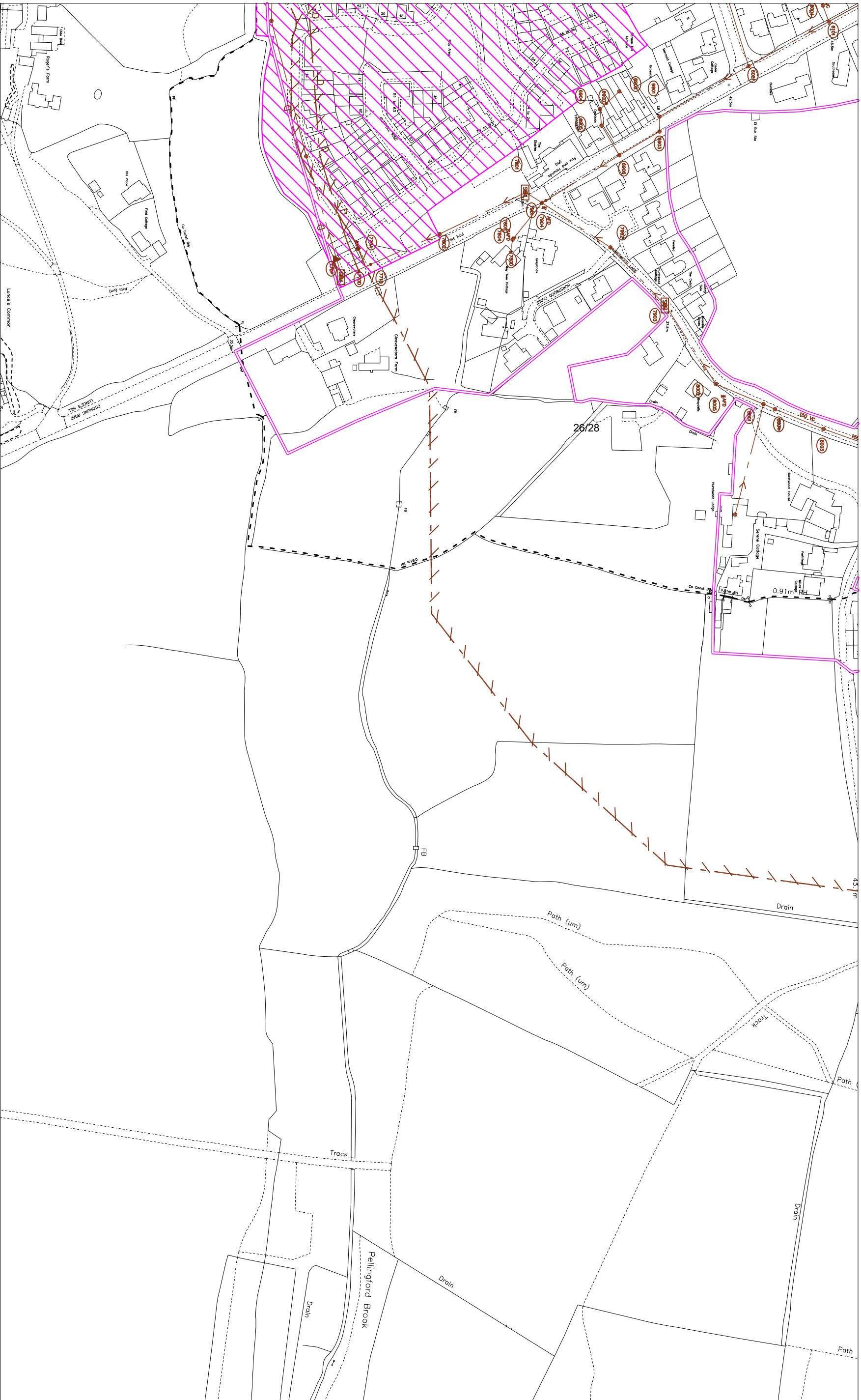
Fax: 01722 332296

Website: www.tpos.co.uk

Email: admin@tpos.co.uk



122121



121543

O.S. REF.		<p>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. WARNING: BAC pipes are constructed of Bonded Asbestos Cement WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement</p>	
<p>TQ3421NW</p>			
<p>Drawn by:</p>	<p>SomDeba</p>	<p>Based upon Ordnance Survey Digital Data with the permission of the controller of H.M.S.O. Crown Copyright Reserved Licence No. WU 298530.</p>	
<p>Scale:</p>	<p>1:2500</p>		
<p>Date:</p>	<p>09/10/2023</p>		
<p>Title: Land At Cleavewater Lunce s Hi</p>			

533597

534537

SEWER RECORDS PAGE 2 OF 2

Node	Cover	Invert	Size	Material	Shape	Node	Cover	Invert	Size	Material	Shape	Node	Cover	Invert	Size	Material	Shape	
5004X																		
6001X	43.28	41.78	100	VC	CR/C													
6101X	46.66	45.3	150	VC	CR/C													
6701X	34.49	32.25	225	CP	CR/C													
6702X	33.82	31.63	225	CP	CR/C													
6901X	41.05	39.59	150	VC	CR/C													
6902X	40.77	40.04	150	VC	CR/C													
6903X	40.9	39.41	150	VC	CR/C													
6904X	40.39	39.25	150	VC	CR/C													
6905X	40.43	39.25	150	VC	CR/C													
6906X	39.99	38.44	150	VC	CR/C													
690DX			150	VC	CR/C													
7701X	34.79		160	PE	CR/C													
770AX			225	CB	CR/C													
770PX			225	CB	CR/C													
771DX			150	VC	CR/C													
7801X	37.85		150	VC	CR/C													
7802X	36.57		150	VC	CR/C													
7805X		34.73		UNK	CR/C													
7804X				UNK	CR/C													
7901X	38.02	34.8	150	VC	CR/C													
7902X	37.62	35.14	150	VC	CR/C													
8001X	37.9	35.53	150	VC	CR/C													
8002X	36.35	36.11	150	VC	CR/C													
8003X	37.99	35.99	150	VC	CR/C													
8004X	38.565	36.7	150	VC	CR/C													
8005X	38.45	36.2	150	VC	CR/C													
9001X				UNK	CR/C													

LINE STYLES / COLOURS

Brown: Foul Sewer Sewer, Foul Vacuum Main, Foul Flushing Main, Combined Sewer Sewer, Combined Flushing Main, Combined Sewer Sewer, Combined Flushing Main, Lateral Drain, Building Over Agreement Area, Treated Effluent, Sewer Catchment, Section 104 Area, Surface Water, Surface Water Railing Main, Private, Access Shaft, Disconnection

MATERIALS

AK: Aluminium, BRG: Bricked Adhesive Cement, BRG: Brick (Common), CC: Concrete Box Culvert, CI: Cast Iron, CO: Concrete (A-SU), CS: Concrete Slagcrete (Sloped), CSB: Concrete Slagcrete (Sloped), DI: Ductile Iron, DP: Ductile Pipe, G: Gopher, GPR: Glass Reinforced Plastic, MAC: Masonry for regular Courses, MAF: Masonry for Flat Courses, MAF: Masonry for Sloped Courses, PE: Polyethylene, PP: Polypropylene, PRC: Reinforced Concrete, RPL: Reinforced Polypropylene, SI: Span Iron, ST: Steel, SCS: Steel City, ZZZ: Unknown

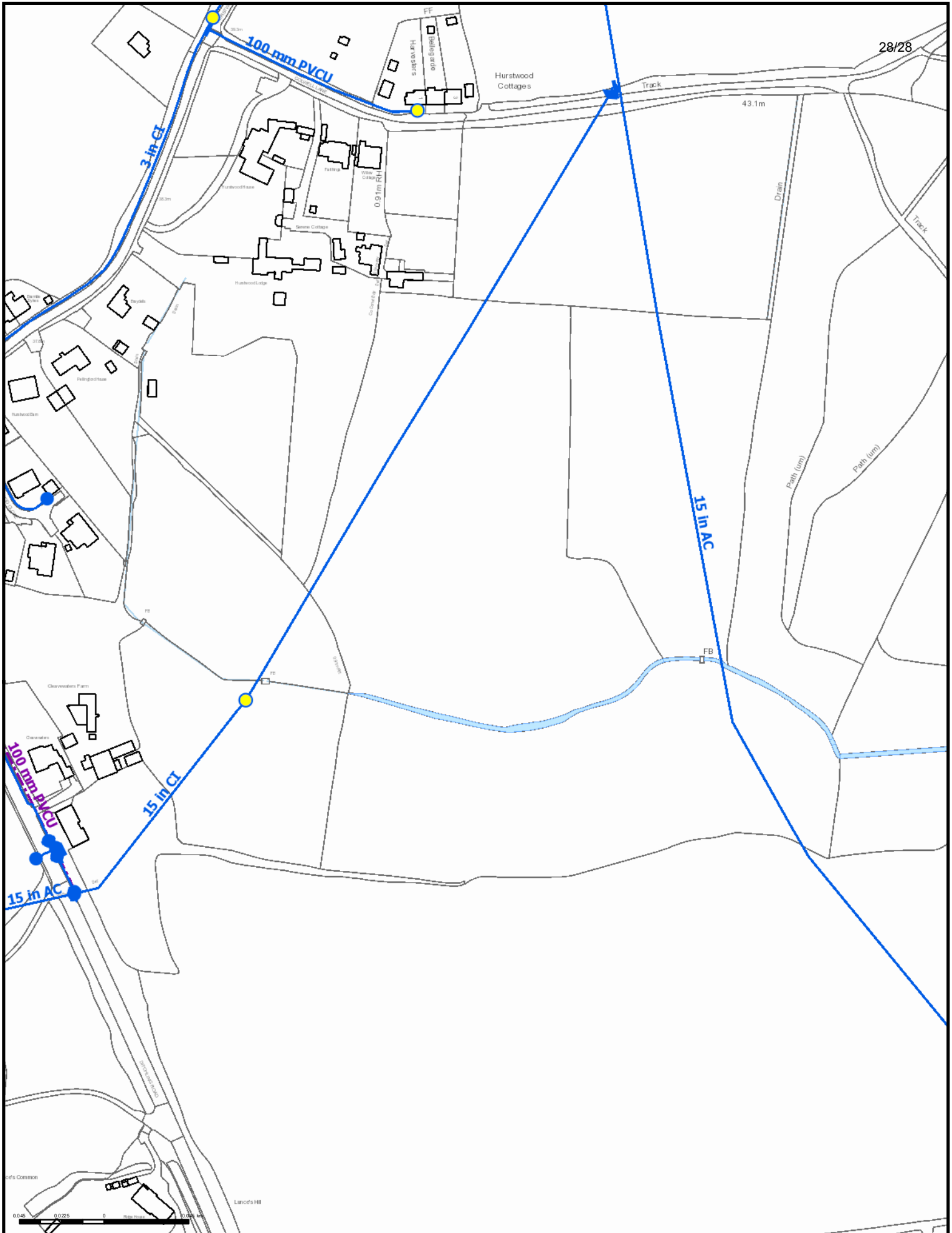
LEGEND - SEWERS

Manhole (SW), Lamp hole (SW), Pumping Station (SW), Side entry manhole (SW), Brand shaft (SW), Ejector station (SW), Waterlight door (SW), Flushing on 1/4" (SW), Flushing on 1/2" (SW), Flushing on 3/4" (SW), Demarcation Chamber, Waterout (SW), Redding Elm (SW), Gauging point (SW), Interrogator chamber (SW), Storm Tank (SW), Storm Tank (SW), Vortex chamber (SW), Label ellipse, Penstock chamber, Storm Overflow, Backdrop manhole, Other (S), Change in sewer (S), Relief valve, Flap valve, Cascade, Valve, Closed Valve, Air Valve, Hatch box (SW), Hatch box (SW), Discharge arrow, Catchpit, Slateway, Balancing Pond, Wastewater treatment works, Odour headworks, Vent, Vent column, Total storage tank, Bypass end, Head of Public Sewer, Micro Pumping Station, SHAPES (S): A: Arch, C: Circular, E: Ellipse, H: Horizontal, R: Rectangle, T: Triangular, U: U-Shape, V: Vertical

NODE REFERENCING SYSTEM

1st digit: sewer type identifier
2nd digit: hundred metre walking identifier
3rd digit: S=Surface Water
4th digit: next sequential node

Drawn by:	SomDeba	
Title:	Land At Cleavewater Lunce s HI	
Date:	09/10/2023	



Drawing Title: Land At Cleavewater, Lunce's Hill, Haywards Heath, West Sussex, RH16

South East Water Mains and Fittings

- | Valve
- Washout
- Fire Hydrant
- Meter
- ▶ Pressure Valve
- ◆ Air Valve
- Distribution Main
- - - Abandoned Main
- Company Boundary

Reference: U1764 149	
Plot Date:	06/10/2023
Grid Reference:	534,044.1796 121.811.4948
Scale:	1:2,500



(Water Maps)
 PO Box 105
 Snodland, Kent
 ME6 9DW
 Telephone: 0333 000 0058
 Email: water.maps@southeastwater.co.uk
 Website: www.southeastwater.co.uk

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Appendix G

Asset Location Plans

HYDRAULIC MODELLING TECHNICAL NOTE

Lunce's Hill, Haywards Heath Surface Water Model

794-DES-ARC-30465
Hydraulic Modelling
Technical Note
Rev01
06.08.2025

REPORT

Quality Management

Version	Status	Authored by	Reviewed by	Approved by	Review date
00	Draft for review	Caitlin Evans	Ruth Abbott	Ruth Abbott	20/12/2024
01	Draft for review	Caitlin Jones Evans/Tamsin	Ruth Abbott	Ruth Abbott	06/08/2025

RPS Consulting Services Ltd. General Notes

1. This report contains available factual data for the site obtained only from the sources described in this report. The site location has been determined by the client and forms the basis of the assessment and associated data searches.
2. The assessment of the site is based on information supplied by the client. Relevant information was also obtained from other sources.
3. The report reflects both the information provided to RPS in documents made available for review and the results of observations and consultations by RPS staff.
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1 INTRODUCTION AND BACKGROUND

1.1 Introduction

- 1.1.1 RPS Consulting Services Ltd (RPS) were commissioned by Catesby Estates to undertake a hydraulic surface water modelling exercise. The modelling exercise is for a site located at Land off Lunce's Hill, Haywards Heath, RH16 4QT.
- 1.1.2 The modelling of the site has taken place to support a proposed outline planning application for circa 125no. residential dwellings at the site. The hydraulic modelling has been requested to understand the hydrological conditions of the site.
- 1.1.3 This modelling report describes the modelling approach and presents the baseline (existing scenario) and design (proposed development scheme) model results.

1.2 Objectives

- 1.1 The modelling aims to provide a greater understanding of the site and wider catchment baseline conditions in more depth than is shown in the EA Surface Water Flood Map. The modelling also aims to assess flood risk to the proposed scheme and its potential impact on off-site flood risk and flow patterns.
- 1.2 This modelling report describes the modelling approach and presents the baseline and option model results.
 - 1.2.1 The approach includes the building of a new surface water model using TUFLOW, which is industry-standard modelling software.

1.3 Site Visit

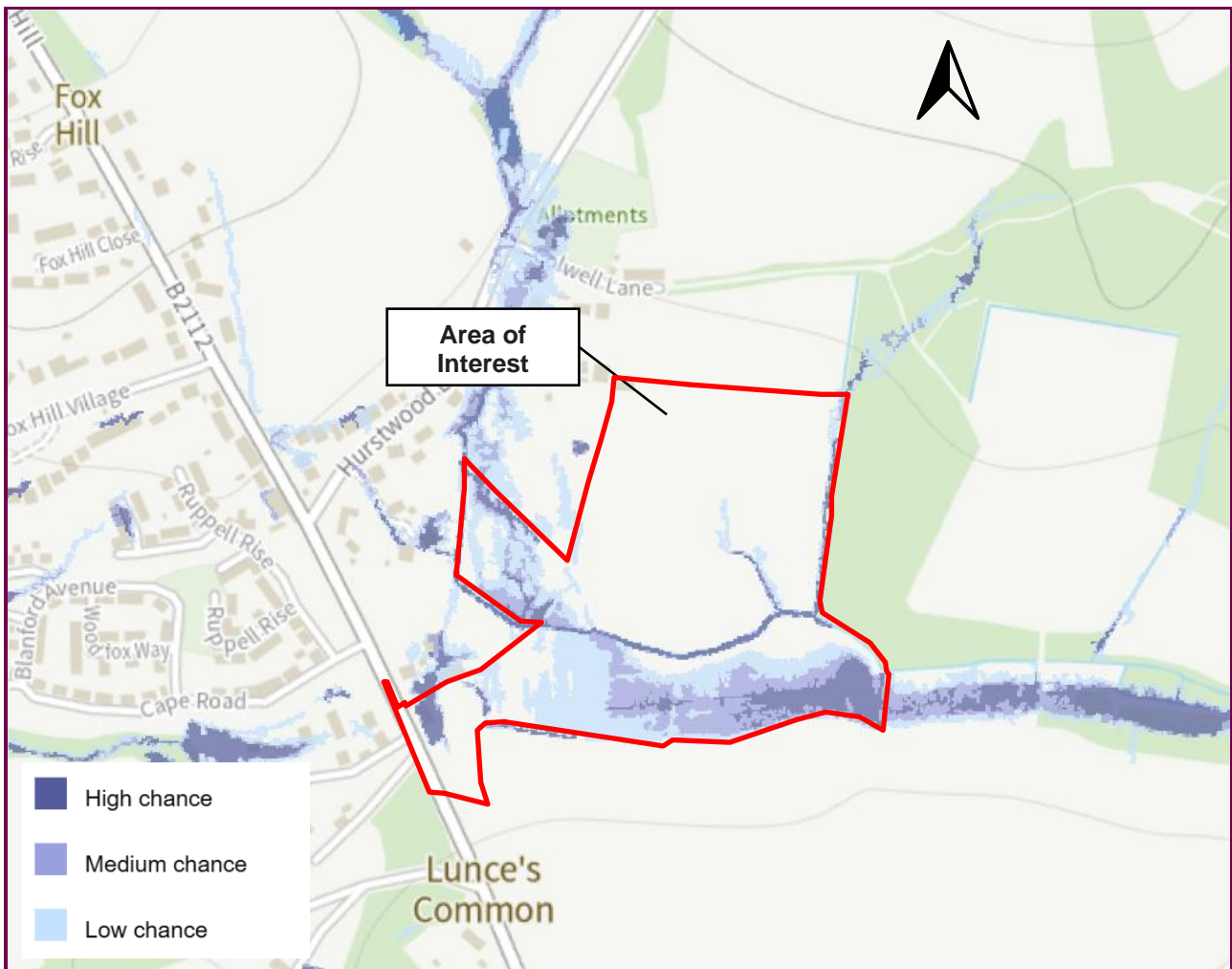
- 1.3.1 A site visit was undertaken on the 20th November 2024 to further understand the topography of the site and surrounding land. The site visit was a walkover conducted by 2no. RPS employees.
- 1.3.2 The Pellingford Brook an ordinary watercourse, flows through the centre of the site in an easterly direction.
- 1.3.3 The site appeared to be relatively flat with levels dipping towards the centre near the watercourse. Light Detection and Ranging (LiDAR) Digital Terrain Model (DTM) data dated 2022 was obtained for the site. During the site visit, culverts were identified over the river and field drains. A topographic survey was also undertaken for the site, findings of which were confirmed on the site visit.
- 1.3.4 Field drains were present near hedgerows. During the survey, these drains were wet and were conveying water slowly. No formal Sustainable Drainage Systems (SuDS) were present on site. The only form of drainage network was the ditch system and culverts.
- 1.3.5 For the two days prior to the site visit, there had been heavy rain. The ground at the site was waterlogged and surface water was seen, mostly found in the extents shown in the EA Surface Water Flood Map in the south of the site. The ground became the most saturated in the southeast corner of the site, where the lowest elevations were seen. Site visit photos are included in Appendix A.

1.4 Environment Agency Mapping

- 1.4.1 The catchment area studied includes the site and the agricultural fields in the south and north, alongside the developed areas north of Haywards Heath and to the east. The catchment area comprises a total area of approximately 53 hectares (ha).

REPORT

- 1.4.2 The Environment Agency (EA) Updated Flood Map for Surface Water (Figure 1) illustrates that flow pathways exist in and around the site, with the largest being associated with the Pellingford Brook. There are areas of low to high chance with the site.
- Low chance; between 0.1% and 1% chance of a flood each year
 - Medium chance; between 1% and 3.3% chance of a flood each year
 - High chance; more than 3.3% chance of a flood each year.
- 1.4.3 There is a large surface water flow pathway running west to east following the Pellingford Brook. Two large surface water flow paths are also seen running south through the site into the Pellingford Brook.
- 1.4.4 During a low-chance scenario, depths might reach up to 0.3m in the southeast corner of the site and near the river channel. During a medium and high chance scenario, depths remain mostly below 0.2m in the south east corner of the site. Depths are higher within the watercourses on site during all events..
- 1.4.5 The EA Risk of Flooding from Surface Water (RoFSW) map is derived from a national model with varying resolution. As such, it is not able to capture site-specific conditions.



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Figure 1. EA RoFSW Map

2 MODELLING APPROACH

2.1.1 A 2D rain on grid model was used with 1D elements used to represent hydraulically significant structures e.g. culverts. The model has been developed in TUFLOW software (version: 2023-03-AE-iDP-w64).

2.2 Model extent

2.2.1 The catchment boundary was defined using 'watershed' analysis of the local area based on the LIDAR-derived digital terrain model (1m resolution). This analysis identifies the area which drains to a specific location based on the ground topography. One catchment was identified within the area. A 150m buffer was added to the derived catchment to provide a conservative approach and ensure any additional surface water pathways with the potential to impact the site were considered.

2.2.2 The derived catchment boundary is presented in Figure 2.

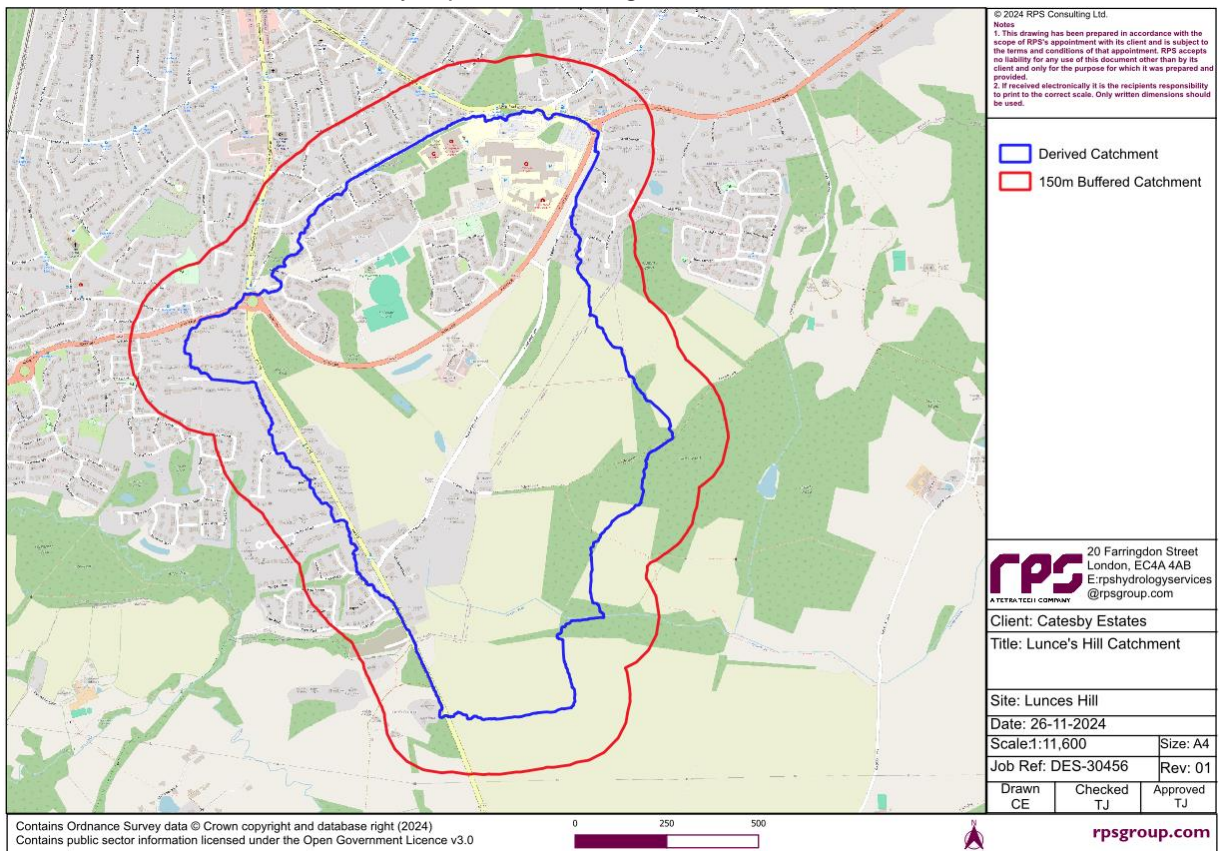


Figure 2. Model Extent

2.3 Topography

2.3.1 Topography has been determined from LiDAR-derived DTM with a 1m resolution (2022). A topographic survey was provided for the development site, with levels taken throughout the site and including invert levels of culverts. This survey was taken from DWG format to create an ASCII titled "LH_Topo" to be read into the model after the LiDAR to present higher resolution levels.

2.3.2 LiDAR was compared to the topographic survey and showed a good match; however, the spatial resolution of the LiDAR was generally better, so it was used preferentially for general levels across the catchment. The topographic survey was used to inform the definition of specific hydraulic features such as ditches and culverts.

2.4 Inflows

Climate Change

2.4.1 In May 2022, the EA released revised peak rainfall climate change allowances to also reflect the Management Catchment geography. This recent guidance has been used to inform the climate change parameters and is presented for the appropriate management catchment below in Table 1.

Table 1. Adur and Ouse Management Catchment Management Catchment peak rainfall allowances

1% Annual Exceedance Rainfall Event		
Epoch	Central	Upper
2050s	20%	45%
2070s	25%	45%

2.4.2 It is expected the residential developments have a lifetime of over 100 years. As such the 2070's upper end allowance is used, and a 45% climate change scenario has been considered in the modelling.

2D Inflows

2.4.3 The inflows into the model were derived rainfall hyetographs applied to the whole catchment area. These hyetographs were determined for the 30, 100, and 100-year rainfall using REFH 2. The 100-year rainfall was then multiplied by 1.45 to achieve the appropriate climate change inflow of 100-year+45% climate change.

2.4.4 The critical duration from ReFH2 was derived as 1 hour 15 minutes. A range of initial runs were tested to ensure that the calculated critical duration was correct when run through the mode. Initially the 1 hour 15-minute, 3 hours 15-minute and 6 hours 15-minute durations ran in line with EA RoFSW methodology. The maximum depths were derived during the 1hr 15.

2.4.5 The rainfall has been applied across the full model extent and represents total rainfall for the catchment.

2.4.6 For the urban areas in the wider catchment, the EA surface water approach has been used to estimate sub surface drainage in these areas. A restricted 12mm/hr rate was applied.

2.5 Outflows

2D Outflow

2.5.1 2D outflows were applied to the model to allow water to flow freely out of the the edge of the 2D domain and prevent 'glass walling'. A HQ boundary was applied based on the slope of the ground in that location, dependent on the calculated gradient.

2.6 1D Culverts

2.6.1 Culverts in the site have been modelled in 1D for the development and has been defined using LiDAR, site visit findings and the topographic survey information or the site.

2.6.2 A 1d_nwk layer was created which included culvert locations identified on site and on the topographic survey and desktop analysis of the LiDAR and satellite imagery. Dimensions for these structures was informed by topographic survey where available; otherwise dimensions were estimated from site visit observation, analysis of the LiDAR surface and consideration to the structures found elsewhere.

2.6.3 The 1d_nwk of the culverts was connected to the 2D domain using a 2d_bc layer. Bridge decks of the culverts were added as a zshp.

2.6.4 The locations of the culverts within the model are shown below in Figure 3.

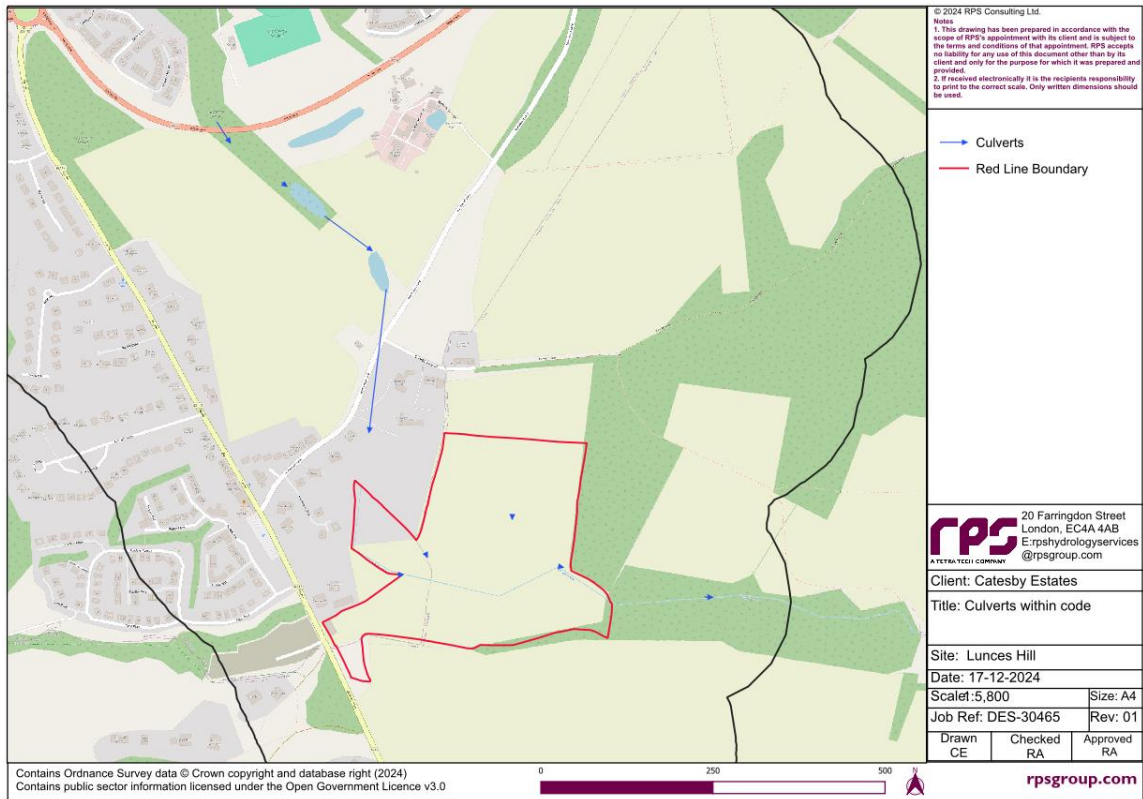


Figure 3. Location of Culverts in model

2.7 Channels and Ditches

- 2.7.1 A zshp was used to define the watercourses (ditches) through the site and wider catchment, bed elevations were taken from the topographic survey where possible, shown in figure 4.
- 2.7.2 The ditches were read twice. The ditch was read as a 'GULLY' line. This is as TUFLOW does not allow water to flow diagonally between cells, therefore, the gully line formulation lowers cell sides and cell centres to form a flow path. The ditch was then also read with the applied shape width depending on the size of the ditch/watercourse to ensure appropriate grid cell size through the model.

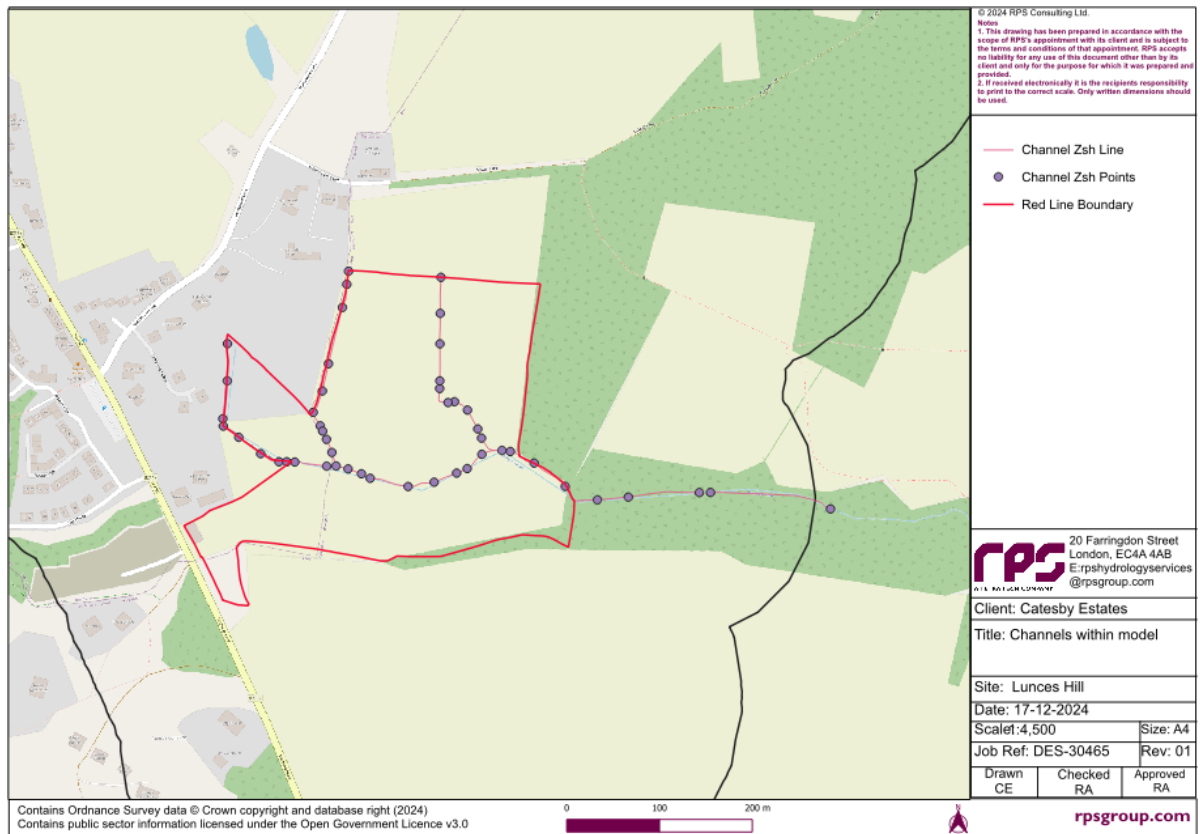


Figure 4. Zshp Channels Carved in Model

2.8 Overland Flow

Roads

2.8.1 For the wider catchment the roads in the model extent have been lowered by 125mm to ensure that the roads are the preferential flow paths. This is in line with EA surface water modelling guidance (National Scale Surface Water Flood Mapping Methodology, 2019). This reflects the fact that road design incorporates local-scale topographic features, e.g. cambers and kerbs/raised pavements, which encourage water to remain within the linear footprint of the road.

Buildings

2.8.2 The buildings have been abstracted from the OS MasterMap dataset. Buildings have been represented in the model by applying stub heights to model topography to represent FFL's and to ensure surrounding roads are the preferential flow routes. The stub height applied to the buildings is 300mm. The height has been applied to the mean height of the building taken from the LIDAR/Topographic Survey to ensure a flat FFL.

2.8.3 A higher roughness value has been applied to the buildings detailed within Manning's roughness section.

2.9 Manning's Roughness

2D Roughness

2.9.1 The varying layers for the roughness values have been taken from the OS MasterMap layer. The values assigned are detailed below in Table 2.

Table 2. Manning's Roughness Values

Feature Code	Descriptive Group	Manning's Roughness (n)
10021	Buildings	0.500
10053	General Surface (Multi-surface)	0.04
10054	General Surface (Step)	0.025
10056	General Surface (Grass, parkland)	0.03
10062	Buildings (Glasshouse)	0.5
10089	Water (Inland)	0.035
10096	Dense vegetation, natural land form, working slopes or cliff	0.1
10099	Land Natural	0.1
10111	Natural Environment (Heavy woodland and forest)	0.1
10119	Roads, Tracks and Paths (manmade)	0.02
10123	Paths (tarmac and dirt tracks)	0.025
10167	Railway lines	0.05
10172	Roads Tracks And Paths (Tarmac)	0.02
10183	Roads Tracks And Paths (Roadside)	0.02
10185	Structures (Roadside)	0.03
10193	Structures (New)	0.03
10217	Land (Industrial yards, car parks)	0.035

2.10 Infiltration

- 2.10.1 Infiltration losses are applied to permeable surfaces based on the underlying soil textural class. TUFLOW uses the hydraulic properties (hydraulic conductivity, suction and porosity) corresponding to each textural class, as well as the initial moisture content, to vary the rate of infiltration over time.
- 2.10.2 The entirety of the model extent is assumed to be unsaturated at the start of the simulation. Throughout the simulation, TUFLOW monitors the amount of water infiltrated, such that once the soil is saturated, no further infiltration occurs. The presence of no antecedent conditions is in line with EA RoFSW mapping methodology.
- 2.10.3 A 2d_soil layer was created to represent the soils present in the study area based on the Soilscape Viewer from Cranfield University's National Soil Resources Institute (NSRI), this is supported by Defra. The soil textural classes and corresponding TUFLOW codes are defined in the TUFLOW manual and shown in Table 3.
- 2.10.4 An impermeable layer has been defined taking the roads and buildings present in the model. A Soil Type number of '99' has been applied to this layer (shown in Figure 5). This represents the fact buildings and roads have no infiltration.
- 2.10.5 A layer was created to account for the drainage capacity of the urban network in the off-site wider catchment. In line with EA RoFSW methodology, a standard 'drainage rate' of 12mm/hr was applied at this built-up location. This is to account for the drainage capacity of the sewer system within urban areas.
- 2.10.6 Figure 5 shows the soil types and urban areas input into the model.

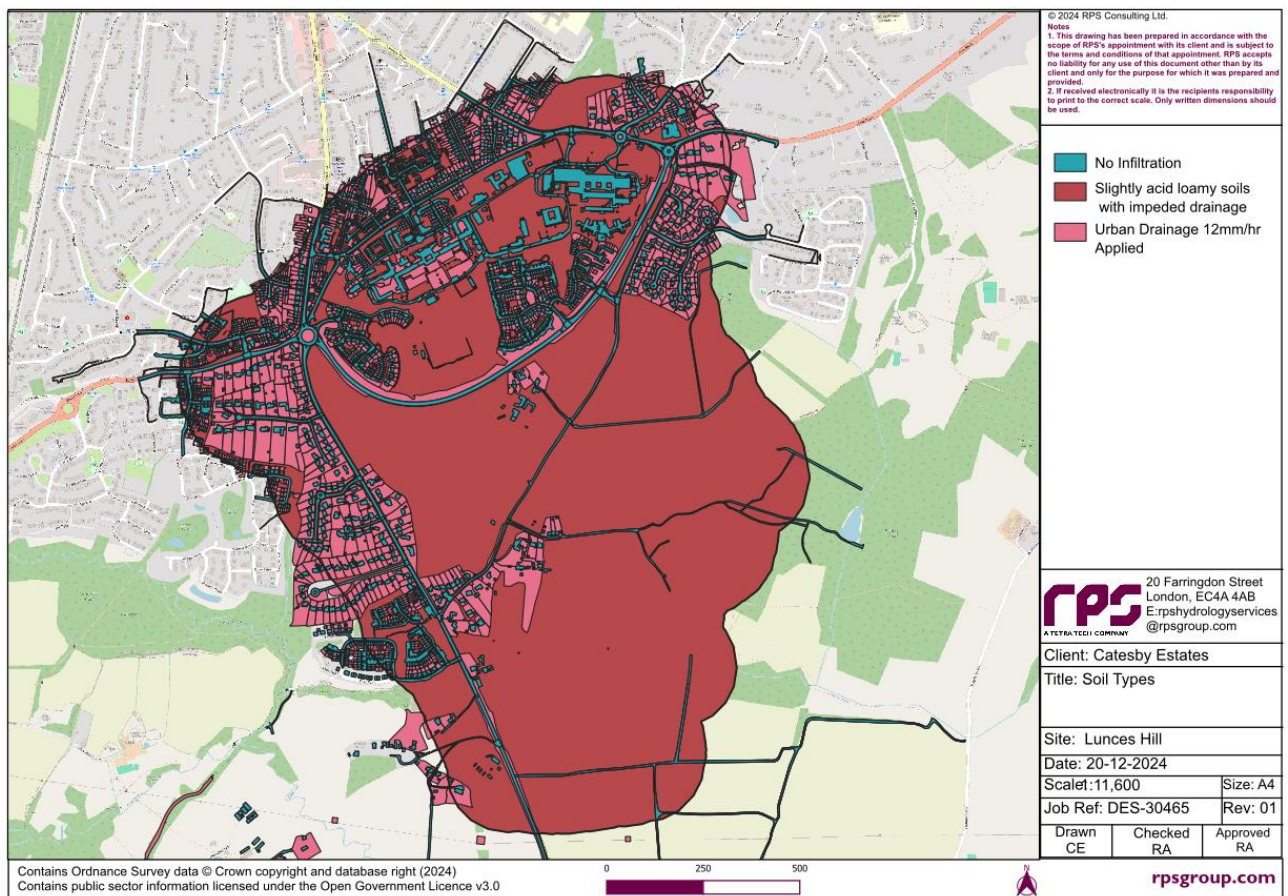


Figure 4. Soil Types within Catchment

Table 3. Soil types within hydraulic model

SoilScape Number	Soil Description	TUFLOW Soil ID	TUFLOW Definition
9	Slightly acid loamy and clayey soils with impeded drainage	4	Clay Loam
N/A	Buildings	99	No Infiltration
N/A	Urban Area	12	12mm/hr

2.11 Model Grid Size

2.11.1 The model grid size has been set at 2m. This provided a good balance between the degree of precision in order to model overland flow routes along roads and around pathways, as well as providing an appropriate model run (simulation) times.

2.12 Simulation Time

2.12.1 As the peak flow during the 1 hour 15 event occurred around 1 hour 15, it was decided to run the model for 6 hours as the peak had occurred by this time.

2.13 Timestep

2.13.1 The model was simulated with a 1 second time step in the 2D domain (TUFLOW), and a 0.5 second time step in the 1D domain (ESTRY). The chosen time steps were deemed suitable for the model grid size and have been shown to produce stable model results.

2.14 Model Stability

2.14.1 The cumulative mass error is outputted during the model simulation. This value provides an understanding of the stability of the model as well as the robustness of the model and its ability to stimulate a flood event accurately. A model is considered healthy if it falls between the recommended range of +/- 1% throughout the simulation. Figure 6 shows that the model falls within or close to this range for the 1 in 100-year return period.

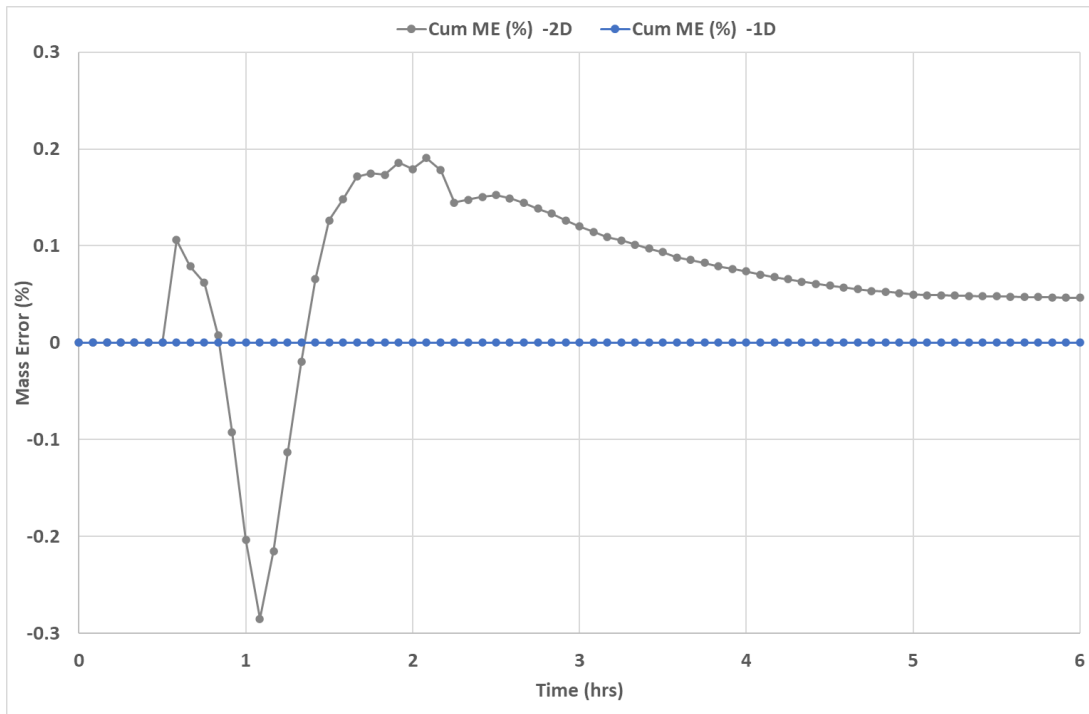


Figure 6. Mass Error (1D and 2D)

- 2.14.2 Other parameters such as warnings outputted during the simulation, provide details of the 'healthiness' of the model. 15no. warning messages related to the ZC value were found in the TUFLOW output, indicating adjustments to the culvert invert level at culvert location points.
- 2.14.3 Warnings were also recorded during the 100 year +CC event and the 1 in 1000 year event relating to negative depths being recorded near the 2d code boundary, downstream of the site. Due to the points being localised and downstream of the site and only occurring during higher magnitude events for a short period of time, this is considered acceptable as it will not affect the flood risk at site.
- 2.14.4 Examples of the warnings received are included in table 4.

Table 4. TUFLOW Warnings

TUFLOW Warnings	Comment
WARNING 2118 - Lowered SX ZC Zpt by 0.63m to 1D node bed level.	Culvert is represented in 1D only this is considered normal when setting up culverts.
CHECK 2118 - Lowered SX ZC Zpt by 0.24m As Above to 1D node bed level.	
WARNING 2991 - Negative U depth at [0315;0790]. Time = 1:15:02; Depth = -0.1; 2D Domain = Domain_001	Located downstream of the site for a short period of time during high magnitude events as a result of discrepancies in the LiDAR.

3 MODEL RESULTS

- 3.1.1 Model results are presented as depth and velocity maps for the full suite of return periods in this section. The nature of rain-on-grid surface water modelling is such that all cells in the model area will receive rainfall directly onto them and therefore show a degree of flood depth. The EA 'What is the Surface Water Flood Map' Report (2019)¹ excludes depths below 0.15m in the presentation of results. Therefore, to aid clarity in the presentation of these model results, very shallow depths have been omitted in the mapping. Thus, the depths map only show depths greater than 0.15 m (i.e. 15 cm) in magnitude.
- 3.1.2 On request all 'raw' model results files can be provided following completion of the proposed option modelling in electronic format alongside this report to allow further detailed interrogation of the results.

3.2 Baseline Scenario Result

Extent

- 3.2.1 The model has been run for pre-development 'baseline' conditions of the site. Figure 7 shows the maximum modelled flood extents for the low (1 in 1000 year), medium (1 in 100 year) and high (1 in 30 year) scenarios on the left and is compared to the EA RoFSW mapping on the right.
- 3.2.2 Figure 8 shows the flood extent for the 1 in 100 year +45% climate change allowance. The LLFA specify this should be used as the design event and as a minimum, more vulnerable development should be outside of the 1%AEP surface water risk extent (RoFSW).

¹ <https://assets.publishing.service.gov.uk/media/5db6ded540f0b6379a7acbb8/What-is-the-Risk-of-Flooding-from-Surface-Water-Map.pdf>

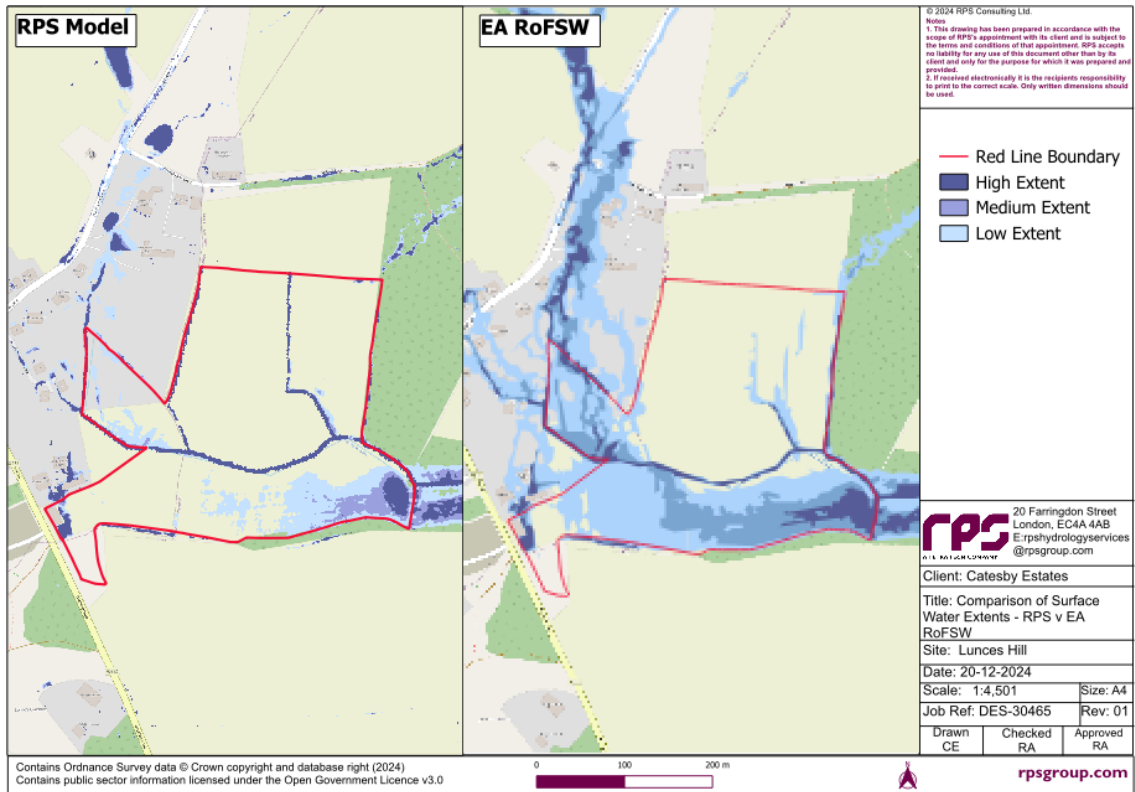


Figure 7. RPS Model Vs EA RoFSW Extent Mapping

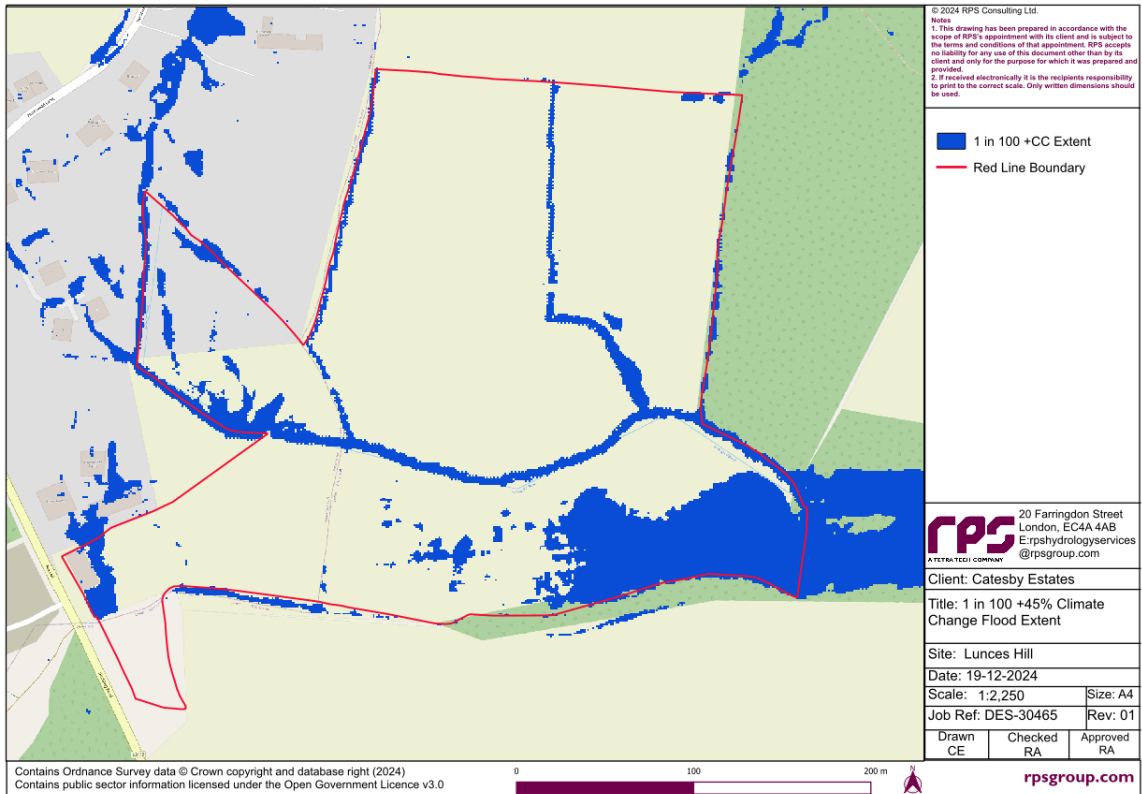


Figure 8. Flood Extent for the 1 in 100 +45% Climate Change Scenario

Flood Depths

Figure 9 shows flood depths during the 1 in 100 + 45% climate change event. Flooding is primarily confined to the watercourse and ditches, however there is an area of flooding with depths between 300m-900mm in the southeast corner of the site.

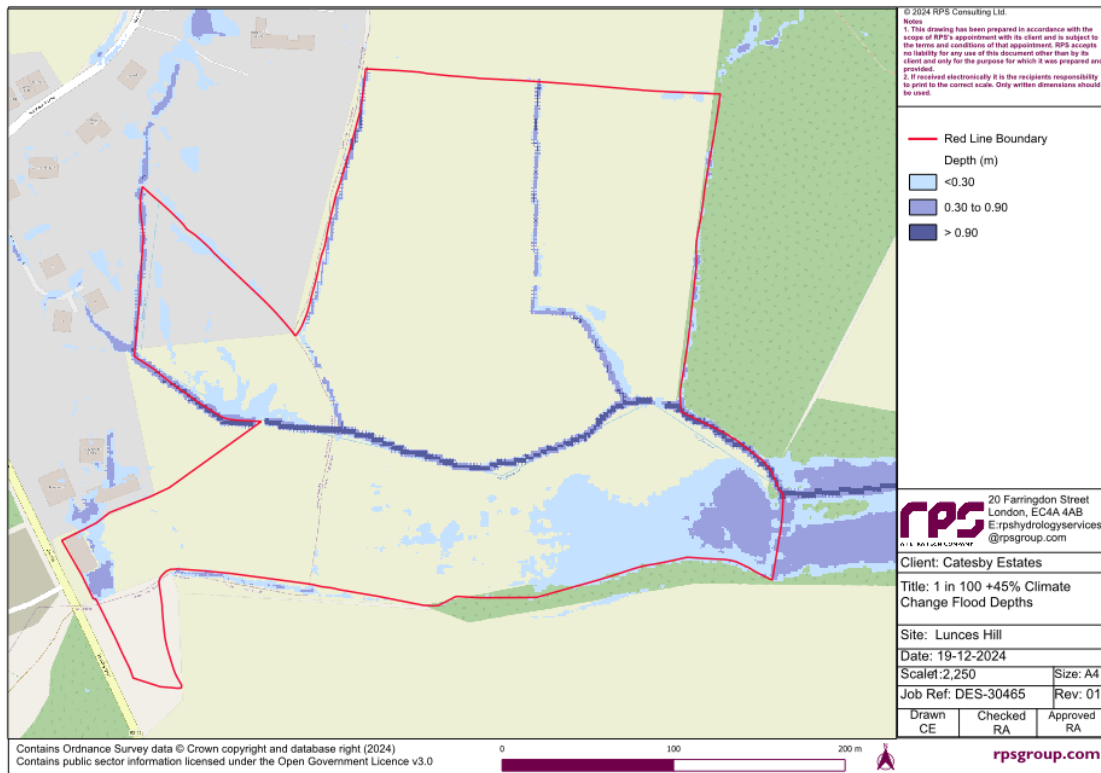


Figure 9. Flood Depths during the 1 in 100 +45% climate change event

Mechanisms of flooding - flow paths

- 3.2.3 Flow direction of the surface water has been overlaid onto the depth mapping during a 1 in 100 +45% climate change event in Figure 10. The primary overland flow pathway into the site as identified in the EA RoFSW mapping is also shown in the RPS modelling. The flow pathway originates from the urban area to the northwest of the site and flows south towards the site where flows are captured by the channel running to the east.
- 3.2.4 The mapping not only shows that water is being directed towards the channel in the centre but also eastwards across the south of the site. This surface water flow path in the south of the site is significant ; water is transported not only through the channel but also across the field surface. Water continues through the south of the site and beyond the boundary via this flow path.
- 3.2.5 Flow paths through the site from the north via smaller drains are shown in EA RoFSW maps and are also captured in the RPS model. Flows are captured within the channel and smaller extents are seen in the south of the site during all scenarios in the RPS model.

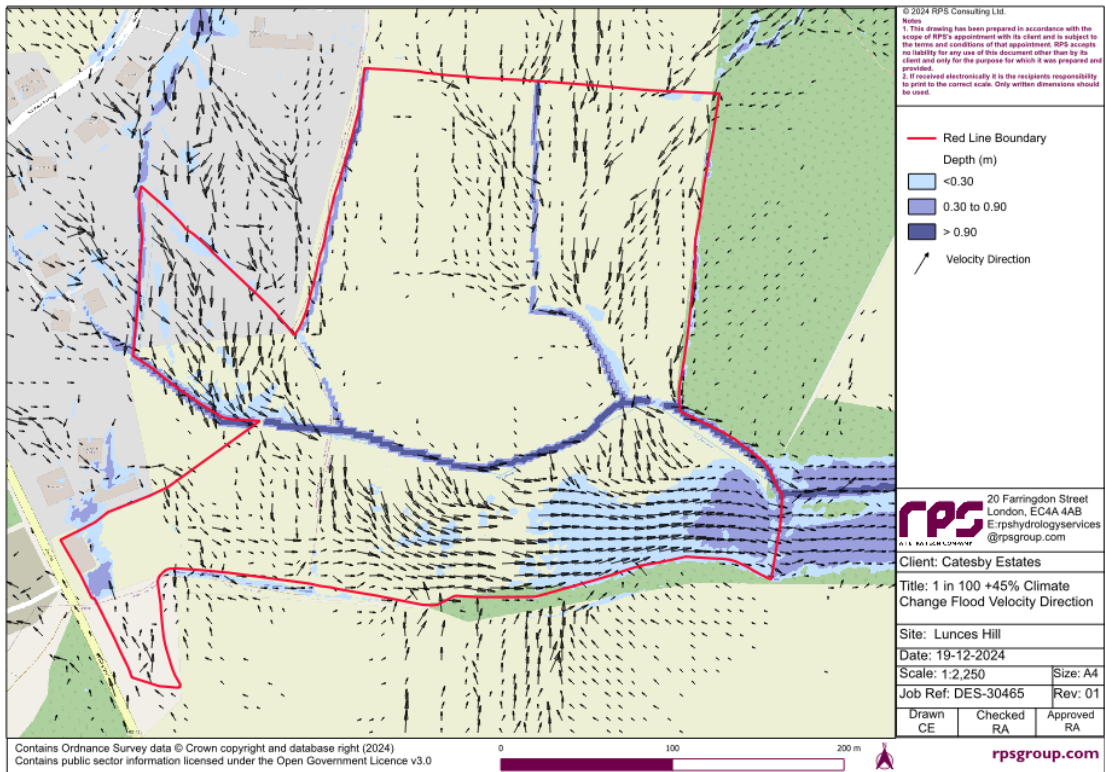


Figure 10. Velocity directions during the 1 in 100 year +45% climate change event

Flows

- 3.2.6 PO lines have been applied at pertinent locations of the model. This is to extract more detailed information of the flows to determine the proposed mitigation scenario.
- 3.2.7 The maximum flows for the 100 year +45% CC flood event at pertinent locations of the model are presented in Figure 11 and Table 5, respectively. Maximum flow at the top of the catchment (PO8) is 0.02m³/s. To the east of the site, at PO16, the flow increases significantly to 7.12m³/s, which is consistent with water travelling through the catchment.

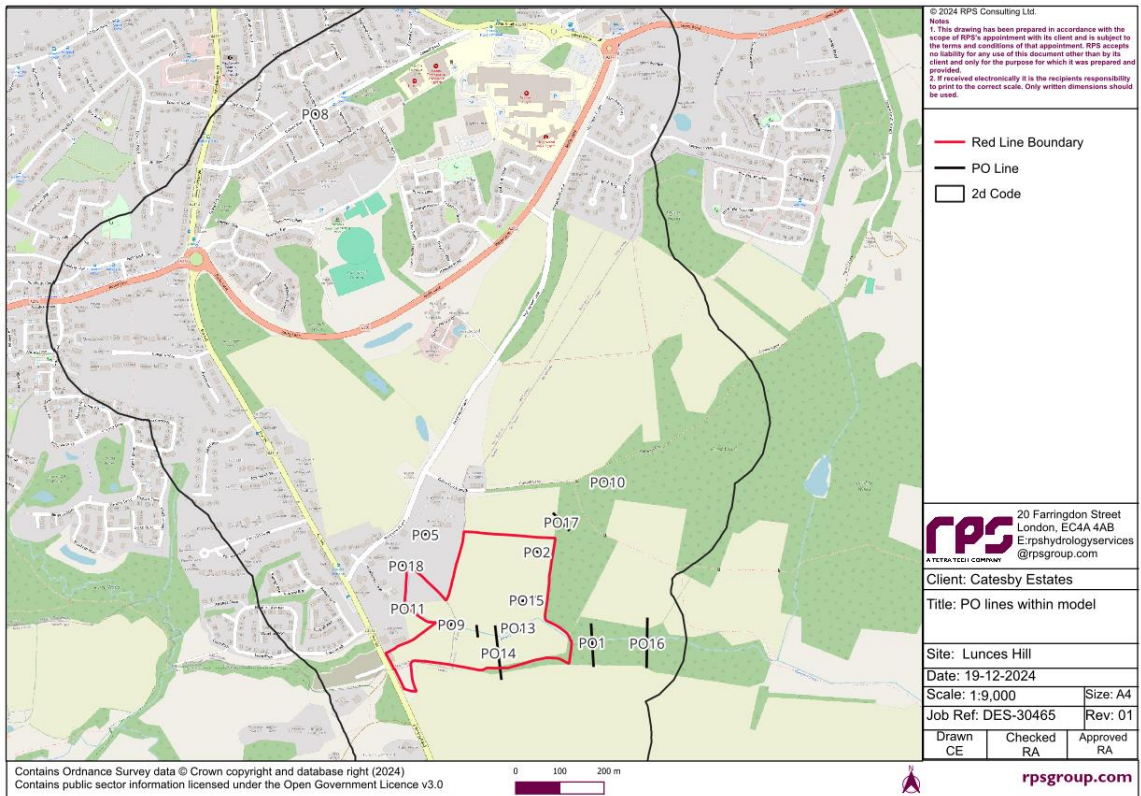


Figure 11 . PO Lines within Model

Table 5. Total Flow in the 100 year +45%CC flood event model run at each PO line

PO Line	Maximum Flow (m ³ /s)
PO1	7.31
PO2	1.39
PO5	1.08
PO8	0.02
PO9	4.42
PO10	0.30
PO11	1.12
PO12	1.85

PO Line	Maximum Flow (m ³ /s)
PO13	0.11
PO14	5.14
PO15	2.51
PO16	7.12
PO17	1.53
PO18	1.14

Calibration

- 3.2.8 There are no reliable historic surface water flood risk records against which to calibrate the model. A sense check comparison of the RPS model results with the EA RoFSW mapping has been undertaken and shows a similar pattern of predicted flood risk mechanisms.
- 3.2.9 The areas of standing water observed during the site visit are replicated in the modelling.

3.3 Assumptions and Limitations

- 3.3.1 All modelling exercises are simplifications of real-world processes, and hence by their very nature, a number of assumptions and limitations are implicit inherent within the modelling approach.
- 3.3.2 The following key assumptions and limitations are noted:
- 3.3.3 No historical flood events were available for calibration.
- 3.3.4 Roughness values assigned to the floodplain are assumed to be constant, whereas in reality, there will be some seasonal variations owing to the growth and dieback of vegetation. It is assumed that the MasterMap, on which the model roughness values have been based, is up-to-date and correct.
- 3.3.5 Although adoption of best practice industry standard measures has been used to derive model boundary inflows (hyetographs) , there are inherent uncertainties associated with the hydrological methodology that remain.
- 3.3.6 It is assumed that there is no significant groundwater interaction with surface water overland flows.

4 MODELLING APPROACH: PROPOSED SCENARIO

4.1 Introduction

4.1.1 A full description of the development is included within the Flood Risk Assessment along with other reports and information submitted with the outline planning application.

4.1.2 In summary, the outline planning application states:

“Outline planning application for the erection of up to 130 dwellings, together with the change of use of an existing barn for a flexible community and/or commercial use, along with associated outdoor space and landscaping, drainage infrastructure, hard and soft landscaping, parking, access and associated works (all matters reserved except for access).”

4.1.3 The proposed scenario includes numerous development parcels, including within the area in the south east part of the site shown to be at risk of flooding in the baseline existing scenario. There are a number of proposed access roads through the site, some of which pass over existing watercourses within the site

4.1.4 The development therefore incorporates surface water flood risk mitigation measures to reduce the risk of flooding to the proposed ‘more vulnerable’ development parcels and allow safe access via the proposed on site road network.. Another objective of the mitigation measures is to ensure no increase in flood risk to the surrounding areas outside of the redline boundary.

4.1.5 The following features were represented within the proposed scenario model:

- Proposed residential development platforms
- Proposed access roads through the scheme and associated culverts where flow paths are crossed
- A bund in the south east of the site boundary to prevent overland runoff from increasing to off-site areas.
- Lowered corridor along the ordinary watercourse in the centre of the site to provide additional flow capacity during flood events.
- Flood attenuation area in the eastern part of the site.

4.1.6 The representation of the proposed development scheme modelling is discussed below and shown in Figure 12. More detailed plans are shown in the Appendices of the FRA and submitted alongside this planning application.

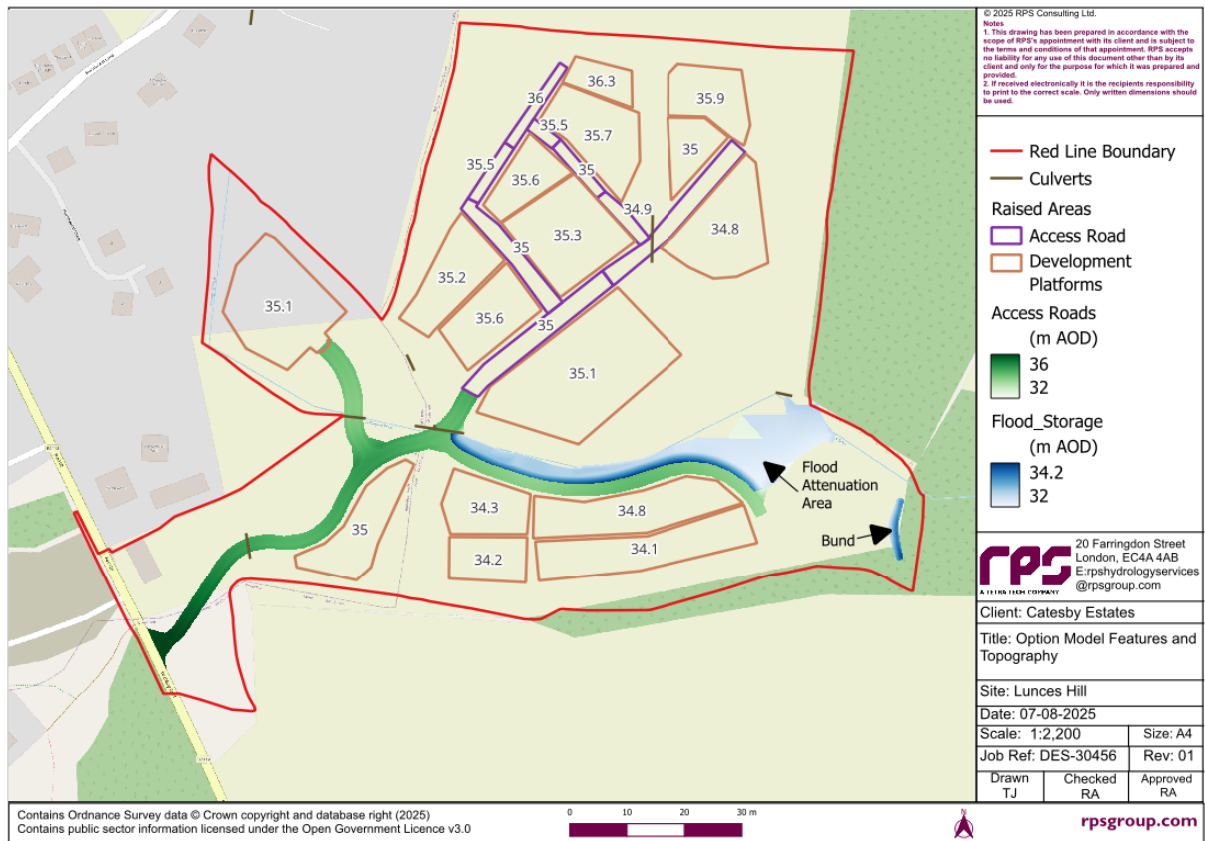


Figure 12. Mitigation Measures and Proposed Scheme representation

4.2 Representation of Development Features

- 4.2.1 The masterplan was updated to incorporate 3D levels across the proposed site to be inputted into the model.
- 4.2.2 The features were represented within the model using the following files:
- Proposed residential development platforms and access road levels: 2d_z_shape layer in TUFLOW (2D). At this outline planning application stage, the individual plot levels and finished floor levels are yet to be determined. As such, indicative development parcel levels have been used, along with indicative road levels.
 - Proposed central access road; flood attenuation flow corridor alongside existing central watercourse; flood attenuation area and bund in eastern part of the site: ASCII grid of levels provided by design team in TUFLOW (2D)
 - Culverts under proposed access roads where flow paths are crossed: 1d_nwk layer in ESTRY (1D)
- 4.2.3 Proposed levels are shown across the site in Figure 13. The lowered flow corridor and area of flood attenuation has been designed to tie in with the existing central ditch to formalise the flood flow path through the central part of the site and allow additional storage of water during flood events. The bund is present in the southeast to channel water towards the channel rather than resulting in an off-site overland flow pathway.
- 4.2.4 The development platforms and roads are shown to be raised to ensure that the development remains flood-free.
- 4.2.5 The model was run for the 1 in 30 year, 1 in 100 year, 1 in 100 year +45% climate change event and 1 in 1000 year event.

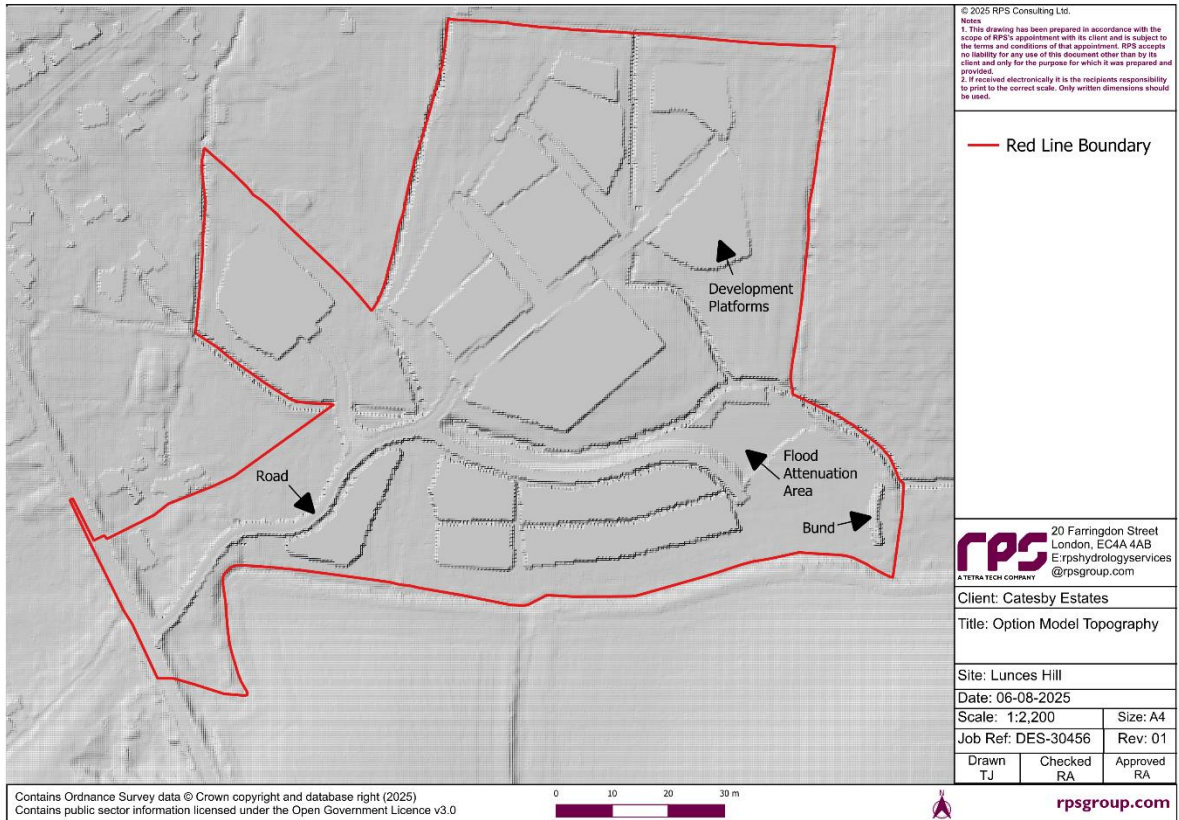


Figure 12. Mitigation Measures and Proposed Scheme Topography

4.3 Proposed Development Scenario Results

- 4.3.1 The option model scenario shows that the surface water flow paths into the site are present, and are mitigated through the site attenuation. Velocity vector arrows show how water is steered by areas of lowered and raised ground through the site, see Figure 13.
- 4.3.2 The flow mechanism is altered, allowing water to be retained within the flood attenuation rather than flowing through the south east of the site, where development is proposed.
- 4.3.3 As expected, where levels have been lowered for the flow corridor alongside existing central watercourse and flood attenuation area in the eastern part of the site, deeper depths are seen.

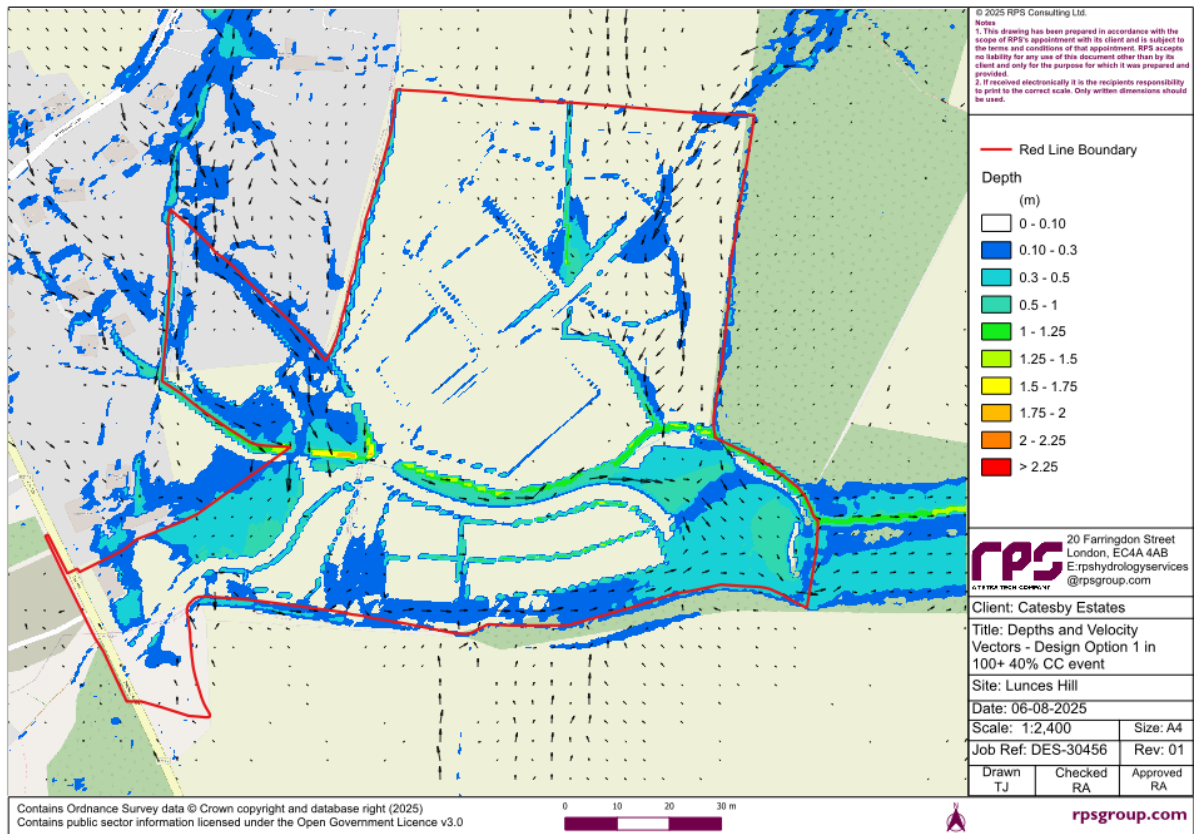


Figure 13. Option flood depth and velocity vector for the 1 in 100 year +40% climate change event

- 4.3.4 The maximum difference in flood depth between the baseline and development scenario is shown in Figure 13. Increases on-site are seen where water is being stored at the locations of the proposed mitigation, as expected, where the ground has been lowered, and depths have increased.
- 4.3.5 There is a reduction in the south where the development plots are, as these are raised above the flood event.
- 4.3.6 Outside of the site, there is no change in the upstream off-site depths. Downstream, an isolated increase is seen near the culvert at the downstream extent. This is due to a slight altering of flood mechanisms due to the mitigation areas. This results in a slightly modified pattern of flooding downstream, with an overall minor reduction and no detriment to off-site receptors.
- 4.3.7 The PO lines at the downstream have been checked, see Figure 14. This shows the locations of the downstream PO lines 1 and 16, and Table 6 provides the results. As can be seen, there is a minor reduction in downstream off-site water levels during the 100 year CC event.

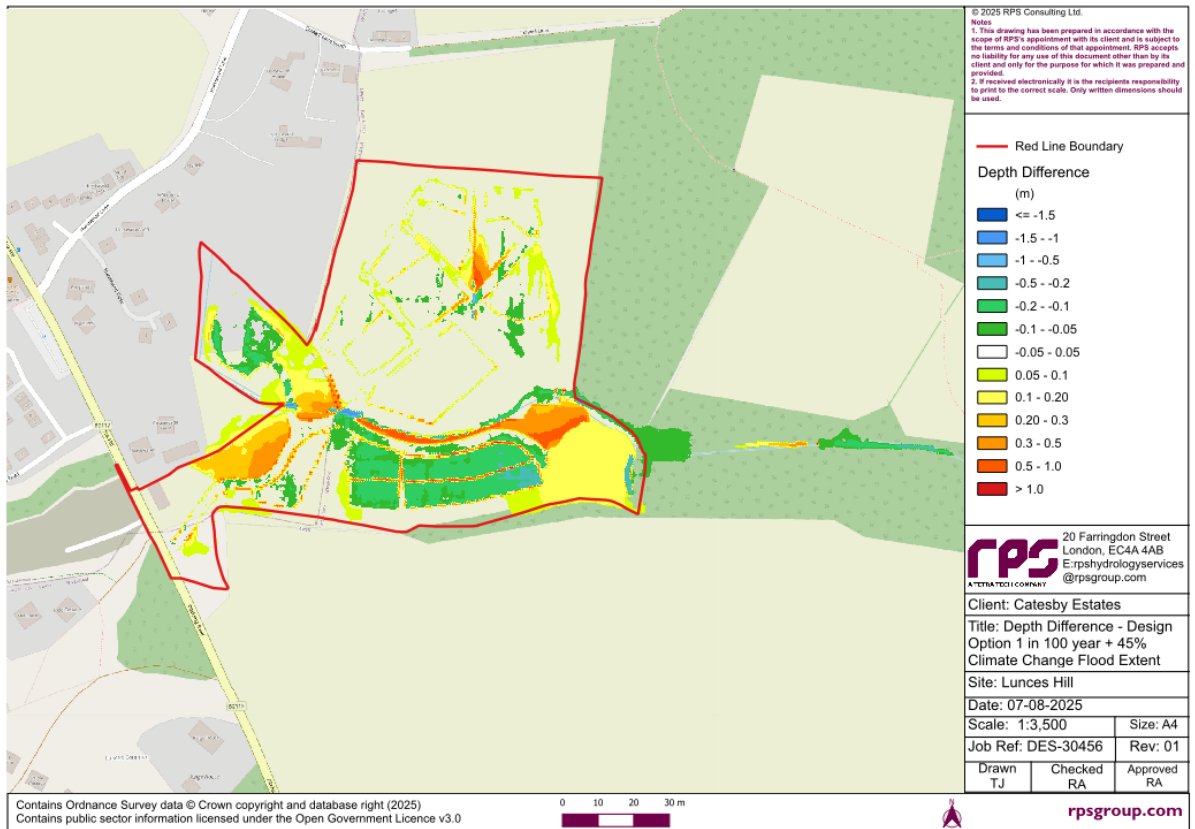


Figure 14. Depth difference during the 1 in 100 year +40% CC baseline and option scenario

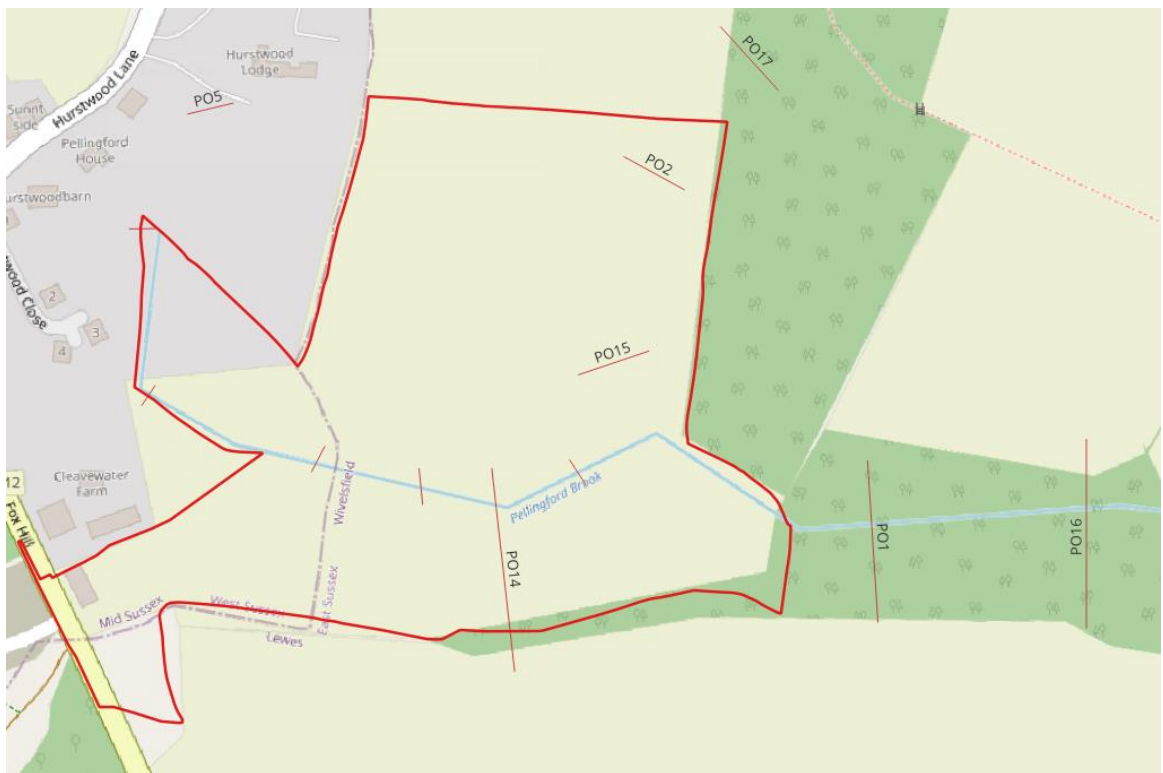


Figure 15. PO line locations downstream of the site

Table 6. Total Flow in the 100 year +45%CC flood event model run at downstream PO lines for the Baseline and Design Option

PO Line	Maximum Flow (m ³ /s)		
	Baseline	Design Option	Difference
PO1	7.31	6.67	0.64
PO16	7.12	6.52	0.60

5 CONCLUSION

- 5.1.1 The purpose of this report is to assess the existing and proposed surface water flood risk to the Land off Lunce's Hill, Haywards Heath. An ESTRY- TUFLOW rain on grid model was developed.
- 5.1.2 The 1 in 100 year +45% climate change extent is seen around the channel and ditches, but also has a large extent in the southeast corner of the site. Small, isolated areas of ponding are also seen in the south of the site and as water enters from the west. The highest depths, except for the channel and field drains, are seen in the southeast corner at between 300 mm and 900 mm. Depths in other flooded areas remain below 300mm.
- 5.1.3 The primary mechanism of flooding at the site is the large surface water flow pathway that exists in the south of the site and flows out beyond the site boundary to the southeast.
- 5.1.4 The baseline model results have been used to inform the proposed development design and flood risk mitigation.
- 5.1.5 The proposed scheme has been modelled, representing areas of storage, a bund, along with new culverts. The proposed roads and buildings within the proposed site plan have also been represented.
- 5.1.6 The model results have demonstrated at the Outline Planning Application stage that there is a viable scheme incorporating flood risk mitigation measures. The scheme appropriately reduces flood risk to more vulnerable land uses within the proposed development scheme. There is no increase in off-site flooding up to the 1 in 100 year flood with climate change allowance.

6 APPENDICES

Appendix A – Site Visit Photos

Description	Photo
<p>Waterlogged ground upon entry to the site.</p>	

REPORT

Culvert, located west on the river running through the site. Rough dimensions from site: Rectangular 1m wide 3m long.



REPORT

Channel running through the centre of the site west to east.

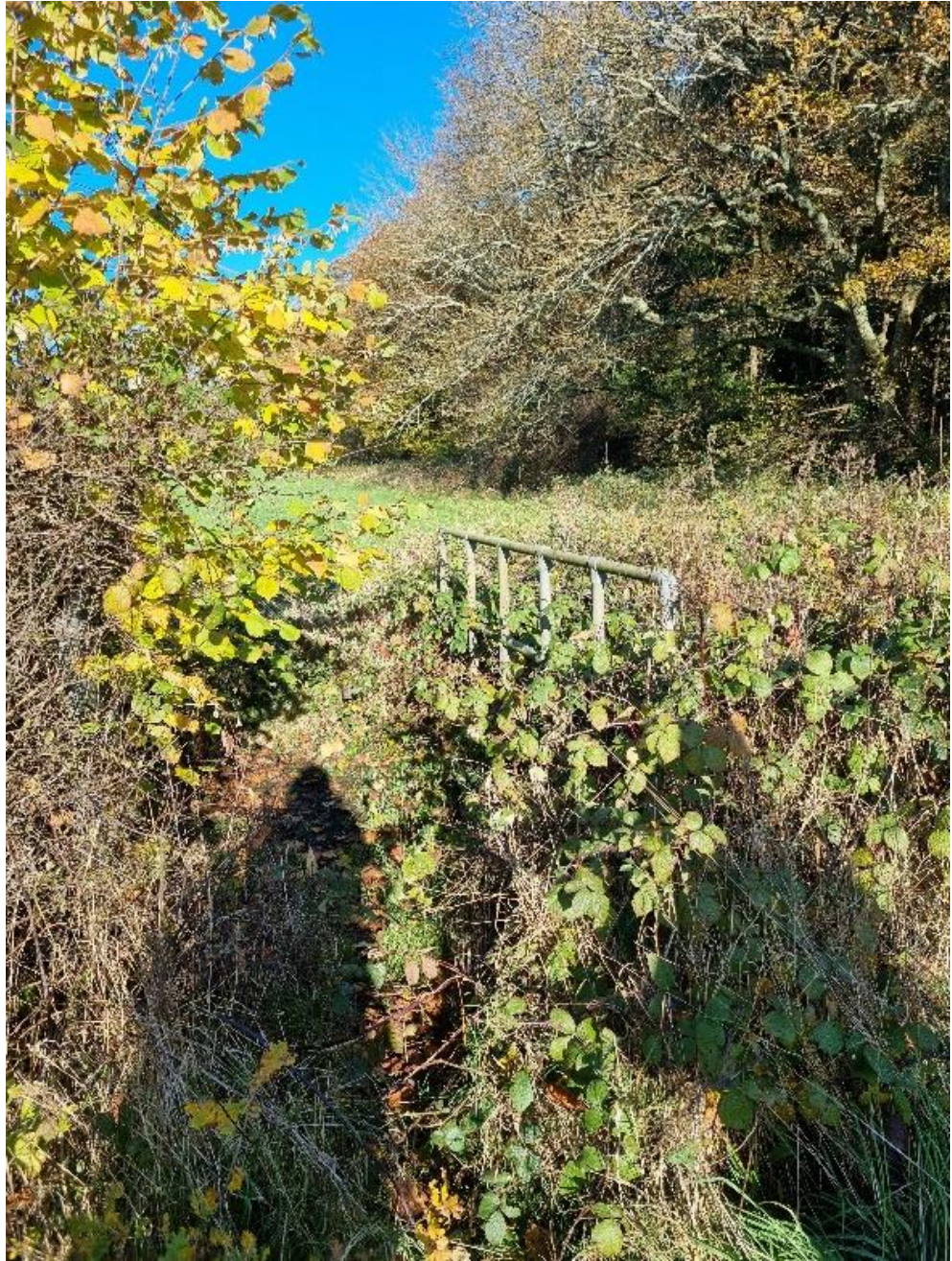


Smaller drainage ditch running north to south into the main channel



REPORT

Culvert in east of the site near woodland. Dimensions estimated as rectangular 1m wide by 3m long



Appendix H

Greenfield Runoff Rate

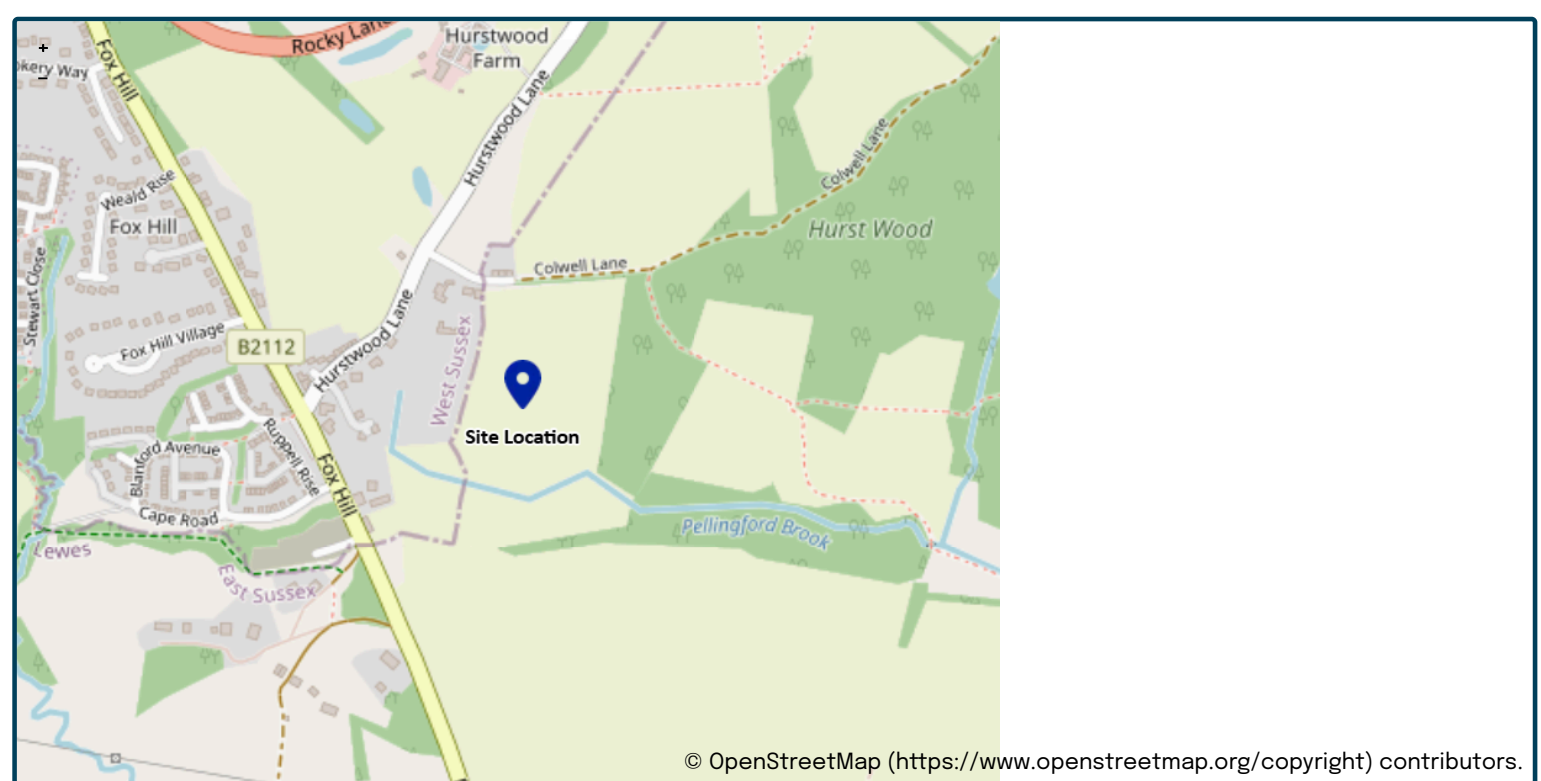
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015).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

Project details

Date	<input type="text" value="01/09/2025"/>
Calculated by	<input type="text" value="Jamie Workman"/>
Reference	<input type="text" value="Haywards Heath"/>
Model version	<input type="text" value="2.1.2"/>

Location

Site name	<input type="text" value="Haywards Heath"/>
Site location	<input type="text"/>



Site easting (British National Grid)	<input type="text" value="534061"/>
Site northing (British National Grid)	<input type="text" value="121884"/>

Site details

Total site area (ha)	<input type="text" value="1"/>	ha
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Greenfield runoff

Method

Method

FEH statistical

	<u>My value</u>		<u>Map value</u>
SAAR (mm)	<input type="text" value="819"/>	mm	<input type="text" value="823"/>
BFIHOST	<input type="text" value="0.433"/>		
QMed-QBar conversion	<input type="text" value="1.136"/>		<input type="text" value="1.136"/>
QMed (l/s)	<input type="text" value="5.25"/>	l/s	
QBar (FEH statistical) (l/s)	<input type="text" value="5.96"/>	l/s	

Growth curve factors

	<u>My value</u>		<u>Map value</u>
Hydrological region	<input type="text" value="7"/>		<input type="text" value="7"/>
1 year growth factor	<input type="text" value="0.85"/>		
2 year growth factor	<input type="text" value="0.88"/>		
10 year growth factor	<input type="text" value="1.62"/>		
30 year growth factor	<input type="text" value="2.3"/>		
100 year growth factor	<input type="text" value="3.19"/>		
200 year growth factor	<input type="text" value="3.74"/>		

Results

Method	<input type="text" value="FEH statistical"/>
Flow rate 1 year (l/s)	<input type="text" value="5.1"/> l/s
Flow rate 2 year (l/s)	<input type="text" value="5.2"/> l/s
Flow rate 10 years (l/s)	<input type="text" value="9.7"/> l/s
Flow rate 30 years (l/s)	<input type="text" value="13.7"/> l/s
Flow rate 100 years (l/s)	<input type="text" value="19.0"/> l/s
Flow rate 200 years (l/s)	<input type="text" value="22.3"/> l/s

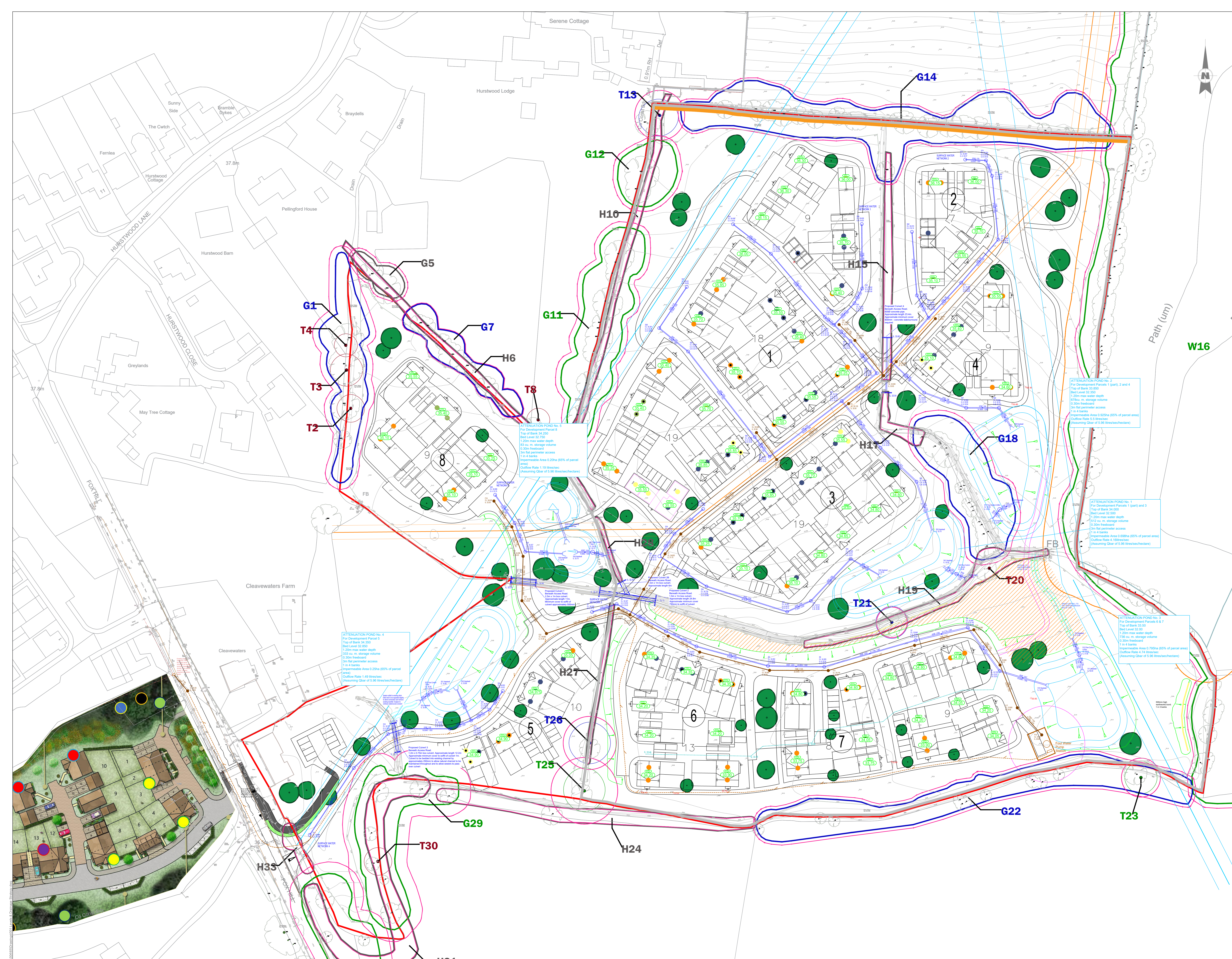
Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent 'zero' figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.1.2) developed by HR Wallingford and available at [uksuds.com](https://www.uksuds.com/) (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at [uksuds.com/terms-conditions](https://www.uksuds.com/terms-conditions) (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Appendix I

Conceptual Drainage Strategy



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Notes

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- If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.
- This drawing should be read in conjunction with all other relevant drawings and specifications.

For guidance only. Do not scale off this drawing.

Scale: 1:500

KEY

Foul Water Mains	
Foul Water Sewer	
Surface Water Mains	
Surface Water Sewer	
Existing Foul Water Sewer	
Proposed Finished Floor Level (± 450mm subject to detailed design)	
Proposed Foul Rising Main	
Proposed Foul Rising Man	
Area showing ground levels to be lowered by 200mm to provide flood alleviation zone	

PRELIMINARY
SUBJECT TO DETAILED DESIGN

P02	Minor updates outflow rates.	JW	AG	01/09/23
P01	First Issue	CW	AG	20/08/23
Rev	Description	By	Out	Date

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Client: Catesby Strategic Land Ltd

Project: Land at Haywards Heath

Title: Levels and Drainage Strategy

RPS Project Number: 794-DES-CAS-30465 1:500 Scale @ A0 Date Created: 08.08.2025

Task Team Manager: AG Information Author: CW Task Information Manager: AG

Series: Preliminary Document Number: 30465-RPS-XX-DR-C-700 Revision: P02

Project Code: Orginal - Functional - Spatial - Type - Discipline - Number
rpsgroup.com

Appendix J

Causeway Flow Quick Storage Estimates

Storage Estimate

Return Period (years)

100

Climate Change (%)

40

Impermeable Area (ha)

0.698

Update

Peak Discharge (l/s)

4.060

Infiltration Coefficient (m/hr)
(leave blank if no infiltration)

Calc

Required Storage (m³)

Calc

from

496

to

691

OK

Cancel

Storage Estimate

Return Period (years)

Climate Change (%)

Impermeable Area (ha)

Peak Discharge (l/s)

Infiltration Coefficient (m/hr)
(leave blank if no infiltration)

Required Storage (m³)

from

to

Storage Estimate

Return Period (years)

100

Climate Change (%)

40

Impermeable Area (ha)

0.795

Update

Peak Discharge (l/s)

4.630

Infiltration Coefficient (m/hr)
(leave blank if no infiltration)

Calc

Required Storage (m³)

Calc

from

565

to

787

OK

Cancel

Storage Estimate

Return Period (years)

100

OK

Climate Change (%)

40

Cancel

Impermeable Area (ha)

0.250

Update

Peak Discharge (l/s)

1.450

Infiltration Coefficient (m/hr)
(leave blank if no infiltration)

Calc

Required Storage (m³)

Calc

from

178

to

247

Storage Estimate

Return Period (years)

100

OK

Climate Change (%)

40

Cancel

Impermeable Area (ha)

0.200

Update

Peak Discharge (l/s)

1.160

Infiltration Coefficient (m/hr)
(leave blank if no infiltration)

Calc

Required Storage (m³)

Calc

from

142

to

198