



SUNNYSIDE, YAPTON ROAD, BARNHAM

PROPOSED RESIDENTIAL DEVELOPMENT

Flood Risk Assessment, Drainage Strategy
and Lidsey Drainage Impact Assessment

Prepared on Behalf of

Confidential Client

D2298/FRA1.2

May 2026

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- Appendix B** Topographic Survey
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- Appendix G** West Sussex County Council Lead Local Flood Authority Pre-Application Advice
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1 INTRODUCTION

1.1 Background

1.1.1 BP Civils is instructed to prepare a flood risk assessment, drainage strategy and Lidsey Drainage Impact Assessment to accompany a planning application for a proposed residential development at Sunnyside, Yapton Road, Barnham.

1.1.2 This report has been undertaken in accordance with National Planning Policy Framework (NPPF) and The Planning Practice Guidance Flood Risk and Coastal Change.

1.1.3 The surface water drainage strategy has been developed in view of the National Standards for Sustainable Drainage System (June 2025), The SuDS Manual (CIRIA C753) and local surface water drainage policy.

1.1.4 The planning application which this report supports seeks consent for the following proposed development is as follows:

"Outline planning application (all matters reserved except access) for residential development of the site with up to 190 dwellings (Use Class C3), informal and formal public open space, landscaping, drainage, and other associated works."

The development proposals are described by an illustrative masterplan (DLA), a copy of which is contained within **Appendix A**.

1.1.5 In preparing this report, BP Civils has referred to the following documents and information:

- Environment Agency Flood Maps for Planning
- Environment Agency Flood Risk Assessment Data
- Long-term Flood Risk Service (Gov.uk)
- Arun District Council Strategic Flood Risk Assessment
- British Geological Survey (BGS) Information and Records
- ES3 Consulting Ground Investigation Reporting
- Ashdown Site Investigation Ground Investigation Reporting
- Southern Water Public Sewer Records
- West Sussex County Council Pre-app Advice (both Surface Water and Ordinary Watercourse Consent)

1.1.6 This report has been prepared to assess flood risk at the site, and to advise of any mitigation which may be required in order to ensure that the proposed development remains safe for its design life in accordance with current design standards. Additionally, this report serves to detail the proposed foul and surface water drainage arrangements which will serve the development.

1.1.7 This report has been prepared for the benefit of the named client only.

2 SITE LOCATION AND DESCRIPTION

- 2.1.1 A site location plan is included within this report (drawing SK100).
- 2.1.2 The National Grid Reference is SU 96580 04292.
- 2.1.3 The site measures 80,978m² (8.10Ha), located on the northern side of Yapton Road, Barnham and comprises largely of greenfield agricultural land.
- 2.1.4 A topographic survey has been undertaken at the site by Siteline Geospatial, dated April 2024. The survey is contained within **Appendix B**.
- 2.1.5 The survey identifies levels gently transition across the site between 7.900m AOD and 10.800m AOD. The site is therefore relatively flat with no significant prevailing falls.
- 2.1.6 Drawings **SK04 & SK05** (Topographic Survey & Contours) have been prepared to illustrate the topography of the site.
- 2.1.7 Drawings **SK32** and **SK31** (LiDAR Banding and LiDAR Contours) have been prepared to demonstrate the wider trends in topography beyond the extents of the site boundaries.

3 GROUND CONDITIONS

- 3.1.1 Intrusive site investigation has been undertaken by E3S Consulting. Site works were undertaken on 30th and 31st January 2024.
- 3.1.2 8 No. boreholes were established on site, to depths of up to 4.00m below ground level or refusal, for the purpose of undertaking groundwater monitoring. The encountered geology was recorded as topsoil, underlain by clay, sand and gravel soils. Additional assessment undertaken at the site by Ashdown SI evaluated a further 4 no. boreholes, to depths in the range of 4.30m to 5.00m below ground level. The geology encountered by was consistent with the earlier findings established by E3S Consulting, with clay and gravel soils recorded. Ashdown SI has classified the soils as 'River Terrace Deposits'. 'London Clay' was recorded at BH06 at 5.00m below ground level.
- 3.1.3 Ashdown SI has also confirmed 'Made Ground' was present in 10 No. of the overall 12 No. boreholes, at depths ranging from c. 300mm below ground level to 1100mm below ground level.
- 3.1.4 E3S Consulting's records are provided within **Appendix C**. Ashdown Site Investigation's records are provided within **Appendix D**.
- 3.1.5 Reference has also been made to the BGS Geology of Britain Viewer. This identifies a bedrock geology consisting of 'London Clay Formation – Clay, silt and sand'.

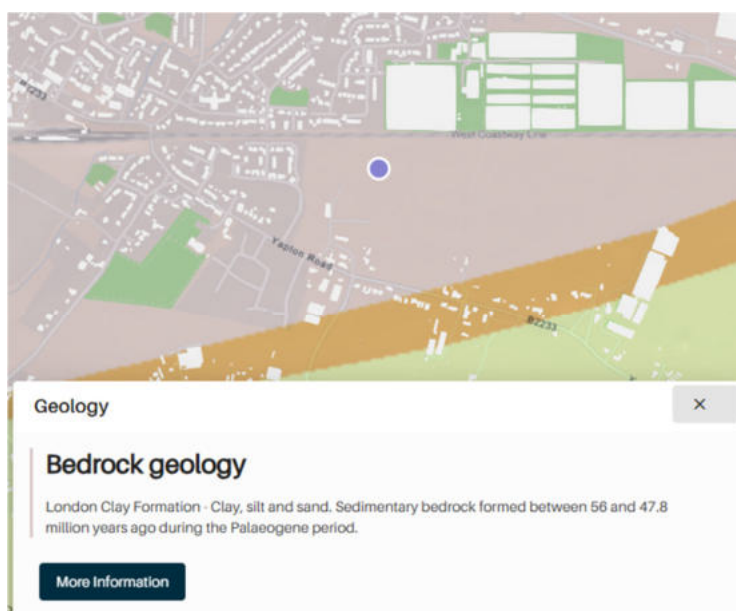


Figure 1. Geology of Britain Viewer – Bedrock Geology (BGS)

- 3.1.6 Superficial deposits are recorded as 'River Terrace Deposits – Sand, silt and clay.'

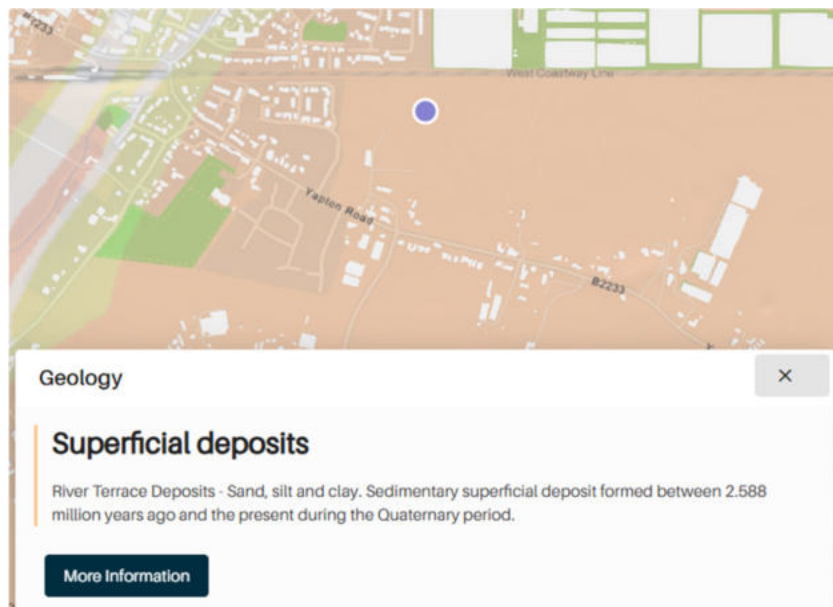


Figure 2. Geology of Britain Viewer – Superficial Deposits (BGS)

3.2 Groundwater

- 3.2.1 The SFRA mapping suggests that there is a medium-high risk (1% to over 3.3% annual probability of water tables rising above ground level) of groundwater flooding at this location. The WSCC mapping at this location advises groundwater levels are between 0.025m and 0.5m below the ground surface. Therefore, it is likely infiltration techniques will not be suitable.
- 3.2.2 As part of the SFRA deliverables, mapping of the whole District has been provided showing the Areas Susceptible to Groundwater Flooding (AStGWF). This information is provided in Appendix F of the SFRA. The AStGWF is a strategic-scale map showing groundwater flood areas on a 1km square grid. The data was produced to annotate indicative Flood Risk Areas for Preliminary Flood Risk Assessment (PFRA) studies and allow the LLFAs to determine whether they may be at risk of flooding from groundwater.
- 3.2.3 The AStGWF data should be used only in combination with other information, however, for example local or historical data. It should not be used as sole evidence for any specific flood risk management, land use planning or other decisions at any scale.
- 3.2.4 This data shows the proportion of each 1km grid square, where geological and hydrogeological conditions indicate that groundwater might emerge. It does not show the likelihood of groundwater flooding occurring, nor does it take account of the chance of flooding from groundwater rebound (rising groundwater levels resulting from a reduction in abstraction rates from groundwater).
- 3.2.5 Ashdown Site Investigation has undertaken groundwater monitoring at the site, spanning 30th September 2024 to 30th April 2025.
- 3.2.6 Groundwater was recorded as peaking at depths less than 200mm below ground level at monitoring locations across the site. The greatest depth to peak groundwater levels was found at BHA1, where groundwater peaked at c. 800mm below ground level.
- 3.2.7 Complete monitoring results are contained within **Appendix D**.
- 3.2.8 Mapping managed by MAGIC (magic.defra.gov.uk) provides geographic information concerning the natural environment from across government. This mapping tool has been referred to in order to confirm

aquifer designations, as well as whether the site is located within any groundwater source protection zones, groundwater vulnerability zones, drinking water protected areas or drinking water safeguard zones.

- 3.2.9 The site falls within an area designated an 'Unproductive' bedrock aquifer, as well as a 'Secondary A' superficial drift aquifer.

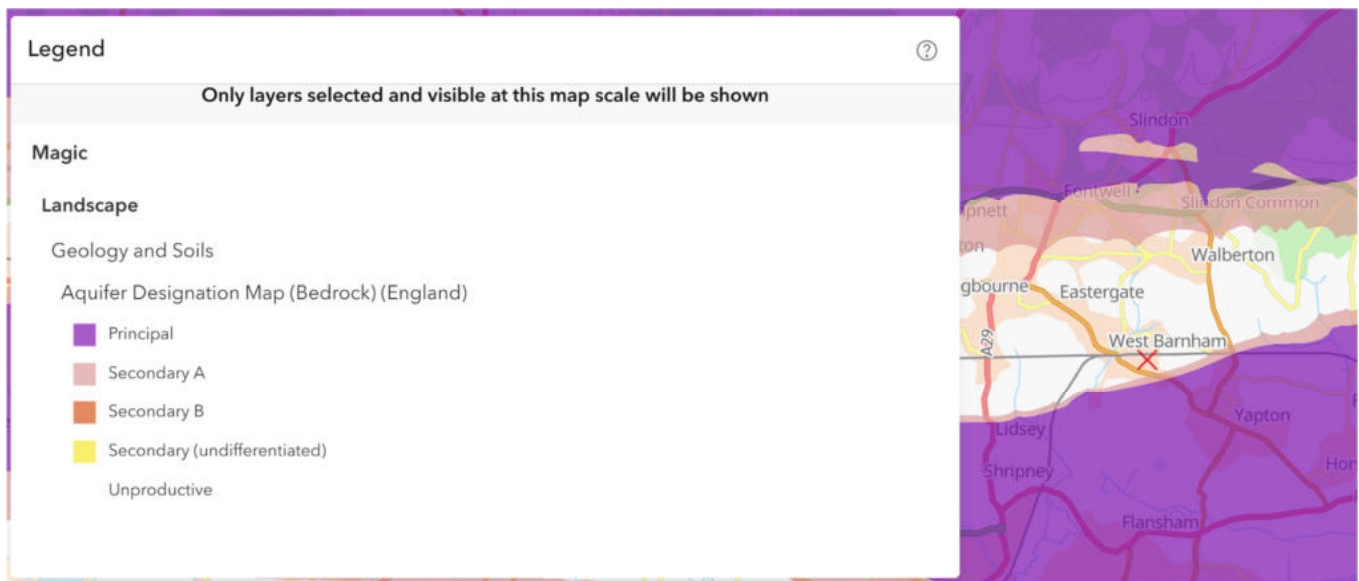


Figure 4. Bedrock Aquifer Designation Map (DEFRA)

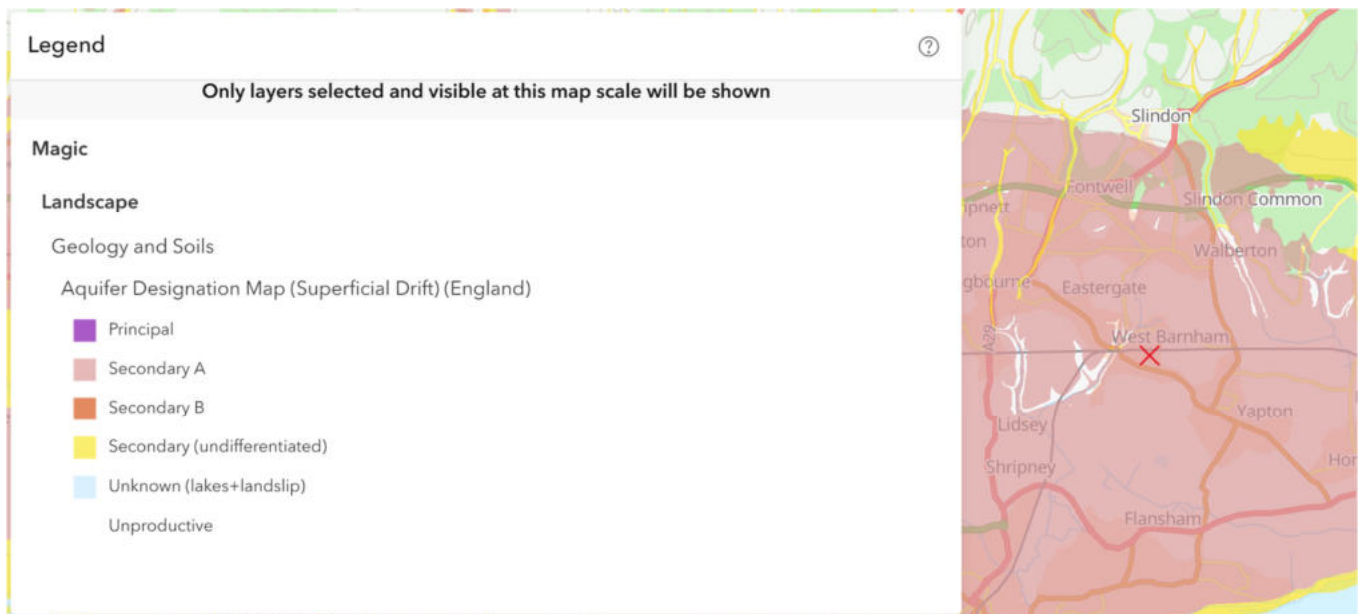


Figure 5. Superficial Drift Aquifer Designation Map (DEFRA)

- 3.2.10 The site falls within a 'Medium - Low' Groundwater Vulnerability Zone.

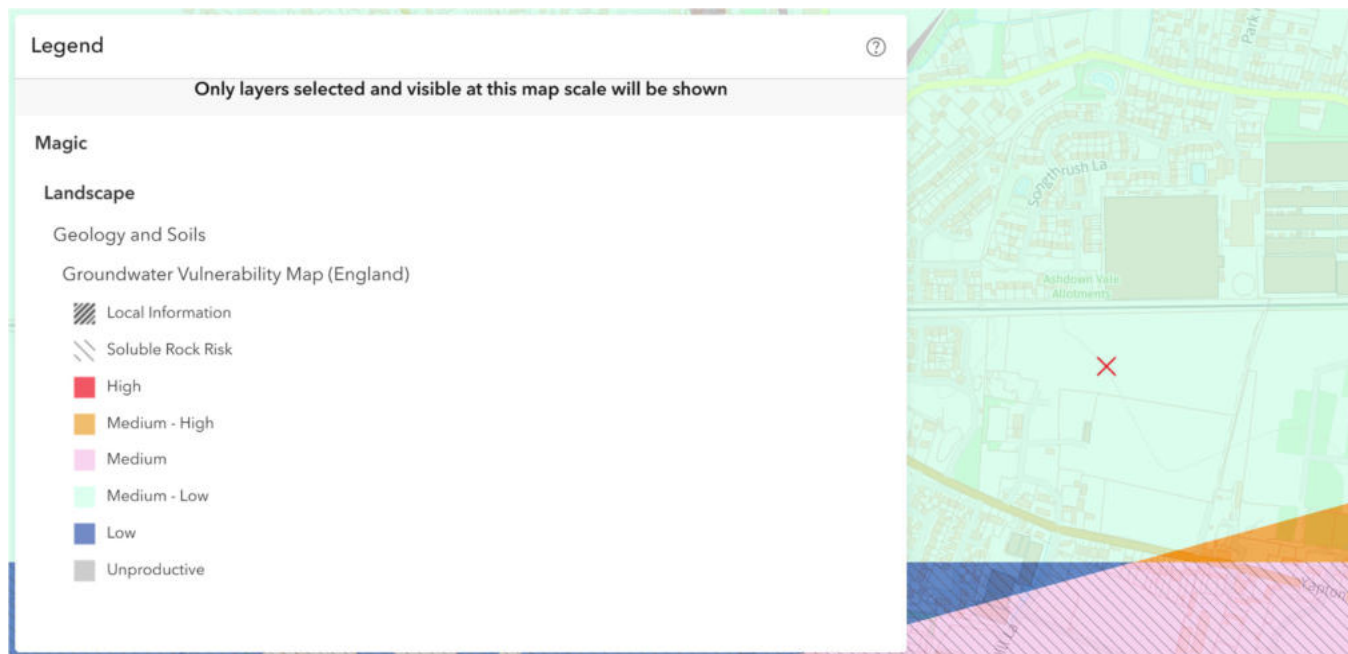


Figure 6. Groundwater Vulnerability Map (DEFRA)

3.2.11 The site is not located within any Drinking Water Protected Areas, Drinking Water Safeguard Zones or Source Protection Zones.

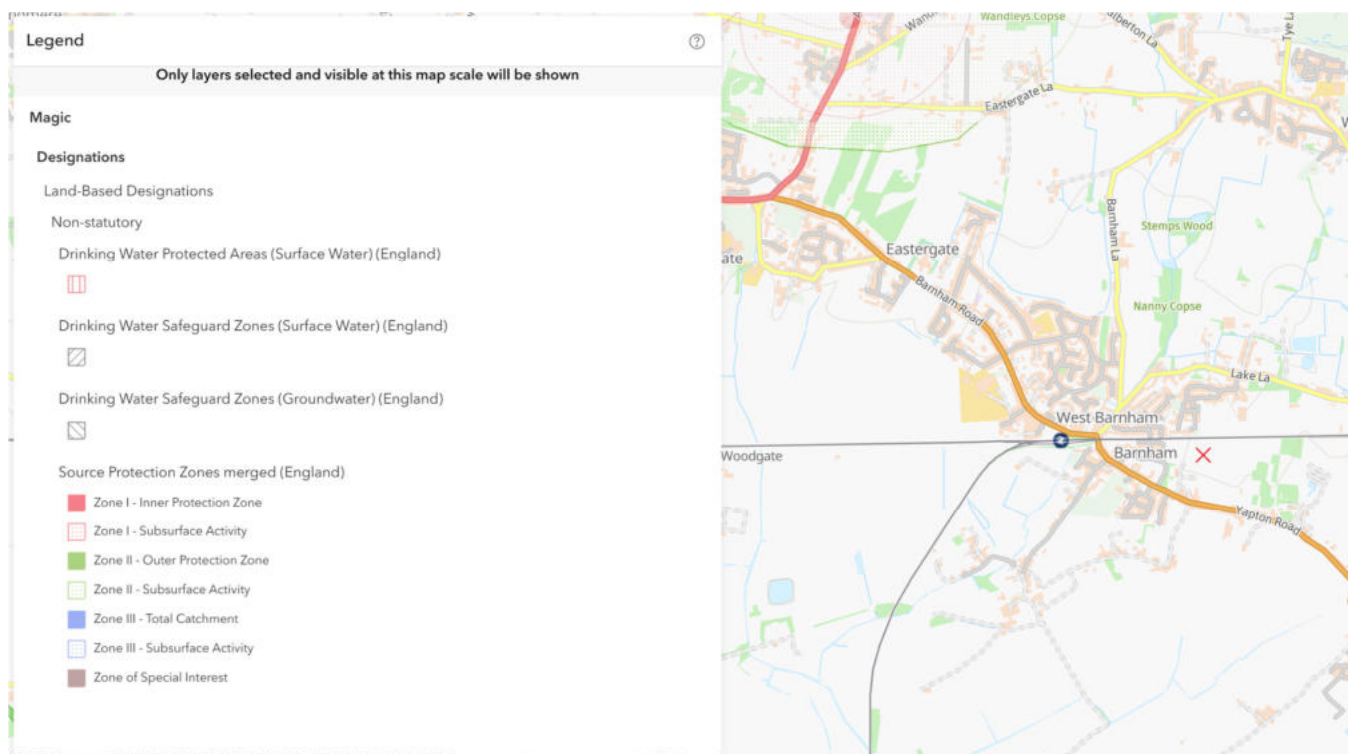


Figure 7. Drinking Water Protected Areas, Drinking Water Safeguard Zones and Source Protection Zones Map (DEFRA)

4 EXISTING DRAINAGE

4.1 Surface Water

- 4.1.1 The site is not currently served by formal surface water drainage infrastructure and drains naturally.
- 4.1.2 An ordinary watercourse is located in the south-western corner, running in a north/south direction. This is culverted at the southern extent, discharging to the watercourse at Hill Lane, c. 70m downstream.
- 4.1.3 There are no public surface water sewers on site, or within the wider vicinity of the site.
- 4.1.4 Following consultation with WSCC LLFA a Level 1 pre-application advice was obtained in August 2024, with a subsequent Level 2 obtained in November 2025. The letter responses are contained within **Appendix G**. Parameters were confirmed / agreed to calculate the site's greenfield runoff rate and storage estimates.
- 4.1.5 Greenfield run-off rates have been established in relation to the site area (80,978m²) using HR Wallingford's 'Greenfield run-off rate estimation' tool. The calculated rates are as follows:

QBAR: 17.7 l/s

1 in 1-Year: 15.1 l/s

1 in 2-Year: 15.6 l/s

1 in 10-Year: 28.7 l/s

1 in 30-Year: 40.8 l/s

1 in 100-Year: 56.6 l/s

1 in 200-Year: 66.3 l/s

4.2 Foul Water

- 4.2.1 The local sewerage authority is Southern Water. Public sewer records have been obtained from Southern Water, as contained within this report in **Appendix E**.
- 4.2.2 Southern Water's public sewer records do not identify any public foul water sewers within the bounds of the site.
- 4.2.3 The nearest public foul sewers to the site are:
 - i. FWMH 4001: located within the curtilage of the properties immediately to the east of the existing site entrance.
 - ii. FWMH 3102: located 45m to the west of the property.
- 4.2.4 Both manholes connect to with a 225mm dia. public foul water sewer located south of Yapton Road, shown to be flowing in a westerly direction.
- 4.2.5 The public sewers within the vicinity of the site are understood to drain to Southern Water's Lidsey Waste Water Treatment Works (WWTW).

4.3 Highway Drainage

- 4.3.1 Yapton Road is served by traditional road gullies which are understood to drain to a highway drainage system that discharges to the ordinary watercourse at Hill Lane.
- 4.3.2 The southern kerb line affronting the recent developments to the west of the site is of a 'Beany Block' kerb construction. Collected run-off is understood to drain to the highway drainage system that discharges to the ordinary watercourse at Hill lane.

5 PROBABILITY

5.1 Sources of Information

- 5.1.1 The NPPF requires that all sources of flooding are considered being tidal, fluvial, pluvial, groundwater, sewers and man-made reservoirs/canals.
- 5.1.2 The likelihood of the site flooding has been established by reviewing the following information:
- Environment Agency Flood Map for Planning
 - Long-Term Flood Risk Service (Gov.uk)
 - Environment Agency Flood Risk Assessment Data
 - Arun District Council Strategic Flood Risk Assessment, November 2016

5.2 Flood Maps and Modelling

- 5.2.1 The site is located in Flood Zone 1 ("EA Flood Map for Planning"), save for a minor part of the red line area, adjoining Yapton Road at the existing access to 'Chestnuts'. For the avoidance of doubt none of the residential development is proposed in this modest area as shown by the illustrative masterplan (Appendix A). For the purposes of this assessment the site is therefore treated as being in Flood Zone 1.

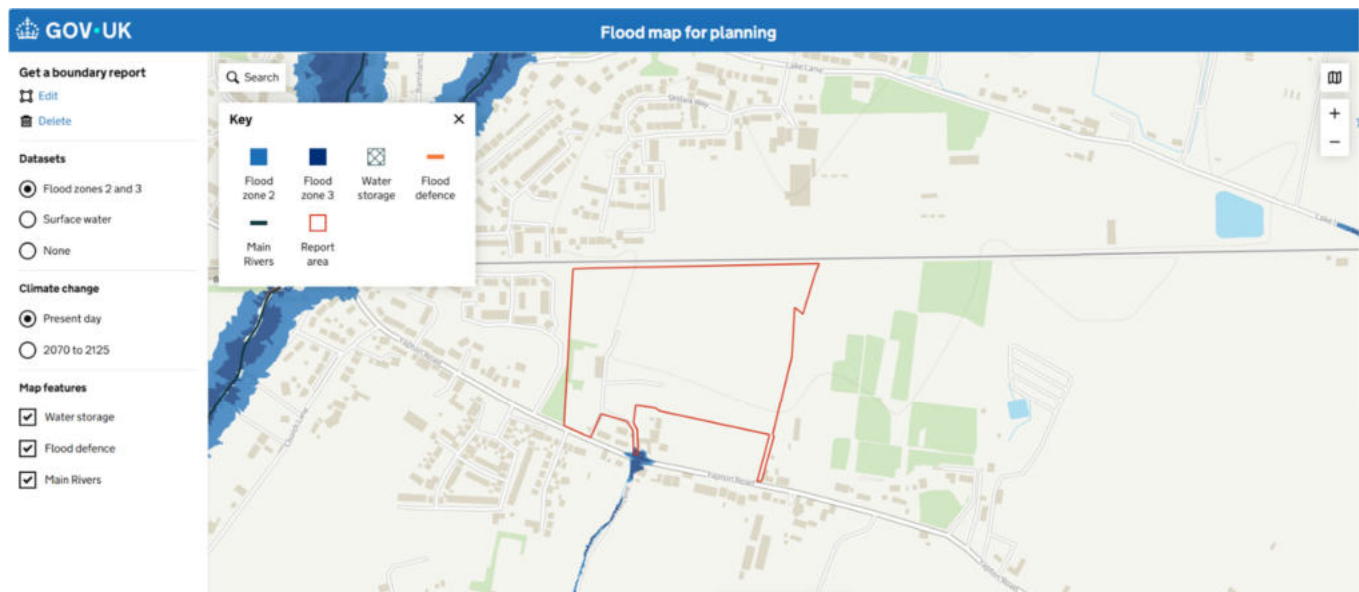


Figure 8. Flood Maps for Planning – Present Day (Gov.uk)

- 5.2.2 No change is identified to the mapping in respect of climate change (2070 to 2125).

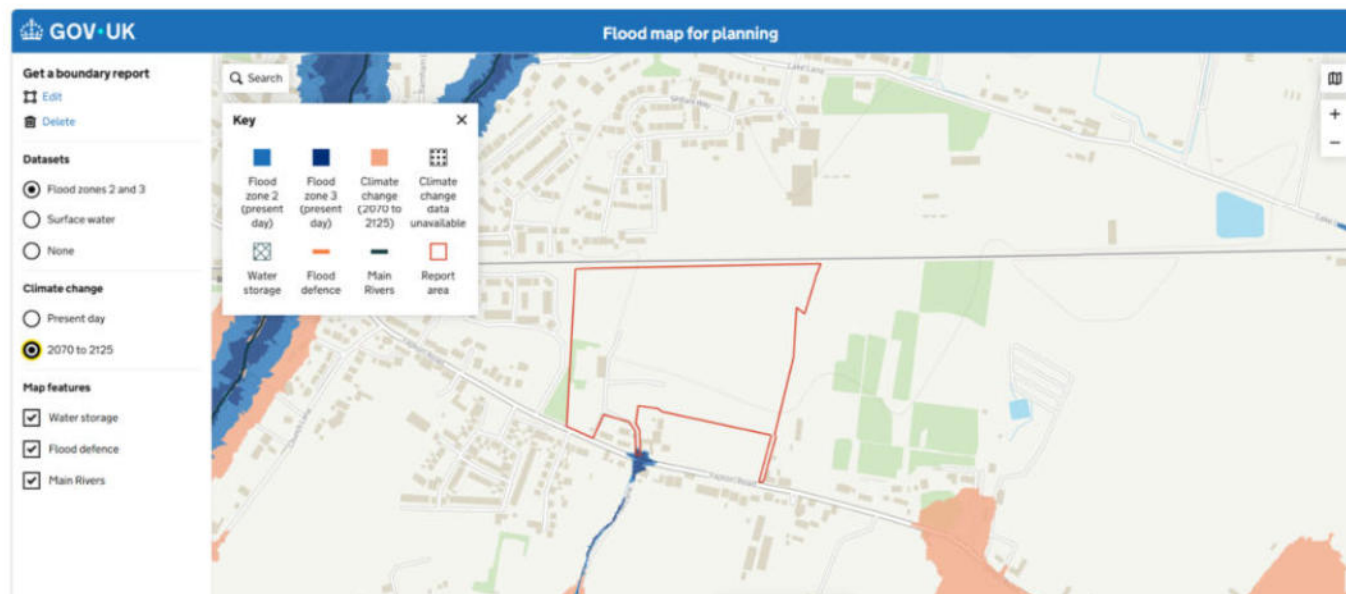


Figure 9. Flood Maps for Planning – Climate Change (Gov.uk)

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b).
Zone 2 Medium Probability	Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map).
Zone 3a High Probability	Land having a 1% or greater annual probability of river flooding; or land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map).
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of function floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: - Land having a 3.3% or greater annual probability of flooding, with any existing flood management infrastructure operating effectively; or - Land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional

	floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map).
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- 5.2.3 Flood Maps for Planning, Surface Water, largely identify the site as being at 'Very Low' risk of surface water flooding.
- 5.2.4 Small and isolated areas are identified to be affected by potential surface water flooding ranging from 'Low' (1 in 1000) to 'High' (1 in 30) risk. The extents identified are highly localised and are not connected to any wider surface water conveyance flow route/overland flow. Drawing **SK30** has been prepared to demonstrate the areas identified as being at risk of surface water flooding, relative to the site topographic survey and proposed site layout.

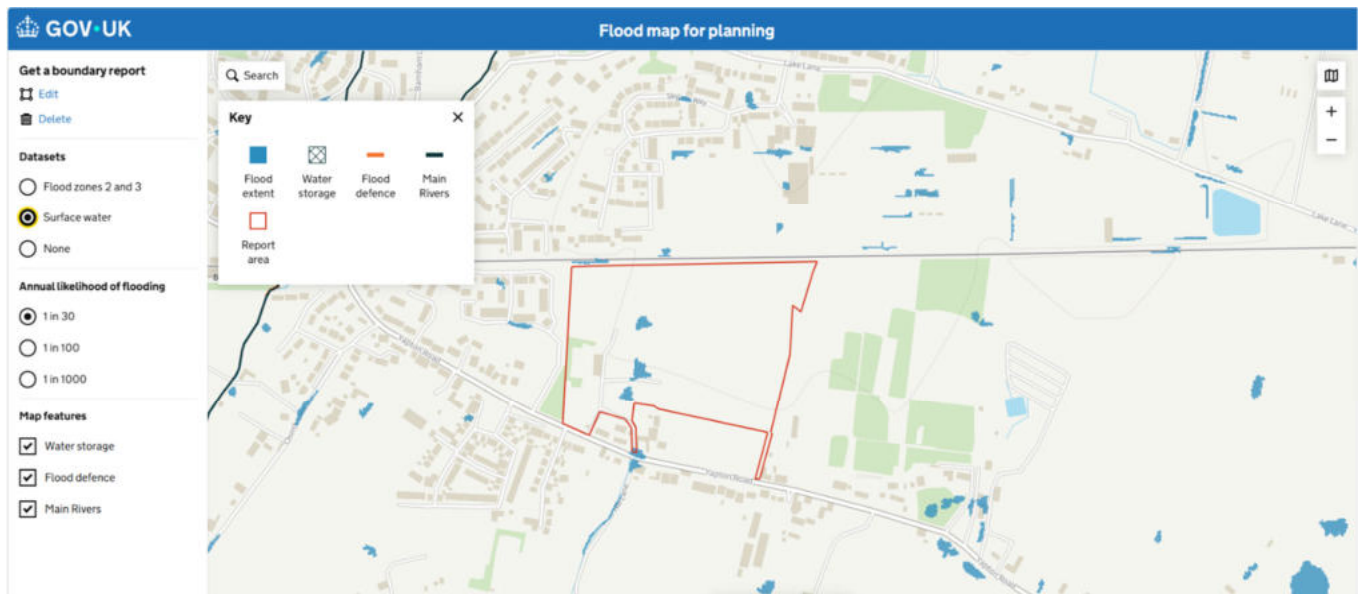


Figure 10. Flood Maps for Planning – Climate Change (Gov.uk)

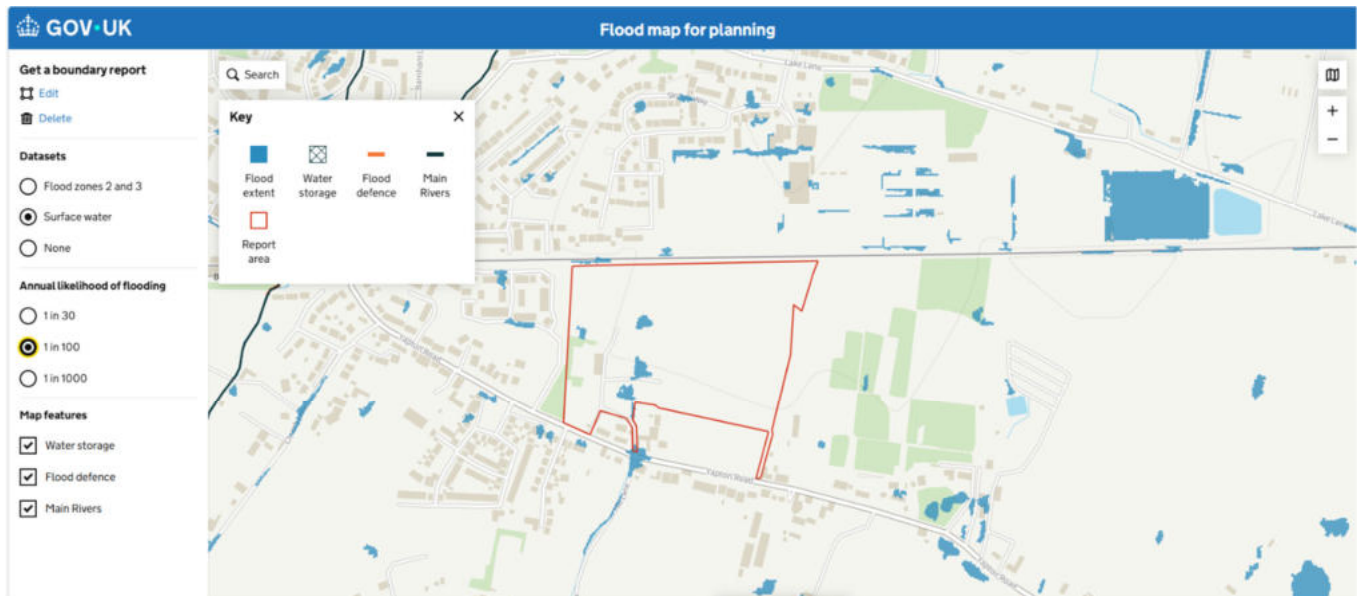


Figure 11. Flood Maps for Planning – Climate Change (Gov.uk)

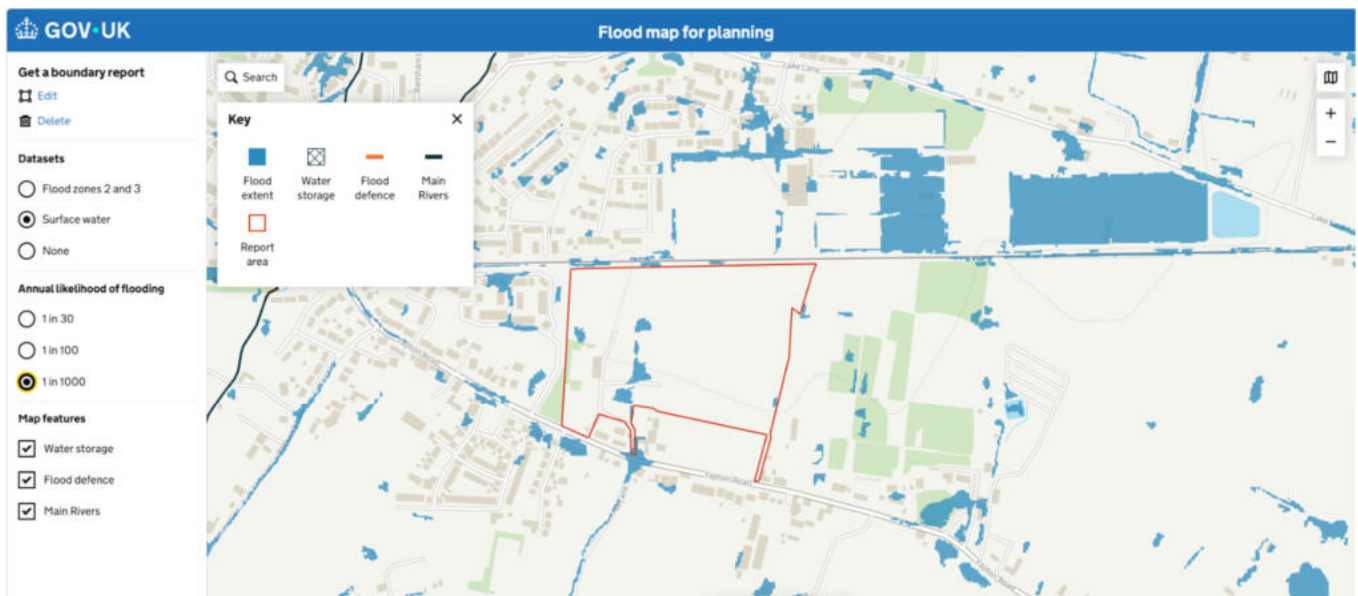


Figure 12. Flood Maps for Planning – Climate Change (Gov.uk)

5.2.5 The Long-term Flood Risk Service indicates that groundwater and/or reservoir flooding is 'unlikely' at the site.

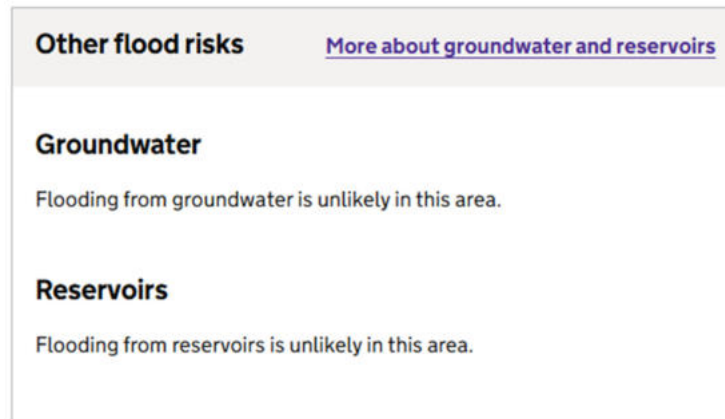


Figure 9. Flood Maps for Planning (Gov.uk)

- 5.2.6 BP Civils has requested Flood Risk Assessment Data (formerly 'Product 4') from the Environment Agency. The data provides recorded evidence of historic flooding and hydraulic modelling local to the site. The Environment Agency has confirmed that no such information is available for the site.

5.3 Strategic Flood Risk Assessment

- 5.3.1 Arun District Council has a published Strategic Flood Risk Assessment, dated November 2016.
- 5.3.2 The site is not specifically referenced within the Strategic Flood Risk Assessment.
- 5.3.3 It is noted that the Arun District Council Strategic Flood Risk Assessment pre-dates current mapping and modelling, as per Flood Maps for Planning.

5.4 Pre-application Advice

- 5.4.1 BP Civils has engaged with West Sussex County Council (Lead Local Flood Authority – for both a Surface Water Drainage and Ordinary Watercourse Consent consultation) through the available pre-application services.
- 5.4.2 Following consultation with WSCC LLFA a Level 1 pre-application advice was obtained in August 2024, with a subsequent Level 2 obtained in November 2025 (surface water). The letter responses are contained within **Appendix G**.
- 5.4.3 In summary, West Sussex County Council has confirmed in correspondence that:
 - The site is located in Flood Zone 1
 - The site is in an area of 'Very Low' risk of surface water flooding, and that there are no surface water flow paths shown through the site
 - JBA mapping acknowledges groundwater at shallow depths, however Geosmart mapping identifies a 'negligible' risk of groundwater flooding.
 - Historic fluvial flooding is recorded on Yapton Road (Environment Agency, 1987), however this is to the west of the site
 - No historic flooding is recorded within the bounds of the site
 - Barnham and Walberton is identified as a 'wet spot' in the Local Flood Risk Management Strategy
- 5.4.4 Following consultation with WSCC LLFA an Ordinary Watercourse pre-application advice was obtained in November 2025. The letter response is contained within **Appendix G**.
- 5.4.5 In summary, West Sussex County Council has confirmed in correspondence that:
 - The existing open watercourse corridor must be retained
 - Future shared use must consider maintenance
 - The downstream culverted section which was previously consented, was constructed to a poor standard. The proposals to replaced and upgrade to a larger 300mm diameter pipe are supported

5.5 Historic Flooding

- 5.5.1 No instances of historic flooding have been identified from the sources of information reviewed in the preparation of this flood risk assessment within the bounds of the site.

- 5.5.2 Information shared by West Sussex County Council identifies historic fluvial flooding to the west of the site on Yapton Road (1987). The site itself was not affected.
- 5.5.3 Although no records of flooding have been identified on site in the undertaking of this flood risk assessment, it is not to say that flooding has not occurred, only that it has not been recorded.

5.6 Summary of Flood Risk

5.6.1 The potential sources of flooding are:

Source of Flooding	Level of Risk
Rivers and Coastal	Very Low The site is essentially located within Flood Zone 1. The only exception to this is where the red line, which contains part of the existing access east of Chestnuts, which is identified as slightly encroaching within Flood Zones 2 and 3. As this land will not be relied upon (for access to the development, public open space or used for residential development) this does not pose a flood risk.
Surface Water	Very Low Based upon EA mapping the site is largely identified as being at 'Very Low' risk of surface water flooding. Isolated extents are identified as being at increased risk of surface water flooding ranging from 'Low' to High'. The extents identified have been assessed as being localised low points in topography, as opposed to demonstrating a wider surface water conveyance route through the site. West Sussex County Council (Lead Local Flood Authority) has also confirmed that no surface water flow routes are identified on site.
Groundwater	Low Winter groundwater monitoring (2024/25) has identified peak groundwater levels at less than 200mm below ground level across the site. No instances of historic groundwater flooding have been recorded at the site.
Sewers	Very Low No instances of historic sewer flooding have been identified within the wider vicinity of the area of proposed development.
Artificial Sources	None The site is not shown to be at risk of flooding due to artificial sources.

5.6.2 Development proposals shall be developed around site constraints, such as areas identified as being at risk of flooding.

6 PROPOSED DEVELOPMENT

6.1 Description of Development

- 6.1.1 This FRA supports an application seeking outline planning permission. The proposed development will involve the construction of up to 190 No. dwellings as demonstrated by the development proposals contained within **Appendix A**.
- 6.1.2 The type of development proposed falls within the "More Vulnerable" flood risk vulnerability classification (Annex 3: Flood risk vulnerability classification, NPPF) and is appropriate in Flood Zone 1 (Flood Risk and Coastal Change Table 2, Planning Practice Guidance).

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zone 1	✓	✓	✓	✓	✓
Flood Zone 2	✓	Exception Test Required	✓	✓	✓
Flood Zone 3a [†]	Exception Test Required [†]	✗	Exception Test Required	✓	✓
Flood Zone 3b [*]	Exceptions Test Required [*]	✗	✗	✗	✓ [*]
✓ = Development is appropriate ✗ = Development should not be permitted					

- 6.1.3 The proposed development will result in the introduction of new impermeable areas at the site.
- 6.1.4 The post-development impermeable area (**SK06**) has been determined to be 36549.69m² (3.65Ha).
- 6.1.5 Following consultation with WSCC LLFA a Level 1 pre-application advice was obtained in August 2024, with a subsequent Level 2 obtained in November 2025. The letter responses are contained within **Appendix G**. Parameters were confirmed / agreed to calculate the site's greenfield runoff rate and storage estimates.
- 6.1.6 Greenfield run-off rates have been established in relation to this area using HR Wallingford's 'Greenfield run-off rate estimation' tool. The calculated rates are as follows:

QBAR: 17.7 l/s

1 in 1-Year: 15.1 l/s

1 in 2-Year: 15.6 l/s

1 in 10-Year: 28.7 l/s

1 in 30-Year: 40.8 l/s

1 in 100-Year: 56.6 l/s

1 in 200-Year: 66.3 l/s

- 6.1.7 The use of SuDS methods and techniques, where site conditions and constraints allow, will be utilised to assist in the management of surface water run-off generated by the proposed development, whilst



adhering to the principles and standards contained within the National Standard for Sustainable Drainage Systems (June 2025).

6.1.8 The specific surface water and foul water drainage proposals are detailed in **Section 8** of this report.

7 SEQUENTIAL AND EXCEPTION TESTS

7.1 Sequential Test

- 7.1.1 Paragraph 024 of Flood Risk and Coastal Change confirms that 'The Sequential Test ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Where it is not possible to locate development in low-risk areas, the Sequential Test should go on to compare reasonably available sites; within medium risk areas; and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas.'
- 7.1.2 Paragraph 175 of the NPPF states '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).'
- 7.1.3 The proposed development is essentially all located within Flood Zone 1 for the purposes of the proposed development scheme.
- 7.1.4 The site is largely identified as being at 'Very Low' risk of surface water flooding, albeit with isolated extents identified as being at increased risk of surface water flooding, ranging from 'Low' to 'High'. These extents are identified on drawing **SK30** relative to the site topographic survey and proposed site layout.
- 7.1.5 The site layout has been developed to ensure that residential development, classified as 'more vulnerable' is exclusively contained within Flood Zone 1 and avoids areas of the site identified as being at increased risk of surface water flooding.
- 7.1.6 As the proposed development is to be located within Flood Zone 1, with the layout developed to avoid areas of the site identified as being at increased risk of surface water flooding and mitigated by SuDS design, the Sequential Test is not required to be undertaken.

7.2 Exception Test

- 7.2.1 As detailed in 6.1.3, "More Vulnerable" development is appropriate in Flood Zone 1 and (at 7.1), the proposed development will be exclusively located in Flood Zone 1 meaning the Sequential Test is not required and therefore neither is the exception test having regard to national planning policy and guidance in the PPG.

8 PROPOSED SURFACE WATER DRAINAGE STRATEGY

8.1.1 The National Standards for Sustainable Drainage Systems (June 2025) detail principles and standards for the management of surface water run-off for new infrastructure and development.

8.1.2 There are two types of standards:

- i. The hierarchy standard (Standard 1) gives criteria for prioritising the choice of final run-off destination
- ii. Fixed standards (Standards 2 to 7) state the minimum design criteria that all surface water drainage systems should satisfy and how they should be built, maintained and operated.

Both types of standards have accompanying requirements which provide details on how to interpret, deliver and evaluate each standard.

8.1.3 The seven standards are complementary, and the delivery of each standard should support delivery of the other standards. A surface water drainage system design that delivers multiple benefits will include a range of features and each of these should contribute to the delivery of several, if not all, of the standards.

8.1.4 There may be specific circumstances or constraints, such as the type or size of a development that mean it is not possible to deliver one or more of the standards. In these circumstances the opportunity to meet the standard shall be maximised and justification be developed in consultation with the approving body, who may agree to a departure unless regulatory controls prohibit such a departure.

8.1.5 The National Standards for Sustainable Drainage Systems can be viewed at <https://www.gov.uk/government/publications/national-standards-for-sustainable-drainage-systems/national-standards-for-sustainable-drainage-systems-suds>

8.2 Standard 1: Run-off Destinations

A 'SuDS approach' shall be adopted to address the management of surface water by the development and where it should be discharged. Runoff shall be treated as a resource and managed in a way that avoids negative impacts of the development on flood risk, the morphology and water quality of receiving waters and the associated ecology.

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

- Collected for non-potable use
- Infiltrated to ground
- Discharged to an above ground surface water body
- Discharged to a surface water sewer, or another piped surface water drainage system
- Discharged to a combined sewer
- To utilise a lesser priority final destination, appropriate evidence shall be provided that demonstrates all higher priority final destinations have been utilised to the maximum extent practicable.

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

Note 2: for the purposes of this standard, a combined sewer is a sewer intended to receive both foul sewage and surface runoff and does not include a sewer intended to receive only foul sewage, even if it has the capacity to accommodate additional flows or has an element of surface water in it already.

To utilise a lesser priority final destination, appropriate evidence shall be provided that demonstrates all higher priority final destinations have been utilised to the maximum extent practicable. Higher cost alone shall not be a reason to utilise lower priority final destinations.

Where more than one final destination is utilised, each final destination's ability to accept runoff shall be maximised in order of priority.

- 8.2.1 Potential run-off destinations have been considered, in accordance with the hierarchy detailed within the National Standards for Sustainable Drainage Systems (June 2025), in respect of the proposed development:

Run-off Destination	Viable?	Justification
Collected for non-potable use	Yes	Standard 1 states that rainwater harvesting shall be considered where there is a demand for non-potable water, as well as if there is a need for landscape irrigation. The site is suitable for rainwater re-use and will be proportionate to the scale of development. Traditional rainwater butts are to be provided in conjunction with SuDS Planters. Other features will be considered at detailed design stage in coordination with the landscaping plan.
Infiltrated to ground	No	Shallow groundwater levels have been recorded on site. West Sussex County Council (Lead Local Flood Authority) accepts that infiltration is not viable, as confirmed through the pre-application advice service utilised.
Discharged to an above ground surface water body	Yes	Highest ranking potential run-off destination.

Discharged to a surface water sewer, or another piped surface water drainage system	No	Higher ranking opportunities exist.
Discharged to a combined sewer	No	Higher ranking opportunities exist.

- 8.2.2 Rainwater re-use can be incorporated into the proposed design. Rainwater butts are to be provided in conjunction with SuDS Planters.
- 8.2.3 The proposals will include additional features such as green (sedum) roofs for flat garages, below ground rain gardens, above ground rain garden planters. A perimeter swale is proposed to ensure post completion exceedance flow adheres to the existing catchment topography; this could be installed as a bio swale (planted channel) forming part of the landscaping proposals.
- 8.2.4 Shallow groundwater levels have been encountered on site, therefore infiltration is not viable as a means of draining the site (which has been acknowledged / agreed by WSCC LLFA in Pre-App consultations).
- 8.2.5 It is proposed that collected run-off will be attenuated on site, with a restricted discharge to the ordinary watercourse network within the vicinity of the site as demonstrated by drawings **SK10 & SK11**.
- 8.2.6 Attenuation will be provided in the form of 3 No. attenuation basins, supplemented by attenuation tanks and permeable paving.
- 8.2.7 Run-off will be restricted to a maximum of 7.0 l/s for all simulated storm events, up to and including the 1 in 100-year event, inclusive of climate change allowances.
- 8.2.8 The proposed surface water drainage arrangement is shown on drawings **SK10 & SK11**.

8.3 Standard 2: Management of Everyday Run-off (Interception)

Apply a 'SuDS approach' so that at least the first 5mm of rainfall for the majority of rainfall events does not result in run-off from the site to surface waters or piped drainage systems.

Evidence shall be provided that the approach to managing run-off from 'everyday' rainfall has been developed alongside and in support of the management of run-off quality (Standard 4) and the delivery of amenity and biodiversity benefits (Standards 5 and 6).

- 8.3.1 Rainwater re-use can be incorporated into the proposed design. Rainwater butts are to be provided in conjunction with SuDS Planters.
- 8.3.2 All permeable surfaces, whether lined or not, shall be assumed to comply provided there is no additional area drained to the permeable pavement.
- 8.3.3 Parking areas and secondary roads are to be of a permeable construction. The main access road is to be of a 'traditional' impermeable surface finish.

8.4 Standard 3: Management of Extreme Rainfall and Flooding

A 'SuDS approach' shall be adopted to address the management of development run-off during extreme rainfall, including allowances for climate change and urban creep to:

- protect people and property on the development from flooding of the surface water drainage system
- mitigate any increased flood risk to people and property adjacent to or downstream of the development
- protect the receiving water body from morphological damage or minimise the impact on sewer capacity

When discharging to an infiltration feature, the system shall be appropriately sized to accommodate the design event based on ground conditions and contributing areas.

When discharging to an above ground surface water body, sewer or other piped drainage system, the surface water run-off (rate and volume) for the 1% annual exceedance probability (AEP) event shall be controlled to ensure the run-off from the development does not increase flood risk elsewhere.

When discharging to an above ground surface water body, sewer or other piped drainage system, the surface water run-off rate for the 50% AEP event shall be controlled to ensure development run-off from an event of this magnitude has no negative impact.

Any flooding from the surface water drainage system for events up to the 1% AEP event shall be managed within the development.

Any flooding from off-site sources for the 1% AEP event should be managed on site or safely routed through the site, ensuring any downstream risks are not increased compared to the pre-development scenario.

The risks (both on and off the development) associated with flooding from the surface water drainage system for exceedance events greater than the 1% AEP event shall be appropriately managed.

- 8.4.1 Flows discharging off site will be limited to a maximum of 7.00 l/s (pro-rata QBAR is 8.00 l/s).
- 8.4.2 The surface water drainage system for the site has been designed to accommodate a 1 in 100-year storm event, inclusive of allowances for climate change.
- 8.4.3 In respect of climate change, Gov.uk provides guidance for local planning authorities preparing strategic flood risk assessments and developers and their agents preparing flood risk assessments for planning applications, and development consent orders for nationally significant infrastructure projects.
- 8.4.4 Climate change allowances are predictions of anticipated change for peak river flow, peak rainfall intensity, sea level rise and offshore wind speed and extreme wave height.
- 8.4.5 Allowance for climate change shall be provided in the undertaking of site-specific flood risk assessments where new development is proposed to minimise vulnerability and provide resilience to flooding and coastal change.
- 8.4.6 The 'Peak Rainfall Allowances Map' shows anticipated changes in peak rainfall intensity.
- 8.4.7 Based on the latest allowances, for the 3.3% annual exceedance rainfall event, an increase of 40% should be applied to peak rainfall in relation to the proposed development.

- 8.4.8 For the 1% annual exceedance rainfall event, an increase of 45% should be applied to peak rainfall in relation to the proposed development.

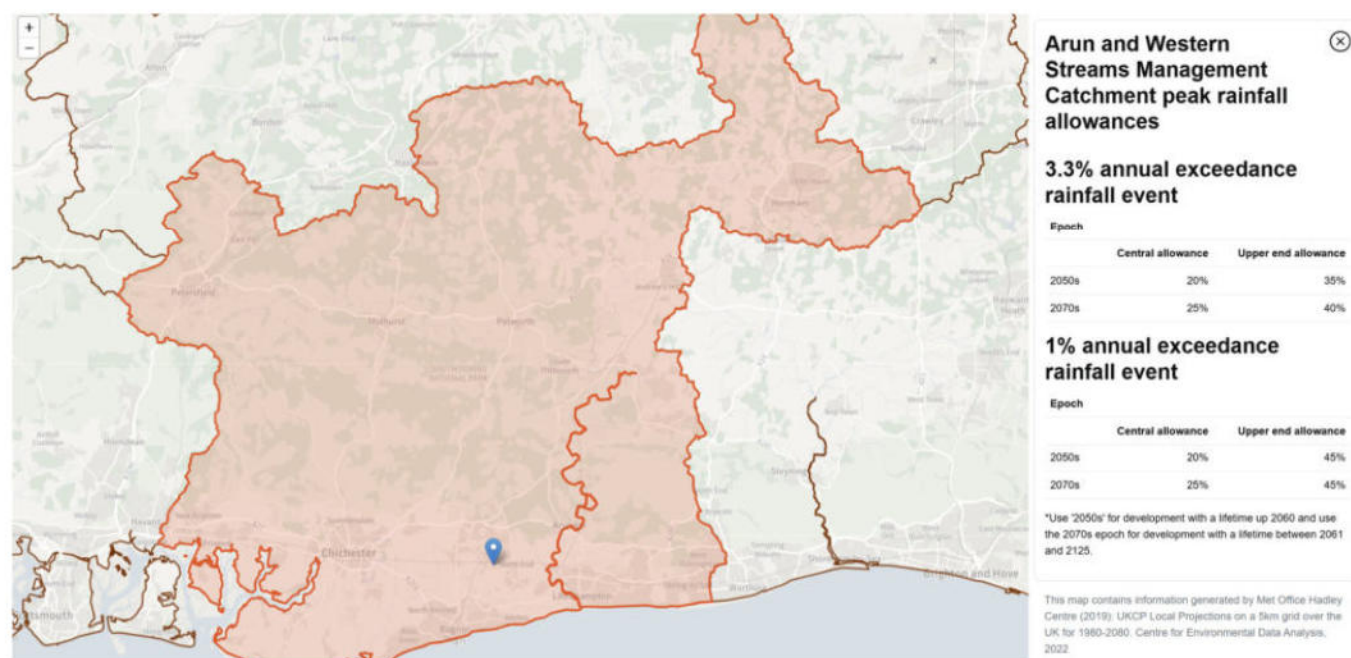


Figure 13. Climate Change Allowances – Peak Rainfall Allowances (Gov.uk)

- 8.4.9 Additionally, an allowance of 10% has been made in respect of the proposed roof areas for the potential impacts of urban creep.

8.5 Standard 4: Water Quality

Apply a 'SuDS approach' that protects surface waters, groundwater and coastal waters by managing the quality of the surface water run-off to adequately address water quality risks from development.

The proposed SuDS management train(s) shall be based on robust water quality risk assessment, appropriate to the pollution hazard and sensitivity of receiving waters, reflecting industry recognised guidance or other quantitative assessment as agreed with the approving body and permitting requirements.

- 8.5.1 In accordance with the SuDS Manual (CIRIA C753) regarding methods for managing pollution risks, the risk posed by surface water run-off to the receiving environment depends on the pollution hazard at the site (the source), SuDS treatment techniques (the pathway), and the sensitivity of the environment (the receptor).
- 8.5.2 The simple index approach considers whether SuDS techniques are appropriate for the site. The states that for SuDS components to deliver adequate treatment, the total pollution mitigation index for each contaminant type should equal or exceed the pollution hazard index.
- 8.5.3 The SuDS Manual outlines three categories of pollution hazard identification, which vary depending on proposed land use, which are as follows:

- Total Suspended Solids (TSS).
- Metals (M).
- Hydrocarbons (H).

8.5.4 In accordance with C753 Table 26.2, the proposed land uses at the site are categorised as follows:

- Residential roofs – TSS=0.2/M=0.2/H=0.05
- Individual property driveways, residential car parks, low traffic roads TSS=0.5/M=0.4/H=0.4

8.5.5 In accordance with C753 Table 26.3, the values of SuDS Mitigation indices are provided for the following measures:

- Permeable Paving – TSS=0.7/M=0.6/H=0.7
- Detention Basin – TSS=0.5/M=0.5/H=0.6
- Swale – TSS=0.5/M=0.6/H=0.6
- Green Roof – TSS=0.8/M=0.9/H=0.5
- Hydrodynamic vortex separator – TSS=0.5/M=0.4/H=0.4

8.5.6 As the pollution hazard index does/will not exceed any pollution mitigation index for any contaminant type, the proposed SuDS methods will provide sufficient treatment for the proposed development.

8.6 Standard 5: Amenity

A 'SuDS approach' shall be adopted that maximises benefits for amenity through the creation of multi-functional places and landscapes.

- 8.6.1 The surface water drainage design should seek to positively contribute to placemaking and environmental enhancement by keeping surface water run-off at or close to the ground surface.
- 8.6.2 Surface water run-off shall be conveyed or attenuated utilising features that maximise the opportunity for public appreciation.
- 8.6.3 Attenuation basin are both provided as part of the surface water drainage design which provide amenity benefit in accordance with Standard 5. Typically with 1:3 gradient of batters for future maintenance (CIRIA compliance).
- 8.6.4 Permeable paving is also proposed which provides a useable multi-purpose surface.

- 8.6.5 The development, beyond drainage design, has been designed to consider amenity and separate assessment is provided by the relevant disciplines.

8.7 Standard 6: Biodiversity

A 'SuDS approach' shall be adopted to ensure the surface water drainage system maximises biodiversity benefits throughout the development lifecycle.

The surface water drainage system shall add biodiversity value by:

- creating diverse, self-sustaining, resilient local ecosystems which contribute to net gains in biodiversity
- supporting and promoting natural local habitat and species, for example, through local nature recovery strategies
- contributing to the delivery of local biodiversity strategies
- contributing to habitat connectivity

- 8.7.1 Evidence of consideration and inclusion of biodiversity, proportionate to both the scale and ecological sensitivity of the site, shall be provided to the approving body.
- 8.7.2 A wider biodiversity assessment has been undertaken at the site by the relevant consultant and is incorporated within the development proposals presented at the site.
- 8.7.3 Specifically in respect of surface water drainage, the existing watercourse is being retained, a new watercourse is proposed through the middle of the site and inclusion of 3 No. attenuation basin provide benefits in respect of biodiversity. The basins will be lined to mitigate groundwater risks, therefore will provide a lower biodiversity. A perimeter swale is proposed to ensure post completion exceedance flow adheres to the existing catchment topography; this could be installed as a bio swale (planted channel) forming part of the landscaping proposals.

8.8 Standard 7: Design of Drainage for Construction, Operation, Maintenance, Decommissioning and Structural Integrity

A 'SuDS approach' shall be adopted to ensure that surface water drainage systems are designed so they can be easily and safely constructed, operated and maintained taking account of the need to minimise negative impacts on natural resources and the environment.

The designer shall provide a management and maintenance plan that supports the design objectives detailed in standards 1 to 6 and ensures the performance of the surface water drainage system with regards to run-off destinations, everyday and extreme rainfall, water quality, amenity and biodiversity is maintained throughout the lifetime of the development.

Surface water drainage design shall examine for the likelihood and consequences of potential failure scenarios that may occur during the operation phase and safely manage the associated risks.

The surface water drainage system shall be designed to ensure structural integrity of all components under anticipated loading conditions for the design life of the development so that it does not affect the structural integrity of any existing or proposed components within, or adjacent to, the development.

- 8.8.1 Maintenance is required to ensure the long-term operational performance of the proposed surface

water drainage system.

- 8.8.2 The drainage system has been designed to minimise maintenance requirements; however a number of key tasks will need to be undertaken so that the system remains in optimal condition. Maintenance requirements are detailed within the separate maintenance document (D2298/DM).
 - 8.8.3 The responsibility of maintenance regime will rest with TBC/or their appointed third-parties. It is anticipated that this element will be dealt with by planning conditions and Section 106. At this stage it is not feasible to conclude if any highway or drainage apparatus will be formally offered for adoption. The responsibility of any adopted infrastructure will fall to the Highway Authority and/or Sewer Authority.
 - 8.8.4 Infrastructure which is 'shared' but unadopted (i.e. serving more than a single plot and/or falling outside of any individual plot's curtilage) will be the responsibility of the Management Company.
 - 8.8.5 The responsibility of any drainage infrastructure supporting a single dwelling/plot will be the sole responsibility of the owner/occupier of the associated dwelling.
 - 8.8.6 It is not envisaged that any materials are to be stored on site once the development has been completed, which could cause major spills and/or potential pollution issues within the drainage system.
 - 8.8.7 If this situation alters in the future consultation with a specialist will be required in order to confirm if any upgrades to the existing system are necessary.
 - 8.8.8 Any future alterations to the foul and/or surface water drainage systems should be confirmed by a specialist.
- 8.9 Submission Checklists - West Sussex County Council Lead Local Flood Authority and Arun District Council:**
- i. The WSCC LLFA and Arun District Council submission checklists are populated at **Appendix G**, to demonstrate design compliance / cognisance in preparation of the site's drainage strategy.

9 PROPOSED FOUL WATER DRAINAGE STRATEGY

- 9.1.1 The proposed foul water drainage arrangement is shown on drawings **SK10** and **SK11**.
- 9.1.2 It is proposed that the site will establish a connection to the public foul water sewer located beneath Yapton Road, to the west of the site at manhole 3102.
- 9.1.3 Post development, there will be an estimated increase in peak foul water flows to 8.80 l/s (based on Sewer Sector Guidance, Appendix C, Design and Construction Guidance for 190 No dwellings).
- 9.1.4 The principles of development will prioritise the use of a gravity fed system, incorporating a foul pumping station for any areas where gravity fed is not feasible. This will be fully resolved at the reserved matters stage as part of the detailed layout design for the site.
- 9.1.5 Connection to the public foul water sewer will be subject to a S106 application, and approval from Southern Water.
- 9.1.6 Recent changes to infrastructure and connection charges (OFWAT Charging Rules) place the onus on the sewerage undertaker to reinforce their network should there no longer be sufficient capacity to serve the new development. Funding for this is provided by revised charging arrangements for infrastructure and connection charges for each dwelling constructed comprising a Network Reinforcement Charge and Site-Specific Charges. The revised charging arrangement (funded by the developer) covers alterations to the Existing Sewer Network and the sewerage undertaker remains responsible for the cost of reinforcing their Strategic Assets. The developer is responsible for connecting the development to the public sewer network.

10 LIDSEY DRAINAGE IMPACT ASSESSMENT

- 10.1.1 The site is located within the Lidsey wastewater treatment catchment area.
- 10.1.2 Communities which fall within the catchment area have, historically, experienced foul water flooding of roads and property which has also led to the pollution of watercourses. The stated cause is assumed to have been as a result of the sewerage system being overloaded, as a result of groundwater infiltration/ingress and surface water inundation of the sewerage system.
- 10.1.3 West Sussex County Council has published the Lidsey Surface Water Management Plan (2014) which does not identify the site as falling within any of the defined Local Flood Risk Zones.
- 10.1.4 LFRZ-009 captures Yapton Road, approximately 760m east of the site. The site itself is not identified as being within the defined extents of this Local Flood Risk Zone.
- 10.1.5 The flood mechanism listed in respect of this Local Flood Risk Zone relates to surface water flooding to the public highway. An overland flow path from the fields to the east of Yapton Road conveying flow west across the highway and into a piped ditched system is stated. Foul flooding upstream of the Yapton Road WPS is also detailed, owing to hydraulic overload caused by excessive clear water inflows.
- 10.1.6 An Ordinary Watercourse Consent pre-application was submitted to WSCC. This concludes all existing watercourses must be retained and the historic downstream culvert repairs have known defects.
- 10.1.7 The site is not currently served by piped surface water drainage infrastructure. Post development, run-off will drain to the ordinary watercourse network within the vicinity of the site. Attenuation is to be provided on-site, whilst improvements to the existing culverted section(s) upstream of Hill Lane are to be improved as cited in 10.1.6 (and will be subject of a separate Ordinary Watercourse Consent application).
- 10.1.8 Foul flows generated by the proposed development will drain to Southern Water's public foul water sewer located beneath Yapton Road, to the west of the site via gravity. Approx. 50% of units on site will require a pumped rising main connection.
- 10.1.9 The proposed drainage arrangements will ensure that foul and surface water flows are kept separated, with both following the respective drainage hierarchies for foul and surface water drainage. No surface water or groundwater will communicate with the public foul water sewer network.
- 10.1.10 Southern Water is responsible for ensuring that capacity exists within their network to support new development, with financial contributions collected from developers under S106 of the Water Industry Act 1991.

11 RESIDUAL RISK AND MITIGATION

11.1 Residual Risk

11.1.1 The following residual risks have been identified in relation to the proposed development:

- i. Increased flow through watercourses as a result of climate change causing flooding to the site
- ii. Blockage of watercourses as a result of debris or otherwise, causing flooding to the site
- iii. Extreme rainfall events that exceed the design criteria used for the drainage system causing surface water flooding
- iv. Blockage/failure of the proposed drainage system causing flooding to the site
- v. Groundwater flooding to the site caused by groundwater levels exceeding the ground surface level
- vi. Surface water flooding of proposed buildings

11.2 Mitigation

11.2.1 Consideration has been taken to the residual risks stated in Section 10.1, and the following mitigation measures are proposed:

- i. Improvements are proposed in respect of the existing ordinary watercourse network to ensure all known downstream defects up to the Hill Lane headwall are rectified (this will be addressed via a separate, Ordinary Watercourse Consent application).

Should flows increase within the ordinary watercourse network as a result of climate change, there is potential for flooding to occur. Should this occur, exceedance flows will follow the wider topography of the site and surrounding areas. There are no prevailing significant falls demonstrated on-site, therefore any potential flood waters would stand until able to naturally drain away.

- ii. Blockage of the ordinary watercourse network may result in flooding. Improvement works are proposed in respect of the existing ordinary watercourse network given existing defects identified by Arun District Council's drainage officer. Maintenance plays an important role in managing and alleviating flood risk. Maintenance requirements will be covered at detailed design stage in accordance with CIRIA guidance.
- iii. The drainage strategy has been developed to capture run-off up to a 1 in 100-year critical design rainfall event, with a 45% allowance for climate change in addition to an allowance for the potential impacts of urban creep. However, should a more extreme rainfall event occur, there is the potential for the drainage system to be exceeded. Exceedance flows would follow

the natural topography of the site, and the topography as per the on-site levels design. A perimeter swale feature is included to ensure existing catchment routing is maintained.

- iv. The proposed drainage system will attenuate and store run-off up to the design event. Blockage of the drainage system has the potential to cause flooding on the site. Maintenance requirements will be covered at detailed design stage in accordance with CIRIA guidance.
- v. Groundwater has been recorded at depths less than 200mm below ground level across the site. Consideration during design shall be afforded to such scenarios, to ensure that potential emerging groundwater is ideally directed away from proposed structures.
- vi. The site is identified as largely being at 'Very Low' risk of surface water flooding. The risk of surface water flooding is not likely, however, consideration in design shall be afforded to ensure that run-off from proposed areas of hardstanding is directed away from structures to prevent water ingress and flooding. Areas identified as being susceptible to surface water flooding, as per Flood Maps for Planning, have been avoided in the development of the site layout.

12 FLOOD RISK MANAGEMENT

12.1 Safe Access and Egress

- 12.1.1 Access to the site is to be provided off of Yapton Road, at the existing site access location.
- 12.1.2 The proposed access location is located within Flood Zone 1 (present day and in respect of current climate change projections) and is identified as being at 'Very Low' risk of surface water flooding.
- 12.1.3 The proposed development is located fully within Flood Zone 1, whilst isolated extents identified as being at increased risk of surface water flooding on site have been avoided, or mitigated by design.
- 12.1.4 In view of the above factors, access and egress from the site would be safe for the lifetime of the development.

13 OFFSITE IMPACTS

- 13.1.1 Implementation of the proposed development will see improvements/remedial works undertaken in relation to the existing ordinary watercourse network to which it is proposed surface water flows from the site will discharge to.
- 13.1.2 Post-development run-off will discharge to the ordinary watercourse network at a rate of 7.00 l/s, mimicking existing greenfield run-off rates.
- 13.1.3 The potential effects of both climate change and urban creep have been considered in the proposed surface water drainage design to ensure there is no off-site impact.
- 13.1.4 In respect of foul drainage, the principles of development will prioritise the use of a gravity fed system, incorporating a foul pumping station for any areas where gravity fed is not feasible. This will be fully resolved at the reserved matters stage as part of the detailed layout design for the site.

14 SUMMARY

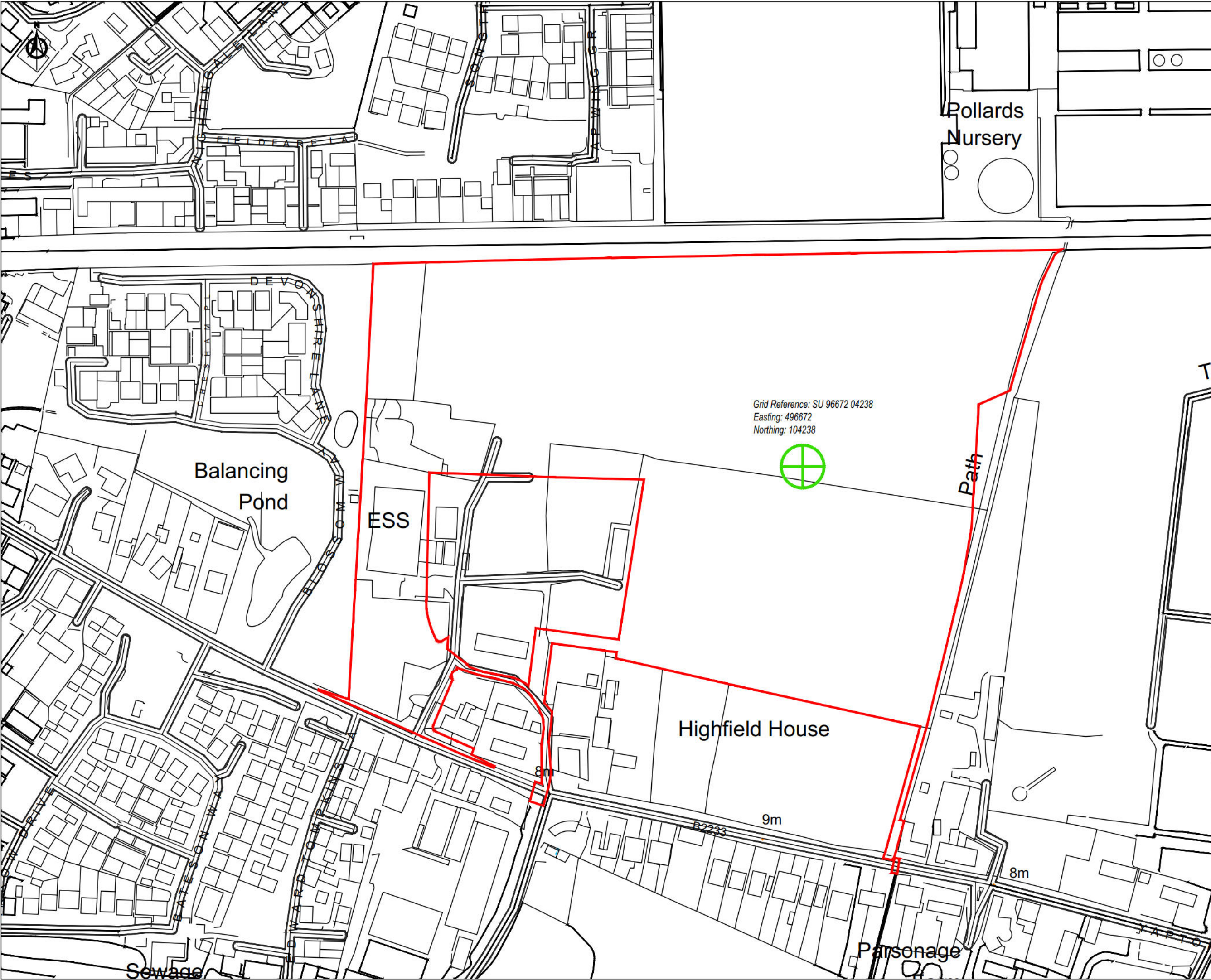
- 14.1.1 The proposed development will involve the construction of up to 190 No. dwellings as demonstrated by the development proposals contained within **Appendix A**. By way of overall conclusion this development is feasible and acceptable in flood risk and drainage terms, subject to necessary planning conditions that will secure the detailed design at the appropriate reserved matters stage. The proposed development is located in an area at low risk of flooding and mitigation measures have been recommended in order to ensure that the site does not increase the risk of flooding elsewhere.
- 14.1.2 It is therefore concluded that the proposed development complies with ADC, EA and NPPF policies and guidance.
- 14.1.3 In terms of Flood Risk:
- The proposed development is located in Flood Zone 1 (Low Risk). The only exception to this is where the red line, which contains part of the existing access east of Chestnuts, which is identified as slightly encroaching within Flood Zones 2 and 3. As this land will not be relied upon (for access to the development, public open space or used for residential development) this does not pose a flood risk.
 - The site is largely identified as being at 'Very Low' risk of surface water flooding. Extents of the site are identified as being at increased risk of surface water flooding ('Low' to 'High').
 - The completion of the development will not increase flood risk on or off the site.
- 14.1.4 In terms of surface water drainage:
- The site currently drains naturally, and is not served by formal surface water drainage infrastructure. The site topographic survey identifies levels in the range of 7.900m AOD and 10.800m AOD. The site is flat with no significant prevailing falls. Within the wider vicinity of the site, surface water drains to the ordinary watercourse network, discharging to the watercourse at Hill Lane.
 - Intrusive site investigation has confirmed clay and gravel soils (River Terrace Deposits) underlain by London Clay. Made ground was present in 10. No. of the 12. No. boreholes, at depths ranging from c. 300mm below ground level to 1100mm below ground level.
 - Groundwater monitoring has also been conducted spanning the winter of 2024/25. Peak groundwater levels were recorded at depths less than 200mm below ground level.
 - Infiltration is not viable owing to the presence of shallow groundwater. Surface water will instead be attenuated on site before discharging to the culverted ordinary watercourse which discharges to the open channel at Hill Lane.
 - The surface water drainage system has been designed to accommodate a 1 in 100-year storm event, inclusive of allowances for both climate change and urban creep. Attenuation will be provided in the form of 3 No. basins, cellular storage tanks and permeable paving. Run-off leaving the site will be restricted to a maximum rate of 7.00 l/s.
- 14.1.5 In terms of foul water drainage:
- The development will take advantage of the public sewer network and existing sewerage infrastructure adjacent to the site.
 - Foul water from the proposed development will drain to Southern Water's public foul water sewer

network via the existing manhole (3102) on Yapton Road.

- Subject to final design, gravity sewers will serve the site draining to the existing foul sewer network. Where it cannot and some units require it a pumping station will be installed.

DRAWINGS

- SK100** Site Location Plan
- SK04** Topographic Survey with Contours Sheet 1 of 2
- SK05** Topographic Survey with Contours Sheet 2 of 2
- SK06** Impermeable Areas Sheet 1 of 2
- SK07** Impermeable Areas Sheet 2 of 2
- SK10** Drainage Strategy Sheet 1 of 2
- SK11** Drainage Strategy Sheet 2 of 2
- SK20** OWC Watercourse Appraisal
- SK30** Surface Water Flood Maps
- SK31** LiDAR Contours
- SK32** LiDAR Banding
- SK200** LLFA Pre-app Discussion Plan



NOTES

A3

1. This drawing is to be read in conjunction with all other BP Civils drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.

2. BP Civils accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.

3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.

4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care whilst undertaking the works.

5. All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.

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P01	20/05/26	Red application boundary updated
-	23/08/24	Original Issue

Rev.	Date	Amendments

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Drawing Status

FOR INFORMATION

NOT FOR CONSTRUCTION

Client

Luken Beck

Project

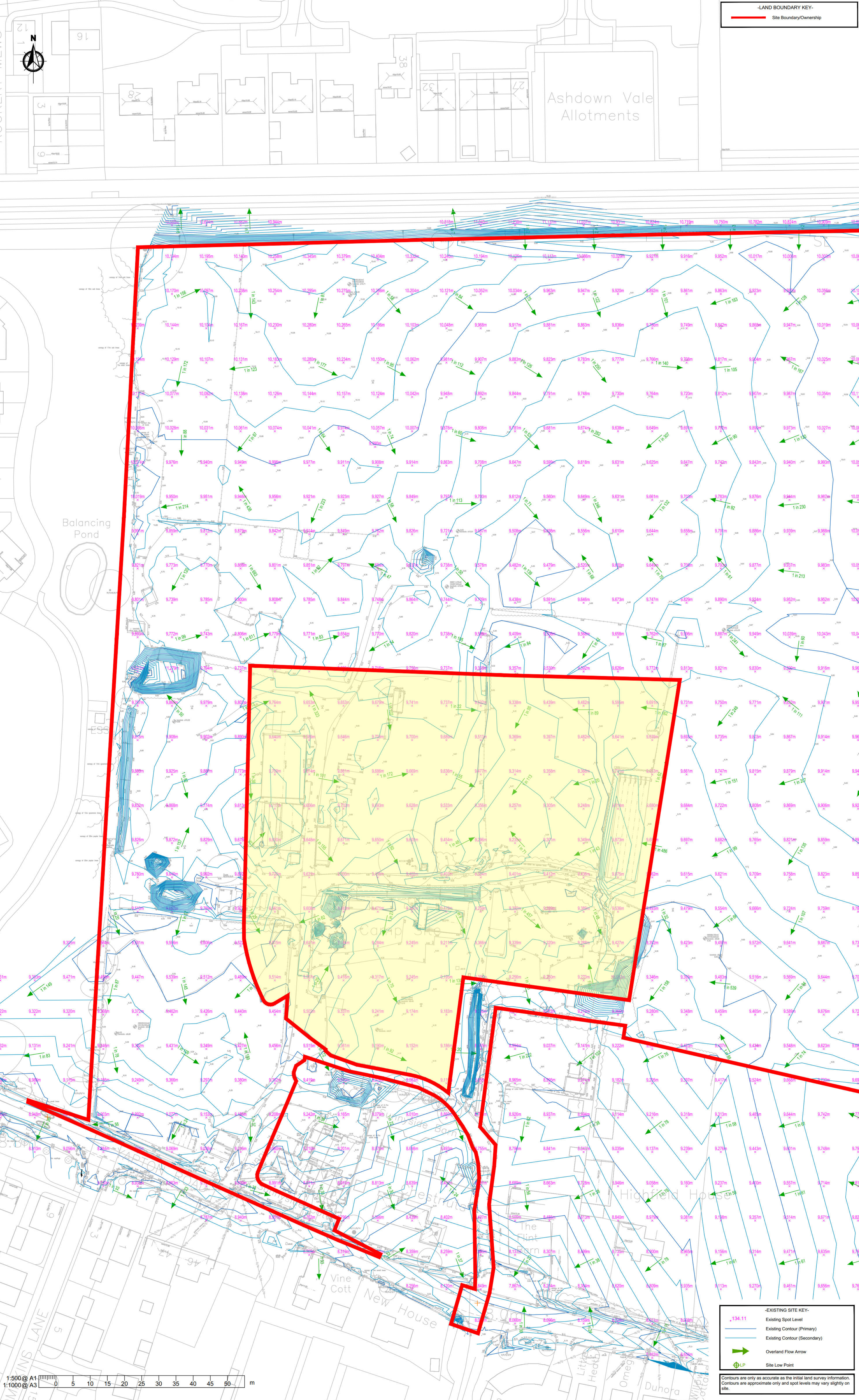
Sunnyside, Yapton Road, Barnham

Drawing Title

Site Location Plan

Scale at A3	Date	Drawn By	Checked By	Project No.
1:2000	Aug. '24	SPB	MJA	D2298

Drawing No.	Rev.
SK100	P01



-LAND BOUNDARY KEY-

Site Boundary/Ownership

- ### NOTES
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 - The client shall ensure that all licences, consents and approvals required to implement the works are in place prior to commencing construction.

- ### RESIDUAL HAZARDS
- In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following:
- Buried services. Contractor to refer to record drawings and use CAT to locate existing services and undertake necessary precautions and investigation prior to excavating.
 - Working in live traffic. Contractor to ensure traffic management is designed, erected and maintained to protect the workforce and the public. Contractor to undertake necessary precautions and ensure suitable traffic management is in place prior to commencement.
 - Working in live sewers. Contractor to ensure operatives are familiar and competent with the dangers of working in live sewers.
 - Excavations close to existing structures. Contractor to prepare method statement to ensure stability of existing structure.
- It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement

P01	20/05/26	Red application boundary updated
Rev.	Date	Amendments
P00	13.10.25	Original Issue

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Drawing Status: **PLANNING**
NOT FOR CONSTRUCTION

Client: **Luken Beck**

Project: **Sunnyside, Yapton Road, Barnham**

Drawing title: **Topographic Survey with Existing Levels & Contours Sht 1**

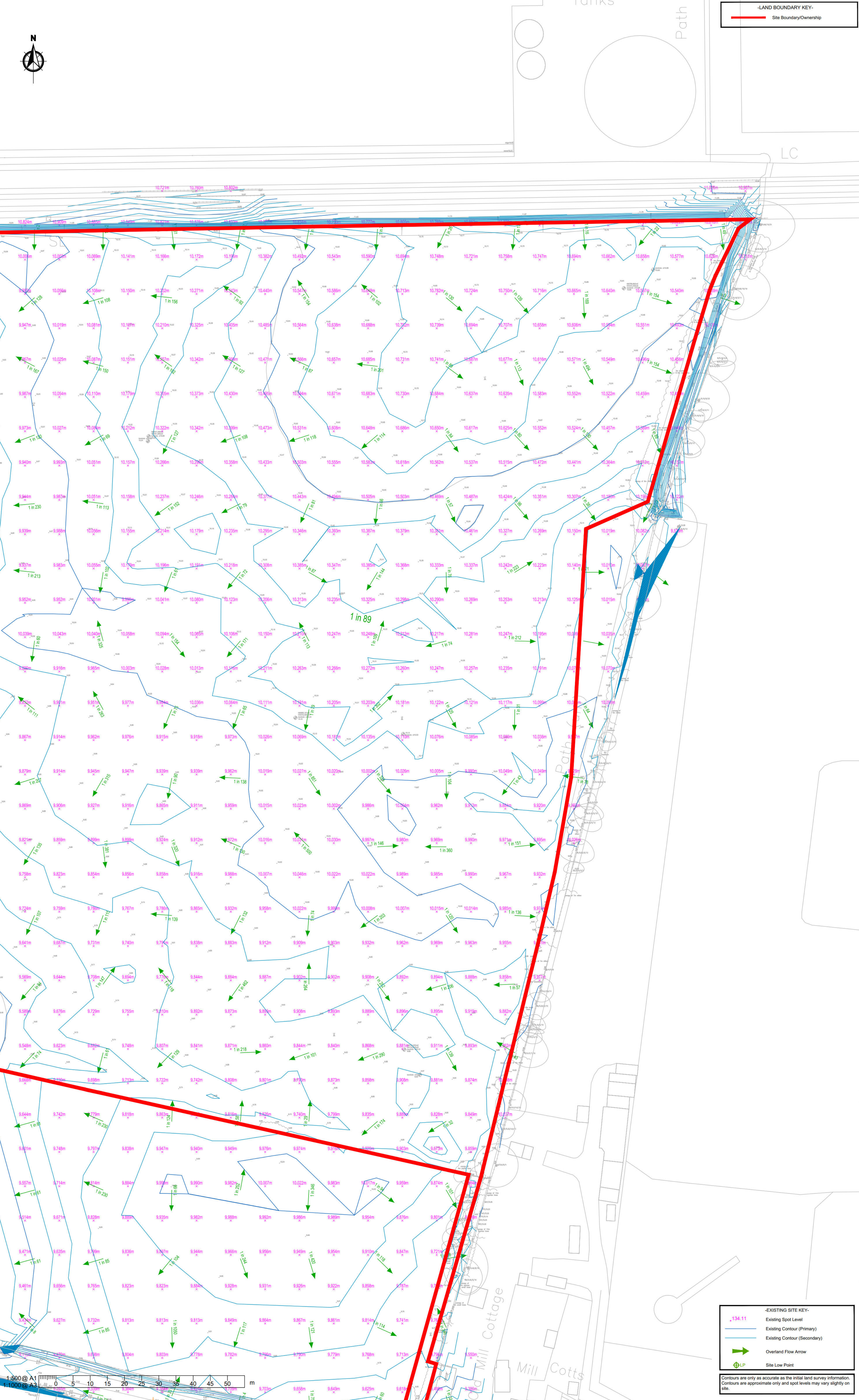
Scale	Date	Drawn By	Checked By	Project No
1:500 @ A1	Sep 25	JL	MJA	D2298

Drawing Code: **SK** Drawing No.: **004** Rev.: **P01**

-EXISTING SITE KEY-

- Existing Spot Level
- Existing Contour (Primary)
- Existing Contour (Secondary)
- Overland Flow Arrow
- Site Low Point

Contours are only as accurate as the initial land survey information. Contours are approximate only and spot levels may vary slightly on site.



NOTES

- This drawing is to be read in conjunction with all other BP Civils drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
- BP Civils accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
- Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
- Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain. The main contractor is responsible for checking all information on site prior to work commencing and taking due care whilst undertaking the works.
- All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
- The electronic information from this drawing can not be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. BP Civils logo and company information must be removed from copies if information is re-used.
- Where used, this map is based on or reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of His Majesty's Stationary Office (c) Crown Copyright. Licence number: 100022432. BP Civils accept no liability for any inaccuracies with the data.
- The client shall ensure that all licences, consents and approvals required to implement the works are in place prior to commencing construction.

RESIDUAL HAZARDS

- In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following:
- Buried services. Contractor to refer to record drawings and use CAT to locate existing services and undertake necessary precautions and investigation prior to excavating.
 - Working in live traffic. Contractor to ensure traffic management is designed, erected and maintained to protect the workforce and the public. Contractor to undertake necessary precautions and ensure suitable traffic management is in place prior to commencement.
 - Working in live sewers. Contractor to ensure operatives are familiar and competent with the dangers of working in live sewers.
 - Excavations close to existing structures. Contractor to prepare method statement to ensure stability of existing structure.
- It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement

P02 20/05/26 Red application boundary updated
P01 29.09.25 General update
P00 19.09.25 Original Issue

Rev.	Date	Amendments
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Drawing Status **PLANNING**
NOT FOR CONSTRUCTION

Client **Luken Beck**

Project **Sunnyside, Yapton Road, Barnham**

Drawing title **Topographic Survey with Existing Levels & Contours Sht 2**

Scale	Date	Drawn By	Checked By	Project No
1:500	Sep 25	JL	MJA	D2298

Drawing Code	Drawing No.	Rev.
SK	005	P02