

Flood Risk Assessment & SUDS Strategy for Planning

Compliant with Arun Policy WDM2 and WDM3

Compliant with EA requirements for change of use in residual FZ2

Sequential & Exception Test & Policies addressed by assessment and design

Updated in response to EA Letter HA/2025/127015/01-L01
EA site specific up to date detailed flood data incorporated

**Updated to New scheme:
Zero ground extension
No Ground floor residential**

**All residential uses area a minimum of 1.62m above the
EA's extreme flood event including for climate change**

**Full bespoke Flood Response, Management and
Evacuation Plan is appropriate for this flood setting**

**No increase in impermeable areas
Source Control retroactive SUDS are appropriate**

AT

1 Beach Road Littlehampton BN17 5HY

April 2026

Ark Environmental Consultancy Ltd

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If this report has been released electronically, the appendices referred to herein can be found in the annexed zip folder/s as .pdf or .dwg files. If this report has been released in hard copy the appendices will be bound into the back of this report. Plans may be annexed separately as A1 or A0 copies where a bound-in A3 copy is not appropriate.

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1.0 Scope

This report contains the details of a flood risk assessment statement for planning carried out by Ark Environmental Consultancy Ltd ("Ark Ltd") for 1 Beach Road Littlehampton BN17 5HY, henceforth referred to as "the site" in this report.

This report has been prepared for Duffy Associates and must not be relied upon by any other party without the explicit written permission of Ark Ltd.

All parties to this report do not intend any of the terms of the Contracts (Right of Third Parties Act 1999) to apply to this report. Please note this report does not purport to provide definitive legal advice nor can it be used to demonstrate that the site will never flood in the future or provide exact specifications / warranties for the products used.

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2.0 Introduction

The information source used to undertake this FRA & SUDS / Drainage Strategy has been collected from the following sources:

- British Geological Survey Website
- EA Website
- New National SUDS Standards
- Arun Strategic Flood Risk Assessment (SFRA) and Surface Water Management Plan
 - Mapping and Policies as updated incl Breach mapping
- Arun SUDS policies and guidance
- Internet mapping and searches

3.0 Existing Site Status and Environmental Setting

3.1 Site Location and Topography

This site is an existing commercial property with mixed hard and soft landscaping in EA FZ3 Tidal part defended and in part low - medium hazard surface water flooding with access to no hazard surface water flooding to the north and east.

Topography Requirement

Given the acknowledgement of the site levels vs the defended tidal levels, a full topographic survey to mAOD is not required based on the nature of the scheme given the comparison of flood heights vs the structures relative to ordnance datum can still be undertaken.



Based on ground truths, the site is at the higher end of the East Street & High Street "gyratory" above the 2.7mAOD OS to the west and the Ground FFL itself is raised with a step up by c.200mm

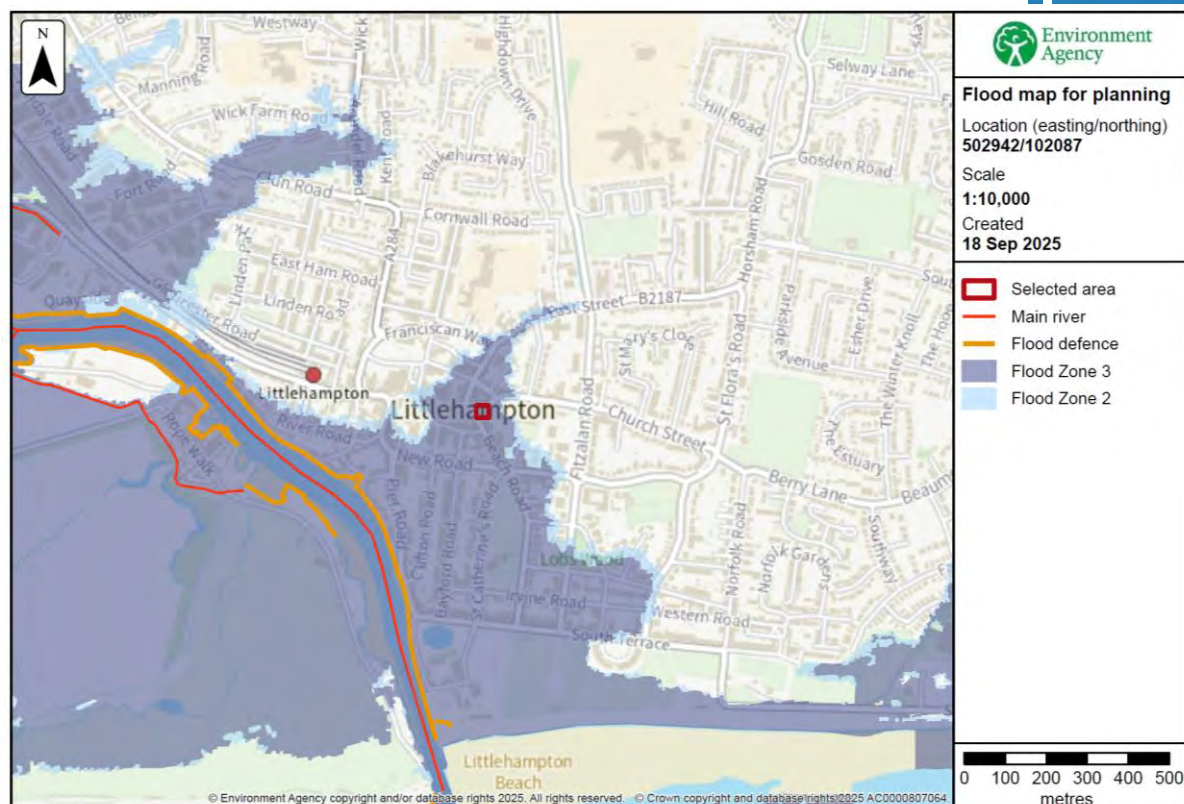
Hence **Ground FFL of 2.9mAOD** (low estimate for precautionary approach)

- Ground FFL of 2.9mAOD
- Mezzanine: 5.9mAOD
- First FFL: 6.55mAOD



3.2 Summary of Flood Risks Posed to and From Site and Scheme

Flood Sources	Site Status	Comment on flood risk posed to / from the development
Fluvial / Tidal	The site is in FZ3 Tidal Defended	All site users access to above the undefended 0.5% AEP with climate change No ground floor residential Tidal warning a number of days for the catastrophic flood event The access / egress to 100% unrestricted FZ1 within c. 30m
Surface Water	• High – No flooding at the site or adjacent highways • Medium - No flooding at the site; patchy flooding on High Street • Low - each year, the area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%) : Partial flooding on the site	Only 1in1000year surface water flood reaches the site No ground floor residential Flood resilience to over 900mm is appropriate Retroactive flood resilience and resistance on ground floor as appropriate Scheme will not increase the flood risk posed from this source: retroactive SUDS are appropriate Scheme will not obstruct any surface water flow pathways or ponding areas
Groundwater	Site is not within an area of high potential for elevated groundwater flooding (less than 25% zone)	Scheme will not increase the risk posed to or from groundwater Suitable waterproofing of ground and pool structure below ground
Artificial Sources	Site is not within EA general Reservoir Flood Warning area No other artificial sources with likely flood flowpaths that could reach the site	Low Risk
Climate Change	Not within a fluvial or tidal climate change extent 40% can be used in the SUDS storage calculations	Development will manage the peak flow and volume of discharge from the site Low risk posed to and from the development



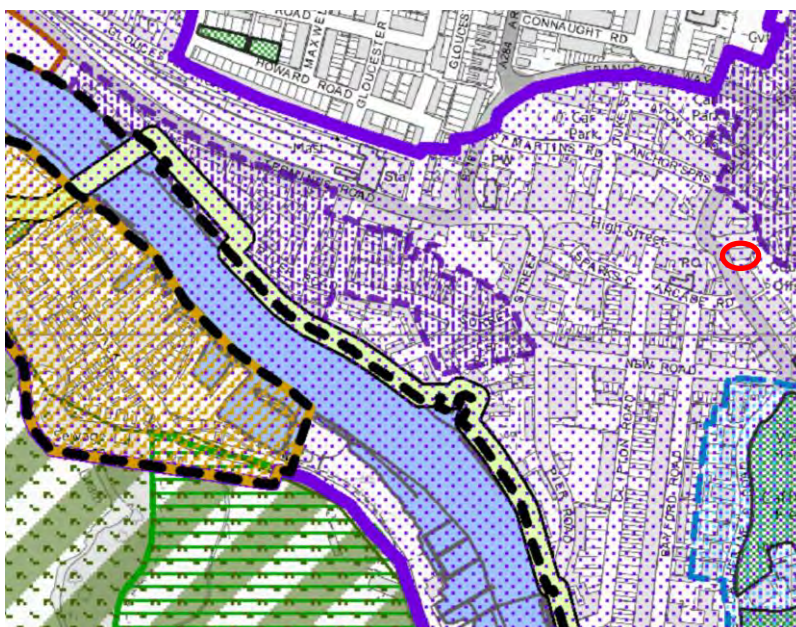
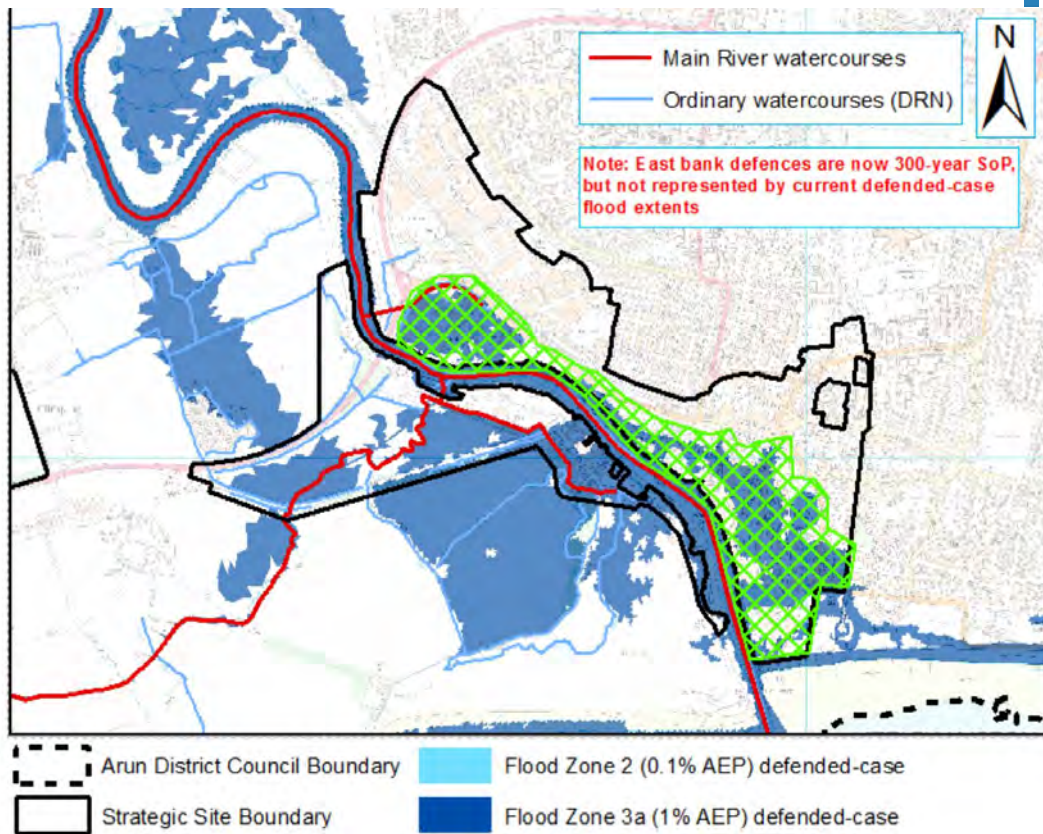
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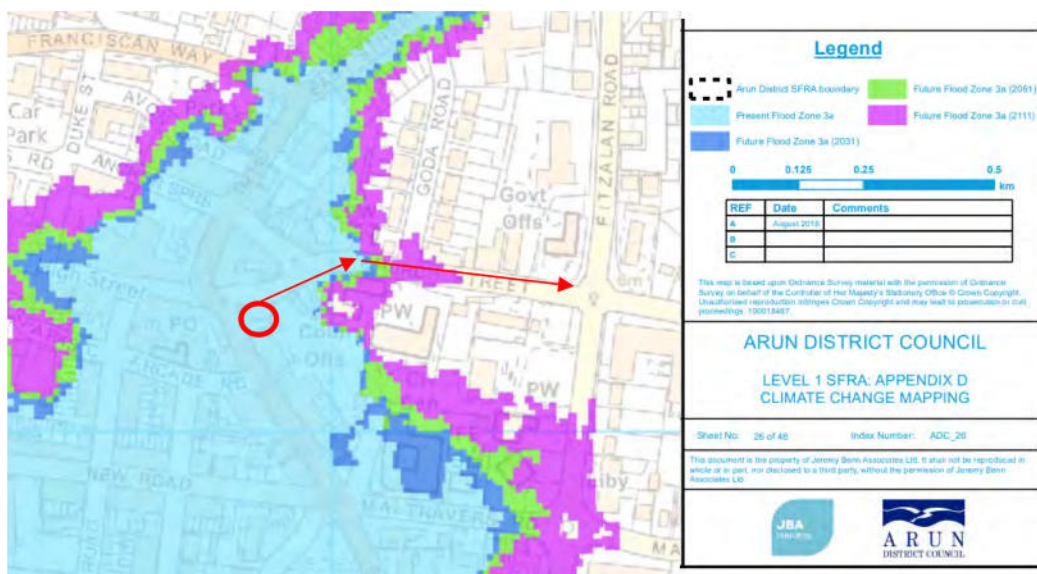
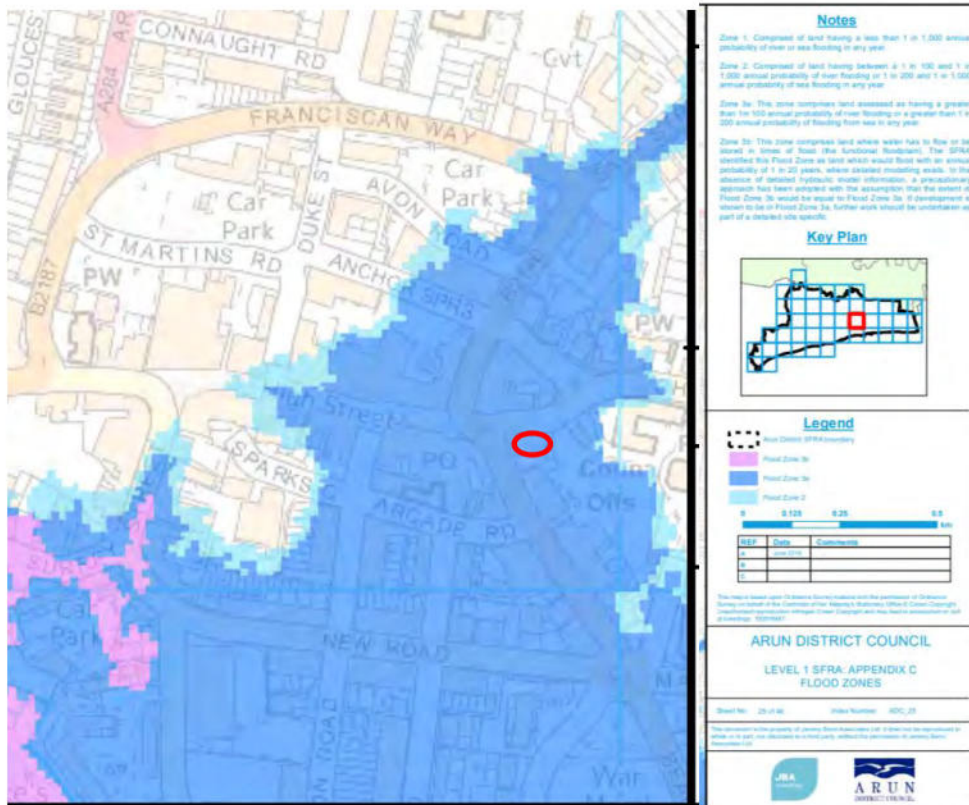
3.3 Summary of SFRA, Scheme Suitability vs Sequential / Exception Policy

It is acknowledged that the site is in FZ3 tidal defended and in an area surrounded by medium – higher surface water risk.

The details below use proper flood risk assessment, site and scheme specifically and operationally, to assess could the future site users live here safely, for the lifetime of the scheme.

- **No ground floor residential is proposed**
- Site is in the identified Littlehampton Economic Growth Area (LEGA) allocated for residential
- SFRA and Sequential & Exception Policy Documents acknowledge
 - o Site is defended to at least a 300year standard (principal tidal)
 - o Current policy modelling has not been updated to reflect the defended nature of the floodplain (in fact the EA suspended showing defended areas on their web based flood maps in 2022)
- Local Plan Policies map also confirm
 - o Site is outside of the conservation areas hence greater flexibility for maximising residential gain is to be prioritised in this location
- Not in present day high risk fluvial
- In defended tidal future
- At far edge of the breach flood extents, including for climate change: adjacent to zero depth breach
- Not in any FZ3b / functional floodplain even for combined future tidal and fluvial: critical



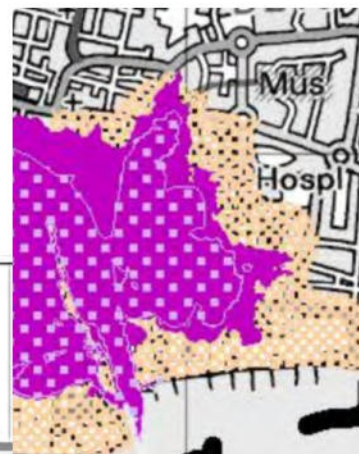




Far extent of
the unlikely
event of a
breach flood
extent

Defended SFRA
Site is on the far edge of official **RESIDUAL DEFENDED ZONE**

See EA data section for 2025 Undefended Data



Arun District Council SFRA

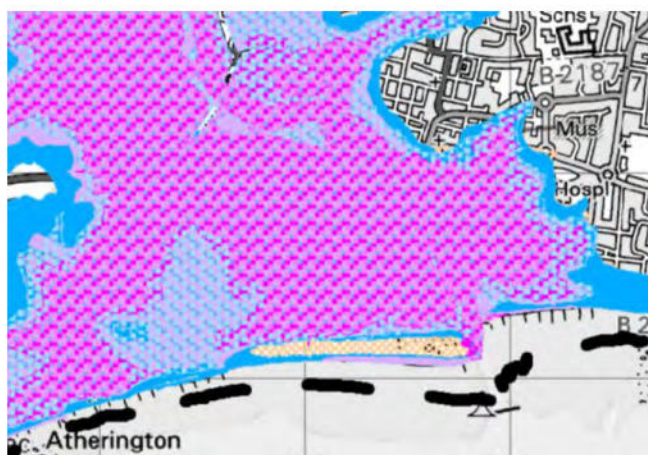
-T - Actual and Residual Flooding from the Sea



CAPITA SYMONDS

Legend

- Arun District Boundary
- Actual Defended Tidal Flood Risk (0.5% AEP, 2006)
- Residual Defended Tidal Flood Risk (0.1% AEP, 2006)
- Coastal Risk Area



Arun District Council SFRA

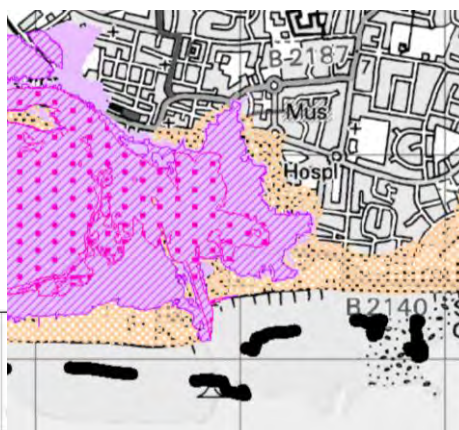
Map C2-T - Tidal Flood Zones with Climate Change



CAPITA SYMONDS

Legend

- Arun District Boundary
- Coastal Risk Area
- Tidal Flood Zone 0.5% (2006)
- Tidal Flood Zone 0.1% (2006)
- Tidal Flood Zone 0.5% (2050)
- Tidal Flood Zone 0.1% (2050)



3.4 Tidal / Fluvial Floodplain EA acknowledged residual hazard

This is recognised approved by the EA residual hazard floodplain as it relates to a defended and unlikely event of a breach which is by definition an extreme event.

But this is not to reduce the importance of the future impacts of climate change flooding at the site and the surrounding area.

The process of flood risk assessment must be site and scheme specific.

This site has the benefit of being on the very edge of the extreme events.

Using a combination of policy and technical approved measures and operation, it is considered that the site could operate safely given all site users will have access to an upper level and immediate access up the hill to unrestricted FZ1.

There are no residential uses on the ground floor.

Only in an extreme event would the site be flooded and this is tidal and hence there is very early meteorological based warning.

The bespoke flood response and management plan is appropriate due to the principal tidal nature of the flooding which means even combined fluvial extreme events benefit from meteorologically advanced flood warning and very, very specifically the site is at the very far extent of this extreme flood extent, which means this site is in an area only to be inundated in a maximum extreme event and hence is the last to be inundated.

[See new section on EA's detailed data below]

The EA have been accepting of a pragmatic approach to the flood zone setting and design of "More Vulnerable" uses i.e. residential

- Sequentially locate furthest away from the flood source
- Policy compliant "No residential uses on the ground floor hence no bedrooms on the ground floor"

3.5 EA Letter HA/2025/127015/01-L01 and Updated Data Assessment

The EA's letter required us to use their new updated Product 4 site specific data for the site. This was procured and is now the basis of this updated assessment. See Appendix A.

The EA stated that we:

"should use the information [Product 4 flood data] in the pack to compare the modelled design flood level (undefended 0.5% AEP with climate change) with finished floor levels of sleeping accommodation ground

floor).

The Product 4 suggests:

Product 4 Flood Risk Data Requested by: George Locke

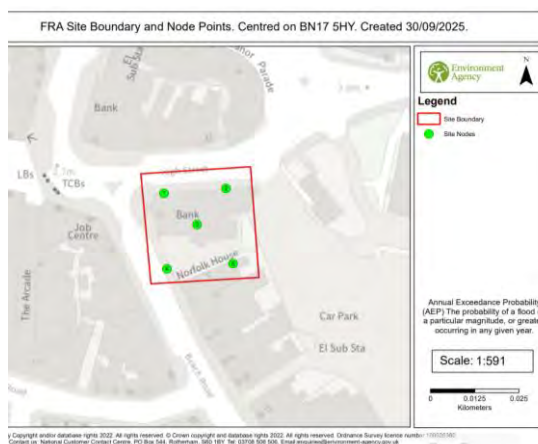
Site: 502943,102087

Table 1: Water Levels: Tidal Undefended

Node Ref	Eastings	Northings	Modelled Flood Levels in Metres AOD			
			0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	502933	102096	3.73	4.38	4.93	4.05
2	502950	102097	3.73	4.34	4.93	4.05
3	502942	102087	3.73	4.34	4.93	4.05
4	502934	102075	3.73	4.34	4.93	4.05
5	502952	102076	3.73	4.34	4.93	4.05

Table 2: Water Levels: Tidal Defended

Node Ref	Eastings	Northings	Modelled Flood Levels in Metres AOD			
			0.5%	0.5% (2065)*	0.5% (2115)*	0.1%
1	502933	102096	-	-	3.63	2.93
2	502950	102097	-	-	3.79	2.93
3	502942	102087	-	-	3.66	2.93
4	502934	102075	-	-	3.62	2.93
5	502952	102076	-	-	3.55	2.93



Undefended 0.5% AEP with climate change = 4.93mAOD

The ground FFL = 2.9mAOD

The mezzanine access is at 5.9mAOD

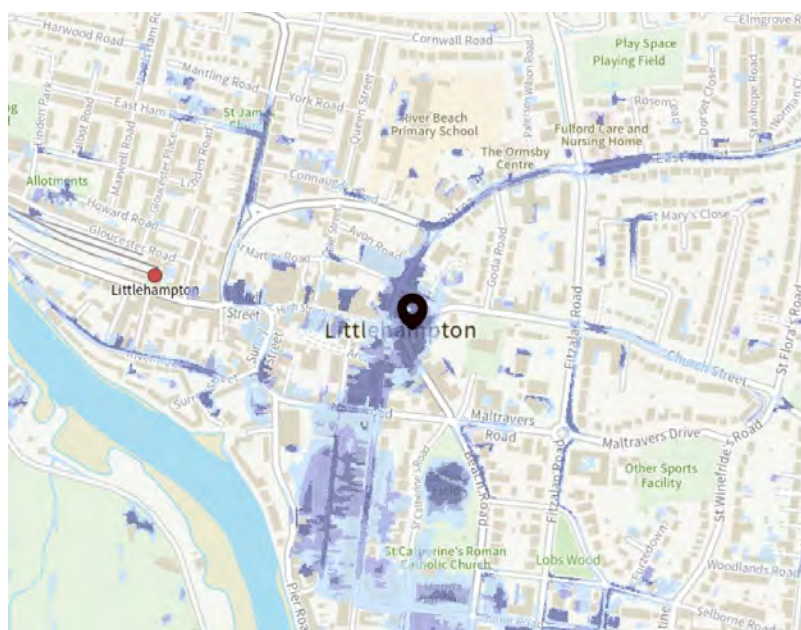
The first floor access is at 6.55mAOD

The lowest habitable use is set at the first floor at 6.55mAOD

- The EA stated their design flood level for extreme events including future climate change would be: 4.93mAOD
- The lowest habitable will be at 6.55mAOD and this is 1.62m higher than the worse case undefended and defended flood extents

3.6 EA 2026 Surface Water

- o Critical: access & egress can be immediately to 100% Flood Zone 1 and to unrestricted FZ1 to the north and east
- o Property and area of works in 1in1000year not present day
- o Approach: additional resilience and resistance measures



Surface water map

Yearly chance of flooding

- ☒ Flood area (extent)

- High chance
- Medium chance
- Low chance

Yearly chance of flooding between 2040 and 2060

- ☐ Flood area (extent)

Map details

- ☒ Show flooding
- ☒ Selected address



3.7 Geology / Hydrogeology

Based on BGS mapping, surrounding borehole records and the council SFRA, the site is underlain by:

Bedrock: Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation – Chalk

Superficial Deposits: Raised Beach Deposits, 1 - Sand and gravel

Stratum and Drainage / SUDS

Given the main Bedrock is Chalk and gravel superficial deposits, infiltration would normally be preferred.

However, the site is relatively very small and is constrained by the majority existing footprint and

immediately adjacent properties / highways such that it is not feasible to meet the easement requirements for the location of a soakaway i.e. 5.0m from the nearest footprint and 3.0m from the site boundary.

Therefore, given the site and size of the scheme, no formal infiltration measures can be used and no BRE365 Testing is required at the planning stage.

There is an existing viable discharge method as the existing property drains using gravity to the sewers.

The scheme will reduce the peak discharge using Source Control SUDS.

3.8 Existing Drainage

The site is an existing building with connections to the adjacent sewers in High Street / Whytecliffe Road South.

The existing porous / permeable areas are to be retained.

There is no extension of footprint at the ground floor level.

There is no evidence of any existing SUDS.

The site currently discharges 100% unattenuated by a combination of:

- Low Order and High Order Storms: roof with RWP's direct to sewer

The scheme does not need to and indeed cannot alter the connections.

See Design Summary Below

3.9 Summary of Flood Design Input / Suitability of Site

- No ground floor habitable uses
- The EA stated their design flood level for extreme events including future climate change would be: 4.93mAOD
- The lowest habitable will be 1.62m higher than the worse case undefended and defended flood extents
- Existing thresholds / ground FFL already raised by c. 150mm - 200mm
- Tidal defended (combined fluvial / setting) residual hazard setting
 - o Supported by SFRA that area benefits from 300year standard of protection as site is on the eastern bank
- Site is at the far extent of extreme events
- Access to immediate unrestricted FZ1
- Scheme provides refuge at upper levels for all site users
- Advanced number of days meteorological flood warning
- Bespoke flood response management plan which addresses all sources of flooding
- Flood resilience and resistance
- Scheme results in a better protected and flood future-proofed property than existing and reduces flood risk overall
- No extension at ground floor: no increase in impermeable areas

4.0 Scheme and Integrated SUDS Strategy

4.1 Existing site

The scheme is a conversion; no increase in footprint at the ground floor; the site is defined by the site boundary / 95% impermeable footprint and hardstanding with a parcel of vegetated area (c. 5%).

4.2 Proposed Development

The scheme comprises conversion of the existing property from Class E to a mixed Class E and Residential Use

- **No ground floor habitable uses**
- **The EA stated their design flood level for extreme events including future climate change would be: 4.93mAOD**
- **The lowest habitable is at 6.55mAOD and will be 1.62m higher than the worse case undefended and defended flood extents**

All existing “green” porous and permeable areas are to be retained and unchanged.

Porous and permeable areas are to be maximised where feasible.

The most pragmatic and effective approach is for ground rain garden planters as shown in the drawings and any other changes to hard surfacing to be built using the EA’s specification for permeable paving with granular subbase for storage where feasible.

4.3 SUDS Assessment and Specifications

There is to be no increase in impermeable areas and the area of porous on site is to be 100% retained. Formal infiltration is not feasible due to the site constraints.

There is no river or drainage ditch to discharge to (for completeness).

There is no flat roof for incorporation of a sedum or blue roof.

It is a majority existing structure and substructure with pitched roofs hence additional weight at height would increase the embodied carbon due to the need to reinforce the structure.

The most sustainable approach is a re-use of the existing system with betterment i.e. complemented with additional Source Control SUDS storage.

The existing connections will be retained:

- This is a very important approach to **ensure embodied carbon is reduced**
- There is anticipated some minor pipe extensions and changes to the manholes connections
 - Importantly: the final discharge arrangement will not be altered by the scheme other than Source Control SUDS proposed will have an overflow to sewer
- Re-use: This is the most sustainable approach to re-use the existing infrastructure (manholes, pipes etc subject to enabling works investigations as standard) where feasible and extend where necessary with SUDS betterment
- New Rain Water Pipes (RWP) where required

SUDS that are suitable for this constrained with no change to the ground floor footprint and no change to the surfacing at the site as an existing site surrounded by properties and highways:

- Where there is easy access for maintenance: RWP’s can connect to rain planter storage areas
 - o No removal of existing porous / permeable areas so no increase in impermeable areas
 - o Rain garden planted bed storage areas to have reservoir storage void (specifications are off the shelf and can be confirmed at detailed design stage)
 - o Where hardstanding surfaces are to be changed, these will be prioritised to be permeable surfaces with an extra subbase for surface water storage

- o No change to gravity drainage that is operating as existing
- o All inverts to be confirmed

Additional formal extensive SUDS would not be commensurate with the scale and sensitivity of the scheme and indeed would not be feasible.

- Incorporate rain garden planted beds with storage where feasible
- Maximise where feasible other porous planting areas and new permeable areas

4.4 Flood resilience for converted commercial ground floor

The following flood resilient measures will be incorporated as necessary:

- Electrics to be installed top-down where feasible
- Non-return valves as standard
- Any new waterproofing to be installed to above ground level as appropriate
- Plasterboards will be installed in horizontal sheets on ground & basement rather than conventional vertical installation methods to minimise the amount of plasterboard that could be damaged in a flood event
- Wall sockets will be raised to as high as is feasible and practicable in order to minimise damage if flood waters inundate the property
- Any wood fixings will be robust and/or protected by suitable coatings in order to minimise damage during a flood event
- Only if required: the concrete sub floor will likely be laid to fall to drains or gullies which will remove any build-up of ground water to a sump pump where it will be pumped into the mains sewer. This pump will be fitted with a non-return valve to prevent water backing up into the property should the mains sewer become full

5.0 Flood Response and Management Strategy: Purpose

5.1 Purpose

- Identify the range of potential flood events
- Provide appropriate response (refuge or evacuation)
- Identify response management
- Identify responsibilities
- Provide likely safe flood evacuation route
- Stipulate updates and monitoring of the plan
- Provide a bespoke and easy to follow Property Notice to be used within the property as part of the general Health & Safety

5.2 Estimated Warning Time

The tidal flooding at the site is due to only extreme events; overtopping of the sea defences (though their height is above the extreme 1in1000year height) and an unlikely event of a breach in the defences (failure / collapse of the sea defences).

Given this is a tidal flood setting, this would only occur in extreme and catastrophic meteorological / weather events which would be easily forecast and hence there would be a number of days advanced warning that a catastrophe would occur and hence most of Littlehampton and the south coast would have been evacuated before the event.

Regardless, this FEP is a precaution.

5.3 Refuge and Evacuation

- a. The landlord / agent and each person in the building should be told to sign up to the EA Flood Warning Scheme
- b. There is good tidal meteorological advanced flood warning
- c. Evacuation is always the preferred response: flooding in this area during an extreme event is no necessarily a long event as it is tidal hence it will recede with the tide (subject to surge conditions)
- d. All site users will have access to floor levels as suitable emergency refuge above the extreme tidal and breach flood extents: emergency option only but this is acceptable

Range of flood events and evacuation route

Flood evacuation is always preferred.

This route is the recommended route in all tidal / flood warnings as it is immediately away from the flood source and takes the lowest hazard route for all scenarios: breach / overtopping likely at the site based on the data available.

If upon advice from the EA early warning of a potential overtopping from the sea is provided, which is also the most likely situation for the unlikely event of a breach event, the preferred evacuation route should be:

- Immediately north AND immediately EAST away from the flood flow pathways

The option should be chosen based on advice of the emergency services at the time of the flood event.

- Head north then immediately east on Church Street
- Immediately in to FZ1
- Continue to Fitzalan Road and head north
- Only if instructed to do so by Emergency Services

Community Safety Planning and Arundel Council to advise and confirm.



Critical that evacuation route is east then north, not immediately north based on the EA's data



5.4 Exception and Sequential Tests

The site is an existing building.

The change of use is specific to the site hence the sequential test does not apply; this is an appeal case defence upheld by inspectors:

- The site is in the Local Plan designated and supported Littlehampton Economic Growth Area (LEGA) allocated for residential
- It is considered in principle the sequential test is established as passed
- Sequentially, the site is at the furthest extent of the extreme floodplain
- There are no ground floor habitable uses proposed
- There are sites to the south and west that are in higher flood risk
- There are many sites within the LEGA that are in higher flood risk
- There are potentially sites with existing buildings in the LEGA that are in lower flood risk, but, the point of the LEGA is to optimise residential dwellings in this central area of Littlehampton
- A analysis of every single property in a lower flood risk within the LEGA is not appropriate for the sequential test for an area designated for flood risk because it does not make sense to do so as the conclusion is already known, but it does not inform the suitability of this “plot” within the LEGA as being sequentially preferable (this is a grey area of the sequential test approach)
- The correct approach is to consider the site and scheme specifics in the Exception Test approach:
- Exception Test:
 - o This assessment is itself the key 2nd part of the Exception Test
 - o The scheme is considered to pass the Exception Test by this report for the reasons cited in this assessment, that the scheme has site and scheme specifics that make it appropriate for the designation and use as residential
 - o No ground floor habitable uses
 - o The EA stated their design flood level for extreme events including future climate change would be: 4.93mAOD
 - o The lowest habitable is at 6.55mAOD and will be 1.62m higher than the worse case undefended and defended flood extents

6.0 Summary

The scheme will be flood future-proofed for the lifetime of the scheme.

- No ground floor habitable uses
- The EA stated their design flood level for extreme events including future climate change would be: 4.93mAOD

- The lowest habitable is at 6.55mAOD and will be 1.62m higher than the worse case undefended and defended flood extents
- No increase in impermeable areas
- No loss of existing porous areas

The scheme can include informal Source Control SUDS as necessary through the detailed design stages:

Rain storage planters with void storage with direct connection from existing / new RWP's in areas that are accessible if feasible

To retain Low order storms and have overflow to the sewer for higher order storms

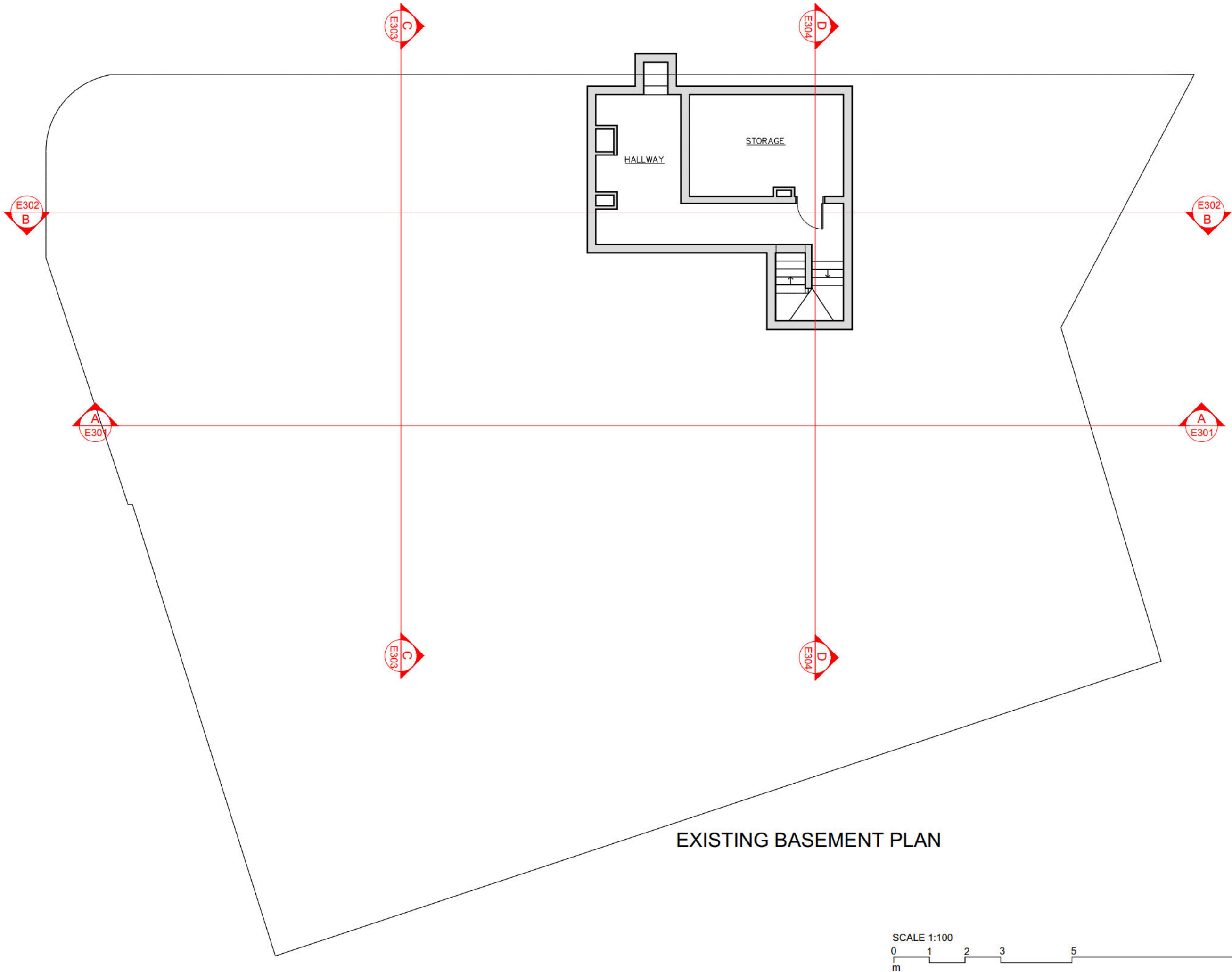
- No further calculations are required
- The scheme includes full height flood resilience

The scheme will result in a better flood protected and lifetime flood future-proofed property than existing with SUDS betterment.

Based on the likely flooding risk, it is considered that the proposed development can be constructed and operated safely in flood risk terms, without increasing flood risk elsewhere and is therefore appropriate development in accordance with the NPPF/PPG.

APPENDICES

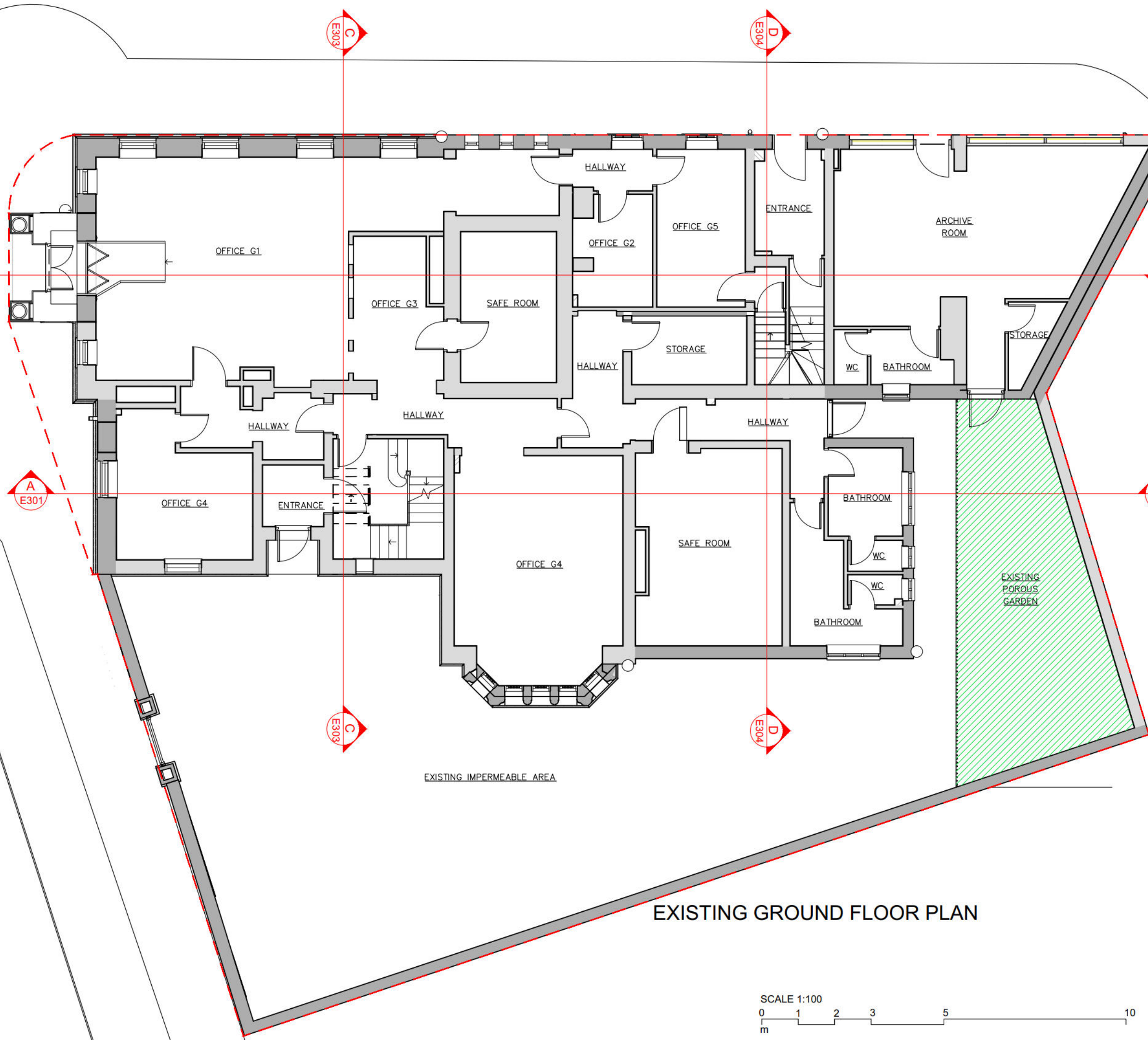
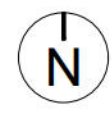
APPENDIX A



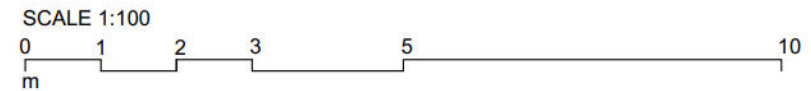
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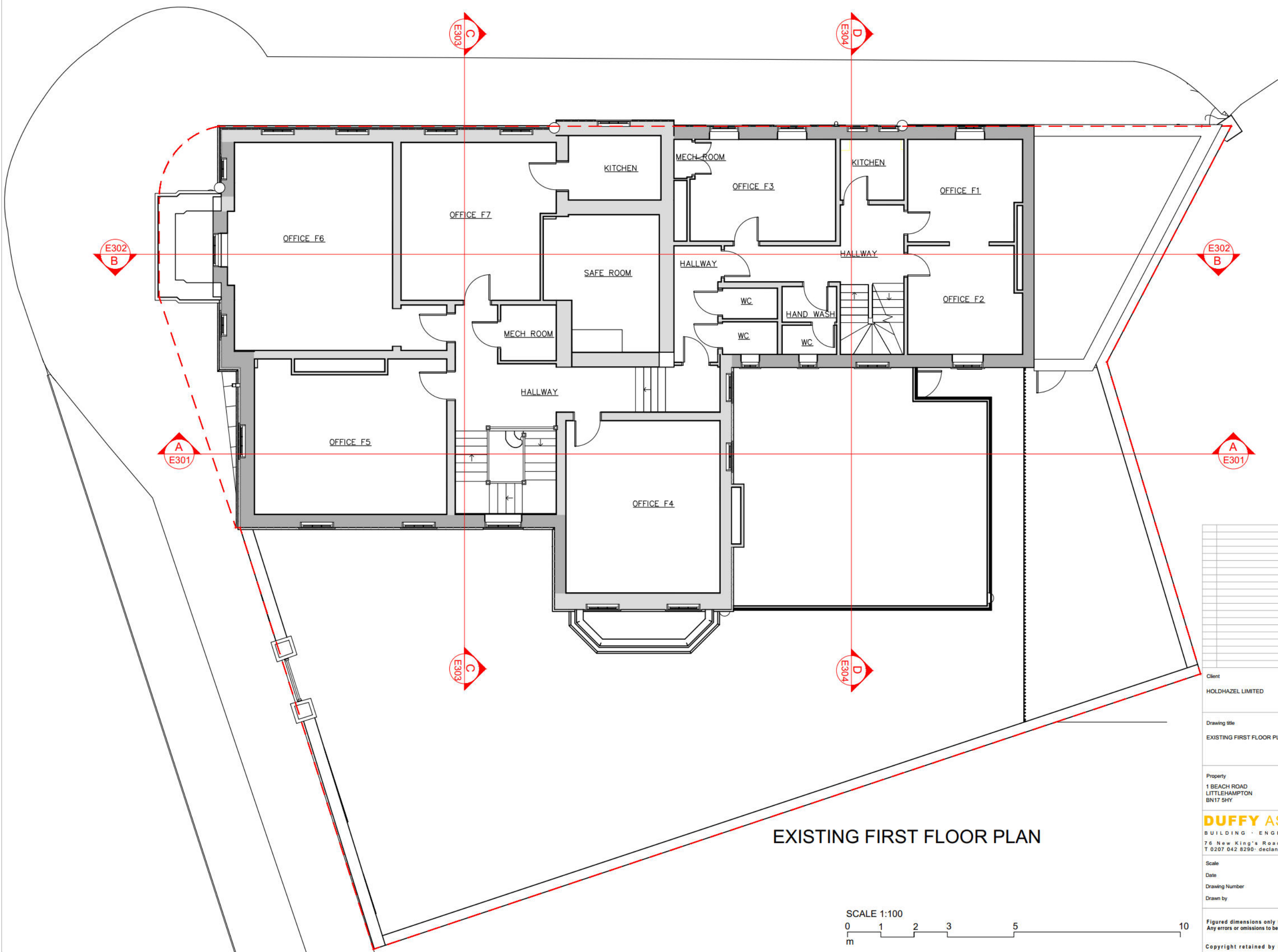
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EXISTING GROUND FLOOR PLAN



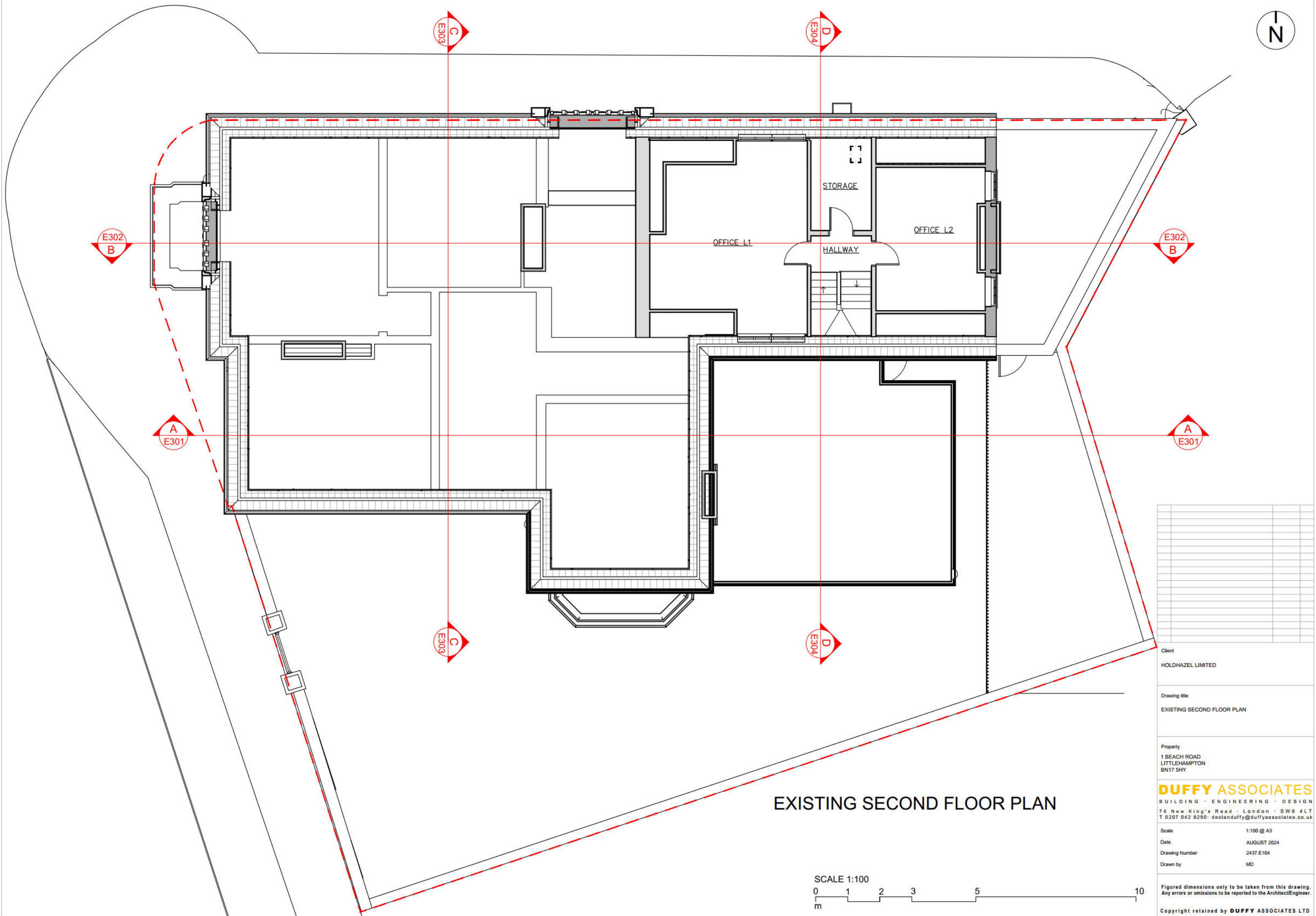
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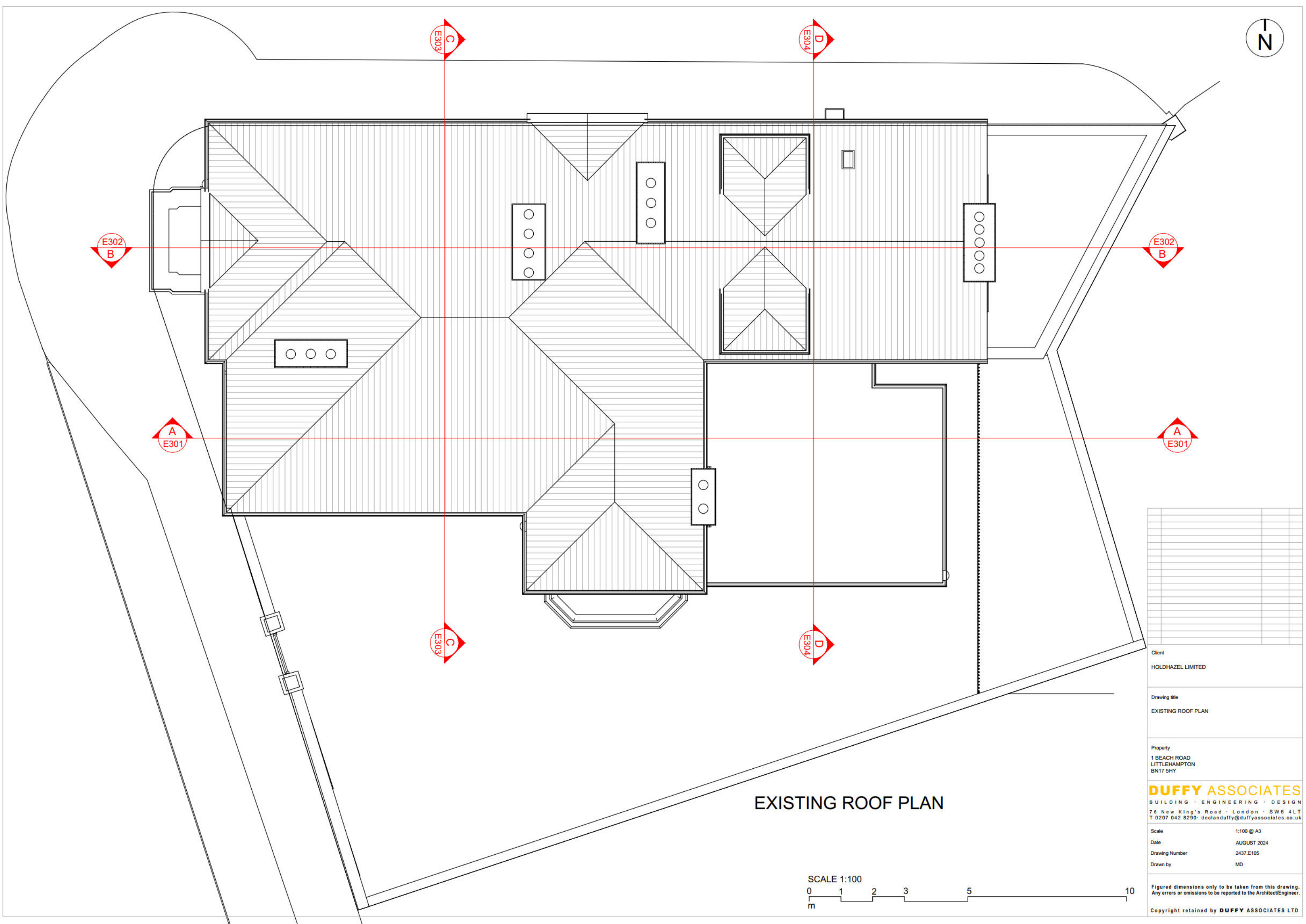
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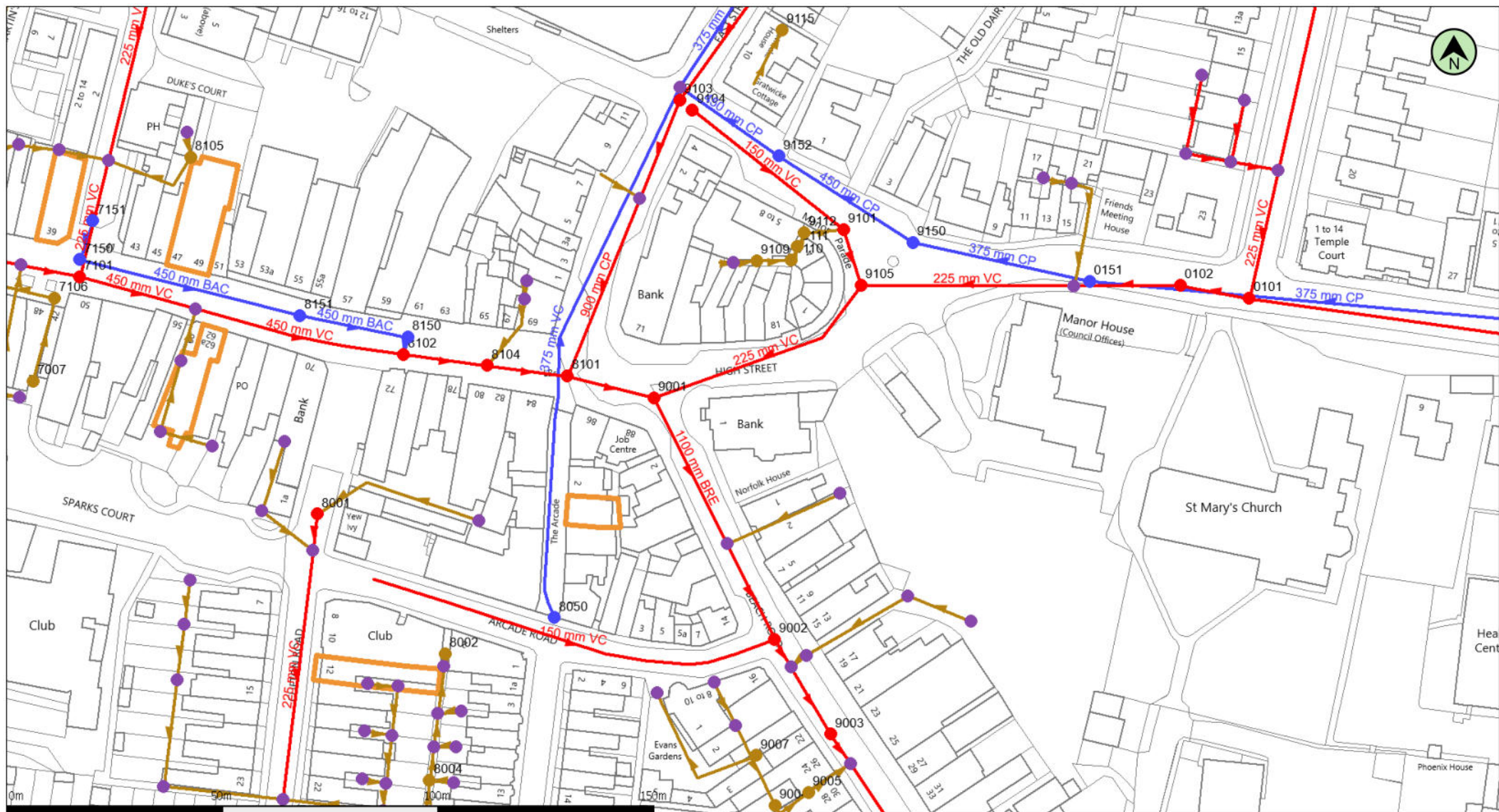
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Map Centre: 502940,102093

Data updated: 24/11/25

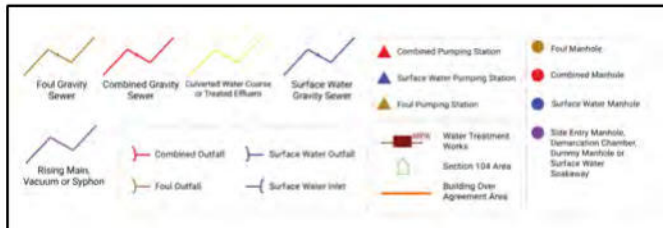
Our Ref: 1952097 - 1

Wastewater Plan A4
Powered by digdat

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

WARNING: BAC pipes are constructed of Bonded Asbestos Cement.

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



glockenotk@yahoo.co.uk

1 Beach Road



Flood risk assessment data



Location of site: 502942 / 102087 (shown as easting and northing coordinates)

Document created on: 18 September 2025

This information was previously known as a product 4.

Customer reference number: PUD744FAFMYK/ EIR2025/30482

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- past floods
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Surface water and other sources of flooding

When using the surface water map on the [check your long term flood risk service](#) the following considerations apply:

- surface water extents are suitable for use in planning
- surface water climate change scenarios may help to inform risk assessments, but the available data fall short of what is required to assess planned development
- surface water depth information should not be used for planning purposes

To find out about other factors that might affect the flood risk of this location, you should also check:

- [reservoir flood risk](#)
- groundwater flood risk - you could use the [British Geological Survey groundwater flooding data](#), [groundwater: current status and flood risk](#) and the guide on [mining and groundwater constraints for development](#) - further information may be available from the lead local flood authority (LLFA)
- your local planning authority's SFRA, which includes future flood risk

Your Lead Local Flood Authority is West Sussex County.

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Arun Coastal Model, 2012

Scenario(s): Defended tidal, defences removed tidal, defended climate change tidal, defences removed climate change tidal

Date: 20 August 2012

Model name: Littlehampton Update 2017 - River Arun Modelling Study

Scenario(s): Defended tidal, defended climate change tidal

Date: 1 March 2017

These models contain the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

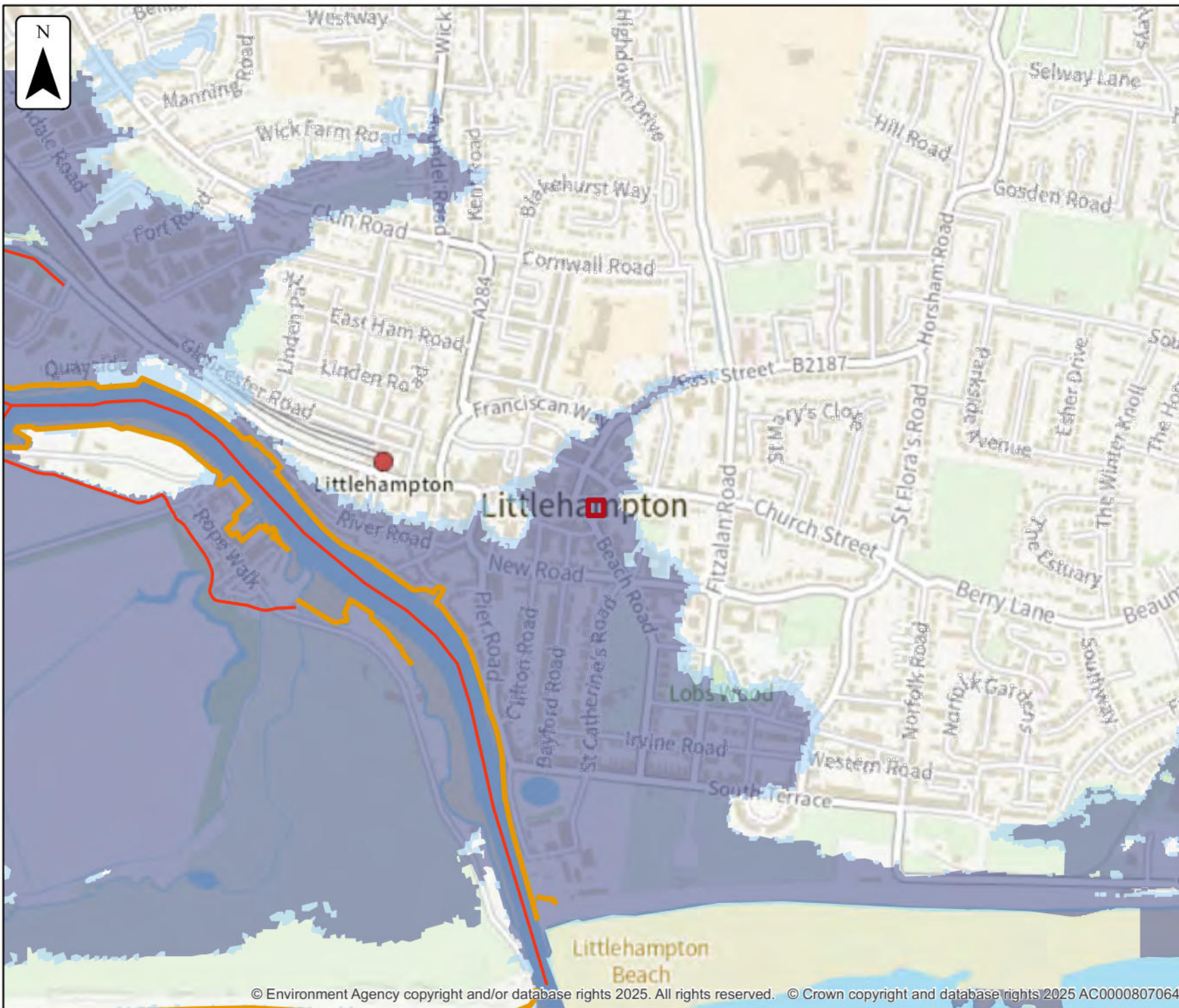
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change



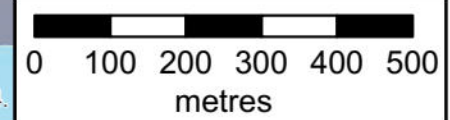
Flood map for planning

Location (easting/northing)
502942/102087

Scale
1:10,000

Created
18 Sep 2025

-  Selected area
-  Main river
-  Flood defence
-  Flood Zone 3
-  Flood Zone 2



Past floods

Past flood events included in this document

The recorded flood outlines included in this document are for areas of land local to your site location that have been flooded by any of these sources:

- ephemeral water
- main rivers
- ordinary watercourses
- the sea
- unknown

Data limitations

The outlines do not include flooding from:

- drainage where rainfall has led to surface water ponding or overland runoff
- artificial, water-bearing sewer, water supply and wastewater treatment pipelines

Changes to flood defences

The defences (also known as assets) that were in place may also have changed. For example, assets may have been built more recently than the last recorded flood outline.

What the recorded flood outlines dataset is

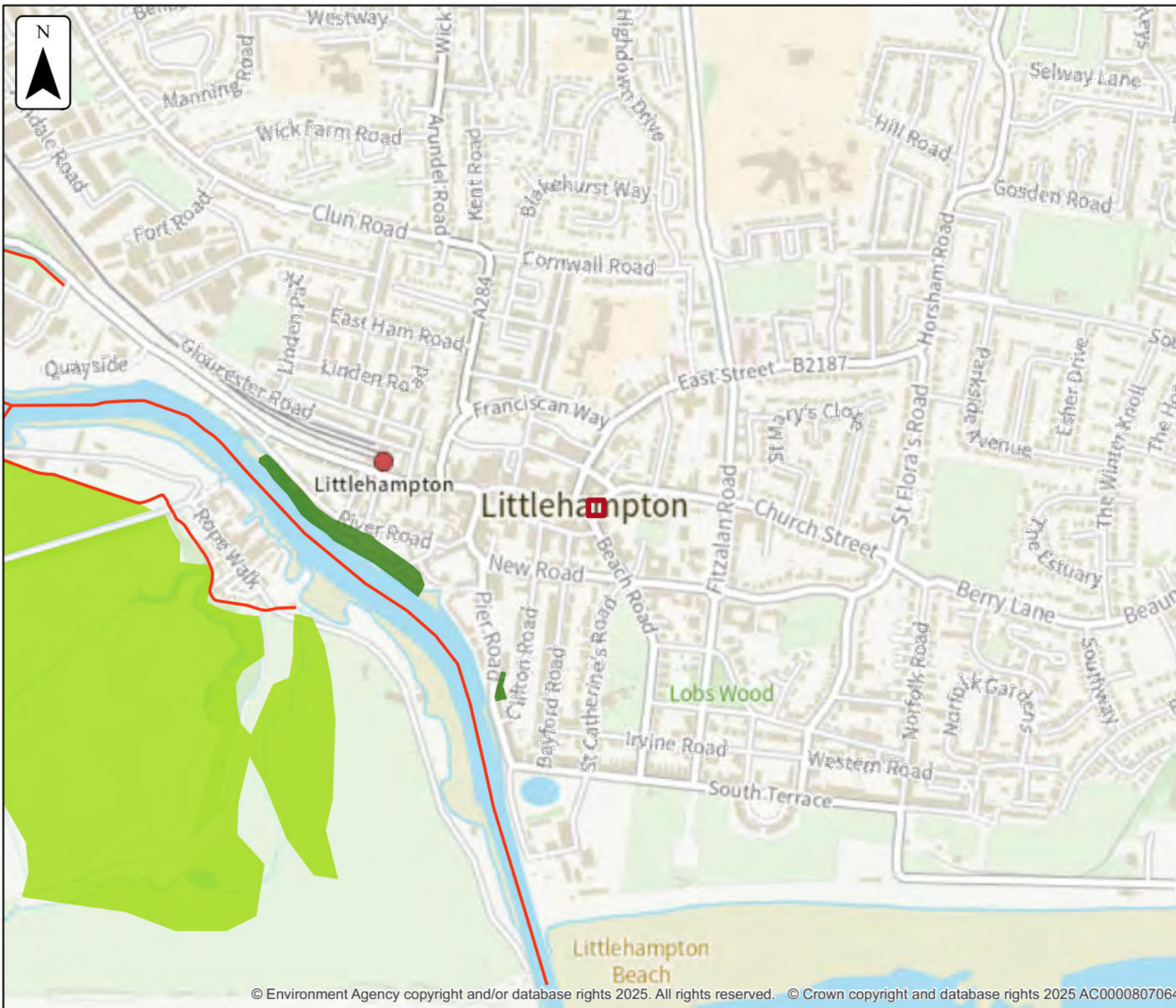
The recorded flood outlines are a geographical information system (GIS) data layer that show our verified records of areas that have flooded in the past from:

- rivers
- the sea
- groundwater
- surface water

[Download the complete recorded flood outlines dataset](#), which includes data quality flags for outlines recorded after April 2020. This indicates the confidence we have in an outline.

Get flood information from other organisations

Contact West Sussex County Lead Local Flood Authority (LLFA) and your drainage board to get information about past flooding caused by surface water or drainage systems.



Past floods

Location (easting/northing)
502942/102087

Scale
1:10,000

Created
18 Sep 2025

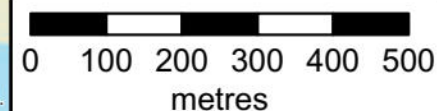
 Selected area

 Main river

Date of flood event

 February, 2020

 February, 1983



Data on past flood events

Start date	End date	Source of flood	Cause of flood	Affects location
1 February 2020	1 February 2020	sea	overtopping of defences	No
2 February 1983	2 February 1983	main river	overtopping of defences	No

Flood defences and attributes

The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is in mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



Flood defences

Location (easting/northing)
502942/102087

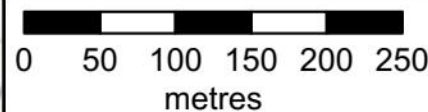
Scale

1:5,000

Created

18 Sep 2025

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	183668	Wall	25		3.47	3.41	
2	154859	Wall	300		4.80	4.80	4.80
3	446218	Wall	300		4.80	4.80	4.80
4	154862	Wall	75		3.39	3.94	
5	11139	Embankment	50		2.26	3.77	
6	483081	Wall	75		3.39	3.94	3.39
7	483074	Wall	75		4.30	4.32	4.30
8	156334	Wall	300		4.76	4.80	4.80

Any blank cells show where a particular value has not been recorded for an asset.

Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

Modelled scenarios

The following scenarios are included:

- Defended modelled tidal: risk of flooding from the sea where there are flood defences
- Defences removed modelled tidal: risk of flooding from the sea where flood defences have been removed
- Defended climate change modelled tidal: risk of flooding from the sea where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled tidal: risk of flooding from the sea where flood defences have been removed, including estimated impact of climate change

Modelled Flood Outlines (Defended Tidal). Centred on BN17 5HY. Created 30/09/2025.



Legend



Site Boundary



0.5% AEP (2012) (Defended)

0.5% AEP (2065) (Defended)

<VALUE>



0.000000154 - 10.82115459

0.5% AEP (2115) (Defended)

<VALUE>



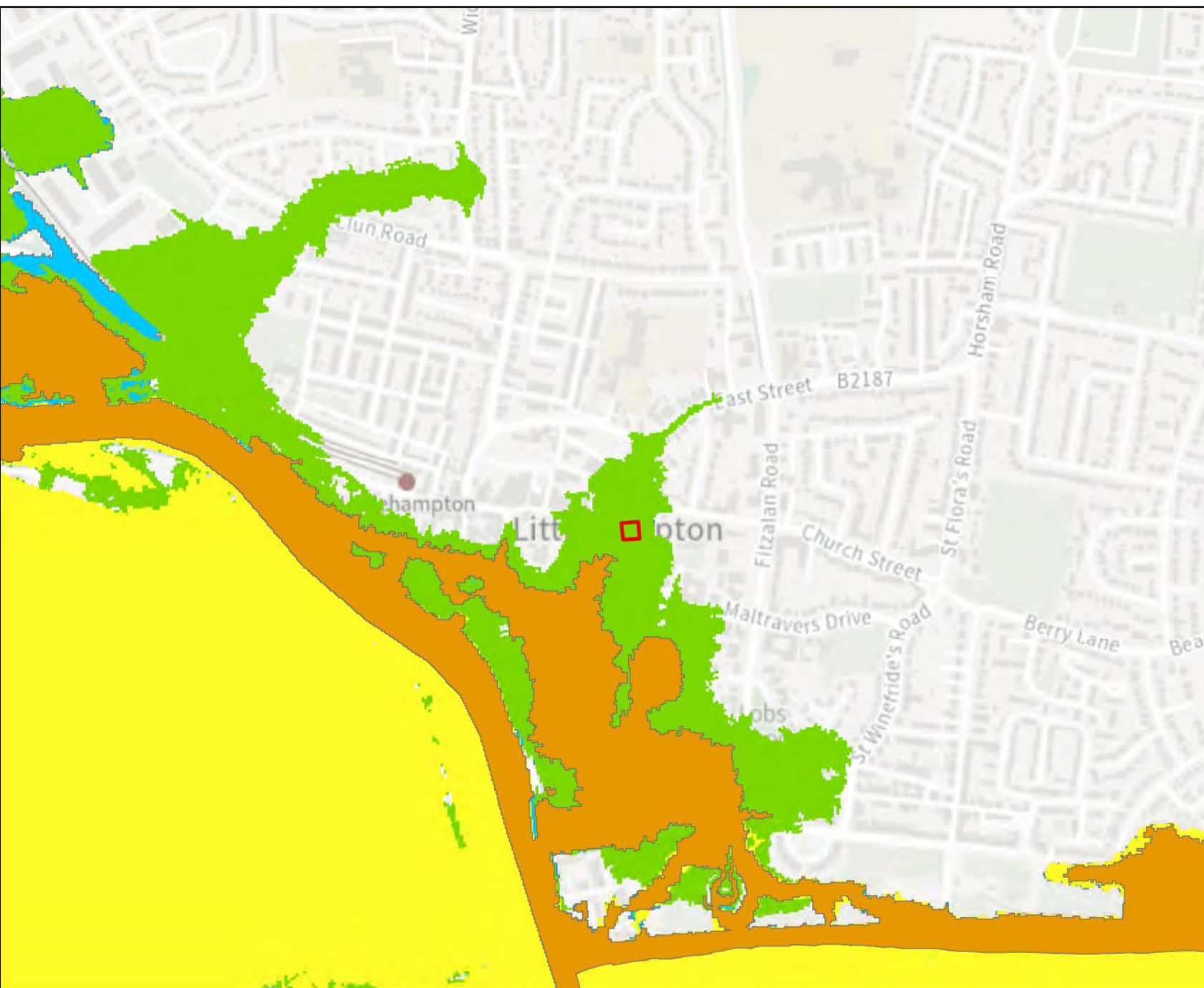
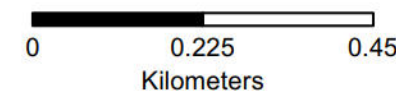
0.000000641 - 11.24515533



0.1% AEP (2012) (Defended)

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:10,000



Modelled Flood Outlines (Un defended Tidal). Centred on BN17 5HY. Created 30/09/2025.

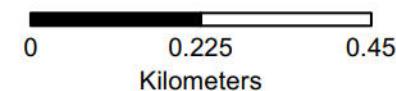


Legend

-  Site Boundary
-  0.5% AEP (2012) (Un defended)
-  0.5% AEP (2070) (Un defended)
-  0.5% AEP (2115) (Un defended)
-  0.1% AEP (2012) (Un defended)

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:10,000



FRA Site Boundary and Node Points. Centred on BN17 5HY. Created 30/09/2025.



Legend

 Site Boundary

 Site Nodes

Annual Exceedance Probability (AEP) The probability of a flood of a particular magnitude, or greater occurring in any given year.

Scale: 1:591


0 0.0125 0.025
Kilometers

Product 4 Flood Risk Data Requested by: George Locke
Site: 502943,102087
Table 1: Water Levels: Tidal Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
	Eastings	Northings	Undefended Annual Exceedance Probability			
			0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	502933	102096	3.73	4.38	4.93	4.05
2	502950	102097	3.73	4.34	4.93	4.05
3	502942	102087	3.73	4.34	4.93	4.05
4	502934	102075	3.73	4.34	4.93	4.05
5	502952	102076	3.73	4.34	4.93	4.05

Table 2: Water Levels: Tidal Defended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
	Eastings	Northings	Defended Annual Exceedance Probability			
			0.5%	0.5% (2065)*	0.5% (2115)*	0.1%
1	502933	102096	-	-	3.63	2.93
2	502950	102097	-	-	3.79	2.93
3	502942	102087	-	-	3.66	2.93
4	502934	102075	-	-	3.62	2.93
5	502952	102076	-	-	3.55	2.93

Table 3: Water Depths: Tidal Undefended

Node Ref	NGR		Modelled Flood Depths in Metres			
	Eastings	Northings	Undefended Annual Exceedance Probability			
			0.5%	0.5% (2070)*	0.5% (2115)*	0.1%
1	502933	102096	1.51	2.12	2.71	1.82
2	502950	102097	1.43	2.04	2.63	1.74
3	502942	102087	1.41	2.02	2.61	1.72
4	502934	102075	1.47	2.08	2.67	1.78
5	502952	102076	1.28	1.89	2.49	1.60

Table 4: Water Depths: Tidal Defended

Node Ref	NGR		Modelled Flood Depths in Metres			
	Eastings	Northings	Defended Annual Exceedance Probability			
			0.5%	0.5% (2065)*	0.5% (2115)*	0.1%
1	502933	102096	-	-	1.36	0.71
2	502950	102097	-	-	1.31	0.67
3	502942	102087	-	-	1.39	0.62
4	502934	102075	-	-	1.38	0.67
5	502952	102076	-	-	1.17	0.48

All levels taken from: Arun Coastal Modelling (2012), by JBA Consulting, with updated defended modelling (2017).

Produced on: 01/10/2025

*** The flood risk data provided is based on existing EA hydraulic models with an allowance for climate change. Please note the climate change allowances provided are not up to date. These were updated on 27 July 2021.**

You should refer to ['Flood risk assessments: climate change allowances'](#) for the most up to date allowances. You will need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

There is no additional information or health warnings for these levels/depths or the model from which they have been produced.

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

Your Lead Local Flood Authority is West Sussex County.

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

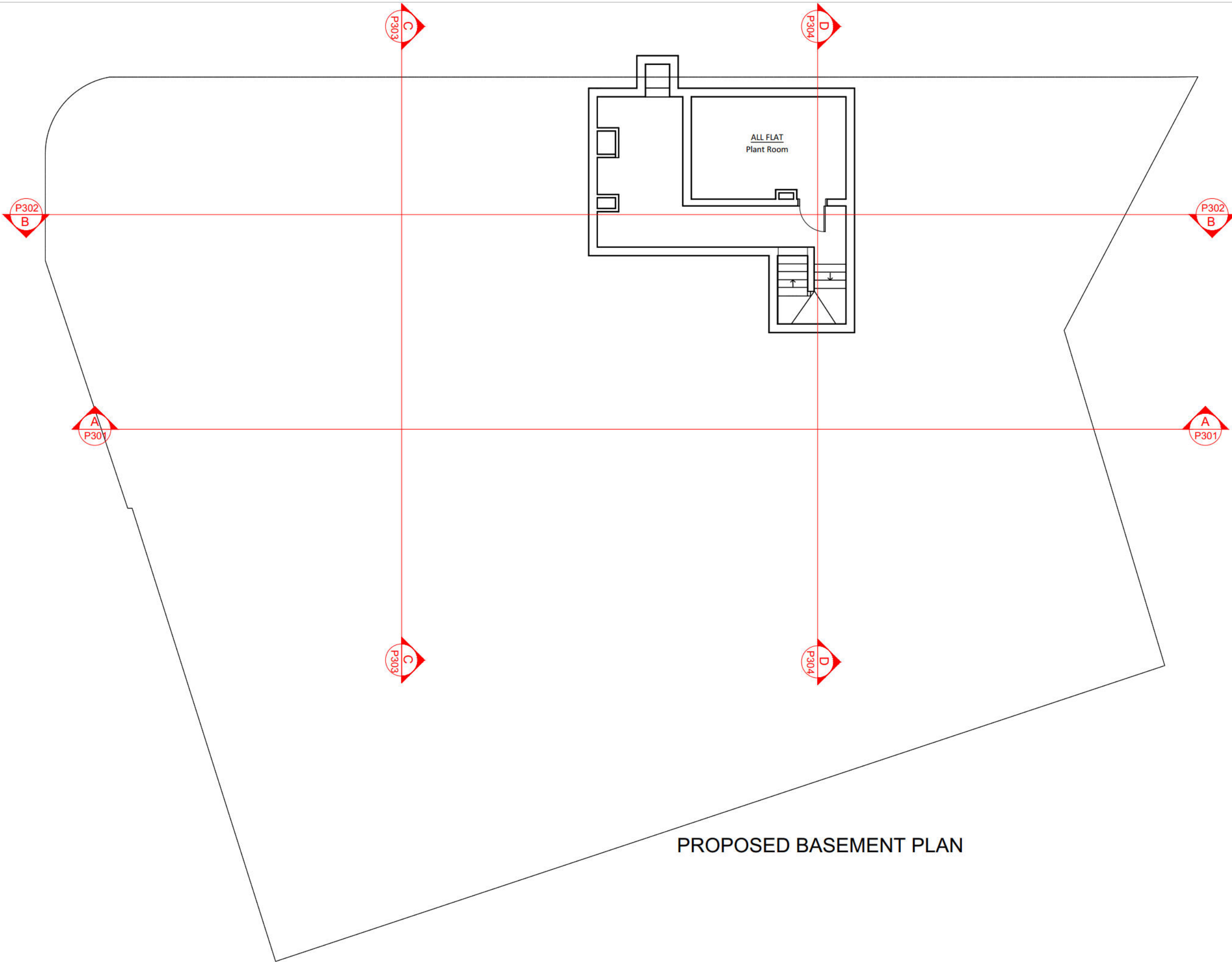
[Find out more about flood risk activity permits](#)

Help and advice

Contact the Solent and South Downs Environment Agency team at ssdenquiries@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for

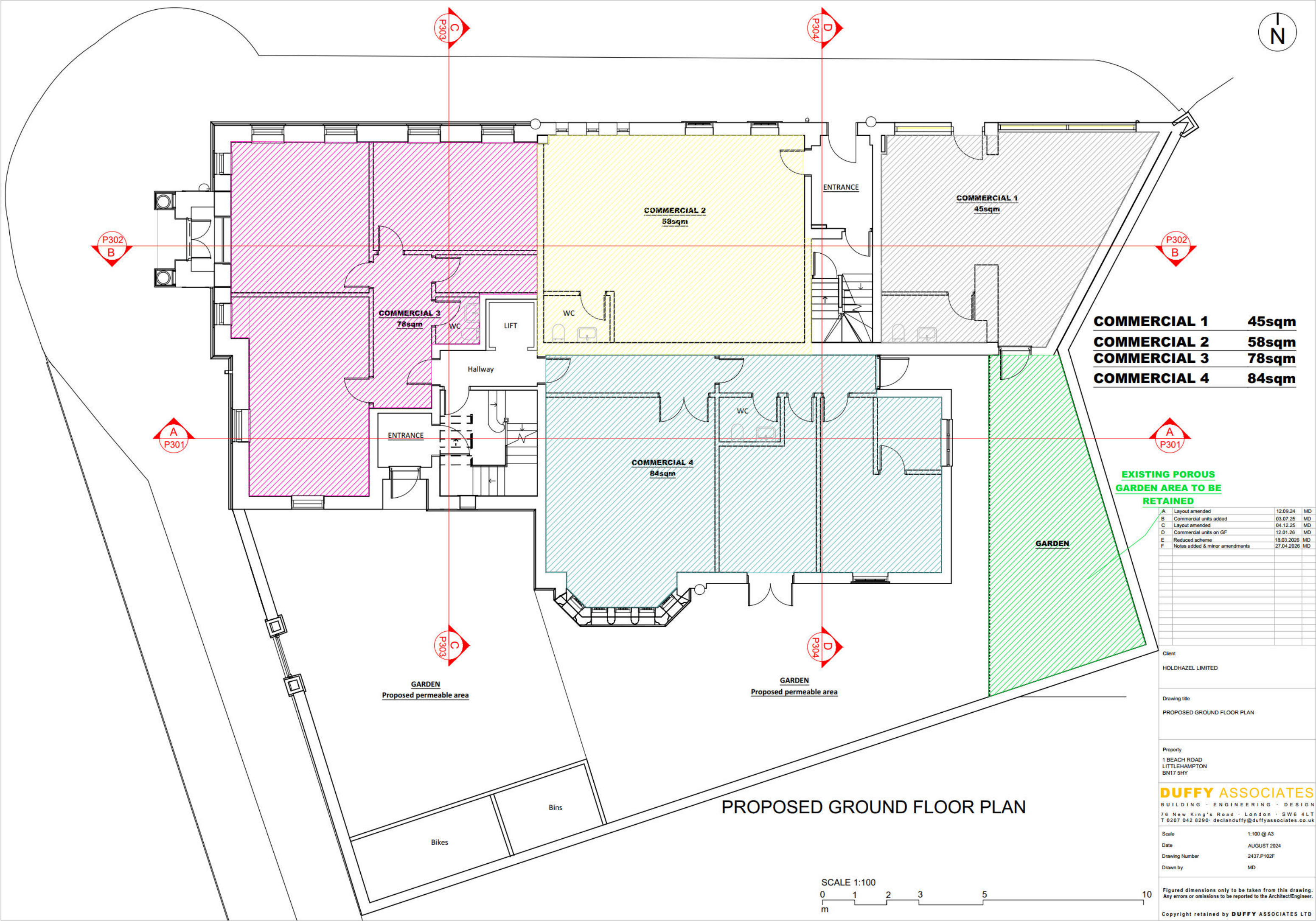
APPENDIX B



SCALE 1:100

0 1 2 3 5 10
m

Figured dimensions only to be taken from this drawing.
Any errors or omissions to be reported to the Architect/Engineer.



COMMERCIAL 1	45sqm
COMMERCIAL 2	58sqm
COMMERCIAL 3	78sqm
COMMERCIAL 4	84sqm

EXISTING POROUS
GARDEN AREA TO BE
RETAINED

A	Layout amended	12.09.24	MD
B	Commercial units added	03.07.25	MD
C	Layout amended	04.12.25	MD
D	Commercial units on GF	12.01.26	MD
E	Reduced scheme	18.03.2026	MD
F	Notes added & minor amendments	27.04.2026	MD

Client
HOLDHAZEL LIMITED

Drawing title
PROPOSED GROUND FLOOR PLAN

Property
1 BEACH ROAD
LITTLEHAMPTON
BN17 5HY

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76 New King's Road · London · SW6 4LT
T 0207 042 8290 · decianduffy@duffyassociates.co.uk

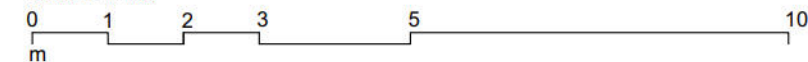
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Date AUGUST 2024
Drawing Number 2437.P102F
Drawn by MD

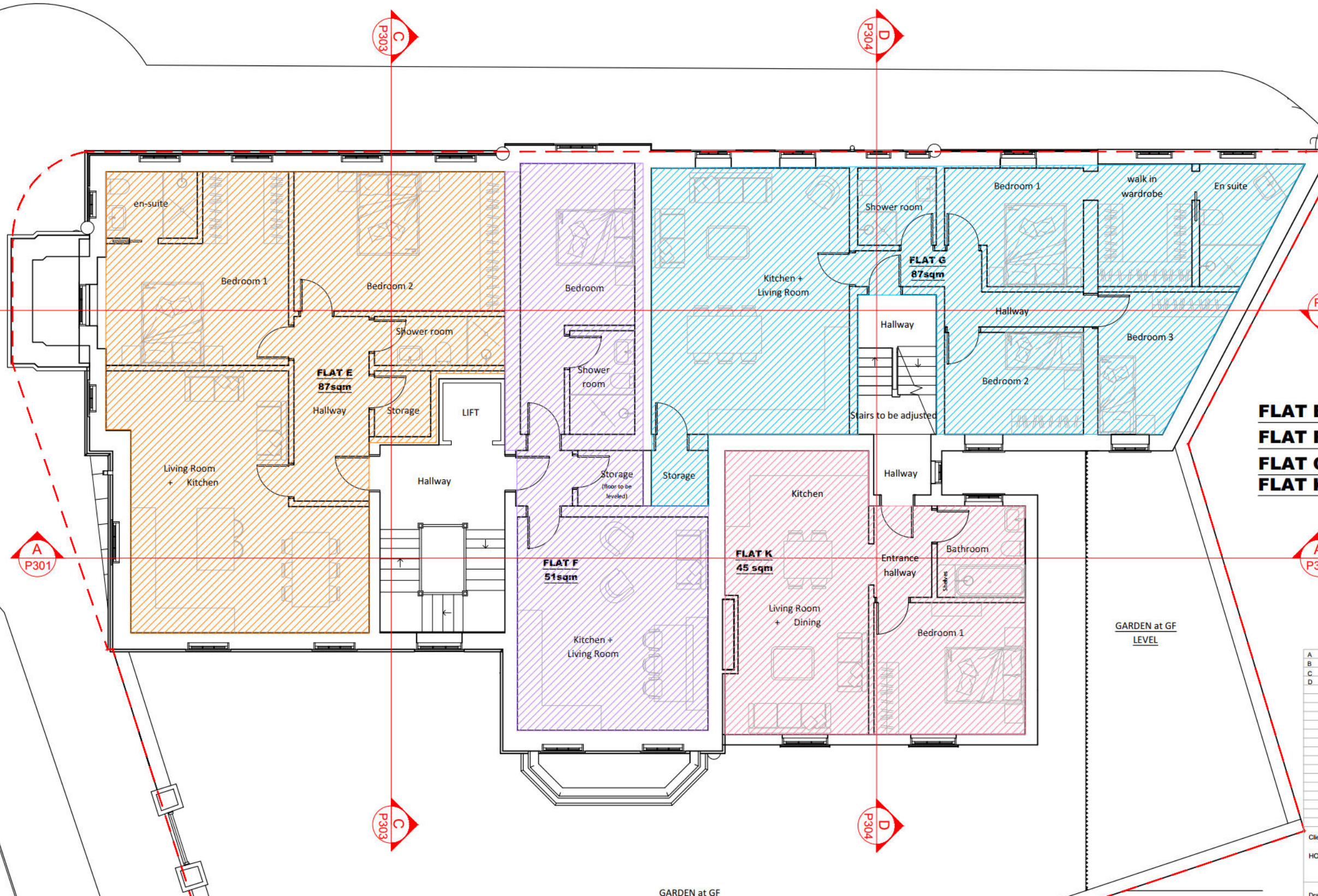
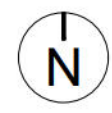
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Any errors or omissions to be reported to the Architect/Engineer.

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PROPOSED GROUND FLOOR PLAN

SCALE 1:100





FLAT E	87sqm
FLAT F	51sqm
FLAT G	87sqm
FLAT K	45sqm

A	Layout amended	12.09.24	MD
B	Layout amended	04.12.25	MD
C	Reduced scheme	18.03.2026	MD
D	Notes added & minor amendments	27.04.2026	MD

Client	HOLDHAZEL LIMITED
Drawing title	PROPOSED FIRST FLOOR PLAN
Property	1 BEACH ROAD LITTLEHAMPTON BN17 5HY

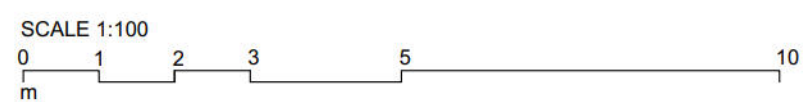
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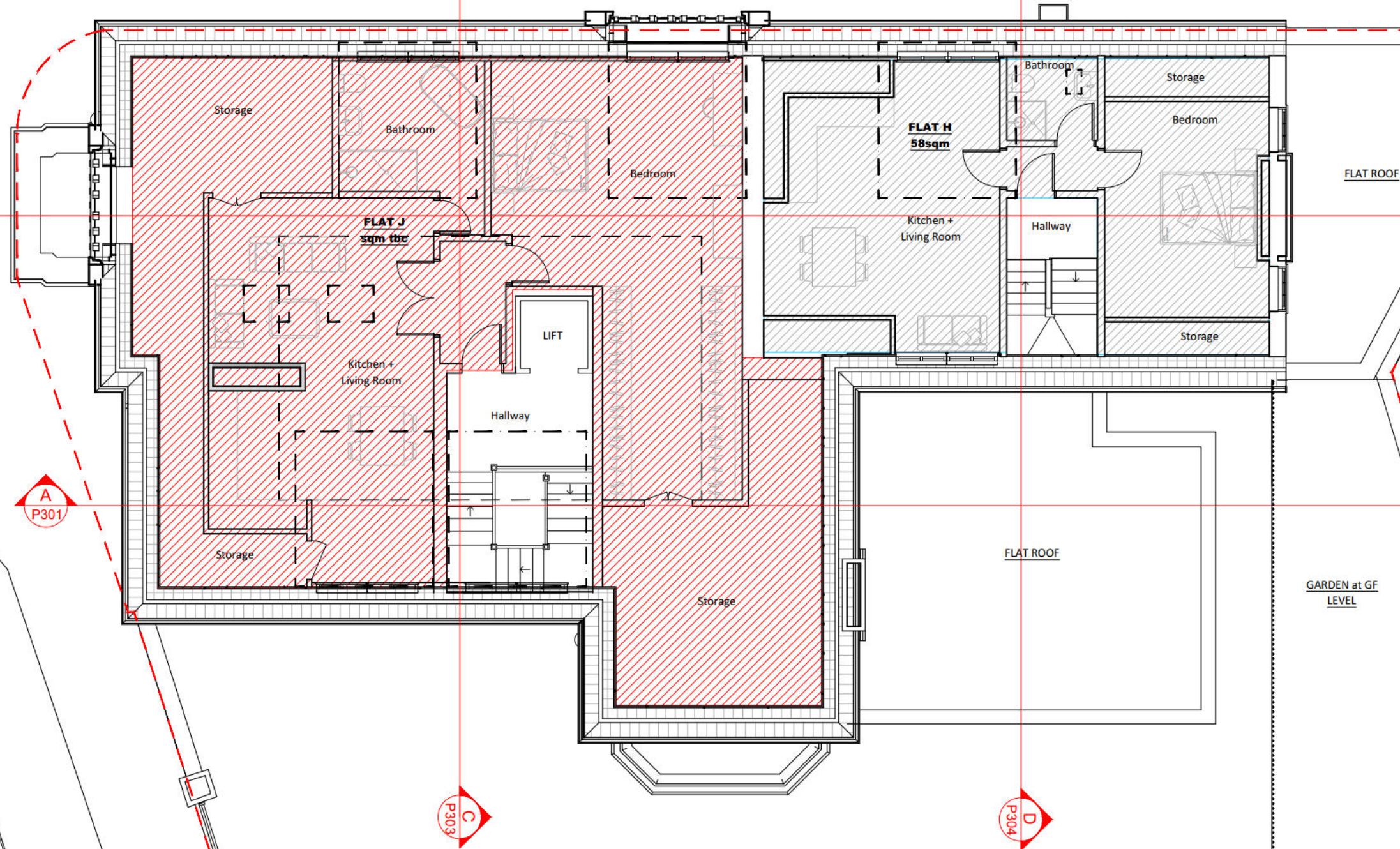
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Date	AUGUST 2024
Drawing Number	2437.P103D
Drawn by	MD

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Any errors or omissions to be reported to the Architect/Engineer.

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PROPOSED FIRST FLOOR PLAN





FLAT H 58sqm
FLAT J 36sqm above 2mt - tbc
101sqm under 2mt- tbc

A	Layout amended	12.09.24	MD
B	Layout amended	04.12.25	MD
C	Reduced scheme	18.03.2026	MD
D	Notes added & minor amendments	27.04.2026	MD

Client
HOLDHAZEL LIMITED

Drawing title
PROPOSED SECOND FLOOR PLAN

Property
1 BEACH ROAD
LITTLEHAMPTON
BN17 5HY

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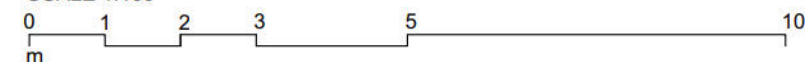
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Drawing Number 2437.P104D
Drawn by MD

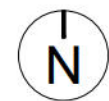
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PROPOSED SECOND FLOOR PLAN

SCALE 1:100





No.2 new veluxes on Flat J
sloping roof.
Veluxes to be conservation
style with central vertical
glazing bar.

Proposed new dormer to be an
accurate replication of the
existing dormer in terms of scale,
materials and detailing

FLAT ROOF

FLAT ROOF

GARDEN at GF
LEVEL

GARDEN at GF
LEVEL

Proposed new dormer to be an
accurate replication of the
existing dormer in terms of scale,
materials and detailing

PROPOSED ROOF PLAN

SCALE 1:100



A	Layout amended	04.12.25	MD
B	Reduced scheme	18.03.2026	MD
C	Notes added & minor amendments	27.04.2026	MD

Client
HOLDHAZEL LIMITED

Drawing title
PROPOSED ROOF

Property
1 BEACH ROAD
LITTLEHAMPTON
BN17 5HY

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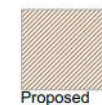
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Date AUGUST 2024
Drawing Number 2437.P105C
Drawn by MD

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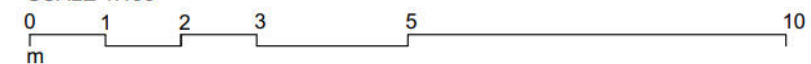
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PROPOSED EAST ELEVATION



SCALE 1:100



A	Layout amended	11.12.25	MD
B	Reduced scheme	18.03.2026	MD
C	Notes added & minor amendments	27.04.2026	MD

Client
HOLDHAZEL LIMITED

Drawing title
PROPOSED EAST ELEVATION

Property
1 BEACH ROAD
LITTLEHAMPTON
BN17 5HY

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Scale 1:100 @ A3
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Drawing Number 2437.P202C
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PROPOSED NORTH ELEVATION

A	Layout amended	11.12.25	MD
B	Reduced scheme	18.03.2026	MD
C	Notes added & minor amendments	27.04.2026	MD

Client	HOLDHAZEL LIMITED
Drawing title	PROPOSED NORTH ELEVATION
Property	1 BEACH ROAD LITTLEHAMPTON BN17 5HY
Scale	1:100 @ A3
Date	AUGUST 2024
Drawing Number	2437.P203 C
Drawn by	MD

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PROPOSED SECTION AA

A	Layout amended	11.12.25	MD
B	Reduced scheme	18.03.2026	MD
C	Notes added & minor amendments	27.04.2026	MD

Client
HOLDHAZEL LIMITED

Drawing title
PROPOSED SECTION AA

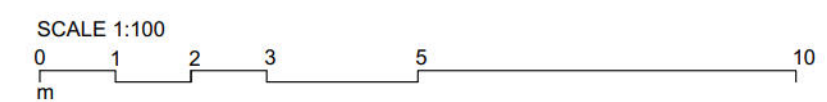
Property
1 BEACH ROAD
LITTLEHAMPTON
BN17 5HY

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Scale 1:100 @ A3
Date JAN 2025
Drawing Number 2437.P301C
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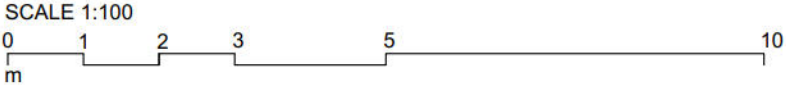




white fascia
on the parapet
proposed new
of extension
to reflect
g architectural
e

Proposed new dormer to be an
accurate replication of the
existing dormer in terms of scale,
materials and detailing

PROPOSED SECTION BB



A	Layout amended	11.12.25	MD
B	Reduced scheme	18.03.2026	MD
C	Notes added & minor amendments	27.04.2026	MD

Client
HOLDHAZEL LIMITED

Drawing title
PROPOSED SECTION BB

Property
1 BEACH ROAD
LITTLEHAMPTON
BN17 5HY

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Scale 1:100 @ A3
Date JAN 2025
Drawing Number 2437.P302C
Drawn by MD

Figured dimensions only to be taken from this drawing.
Any errors or omissions to be reported to the Architect/Engineer.

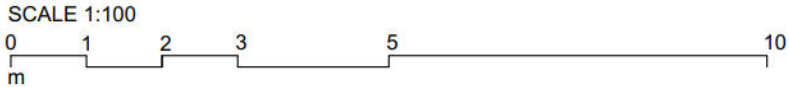
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PROPOSED SECTION DD



A	Layout amended	11.12.25	MD
B	Reduced scheme	18.03.2026	MD
C	Notes added & minor amendments	27.04.2026	MD

Client	
HOLDHAZEL LIMITED	
Drawing title	
PROPOSED SECTION DD	
Property	
1 BEACH ROAD LITTLEHAMPTON BN17 5HY	

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Drawn by	MD

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