

FLOOD RISK ASSESSMENT

Proposed Resurfacing
and Bollard Alterations

Sainsbury's Supermarkets
Hambledon Road
Waterlooville
PO7 7UL

Prepared for:
Sainsburys Supermarkets Ltd

9th July 2025

Project Number:
RMA-C2865



environmental planning consultancy

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Checked by: Melissa Seymour/Rosie Wagstaff

Approved by: Rob Murdock

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1 INTRODUCTION

Background

- 1.1 RMA Environmental Limited was commissioned by Sainsbury's Supermarkets to carry out a Flood Risk Assessment (FRA) to support a planning application for the proposed resurfacing and bollard alterations at the existing Sainsbury's store at Hambledon Road, Waterlooville, PO7 7UL.
- 1.2 This FRA has been prepared in accordance with the National Planning Policy Framework (NPPF), associated Planning Practice Guidance (PPG) and Environment Agency (EA) standing advice on flood risk for new developments.

Site Location and Land Use

- 1.3 The application site is located within the boundary of the Sainsbury's store in Waterlooville in Hampshire. The total site has a footprint of 1.25 hectares (ha) (12,558 m²), whilst the area of the proposed works has a footprint of 661 m² (as shown in Figure 1.1) and is located at National Grid Reference SU 67997 09698.
- 1.4 The site is bordered by the following land uses:
 - the surrounding land is primarily used for commercial purposes;
 - residential dwellings lie 270 m east of the site, beyond which lies the A3 highway 1.7 km east of the site; and
 - the City of Portsmouth is located approximately 7 km south of the site.
- 1.5 The site is currently accessed from Aston Road to the north and Hambledon Road to the west. Further details on site topography, geology and hydrology are set out in Section 2.

Proposed Development

- 1.6 The proposed development is for resurfacing and bollard alterations immediately adjacent to the main ground floor entrance in the south of the site (refer to Appendix A).

Requirements for a Flood Risk Assessment

- 1.7 The requirements for FRA are provided in the NPPF and associated PPG. Footnote 63 of Paragraph 181 of the NPPF (December 2024) requires that a site-specific FRA should be submitted with planning applications for:
 - all sites greater than 1 ha in Flood Zone 1;
 - for sites of any size within Flood Zones 2 or 3;
 - in an area within Flood Zone 1 which has critical drainage problems;

- in an area within Flood Zone 1 which is identified in a strategic flood risk assessment as being at increased flood risk in the future; and/or
- an area within Flood Zone 1 that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

1.8 The EA's Flood Zones are defined as follows:

- Flood Zone 1 is defined as land with little or no flood risk (an annual exceedance probability [AEP] of flooding of less than 0.1%);
- Flood Zone 2 is defined as having a medium flood risk (an AEP of between 0.1% and 0.5% for tidal areas or 0.1% and 1.0% for rivers); and
- Flood Zone 3 is defined as high risk (with an AEP of greater than 0.5% for tidal areas or greater than 1.0% for rivers).

1.9 The EA's Surface Water Flood Risk and Risk of Flooding from Rivers and Sea Extents are defined as follows:

- Very low surface water flood risk is defined where *"each year, this area has a chance of flooding of less than 1 in 1000 (0.1%)."*
- Low surface water flood risk is defined where *"each year, the area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%)."*
- Medium surface water flood risk is defined where *"each year, this area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%)."*
- High surface water flood risk is defined where *"each year, this area has a chance of flooding of greater than 1 in 30 (3.3%)."*

2 BASELINE ENVIRONMENTAL CONDITIONS

Topography

- 2.1 The topographical survey was not available for the site and as such Light Detection and Ranging (LiDAR) data was used instead to determine elevations for the site.
- 2.2 LiDAR data indicates that the site is relatively flat, with elevations ranging between 37 metres Above Ordnance Datum (mAOD) across most of the site to 38 mAOD along the north-eastern corner of the existing supermarket.
- 2.3 The proposed work area is situated at an approximate average elevation of 37.10 mAOD.

Hydrology

- 2.4 The closest 'main river'¹ is a tributary of the River Wallington, referred to from this point forward as the Wallington tributary, located approximately 400 m west of the application site and flowing in a westerly direction. At the nearest location to the site, the Wallington tributary has a catchment area of 0.55 km² and flows in a south-westerly direction before joining the River Wallington and eventually the Solent, approximately 12 km south west of the application site.
- 2.5 There are multiple unnamed drains to the west of the site within the areas of agricultural land.
- 2.6 The Solent is located 12 km south-west of the site, and the English Channel around 14 km south of the site.
- 2.7 There are no other significant watercourses or water bodies within the surrounding area.

Geology and Hydrogeology

- 2.8 According to the British Geological Survey (BGS) online Geology of Britain Viewer, the site is underlain by the superficial geology of Head comprising clay, silt, gravel and sand. The site is further underlain by the bedrock geology of the London Clay Formation comprising clay, silt and sand.
- 2.9 The EA classify the superficial geology as Secondary (undifferentiated); these are defined as *"aquifers where it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These have only a minor value."*
- 2.10 The EA classify the bedrock geology as Unproductive Strata; these are defined as *"rock layers that have low permeability and do not normally provide usable water supplies. They have negligible significance for water supply or river base flow."*
- 2.11 The site is not located within a groundwater Source Protection Zone (SPZ).

¹ Main river is defined by the EA as any watercourse that contributes significantly to the hydrology of a catchment.

3 EXTERNAL FLOOD RISK

Flooding Mechanisms

- 3.1 The EA's flood map for planning (Figure 3.1) shows that the application site is located within Flood Zone 2 and, therefore, flood risk from rivers and/or the sea is considered to be moderate. In this instance, it is considered that the primary source of flooding at the site is fluvial (from the Wallington tributary to the west).
- 3.2 The EA's risk of flooding from surface water mapping identifies that the application site is at risk of flooding from surface water during both the current and future extent mapping (Figures 3.2 and 3.3). This is discussed further below.
- 3.3 According to the EA's long-term flood risk mapping, the site is potentially at risk of reservoir flooding.
- 3.4 A review of the Partnership for South Hampshire Level 1 Strategic Flood Risk Assessment (SFRA; AECOM, 2024) and EA flood maps has identified that the site is considered to be within an area that has the potential for groundwater flooding to occur at the surface. This is discussed further below.

Historic Flooding

- 3.5 A review of the Partnership for South Hampshire Level 1 SFRA Assessment (AECOM, 2024) confirms that there is no recorded history of flooding at the site from fluvial, surface water, groundwater, or any other known source.
- 3.6 The EA flood data reaffirms that the site has not been impacted by any historic flood sources. The closest recorded flood occurred in October 2000, 500 m north-east of the site (refer to Appendix B).

Fluvial Flood Risk

- 3.7 Detailed flood mapping data has been provided by the EA for the defended River Wallington (2011) flood model (Appendix B). The detailed flood modelling indicates that during the defended 1% annual expected probability (AEP) and 0.1% AEP modelled flood scenario the site is not impacted, with the closest extent occurring 153 m to the west of the site. Furthermore, the closest modelled node locations indicate that during the 0.1% AEP the maximum recorded flood depth is 35.23 mAOD, approximately 1.77 m below the proposed development area level.
- 3.8 It is necessary to apply an allowance for climate change to determine the future flood level. The proposed development is located within Flood Zone 2 and, therefore, the 'central' allowance of 38% should be applied for 'less vulnerable' uses in Southern England. The EA's modelling does not include any climate change data. It is not possible to re-define the climate change scenario without re-running the hydraulic model which is beyond the scope of this FRA and is not considered practicable for the scale of the development. Therefore, it is considered appropriate to use the modelled 0.1% AEP event as a proxy for

the 1% AEP plus climate change event. The site is located outside of the 0.1% AEP extent and is therefore, considered to be outside of the fluvial flood extents with climate change.

- 3.9 The risk of flooding from river and seas (RoFRS) map indicates that during both the undefended present day and climate change flood events, the site remains unaffected (refer to Figures 3.4 and 3.5).
- 3.10 As such, the risk of fluvial flooding to the site can be considered to be low to negligible.

Surface Water Flood Risk

- 3.11 The analysis focuses specifically on the proposed development area as outlined in blue in Figure 1.1, rather than the wider site boundary, as this area represents the footprint of the proposed works and is most relevant for assessing flood risk.
- 3.12 The EA's Risk of Flooding from Surface Water (RoFSW) mapping indicates that the proposed work area is at risk of surface water flooding during the low, medium, and high probability rainfall events, under both the current and future climate scenarios (refer to Figures 3.2 – 3.3). Surface water mapping indicates that flood extent and depth are likely to increase under climate change conditions. The surface water flood maps have been analysed to infer flood levels and depths for the high, medium and low risk events with and without climate change effects and this is discussed further below.
- 3.13 The EA defines surface water flood risk based on annual probability of flooding, outlining Low Risk as an annual probability between 0.1% and 1% (a 1 in 1,000 to 1 in 100 chance), Medium Risk as between 1% and 3.3% (a 1 in 100 to 1 in 30 chance), and High Risk as greater than 3.3% (more than a 1 in 30 chance).
- 3.14 It is important to note that the EA's surface water mapping is generated using a national-scale model and does not account for local drainage infrastructure such as highway and road drainage systems. As such, the modelled flood extents and depths may overstate flood risk across the site.

High Risk Event (1 in 30-year rainfall event)

- 3.15 During the current high risk surface water scenario, the mapping indicates areas of surface water ponding adjacent to the existing entrance to the site. Flood depths during this scenario are not predicted to exceed 0.2 m and therefore an approximate inferred flood level in this area would be between 37.19 mAOD – 37.38 mAOD.
- 3.16 Under future climate change conditions, the high risk surface water flood event is predicted to occur within the area adjacent to the existing site entrance. During this scenario the maximum flood depth is expected to be 0.2 m, with an approximate inferred flood level of 37.39 mAOD.

Medium Risk Event (1 in 100-year rainfall event)

- 3.17 In the current medium risk scenario, the mapping indicates areas of surface water ponding adjacent to the existing entrance to the site. The maximum flood depth is predicted to be 0.20 m, with an approximate inferred flood level of 37.39 mAOD.

- 3.18 Under future climate change conditions, surface water flooding in the same areas increases slightly in depth and extent. A maximum flood depth of 0.3 m is predicted, to occur adjacent to the front entrance with an approximate inferred maximum flood level of 37.49 mAOD.

Low Risk Event (1 in 1000-year rainfall event)

- 3.19 The low probability scenario represents the most extreme surface water flood event modelled by the EA. Current mapping the mapping indicates areas of surface water ponding adjacent to the existing entrance to the site. The maximum flood depth is predicted to be 0.20 m, with an inferred flood level of 37.39 mAOD.
- 3.20 Under future climate change conditions, surface water flooding in the same areas increases slightly in depth and extent. A maximum flood depth of 0.3 m is predicted, to occur adjacent to the front entrance with an approximate inferred maximum flood level of 37.49 mAOD.
- 3.21 Based on the above, the site is subject to maximum surface water flood depth of up to 0.30 m during future low and medium risk events, as identified in the EA's surface water flood mapping. However, the proposed works are limited to resurfacing and the installation or alteration of bollards in an already developed and hardstanding area adjacent to the existing supermarket entrance. These works will not alter ground levels, introduce impermeable surfaces beyond what is already present, or affect any overland flow routes identified on site.
- 3.22 As a result, the proposed alterations will not lead to an increase in surface water runoff, will not displace floodwater and will not obstruct the flow of surface water during a flood event. Consequently, the development is not expected to increase flood risk either on-site or elsewhere, and flood risk will remain in line with existing conditions.

Reservoir Flooding

- 3.23 The Partnership for South Hampshire Level 1 SFRA (AECOM, 2024) states that reservoir flooding is a medium-risk factor for Waterlooville. According to the SFRA, the unlikely event of a reservoir breach would primarily affect to the Hermitage Stream catchment to the east of the site which is considered to be high-risk. These areas are identified as being at risk in the event of a reservoir breach, but such occurrences are considered highly unlikely due to stringent regulations and maintenance practices.
- 3.24 All reservoirs over 25,000 m³ capacity are regularly inspected and supervised by reservoir panel engineers, therefore ensuring that they are maintained in a stable condition. The EA's further information on reservoir flood risk also states that "*reservoir flooding is extremely unlikely to happen. There has been no loss of life in the UK from reservoir flooding since 1925*".
- 3.25 It is therefore considered that flood risk to the site from reservoirs is negligible to low.

Groundwater

- 3.26 The Partnership for South Hampshire Level 1 SFRA (AECOM, 2024) indicates that the site is situated within an area with the potential for groundwater flooding to occur at the surface.

This designation is primarily due to the town's underlying superficial Head deposits, which typically consist of a variable mix of permeable and impermeable materials. These conditions can lead to the accumulation and movement of groundwater, particularly following extended periods of heavy rainfall.

- 3.27 The BGS Borehole viewer indicates that there is one Borehole record at the site (SU60NE240) from January 1953, however there is no inclusion of a groundwater strike.
- 3.28 Although the site lies within an area with potential for groundwater flooding at the surface, the actual risk is considered to be low to negligible. Groundwater emergence in this location would likely require a prolonged period of exceptionally heavy rainfall, and there is no history of such flooding at the site. The nature of the proposed works, comprising resurfacing and bollard alterations will not impact groundwater as the piling depths are likely to be very minimal. As such, the likelihood of groundwater flooding is minimal under typical conditions.

Mitigation

- 3.29 As the proposed works are relatively limited, comprising only of resurfacing and minor bollard alterations within an area of existing hardstanding, they do not result in any increase in flood risk on or off site. As such, the implementation of specific flood risk mitigation measures is not considered to be necessary. The development does not affect ground levels, drainage and therefore does not warrant additional mitigation.

Land Use Vulnerability

- 3.30 Annex 3 of the NPPF sets out a schedule of land uses based on their vulnerability or sensitivity to flooding. The proposed development is classified as 'less vulnerable' to flooding. Referring to Table 2 of the NPPF PPG, 'less vulnerable' land uses are considered appropriate within Flood Zone 2, subject to passing the Sequential Test.
- 3.31 The proposed resurfacing and bollard works are associated with the existing retail use and needs to be located at the Sainsbury's food store for operational reasons. It is not practical to locate it on land with a lower risk of flooding and, on this basis, it is considered that the Sequential Test should be passed.
- 3.32 In terms of land use vulnerability, the development should be deemed appropriate in planning policy terms in its proposed location.

4 DRAINAGE ASSESSMENT

Introduction

- 4.1. The NPPF states that those proposing development are responsible for drainage designs which reduce flood risk to the development and elsewhere, potentially through the use of Sustainable Drainage Systems (SuDS).
- 4.2. Surface water arising from a developed site should, as far as is practicable, be managed to mimic the surface water flows arising from the site prior to the proposed development while reducing the flood risk to the site itself and elsewhere.

Proposed Drainage Strategy

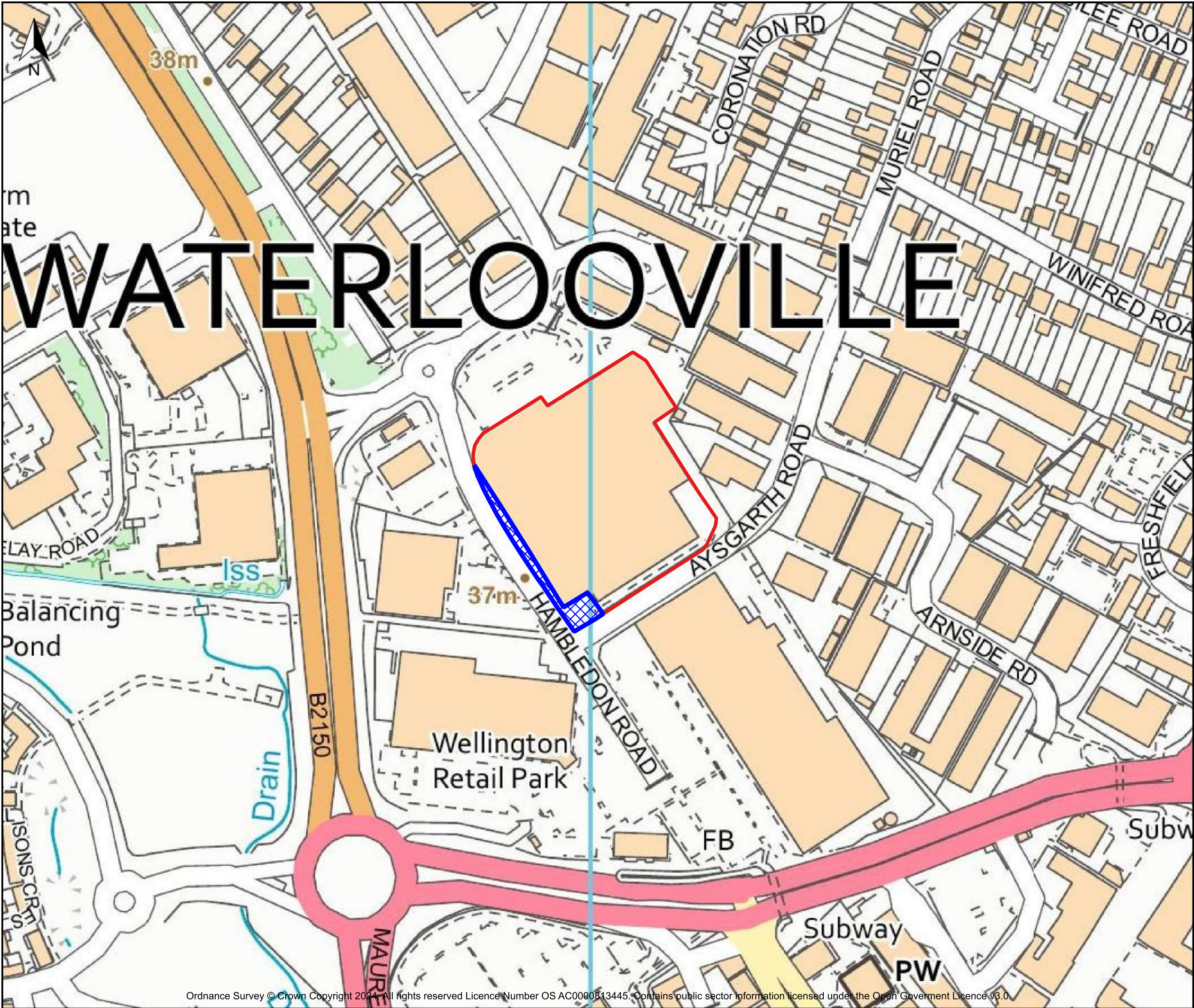
- 4.3. In this instance, there will be no change in the impermeable area at the site as the proposed development is for resurfacing and minor bollard alterations within an area of existing hardstanding. There will, therefore, be no change in the volume or rate of surface water runoff leaving the site and, as such, there is no requirement (or practical opportunity) to alter the site's current drainage arrangement. The proposals will therefore continue to utilise the existing drainage infrastructure associated with the wider site.

5 CONCLUSIONS

- 5.1 The requirements for Flood Risk Assessment are provided in the National Planning Policy Framework and associated Planning Practice Guidance, together with the Environment Agency's Guidance Notes. This policy and associated guidance have been followed in the preparation of this FRA.
- 5.2 The EA's flood map for planning (Figure 3.1) shows that the application site is located within Flood Zone 2 and, therefore, flood risk from rivers and/or the sea is considered to be moderate. In this instance, it is considered that the primary source of flooding at the site.
- 5.3 Detailed flood mapping data has been provided by the EA for the defended River Wallington (2011) flood model. The detailed flood modelling indicates that during the defended 1% AEP and 0.1% AEP modelled flood scenario the site is not impacted, with the closest extent occurring 153 m to the west of the site. Furthermore, the closest modelled node locations indicate that during the 0.1% AEP the maximum recorded flood depth is 35.23 mAOD, approximately 1.77 m below the proposed development area level.
- 5.4 The EA's modelling does not include any climate change data. Therefore, it is considered appropriate to use the modelled 0.1% AEP event as a proxy for the 1% AEP plus climate change event. The site is located outside of the 0.1% AEP extent and is therefore, considered to be outside of the fluvial flood extents with climate change.
- 5.5 The risk of flooding from river and seas (RoFRS) map indicates that during both the undefended present day and climate change flood events, the site remains unaffected.
- 5.6 EA's risk of flooding from surface water mapping identifies that the application site is at risk of flooding from surface water during both the current and future extent mapping (Figure 3.2 and 3.3).
- 5.7 The site is subject to a maximum surface water flood depth of up to 0.30 m during future low and medium risk events, as identified in the EA's surface water flood mapping. However, the proposed works are limited to resurfacing and the installation or alteration of bollards in an already developed and hardstanding area adjacent to the existing supermarket entrance. These works will not alter ground levels, introduce impermeable surfaces beyond what is already present, or affect any overland flow routes identified on site.
- 5.8 As a result, the proposed alterations will not lead to an increase in surface water runoff, will not displace floodwater and will not obstruct the flow of surface water during a flood event. Consequently, the development is not expected to increase flood risk either on-site or elsewhere, and flood risk will remain in line with existing conditions.
- 5.9 The risk of flooding from reservoirs is negligible to low due to strict maintenance and inspection regimes, with such events considered extremely unlikely.

- 5.10 Groundwater flood risk at the site is low to negligible, as flooding would require prolonged heavy rainfall and there is no history of such events. The proposed resurfacing and bollard works will not affect groundwater given the minimal piling depths.
- 5.11 As the proposed works are relatively limited, comprising only of resurfacing and minor bollard alterations within an area of existing hardstanding, they do not result in any increase in flood risk on or off site. As such, the implementation of specific flood risk mitigation measures is not considered to be necessary. The development does not affect ground levels, drainage and therefore does not warrant additional mitigation.
- 5.12 Annex 3 of the NPPF PPG sets out a schedule of land uses based on their vulnerability or sensitivity to flooding. The proposed development is classified as 'less vulnerable' to flooding. Referring to Table 2 of the NPPF PPG, 'less vulnerable' land uses are considered appropriate within Flood Zone 2, subject to passing the Sequential Test.
- 5.13 The resurfacing and bollard alternation works are associated with the existing retail use and needs to be located at the Sainsbury's food store for operational reasons. It is not practical to locate it on land with a lower risk of flooding and, on this basis, it is considered that the Sequential Test should be passed
- 5.14 In terms of land use vulnerability, the development should be deemed appropriate in planning policy terms in its proposed location.

Figures

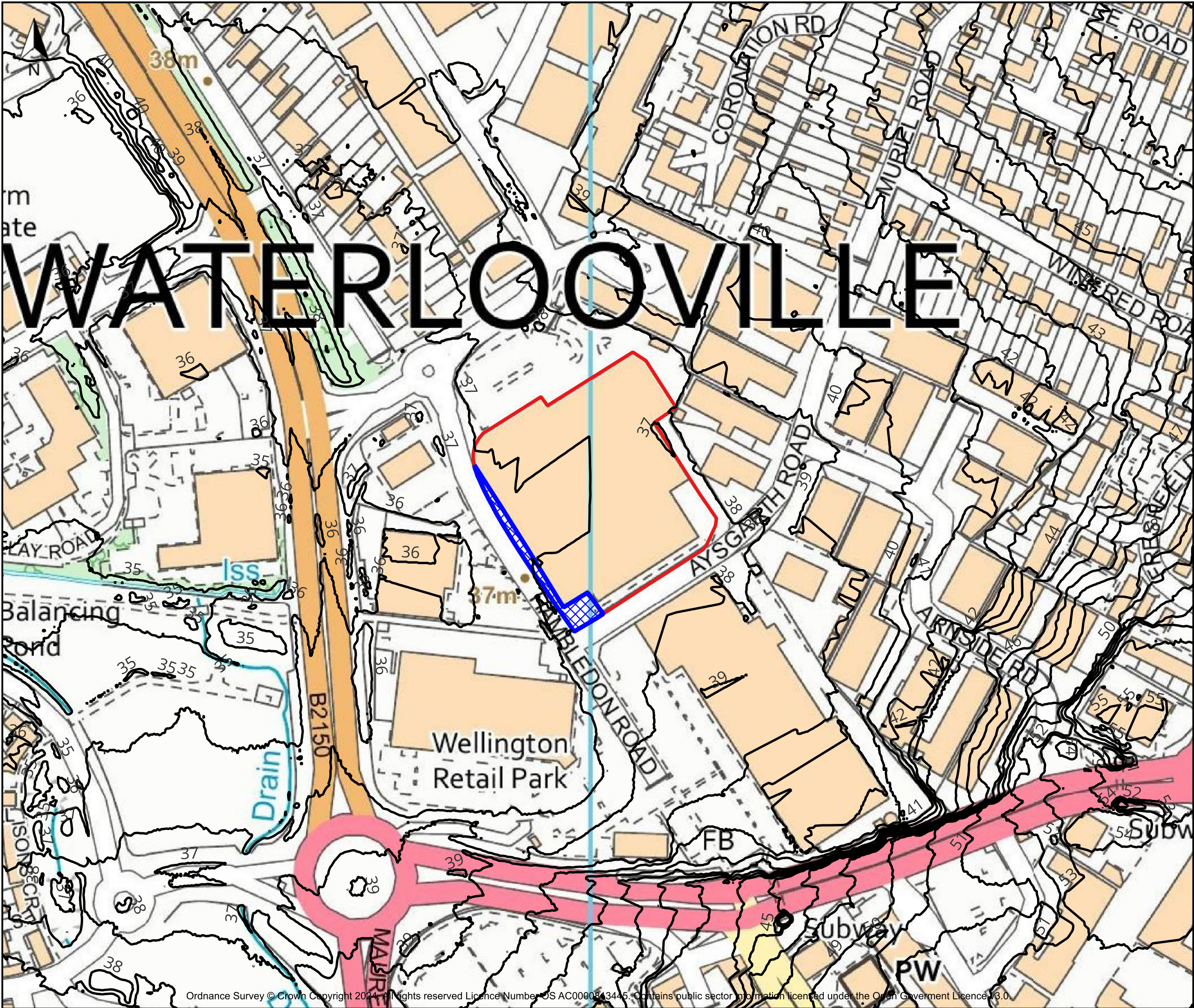


Key

- Red Line Boundary
- Proposed Work Area

WATERLOOVILLE

Figure 1.1: Site Location Plan			
Client:		Sainsburys	
Project:		SSL Waterloooville FRA	
Project No.:		C2865	
Drawn: SA	Checked: RM	Date: 23/06/2025	Scale: 1:2,000@A3



Key

- Red Line Boundary
- Proposed Work Area
- Contours

Figure 2.1: LiDAR Plan

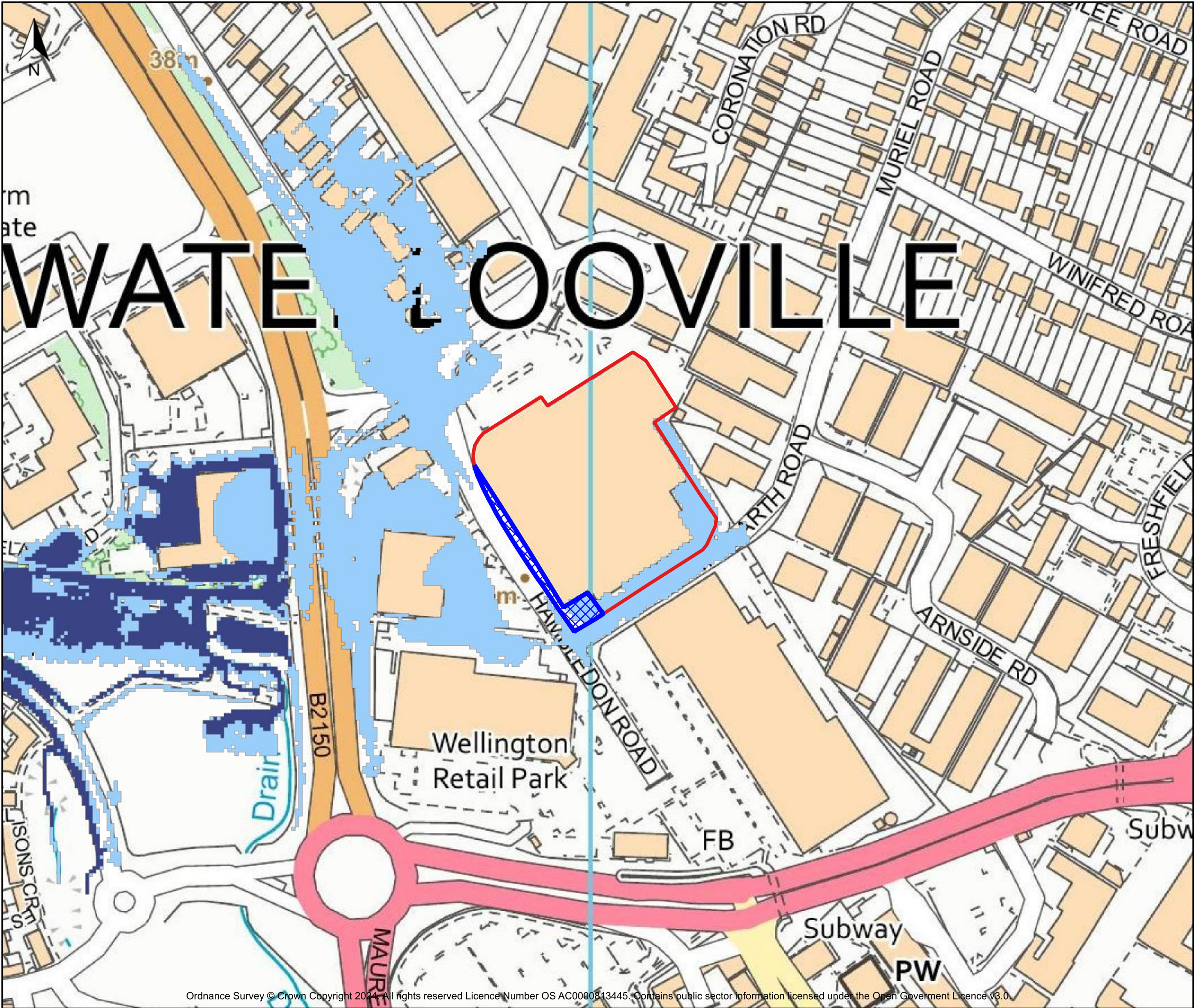
Client: Sainsburys

Project: SSL Waterloooville FRA

Project No.: C2865



Drawn: SA	Checked: RM	Date: 23/06/2025	Scale: 1:2,000@A3
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Key

- Red Line Boundary
- Proposed Work Area
- Flood Zone 2
- Flood Zone 3

Figure 3.1: EA Flood Map for Planning

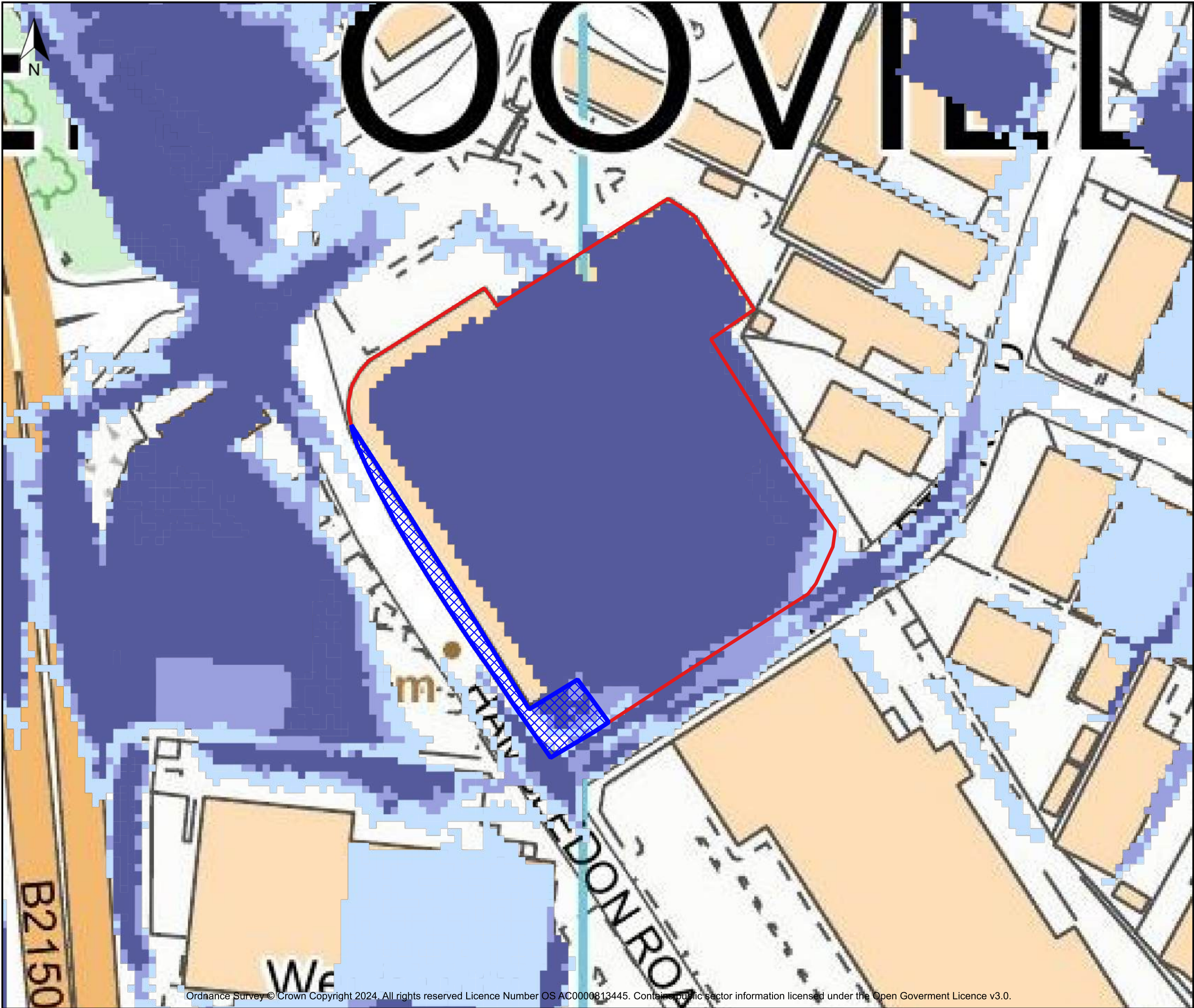
Client: **Sainsburys**

Project: **SSL Waterloooville FRA**

Project No.: **C2865**

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ENVIRONMENTAL

Drawn: SA	Checked: RM	Date: 23/06/2025	Scale: 1:2,000@A3
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- Key**
- Red Line Boundary
 - Proposed Work Area
 - Low Risk
 - Medium Risk
 - High Risk

Figure 3.2: **EA Surface Water Flood Map**

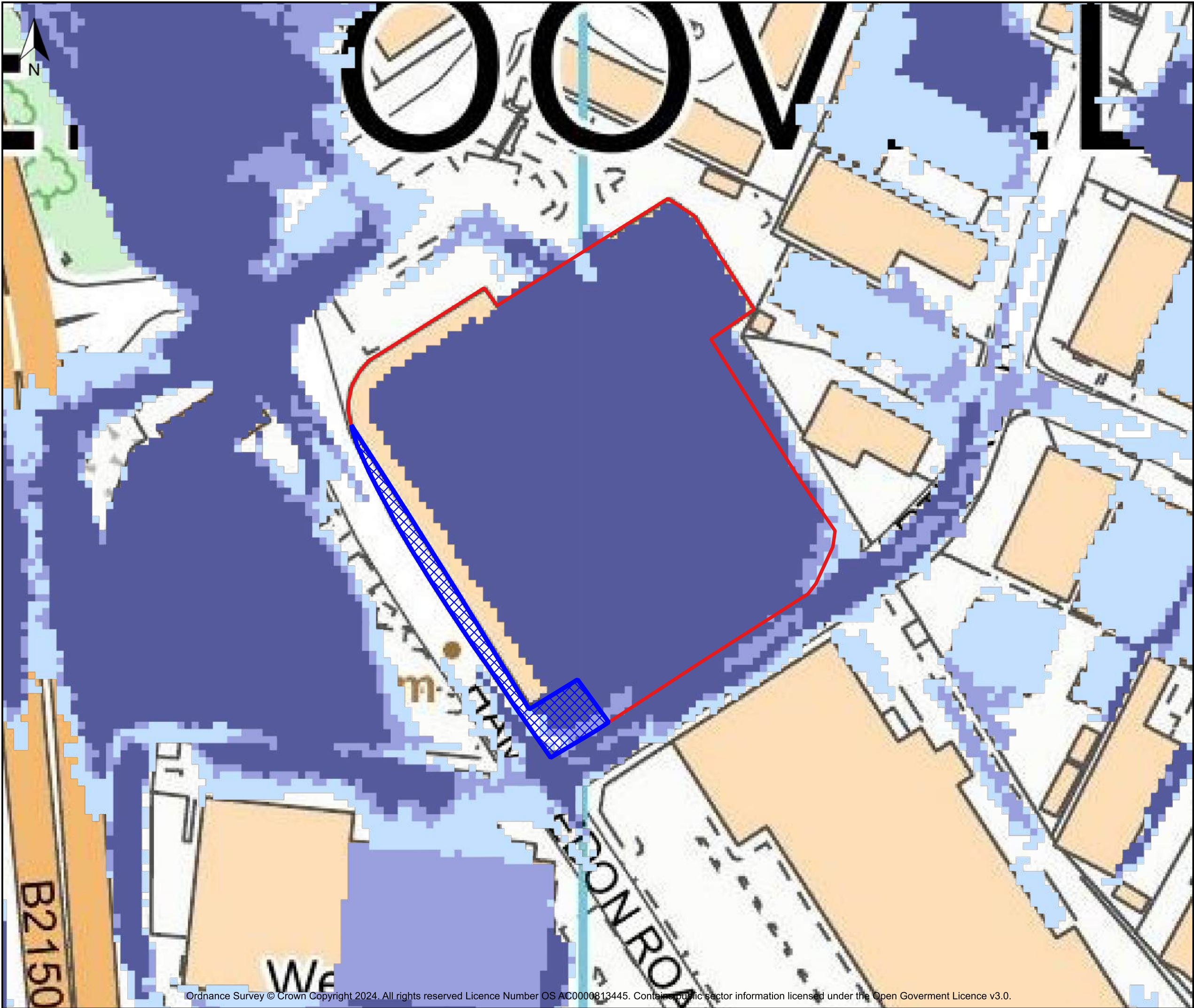
Client: **Sainsburys**

Project: **SSL Waterloo FRA**

Project No.: **C2865**



Drawn: SA	Checked: RM	Date: 23/06/2025	Scale: 1:1,000@A3
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- Key**
- Red Line Boundary
 - Proposed Work Area
 - Low Risk
 - Medium Risk
 - High Risk

Figure 3.3: **EA Surface Water Flood Map (Climate Change)**

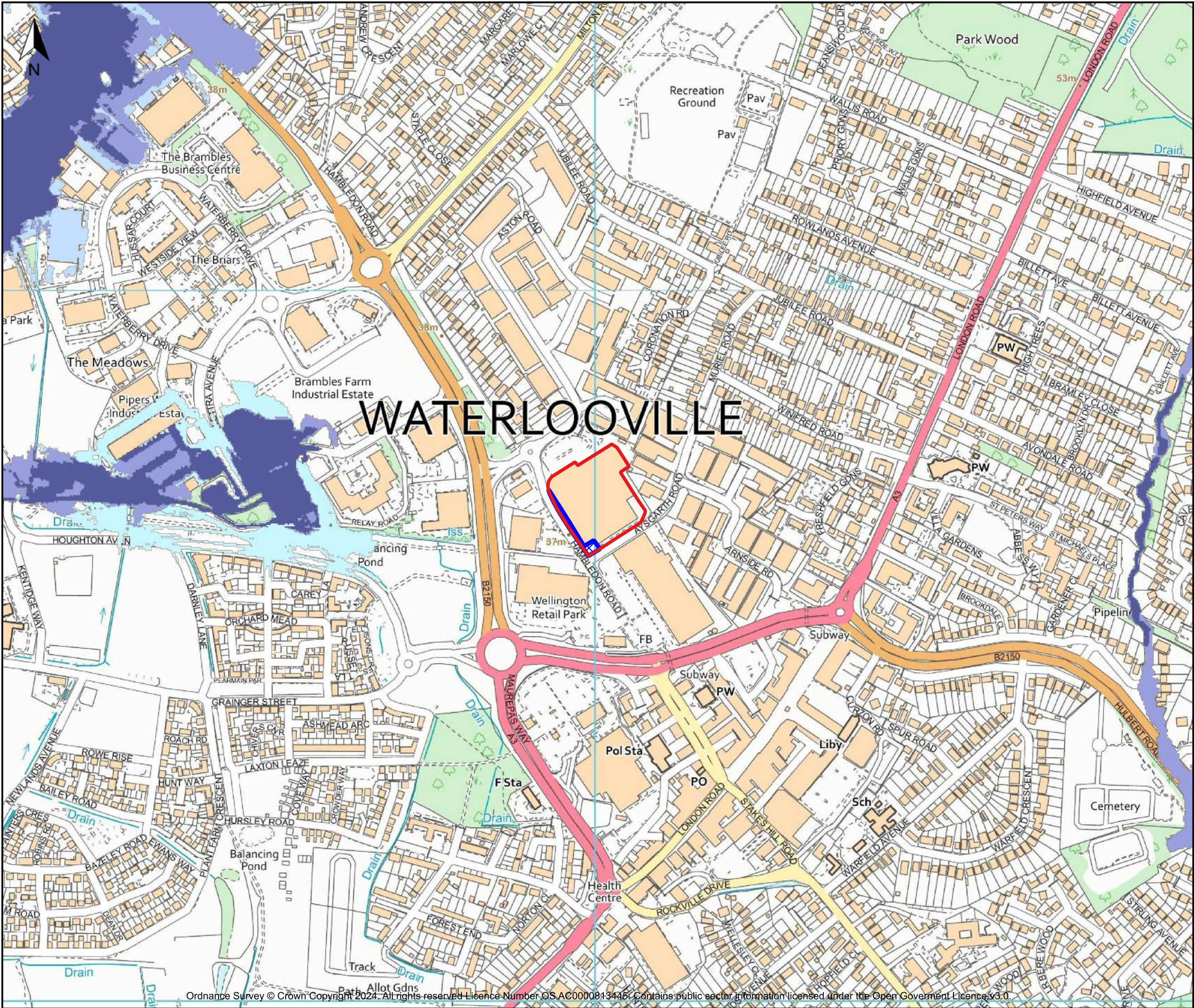
Client: **Sainsburys**

Project: **SSL Waterlooville FRA**

Project No.: **C2865**



Drawn: SA	Checked: RM	Date: 23/06/2025	Scale: 1:1,000@A3
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Key

- Red Line Boundary
- Proposed Work Area
- Low Risk
- Medium Risk
- High Risk

Figure 3.5: EA's Risk of Flooding from Rivers and Sea Map (Climate Change)

Client: **Sainsburys**

Project: **SSL WaterlooVille FRA**

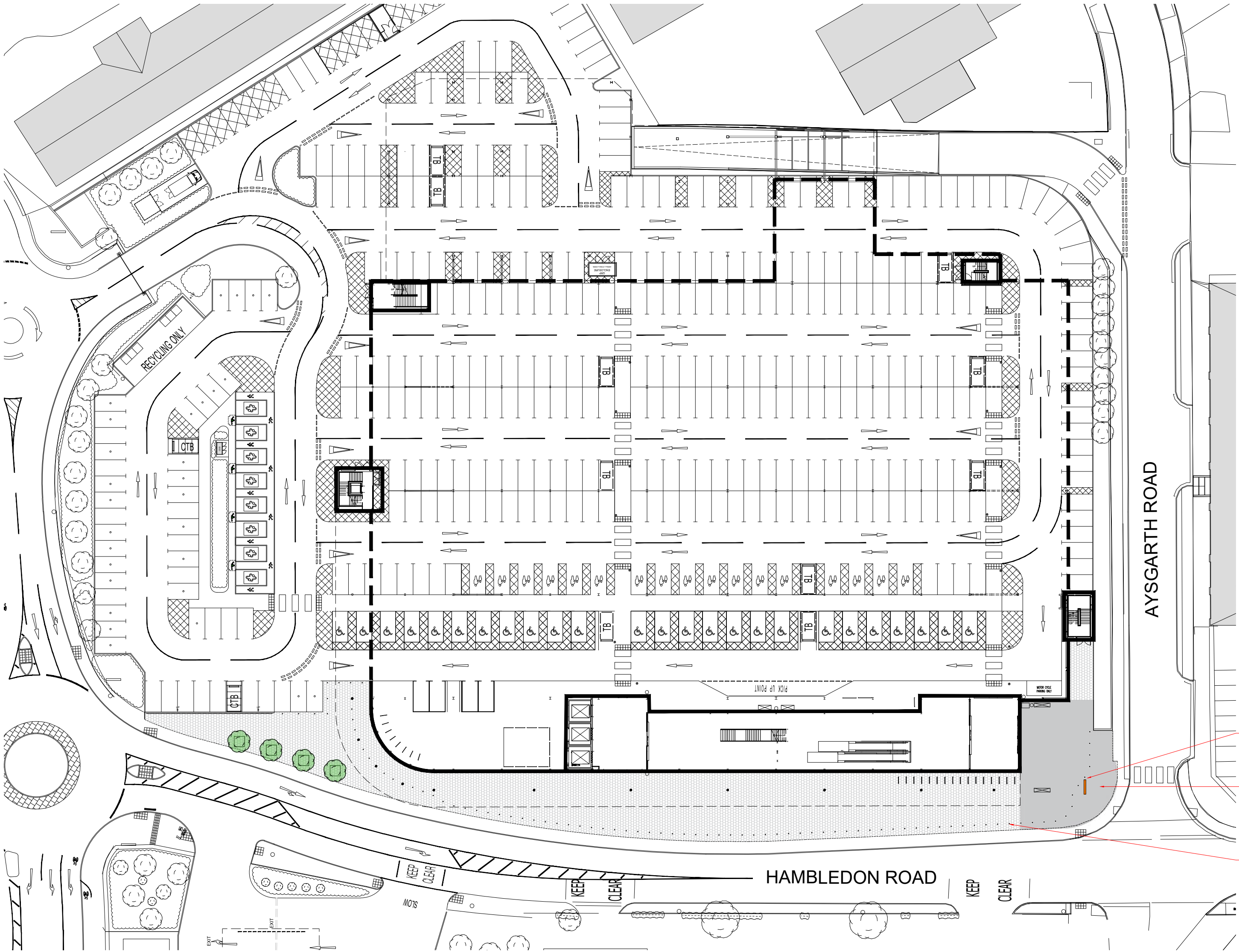
Project No.: **C2865**

RMA
ENVIRONMENTAL

Drawn: SA	Checked: RM	Date: 23/06/2025	Scale: 1:5,000@A3
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Appendix A: Proposed Layout

HAMBLEDON ROAD,
WATERLOOVILLE,
PO7 7UL



Existing Totem to be removed, then replaced

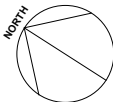
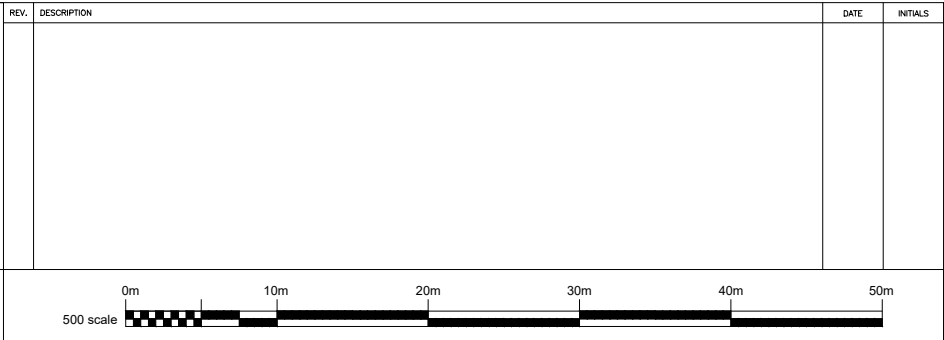
Existing block paving to be removed and replaced with tarmac finish

65 No. Existing bollards to be removed, then replaced along the boundary line
7 No. Additional bollards required
Where bollards are removed and not replaced, paving is to be reinstated.

Proposed Site Plan
Scale 1:500 @ A2

All drawings are subject to full site survey. All dimensions are to be checked on site.

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PLANNING

CLIENT Sainsbury's Supermarkets Ltd		 CHQ ARCHITECTS	
PROJECT Hambleton Road, Waterlooville, PO7 7UL		CHQ Architects Ltd The Millings, 45 Cromwell Street, Bathford, Hertfordshire SG7 6QG Telephone: (01482) 889110 Email: design@chq-architects.co.uk www.chq-architects.co.uk	
CHQ REFERENCE CHQ.25.17161		SCALE 1:500 @ A2	DRAWN MR
DRAWING Proposed Site Plan			
PROJECT CODE AS-2172_XXXX	ORIGINATOR CHQ	DIVISION Z07	LEVEL 00
PL-A-0003		REV -	
ISO A2 Landscape			

ISO A2 Landscape

Appendix B: EA's Modelled Flood Data

Flood risk assessment data



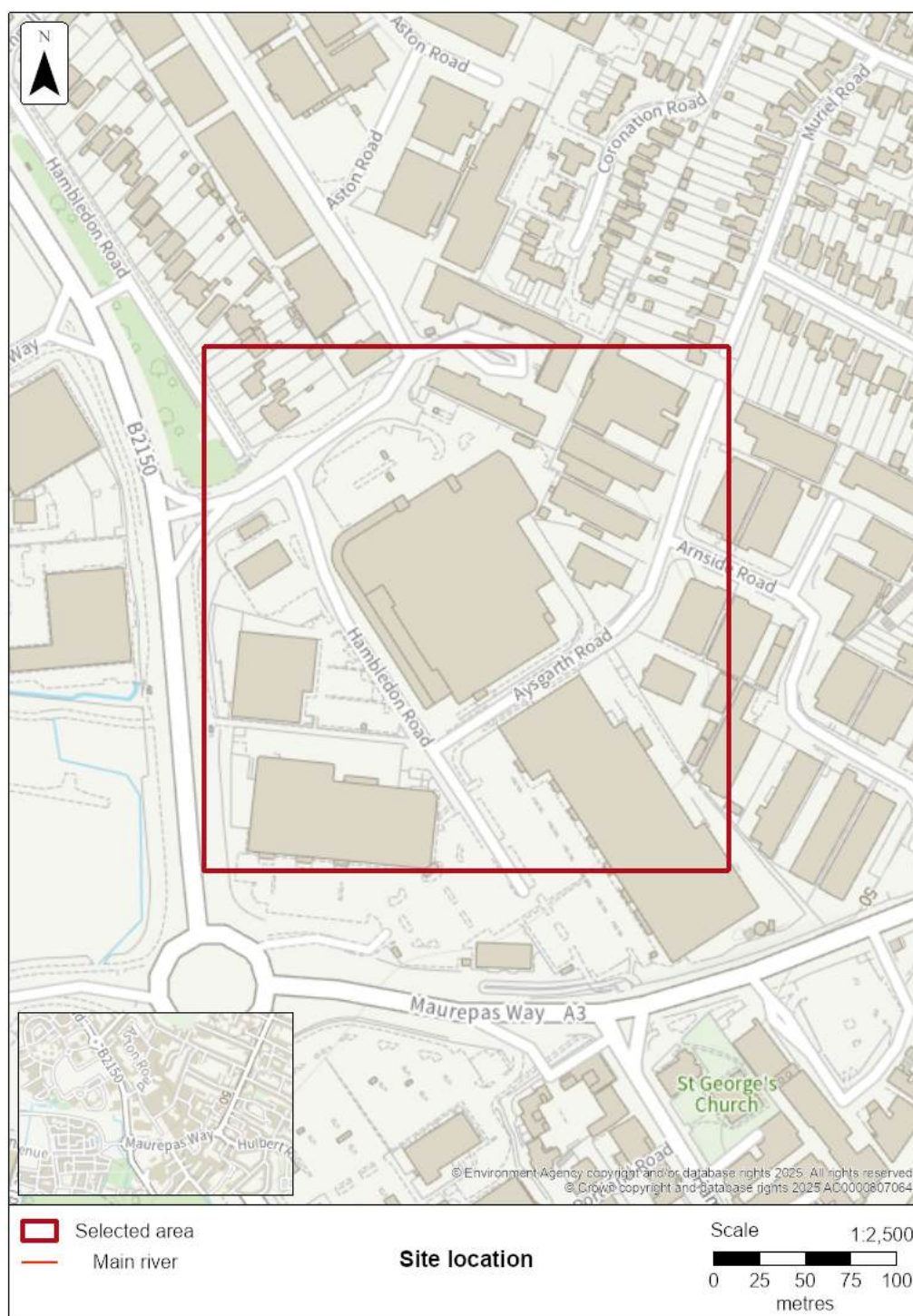
Location of site: 468007 / 109696 (shown as easting and northing coordinates)

Document created on: 13 June 2025

This information was previously known as a product 4.

Customer reference number: 4XMG8YEU4U34 / EIR2025/13756

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 Hampshire County.

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

About the models used

Model name: River Wallington Mapping, 2011 (Defended)

Scenario(s): Defended fluvial

Date: 1 January 2011

This model contains 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 2.

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

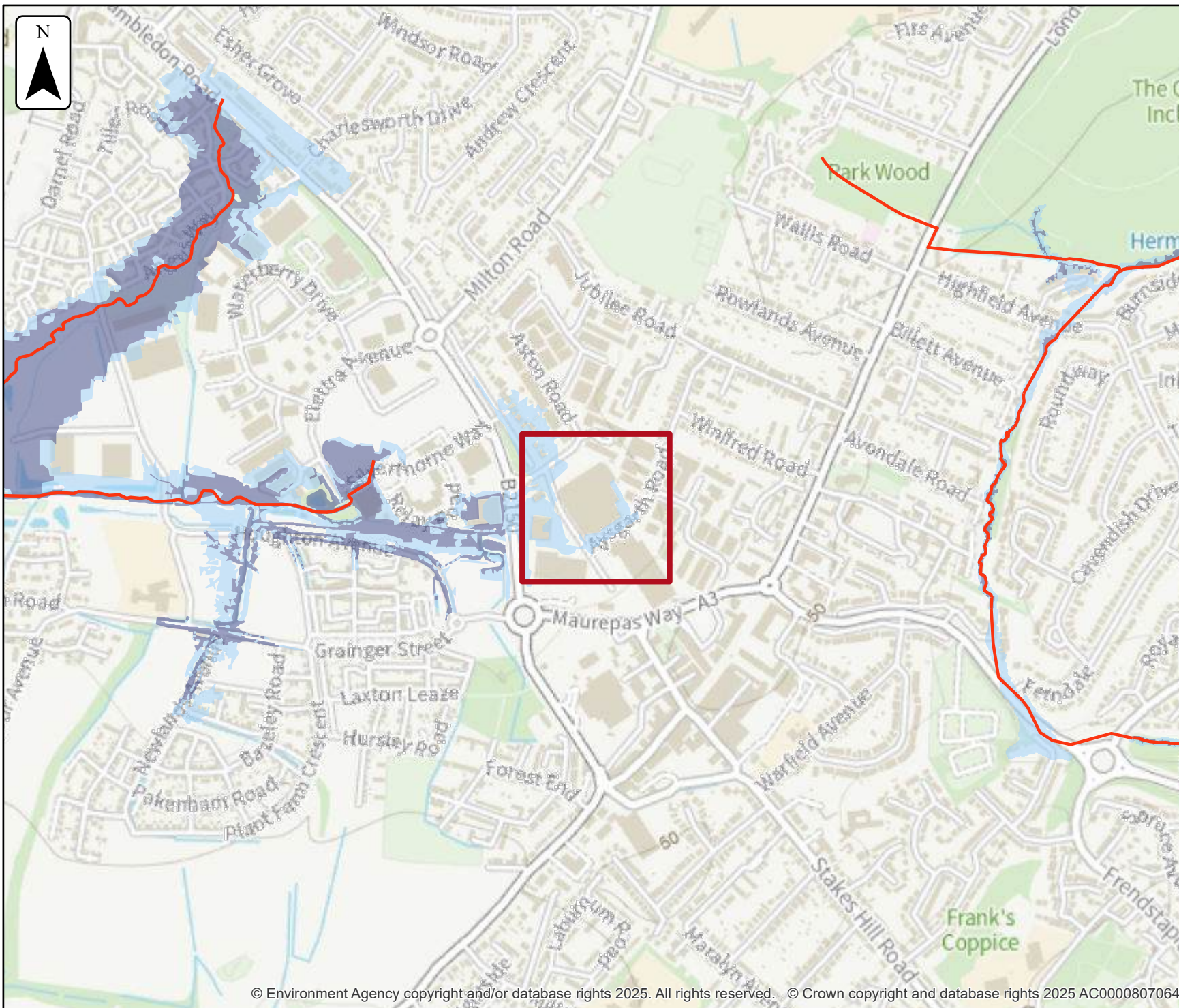
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

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



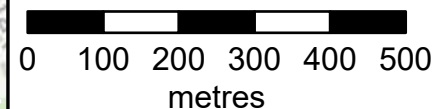
Flood map for planning

Location (easting/northing)
468007/109696

Scale
1:10,000

Created
13 Jun 2025

-  Selected area
-  Main river
-  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

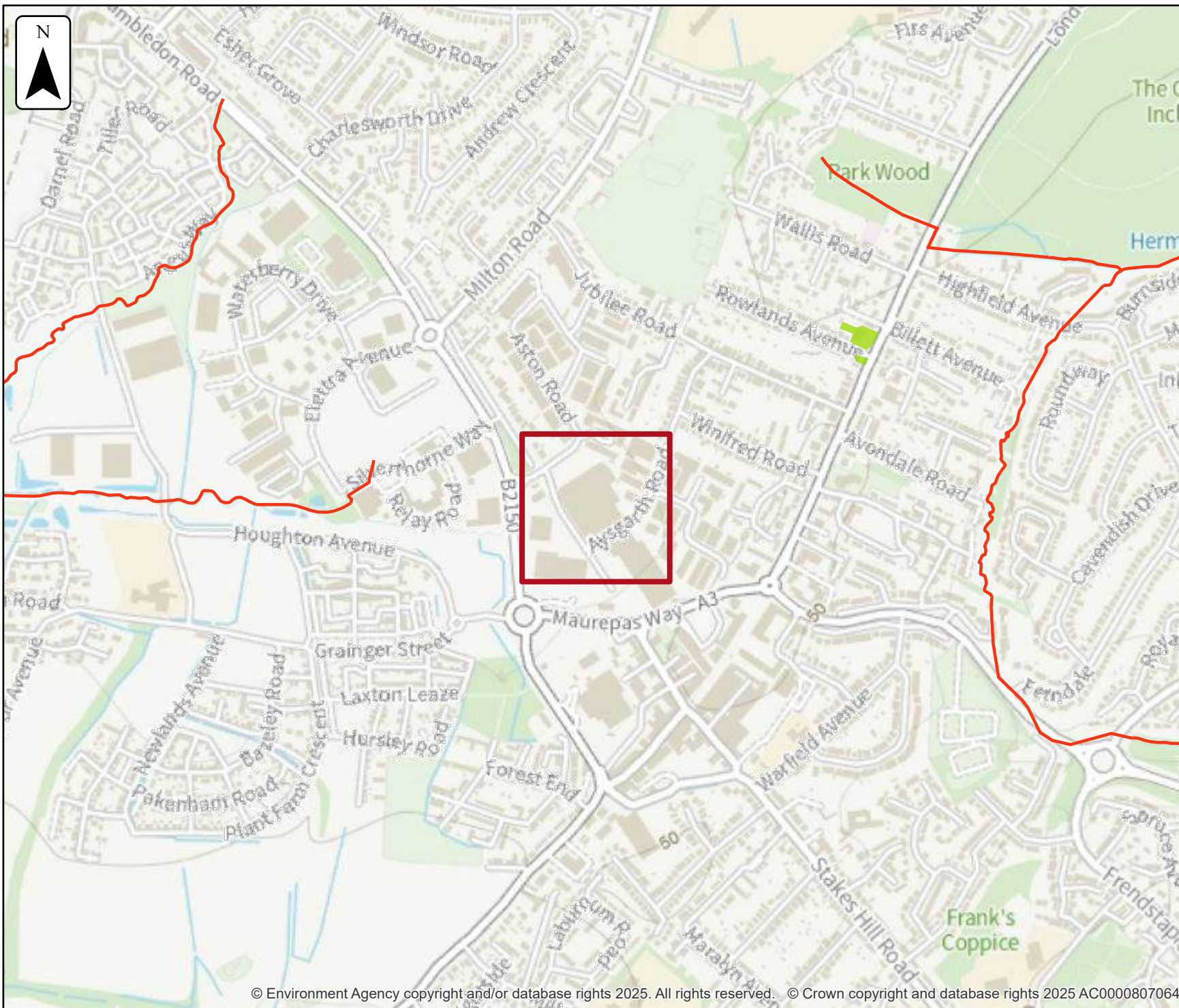
The recorded flood outlines are a geographical information system (GIS) data layer that show our verified records of areas that have flooded in the past from:

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



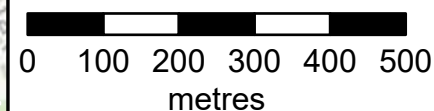
Past floods

Location (easting/northing)
468007/109696

Scale
1:10,000

Created
13 Jun 2025

-  Selected area
-  Main river
- Date of flood event
-  October, 2000



Data on past flood events

Start date	End date	Source of flood	Cause of flood	Affects location
9 October 2000	9 October 2000	unknown	unknown	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



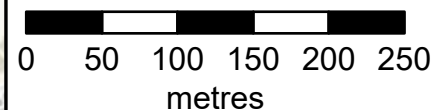
Flood defences

Location (easting/northing)
468007/109696

Scale
1:5,000

Created
13 Jun 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	102778	Embankment	5		37.38	34.80	
2	102779	Embankment	5		35.98	34.67	

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

Modelled data

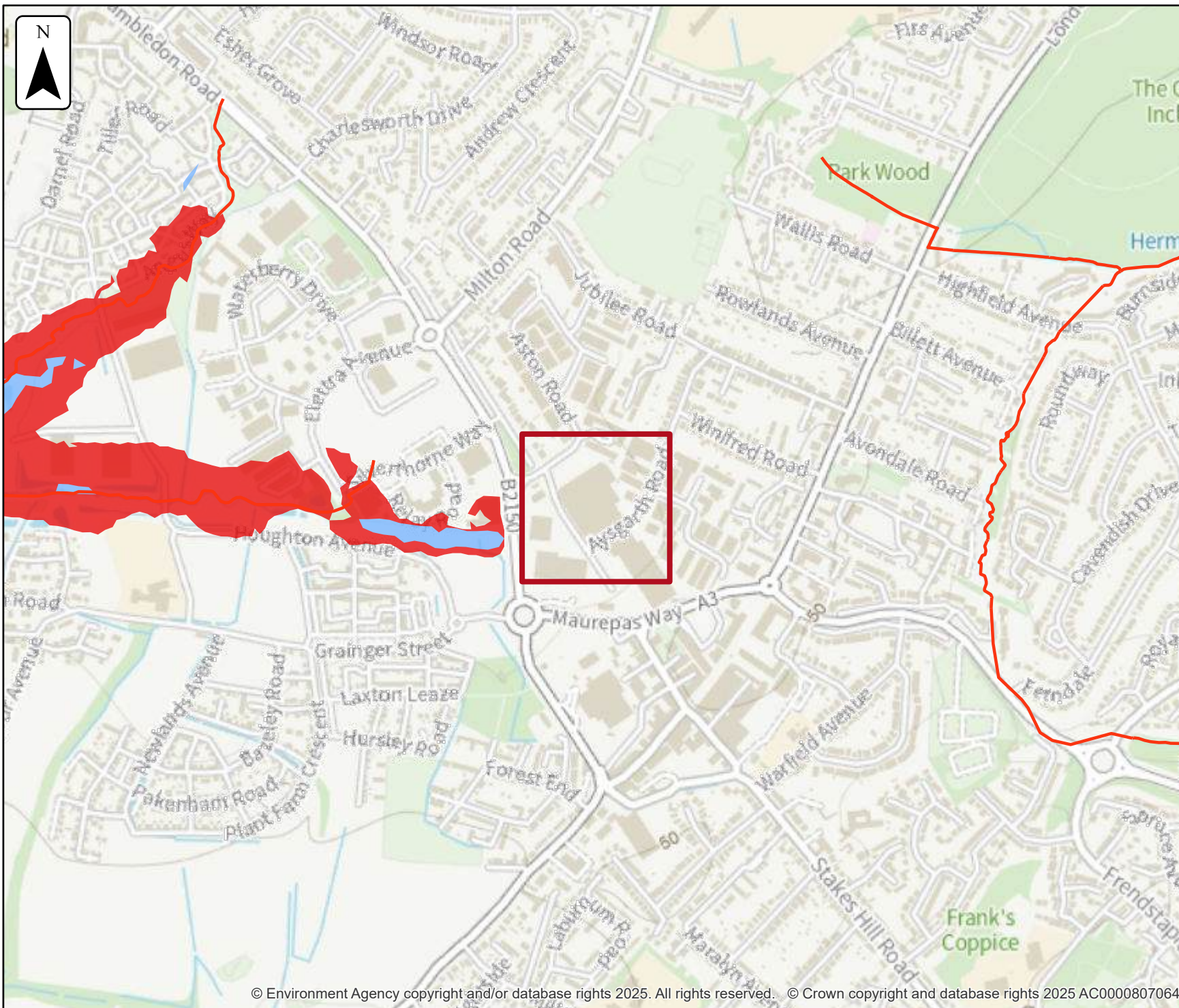
This section provides details of different scenarios we have modelled and includes the following (where available):

- 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

Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences



Defended modelled fluvial extent

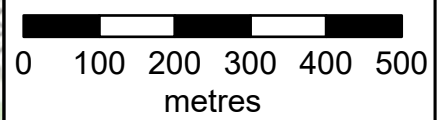
Location (easting/northing)
468007/109696

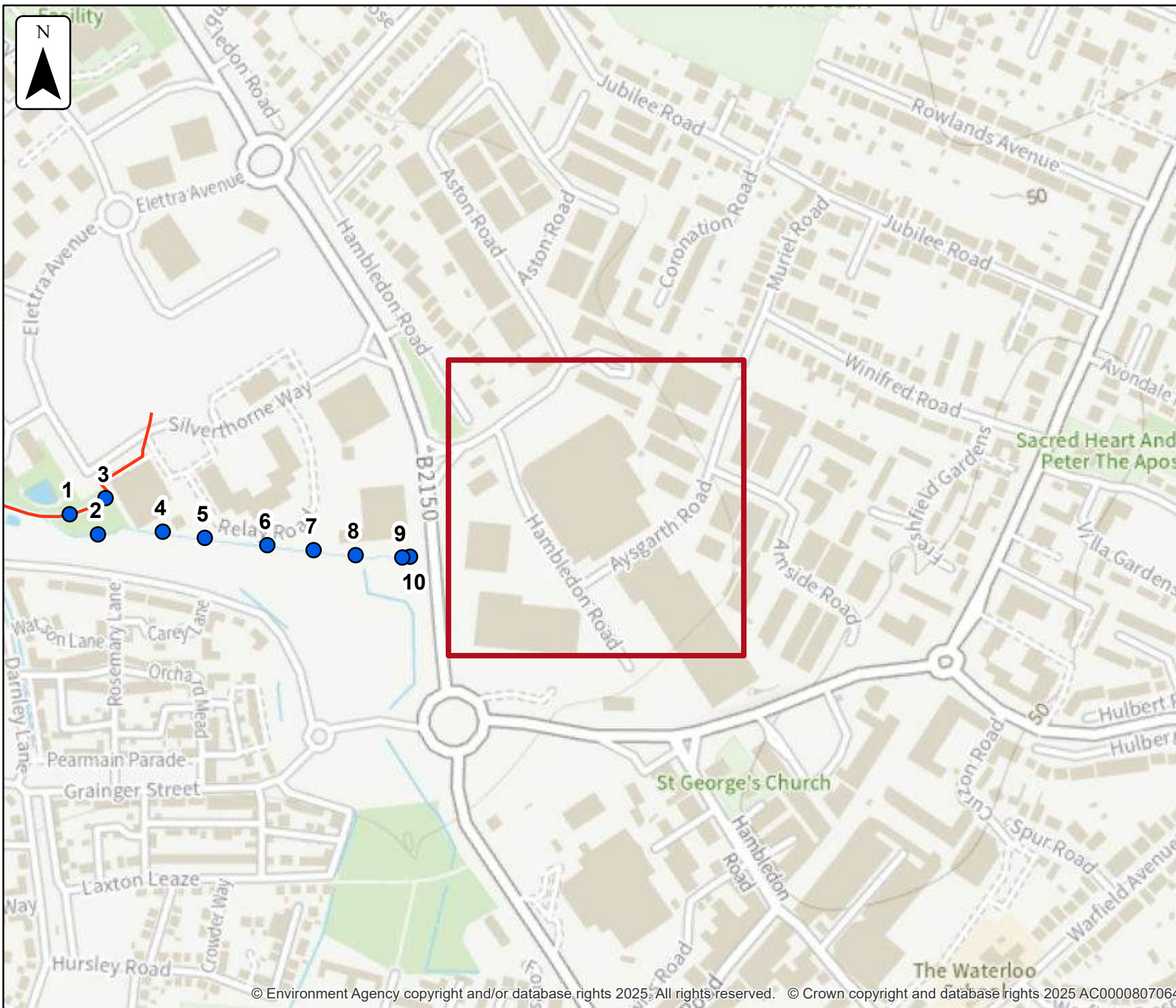
Scale Created
1:10,000 13 Jun 2025

Model name
River Wallington Mapping, 2011

- Selected area
- Main river
- Modelled flood extent
- 1% AEP
- 0.1% AEP

Flood extents may not be visible where they overlap other return periods





Defended modelled fluvial node locations

Location (easting/northing)
468007/109696

Scale Created
1:5,000 13 Jun 2025

Model name
**River Wallington
Mapping, 2011**

-  Selected area
-  Modelled location
-  Main river

0 50 100 150 200 250
metres

Modelled node locations data

Defended

Label	Modelled location ID	Easting	Northing	1% AEP	0.1% AEP	1% AEP	0.1% AEP
				Level	Level	Flow	Flow
1	4741	467496	109690	33.87	34.01	5.65	15.12
2	194115	467524	109670	34.08	34.54	5.63	8.54
3	296157	467531	109705	33.92	34.49	5.68	12.69
4	46024	467586	109673	34.41	34.71	4.32	6.62
5	20549	467627	109667	34.47	34.76	4.65	7.67
6	35551	467688	109660	34.60	34.87	5.11	7.28
7	165024	467733	109655	30.24	30.61	1.23	7.36
8	58140	467773	109650	34.94	35.14	5.02	9.13
9	221538	467819	109648	35.03	35.22	5.66	11.67
10	153661	467826	109648	35.08	35.23	5.68	12.69

Data in this table comes from the River Wallington Mapping, 2011 (Defended) model.
 Level values are shown in mAOD, and flow values are shown in cubic metres per second.
 Any blank cells show where a particular scenario has not been modelled for this location.

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 Hampshire 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