

Project_
**Change of Use Development
39 Brighton Road, Worthing**

Title_
Flood Risk Assessment

Project No_
1204

Date_
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A

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This flood risk assessment has been prepared in accordance with the NPPF, Local Planning Policies and the NPPG. Any recommendations regarding levels are based on the relevant British Standards, the standing advice provided by the EA, or based on common practice.

Flo Consult UK Ltd do not guarantee that the advice in this report will guarantee the availability of flood insurance either now or in the future.

Author	Date	Revision
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Contents	Page
1. Introduction	1
2. National and Local Guidance and Policies	2
3. Site Setting and Description	3
4. Sources of Flooding	4
5. Sourced Data	5
6. Probability of Flooding	9
7. Flood Risk and Vulnerability	11
8. The Sequential Test	14
9. Safe Development over Lifetime	15
10. Safe Access and Egress	19

Appendices

Appendix A	-	Existing Site Plans
Appendix B	-	Proposed Site Plans
Appendix C	-	Southern Water Asset Plans
Appendix D	-	Envirocheck Flood Map Data
Appendix E	-	Environment Agency Flood Risk Assessment Data
Appendix F	-	Adur and Worthing SFRA Level 1 Flood Maps
Appendix G	-	Environment Agency Flood Plan

1. Introduction

This flood risk assessment has been prepared by Flo Consult UK Ltd, on behalf of LTLX Ltd, for a change of use development at 39 Brighton Road, Worthing, BN11 3EF (hereafter referred to as 'the Site').

This report provides a detailed overview of the proposed development and an assessment of it in relation to the flood risk, and how the proposals have been developed in relation to current flood map data and current planning policy and requirements, including:

- National Planning Policy Framework (NPPF), December 2024 (as amended February 2025), Paragraphs 161-163 and 170-182;
- National Planning Practice Guidance (NPPG) ('Flood Risk and Coastal Change' section), released in March 2014 and updated in August 2022;
- Environment Agency and Department for Environment, Food and Rural Affairs guidance;
- Environment Agency and JBA Consulting via Landmark Envirocheck data Service;
- Environment Agency Product 4 Flood Level Data.

And local policies including:

- Worthing Borough Council Local Plan 2020-2036 (Adopted March 2023);
- Adur and Worthing Level 1 Strategic Flood Risk Assessment (SFRA) (July 2024);
- West Sussex LLFA Policy for the Management of Surface Water (November 2018);
- West Sussex Local Flood Risk Management Strategy (May 2014);
- West Sussex Preliminary Flood Risk Assessment (May 2011).

Worthing Borough Council need to be satisfied that the proposed development design principles will address the risk of flooding to the Site, and that the proposals will not in turn increase the risk of flooding to neighbouring land and property.

This FRA has therefore been prepared to identify and evaluate the various possible sources of flood risk, to which the Site might be subjected to, and identify any mitigation; protection; or compensation measures deemed necessary or feasible, including design requirements to promote the use of sustainable drainage systems (SuDS).

2. National and Local Guidance and Policies

2.1. National Planning Policy Framework (NPPF) and National Planning Practice Guidance

The NPPF (December 2024 – updated February 2025)) sets out the Government’s planning policies for England and how these should be applied. It provides a framework within which locally prepared plans for housing and other development can be produced. This document is used to form this surface water management report, with particular attention to Paragraphs 161-163 (Planning for Climate Change) and 170-182 (Planning and Flood Risk).

NPPF Paragraphs 170-182 provide guidance for planning and flood risk, where plans should apply a sequential, risk-based approach to the location of development taking into account current and future impacts of climate change; to ensure that flood risk is not increased elsewhere due to the development; and to incorporate sustainable drainage systems.

NPPG, Paragraph 020 (Reference ID: 7-020-20220825), outlines that the objectives of this FRA are to establish whether a proposed development is likely to be affected by current or future flooding from any source; whether it will increase flood risk elsewhere; whether the measures proposed to deal with these effects and risks are appropriate; whether there is evidence for the local planning authority to apply (if necessary) the Sequential Test; and whether the development will be safe and pass the Exception Test, if applicable.

2.2. Worthing Borough Council Local Plan 2020-2036

Relevant section of Policy DM20 – Flood Risk and Sustainable Drainage state:

- a) *‘The Council will work with relevant bodies to ensure that flood risk in Worthing is managed and reduced. Development should be directed away from areas of highest risk of flooding from any source and opportunities should be taken to reduce flooding through sustainable drainage systems and natural flood management to deliver multi-functional benefits for people and wildlife.*
- b) *A site-specific Flood Risk Assessment must be submitted with planning applications for:*
 - i. *sites of 1 hectare or greater in Flood Zone 1;*
 - ii. *new development (including minor development and change of use) in Flood Zones 2 and 3;*
 - iii. *development that would introduce a more vulnerable class on land at increased flood risk in future or subject to other sources of flooding identified by the Strategic Flood Risk Assessment.*
- c) *The Flood Risk Assessment should be proportionate to the degree of flood risk and appropriate to the scale, nature and location of development. It will need to demonstrate that:*
 - i. *the site has passed the sequential test (this has already been undertaken for all sites allocated in the Local Plan) and within the site the most vulnerable development is located in areas at lowest flood risk from any source unless there are overriding reasons for not doing so;*
 - ii. *Where required by national policy, demonstrate both parts of the exception test have been passed:*
 - *the development would provide wider sustainability benefits to the community that outweigh the flood risk; and*
 - *the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall’.*

3. Site Setting and Description

3.1. Site Location

The Site is in a commercial / residential area of Worthing, is approximately 1.2km south-east of Worthing train station, and is bound by a private access road leading to residential dwellings to the north, commercial / residential buildings leading to Wyke Avenue to the east, Brighton Road to the south, and commercial / residential buildings leading to Warwick Gardens to the west

The postcode at the Site is BN11 3EF, with the co-ordinates being: Easting: 515230, Northing: 102680.

3.2. Existing Site and Topography

As detailed in Appendix A, the Site, in a pre-development state, currently consists of a building used for commercial use at the ground floor and residential units on the 1st and 2nd floors.

There is an external parking area to the north of the Site, with access to the ground floor commercial space being to the front (Brighton Road) and rear (private access Road) of the building, with access to the 1st and 2nd floor unit being to the front (Brighton Road).

3.3. Proposed Development

Refer to Appendix B for proposed development plans, where they show the Site, in a post development state, to be the change of use of part of the ground floor and extension to the loft area above 2nd floor (Class C4 Small HMOs).

The access to HMO A will be from the rear (private access road), and access to HMO B will be from the front (Brighton Road).

3.4. Waterbody / Rivers / Artificial Sources

The nearest waterbody, river or canal to the Site, is the coastline approximately 100m to the south and Teville Stream approximately 2.5 km to the east.

3.5. Public Sewers

As shown on the Southern Water asset map in Appendix C, the nearest sewer networks to the Site are a surface and foul water networks within Brighton Road (south of the Site), and a foul sewer within the access road (north of the Site)

3.6. Ground Conditions

The ground conditions for the Site can be determined via the British Geological Survey (BGS) website, where it shows the ground to be formed of River Terrace Deposits (clay, silt, sand and peat), over bedrock consisting of Lewes Nodular Chalk Formation (chalk).

4. Sources of Flooding

In accordance with the NPPF, flood risk must be assessed for all sources of flooding. All possible sources of flooding, and a brief description of each, are as follows:

4.1. Fluvial Flooding

Fluvial flooding results from watercourses / rivers surcharging and flooding the surrounding areas.

4.2. Coastal Flooding

Coastal flooding results from high tides from the sea.

4.3. Pluvial Flooding

'Pluvial' flooding is that which results from rainfall generated overland flow before the run-off enters any watercourse, drain or sewer. It is more often linked to high intensity rainfall events (typically in excess of 30mm per hour). However, it can also result from lower intensity rainfall or melting snow where the ground is saturated, frozen, developed or has low permeability. This results in overland flow and ponding in depressions in the topography. In urban areas 'pluvial' flows are likely to follow the routes of highways and other surface connectivity to low spots where flooding can occur. In some cases, it can deviate from this route into adjacent developments via dropped kerbs (either for access to driveways or disability access).

4.4. Groundwater Flooding

Groundwater flooding is caused by the emergence of water from sub-surface permeable strata. Fluctuations in the groundwater table can cause flooding should the table rise above the existing ground level. Groundwater flooding events tend to have long durations, lasting days or weeks.

4.5. Flooding from Drains and Sewers

Flooding from drains and sewers is caused when the capacity of the drains and sewers is exceeded and will result in flooding from the manholes.

4.6. Canals, Reservoirs and Other Artificial Sources

Flooding from canals, reservoirs and artificial sources is caused when the capacity of the sources is exceeded, or if there is an infrastructure failure.

5. Sourced Data

Data from the Environment Agency and information from other parties are to be studied to establish which sources of flooding are at the site.

5.1. Environment Agency Flood Maps for Planning

The Environment Agency (EA) fluvial flood zone map shown in Figure 1 indicates that the Site is in **Flood Zone 1**.



Figure 1 – EA Flood Zone Map

The EA fluvial flood extent map shown in Figure 2 indicates that the Site is **within the future climate change (2070-2115) fluvial flood extent area**.



Figure 2 – EA Fluvial Flood Extent – Climate Change (2070 TO 2125)

The EA **surface water / pluvial** extent map shown in Figure 3 indicates that the Site is **outside** the surface water / pluvial flood extent area in the **1 in 30 annual likelihood event**, with an isolated flood area in Brighton Road (south).



Figure 3 – EA Surface Water / Pluvial Flood Extent – 1 in 30

The EA **surface water / pluvial** extent map shown in Figure 4 indicates that the Site is **outside** the surface water / pluvial flood extent area in the **1 in 100 annual likelihood event**, with an isolated flood area in Brighton Road (south).



Figure 4 – EA Surface Water / Pluvial Flood Extent – 1 in 100

The EA **surface water / pluvial** extent map shown in Figure 5 indicates that the Site is **within** the surface water / pluvial flood extent area in the **1 in 1000 annual likelihood event**, with areas to the north (private access road) being **outside** the flood extent area.



Figure 5 – EA Surface Water / Pluvial Flood Extent – 1 in 1000

5.2. Landmark Envirocheck Data Maps

Refer to Appendix D for Landmark Envirocheck flood map data. The data shown on the maps have been sourced from studies by JBA Consulting and the Environment Agency (EA). The summary of each of the maps is as follows:

Flood Data Map

The EA/NRW flood data map also indicates that the Site is in Flood Zone 1.

Pluvial, Fluvial and Coastal Flooding

The Envirocheck (JBA) 75-year return period flood map indicates that there is no pluvial, fluvial or coastal flooding at the Site.

The Envirocheck (JBA) 100-year return period flood map indicates that there is no fluvial or coastal flooding at the Site.

The Envirocheck (JBA) 200-year to 1000-year return period flood map indicates that there is no pluvial, fluvial or coastal flooding at the Site.

Surface Water Flood Depths

The Envirocheck (EA/NRW) 30-year to 1000-year return period flood map indicates that there is no surface water / rainfall flood depth within the Site, and no surface water / rainfall flood depths at the HMO access areas to the front and rear of the building.

The nearest surface water / rainfall flood depths are in the southern road channel of Brighton Road (opposite side to the Site), with depths between 0.0m to 0.15m.

Ground Water Flooding

The Envirocheck / BGS flood data map indicates that at the Site there is limited potential for groundwater flooding at the Site.

The ESI groundwater flood map indicates that there is a low risk of groundwater flooding at the Site.

Canal Failure

The Envirocheck (JBA) canal failure map indicates that the Site is in a canal coverage, but not in a canal failure area.

Historic Flood Map

The Envirocheck historic flood map indicates that there has been no flooding at the Site from any source.

5.3. EA Flood Risk Assessment Data

Flood Risk Assessment Data was issued by the EA on the 25th October 2024 (see Appendix E) which shows:

Flood Zones

The flood data map also indicates that the Site is in Flood Zone 1.

Modelled Flood Outlines

The Tidal Defended map shows the Site **will not flood** during the 0.5% Annual Exceedance Event (AEP) (2012);

The Tidal Undefended map shows the Site **will not flood** during the 0.5% AEP (2115).

5.4. Adur and Worthing Level 1 SFRA (July 2024)

A summary of the Adur and Worthing Level 1 SFRA flood maps (Appendix F) are as follows:

- Appendix A - There is no recoded flood or WSCC recorded flood incidents near the Site.
- Appendix B - The nearest waterbody is the Teville Stream approximately 2.5 km to the east.
- Appendix C - The Site is in Flood Zone 1 (Outside Flood Zone 3b).
- Appendix D - The Site is in Flood Zone 1 (Outside Flood Zone 2).
- Appendix E - The Site is outside the Fluvial and Tidal flood extent with climate change allowances.
- Appendix F - The Site and access areas to the building are outside the Surface Water Extent.
- Appendix G - The Site and access areas to the building are outside the Surface Water Extent with climate change allowances (see Figure 6).



Figure 6 - Adur and Worthing Level 1 SFRA – Appendix G – SW Flooding with Climate Change Allowance

- Appendix I - The Site will not be affected by Surface Water flooding with and without climate change including the impact of tidal flooding.
- Appendix J - Ground water levels are between 0.025m and 0.5m at the Site.
- Appendix K - The Site will not be affected by ground water flooding including the impact of tidal flooding.
- Appendix M - The Site is outside the Flood Alert and Flood Warning area.

5.5. Flood Defence Improvements

The EA published information regarding the flood defences in Worthing, which states:

'The Notice

Announcement of intention not to prepare an environmental statement under regulation 5 (1) of the Environmental Impact Assessment (Land Drainage Improvement Works) Regulations 1999 (Amendment) 2017. Notice is hereby given that the Environment Agency intends to provide an improved level of flood protection in Worthing, West Sussex on the South Coast of England.

The Works

The proposed improvement works are located along an approximate 3.7km stretch of the Worthing frontage, extending from groyne 69 at Sea View Road to groyne 140 opposite Brooklands Brighton Road car park. The proposed scheme constitutes maintenance and reconstruction of the Worthing coastal assets on a short-term (less than 10 years) basis, whilst a longer-term scheme is developed.

Phase 1 comprises timber repairs to groynes and the placement of additional rock to support the groynes will be undertaken in Year 1. This will be followed by a period of monitoring and subsequent beach recycling in Years 2 and 3. As part of Phase 2, volumes of shingle will be moved around within individual sections or moved between the 6 frontage sections. It is assumed that 30% of the required shingle volumes naturally accumulate following the groyne repairs in Phase 1. An ongoing review of updated monitoring data throughout the project lifetime will be undertaken'.

6. Probability of Flooding

6.1. Fluvial Flooding - Probability: Present Day: **LOW**, Future Climate Change: **MEDIUM**

The EA fluvial flood zone map shown in Figure 1 indicates that the Site is in Flood Zone 1, but the EA fluvial future climate change (2070-2115) map indicates that the Site is within fluvial flood extent area.

However:

- The Envirocheck (JBA) 75-year to 1000-year return period flood map indicates that there is no pluvial, fluvial or coastal flooding at the Site;
- The EA model Tidal Defended map shows the Site will not flood during the 0.5% Annual Exceedance Event (AEP) (2012);
- The Tidal Undefined map shows the Site will not flood during the 0.5% AEP (2115), and the ADU
- And Adur AND Worthing Level 1 SFRA shows the Site is outside the flood extents for future tidal flood event including climate change.
- The Envirocheck (JBA) 75-Year to 1000-year return period flood map indicates that there is no fluvial or coastal flooding at the Site.
- There are planned improvements to the flood defences and therefore reducing the risk of future tidal flooding at the Site.

Therefore, based on all the flood map data, there is certainly a low risk of fluvial flooding at the Site for present day, and potential risk (medium risk) of fluvial flooding in the future, due to the EA being the only flood map showing the Site to be in flood extent.

6.2. Pluvial Flooding - Probability: **LOW**

The EA surface water / pluvial extent maps indicate that the Site is outside the surface water / pluvial flood extent area in the 1 in 30 and 1 in 100 annual likelihood event, with an isolated flood area in Brighton Road (south).

The EA surface water / pluvial extent map indicates that the Site is within the surface water / pluvial flood extent area in the 1 in 1000 annual likelihood event, with areas to the north (private access road) being outside the flood extent area.

The Envirocheck (JBA) 75-year to 1000-year return period flood map indicates that there is no pluvial flooding at the Site.

The Envirocheck (EA/NRW) 30-year to 1000-year return period flood map indicates that there is no surface water / rainfall flood depth within the Site, and no surface water / rainfall flood depths at the HMO access areas to the front and rear of the building.

Adur and Worthing Level 1 SFRA flood maps show the Site and access areas to the building are outside the Surface Water Extent with climate change allowances.

The only map that shows pluvial flooding to the Site is the EA 1 in 1000 annual likelihood event map. However, this map cannot be accurate as it shows just an isolated area of pluvial flooding extending over / through the existing buildings along Brighton Road. The pluvial flood water would not extend into the buildings prior to discharging along Brighton Road, as the buildings in this area of Brighton Road are at the same level.

Therefore, based on this assessment and all the other flood maps showing no pluvial flooding (including climate change), the risk of pluvial flooding is deemed to be low.

Therefore, based on the assessed data, the risk of pluvial flooding is deemed to be low.

6.3. Groundwater Flooding - Probability: LOW

The Envirocheck / BGS flood data map indicates that at the Site there is limited potential for groundwater flooding at the Site.

The ESI groundwater flood map indicates that there is a low risk of groundwater flooding at the Site.

Therefore, based on the assessed data, the risk of groundwater flooding is deemed to be low.

6.4. Flooding from Drains and Sewers - Probability: LOW

The nearest sewer networks to the Site are a surface and foul water networks within Brighton Road (south of the Site), and a foul sewer within the access road (north of the Site).

There has been no history of flooding from the sewers, and it is likely that the flood water will be contained within roads and pedestrian due to the upstand kerbs and local low-points to the road channels.

Therefore, the probability of flooding from drains and sewers for the site is deemed to be low.

6.5. Canals, Reservoirs and Other Artificial Sources - Probability: LOW

The Envirocheck (JBA) canal failure map indicates that the Site is in a canal coverage, but not in a canal failure area.

There are no known reservoirs or other artificial sources near the Site, and therefore, the probability of flooding from an artificial source is also deemed to be low.

7. Flood Risk and Vulnerability

The NPPG Paragraphs 077 to 078 set out the flood risk for the Site by assessing the flood zones, flood risk vulnerability classification, and flood risk vulnerability and flood zone 'compatibility'.

7.1. Flood Zones

NPPG Paragraph 077, Table 1 indicates that the flood zones are:

Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3)
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding. (Land shown in light blue on the Flood Map)
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Floodplain	<p>This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:</p> <ul style="list-style-type: none"> • land having a 3.3% or greater annual probability of flooding, with any existing flood risk 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 of flooding). <p>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)</p>

The EA flood map data has identified that the Site is in Flood Zone 1.

7.2. Flood Risk Vulnerability Classification

NPPG Paragraph 066, Table 2 stated the flood risk vulnerability classifications as:

Flood Risk Vulnerability Classification
<p>Essential Infrastructure</p> <p>Essential transport infrastructure (including mass evacuation routes) which should cross the area at risk; Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood; Wind turbines.</p>
<p>Highly Vulnerable</p> <p>Police and ambulance stations; fire stations and command centers; telecommunications installations required to be operational during flooding; Emergency dispersal points; Basement dwellings; Caravans, mobile homes and park homes intended for permanent residential use; Installations requiring hazardous substances consent.</p>
<p>More Vulnerable</p> <p>Hospitals; Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels; Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels; Non-residential uses for health services, nurseries and educational establishments; Landfill* and sites used for waste management facilities for hazardous waste; Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.</p>
<p>Less Vulnerable</p> <p>Police, ambulance and fire stations which are not required to be operational during flooding; Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'More Vulnerable' class; and assembly and leisure; Land and buildings used for agriculture and forestry; Waste treatment (except landfill* and hazardous waste facilities); Minerals working and processing (except for sand and gravel working); Water treatment works which do not need to remain operational during times of flood.</p>
<p>Water-Compatible Development</p> <p>Flood control infrastructure; Water transmission infrastructure and pumping stations; Sewage transmission infrastructure and pumping stations; Sand and gravel working; Docks, marinas and wharves; Navigation facilities; Ministry of Defence installations; Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location; Water-based recreation (excluding sleeping accommodation); Lifeguard and coastguard stations; Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms; Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.</p>

This development is classed as a 'More Vulnerable' as the Site will be a building used for dwelling houses.

7.3. Flood Risk Vulnerability and Flood Zone ‘Compatibility’

Table 3 of the NPPF identifies is a development is appropriate based on the flood zone to which the site lies, and the flood risk vulnerability classification.

NPPF – Table 3 - Flood Risk Vulnerability and Flood Zone ‘Compatibility’					
Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	† Exception Test required	✗	Exception Test required	✓	✓
Zone 3b*	* Exception Test required	✗	✗	✗	✓*

“†” In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

“**” In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

The development is deemed to be ‘**More Vulnerable**’, but as the Site is in **Flood Zone 1**, Table 2 of the NPPG shows the Site is appropriate for development, with **no requirement for an exception test**.

8. The Sequential Test

8.1. The Guidance

NPPF Paragraph 175 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).

NPPF Paragraph 176.

Applications for some minor development and changes of use^(footnote62) should also not be subject to the sequential test, nor the exception test set out below, but should still meet the requirements for site-specific flood risk assessments set out in footnote 63.

Footnote 62 states:

This includes householder development, small non-residential extensions (with a footprint of less than 250m²) **and changes of use**; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the sequential and exception tests should be applied as appropriate.

Footnote 63 states:

A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

8.2. The Sequential Test

The flood map data shows the Site is in Flood Zone 1 with a low probability of flooding from all other sources.

The only potential risk of flooding is from a future tidal flood event due to a rise in sea levels caused by climate change. However, this is shown on the EA flood map for planning only, with Adur and Worthing Level 1 SFRA flood maps showing the Site to be outside the future climate change tidal (fluvial) flood extent.

The Site is 'change of use' and therefore in accordance with Footnote 62 a Sequential Test isn't required, and the Site is less than 1 hectare, is not in an EA Critical Drainage Area, and is not identified in the SFRA as being at increased flood risk in the future.

Therefore, based on the flood map data and type / size of development, the Site meets the Sequential Test and NPPF requirements, and is appropriate.

However, an assessment is to be made to ensure that the Site is safe for its lifetime, with details below.

9. Safe Development over Lifetime

There is a known housing shortage in the Worthing area, especially for residential dwellings that are suitable for first-time buyers (i.e. flats). There is a declining requirement for commercial space, and therefore converting existing buildings to HMOs will benefit the community and will also prevent new homes being built elsewhere.

As the Site (has potential risk of tidal flooding in the future, a 5-stage sequential approach is to be taken into consideration for the conversion design. The 5-stage sequential approach sets out suitable flood mitigation, resistance and resilience measures for the Site, to ensure it is safe for its lifetime in terms of its occupants / residents.

9.1. Stage 1 - Understanding the Flood Risk

The EA fluvial flood extent map shows that the Site is within the future climate change (2070-2115) fluvial flood extent area.

9.2. Stage 2 – Avoiding the Risk

The existing building is to have appropriate flood mitigation, resistance and resilience measures installed, with the occupants of the HMOs evacuating the building when necessary, and to follow appropriate action.

Flood Warning

Coastal / tidal flooding at the Site should only occur during an exceedance event beyond the design capacity of the flood defences, or in the event of a failure of the flood defences.

The risk of flooding from coastal / tidal sources is dependent on the prediction of high tides in combination with atmospheric conditions generating a surge event.

Given the likely **predictable nature** of such events potentially coinciding, flood warnings could be issued within a sufficient timeframe to allow residents of the HMOs to prepare for flooding, protect the building and evacuate if necessary.

The EA and Met Office provide flood warnings up to five days in advance. These warnings can be coupled with specific on-site systems to provide a useful system of escalation tide to specific actions.

All future occupants / owners of the residential units are to sign up to Flood Warnings Direct (FWD) from the EA and to Weather Alerts from the Meteorological Office and to act upon the guidance provided.

The flood warning and how to sign up to the flood warnings will be provided to the occupants of the HMOs on completion of the conversion works and / or new purchase / rental agreements.

The EA operates a Flood Forecasting and Warning Service in areas at risk of flooding from rivers or the sea, which relies on direct measurements of rainfall, river levels, tide levels, in-house predictive models, rainfall radar data and information from the Met Office. This service operates 24 hours a day, 365 days a year.

Flood Warnings Direct (FWD)

Floodline Warnings Direct is a free service operated by the EA that provides flood warnings direct to you by telephone, mobile, email, SMS text message and fax. Sign up for Floodline Warnings Direct by calling Floodline on 0845 988 1188 or going online and using the link: [Home page - Sign up for flood warnings - GOV.UK \(environment-agency.gov.uk\)](https://www.environment-agency.gov.uk)

Estimated Flood Warning Time

It is important to determine the estimated lead time between the EA sending out the warning and the time flooding might occur, and depending on the cause / type of flooding the estimated duration of the flood.

The occupants of the HMOs will take necessary action when the type of warning and timing is known.

Alarm

An alarm in the form of telephone calls, mobile calls, emails, or SMS text messages will be raised when a specific warning or trigger is received. The flood warning code sent in the alarm from the EA will be as set out in Figure 9.

This alarm will be obvious to the occupants of the HMOs and they will be clear on how to respond. Alarms will also take into account those with sensory or mobility impairment.

Flood Evacuation Plan

The owners of the HMOs will make an emergency plan, where the form shown in Appendix G is to be completed.

Details of the flood warning, alarms, warning codes and flood plan will be given to the new occupants of the HMO at the when signing the rental agreement, and will made available on the noticeboards in the communal areas and entrances of the HMOs.

Flood Warning Codes

ONLINE FLOOD RISK FORECAST

Meaning

Be aware.
Keep an eye on the weather situation.

General advice

- Check weather conditions.
- Check for updated flood forecasts on the Environment Agency website.



FLOOD ALERT

Meaning

Flooding is possible
Be prepared.

General advice

- Be prepared to act on your flood plan.
- Prepare a flood kit of essential items.
- Monitor local water levels and the flood forecast on our website.



FLOOD WARNING

Meaning

Flooding is expected.
Immediate action required.

General advice

- Move family, pets and valuables to a safe place.
- Turn off gas, electricity and water supplies if safe to do so.
- Put flood protection equipment in place.



**SEVERE FLOOD
WARNING**

Meaning

Severe flooding.
Danger to life.

General advice

- Stay in a safe place with a means of escape.
- Be ready should you need to evacuate.
- Co-operate with the emergency services.
- Call 999 if you are in immediate danger.

WARNING NO LONGER IN FORCE

Meaning

No further flooding is currently expected in your area.

General advice

- Be careful. Flood water may still be around for several days.
- If you've been flooded, ring your insurance company as soon as possible.

Figure 7 – Environment Agency Flood Warning Codes

9.3. Stage 3 – Substitution

In all flood events, fluvial flood water will be prevented from entering the Site, and therefore ensure that no flooding occurs within any areas of the ground floor HMO bedrooms.

9.4. Stage 4 - Land Raising, Flood Control and Surface Water Management

Land Raising

Raising the external or internal threshold is not Architecturally feasible, as there isn't sufficient head room to the existing ground floors, and therefore the risk to the Site will remain the same.

However, as detailed in Stage 5 there will be flood mitigation, resistance, and resilience measures put into place to prevent flood water ingress.

Flood Water Flow and Flood Water Displacement

The proposed work to the Site is the conversion of the existing building only.

Therefore, as there will be no alterations to the extent of the existing building and no infill to the areas, no flood water flows will be affected, and no flood water will be displaced to neighboring land or properties.

Surface Water Management

The extent of the building will not change from a pre to post development state, with the rainwater pipes and surface water discharge destination also remaining the same.

Therefore, as the Site is for an internal conversion only, the surface water run-off rates and/or volumes will not change, and subsequently there will be no increase in flood risk.

9.5. Stage 5 - Flood Resistance and Resilience Building Techniques

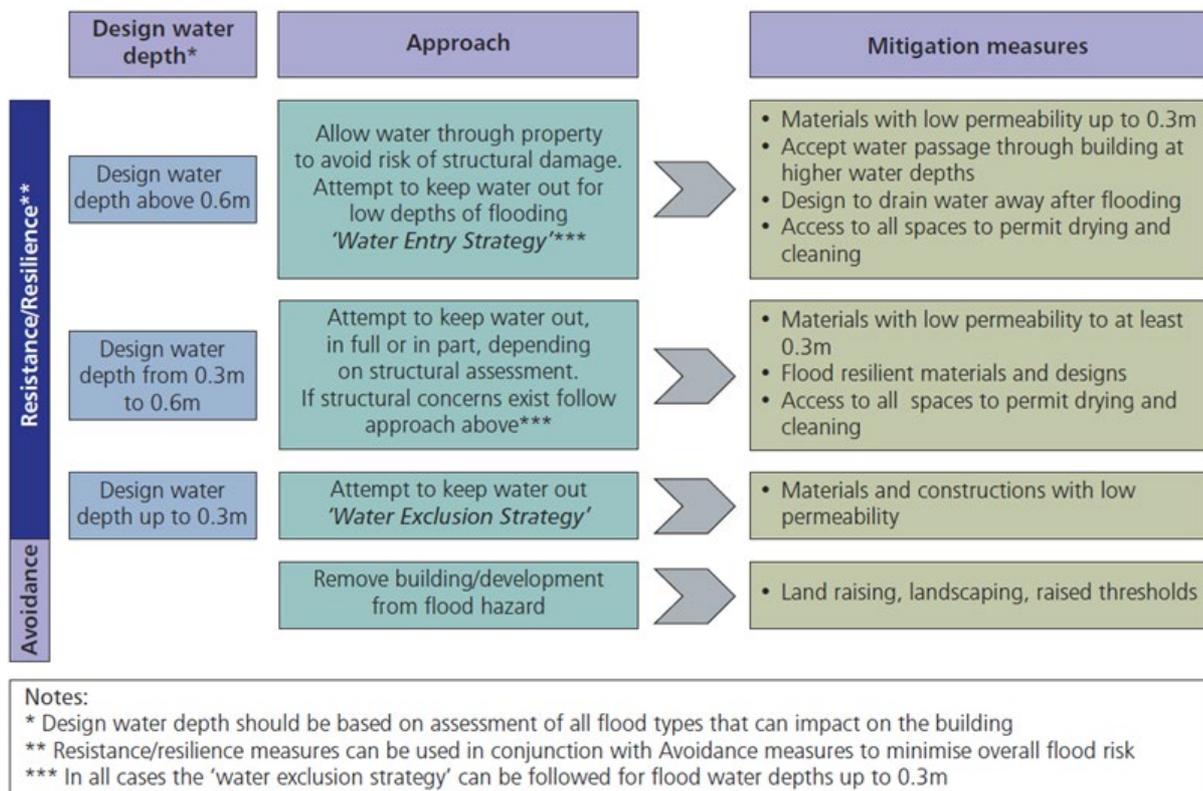


Figure 8 – Design Approach and Flood Resilient Design and Construction Diagram

It is estimated that flooding may only occur during a future fluvial (tidal) climate change event, but with new flood defences in place, the estimated flood levels at the Site are predicted to be less than 0.30m. Therefore, the design will be to attempt to keep water out, with the Site having a 'Water Exclusion Strategy.'

9.6. Water Exclusion Strategy - Flood Resistance and Resilience

The water exclusion strategy will be for levels up to at least 0.30m above the finished floor level will include:

- Installation of flood defence barriers at all opening to the commercial and HMO A areas to at least 0.30m. These will be installed by the occupants of HMO A upon receiving flood warnings;
- The commercial and HMO A areas, at ground floor, will be built with suitable floor finishes of either ceramic or concrete-based floor tiles, stone, and sand/cement screeds. All tiles will be bedded on a cement-based adhesive/bedding compound and water-resistant grout will be used;
- Concrete screeds above polystyrene or polyurethane insulation will be avoided as they hinder drying of the insulation material. Suitable materials for skirting boards will include ceramic tiles and PVC. Ceramic tiles are likely to be more economically viable and environmentally acceptable;
- The materials for the internal walls and floors are materials with good drying ability post flooding event;
- Under floor services using ferrous materials will be avoided;
- Electrical points are to be at least 0.30m above the finished floor level.

10. Safe Access and Egress

10.1. Coastal / Tidal Flooding

The risk of flooding from coastal / tidal sources is dependent on the prediction of high tides in combination with atmospheric conditions generating a surge event.

Given the likely **predictable nature** of such events potentially coinciding, flood warnings can be issued within a sufficient timeframe to allow residents of the HMOs to prepare for flooding, protect the building and evacuate to safe areas.

Therefore, as enough warning (in terms of time) can be given prior to a coastal / tidal flood event safe egress can be from the HMOs.

10.2. Surface Water / Rainfall Flooding

The access area to HMO A will be to the rear (north) of the Site, where all flood maps show no flooding to the private access road. Therefore, safe access and egress can be made to and from HMO A during all surface water / rainfall flood events.

Adur and Worthing Level SFRA flood maps show HMO B access areas to the building are outside the Surface Water Extent with climate change allowances (see Figure 6).

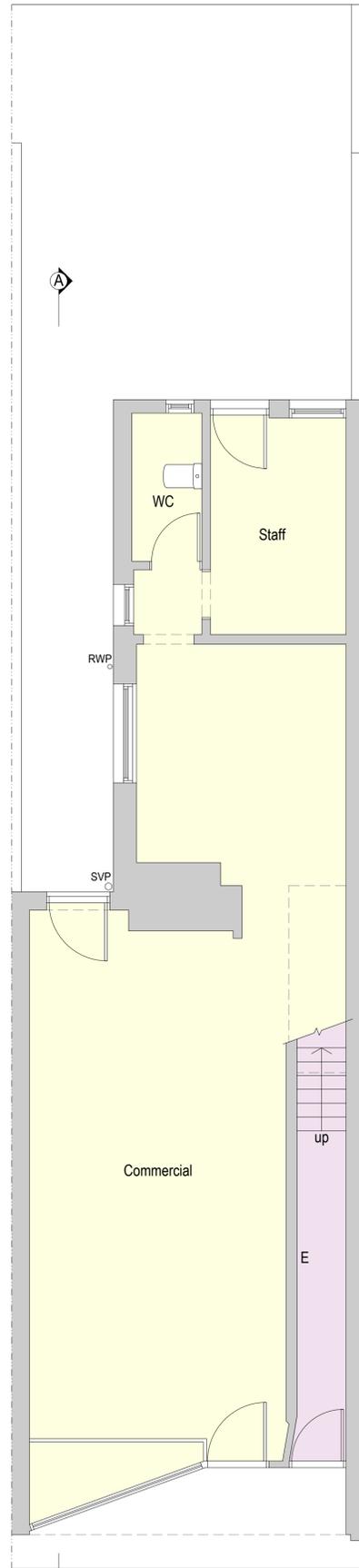
The Envirocheck (EA/NRW) 1000-year return period flood map indicates that there is no surface water / rainfall flood depth within the Site, and no surface water / rainfall flood depths at the HMO B access areas to the front of the building. The nearest surface water / rainfall flood depths are in the southern road channel of Brighton Road (opposite side to the Site), with depths between 0.0m to 0.15m (see Appendix D)

The Envirocheck (EA/NRW) 1000-year return period flood hazard map shows that there is no flood hazard at both of the access areas of the HMOs, with the nearest flood hazard being in the southern road channel of Brighton Road (opposite side to the Site), with depths between 0.0m to 0.15m (see Figure 9).

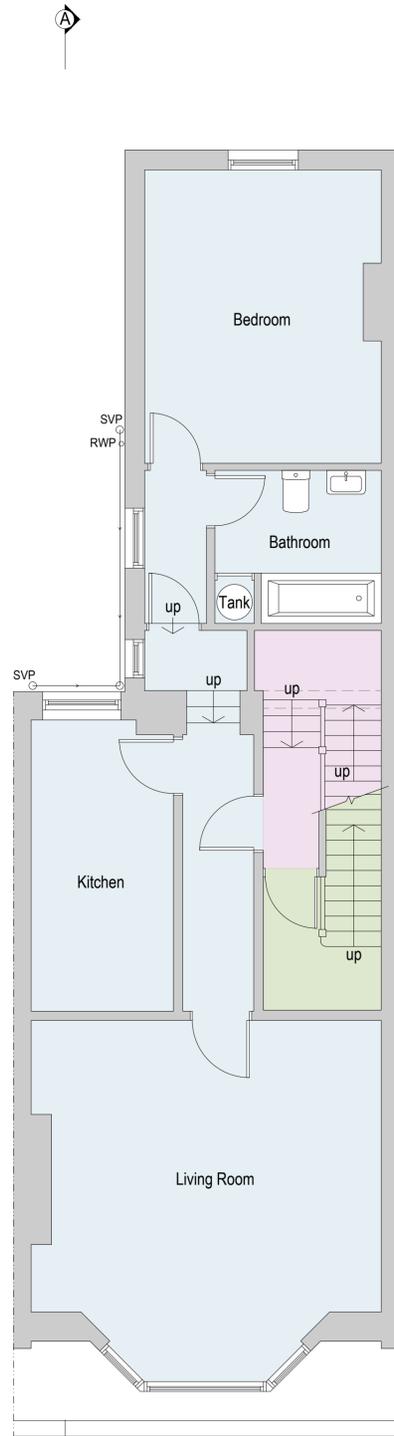
Therefore, based on the flood map data safe access and egress can be made to and from HMO B during all surface water / rainfall flood events.



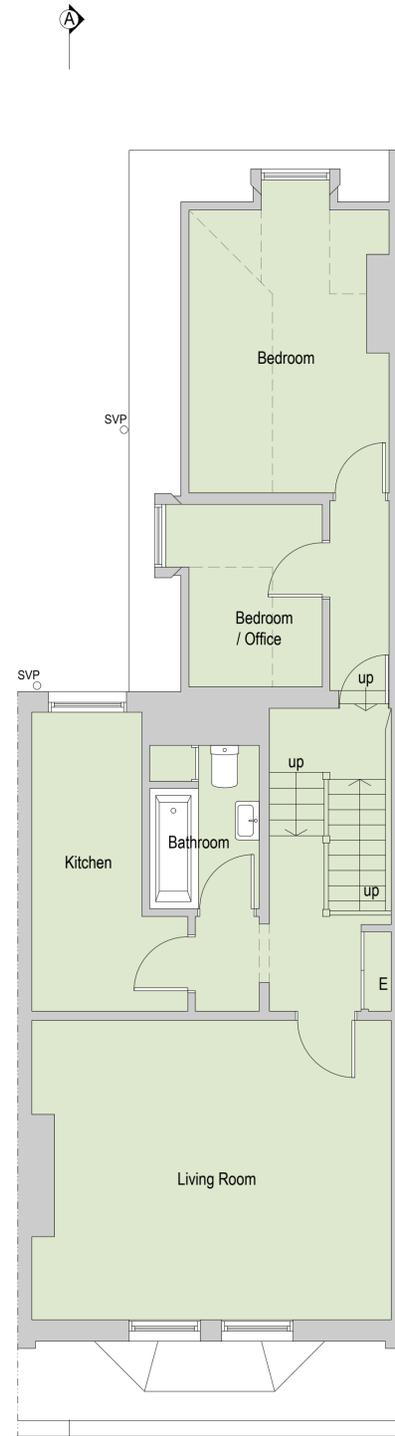
Figure 9 – Envirocheck (EA/NRW) 1000-year return period flood hazard map Extract



Existing Ground Floor Plan 1:50



Existing First Floor Plan 1:50

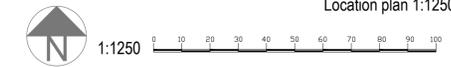


Existing Second Floor Plan 1:50

- Commercial - 61.2m²
- Residential Unit A - 59.8m²
- Residential Unit B - 63.3m²
- Residential Common Access Hallway



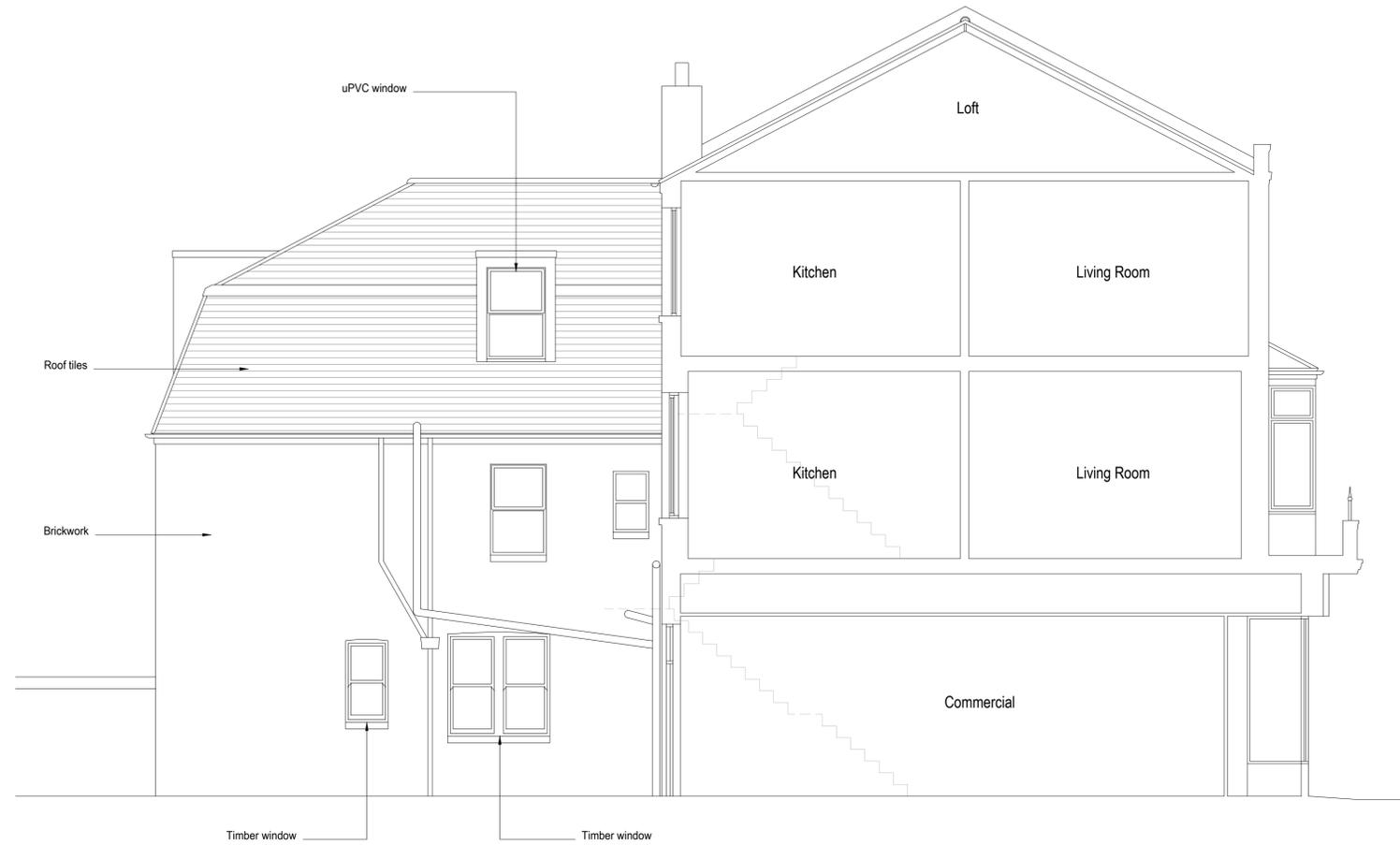
Location plan 1:1250



amendments
bpm Architectural Services Ltd.

client	Joost Taylor
project	39 Brighton Road Worthing BN11 3EF
project ref.	3094 Drawing No. 01
drawing title	Existing plans
drawn by	AW
date	Mar 25 scale 1:50@ A1
	www.bpmnet.co.uk info@bpmnet.co.uk

Do not scale off drawing, check all dimensions on site before all work is commenced. All goods materials workmanship to conform with current building regs BSS and COP's.

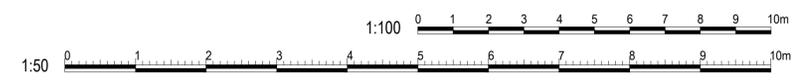


Existing Sectional Elevation A-A 1:50

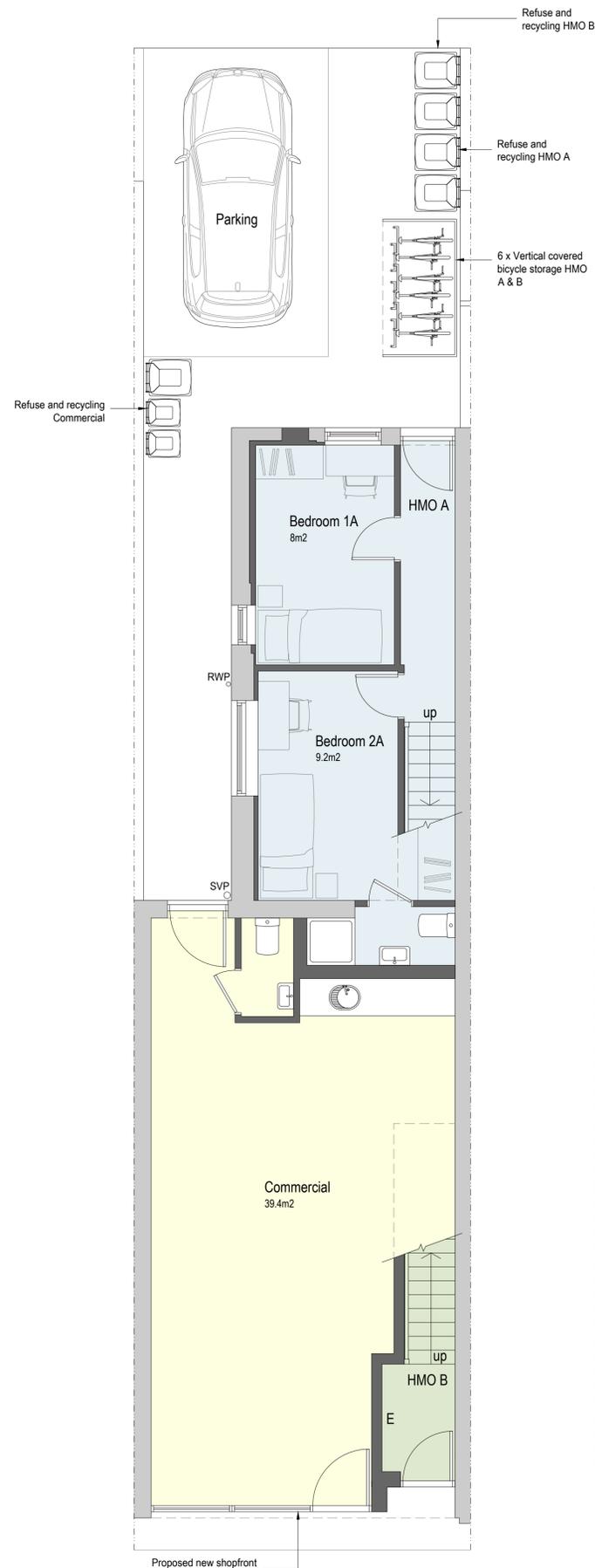


Existing Rear Elevation 1:100

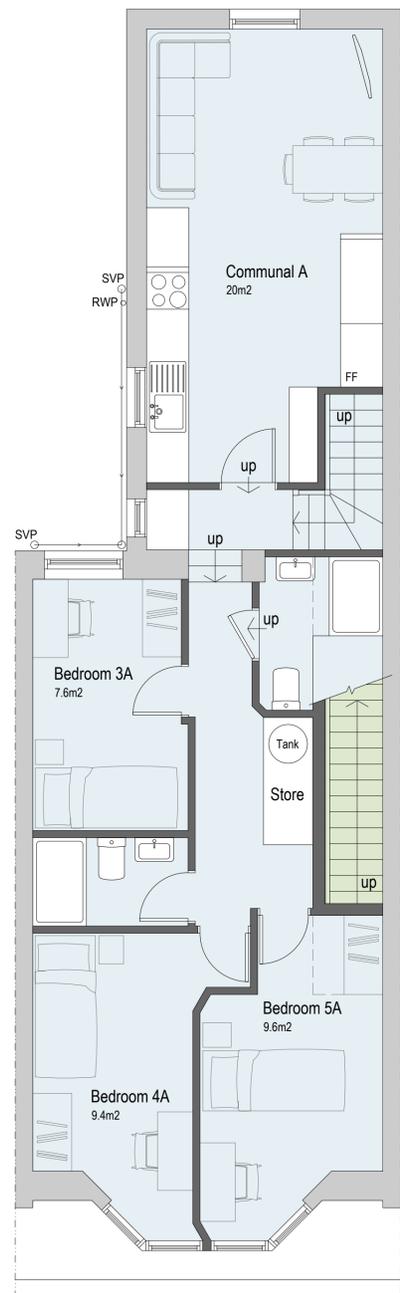
Existing Front Elevation 1:100



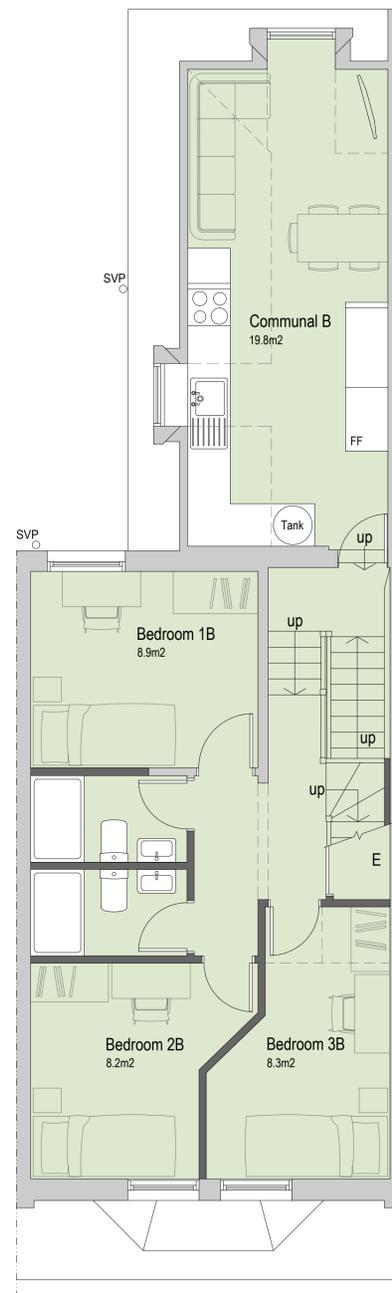
amendments	
bpm Architectural Services Ltd.	
client	Joost Taylor
project	39 Brighton Road Worthing BN11 3EF
project ref.	3094 Drawing No. 02
drawing title	Existing elevations and sectional elevation
drawn by	AW
date	Mar 25 scale 1:50/100@ A1
www.bpmnet.co.uk info@bpmnet.co.uk	
Do not scale off drawing, check all goods materials workmanship to all dimensions on site before all conform with current building regs work is commenced BSS and COP's	



Proposed Ground Floor Plan 1:50



Proposed First Floor Plan 1:50

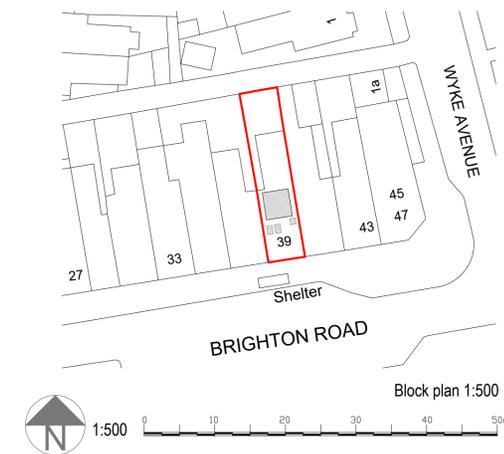


Proposed Second Floor Plan 1:50

- Commercial - 39.4m²
- HMO Unit A - 5 Bedroom (5 Person)
- HMO Unit B - 5 Bedroom (5 Person)



Proposed Loft Floor Plan 1:50



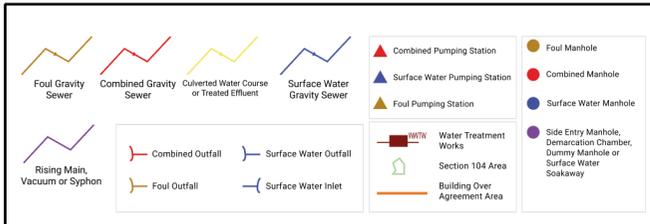
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bpm Architectural Services Ltd.	
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project	39 Brighton Road Worthing BN11 3EF
project ref.	3094 Drawing No. 03
drawing title	Proposed plans
drawn by	AW
date	July 25 scale 1:50@A1
www.bpmnet.co.uk info@bpmnet.co.uk	
<small>Do not scale off drawing, check all goods materials workmanship to all dimensions on site before all work is commenced conform with current building regs BBS and COPs</small>	



(c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122 Date: 18/09/25 Scale: 1:1250 Map Centre: 515228,102675 Data updated: 21/08/25 Our Ref: 1883728 - 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.

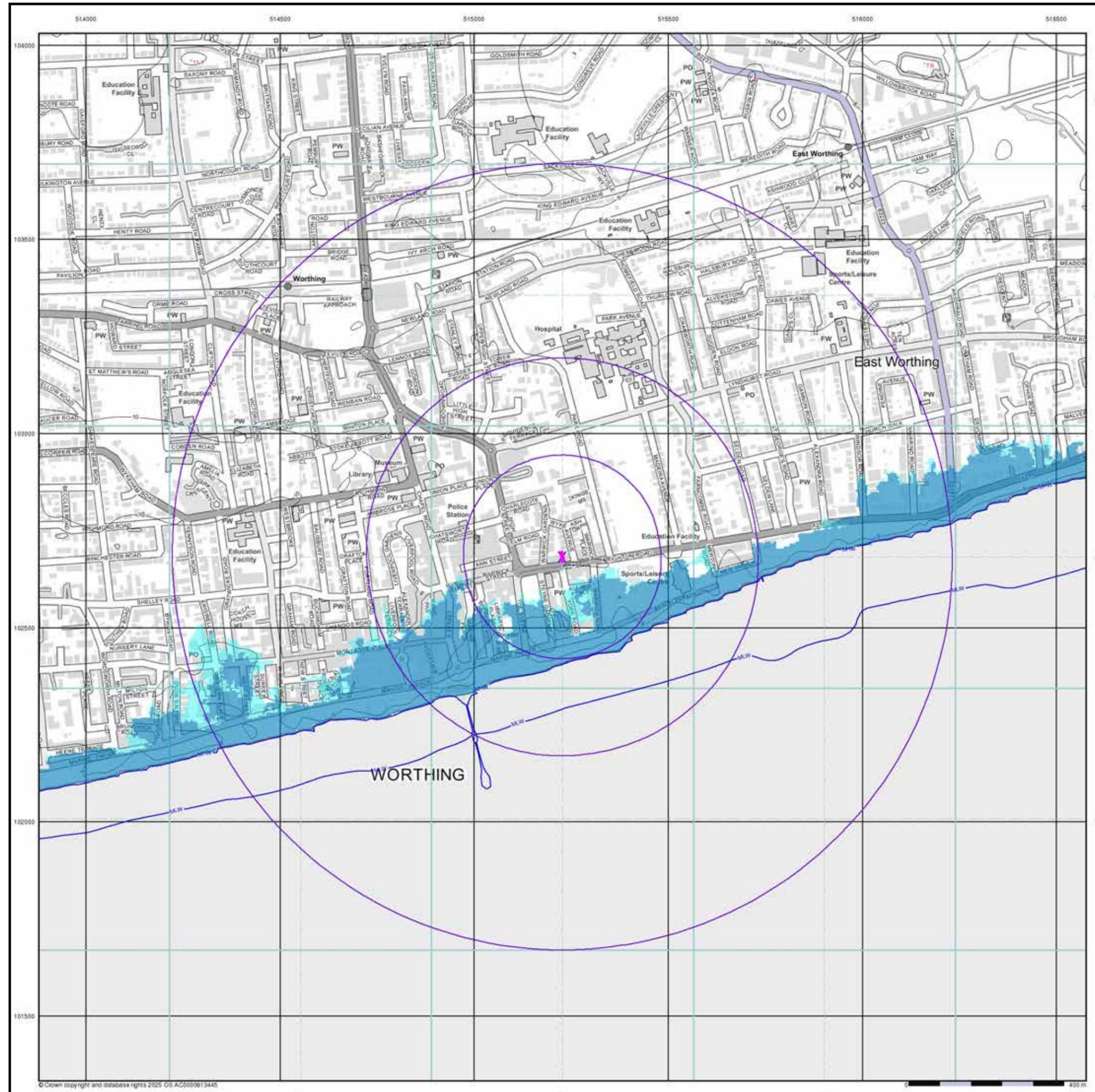


mark@flo-consult.co.uk
 39 Brighton Road



Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
0602	F	5.55	3.91	-
0605	F	0.00	0.00	-
0705	F	6.70	5.49	-
0708	F	5.80	0.23	-
0709	F	0.00	0.00	-
1601	F	6.03	3.61	-
1602	F	5.62	0.90	-
1603	F	5.34	-3.62	-
1604	F	5.34	-0.37	-
1605	F	5.52	0.56	-
1606	F	5.53	0.99	-
1607	F	5.68	1.13	-
1608	F	5.63	0.41	-
1702	F	6.72	3.20	-
1703	F	6.06	2.79	-
1704	F	0.00	0.00	-
2504	F	5.24	1.87	-
2507	F	0.00	0.00	-
2601	F	5.31	4.75	-
2602	F	5.20	4.03	-
2603	F	5.88	4.97	-
2604	F	5.61	0.00	-
2605	F	5.60	1.25	-
2606	F	0.00	0.00	-
2607	F	0.00	0.00	-
2609	F	0.00	0.00	-
2610	F	0.00	0.00	-
2611	F	0.00	0.00	-
2616	F	0.00	0.00	-
2702	F	6.64	3.89	-
2705	F	0.00	0.00	-
3601	F	0.00	0.00	-

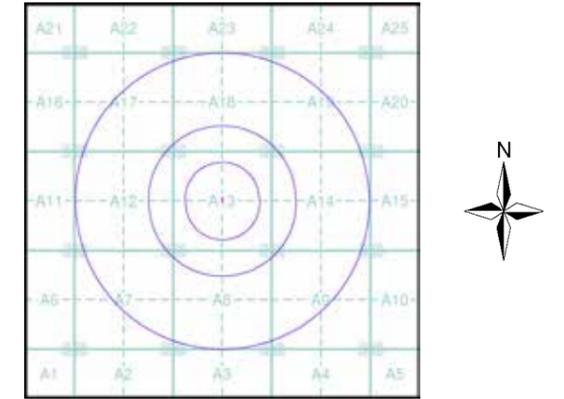
Manhole Reference	Liquid Type	Cover Level	Invert Level	Depth to Invert
3602	F	5.07	1.68	-
3603	F	5.58	1.41	-
3604	F	5.69	0.00	-
3701	F	6.23	0.00	-
3702	F	0.00	0.00	-
3703	F	0.00	0.00	-
0653	S	5.58	3.88	-
0753	S	6.71	5.62	-
0756	S	5.79	3.86	-
0758	S	6.14	5.00	-
1650	S	5.57	3.44	-
1651	S	5.62	3.74	-
1652	S	5.45	3.59	-
1653	S	5.58	0.00	-
1654	S	5.63	0.00	-
1655	S	5.55	3.45	-
1657	S	0.00	0.00	-
1750	S	6.57	5.15	-
2550	S	5.19	2.34	-
2650	S	5.45	2.68	-
2651	S	5.52	2.48	-
2750	S	6.58	5.46	-
3650	S	5.64	3.48	-
3651	S	5.57	3.43	-
3652	S	5.56	3.19	-
3653	S	5.01	2.67	-
3654	S	5.49	0.00	-
3655	S	5.64	0.00	-
3750	S	6.23	4.52	-
3751	S	6.05	4.32	-



EANRW Flood Data Map (1:10,000)

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
- Flood Data**
- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
 - Flooding from Rivers or Sea without Defences (Zone 3)
 - Area Benefiting from Flood Defence
 - Flood Water Storage Areas
 - Flood Defence
- Contours (height in metres)**
- Standard Contour
 - Master Contour
 - Spot Height
 - MLW - Mean Low Water
 - MHW - Mean High Water

EANRW Flood Data Map - Slice A

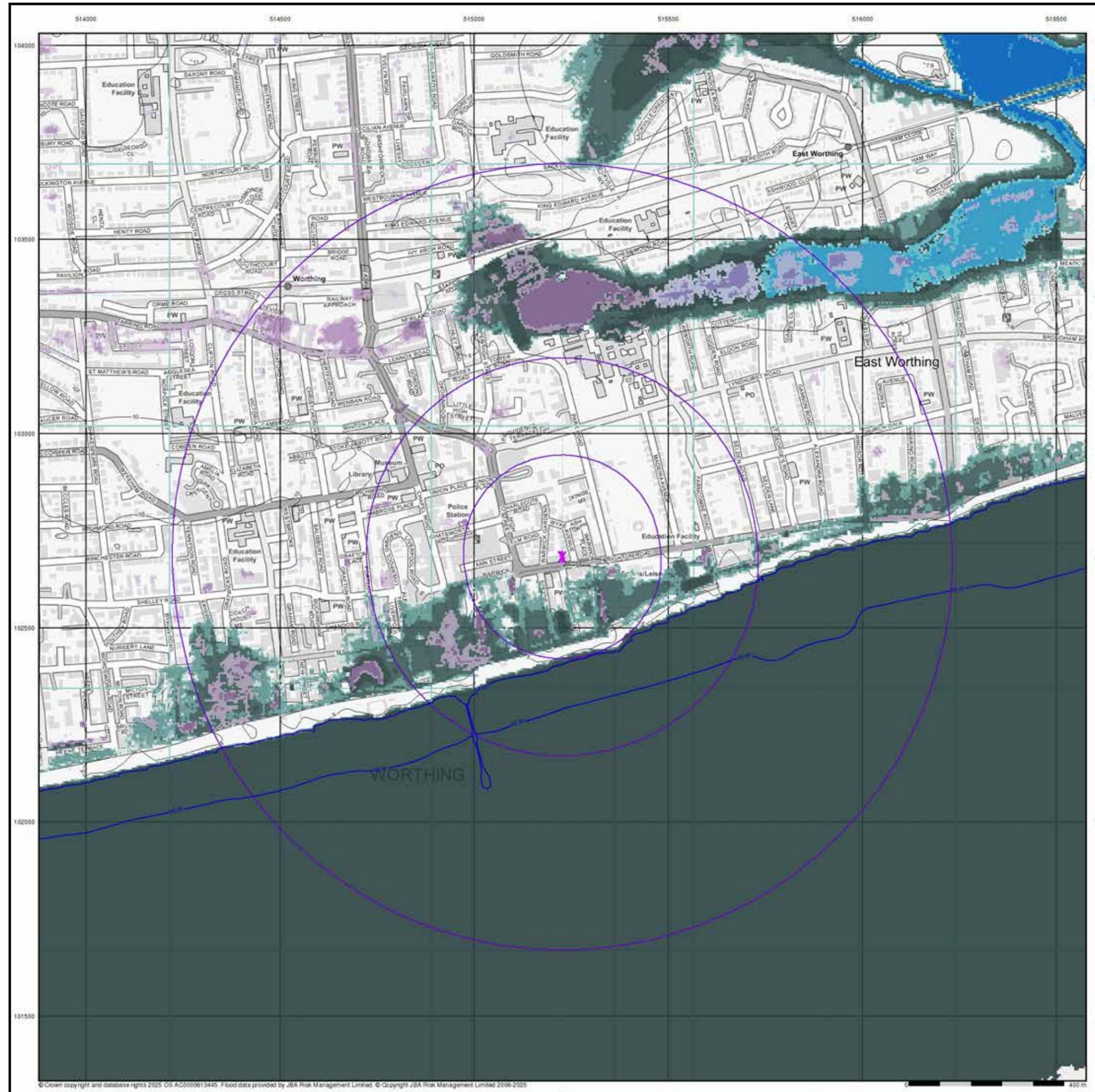


Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF



JBA 75 Year Return Flood Map (Undeferred) (1:10,000)

General

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

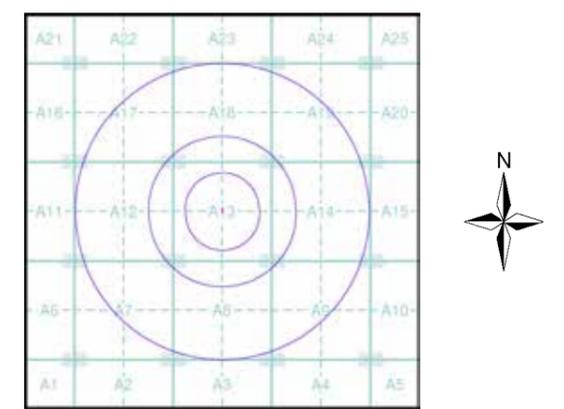
Modelled Flood Depth

Pluvial Depth	Fluvial Depth	Coastal Depth
0.1m	0.01m - 0.05m	0.01m - 0.05m
0.1m - 0.3m	0.05m - 0.1m	0.05m - 0.1m
0.3m - 1m	0.1m - 0.3m	0.1m - 0.3m
>1m	0.3m - 1m	0.3m - 1m
	>1m	>1m

Contours (height in metres)

- Standard Contour: 105, 100, 95
- Master Contour: 105, 100, 95
- Spot Height: 167.8
- MLW - Mean Low Water
- MHW - Mean High Water

JBA 75 Year Return Flood Map (Undeferred) - Slice A



Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF

JBA 100 Year Return Flood Map (Undefended) (1:10,000)

General

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

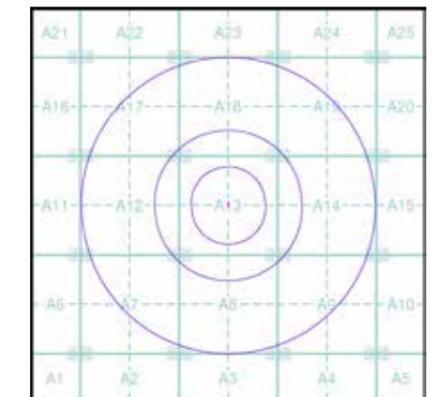
Modelled Flood Depth

Fluvial Depth	Coastal Depth
0.01m - 0.05m	0.01m - 0.05m
0.05m - 0.1m	0.05m - 0.1m
0.1m - 0.3m	0.1m - 0.3m
0.3m - 1m	0.3m - 1m
>1m	>1m

Contours (height in metres)

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

JBA 100 Year Return Flood Map (Undefended) - Slice A

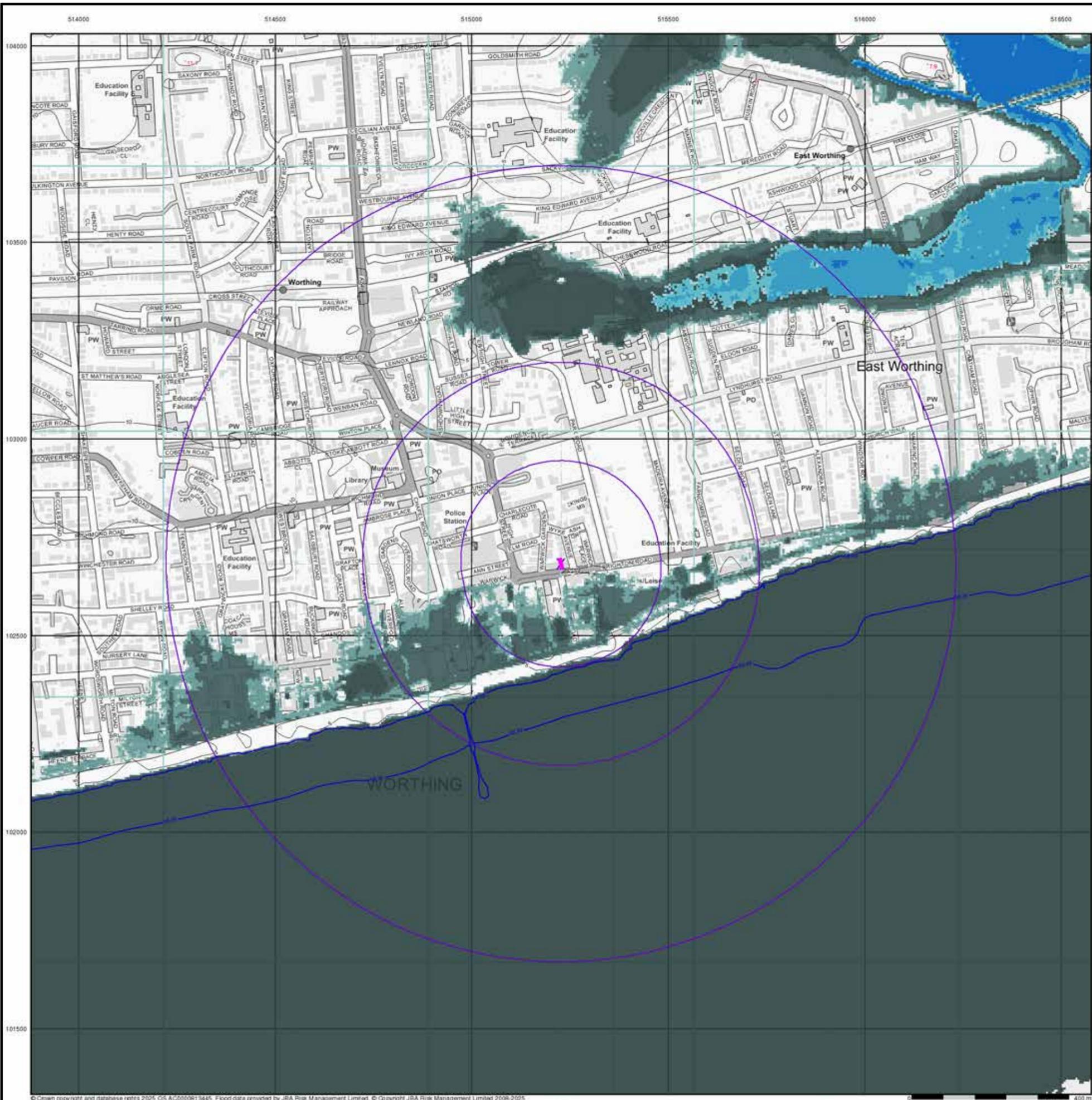


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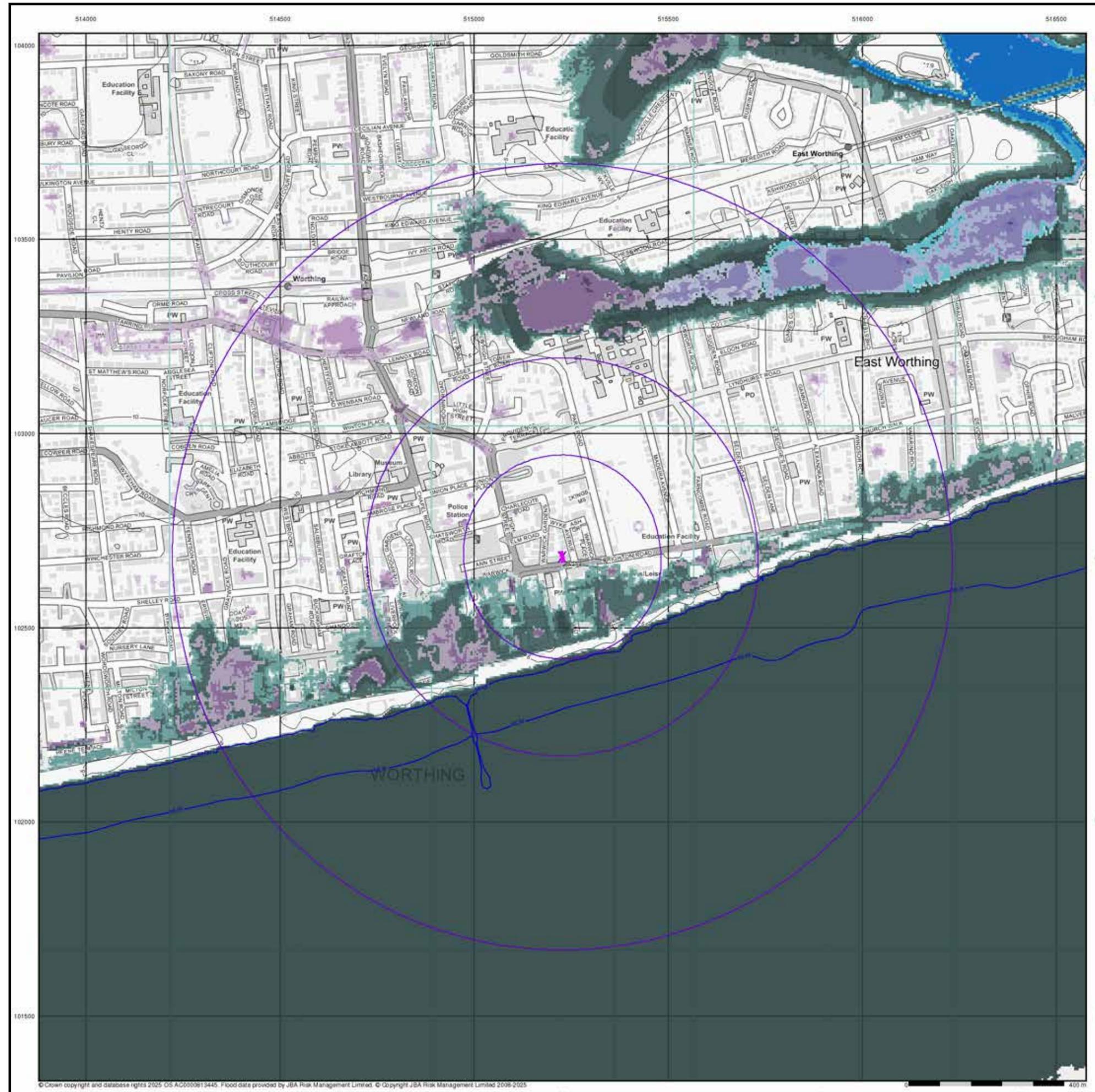
Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF



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JBA 200 Year Return Flood Map (Undefended) (1:10,000)

General

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

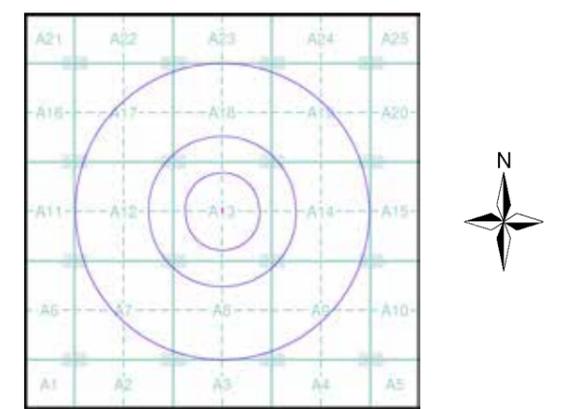
Modelled Flood Depth

Pluvial Depth	Fluvial Depth	Coastal Depth
0.1m	0.01m - 0.05m	0.01m - 0.05m
0.1m - 0.3m	0.05m - 0.1m	0.05m - 0.1m
0.3m - 1m	0.1m - 0.3m	0.1m - 0.3m
>1m	0.3m - 1m	0.3m - 1m
	>1m	>1m

Contours (height in metres)

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

JBA 200 Year Return Flood Map (Undefended) - Slice A



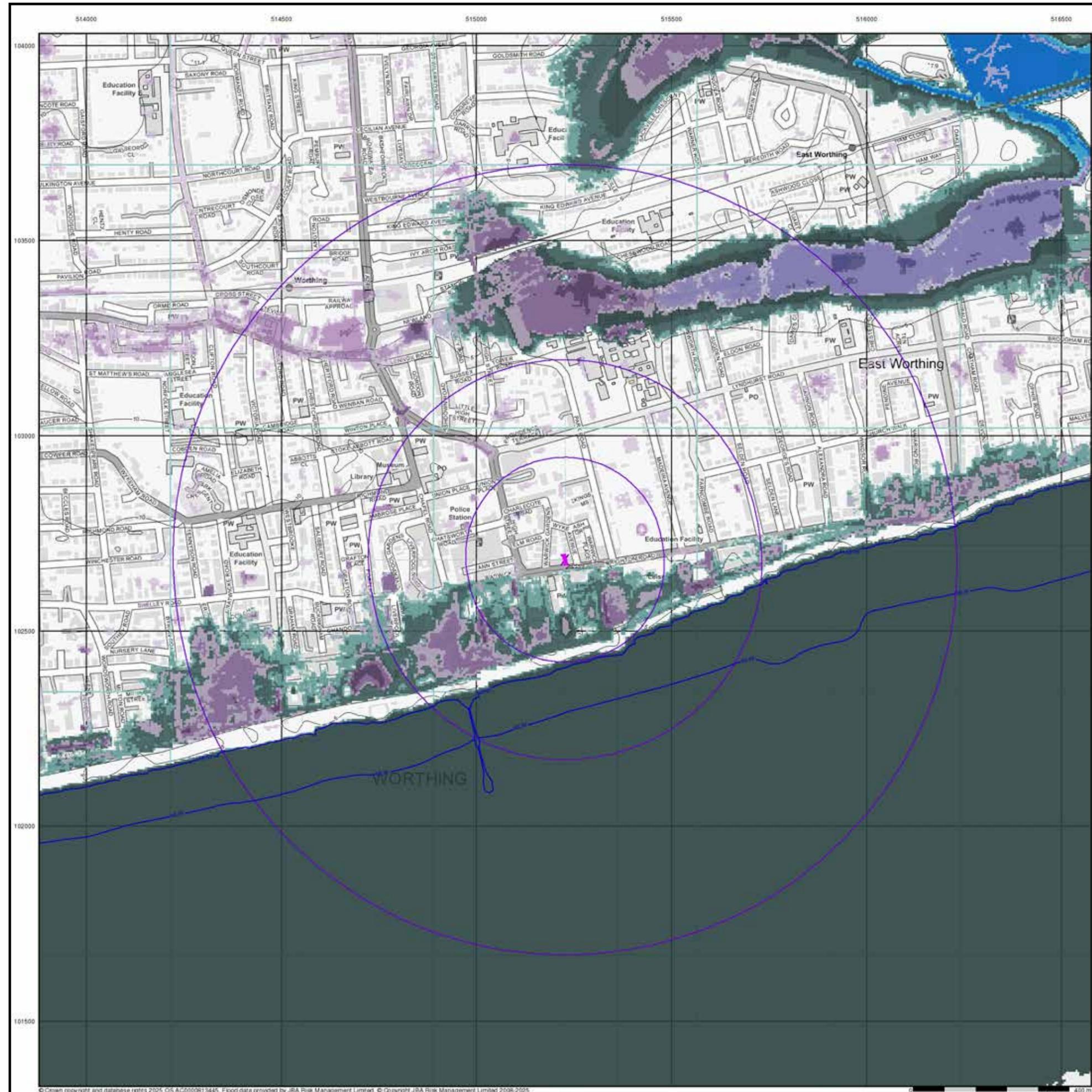
Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF

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JBA 1000 Year Return Flood Map (Undefended) (1:10,000)

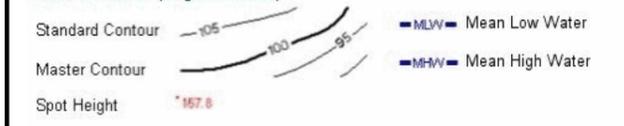
General

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

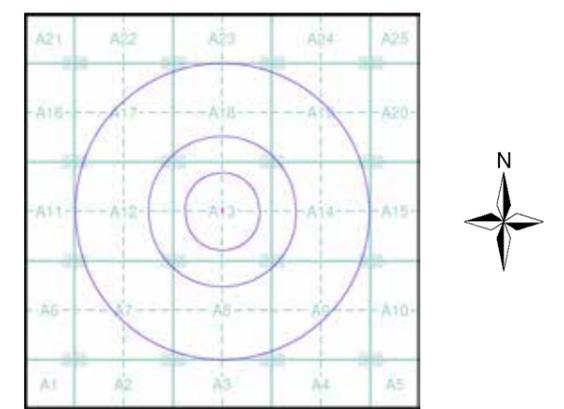
Modelled Flood Depth

Pluvial Depth	Fluvial Depth	Coastal Depth
0.1m	0.01m - 0.05m	0.01m - 0.05m
0.1m - 0.3m	0.05m - 0.1m	0.05m - 0.1m
0.3m - 1m	0.1m - 0.3m	0.1m - 0.3m
>1m	0.3m - 1m	0.3m - 1m
	>1m	>1m

Contours (height in metres)



JBA 1000 Year Return Flood Map (Undefended) - Slice A



Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF



EANRW Surface Water 30 Year Return Depth Map (1:10,000)

General

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

Surface Water Depth

- 0 - 0.15m
- 0.15 - 0.30m
- 0.30 - 0.60m
- 0.60 - 0.90m
- 0.90 - 1.20m
- > 1.20m

Contours (height in metres)

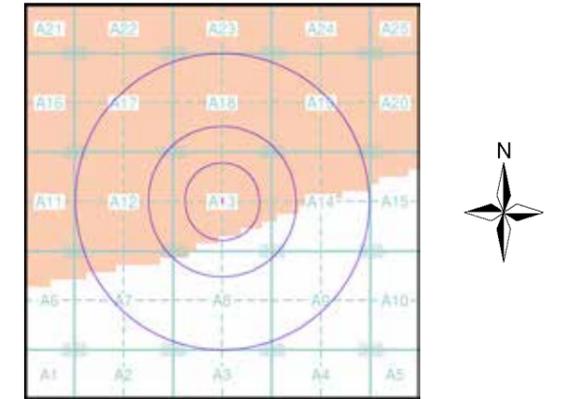
- Standard Contour: 105, 100, 95
- Master Contour: 100
- Spot Height: *167.8
- MLW - Mean Low Water
- MHW - Mean High Water

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EANRW Suitability Map - Slice A

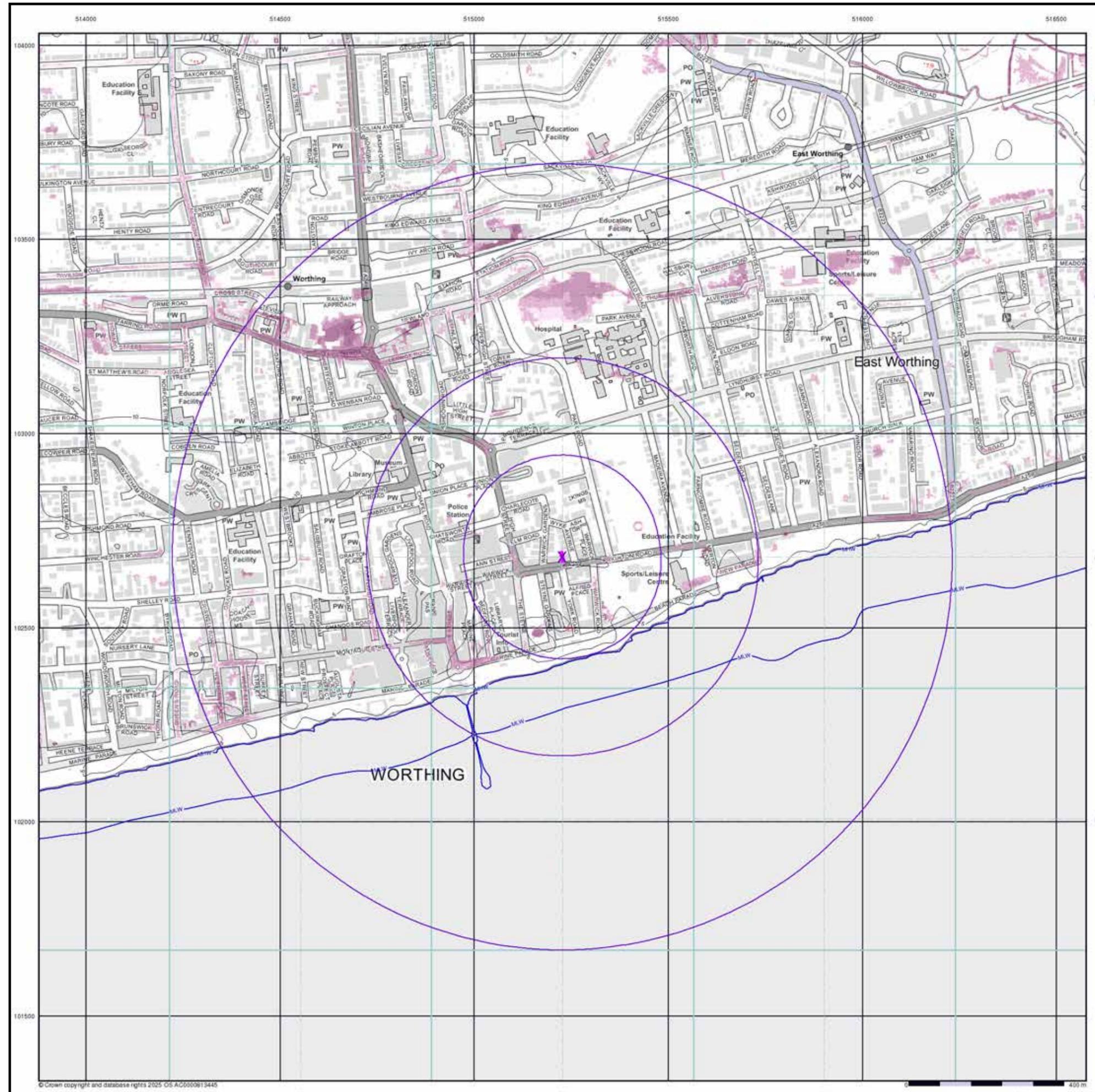


Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF



EANRW Surface Water 100 Year Return Depth Map

General
 Specified Site (pink X) Specified Buffer(s) (purple circle) Bearing Reference Point (X)

Surface Water Depth

- 0 - 0.15m
- 0.15 - 0.30m
- 0.30 - 0.60m
- 0.60 - 0.90m
- 0.90 - 1.20m
- > 1.20m

Contours (height in metres)

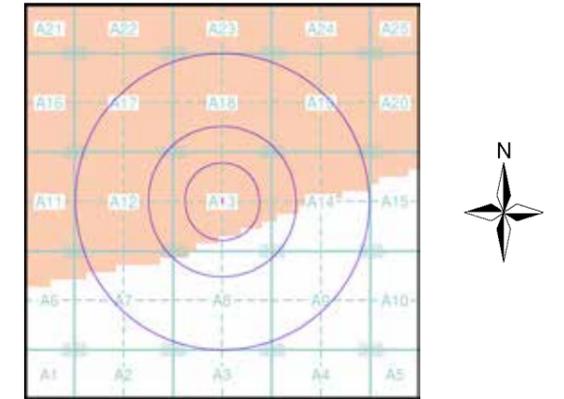
Standard Contour: 105, 100, 95
 Master Contour: 100
 Spot Height: *167.8

MLW Mean Low Water (blue line)
 MHW Mean High Water (blue line)

Suitability
 See the suitability map below

- National to county (light green)
- County to town (orange)
- Town to street (blue)
- Street to parcels of land (pink)
- Property (yellow)

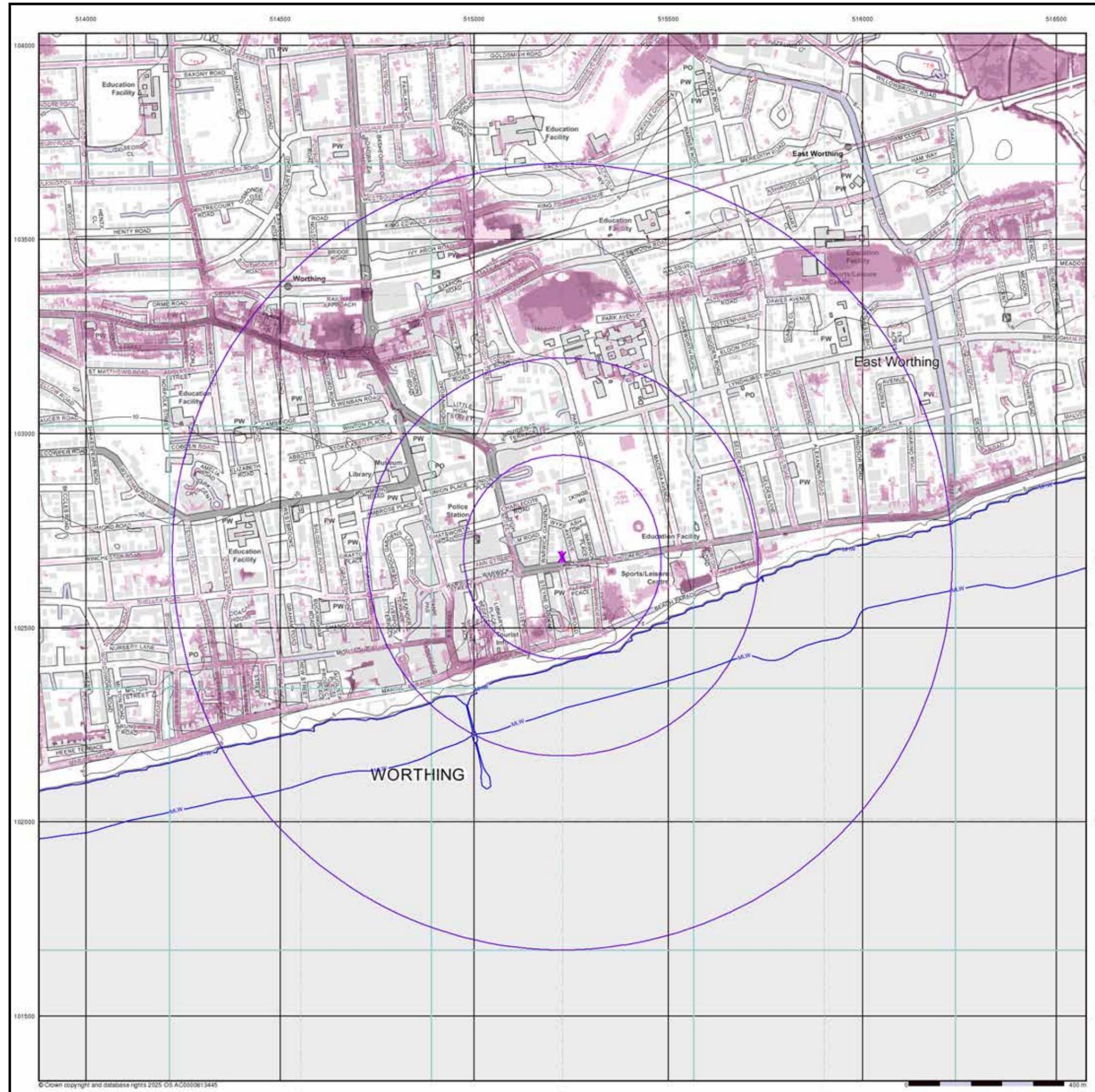
EANRW Suitability Map - Slice A



Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details
 Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF



EANRW Surface Water 1000 Year Return Depth Map (1:10,000)

General

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

Surface Water Depth

- 0 - 0.15m
- 0.15 - 0.30m
- 0.30 - 0.60m
- 0.60 - 0.90m
- 0.90 - 1.20m
- > 1.20m

Contours (height in metres)

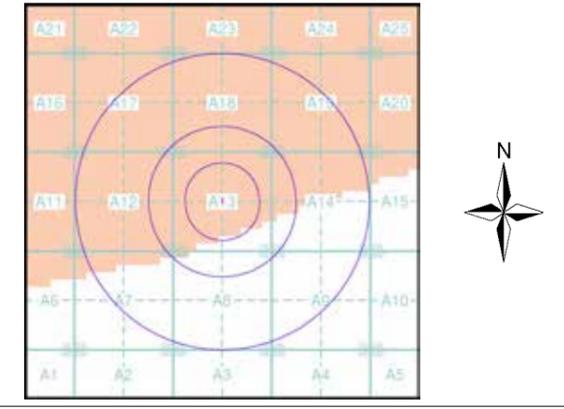
- Standard Contour: 105, 100, 95
- Master Contour: 100
- Spot Height: *167.8
- MLW: Mean Low Water
- MHW: Mean High Water

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EANRW Suitability Map - Slice A

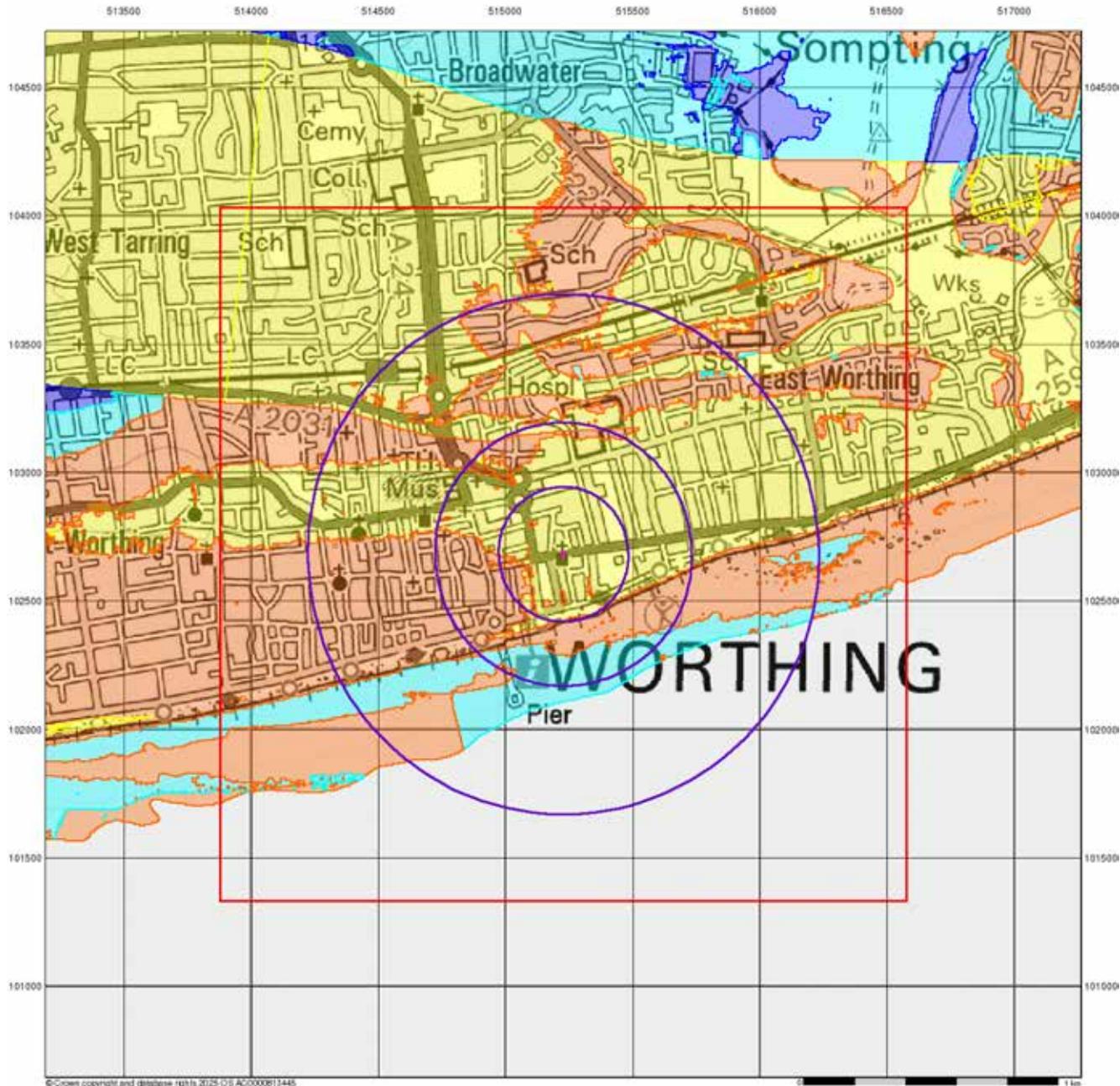


Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF



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1 km

Envirocheck[®]

LANDMARK INFORMATION GROUP[®]

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

General

◇ Specified Site
 ○ Specified Buffer(s)
 ✕ Bearing Reference Point

Slice

GeoSmart Information Groundwater Flooding Risk

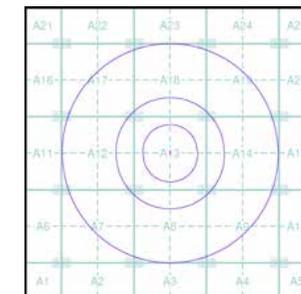
High Risk

Moderate Risk

Low Risk

Negligible Risk

GeoSmart Information Groundwater Flood Map - Slice A



Order Details

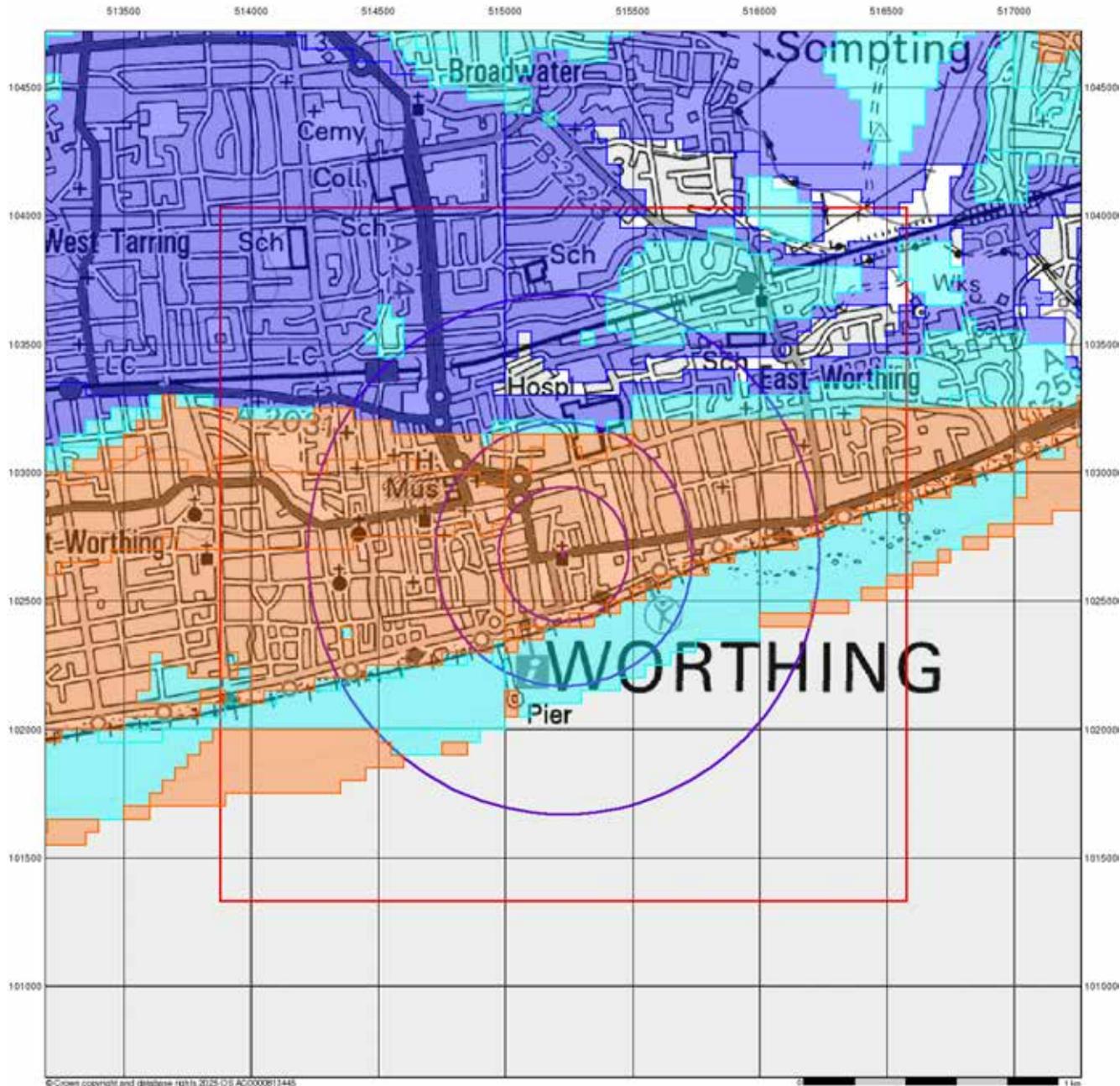
Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF

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Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



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Envirocheck®

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BGS Flood Data (1:50,000)

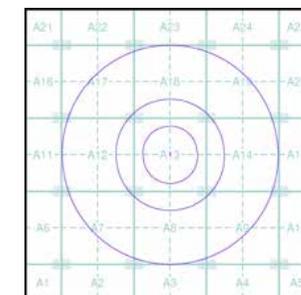
General

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

BGS Groundwater Flooding Susceptibility

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

BGS Flood Data Map - Slice A



Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF

Landmark
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

JBA Canal Failure Map (1:10,000)

General

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

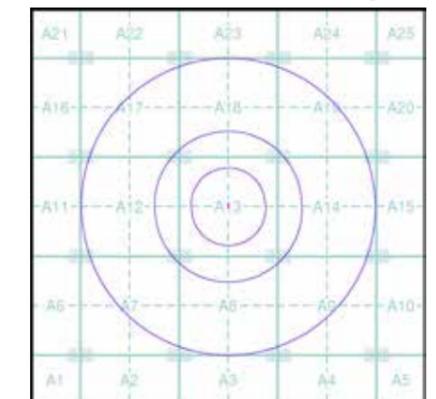
Flood Data

- Canal Failure
- Coverage

Contours (height in metres)

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

JBA Canal Failure Flood Map - Slice A

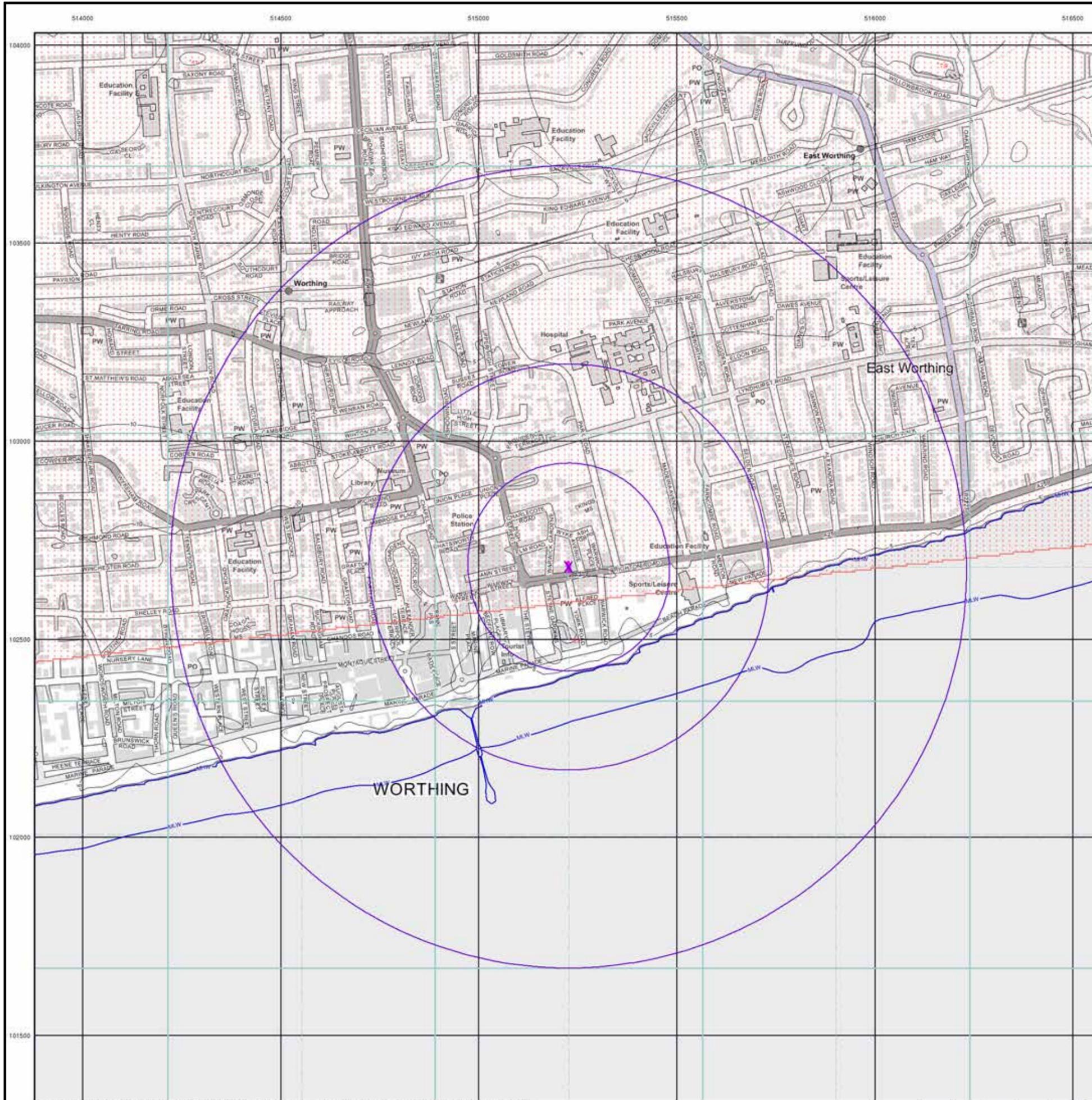


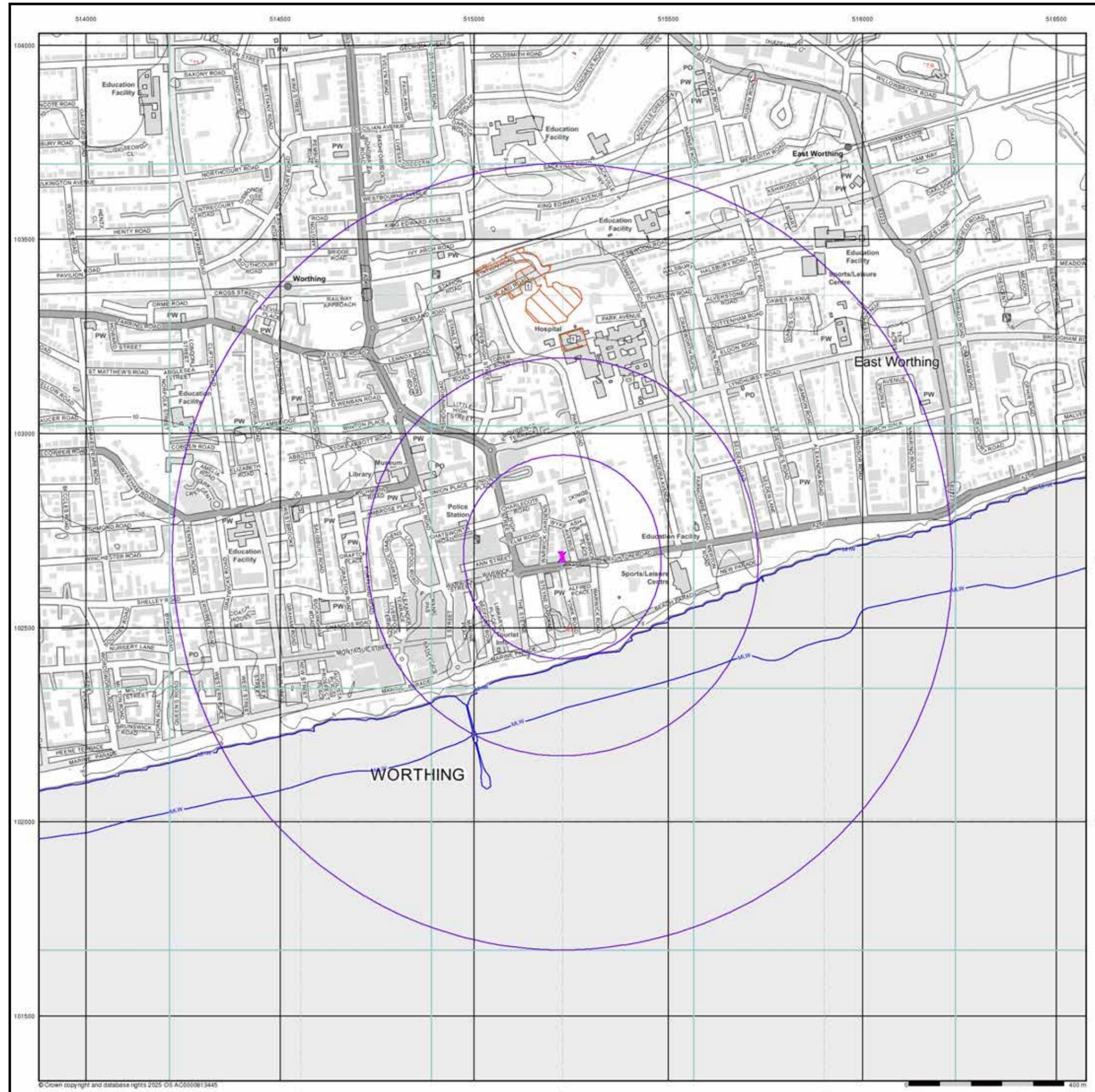
Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF





EANRW Historic Flood Map (1:10,000)

General

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

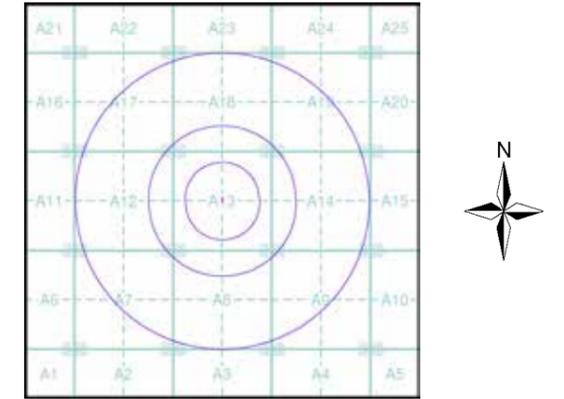
Historic Flood Events Data

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

Contours (height in metres)

- Standard Contour 105 100 95
- Master Contour 100 95
- Spot Height *167.8
- MLW Mean Low Water
- MHW Mean High Water

EANRW Historic Flood Map - Slice A



Order Details

Order Number: 386050413_1_1
 Customer Ref: 1204
 National Grid Reference: 515230, 102680
 Slice: A
 Site Area (Ha): 0.02
 Search Buffer (m): 1000

Site Details

Bespoke Hair Lounge, 39, Brighton Road, WORTHING, BN11 3EF



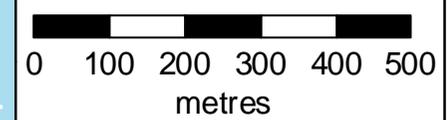
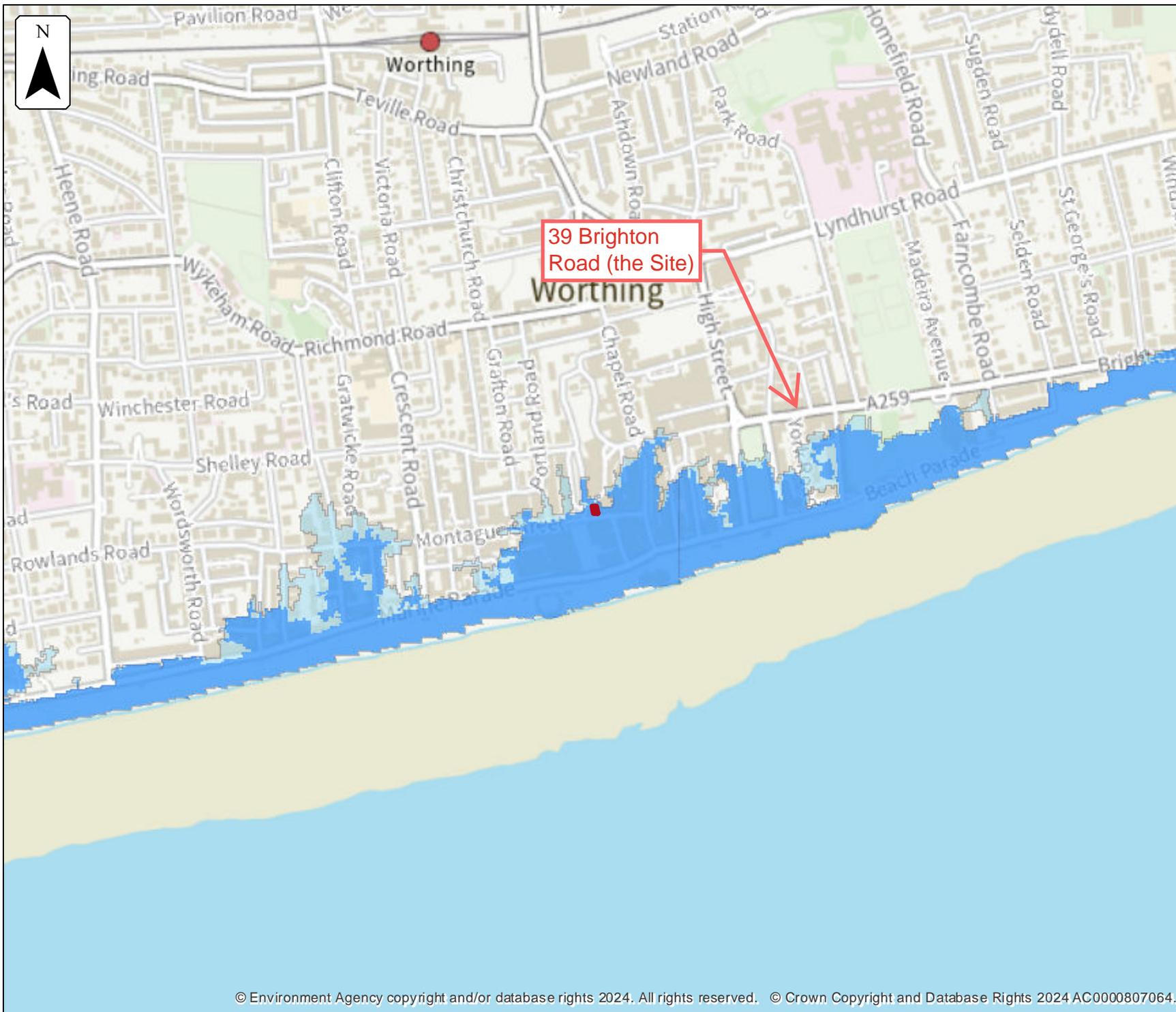
Flood map for planning

Location (easting/northing)
514838/102472

Scale
1:10,000

Created
25 Oct 2024

-  Selected area
-  Flood zone 3
-  Flood zone 2



Modelled Flood Outlines (Defended Tidal). Centred BN11 3HA. Centred 25/10/2024.

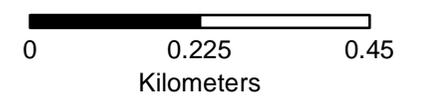


Legend

-  Site Boundary
-  0.5% AEP (2012) (Defended)
-  0.5% AEP (2070) (Defended)
-  0.5% AEP (2115) (Defended)
-  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 (Undefended Tidal). Centred BN11 3HA. Centred 25/10/2024.



N

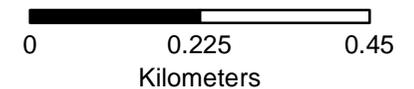


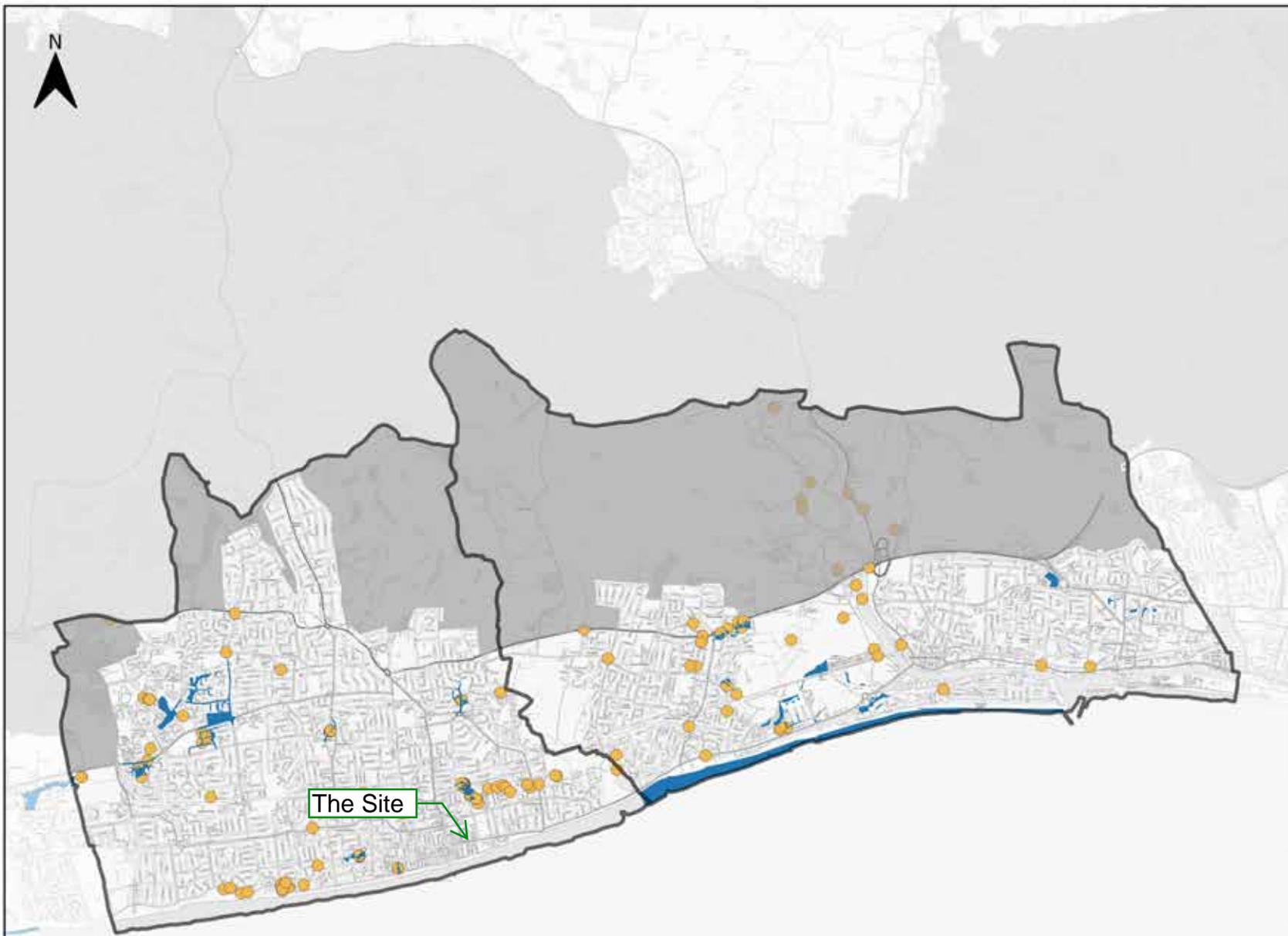
Legend

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

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

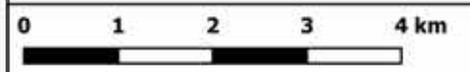
Scale: 1:10,000





Legend

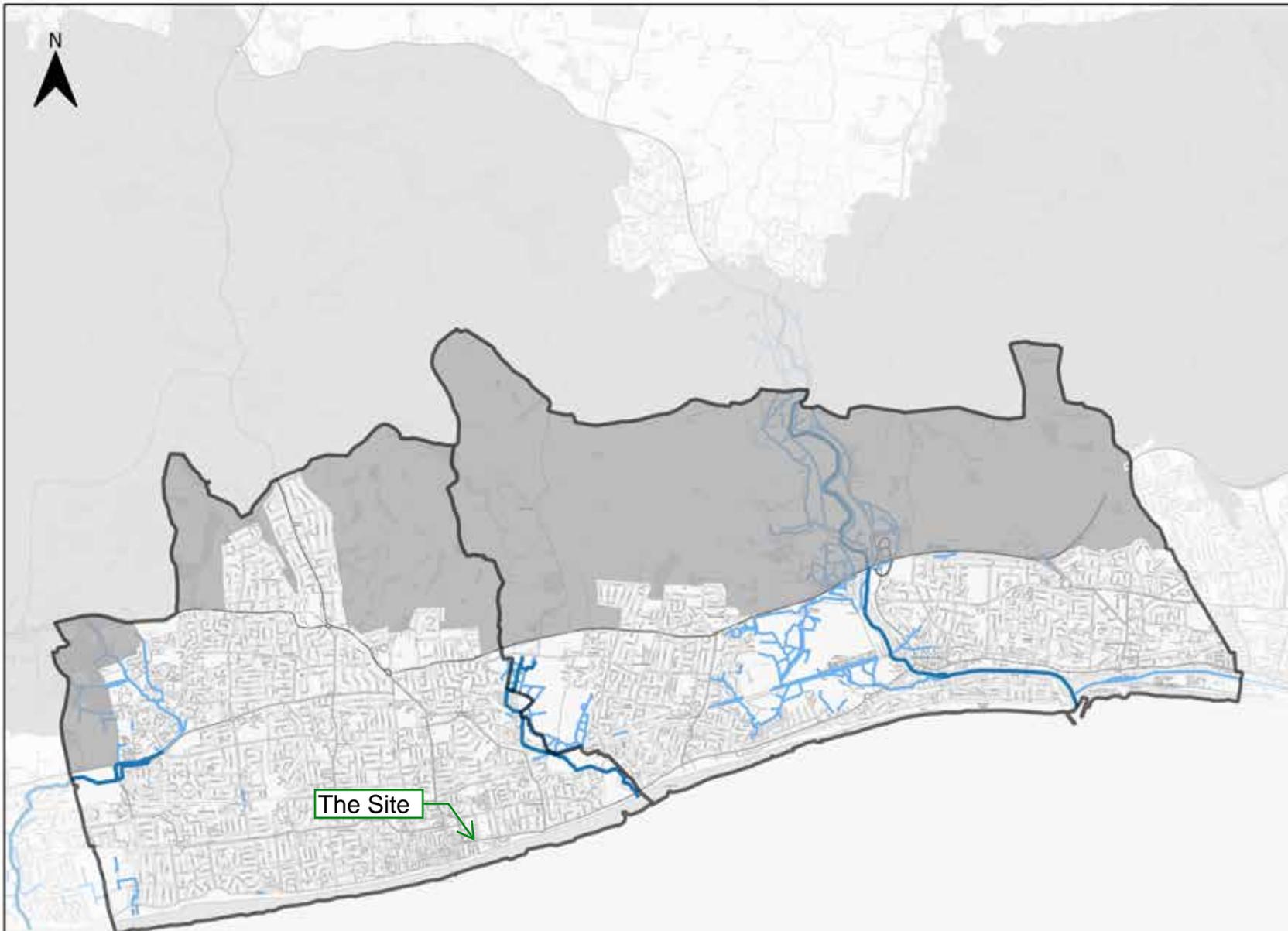
-  Adur District and Worthing Borough
- Historic Flooding**
-  Recorded Flood Outlines
-  WSCC Recorded Incidents



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**Adur and Worthing Councils SFRA:
Historic Flooding**

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Legend

Adur District and Worthing Borough

Watercourses

Statutory Main River

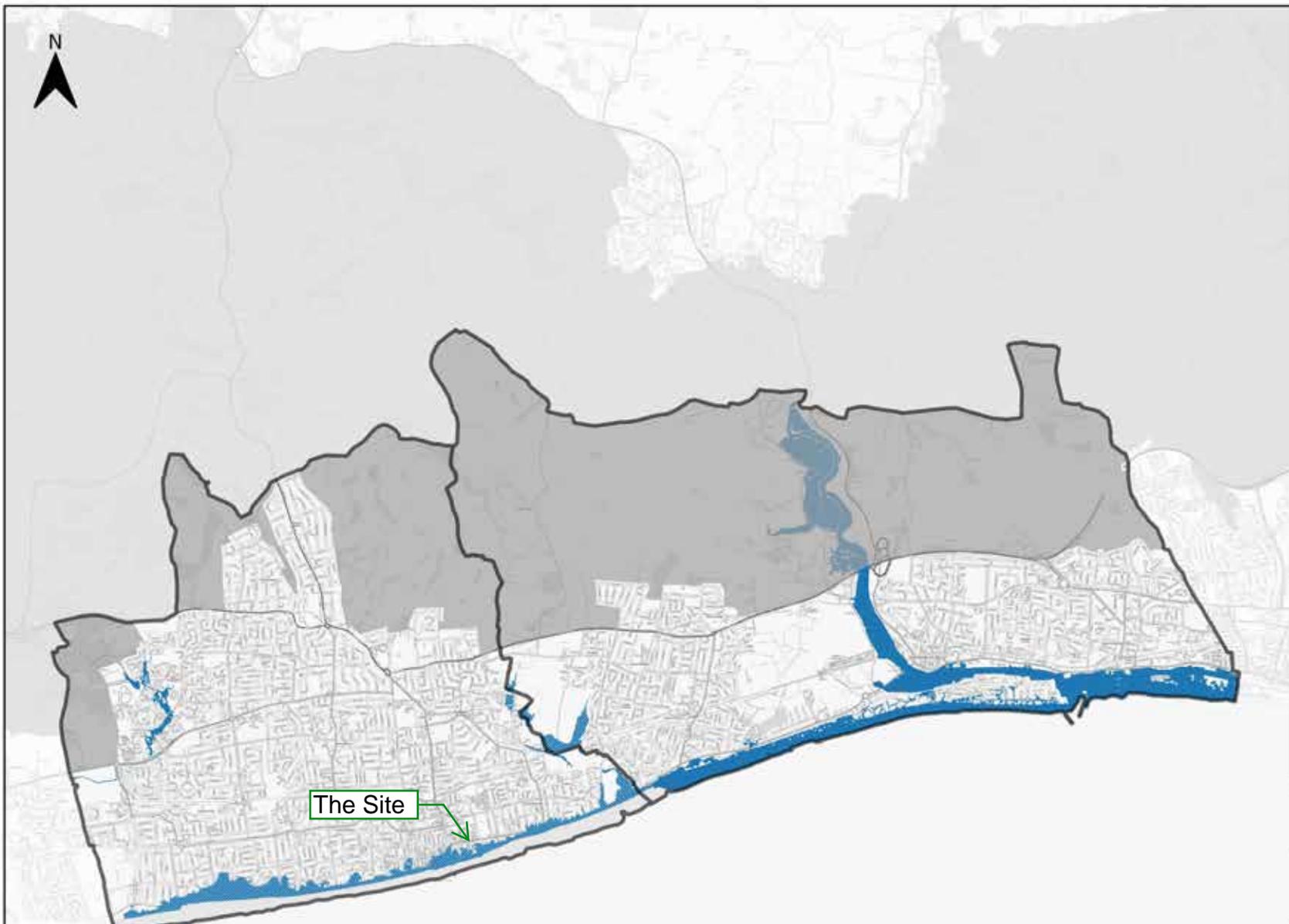
Ordinary Watercourse



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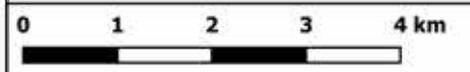
**Adur and Worthing Councils SFRA:
Watercourses**

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Legend

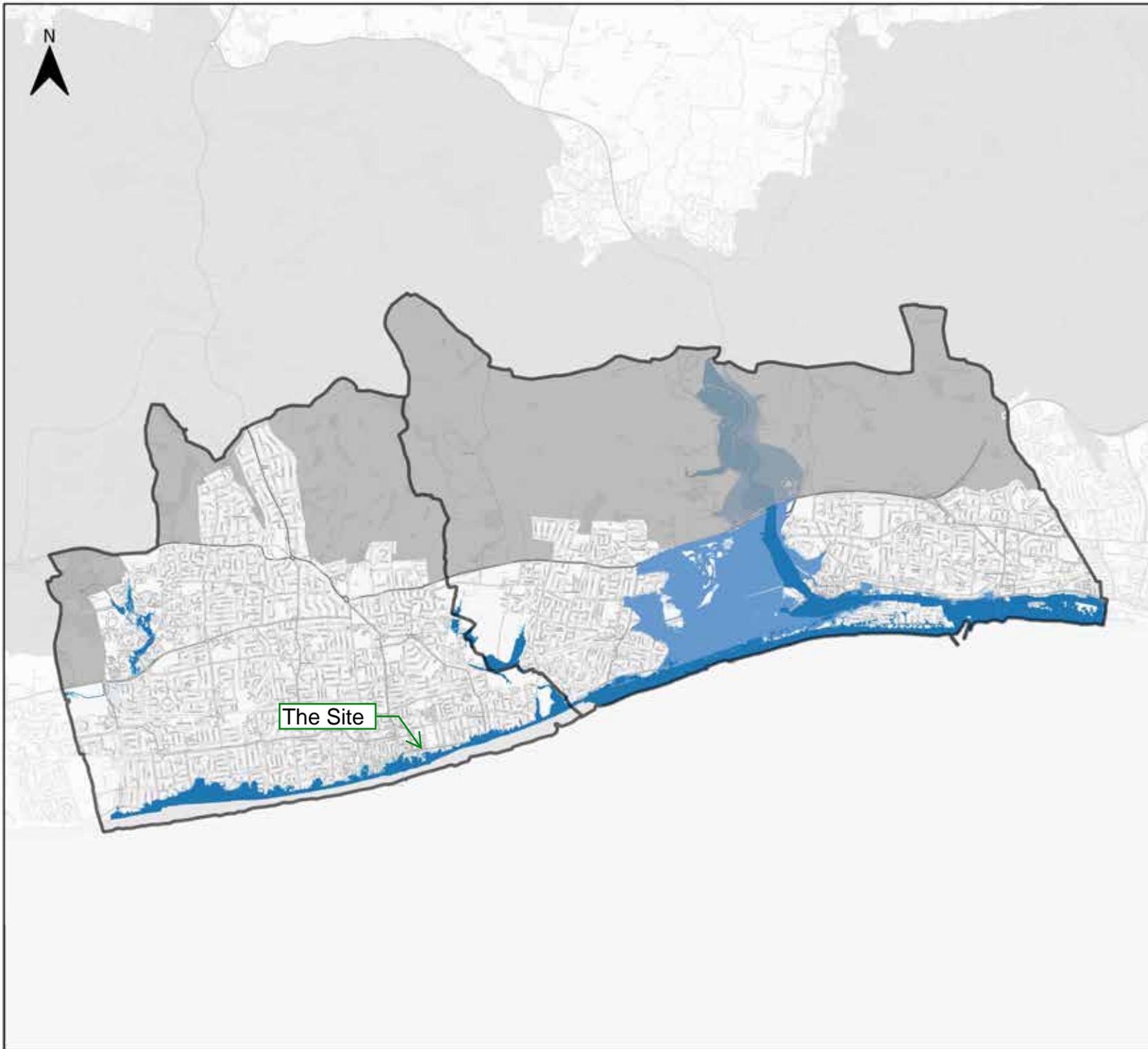
-  Adur District and Worthing Borough
-  Flood Zone 3b
-  Flood Zone 3 used as proxy



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**Adur and Worthing Councils SFRA:
Flood Zone 3b**

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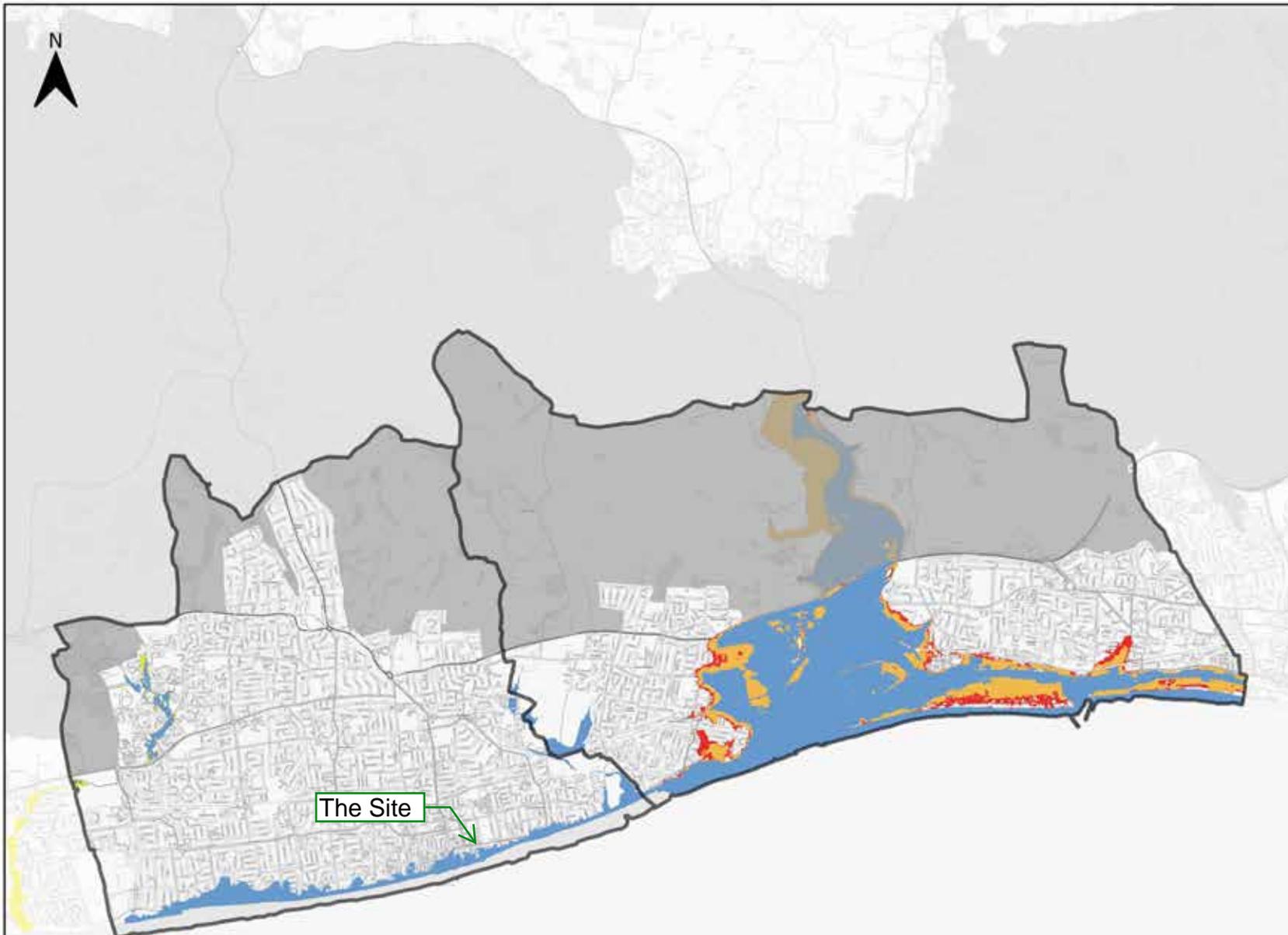
-  Adur District and Worthing Borough
-  South Downs National Park
- SFRA Flood Zones**
-  Flood Zone 2
-  Flood Zone 3a
-  Flood Zone 3b



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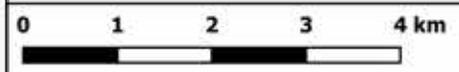
**Adur and Worthing Councils SFRA:
Flood Zones**

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Legend

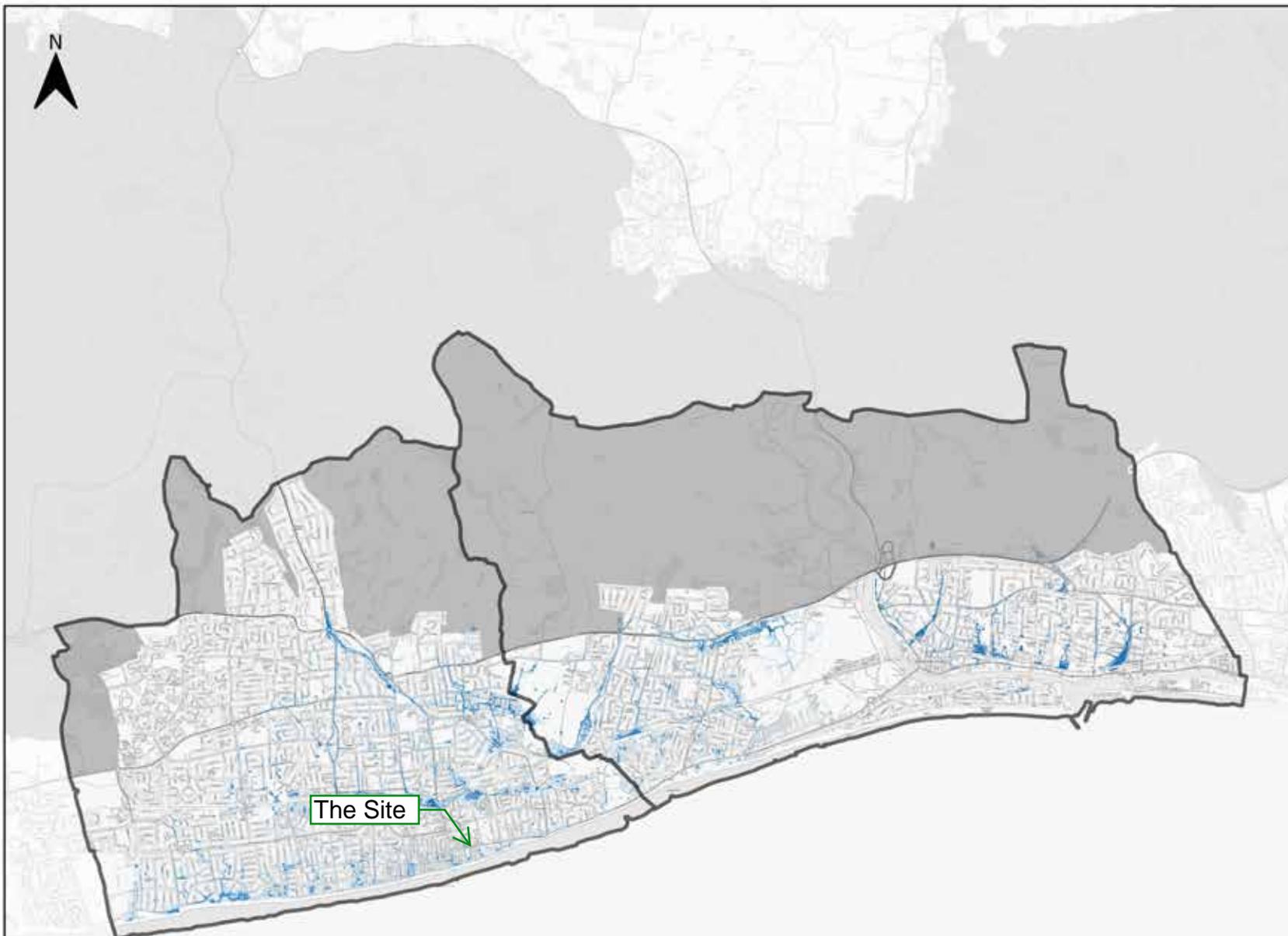
-  Adur District and Worthing Borough
-  South Downs National Park
-  1% and 0.5% AEP - Present Day
-  1% AEP Central
-  1% and 0.5% AEP - Higher Central
-  1% and 0.5% AEP - Upper End



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**Adur and Worthing Councils SFRA:
Fluvial and Tidal Modelling with Climate
Change Allowances**

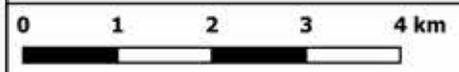
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Legend

-  Adur District and Worthing Borough
-  South Downs National Park

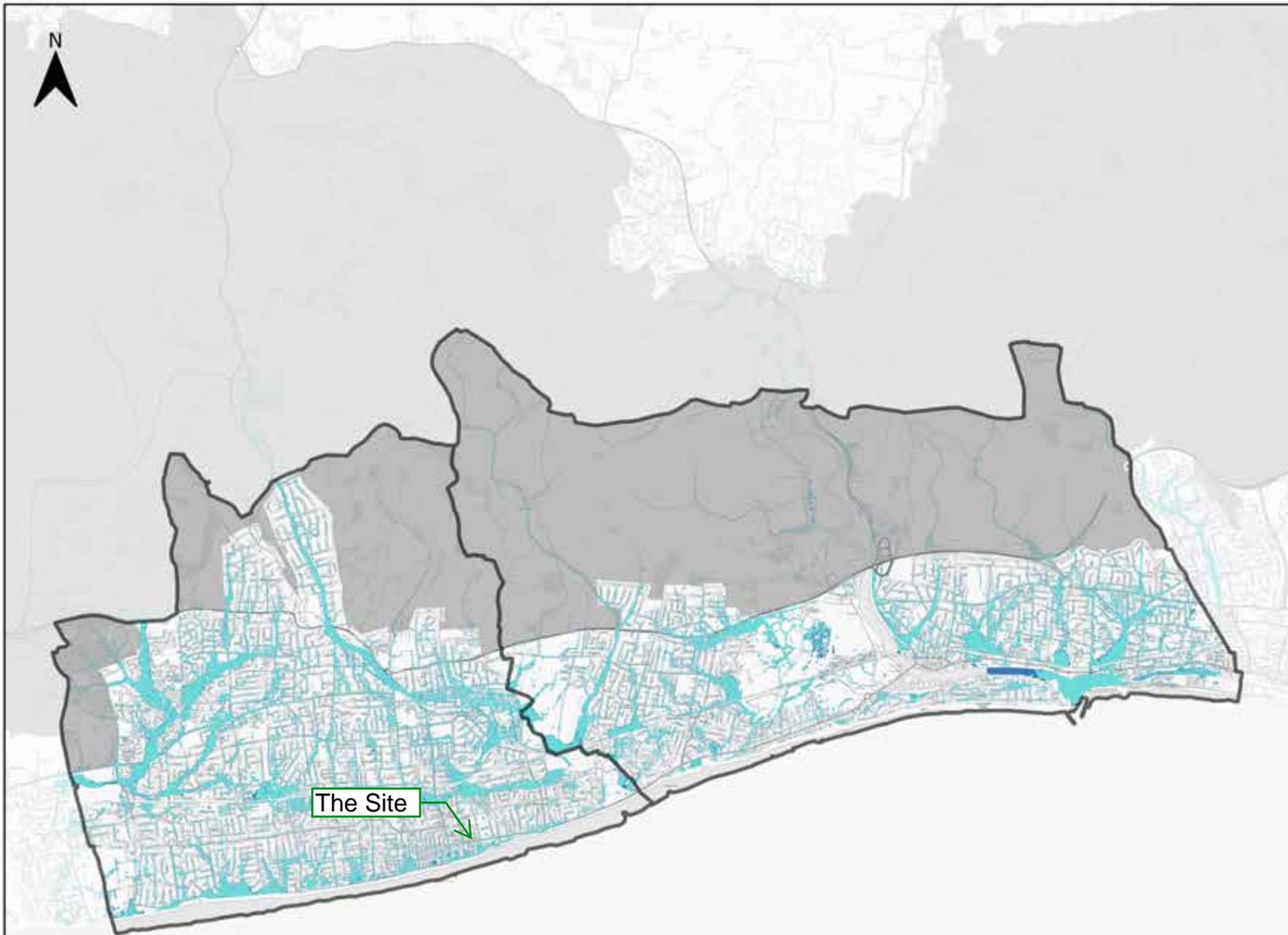
- RoFSW**
-  0.1% AEP extent
-  1% AEP extent
-  3.3% AEP extent



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Adur and Worthing Councils SFRA: Risk of Flooding from Surface Water

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Legend

-  Adur District and Worthing Borough
-  South Downs National Park
-  1% AEP Plus 25% Climate Change
-  1% AEP Plus 45% Climate change



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Adur and Worthing Councils SFRA: Risk of Flooding from Surface Water with Climate Change Allowances

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TECHNICAL NOTE

JBA Project Code	2023s0597
Contract	Adur and Worthing SFRA
Client	Adur District Council and Worthing Borough Council
Date	December 2023
Author	Harriet Freestone BSc MCIWEM
Reviewer / Sign-off	Ed Hartwell BSC MSc MCIWEM C.WEM
Subject	Adur and Worthing Tidal Risk Zones



1 Introduction

As part of the Adur and Worthing Level 1 Strategic Flood Risk Assessment (SFRA), Tidal Drainage Risk Zones and Groundwater Risk Zones were derived to understand how increases in tidal levels associated with climate change may impact groundwater and surface water flood risk within the Local Plan areas.

1.1 Data

To enable both the Tidal Drainage Risk Zone Assessment and the Tidal Groundwater Risk Zone Assessment the following datasets were used:

- Present day 1% Annual Exceedance Probability (AEP) extreme tidal level
- Environment Agency climate change sea level uplift allowance for South East England
- Environment Agency 1m LIDAR Composite Digital Terrain Model (DTM)

In addition, for the Tidal Drainage Risk Zone assessment the following datasets were also utilised:

- The Risk of Flooding from Surface Water (RoFSW)
 - 1% AEP extent
 - 1% AEP +45% climate change uplift extent

For the Tidal Groundwater Risk Zone assessment, the following was used:

- JBA 5m Groundwater flood risk mapping dataset (which provides an indication of the 100-year groundwater flood levels)
- The British Geological Society 50k bedrock mapping

1.2 Estimation of tidal levels

A present day 1% AEP extreme tidal level of 4.1m AOD was derived from the [Coastal Extremes Study](#) based on an average level along the Adur and Worthing coastline.

Table 1-1 shows the model points used to derive the average extreme tidal level.

Table 1-1: Coastal Extremes Study model nodes

Chainage	Level (m AOD)	Easting	Northing
4564	3.97	509330	99495
4562	4.00	511301	99775
4560	4.03	513277	99975
4558	4.06	515243	100336
4556	4.09	517137	100973
4554	4.12	518995	101675
4552	4.15	520916	102217
4550	4.17	522885	102422



TECHNICAL NOTE

JBA Project Code	2023s0597
Contract	Adur and Worthing SFRA
Client	Adur District Council and Worthing Borough Council
Date	December 2023
Author	Harriet Freestone BSc MCIWEM
Reviewer / Sign-off	Ed Hartwell BSC MSc MCIWEM C.WEM
Subject	Adur and Worthing Tidal Risk Zones

4548	4.19	524855	102652
------	------	--------	--------

To obtain a future extreme tidal level the present day 1% AEP was uplifted by 1.10m to 5.20m AOD. This is in line with the Environment Agency uplift allowances for sea level rise by 2125 in the South East of England using the Upper End scenario. The cumulative sea level rise provided by the Environment Agency is based on the rise between 2000 and 2125, the average coastal extremes study was conducted in 2017, therefore the uplift has been adjusted to account for this.

1.3 Analysis

Analysis of the risk zones was carried out using QGIS and scores have been calculated by comparing the RoFSW datasets for the Drainage Risk Zones and the groundwater dataset for the Groundwater Risk Zones to the present day and future tidal levels using the criteria detailed below.

For the Groundwater Risk Zones, only areas which are within permeable geological units connected to the coast have been considered with the analysis as these are the only areas which are expected to be at risk of tidally influenced groundwater flooding.

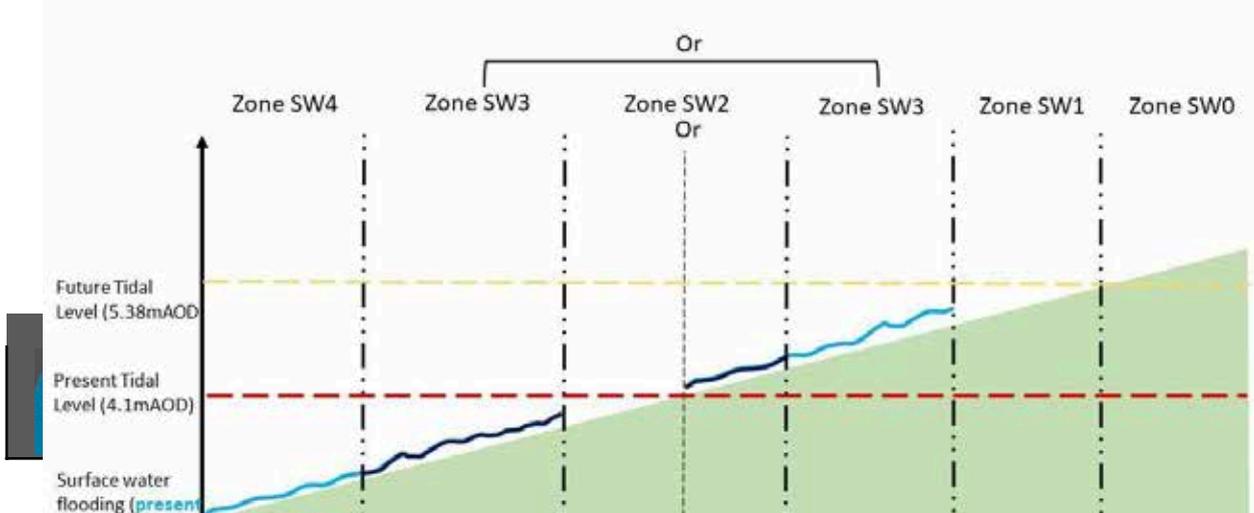
The resulting scores were then applied to a 25m grid across Adur and Worthing. The risk value in each grid square was calculated as the mean value based on the area of each risk zone with the grid square.

1.4 Tidal Drainage Risk Zone - scoring criteria

Table 1-2 and Figure 1-1 detail the criteria used to create score for the Drainage Risk Zones.

Table 1-2: Criteria used to score present day and future tidally influence surface water flood risk.

Score	Criteria use to score and present future risk
SW0	Above the future tidal level
SW1	Not at risk of SW flooding and above the current tidal level but below the future tidal level
SW2	Not at risk of SW flooding but below the present-day tidal level OR at risk of SW flooding from climate change only and above the current day tidal level but below future tidal level
SW3	At risk of SW flooding from climate change only and below the present-day tidal level OR At risk of SW flooding without climate change and above current day tidal level but below future tidal level
SW4	At risk of SW flooding without climate change and below present-day tidal level



TECHNICAL NOTE

JBA Project Code	2023s0597
Contract	Adur and Worthing SFRA
Client	Adur District Council and Worthing Borough Council
Date	December 2023
Author	Harriet Freestone BSc MCIWEM
Reviewer / Sign-off	Ed Hartwell BSC MSc MCIWEM C.WEM
Subject	Adur and Worthing Tidal Risk Zones

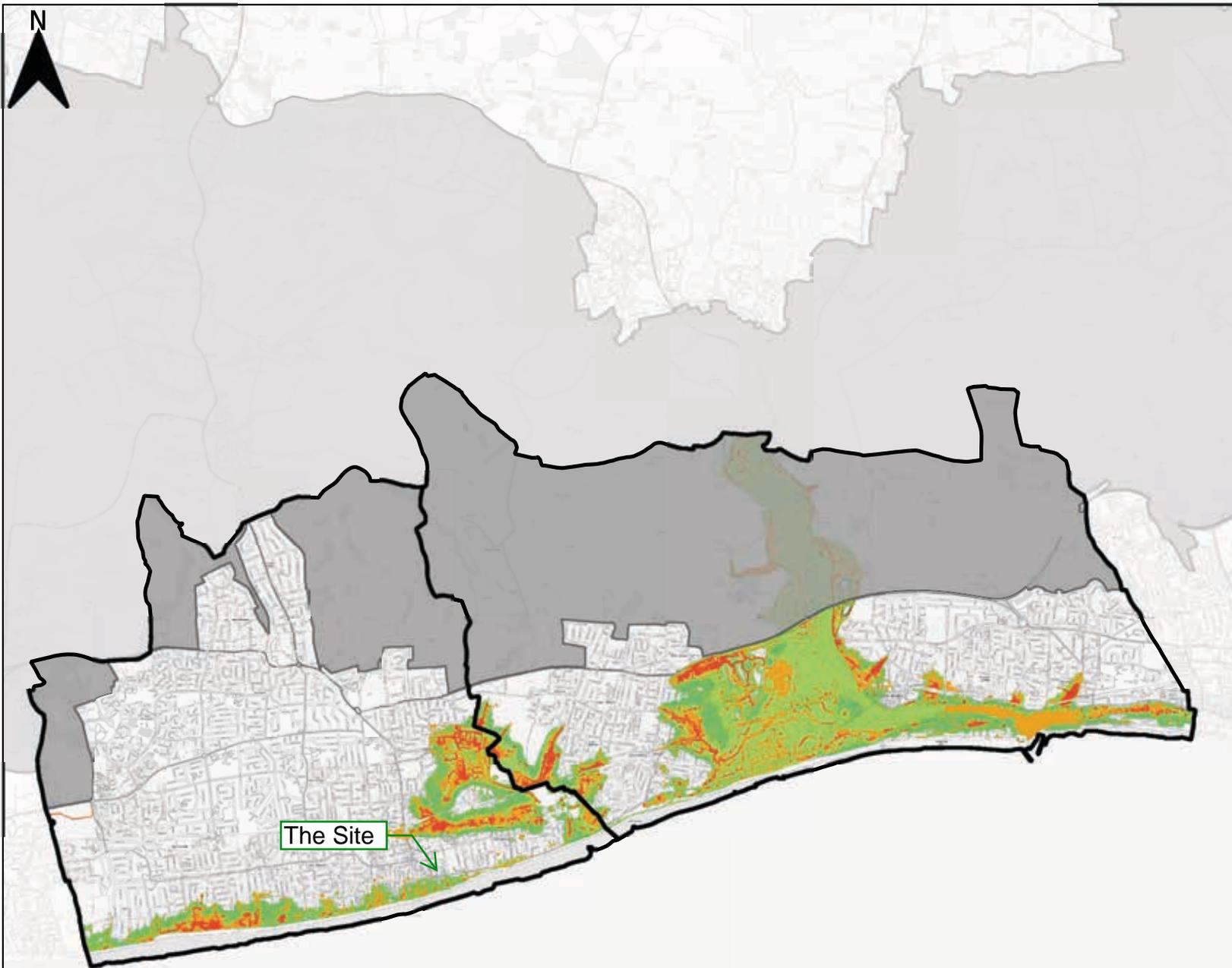
Figure 1-1: Graphical representation of scoring criteria for Drainage Risk Zones

1.5 Tidal Groundwater Risk Zone - scoring criteria

Table 1-3 details the criteria used to create score for the Groundwater Risk Zones.

Table 1-3: Criteria used to score present day and future tidally influenced groundwater flood risk.

Score	Criteria used to score and present and future risk
GW0	Above the future tidal level
GW1	Groundwater level more than 0.5m below the surface and region is above the current tidal level but below the future tidal level
GW2	Groundwater level more than 0.5m below the surface and region is below the present-day tidal level OR groundwater level between 0.025m and 0.5m below the surface and region is above the current tidal level but below the future tidal level
GW3	Groundwater level between 0.025m and 0.5m below the surface and region is below the present-day tidal level OR Groundwater level within 0.025m of the surface and region is above the current tidal level but below the future tidal level
GW4	Groundwater level within 0.025m of the surface and region is below the present day tidal level



Legend

-  Adur and Worthing Boundary
-  South Downs National Park
-  Zone SW 1
-  Zone SW 2
-  Zone SW 3
-  Zone SW 4

Notes

Technical assessment of the impact of sea level rise upon surface water. Zone categories are outlined as follows:

SW1 - Not at risk of SW flooding and above the day tidal level but below the future tidal level
 SW2 - Not at risk of SW flooding but below the present day tidal level OR at risk of SW flooding from climate change only and above present day tidal level but below future tidal level.

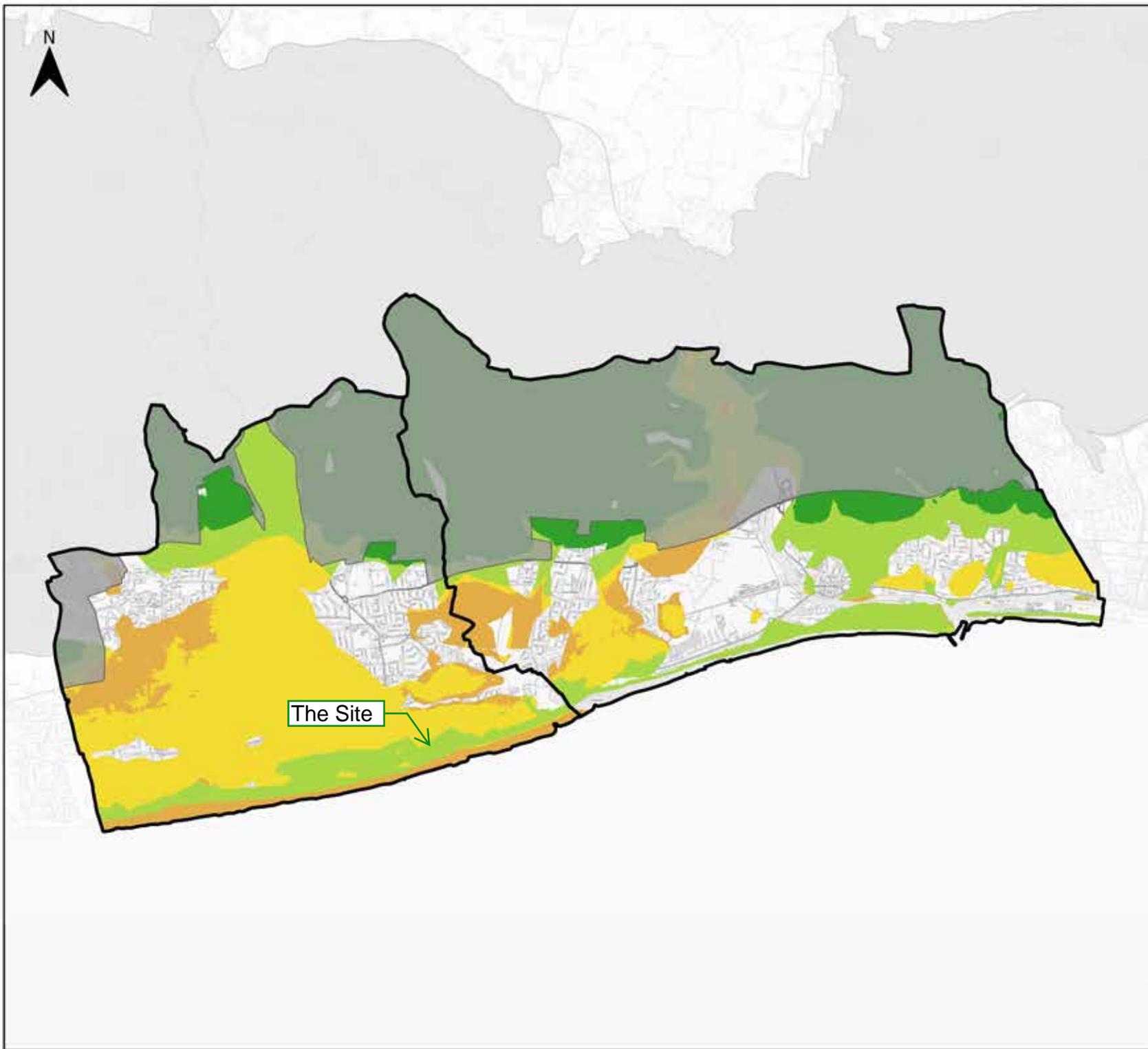
SW3 - At risk of SW flooding from climate change only and below the present day tidal level but below future tidal level.

SW4 - At risk of SW flooding without climate change and below present day tidal level.



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Legend

-  Adur and Worthing Boundary
-  South Downs National Park

JBA Groundwater Mapping

-  Groundwater levels are either at or very near (within 0.025m of) the ground surface.
-  Groundwater levels are between 0.025m and 0.5m below the ground surface.
-  Groundwater levels are between 0.5m and 5m below the ground surface.
-  Groundwater levels are at least 5m below the ground surface.



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Adur and Worthing Councils SFRA: JBA Groundwater Mapping

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Legend

-  Adur and Worthing Boundary
-  South Downs National Park
-  Zone GW 1
-  Zone GW 2
-  Zone GW 3
-  Zone GW 4

Notes

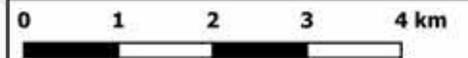
Technical assessment of the impact of sea level rise upon groundwater. Zone categories are outlined as follows:

GW1 - GW level more than 0.5m below the surface and region is above the current tidal level but below the future tidal level.

GW2 - GW level more than 0.5m below the surface and region is below the present day tidal level OR GW level between 0.025m and 0.5 below the surface and region is above the current tidal level but below the future tidal level

GW3 - GW level between 0.025m and 0.5m below the surface and region is below the present day tidal level OR GW level within 0.25m of the surface and region is above the current tidal level but below the future tidal level

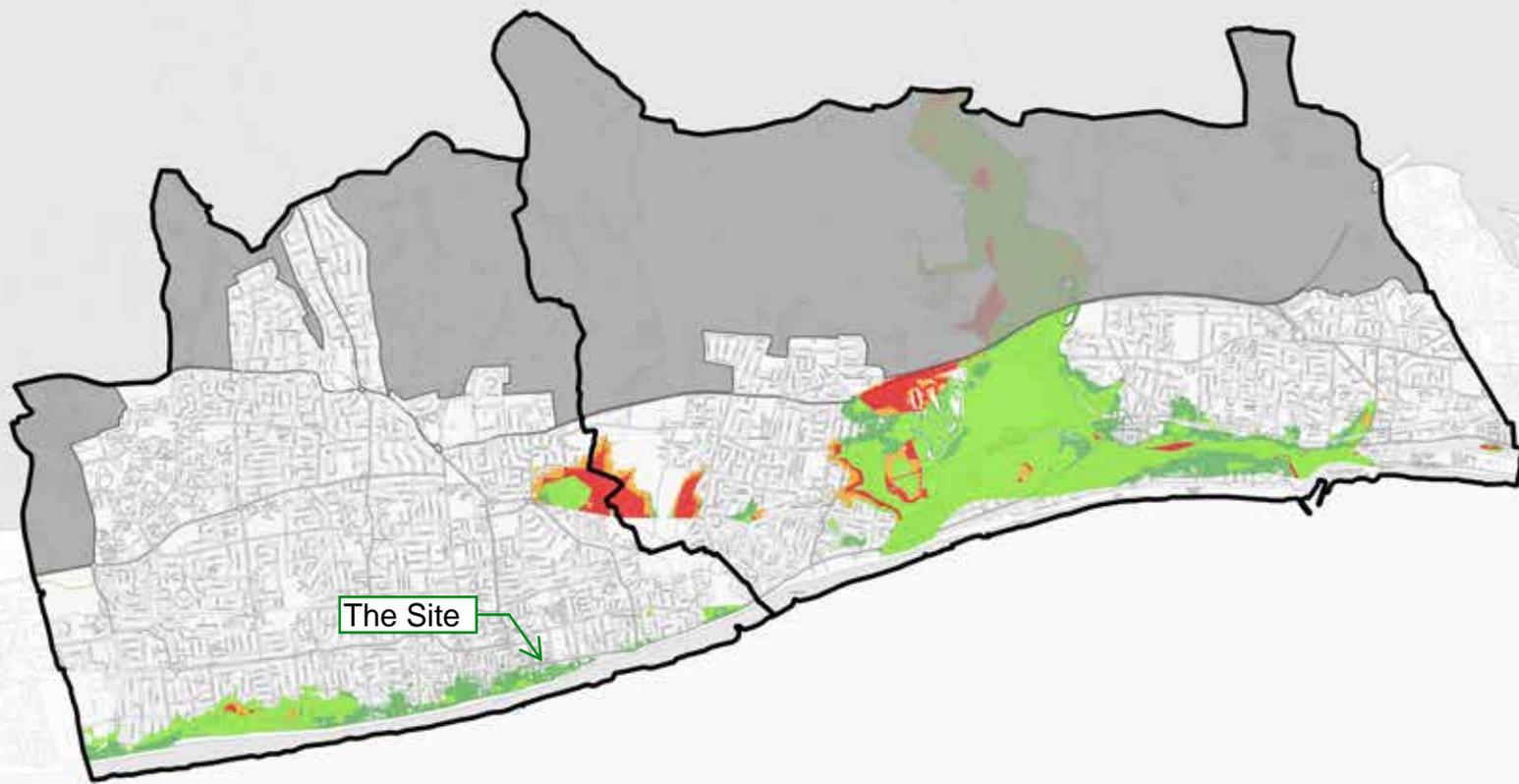
GW4 - GW level within 0.025m of the surface and region is below the present day tidal level.

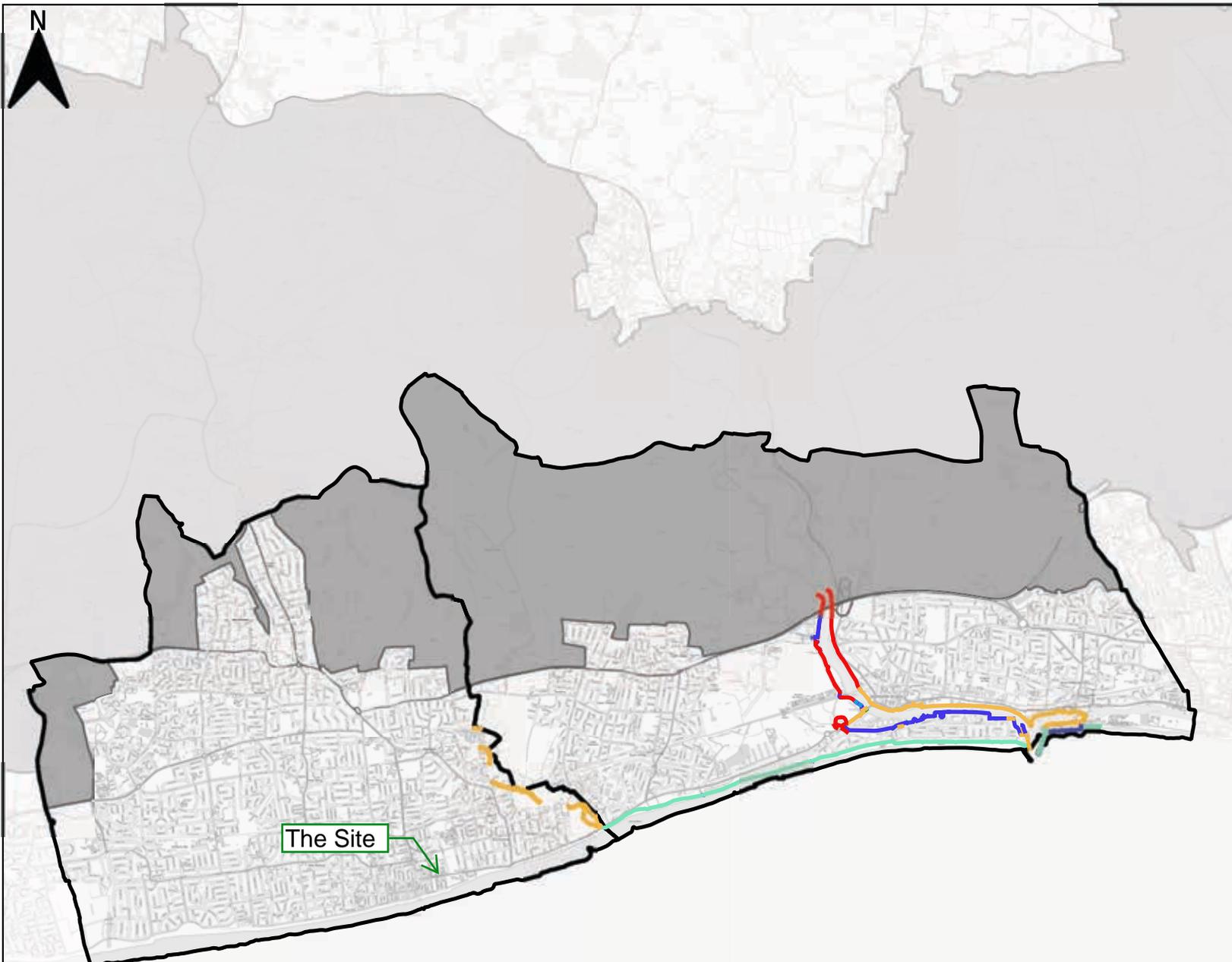


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The Site





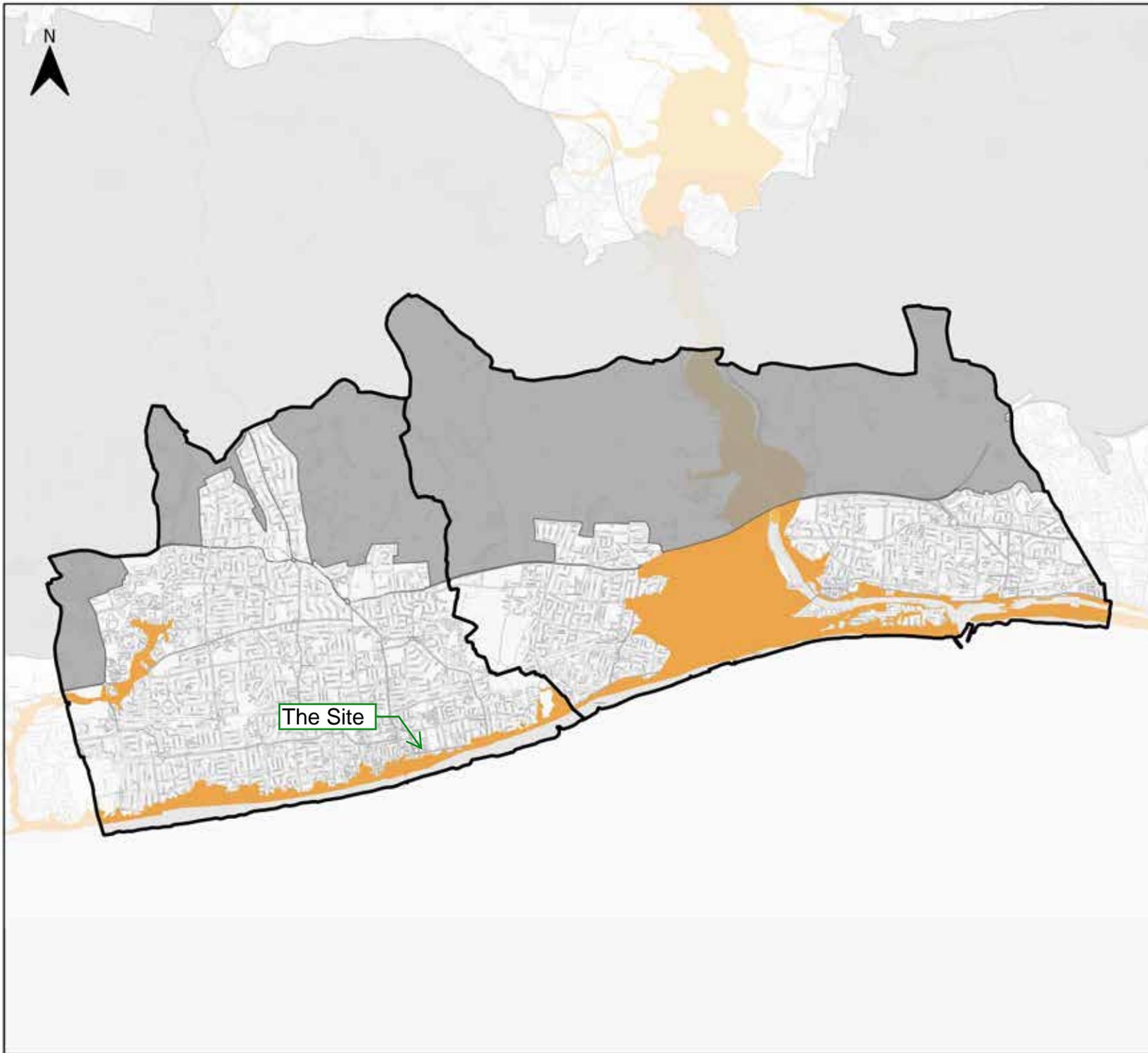
Legend

-  Adur and Worthing Boundary
-  South Downs National Park
- Aims Defences
 -  Beach
 -  Bridge Abutment
 -  Demountable Defence
 -  Embankment
 -  Flood Gate
 -  Natural High Ground
 -  Wall



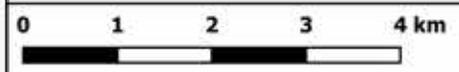
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Legend

-  Adur and Worthing Boundary
-  South Downs National Park
-  Flood Alert Areas
-  Flood Warning Areas



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**Adur and Worthing Councils SFRA:
Flood Warning and Alert Areas**

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Personal flood plan

Name



Are you signed up to receive flood warnings?

If not call Floodline on 0345 988 1188 to see if your area receives free flood warnings.

Let us know when you've completed your flood plan by calling Floodline on **0345 988 1188**. This will help us learn more about how people are preparing for flooding.

General contact list	Company name	Contact name	Telephone
Floodline	Environment Agency		0345 988 1188
Electricity provider			
Gas provider			
Water company			
Telephone provider			
Insurance company and policy number			
Local council			
Local radio station			
Travel/weather info			

Key locations

Service cut-off	Description of location
Electricity	
Gas	
Water	

Who can help/who can you help?

Relationship	Name	Contact details	How can they/you help?
Relative			
Friend or neighbour			

Be prepared for flooding. Act now

Personal flood plan

What can I do NOW?



Put important documents out of flood risk and protect in polythene

Look at the best way of stopping floodwater entering your property

Find out where you can get sandbags

Identify what you would need to take with you if you had to leave your home

Check your insurance covers you for flooding

Make a flood plan and prepare a flood kit

Identify who can help you/ who you can help

Understand the flood warning codes

What can you do if a flood is expected in your area?

Actions	Location
Home	
● Move furniture and electrical items to safety	
● Put flood boards, polythene and sandbags in place	
● Make a list now of what you can move away from the risk	
● Turn off electricity, water and gas supplies	
● Roll up carpets and rugs	
● Unless you have time to remove them hang curtains over rods	
● Move sentimental items to safety	
● Put important documents in polythene bags and move to safety	
Garden and outside	
● Move your car out of the flood risk area	
● Move any large or loose items or weigh them down	
Business	
● Move important documents, computers and stock	
● Alert staff and request their help	
● Farmers move animals and livestock to safety	
Evacuation - Prepare a flood kit in advance	
● Inform your family or friends that you may need to leave your home	
● Get your flood kit together and include a torch, warm and waterproof clothing, water, food, medication, toys for children and pets, rubber gloves and wellingtons	

There are a range of flood protection products on the market to help you protect your property from flood damage. A directory of these is available from the **National Flood Forum** at www.bluepages.org.uk

Be prepared for flooding. Act now