

LINLAND LIMITED

**BEACHLANDS, HAYLING ISLAND, PORTSMOUTH, PO11
0AG**

FLOOD RISK ASSESSMENT ADDENDUM

REPORT REF. 2400840-ACE-XX-XX-RP-C-0302

March 2025

HEAD OFFICE: 3rd Floor, The Hallmark Building, 52-56 Leadenhall Street, London, EC3M 5JE **T** | 020 7680 4088

EDINBURGH: Suite 35 4-5 Lochside Way Edinburgh EH12 9DT **T** | 0131 516 8111

ESSEX: 1 - 2 Crescent Court, Billericay, Essex, CM12 9AQ **T** | 01277 657 677

KENT: Suite 10, Building 40, Churchill Business Centre, Kings Hill, Kent, ME19 4YU **T** | 01732 752 155

MIDLANDS: Office 3, The Garage Studios, 41-43 St Mary's Gate, Nottingham, NG1 1PU **T** | 0115 697 0940

SOUTH WEST: Temple Studios, Bristol, England, BS1 6QA **T** | 0117 456 4994

SUFFOLK: Suffolk Enterprise Centre, 44 Felaw Street, Ipswich, IP2 8SJ **T** | 01473 407 321

Document Control Sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	For Planning	VL	CC	BC	24/02/2025
A	For Planning	VL	CC 	BC 	11/03/2025

Distribution

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1. Summary of comments

Introduction

- 1.1. Ardent Consulting Engineers (hereafter referred to as Ardent) was commissioned by Linland Limited to prepare a Flood Risk Assessment and Drainage Strategy in support of the planning application at Beachlands Hayling Island, PO11 0AG ('the Site').
- 1.2. A Flood Risk Statement and Drainage Strategy (report no. 2400840-ACE-XX-XX-RO-C301) were submitted to the Local Planning Authority (Planning Application Reference: APP/24/00968). The proposed architectural layout is included in **Appendix A**.

Planning Application History

- 1.3. The Purpose of this Addendum is to address the comments made by the Environment Agency (EA) and the Coastal Partners (CP) in their consultation response to the planning application. The consultee responses are included in **Appendix B**. The comments are summarised in Table 1-1 below, followed by Ardent's response.

Table 1: Consultee comments

Consultee	Topic	Comment	Ardent Response
EA/ CP	FFLs and climate change allowances	<i>(...) The applicant should calculate the climate change allowance for this development using the 2125 epoch for the area (South East).</i> <i>In addition, the applicant has not produced finished floor levels for the proposed buildings. Please use the updated future design flood level to inform the appropriate finished floor levels and freeboard allowance. Taking into account residual risk from storm events, breach of the embankment and so on.</i> <i>The applicant needs to</i>	This assessment has been updated accordingly, refer to Section 2 of this Addendum.

		<i>provide an appropriate site-specific freeboard allowance, inclusive of climate change. It is up to the applicant to demonstrate and provide evidence to justify their freeboard allowance.</i>	
EA/CP	Flood Level Data	<i>The applicant has not included flood level data within the FRA. Please contact SSDEnquiries@environment-agency.gov.uk (including a site map and grid reference) to obtain a Product 4 for your development.</i>	The Flood Risk Assessment has been based on site-specific hydraulic modelling and therefore no further data is anticipated to be required. This is discussed further below.
EA/CP	Access and Egress	<i>The applicant should indicate whether access and egress is possible and outline a safe route in a 1 in 200-year tidal event plus climate change for the lifetime of the development.</i>	A Flood Response Plan has been prepared, included in Appendix C . The internal layout (Appendix B) has been amended to allow emergency internal access from commercial buildings into the residential stair cores, allowing commercial users to access safe refuge.
CP	Erosion risk management	<i>The site also lies within the boundary of the indicative erosion zones for the 0-20, 20-50 and 50-100 year epochs, however the FRA has not addressed this or demonstrated how the proposed development will be kept safe from erosion over its lifetime.</i>	Please refer to Section 3 below.
CP	Flood resistance and resilience measures.	<i>No details have been provided on any flood resistance and resilience measures to be incorporated into the development.</i>	Please refer to Section 3 below.

2. Tidal Flood Risk

Sea Level Allowances

- 2.1. The Planning Practice Guidance states that to allow for the predicted impacts of climate change on sea level rise, the increases presented in Table 2-2 should be allowed for. Considering the lifespan of the development, the 2125 epoch should be used, as highlighted below:

Table 2-1: Sea level allowances by river basin district for each epoch in mm for each year (based on 1981 to 2000 baseline) – the total sea level rise for each epoch is in brackets

Area of England	Allowance	2000 to 2035 (mm)	2036 to 2065 (mm)	2066 to 2095 (mm)	2096 to 2125 (mm)	Cumulative rise 2000 to 2125 (meters)
South East	Higher Central	5.7 (200)	8.7 (261)	11.6 (348)	13.1 (393)	1.20
South East	Upper End	6.9 (242)	11.3 (339)	15.8 (474)	18.2 (546)	1.60

Hydraulic modelling and predicted flood levels

Previous FRA

- 2.2. The East Solent Flood Inundation Model for Hayling Island, Portsea Island, Gosport to Warsash was re-simulated for the Partnership for South Hampshire Strategic Flood Risk Assessment (2024) (Portsmouth City Council).
- 2.3. The SFRA model is based on the existing 2D hydrodynamic tidal models from the East Solent Study which was completed in 2015 – 2018 with the results of this model being provided.
- 2.4. The 2018 hydraulic model was simulated for a range of scenarios (with defences and without defences) and a range of events to understand the present day and future flood risk from tidal sources. This was used to update the Flood Map for Planning Flood Zones and enable the mapping of 'areas benefitting from defences' (ABDs) at that time.
- 2.5. For each flood model, the following events were simulated:
- 10%, 4%, 3.33%, 1.33%, 1%, 0.5%, 0.2% and 0.1% Annual Exceedance Probability (AEP) events for the Present Day (2015).

- 0.5% and 0.1% AEP events using UKCP09 climate change guidance medium emissions scenario and projected to the years 2031, 2065 and 2115.
- 2.6. The 2018 study indicates levels for the 0.5% climate change event and 2115 epoch on the site is 5.13m AOD and for the 0.1% climate change event epoch 2115 is 5.22m AOD. The defence level at this location is 5.00m AOD.

Updates since previous FRA (2125 epoch)

- 2.7. The 2096 to 2125 (Higher Central) annual sea level increase of 13.1mm (as per Table 2-2 above) has been used to uplift the previously predicted sea levels from the 2115 to the 2125 epoch. The resulting sea level increase is 131mm (13.1mm x 10 years). Given the proximity of the site to the sea it is appropriate to apply this increase directly to the flood level. This results in a level of 5.26m AOD for the 0.5% climate change event, and a level of 5.35m AOD for the 0.1% climate change event.
- 2.8. In addition, Product 4 data was requested from the EA and is included in **Appendix D**. The data shows the highest modelled flood level at the Site is 4.97mAOD for the 0.5% AEP, which is 0.16m below the level used in the Flood Risk Assessment (5.13mAOD). As a conservative approach, the higher level of 5.13mAOD has been used for the purpose of this assessment.

3. Flood Risk Management

Finished Floor Levels and Safe Haven

- 3.1. Applying a 600mm freeboard above the 0.5% event plus climate change level of 5.26mAOD results in a level of 5.86 mAOD.
- 3.2. All residential properties are set at the first floor or above, with a Finished Floor Level of 9.10m AOD, significantly above predicted flood levels.
- 3.3. Ground floor commercial units are set at 5.50m AOD, which is circa 250mm above the predicted flood level (5.26mAOD), but within the freeboard. In the event of flooding, safe refuge will be provided at upper levels of the buildings. The internal layout has been amended to allow emergency internal access from commercial buildings into the residential stair cores, allowing commercial users to access safe refuge. Refer to the proposed layout plans in **Appendix A**.

- 3.4. A summary of flood levels vs. proposed finished floor levels is provided in Table 2-2 below.

Table 2-2: Flood levels and proposed finished floor levels

Predicted flood level (1125 epoch, 1 in 200 Climate Change)	With 600mm freeboard	Predicted flood level (1125 epoch, 1 in 1000 Climate Change)	Proposed Ground Floor Level	Proposed First Floor Level
5.26 m AOD	5.86 m AOD	5.35m AOD	5.50 m AOD	9.10 m AOD

Safe access and egress

- 3.5. A Flood Response Plan has been produced and is included in **Appendix C**.

Flood Resilience Measures

- 3.6. Any levels below the breach flood level should incorporate flood resistance and/or resilience construction to minimise the potential damage that could be caused by flooding. The development is proposed to have safe refuge for occupants at higher levels.
- 3.7. Buildings will be designed with resilient materials, with the ability to withstand hydro-static and hydro-dynamic forces on any proposed supports. All electrical, service and ventilation entry points should be located as high as reasonably practicable.
- 3.8. In areas at risk of frequent or prolonged flooding, the following flood resilience measures should be implemented:
- Use materials with good drying and cleaning properties;
 - Design for water to drain away after flooding;
 - Design access to all spaces to permit drying and cleaning;
 - Raise the level of electrical wiring, appliances and utility metres as high as reasonably practicable;

- Coat walls with internal cement-based renders; apply tanking on the inside of all internal walls;
- Ground supported floors with concrete slabs coated with impermeable membrane; and
- Use water resistant internal doors.

3.9. The following flood resistance measures should be implemented where appropriate up to a flood depth of 600mm:

- Using materials and construction with low permeability;
- Raising thresholds; and
- Flood doors with waterproof seals.

Coastal Erosion

3.10. The Site is located within Option Development Unit 9 of the Hayling Island Coastal Management Strategy (January 2025). In this area, the beach serves as the primary defence against coastal erosion and is maintained by Havant Borough Council.

3.11. The Shoreline Management Plan Policy for the area is 'Hold the Line for the next 100 years'. The strategy involves maintain a healthy beach through ongoing beach management, including the installation of new rock groynes.

3.12. An adaptive management plan is in place for this ODU, ensuring that, if necessary, additional defences will be constructed at the back of the beach in response to sea level rise.

3.13. Based on the above, the proposed development will remain protected from coastal erosion throughout its lifetime.

Appendix A



Key

4 X Ground Floor Commercial Units

16 X First Floor 2 Bed 3 Person Apartments

12 X Second Floor 3 Bed 4 Person Maisonettes

4 X Second Floor 3 Bed 5 Person Maisonettes

1
-

Ground Floor Plan
1:200

N

revisions & notes:

RevID	ChID	Change Name	Date
A	Ch-01	Planning Application	01/11/2024
B	Ch-04	Revision	30/01/2025

Drawing:

Drawing name: Ground Floor Plan

Date: ####

Scale: 1:200 @ A2

Drawn: JS

Project:

Project name: Beachlands

Site address: 5 Sea Front

Client: Linland Ltd

Project description: Site Redevelopment

Project status: Planning

pwparchitects

61 South Street, Havant, Hampshire PO9 1BZ
t: 023 9248 2494
e: design@pwp-architects.com

f: 023 9248 1152
w: www.pwp-architects.com

Project No. 5855

drawing No. 1150

rev B

Note: All dimensions to be checked on site by the contractor before fabrication and erection. Figured dimensions to be taken in preference to scaled dimensions. This drawing is the copyright of the architects and must not be reproduced or used without their express consent, except for the purposes of a planning application. Electronic issue of this drawing to be confirmed by paper hard copy only.

Appendix B

Havant Borough Council
Development Control
Civic Offices Civic Centre Road
Havant
Hampshire
PO9 2AX

Our ref: HA/2025/126434/01-L01
Your ref: APP/24/00968
Date: 17 January 2025

Dear Sir/Madam

FULL PLANNING APPLICATION FOR THE DEVELOPMENT OF 4 NO. COMMERCIAL UNITS (E USE) AND 32 NO. RESIDENTIAL UNITS (C3 USE) OVER 4 FLOORS WITH ASSOCIATED OPEN SPACE, PUBLIC REALM ENHANCEMENTS, DEMOLITION OF THE EXISTING BEACHLANDS AMUSEMENT ARCADE BUILDINGS AND DWELLING AND ASSOCIATED WORKS

BEACHLANDS, 5 SEA FRONT, HAYLING ISLAND

Environment Agency position

In the absence of an acceptable flood risk assessment (FRA) we **object** to this application and recommend that planning permission is refused.

Reason(s)

The submitted FRA does not comply with the requirements for site-specific flood risk assessments, as set out in paragraphs 20 to 21 of the Flood Risk and Coastal Change planning practice guidance and its site-specific flood risk assessment checklist. The FRA does not therefore adequately assess the flood risks posed by the development. In particular, the FRA fails to:

- consider how people will be kept safe from the identified flood hazards
- consider how a range of flooding events (including extreme events) will affect people and property
- consider the requirement for flood emergency planning including flood warning and evacuation of people for a range of flooding events up to and including the extreme event
- take the impacts of climate change into account
 - Different climate change allowances have been used to assess future flood risk than those advised in ['Flood risk assessments: climate change](#)

Environment Agency
Canal Walk, ROMSEY, Hampshire, SO51 7LP.
Customer services line: 03708 506 506
www.gov.uk/environment-agency

Cont/d..

[allowances'](#), without adequate justification for a 1 in 200-year tidal flooding event plus climate change for the lifetime of the development (100 years for residential)

- Flood risk mitigation measures to address flood risk for the lifetime of the development included in the design are inadequate because they will not make the development resilient to the flood levels for a 1 in 200-year tidal flooding event plus climate change for the lifetime of the development (100 years for residential). Consequently, the development proposes inadequate:
 - Raised finished floor levels
 - Resistance and resilience measures
 - Safe access and egress routes

Overcoming our objection

To overcome our objection, the applicant should submit a revised FRA which addresses the points highlighted above.

If this cannot be achieved, we are likely to maintain our objection. Please re-consult us on any revised FRA submitted and we'll respond within 21 days of receiving it.

Advice to Applicant

In Section 5.9 of the FRA, the applicant has indicated that they have chosen the 2115 epoch climate change allowance, where the flood level on site will be 5.13mAOD. This is not the appropriate epoch for this development, as the development is designated as residential (100 years). The applicant should calculate the climate change allowance for this development using the 2125 epoch for the area (South East).

We advise that the applicant provides an adequate site-specific flood risk assessment for a 1 in 200-year tidal flood event plus climate change for the lifetime of the development (100 years for residential).

In addition, the applicant has not produced finished floor levels for the proposed buildings. Please use the updated future design flood level to inform the appropriate finished floor levels and freeboard allowance. Taking into account residual risk from storm events, breach of the embankment and so on.

The applicant has not included flood level data within the FRA. Please contact SSDEnquiries@environment-agency.gov.uk (including a site map and grid reference) to obtain a Product 4 for your development. Flood risk data requests will be based on existing EA hydraulic river model data with an allowance for climate change. Data should be taken from the Product 4 to inform the FRA. Please note, the future flood levels provided in the Product 4 were calculated before the latest climate change allowances were available. Please use the advice within '[Flood risk assessments: climate change allowances](#)' to calculate the most up to date climate change levels for the 1 in 200-year tidal flood event for the lifetime of the development (100 years for residential).

It is for to the applicant to assess and determine which climate change allowance to use, and this should be justified within the assessment. You may need to undertake further assessment of future flood risk using different allowances to ensure your assessment of future flood risk is based on best available evidence.

The applicant needs to provide an appropriate site-specific freeboard allowance,

inclusive of climate change. It is up to the applicant to demonstrate and provide evidence to justify their freeboard allowance. Raised finished floor levels should then be calculated accordingly. Further information can be found here - [Accounting for residual uncertainty: an update to the fluvial freeboard guide - GOV.UK \(www.gov.uk\)](#)

The applicant should indicate whether access and egress is possible and outline a safe route in a 1 in 200-year tidal event plus climate change for the lifetime of the development.

Advice to LPA/Applicant

The following issues are not within our direct remit or expertise but nevertheless are important considerations for managing flood risk for this development. Prior to deciding this application, we recommend that consideration is given to the issues below. Where necessary, the advice of relevant experts should be sought.

- Adequacy of rescue or evacuation arrangements
- Details and adequacy of an emergency plan
- Provision of and adequacy of a temporary refuge
- Details and adequacy of flood proofing and other building level resistance and resilience measures
- Details and calculations relating to the structural stability of buildings during a flood

We strongly recommend the use of flood resistance and resilience measures. Physical barriers, raised electrical fittings and special construction materials are just some of the ways you can help reduce flood damage. To find out which measures will be effective for this development, please contact your building control department. If you'd like to find out more about reducing flood damage, visit the Flood Risk and Coastal Change pages of the planning practice guidance. Further guidance on flood resistance and resilience measures can also be found in:

Government guidance on flood resilient construction
<https://www.gov.uk/government/publications/flood-resilient-construction-of-new-buildings>

CIRIA Code of Practice for property flood resilience
https://www.ciria.org/Research/Projects_underway2/Code_of_Practice_and_guidance_for_property_flood_resilience.aspx

British Standard 85500 – Flood resistant and resilient construction
<https://shop.bsigroup.com/ProductDetail/?pid=000000000030299686>

We do not normally comment on or approve the adequacy of flood emergency response procedures accompanying development proposals, as we do not carry out these roles during a flood. Our involvement with this development during an emergency will be limited to delivering flood warnings to occupants/users covered by our flood warning network.

[Planning practice guidance](#) (PPG) states that, in determining whether a development is safe, the ability of residents and users to safely access and exit a building during a [design flood](#) and to evacuate before an extreme flood needs to be considered. One of the key considerations to ensure that any new development is safe is whether adequate flood warnings would be available to people using the development. In all circumstances where warning and emergency response is fundamental to managing flood risk, we advise local planning authorities to formally consider the emergency planning and rescue implications of new development in making their

decisions. As such, we recommend you refer to '[Flood risk emergency plans for new development](#)' and undertake appropriate consultation with your emergency planners and the emergency services to determine whether the proposals are safe in accordance with paragraph 167 of the NPPF and the guiding principles of the PPG.

Environmental permit

The Environmental Permitting (England and Wales) Regulations 2016 require a permit or exemption to be obtained for any activities which will take place:

- on or within 8 metres of a main river (16 metres if tidal)
- on or within 8 metres of a flood defence structure or culverted main river (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in the floodplain of a main river if the activity could affect flood flow or storage and potential impacts are not controlled by a planning permission

For further guidance please visit <https://www.gov.uk/guidance/flood-risk-activities-environmental-permits> or contact our National Customer Contact Centre on 03708 506 506 (Monday to Friday, 8am to 6pm) or by emailing enquiries@environment-agency.gov.uk.

The applicant should not assume that a permit will automatically be forthcoming once planning permission has been granted, and we advise them to consult with us at the earliest opportunity.

Yours faithfully

Miss Suz Greenwood
Planning Advisor, Environment Agency

Direct dial 02084745098

Direct fax

Direct e-mail suz.greenwood@environment-agency.gov.uk

Site Address: Beachlands, 5 Sea Front, Hayling Island

Proposed Development: Full planning application for the development of 4No commercial units (E Use) and 32No residential units (C3 Use) over 4 floors with associated open space, public realm enhancements, demolition of the existing Beachlands Amusement Arcade Buildings and dwelling and associated works._

Reference: APP/24/00968

Response:

Thank you for consulting with Coastal Partners on the above application. In the absence of an acceptable Flood Risk Assessment, we wish to place a **holding objection** on the proposed development on grounds of coastal flood and erosion risk.

The site lies within the Environment Agency's present day Flood Zones 2 and 3 and is therefore at risk from a 1:200 year / 0.5% annual probability extreme tidal flood event. The site will be increasingly vulnerable to the impacts of climate change.

Whilst the applicant has submitted a Flood Risk Assessment (FRA) in support of the application, prepared by Ardent Consulting Engineers and dated October 2024, the FRA insufficiently demonstrates that the development will be safe from tidal flood and erosion risk over the planned 100-year lifetime of the proposed development.

The FRA references the previous Havant Borough Council Local Plan (Allocations) 2014 and Strategic Flood Risk Assessment (Local Plan Sites) 2018, where the site previously featured as an allocation, and as such, states that the Sequential Test was completed at the time of the allocation process, therefore does not need to be undertaken again. Whilst Coastal Partners defer to Havant Borough Council Planning to undertake the Sequential Test, a previous test from over 7 years ago should not be relied upon here by the developer, notwithstanding the substantial changes that have been made to national planning policy, flood and erosion risk management policy and climate change allowances in this time.

The FRA notes that existing ground levels of the site vary between 4.0 mAOD and 5.05 mAOD. Residential development is to be located at the first-floor level and above, however finished floor levels have not been provided for any floor level. In addition, the FRA has not demonstrated how safe access and egress, including for occupants of the residential development, will be available for the site over its 100-year lifetime.

The FRA has provided a 1:200 year design tide level of 5.13 mAOD for 2115, based on the 2018 East Solent Model. However, the 2018 East Solent Model uses climate change allowances (UKCIP09) that have since been superseded by the UKCP18 allowances. Therefore, these levels will need to be uplifted. Furthermore, a design tide level should be provided to at least 2125 for a planned 100-year lifetime. It is also worth noting that outputs from the new National Flood Risk Assessment 'Risk of Flooding from Rivers and Sea' and 'Risk of Flooding from Surface Water' data are due to be published on 25th March 2025, with these updates also incorporating the latest (UKCP18) climate change allowances. These outputs are likely to impact the way flood and erosion risk are shown to impact the site over the next 100 years.

The FRA notes a defence level of 5.0 mAOD in this location, however, has not assessed the impacts of wave overtopping, breach or failure of defences and how these could impact the development over its lifetime. The site also lies within the boundary of the indicative erosion zones for the 0-20, 20-50

and 50-100 year epochs, however the FRA has not addressed this or demonstrated how the proposed development will be kept safe from erosion over its lifetime.

No details have been provided on any flood resistance and resilience measures to be incorporated into the development.

Overcoming our Objection:

The applicant should submit a revised FRA, taking account of the above, which demonstrates that the proposed development will be safe from tidal flood and erosion risk over the duration of its lifetime. Please note, production of a new FRA will not in itself result in the removal of an objection. If this cannot be achieved, we will need to maintain our objection.

Due to the present day and predicted future coastal flood and erosion risk at the site, its close proximity to the sea and the complex coastal processes operating in this area, the revised FRA will need to be robust and sufficiently detailed in order for us to be able to remove our objection.

Kind regards,

Amy Adams



Coastal
Partners Amy Adams AMIEnvSc BSc(Hons)

Appendix C

FLOOD RESPONSE PLAN

Beachlands, Hayling Island

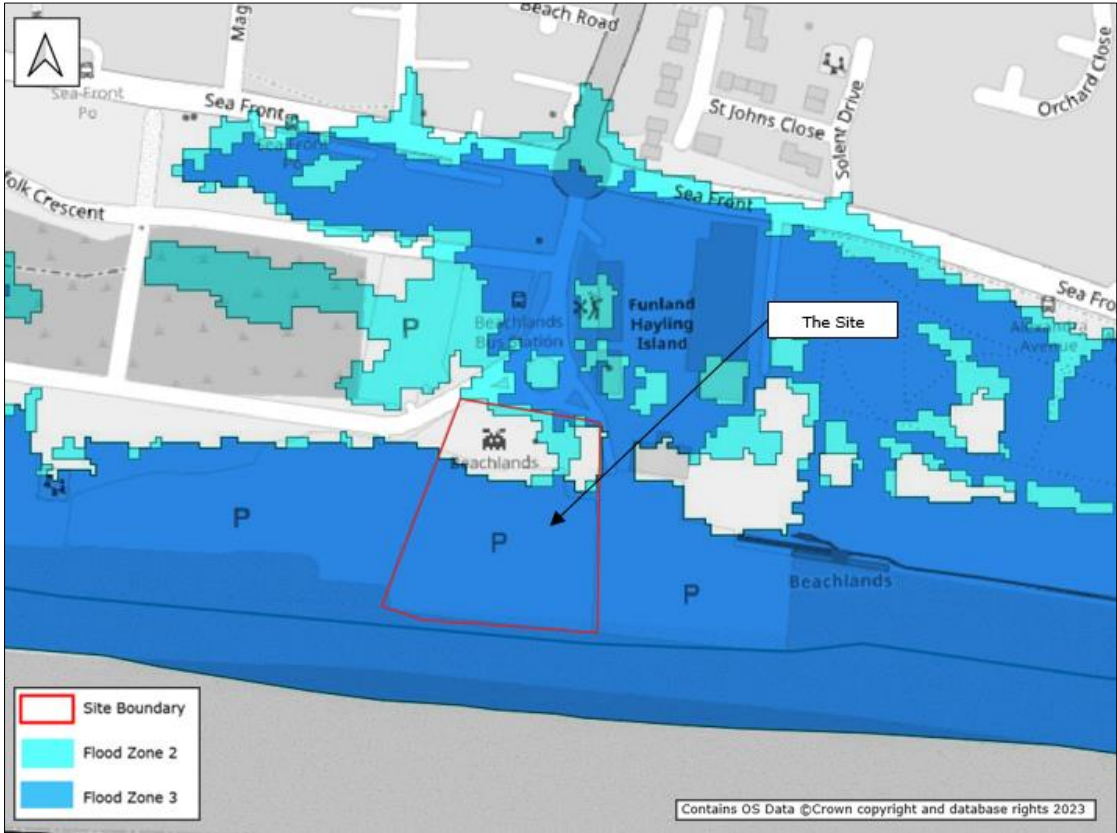
February 2025

FLOODING IS IN PROGRESS

If the reader is referring to this plan because flooding is in progress without a flood warning at or near the site:

- Move all people, pets, important belongings and your “emergency grab bag”¹ upstairs where emergency refuge is provided;
- Turn off gas, electricity and water supplies if safe to do so;
- Await further information from the emergency services or via local radio; and,
- Do not walk or drive through flood water, unless directed to by Emergency Services; 150 mm of fast flowing water can knock you over and 600mm of water will float your car.

ENVIRONMENT AGENCY FLOOD ZONES



ACCESS AND EGRESS ROUTES

The diagram overleaf outlines access and egress routes in the event of flooding at the site.

The upper floors of the development are designed to serve as an emergency refuge during an extreme flood event. However, if instructed by the Emergency Services to evacuate, it is strongly advised that you evacuate. The area could remain inundated for several days following an extreme flood event.

ENVIRONMENT AGENCY FLOOD WARNING CODES

The Environment Agency operates three levels of flood warnings as summarised below:

FLOOD ALERT
Flooding is possible. Be prepared.
FLOOD WARNING
Flooding is expected. Act Now.
SEVERE FLOOD WARNING
Severe flooding. Danger to life. Action Needed.

Evacuation Route

During a flood event, safe refuge is available within the upper floors of the development.

Safe dry access and egress is available if evacuating **before** flooding has started. It is recommended that occupants head west, then immediately turn north before continuing west along Sea Front Road.

An offsite refuge will be confirmed by emergency services during an event of a flood.

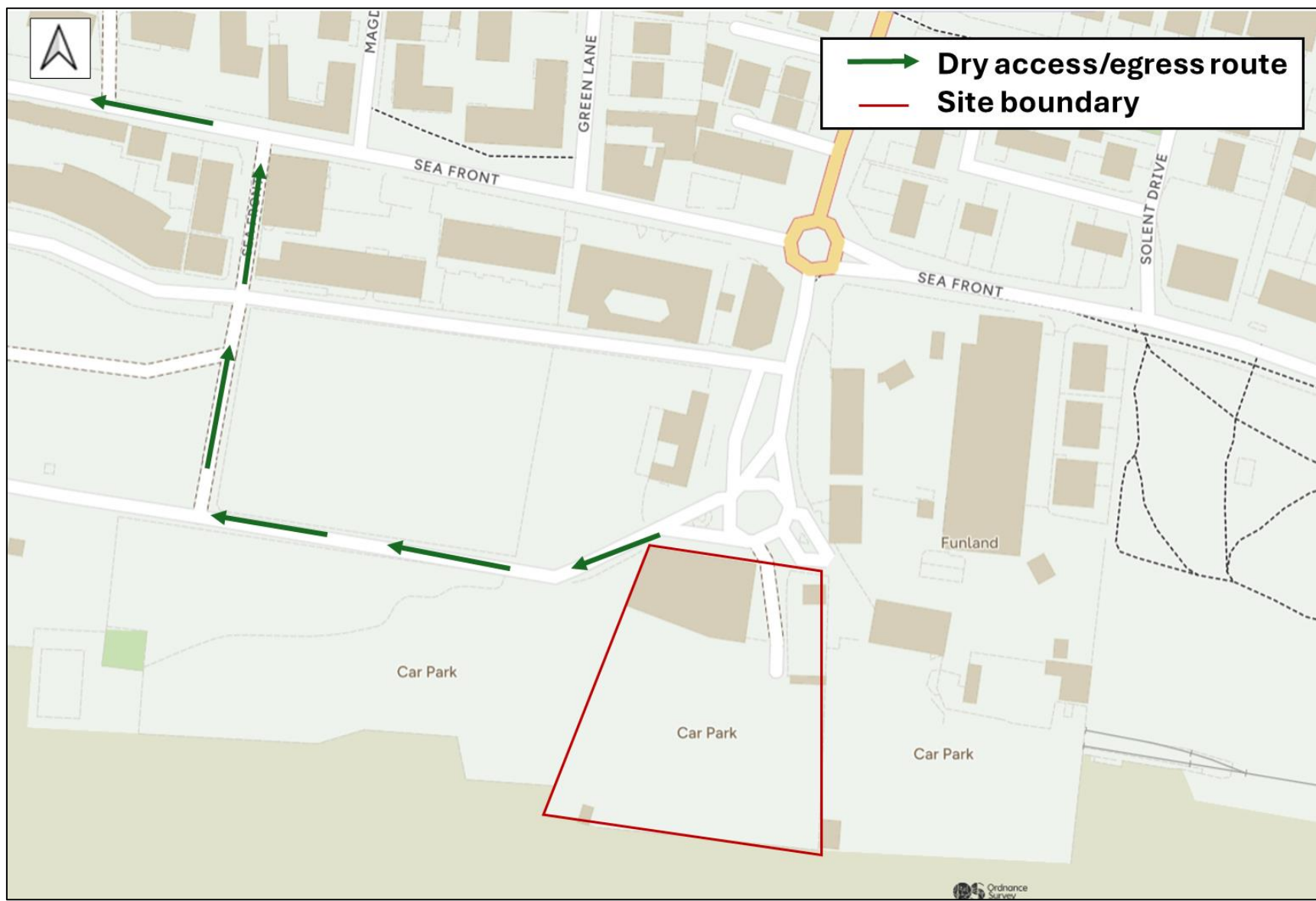
FLOOD RESPONSE PLAN

Beachlands, Hayling Island

ARDENT
CONSULTING ENGINEERS

AN EMPLOYEE OWNED COMPANY

February 2025



(CONTINUES OVERLEAF)

FLOOD RESPONSE PLAN

Beachlands, Hayling Island

February 2025

EMERGENCY CONTACT NUMBERS:

Agency	Number
Environment Agency Flood Warnings Direct	0345 988 1188
Havant Borough Council General Enquiries Contact	023 9244 6019
Floodline helpline (Telephone)	0345 988 1188
Floodline helpline (Textphone)	0345 602 6340
National Gas Emergency Service	0800 111 999
UK Power Networks (power cut)	0800 028 0247
Anglian Water (emergencies)	0330 303 0368
NHS 111 Services	111
Police/Fire Brigade/Ambulance/Coastguard	999

**IF THERE IS A DANGER TO
LIFE ALWAYS DIAL 999
OR 112 AND ASK FOR THE
APPROPRIATE
EMERGENCY SERVICE.**

EMERGENCY KIT

This is a useful bag that is packed with essentials in case you need to evacuate the premise. It should be stored somewhere you can easily get to. Handy things to keep in your grab bag include:

- A list of useful telephone numbers (local authority, insurance company, family and friends, Gas Safe registered gas engineer and trained electrician).
- Mobile phone charger.
- Spare keys.
- Toiletries, sanitary supplies.
- First-aid kit.
- Any essential medication, or details of your prescription.
- A wind-up or battery-operated radio with spare batteries.
- Torch with spare batteries.
- Cash and credit cards.
- Spare clothes and blankets.
- Sensible flat shoes.
- Bottled water.
- A stock of non-perishable snack items.
- Essential items for babies or pets.

If asked by the emergency services to leave your premise, please do so as quickly and calmly as possible. If you have time, turn off electricity, gas, and water supplies, unplug appliances, and lock all windows and doors. Take your grab bag with you.

An offsite refuge will be confirmed by emergency Services during an event

Occupants should listen to the advice and guidance from the emergency services at the time of an incident.

ANNUAL REVIEW OF PLAN

- Check the management team and contacts lists and update details if necessary;
- Contact the Environment Agency Floodline Service to check that the flood risk to the Site has not changed;
- Check if the evacuation procedures are still correct;
- Undertake Flood Evacuation exercise; and
- Check the flood emergency kit.

In accordance with the flood risk assessment and planning requirements for the site, the development has been designed and constructed to provide a safe temporary refuge at first floor level and above.

Note the flood extents were obtained from the Environment Agency and Havant Borough Council, and the information contained in this notice will be reviewed annually by the developments managing

Appendix D

Flood risk assessment data

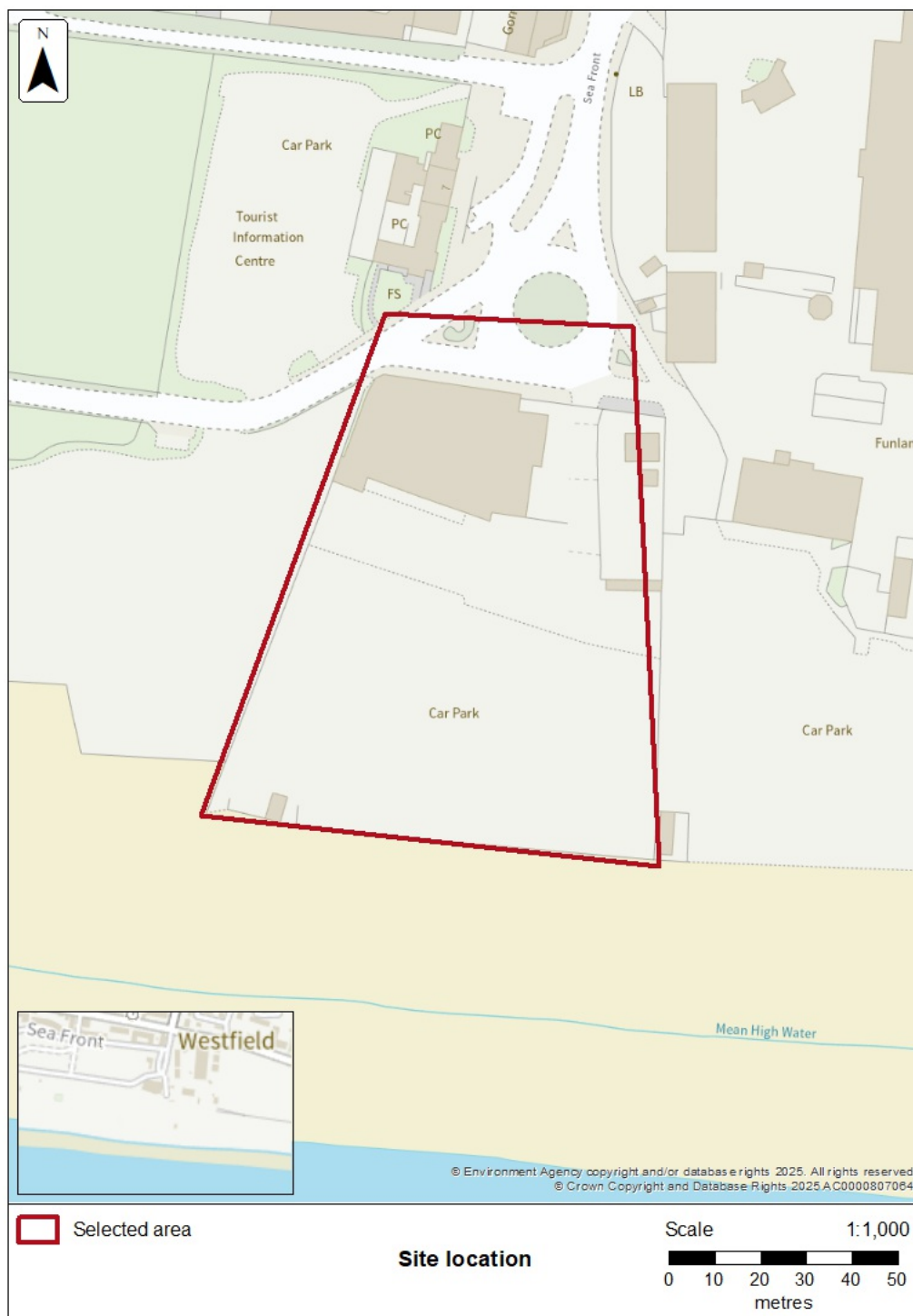
Location of site: 471377 / 98798 (shown as easting and northing coordinates)

Document created on: 18 March 2025

This information was previously known as a product 4.

Customer reference number: 8YMM3B58UYXM / EIR2025/00718

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)
- 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
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Information that's unavailable

This document **does not** contain:

- past floods

We do not have past flooding data for this location.

Please note that:

- flooding may have occurred that we do not have records for
- flooding can come from a range of different sources
- we can only supply flood risk data relating to flooding from rivers or the sea

You can contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

Or you can contact your Lead Local Flood Authority for further information.

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: Hayling Island 2018 - East Solent Model

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

Date: 1 July 2018

Terminology used

Annual exceedance probability (AEP)

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

Metres above ordnance datum (mAOD)

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

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

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

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

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

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

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

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



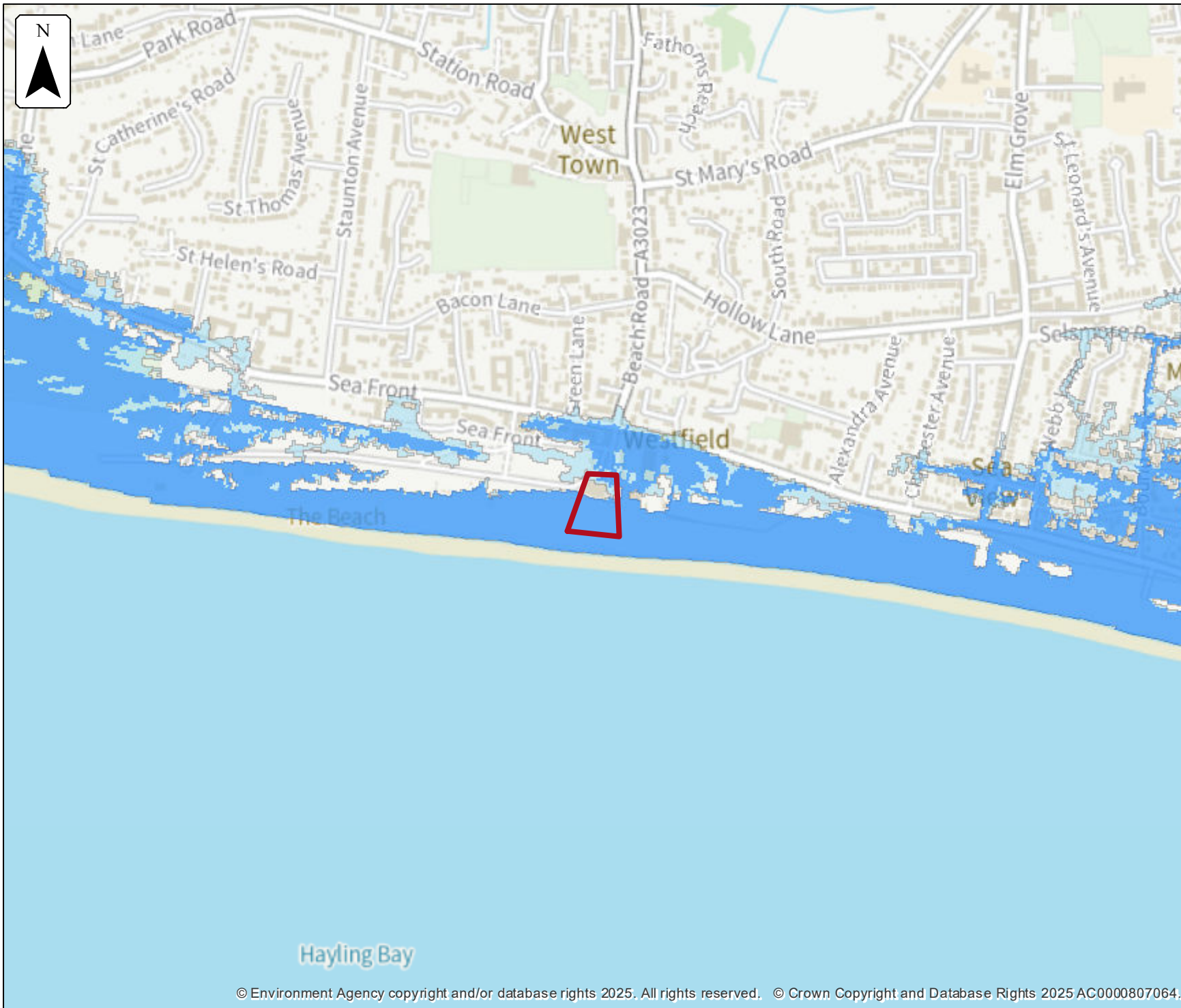
Flood map for planning

Location (easting/northing)
471377/98798

Scale
1:10,000

Created
18 Mar 2025

-  Selected area
-  Flood zone 3
-  Flood zone 2



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



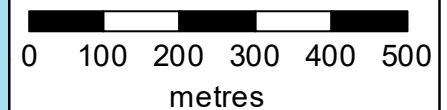
Flood defences

Location (easting/northing)
471377/98798

Scale
1:10,000

Created
18 Mar 2025

-  Selected area
-  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	470211	Beach					4.50
2	470240	Embankment					5.0
3	470243	Embankment					5.50

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
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

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

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

Modelled scenarios

The following scenarios are included:

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

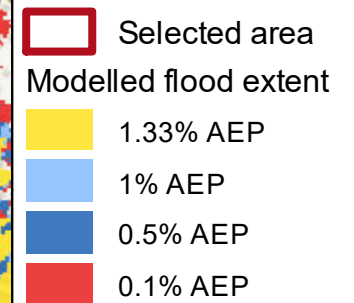


Defended modelled tidal extent

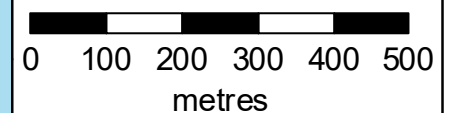
Location (easting/northing)
471377/98798

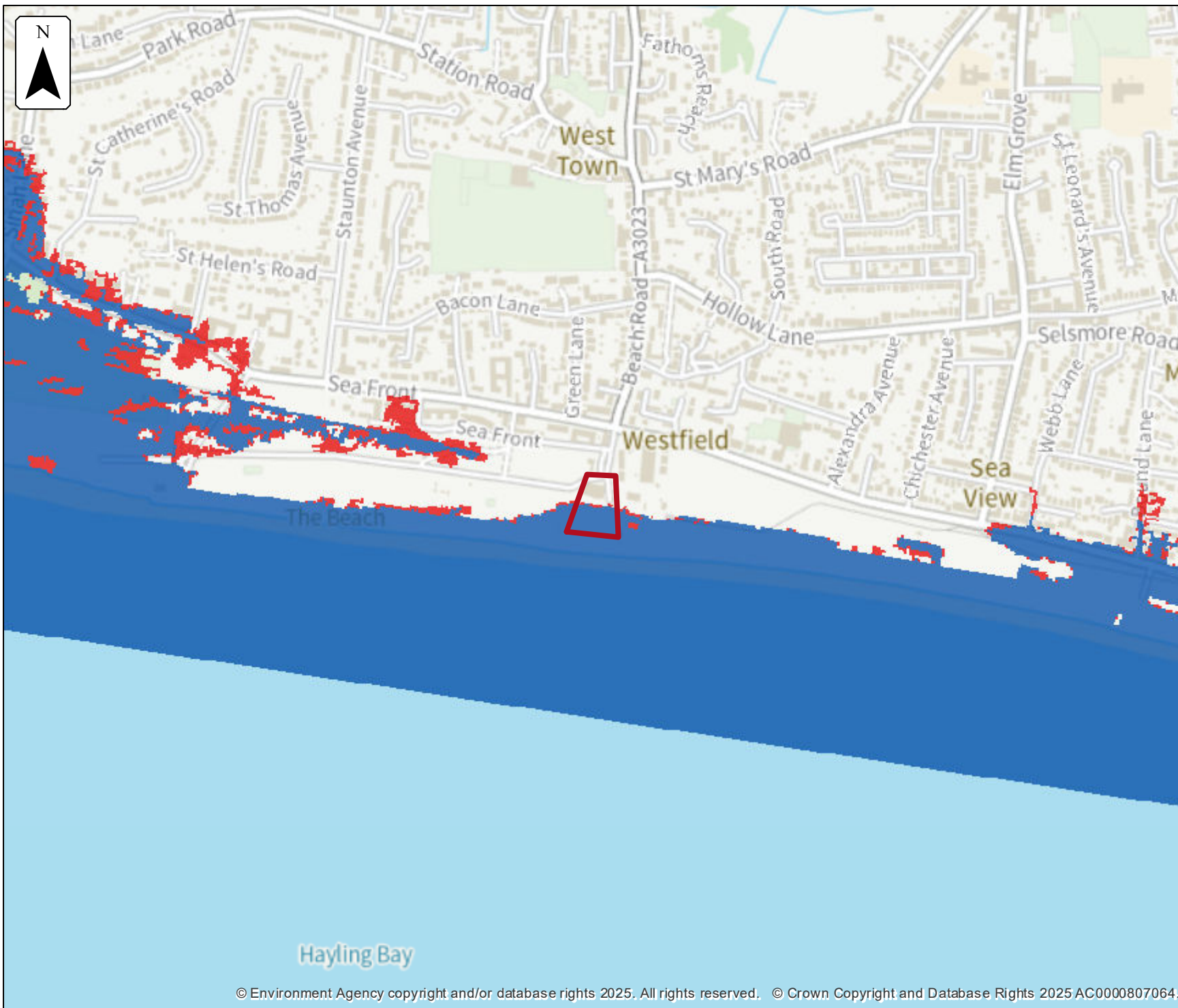
Scale Created
1:10,000 18 Mar 2025

Model name
**Hayling Island 2018
East Solent Model**



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





Defences removed modelled tidal extent

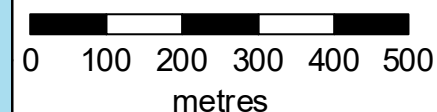
Location (easting/northing)
471377/98798

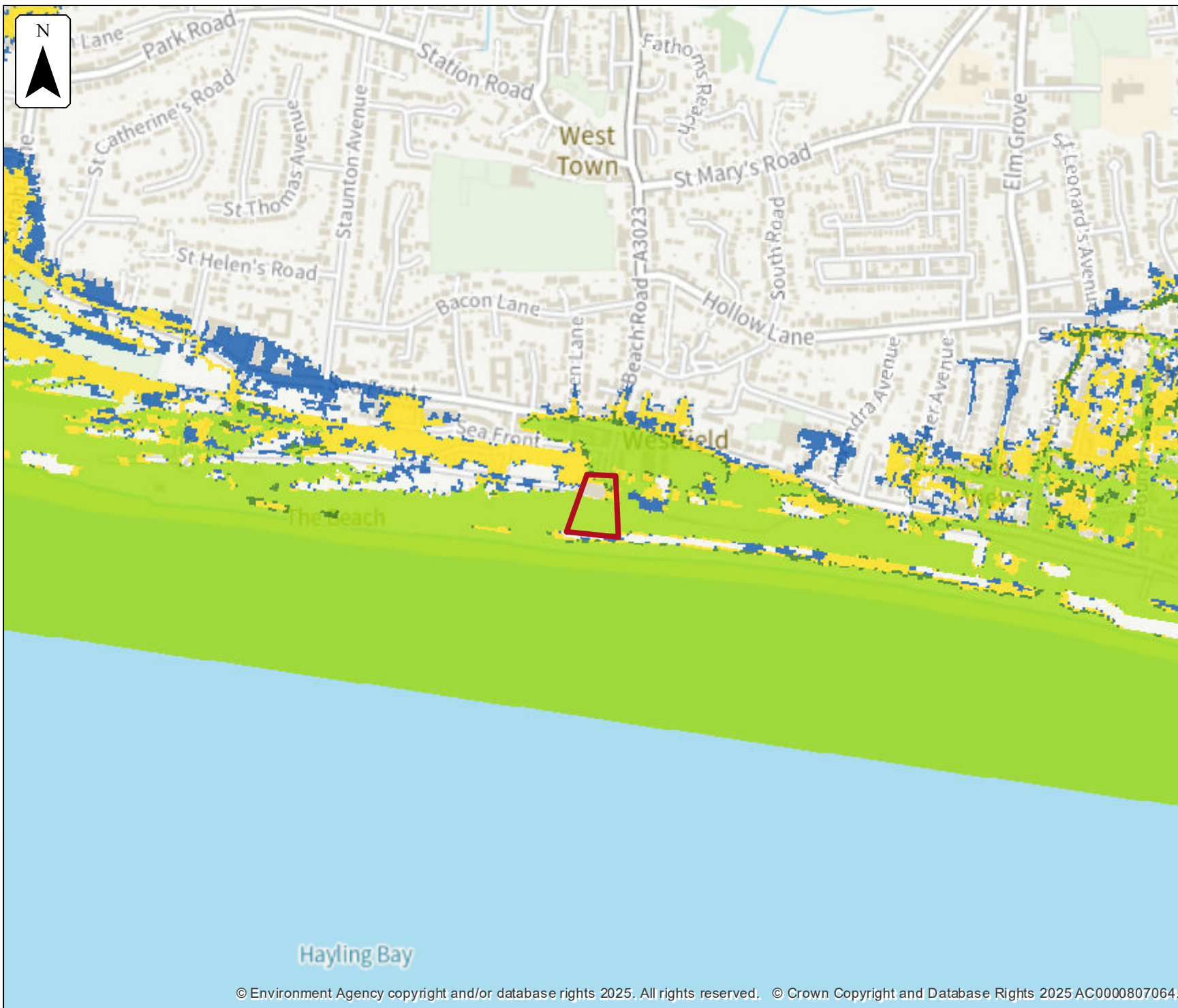
Scale Created
1:10,000 18 Mar 2025

Model name
**Hayling Island 2018
East Solent Model**

-  Selected area
- Modelled flood extent
-  0.5% AEP
-  0.1% AEP

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





Defended climate change modelled tidal extent

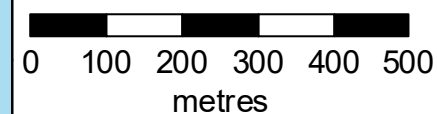
Location (easting/northing)
471377/98798

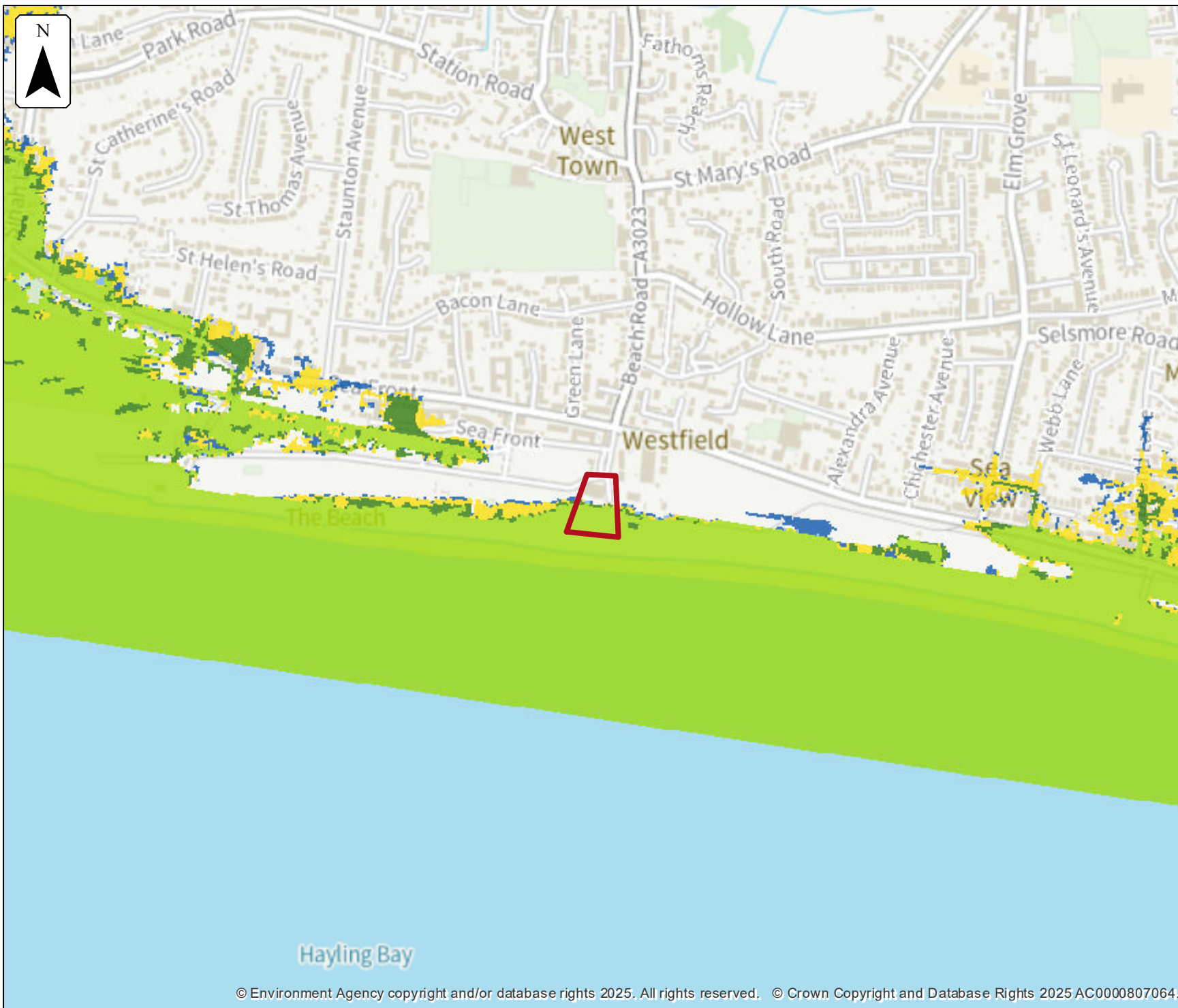
Scale Created
1:10,000 18 Mar 2025

Model name
**Hayling Island 2018
East Solent Model**

-  Selected area
-  Main river
- Modelled flood extent
-  0.5% AEP (+90mm)
 -  0.5% AEP (+320mm)
 -  0.5% AEP (+744mm)
 -  0.1% AEP (+320mm)
 -  0.1% AEP (+744mm)

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





Defences removed climate change modelled tidal extent

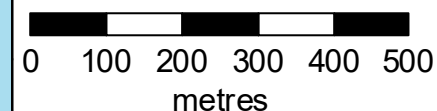
Location (easting/northing)
471377/98798

Scale Created
1:10,000 18 Mar 2025

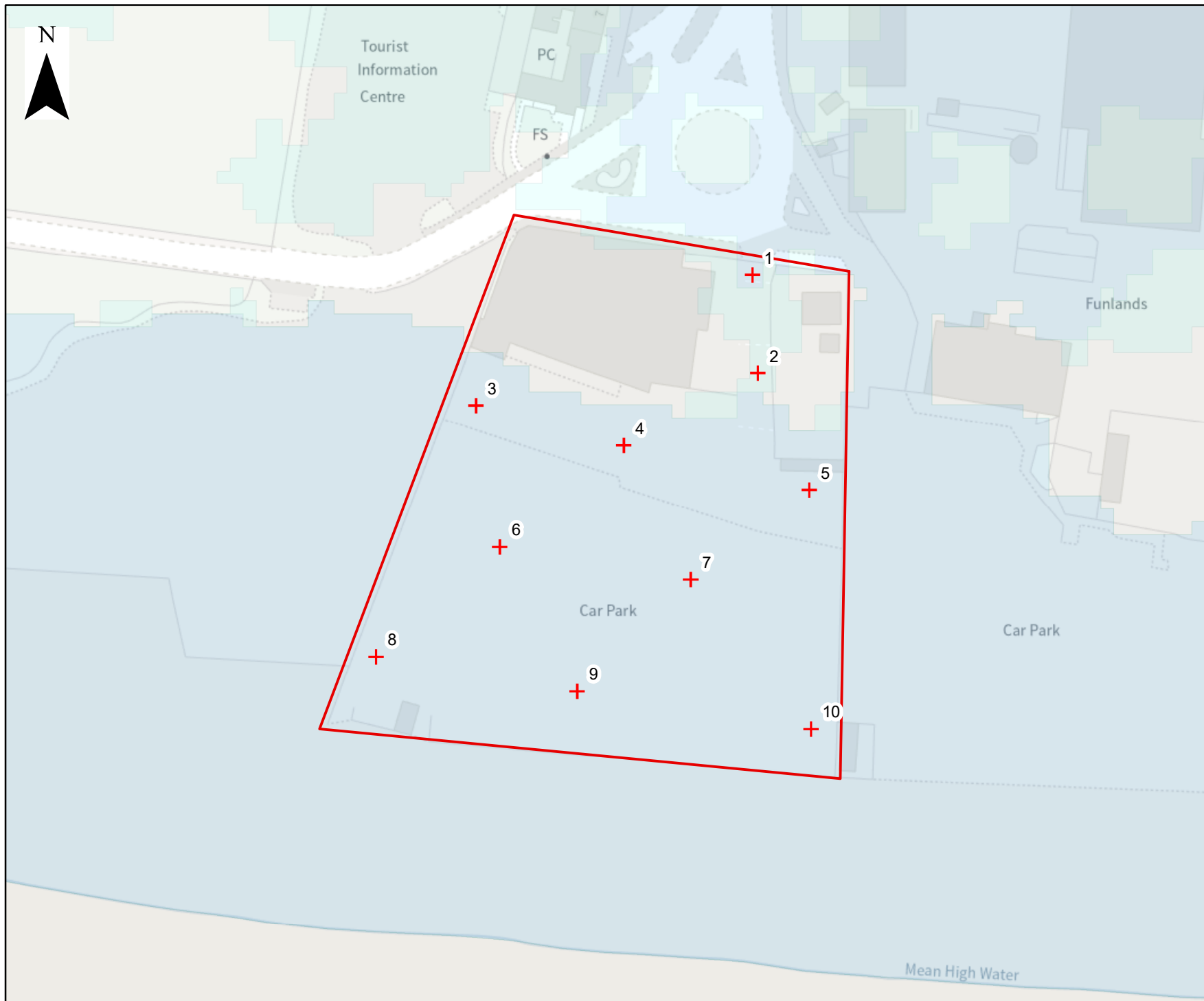
Model name
**Hayling Island 2018
East Solent Model**

-  Selected area
-  Main river
- Modelled flood extent
 -  0.5% AEP (+90mm)
 -  0.5% AEP (+320mm)
 -  0.5% AEP (+744mm)
 -  0.1% AEP (+320mm)
 -  0.1% AEP (+744mm)

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



2018 East Solent Coastal Model - Centred on: SZ7137798798



Flood Levels Map

Location (easting/northing)
471377 / 98798

Scale
1:1,000

Created
26 March 2025

Legend

-  Site_boundary
-  Location Points
-  flood_zone_3
-  flood_zone_2

 Meters
04.25 17 25.5 34

Water Depths & Levels for SZ7137798798

Point	Water Depth (Metres)		Water Surface Level (mAOD*)		Ground Level
	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year (Flood Zone 2)	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year (Flood Zone 2)	
1	0.03	0.23	4.77	4.97	4.74
2	NoData	0.001	NoData	5.02	5.02
3	0.58	0.63	4.97	5.02	4.39
4	0.54	0.59	4.97	5.02	4.43
5	0.90	0.95	4.97	5.02	4.07
6	1.14	1.19	4.97	5.02	3.83
7	1.05	1.11	4.97	5.03	3.92
8	0.61	0.66	4.97	5.02	4.36
9	0.31	0.37	4.96	5.02	4.65
10	0.16	0.21	4.97	5.02	4.81

* Levels in metres above Ordnance Datum Newlyn

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

Appendix D

Flood risk assessment data

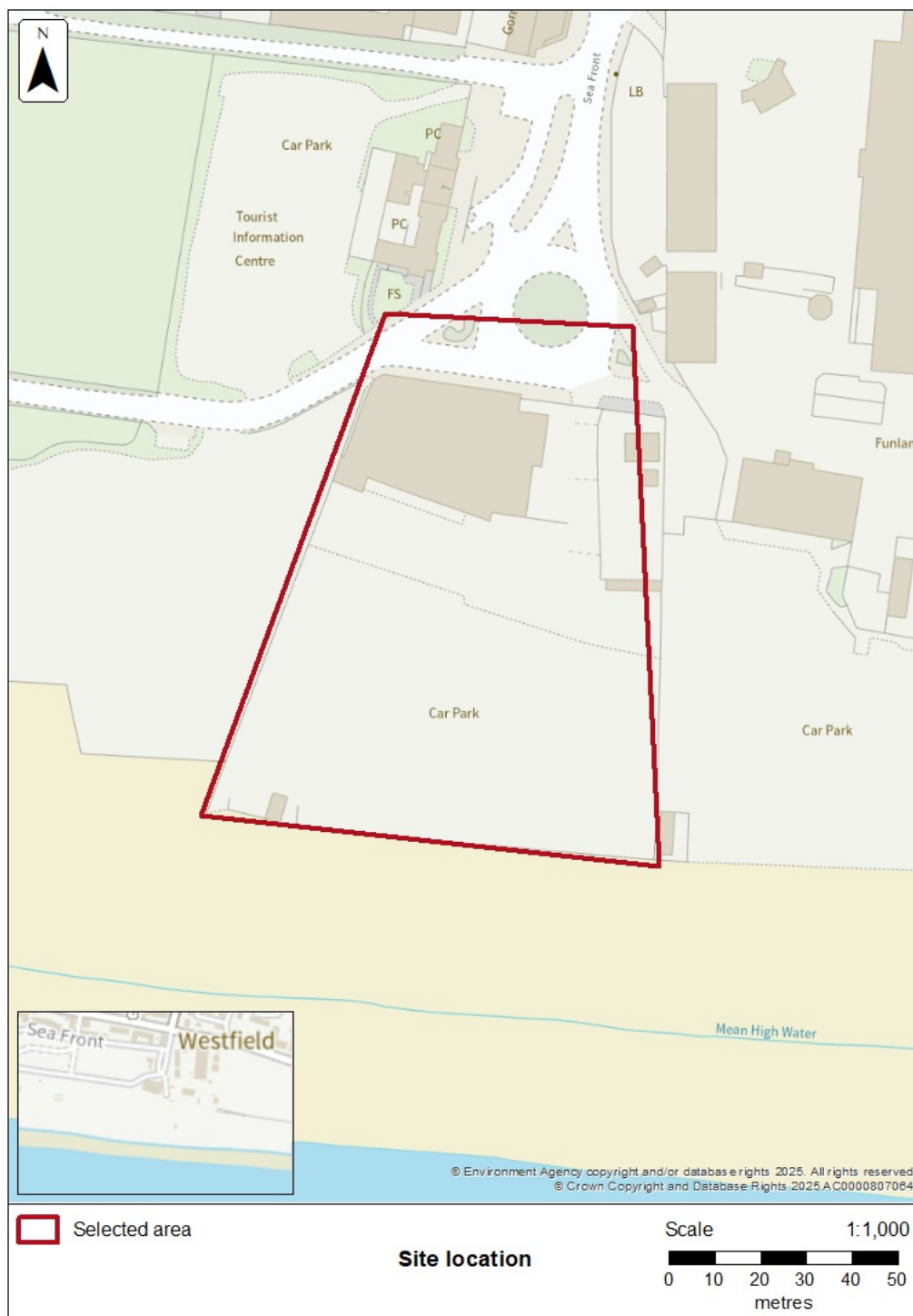
Location of site: 471377 / 98798 (shown as easting and northing coordinates)

Document created on: 18 March 2025

This information was previously known as a product 4.

Customer reference number: 8YMM3B58UYXM / EIR2025/00718

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)
- 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
- climate change modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Information that's unavailable

This document **does not** contain:

- past floods

We do not have past flooding data for this location.

Please note that:

- flooding may have occurred that we do not have records for
- flooding can come from a range of different sources
- we can only supply flood risk data relating to flooding from rivers or the sea

You can contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

Surface water and other sources of flooding

Use the [long term flood risk service](#) to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

Or you can contact your Lead Local Flood Authority for further information.

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: Hayling Island 2018 - East Solent Model

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

Date: 1 July 2018

Terminology used

Annual exceedance probability (AEP)

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

Metres above ordnance datum (mAOD)

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

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

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

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

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

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

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

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



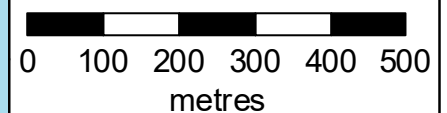
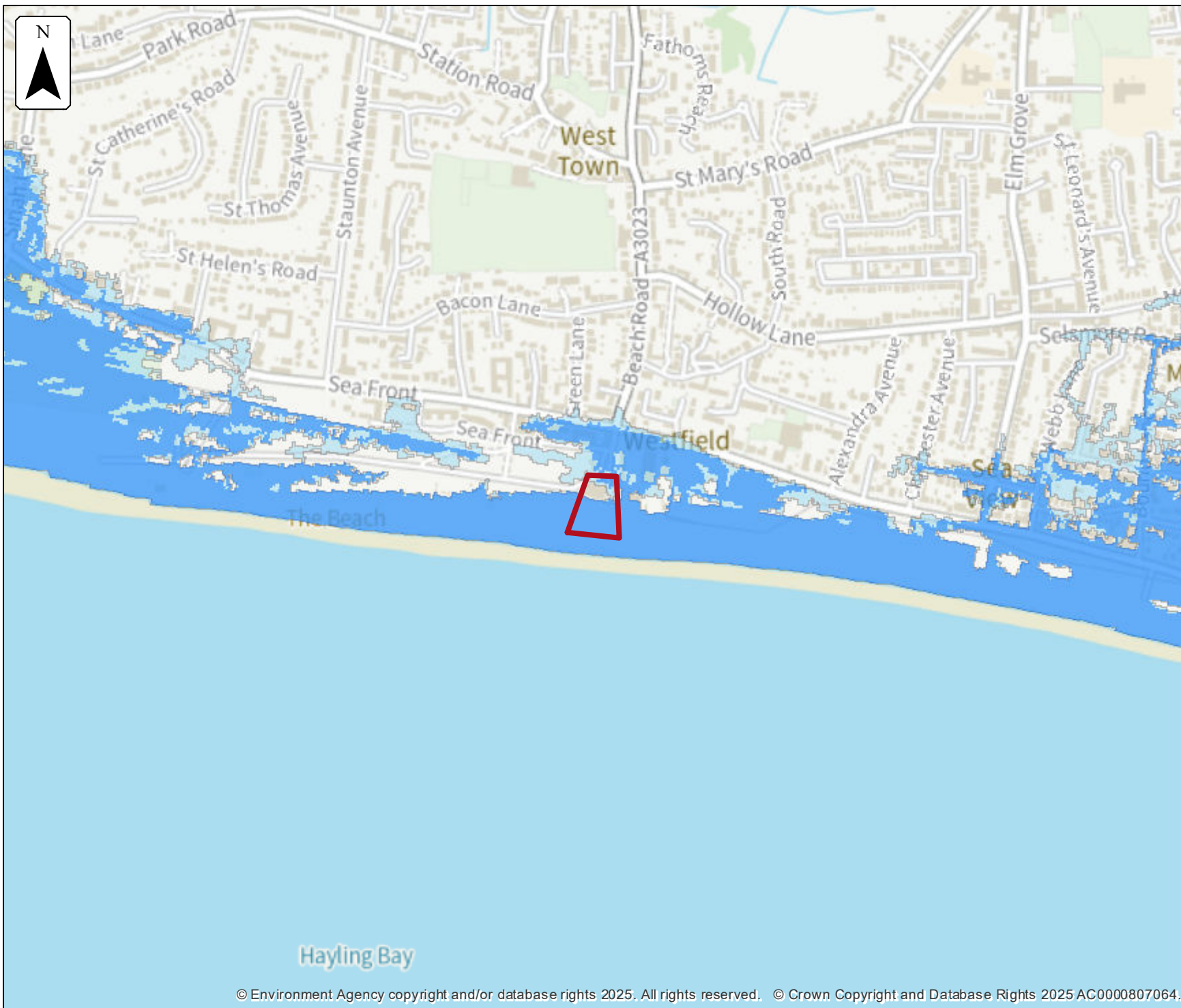
Flood map for planning

Location (easting/northing)
471377/98798

Scale
1:10,000

Created
18 Mar 2025

-  Selected area
-  Flood zone 3
-  Flood zone 2



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



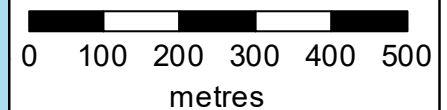
Flood defences

Location (easting/northing)
471377/98798

Scale
1:10,000

Created
18 Mar 2025

-  Selected area
-  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	470211	Beach					4.50
2	470240	Embankment					5.0
3	470243	Embankment					5.50

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
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

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

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

Modelled scenarios

The following scenarios are included:

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

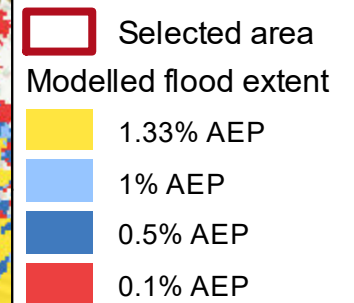


Defended modelled tidal extent

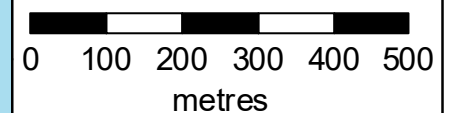
Location (easting/northing)
471377/98798

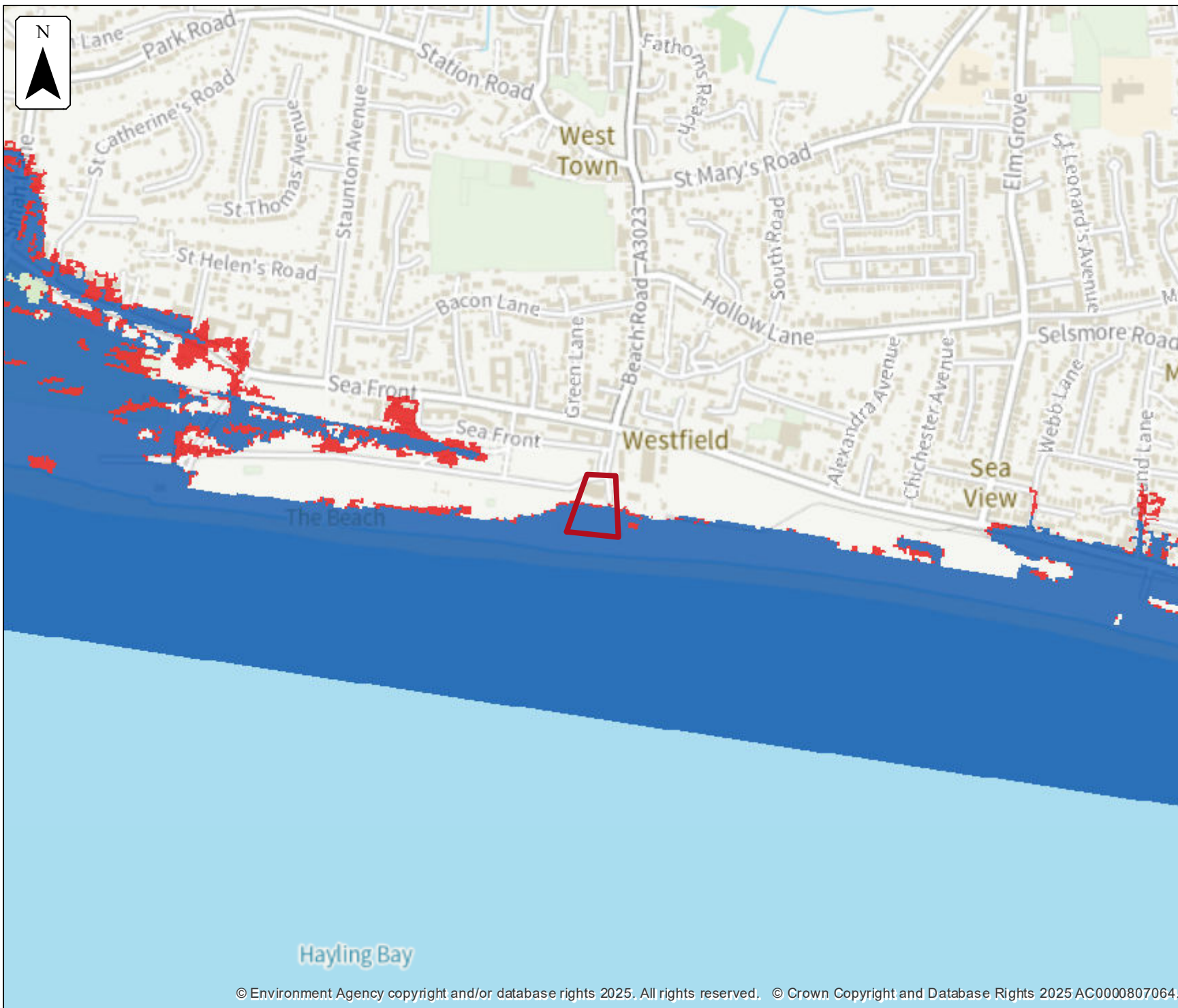
Scale Created
1:10,000 18 Mar 2025

Model name
**Hayling Island 2018
East Solent Model**



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





Defences removed modelled tidal extent

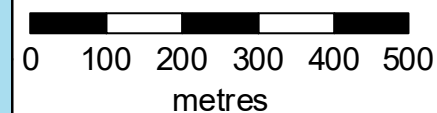
Location (easting/northing)
471377/98798

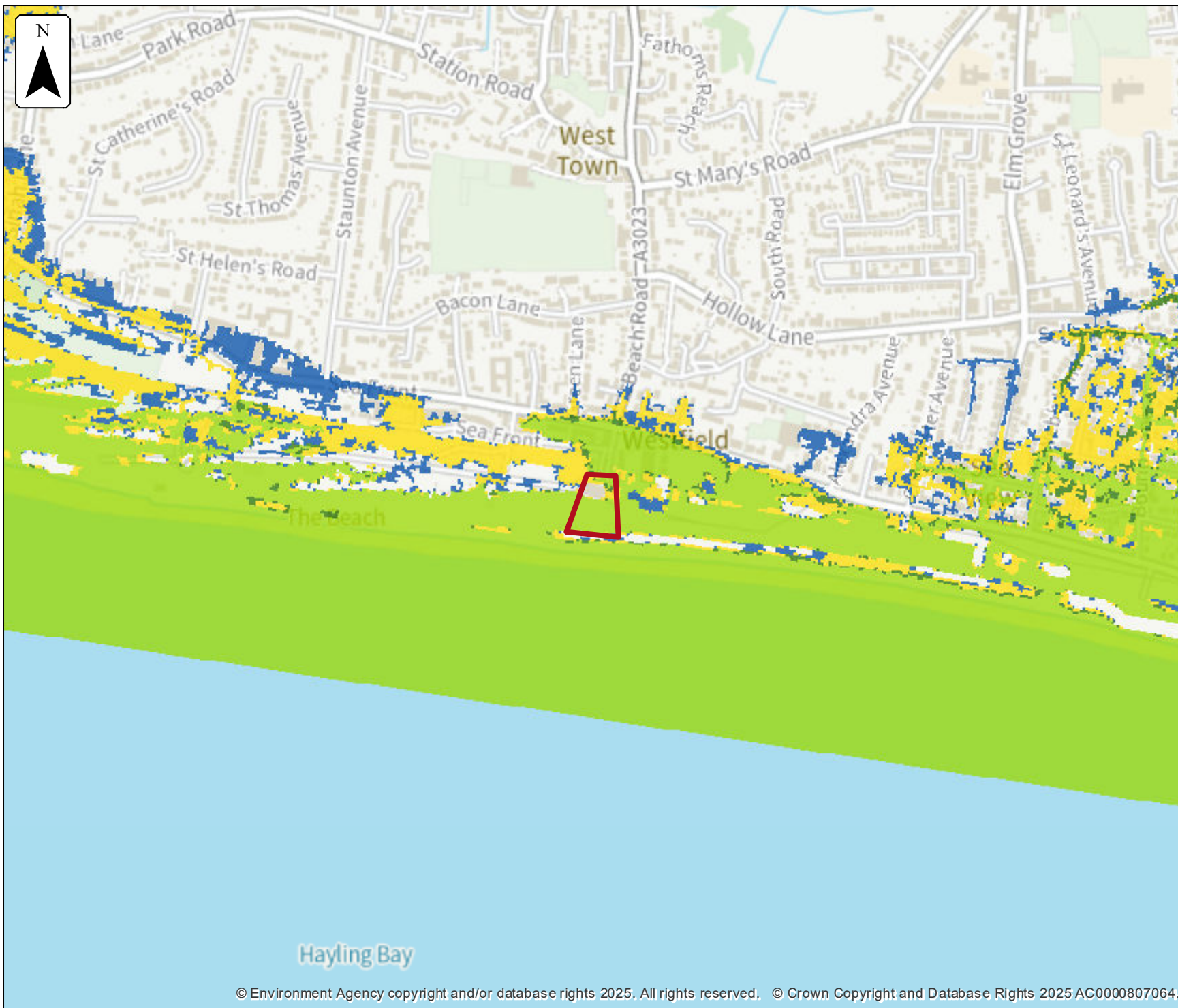
Scale Created
1:10,000 18 Mar 2025

Model name
**Hayling Island 2018
East Solent Model**

-  Selected area
- Modelled flood extent
-  0.5% AEP
-  0.1% AEP

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





Defended climate change modelled tidal extent

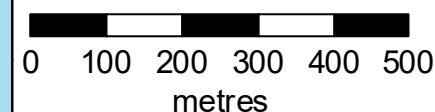
Location (easting/northing)
471377/98798

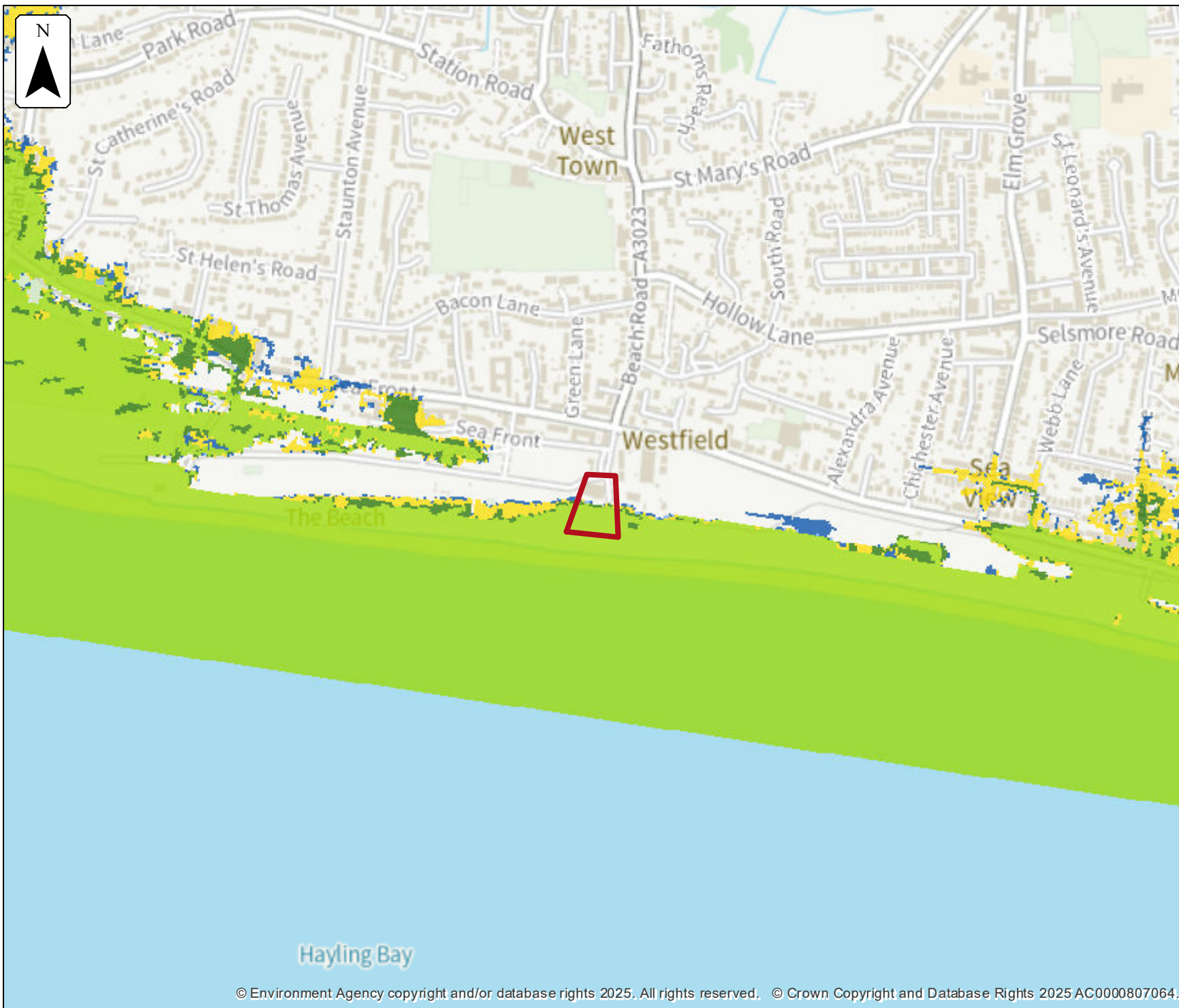
Scale Created
1:10,000 18 Mar 2025

Model name
**Hayling Island 2018
East Solent Model**

- Selected area
- Main river
- Modelled flood extent
- 0.5% AEP (+90mm)
- 0.5% AEP (+320mm)
- 0.5% AEP (+744mm)
- 0.1% AEP (+320mm)
- 0.1% AEP (+744mm)

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





Defences removed climate change modelled tidal extent

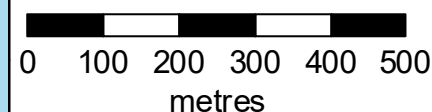
Location (easting/northing)
471377/98798

Scale Created
1:10,000 18 Mar 2025

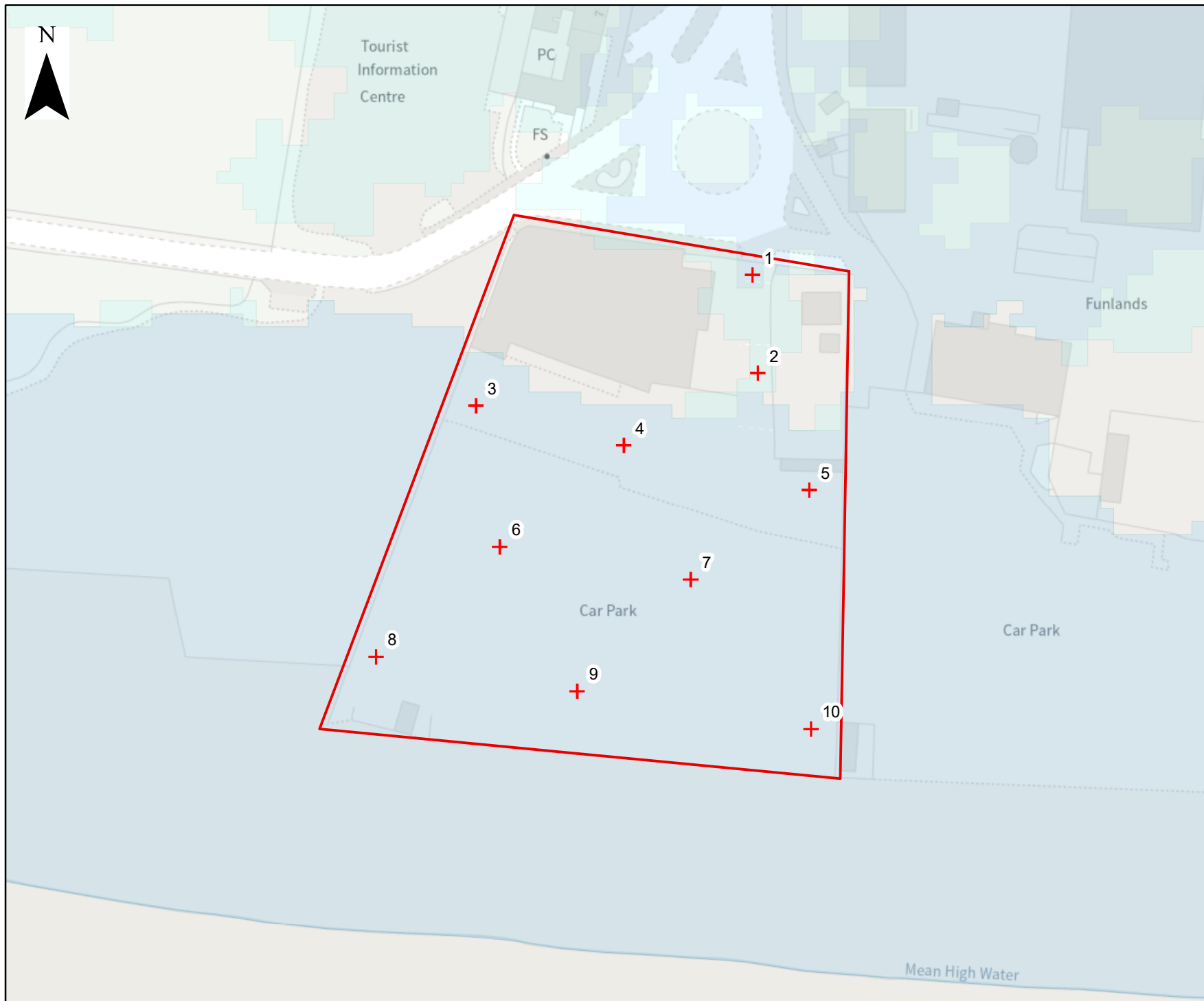
Model name
**Hayling Island 2018
East Solent Model**

- Selected area
- Main river
- Modelled flood extent
- 0.5% AEP (+90mm)
- 0.5% AEP (+320mm)
- 0.5% AEP (+744mm)
- 0.1% AEP (+320mm)
- 0.1% AEP (+744mm)

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



2018 East Solent Coastal Model - Centred on: SZ7137798798



Flood Levels Map

Location (easting/northing)
471377 / 98798

Scale
1:1,000

Created
26 March 2025

Legend

-  Site_boundary
-  Location Points
-  flood_zone_3
-  flood_zone_2

 Meters
04.25 17 25.5 34

Water Depths & Levels for SZ7137798798

Point	Water Depth (Metres)		Water Surface Level (mAOD*)		Ground Level
	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year (Flood Zone 2)	0.5% Annual Probability/1 in 200 Year (Flood Zone 3)	0.1% Annual Probability/1 in 1000 Year (Flood Zone 2)	
1	0.03	0.23	4.77	4.97	4.74
2	NoData	0.001	NoData	5.02	5.02
3	0.58	0.63	4.97	5.02	4.39
4	0.54	0.59	4.97	5.02	4.43
5	0.90	0.95	4.97	5.02	4.07
6	1.14	1.19	4.97	5.02	3.83
7	1.05	1.11	4.97	5.03	3.92
8	0.61	0.66	4.97	5.02	4.36
9	0.31	0.37	4.96	5.02	4.65
10	0.16	0.21	4.97	5.02	4.81

* Levels in metres above Ordnance Datum Newlyn

Strategic flood risk assessments

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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

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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