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Flood Risk Assessment AEF10243_BN18_Arun_01

Site Address: Gaugemaster Way
Arun
West Sussex
BN18 0BH

UK Experts in Flood Modelling, Flood Risk
Assessments, and Surface Water Drainage Strategies

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Summary

Development Description	Existing	Proposed
Development Type	Environmental Agency Flood Depot Arundel	Replacement of existing Portacabin with new single storey modular cabin, within the same footprint, for use as an ancillary building to the existing site, along with associated ground works.
EA Vulnerability Classification	Essential infrastructure	Essential infrastructure
Ground Floor Level	LiDAR data shows the ground elevation of the site varies between approximately 1.63m AOD and 5.62m AOD	No change
Site Size	c.6,130m ²	No change
Risk to Development	Summary	Comment
EA Flood Zone	Flood Zones 1, 2 and 3	Fluvial and Tidal
Flood Source	Tidal Watercourse	
SFRA Available	Level 1 and Level 2 Strategic Flood Risk Assessment (Arun District Council, 2016)	
Management Measures	Summary	Comment
Ground floor level above extreme flood levels	Fluvial – Yes Tidal – No	Fluvial - The actual defended risk from fluvial sources is considered low, with the area proposed for development not impacted up to the 1in1000yr event Tidal - The tidal risk posed to the development is considered high, given depths up to 1.9m during the 1in200year 2110 epoch scenario.
Safe Access/Egress Route	Site to be evacuated on receipt of flood warning prior to onset of flood waters and not entered till warning is lifted. See further details in section 5.	

Flood Resilient Design	Yes	Resilience methods recommended in section 5.
Flood Warning and Evacuation Plan	N/A ¹	Recommended site owner/users sign up to the Ford and Climping on the River Arun Environment Agency flood warning service.
Offsite Impacts	Summary	Comment
Displacement of floodwater	Negligible	At this stage it is understood that the development will not result in an increase in built footprint, therefore as a result of the development there will be no increase in flood water displacement.
Increase in surface run-off generation	Negligible	The development will not result in an increase in built footprint, therefore as a result of the development there will be no increase in flood water displacement.
Impact on hydraulic performance of channels	None	River Arun flows c.50m south of the area proposed for development

¹ not required for this assessment

² data not available.

1. Introduction

- 1.1. Aegaea were commissioned by McAndrew Martin Ltd to undertake a Flood Risk Assessment (FRA) to facilitate a planning application for the proposed development. This FRA has been prepared in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance.
- 1.2. This FRA is intended to support a full planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

Site Overview

- 1.3. The site of the proposed development is Gaugemaster Way, Arun, West Sussex, BN18 0BH (Figure 1).



Figure 1: Site Location (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © <https://www.openstreetmap.org> and contributors)

- 1.4. The proposed development is for the replacement of the existing portacabin with new single storey modular cabin, within the same footprint, for use as an ancillary building to the existing site, along with associated ground works. Development plans can be found in Appendix A.
- 1.5. In the absence of a topographical survey, Environment Agency Light Detection and Ranging (LiDAR) data Digital Terrain Model has been used to review the topography of the site. LiDAR data shows the ground elevation of the site varies between approximately 1.63m AOD (metres Above Ordnance Datum) and 5.62m AOD (Figure 2). Analysis of topographic levels indicates that the site generally slopes with a fall to the south-east towards the River Arun.

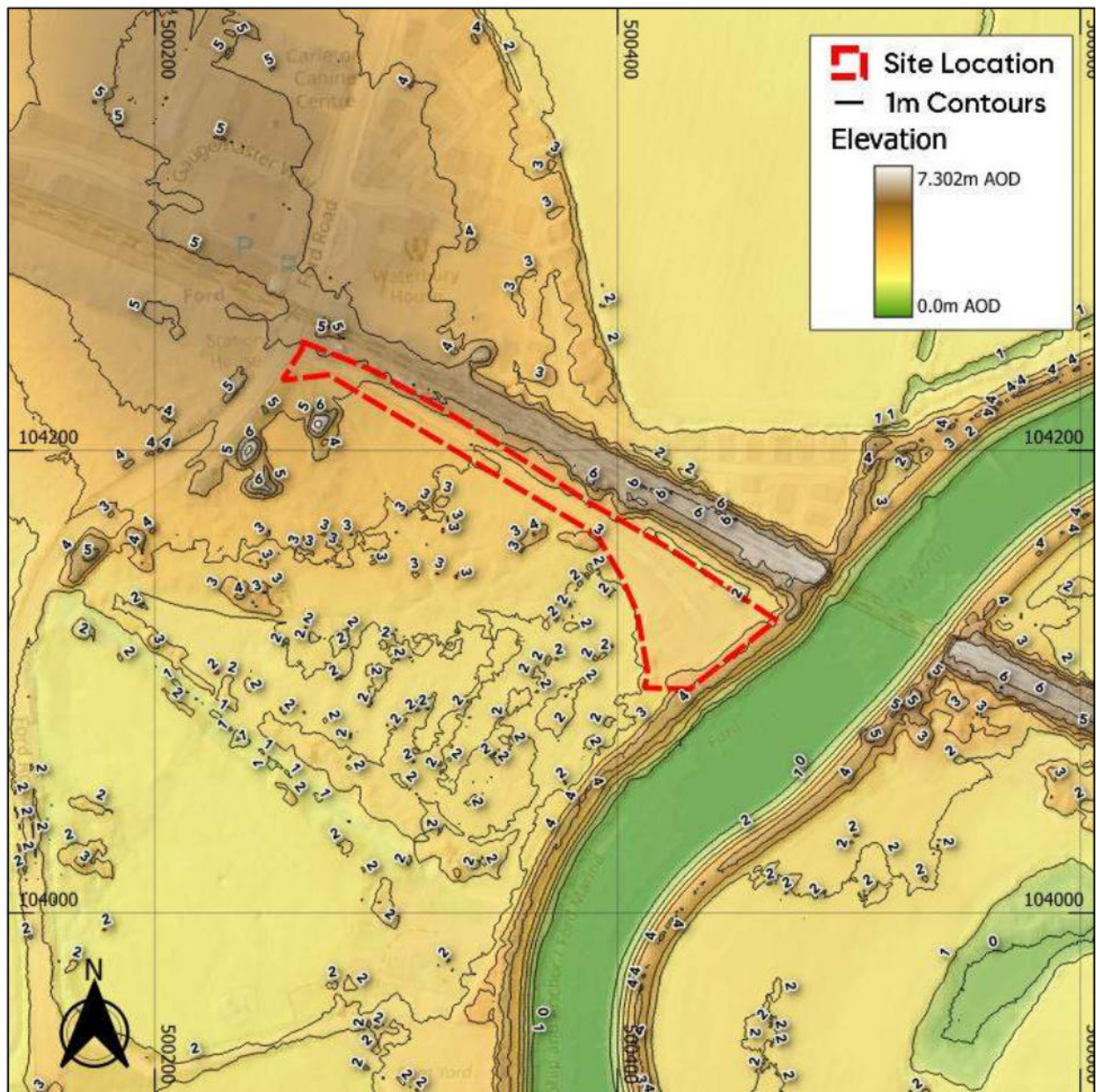


Figure 2: Site Topography (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © <https://www.openstreetmap.org> and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

- 1.6. Arun District Council is the Local Planning Authority (LPA) for the site and West Sussex County Council is the designated Lead Local Flood Authority (LLFA). The site sits within the Environment Agency's Solent and South Downs region.

Planning Policy and Guidance

- 1.7. UK government planning guidance states¹ that an FRA is required for developments which are:

- *in flood zone 2 or 3 including minor development and change of use*
- *more than 1 hectare (ha) in flood zone 1*
- *less than 1 ha in flood zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than rivers and the sea (for example surface water drains, reservoirs)*
- *in an area within flood zone 1 which has critical drainage problems as notified by the Environment Agency*

- 1.8. The site is located within Flood Zone 3 and therefore an FRA is required in accordance with the NPPF.

- 1.9. The objective of this FRA is to demonstrate that the proposals are acceptable in terms of flood risk. This report summarises the findings of the study and specifically addresses the following issues in the context of the current legislative regime:

- Fluvial/tidal flood risk
- Surface water flood risk
- Risk of flooding from other sources

¹ <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications#when-you-need-an-assessment>

2. Planning Policy

- 2.1. Inappropriate development in a flood risk area could pose significant risk in terms of personal safety and damage to property for the occupiers of the development or for people elsewhere. The approach taken in the assessment of flood risk at the planning stage is set out in national, regional, and local planning policy and associated guidance. This section summarises the key policies and guidance relevant to the proposed development.

National Planning Policy Framework (NPPF)

- 2.2. The National Planning Policy Framework² (NPPF) (MHCLG, 2024) which includes UK Government policy on development and flood risk states:

170. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

181. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
- b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*

²<https://www.gov.uk/guidance/national-planning-policy-framework>, last updated Dec 2024

- d) *any residual risk can be safely managed; and*
- e) *safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

176. Applications for some minor development and changes of use 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.

2.3. Footnote 63 of the NPPF 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.

2.4. Flood Zones in England are defined as follows:

Table 1: Flood Zone Definitions

Flood Zone	Definition
Zone 1 Low Probability	Land having less than 1 in 1,000 annual probability of river or sea flooding (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.
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.
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: land having a 3.3% or greater annual probability of flooding, with any existing flood 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). 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)

- 2.5. An FRA should be appropriate to the scale, nature, and location of the development. It should identify and assess the risk from all sources of flooding to and from the development and demonstrate how any flood risks will be managed over the lifetime of the development.
- 2.6. An assessment of hydrological impacts should be undertaken, including to surface water runoff and impacts to drainage networks in order to demonstrate how flood risk to others will be managed following development and taking climate change into account.

Local Plan

- 2.7. The Local Plan prepared by the Local Planning Authority, Arun District Council, sets out the policies for development in the local area.
- 2.8. Policy W DM2 Flood risk outlines the requirements for new development within the area. It states:

Development in areas at risk from flooding, identified on the latest Environment Agency flood risk maps and the Council's Strategic Flood Risk Assessment (SFRA) , will only be permitted where all of the following criteria have been satisfied:

- a. The sequential test in accordance with the National Planning Policy Guidance has been met.*
- b. A site specific Flood Risk Assessment demonstrates that the development will be safe, including access and egress, without increasing flood risk elsewhere and reduce flood risk overall.*
- c. The sustainability benefits to the wider community are clearly identified.*
- d. The scheme identifies adaptation and mitigation measures.*
- e. Appropriate flood warning and evacuation plans are in place; and*
- f. New site drainage systems are designed to take account of events which exceed the normal design standard i.e. consideration of flood flow routing and utilising temporary storage areas.*

The reports prepared as part of the criteria above must take into account contingency allowances, taking climate change into account as set out in Flood Risk Assessments: climate change allowances section of the NPPG.

In locations where strategic flood defence or resilient and resistant construction measures are necessary within the site itself, proposals will be required to demonstrate how measures have been incorporated as an intrinsic part of the scheme in a manner which is compatible with the latest Strategic Flood Risk Assessment.

All development proposals must take account of relevant Surface Water Management Plans, Catchment Flood Management Plans and related Flood Defence Plans and strategies such as the Lower Tidal River Arun Strategy.

The council may require financial contributions from development on sites where measures to address flood risk or to improve the environmental quality of watercourses have been identified by these Plans and Strategies.

Sequential and Exception Tests

- 2.9. The Sequential and Exception Tests are applied in specific cases defined by UK Government policy. Their purpose is to drive development to areas of low flood risk and to support developments which improve flood risk for developments in areas at risk of flooding.

Sequential Test

- 2.10. Under the NPPF, all new planning applications should undergo a Sequential Test in accordance with Paragraph 172. This test should be implemented by local planning authorities with a view to location; particularly vulnerable new developments outside of the floodplain.
- 2.11. It is noted that the development is to replace the existing building at the same location. The building will provide a workspace for EA Field Operations who maintain assets along the river Arun. Due to operational needs, the development must remain adjacent to the River Arun. Therefore, it is not deemed appropriate to locate the development on another site at a lower risk of flooding. Therefore, the Sequential Test is not considered appropriate or commensurate for this development.

Exception Test

- 2.12. The Exception Test is applied to sites based on the Flood Zone and the nature of the development. The proposed Flood Control Infrastructure is classed as 'Essential infrastructure' in line with government development use classes.

- 2.13. The Flood Risk Vulnerability Classification table³ provided below in Table 2 shows which vulnerabilities are appropriate in each Flood Zone.
- 2.14. The proposed development sits within Flood Zone 3. Table 2 shows that new development would be permitted within Flood Zone 3. Distinction if the development is within Flood Zone 3a or 3b will be determined on receipt of the modelled flood data.

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

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	x	Exception Test required	✓	✓
Zone 3b	Exception Test required	x	x	x	✓

Summary

- 2.15. This flood risk assessment has been prepared with due consideration to the above local and national policy.

³ <https://www.gov.uk/guidance/flood-risk-and-coastal-change#table2>

3. Consultation and Review

Consultation

- 3.1. The EA have provided the Lower Tidal Arun (2010) model to assess the fluvial and tidal flood risk posed to the site. Analysis is undertaken in section 5. Correspondence are attached within Appendix B.

Documents and Online Mapping

- 3.2. Local Governments and Lead Local Flood Authorities provide documents which contain data and policies on flood risk and new development in their areas. These documents are introduced and briefly summarised below. For the purposes of this FRA, these documents have been reviewed for relevant information and any relevant data is discussed within the appropriate sub heading of this report.
- 3.3. The following sources of information have been reviewed for this assessment:
- Flood Map for Planning on the Environment Agency website <https://flood-map-for-planning.service.gov.uk/>
 - Long Term Flood Risk Information on the Environment Agency website <https://www.gov.uk/check-long-term-flood-risk>
 - National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2024)
 - Planning Practice Guidance - Flood Risk and Coastal Change (Ministry of Housing, Communities and Local Government, 2022)
 - Geoindex Onshore (British Geological Survey, 2024)
 - Arun Local Plan (Arun District Council, 2018)⁴

⁴ <https://www.arun.gov.uk/download.cfm?doc=docm93jjm4n12844.pdf&ver=12984>

- Preliminary Flood Risk Assessment Addendum (West Sussex County Council, 2017)⁵ and West Sussex Preliminary Flood Risk Assessment (West Sussex County Council, 2011)⁶
- Level 1 Strategic Flood Risk Assessment (Arun District Council, 2016)⁷
- West Sussex Local Flood Risk Management Strategy (2013-2018) (West Sussex County Council, 2014)⁸

Preliminary Flood Risk Assessment (PFRA)

- 3.4. The PFRA, published in 2011 and 2017 (addendum), is a high-level appraisal of flood risk across Lead Local Flood Authority West Sussex County Council. The flood risk from all sources, including fluvial, surface water, groundwater, and surcharged sewers is evaluated. It is the basis upon which the Local Flood Risk Management Strategy is produced.
- 3.5. The PFRA and its addendum summarises historical flood incidents in West Sussex County Council. The site is recorded as having been affected by a flood event.

Strategic Flood Risk Assessment (SFRA)

- 3.6. The SFRA, published in 2016, provides the evidence base for the Local Planning Authority Arun District Council Local Plan and guidance for consideration when determining planning applications. The SFRA seeks to place new development into areas of lower flood risk taking into account current flood risk, future flood risk, and the effect a proposed development would have on the risk of flooding.
- 3.7. The SFRA mapping provided by Arun District Council has been used throughout production of this report as a source of information, particularly pertaining to historical flood incidents.

⁵ https://assets.publishing.service.gov.uk/media/5acc9b9140f0b64ff0e694b0/PFRA_West_Sussex_County_Council_2017.pdf

⁶ https://www.westsussex.gov.uk/media/1626/west_sussex_pfra.pdf

⁷ <https://www.arun.gov.uk/download.cfm?doc=docm93jjm4n9414.pdf&ver=9270>

⁸ https://www.westsussex.gov.uk/media/1595/local_flood_risk_management_strategy.pdf

Local Flood Risk Management Strategy (LFRMS)

- 3.8. The Local Flood Risk Management Strategy sets out roles and responsibilities for flood risk management, assesses the risk of flooding in the area, where funding can be found to manage flood risk, and the policies, objectives, and actions of the Lead Local Flood Authority.
- 3.9. The West Sussex County Council LFRMS is used within this report to identify any flood management infrastructure and historical incidences of flooding.

4. Sources of Flood Risk

Tidal/Fluvial Watercourse

- 4.1. Flooding from tidal watercourses arises when flows exceed the capacity of the channel, or where a restrictive structure is encountered, resulting in water overtopping the banks into the floodplain.
- 4.2. Tidal flooding occurs when a high tide and high winds combine to elevate sea levels. An area behind coastal flood defences can still flood if waves overtop the defences or break through them. Tidal flooding can also occur a long way from the coast by raising river levels. Water may overtop the riverbank or river defences when tide levels are high.

Main Rivers and Ordinary Watercourses

- 4.3. The River Arun flows along the southern boundary of the site, c.50m south of the area proposed for development. The Arun is classified as an EA main river. The Arun flows south away from the site, c.4km south the Arun joins into the English Channel. Thus, the watercourse is considered to be tidally influenced.
- 4.4. There are no other mapped watercourses could be found in the vicinity of the site (c.200m), as per OS mapping.

EA Flood Map for Planning

- 4.5. The EA Flood Map for Planning (2025) shows the site is located within Flood Zones 1, 2 and 3 (Figure 3).
- 4.6. The area proposed for development is located within Flood Zone 3. Integration of Flood Zones shows the extents are derived from river and sea sources.

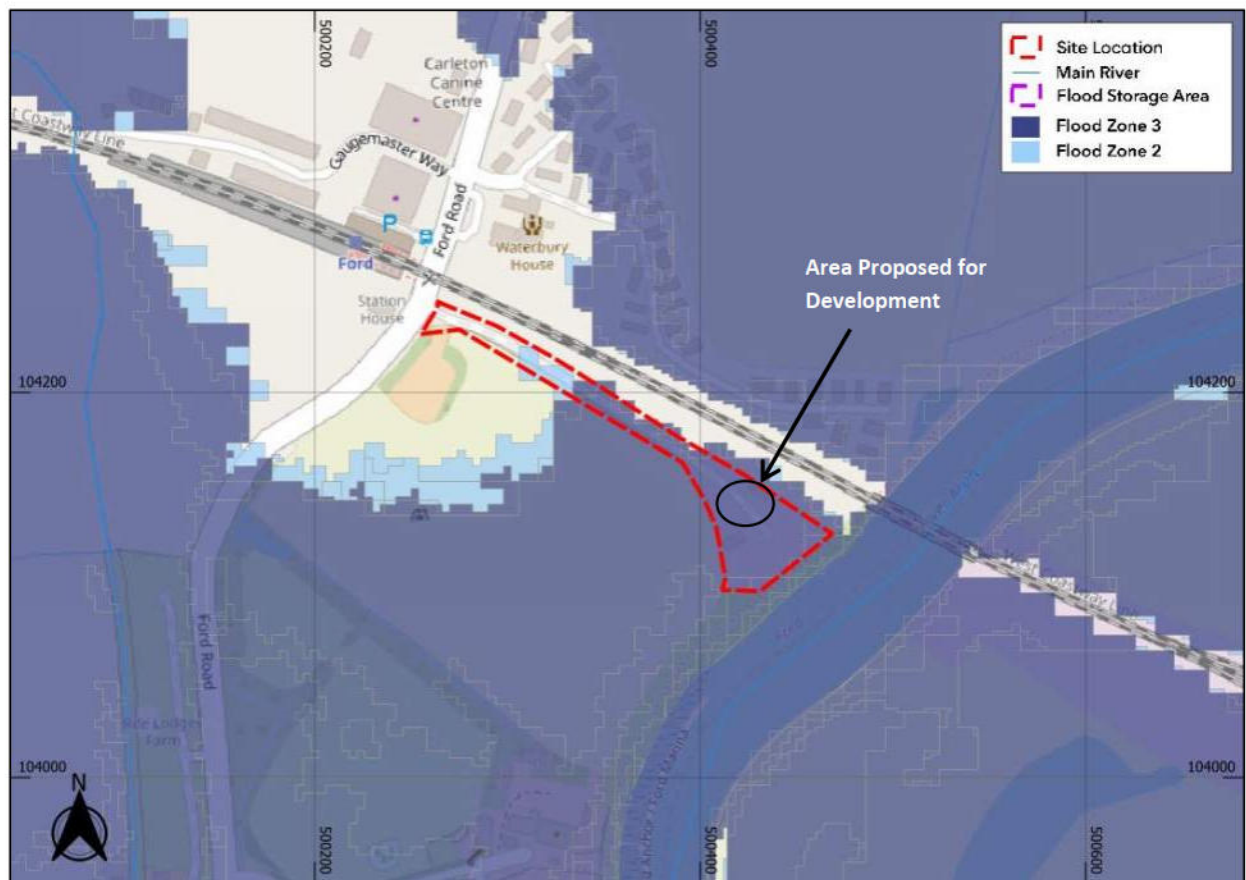
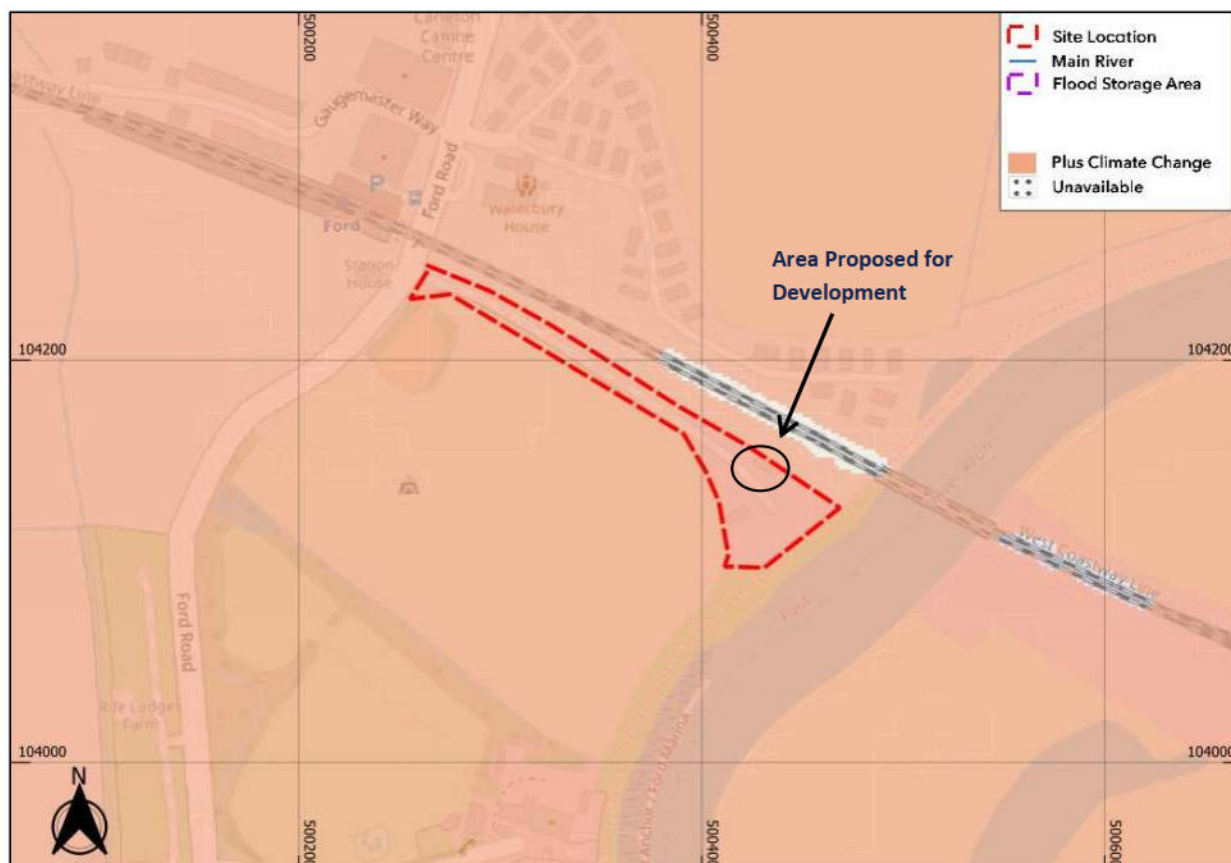


Figure 3: EA Flood Map for Planning and site layout overlay (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © <https://www.openstreetmap.org> and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.7. The site is shown to be located in the Flood Zones plus climate change (Figure 4). This dataset shows how Flood Zones could increase with climate change over the next century, ignoring the benefits of any existing flood defences. The 'Central' allowance for the 2080s epoch (2070-2125) for risk of flooding from rivers has been used to estimate Flood Zones extents.



Historical Flood Risk

- 4.8. According to the EA Recorded and Historical Flood Mapping, there has been no recorded historical flood events on or in the vicinity (c.200m) of the site (Figure 5).

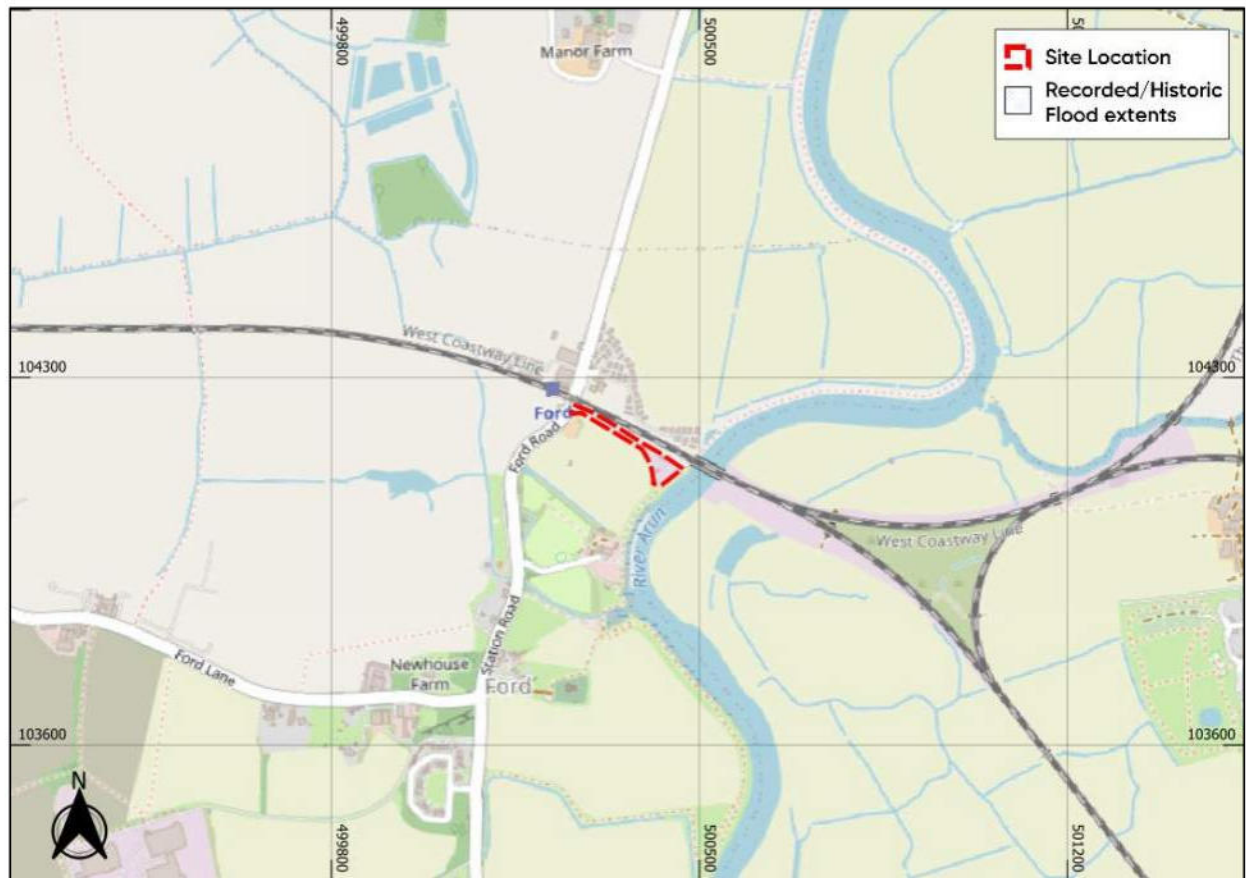


Figure 5: EA Historic Flood Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © <https://www.openstreetmap.org> and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

Flood Defences

- 4.9. Flood Defences are shown to border the southeast boundary of the site along the Arun. As per the EA AIMS spatial flood defence dataset, the defences are shown to be embankments, with a standard of protection of 200years, with a crest level of c.4.0m AOD.

Lower Tidal Arun Strategy (2010)

- 4.10. The EA have provided Product 4, 5 and 6 (P4, P5 and P6) data (Correspondence and data are included within Appendix B) for the area surrounding the site. The Lower Tidal Arun Strategy (2010) model has been provided and will be used to assess the risk from fluvial and tidal sources to the site.
- 4.11. Figure 6 shows the location of the 2D flood nodes in the site area. Node point 7 is the closest to the location of the proposed replacement cabin. Node 7 will be used to infer flood levels

and depths relevant to the proposed development. Node 8 will also be used as an adjacent comparison for flood levels and depths on site.

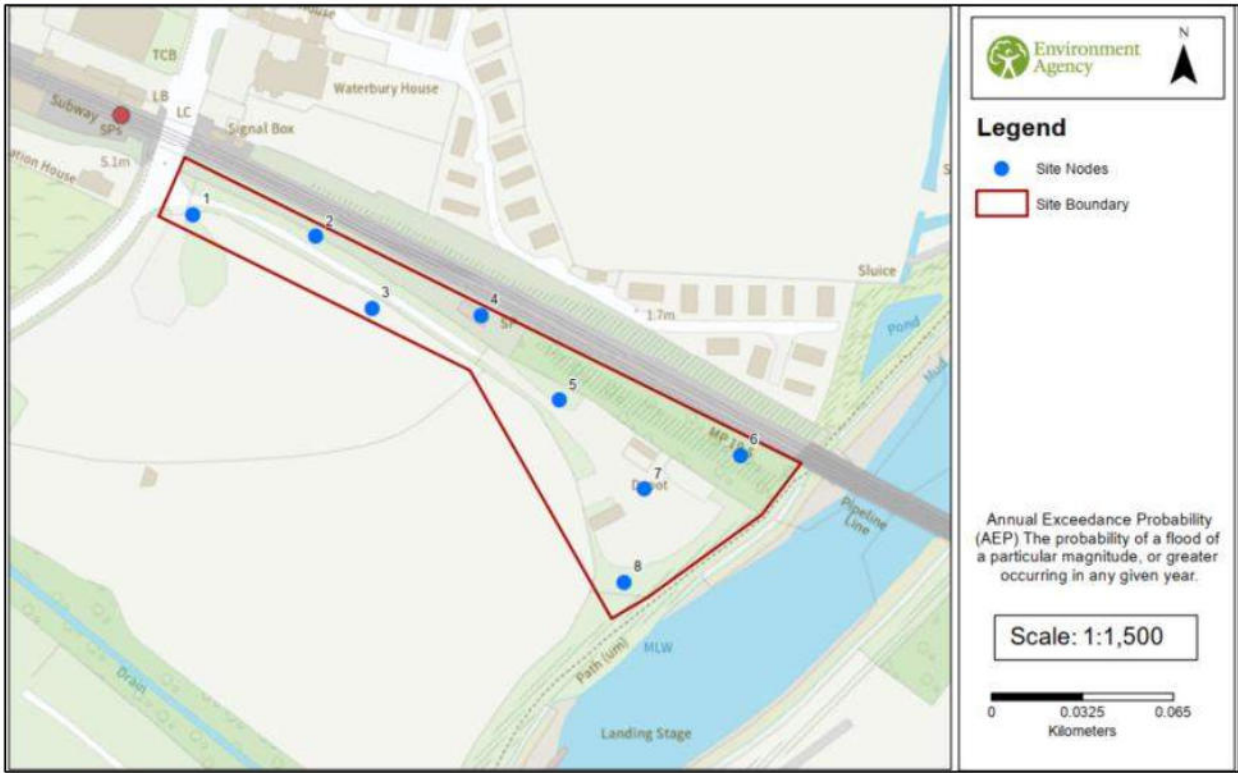


Figure 6: P4 Node Locations (Environment Agency copyright and / or database rights 2025. Contains public sector information licensed under the Open Government Licence v3.0)

Present Day Scenarios (Defended)

4.12. Table 3 and 4 shows the flood level and depth at point 7 and 8.

Table 3: 2D Modelled Flood levels and depths – Fluvial

2D Flood Point No.	1in20yr		1in100yr		1in1000	
	Level (m)	Depth (m)	Level (m)	Depth (m)	Level (m)	Depth (m)
7 (ground level 2.27m AOD)	N/A	N/A	N/A	N/A	N/A	N/A
8 (ground level 2.5m AOD)	1.99	N/A*	2.10	N/A*	2.26	N/A*

Table 4: 2D Modelled Flood levels and depths – Tidal

2D Flood Point No.	1in200yr		1in1000	
	Level (m)	Depth (m)	Level (m)	Depth (m)
7 (ground level 2.27m AOD)	N/A	N/A	N/A	N/A
8 (ground level 2.5m AOD)	N/A	N/A	N/A	N/A

*Ground levels are shown to be higher than flood level, thus no flooding will occur based on more up to date LiDAR data (2020) to modelled flood depths (2010).

Flood Zone 3b

- 4.13. Based on the results of the Lower Tidal Arun Strategy (2010), the 1in20year model can be used as a 1in30 year proxy as there was no other relevant return periods provided (i.e. 30 or 50).
- 4.14. This site is shown to be unaffected in all modelled defended scenarios up to 1 in 1000 year therefore not located within Flood Zone 3b, functional floodplain.

Climate Change Scenario

- 4.15. The site is located within the Arun and Western Streams climate change allowance catchment. Given the proposed development is commercial, a 75 year lifespan is considered appropriate, therefore the 2080 epoch requires the central allowance to be applied with a 25% increase in fluvial flows. The 25% climate change event has not been made available within the Lower Tidal Arun (2018) modelling study. The 20% scenario has been modelled; thus, this will be used as an estimation for the 'design' climate change event as the best available data at this time. Furthermore, an appropriate tidal uplift has been presented for context along with undefended events as a worst case scenario.
- 4.16. The climate change allowance provided for tidal flows is up the 2110 epoch, given the commercial use of the development, the 2110 epoch event is considered appropriate of the size and scale of the development. The undefended event will also be considered as a worst case scenario.
- 4.17. Table 5 and 6 shows the flood level at the relevant Flood Points in the location of the development.

Table 5: 2D Modelled Flood level and depth – Fluvial

2D Flood Point No.	1in100yr plus 20% cc	
	Level (m)	Depth (m)
7 (ground level 2.27m AOD)	N/A	N/A
8 (ground level 2.5m AOD)	2.22	N/A*

Table 6: 2D Modelled Flood level and depth – Tidal

2D Flood Point No.	1in200yr 2110 epoch	
	Level (m)	Depth (m)
7 (ground level 2.27m AOD)	4.17	1.9
8 (ground level 2.5m AOD)	4.22	1.72

*Ground levels are shown to be higher than flood level, thus no flooding will occur based on more up to date LiDAR data (2020) to Arun modelled flood depths (2010).

Undefended Scenarios

- 4.18. The undefended scenario has been assessed as worst case scenario, the residual risk. Table 7 and 8 shows the flood level and depth.

Table 7: 2D Modelled Flood levels and depths – Fluvial

2D Flood Point No.	1in20yr		1in100yr		1in100yr+CC		1in1000	
	Level (m)	Depth (m)	Level (m)	Depth (m)	Level (m)	Depth (m)	Level (m)	Depth (m)
7 (ground level 2.27m AOD)	N/A	N/A	N/A	N/A	3.30	1.03	N/A	N/A
8 (ground level 2.5m AOD)	2.38	N/A*	2.38	N/A*	3.29	0.79	2.48	N/A*

Table 8: 2D Modelled Flood levels and depths – Tidal

2D Flood Point No.	1in200yr		1in200yr 2110 epoch		1in1000	
	Level (m)	Depth (m)	Level (m)	Depth (m)	Level (m)	Depth (m)
7 (ground level 2.27m AOD)	3.11	0.84	3.89	1.62	3.24	0.97
8 (ground level 2.5m AOD)	3.11	0.61	3.89	1.39	3.24	0.74

*Ground levels are shown to be higher than flood level, thus no flooding will occur based on more up to date LiDAR data (2020) to Arun modelled flood depths (2010).

Tidal Watercourse Risk Summary

- 4.19. Based on modelling provided (Arun 2010 model) the site and proposed development are considered to be located outside Flood Zone 3b, as the site remains unaffected up to the modelled 1in1000yr fluvial defended scenario.
- 4.20. The **actual** defended risk from fluvial sources is considered low, with the area proposed for development not impacted up to the 1in1000yr event.
- 4.21. The tidal risk posed to the development is considered high, given depths up to 1.9m during the 1in200year 2110 epoch scenario.
- 4.22. The **residual** risk has been assessed and in the unlikely event of the site being undefended, the development would be at a high risk of both fluvial and tidal sources.
- 4.23. To protect against the unlikely scenario of all defences being removed, precautionary mitigation and resilience measures have been recommended in section 5.

Canals

- 4.24. The Canal and River Trust (CRT) generally maintains canal levels using reservoirs, feeders, and boreholes and manages water levels by transferring it within the canal system.
- 4.25. According to CRT mapping⁹ there are no canals identified within 1km of the site.

⁹ <https://canalrivertrust.org.uk/canals-and-rivers>

4.26. The risk of flooding to this site from canals is considered to be low.

Pluvial

4.27. Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.

RoFSW Data Analysis

4.28. The National Flood Risk Assessment (NaFRA2) has updated the Risks of Flooding from Surface Water (RoFSW) products which shows the chance of flooding from surface water to areas of land.

4.29. The RoFSW products are an assessment of where surface water flooding may occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. It includes information about flooding extents and depths including the potential impact of climate change on flood risk, based on the latest UK Climate Projections (UKCP18).

4.30. Risk is displayed as one of three likelihood categories:

- High – greater than or equal to 1 in 30 (3.3%) chance of flooding in any year.
- Medium – less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year.
- Low – less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year.

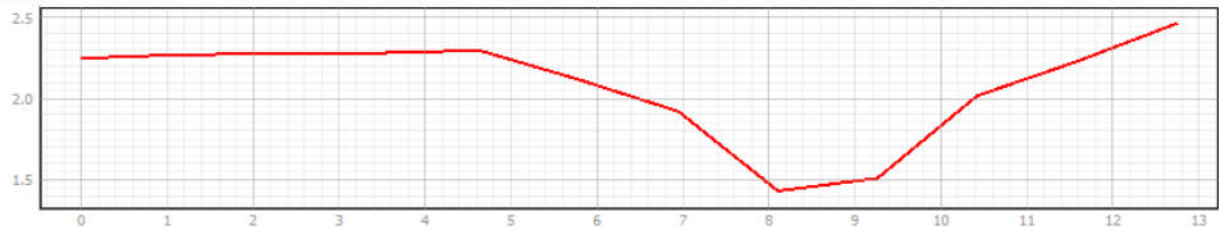
4.31. The RoFSW depth mapping shows the annual chance of flooding (based on the three risk categories listed above) **beyond a specific depth**, for depths at the following intervals from 20cm to 120cm (0.2m, 0.3m, 0.6m, 0.9m and 1.2m).

4.32. As well as present day risk of flooding from surface water, climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5. A near-term epoch (2040 – 2060 “2050s” epoch) and central allowances are being used initially, to support short and medium-term decisions informed by the highest flood likelihood projections.

- 4.33. Review of the NaFRA2 outputs, shows that the present day and climate change scenarios are similar. Thus, the climate change scenario has been assessed below as a 'worst-case' scenario.

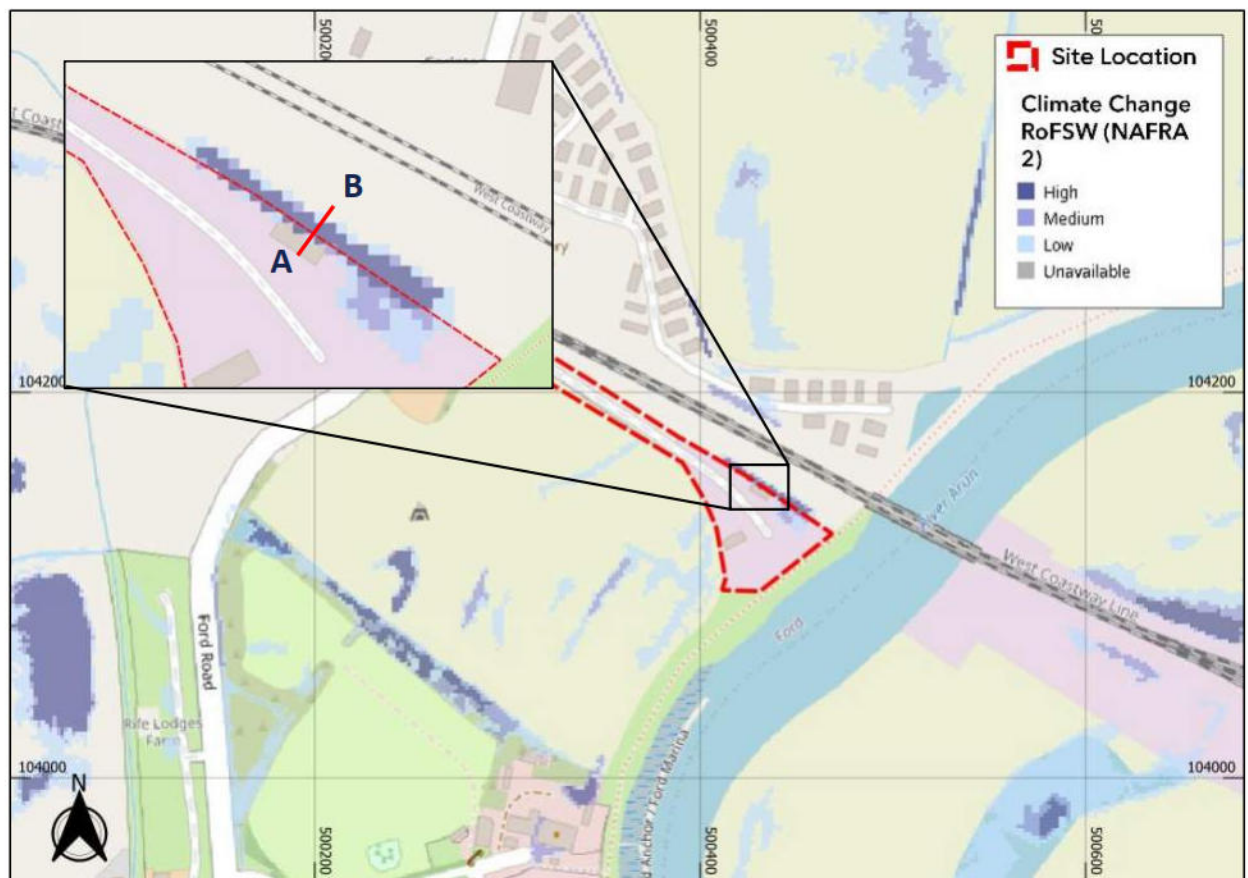
Climate Change Scenario

Examination of the EA's 'Flood Risk from Surface Water – Climate Change' mapping indicates that the northern boundary adjacent to the area proposed for development is shown to be at a 'High' to 'Low' risk of surface water flooding (



- 4.34. Figure 7).

- 4.35. The extent of surface water risk is considered to be associated with a drainage ditch running along the northern boundary of the site. Integration of EA LiDAR dataset shows the make up of the ditch. Estimations show the ditch is c.0.8m deep (top of bank 2.29m AOD, bottom of ditch 1.43m AOD).



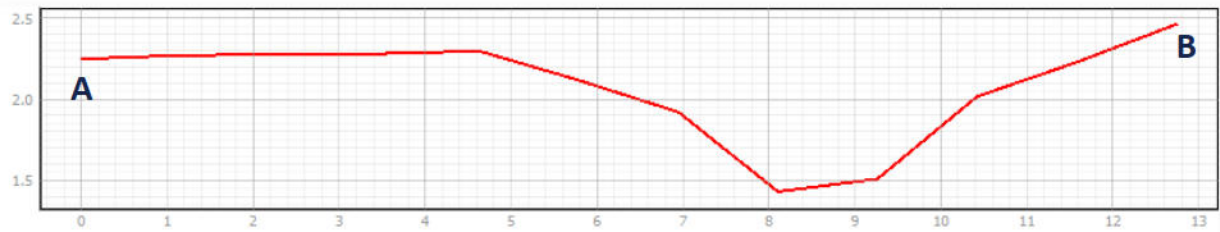


Figure 7: EA Surface Water Flood Risk Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © <https://www.openstreetmap.org> and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.36. When examining the risk of depths exceeding 0.2m mapping, the drainage ditch is shown to have a high risk of depths exceeding 0.2m. Given the area proposed for development is located outside this drainage ditch, the risk from surface water is deemed to be limited to the ditch and not impacted the remainder of the site.

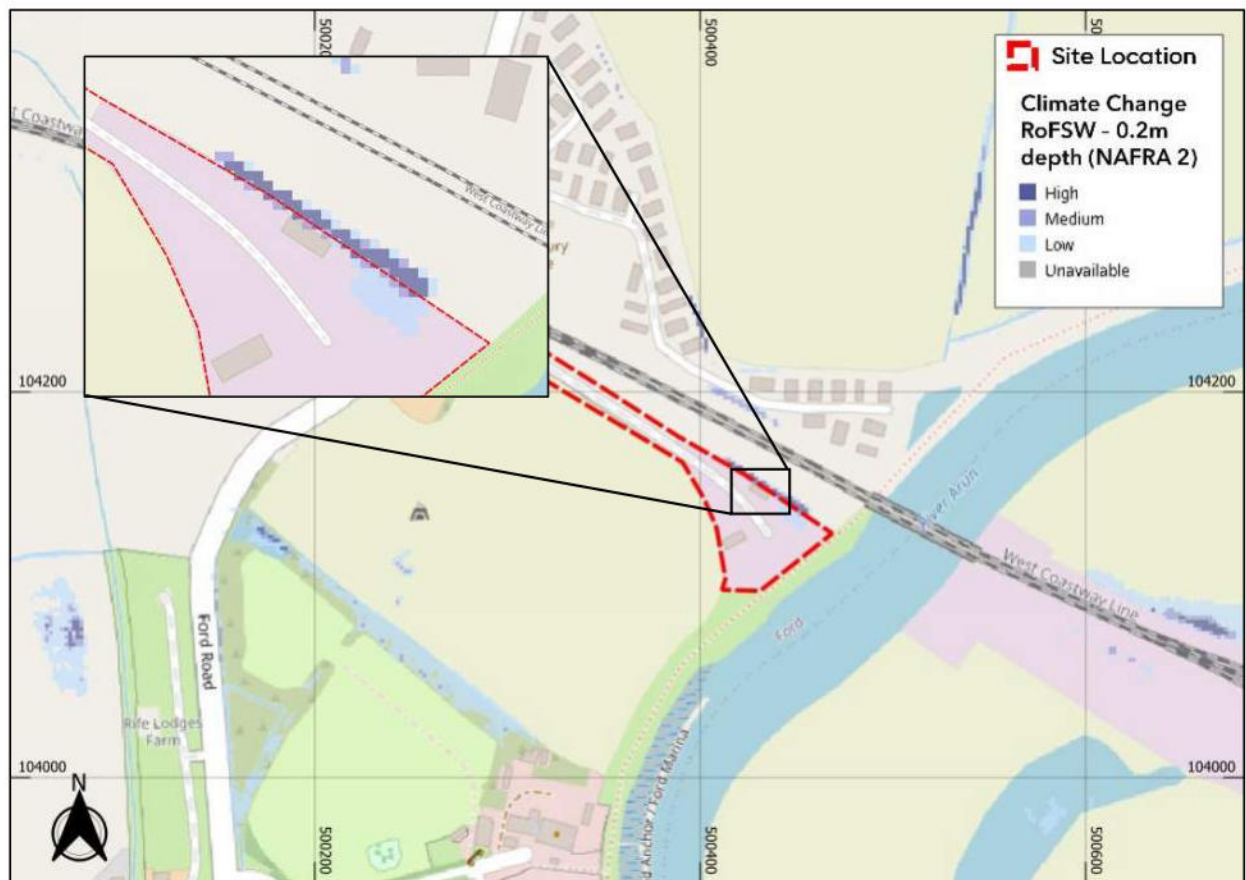


Figure 8: EA Surface Water Flood Depth Mapping >0.2m (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © <https://www.openstreetmap.org> and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.37. Review of the NaFRA2 flood depth intervals (0.3m, 0.6m, 0.9m and 1.2m) shows that depths remain within the ditch and do not affect the site (and area proposed for development).

Pluvial Flood Risk Summary

- 4.38. Thus, based on the NaFRA2 data, the pluvial (surface water) flood risk to the proposed development is considered to be low.

Reservoirs

- 4.39. Large waterbodies or reservoirs that have walls built above the surrounding ground level pose a risk of flooding. Walls could fail due to old age, accident, or because excess flood water has been added to the reservoir. Although a breach is unlikely the consequences would be significant, leading to rapid inundation of the downstream floodplain.
- 4.40. According to the EA's Flood Risk from Reservoirs mapping the site is outside modelled flood extents in the event of reservoir flooding (Figure 9).

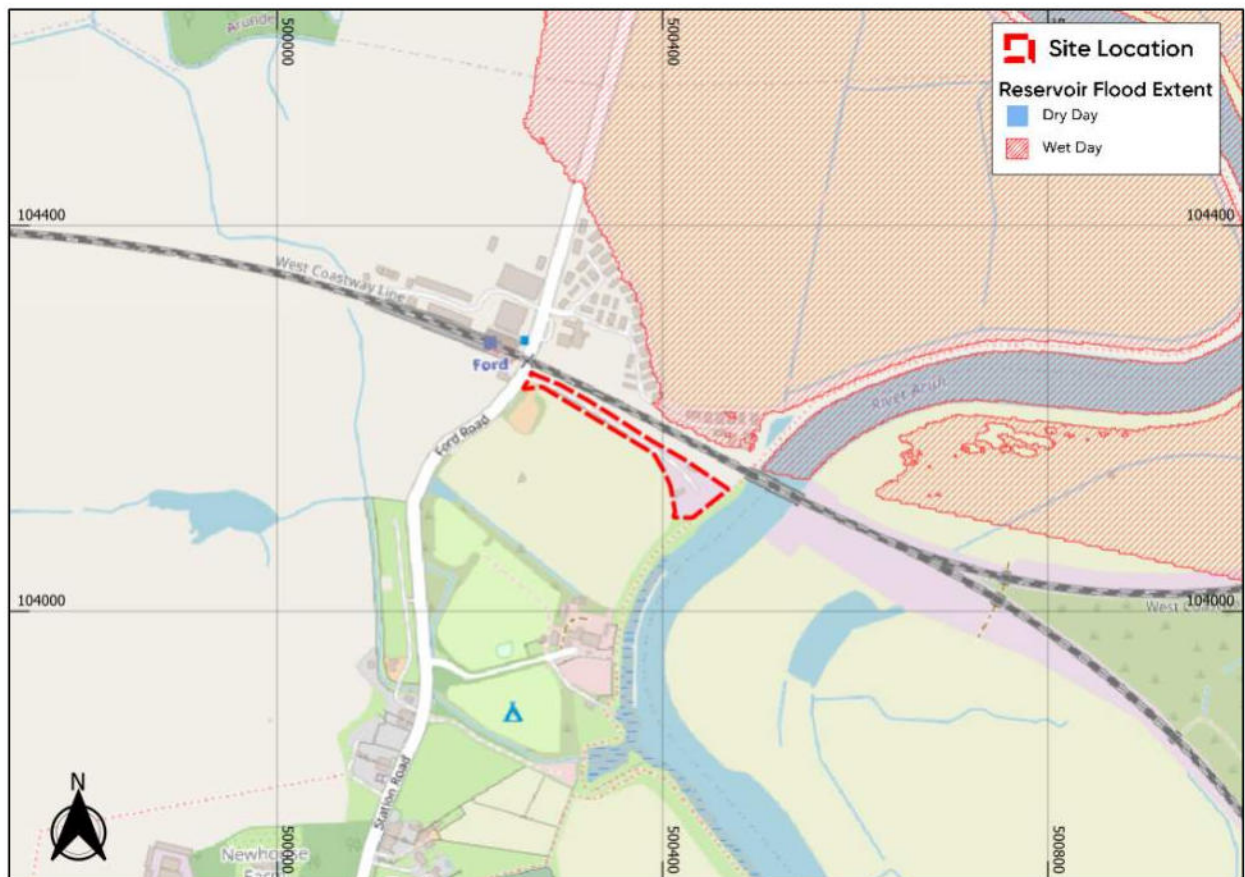


Figure 9: EA Reservoir Flood Risk Mapping (Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). ©<https://www.openstreetmap.org> and contributors. Contains public sector information licensed under the Open Government Licence v3.0)

- 4.41. The site is therefore considered to be at a low risk of flooding as a result of reservoir failure.

Groundwater

- 4.42. Groundwater flooding occurs in areas where underlying geology is permeable and water can rise within the strata sufficiently to breach the surface.
- 4.43. The British Geological Survey's (BGS) mapping shows superficial deposits of Raised marine and coastal zone deposits comprised of clay, silt, sand and gravel underlying the site. The bedrock underlying the site is Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated).
- 4.44. Historical BGS boreholes records show there are no boreholes within 300m of the area proposed for development.
- 4.45. The SFRA (2016) presents the EA's Areas Susceptible to Groundwater Flooding mapping (Figure 10). The site, represented by the red outline, is situated within a 1km grid square of which is >75% is considered susceptible to groundwater flooding.

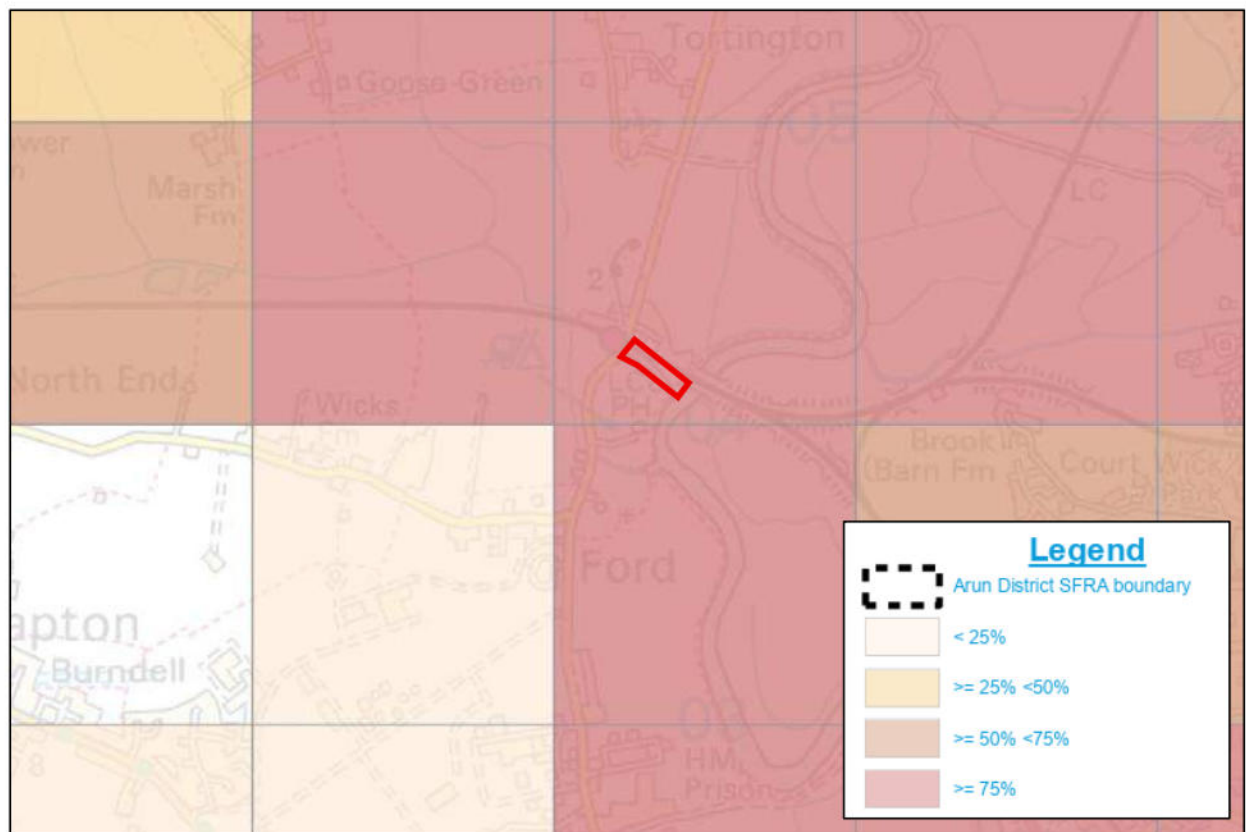


Figure 10: EA's Areas Susceptible to Groundwater Flooding (SFRA, 2016)

- 4.46. With respect to groundwater flooding, the underlying superficial deposits comprise gravels which are partially permeable. Groundwater levels are therefore expected to be hydraulically connected to water levels in the adjacent watercourse. Therefore, if groundwater levels were to be high, it is likely that river levels would rise, and any out-of-channel flooding would likely be attributed to fluvial/tidal flooding.
- 4.47. However, as the development proposals do not include any proposed basements the risk from groundwater to the development is considered to be moderate.

Sewers

- 4.48. Foul or surface water sewers can be a cause of flooding if the drainage network becomes overwhelmed, either by blockage or due to local development beyond the designed capabilities of the drainage system.
- 4.49. The SFRA (2016) provides data regarding sewer flood incidents within the Arun District in which is provided by Southern Water. The SFRA (2016) states the following:

Data from the Sewer Incident Report Form data supplied by Southern Water indicates a total of 315 incidents in the district. Several post code areas have recorded incidents, with the two indicating the greatest number of entries being PO22 7 (36) and PO21 3 (30).

- 4.50. The site (within the BN16 0 post code area) is shown to have had 20 recorded incidents. The location of these events in relation to the site is unknown.
- 4.51. The development is therefore considered to be at low risk of flooding from sewers, yet any new sewer connections should be fitted with no-return valves to limit potential backflow into the proposed cabin.

5. Flood Risk Mitigation

Tidal Watercourse and Groundwater

- 5.1. The proposed development is deemed at a low risk of flooding from and fluvial sources, when considering the presence of defences. The residual risk, in the extremely unlikely 'undefended' scenario is considered high.
- 5.2. The tidal risk posed to the site is considered high, given depths up to 1.9m during the 1in200year 2110 epoch scenario.
- 5.3. Groundwater levels are expected to be hydraulically connected to water levels in the adjacent watercourse. Therefore, if groundwater levels were to be high, it is likely that river levels would rise, and any out-of-channel flooding would likely be attributed to fluvial/tidal flooding. The development proposals do not include any proposed basements the risk from groundwater to the development is considered to be moderate..
- 5.4. Given the risk associated with the site, the following is recommended. The proposed replacement cabin should follow guidance from Improving the Flood Performance of New Building' Flood Resistant Construction (2007)¹⁰ to reduce any residual risk posed. Measures include but are not limited to:
 - Damp proof Membrane (d.p.m) should be included to minimise the passage of water through ground floors.
 - Special care should be taken to ensure adequate sealing of any PVC window/door sills to the fabric of the cabin.
 - Ensure adequate sealing of joints between internal fitting and surfaces to prevent any penetration of water behind fittings.
 - Raised wiring and power outlets at ground floor level with sockets (design flood level TBC on receipt of data).

¹⁰ https://assets.publishing.service.gov.uk/media/602d673ee90e0709e8d085d8/Improving_the_Flood_Resilience_of_Buildings_Through_Improved_Materials_Methods_and_Details_Technical_Report.pdf

- Non-return valves should be installed on all new and existing drainage. Maintenance of these valves is important to ensure their continued effectiveness so should be maintained in line with manufactures recommendations.

Increase to Flood Risk Elsewhere

- 5.5. The development is for the replacement of existing Portacabin with new single storey modular cabin for use as an ancillary building to the existing site, along with associated ground works.
- 5.6. At this stage it is understood that the development will not result in an increase in built footprint, therefore as a result of the development there will be no increase in flood water displacement.

Flood Warnings and Access/Egress

- 5.7. The site is in the Environment Agency 'Ford and Climping on the River Arun' flood warning service area. This service allows site owners/users to register an address along with contact details so that, in the event of a flood being forecast, they are sent an alert. As a further precaution and risk reduction, the owner of the site should sign up.
- 5.8. In the event of a flood warning being issued, prior evacuation of the site should occur before onset of flood waters, site should not be re-entered until warning has been lifted and flood waters have subsided. Furthermore, staff should not to travel to or near the site when a flood warning is in place.
- 5.9. Flood warnings/alerts can be enforced at any time of the day or night. Signing up for this service provides site owners/users some notice before a flood event. The amount of time afforded before a flood occurs depends on the site-specific location (e.g. proximity to the source of flooding, topography of the surrounding area) and the flood mechanism (e.g. bank over topping versus a breach event). Flood alerts and warnings provide site managers with time to take necessary action, e.g. communication of the risk of flooding to occupants/employees etc, evacuation of occupants offsite or to a safe level, removal of valuable items out of reach of flooding and the mounting of site-specific flood defences.

6. Conclusions

- 6.1. This FRA has been undertaken with reference to the requirements of NPPF and Planning Practice Guidance with respect to the development at Gaugemaster Way, Arun, West Sussex, BN18 0BH. It has been written to support a planning application and prepared with due consideration to the nature of the proposed development to provide the appropriate level of detail. An assessment of the risk of flooding from all sources has been undertaken and is summarised in the table below:

Source of Flooding	Flood Risk Summary
Fluvial/ Tidal Watercourse	The EA Flood Map for Planning (2025) shows the site is located with Flood Zones 1, 2 and 3. The area proposed for development is located within Flood Zone 3. The site is classified as essential infrastructure therefore permissible in Flood Zone 3. The proposed development is deemed at a low risk of flooding from and fluvial sources, when considering the presence of defences. The residual risk, in the extremely unlikely 'undefended' scenario is considered high. The tidal risk posed to the site is considered high, given depths up to 1.9m during the 1in200year 2110 epoch scenario. To protect against the unlikely scenario of all defences being removed, precautionary mitigation and resilience measures have been recommended in section 5.
Groundwater	SFRA (2016) presents the EA's Areas Susceptible to Groundwater Flooding mapping. The site is situated within a 1km grid square of which is >75% is considered susceptible to groundwater flooding. The development proposals do not include any proposed basements the risk from groundwater to the development is considered to be moderate.
Tidal Pluvial Reservoirs Groundwater Sewers Canals	The site is considered to be at low risk from other sources.

- 6.2. The FRA supports the planning application and demonstrates that there is an acceptable level of flood risk to the site if the mitigation strategies recommended are implemented in the scheme. The development does not increase flood risk off site or to the wider area.
- 6.3. This Flood Risk Assessment should be submitted as part of the planning application to satisfy the requirements under NPPF.

Appendix A - Development Proposals

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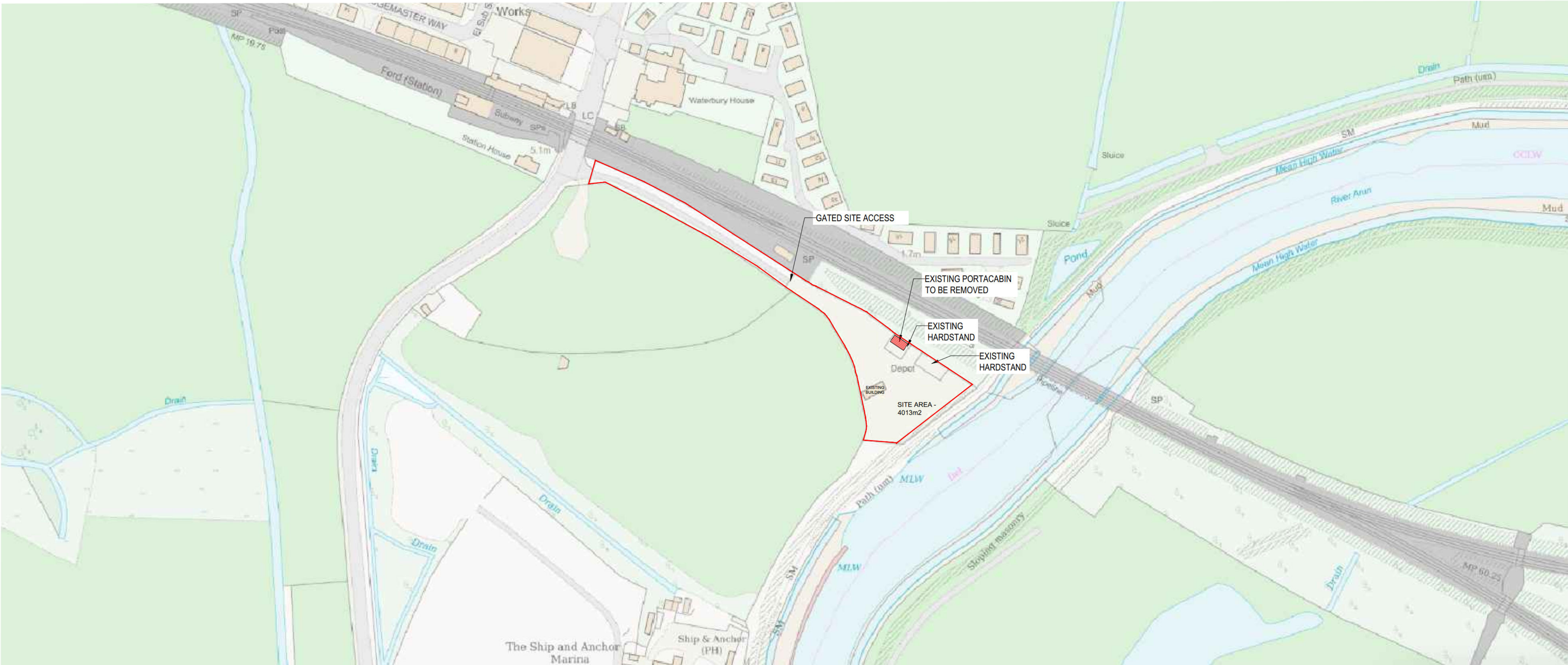
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KEY:

 SITE BOUNDARY



FOR PLANNING

PS2	PLANNING SUBMISSION	27/01/26	MR LG LG
PS1	PLANNING SUBMISSION	15/12/25	MR LG VM
REV	DESCRIPTION	DATE	BY CHK APP

Client:
ISS FACILITY SERVICES

Project:
FORD STORE, SM-PO-ITQ-00100

Drawing Title:
EXISTING LOCATION PLAN

Document No:	Org:	Vol:	Level:	Type:	Dis:	No:	Rev:
230298	MML	87	XX	DR	A	0001	PS2
Suitability Status: S4 - For Review/ Authorisation							Scale at A1: As Indicated

EXISTING LOCATION PLAN
SCALE 1:1250





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Foul Water Manhole Schedule								
Reference	Size	Easting (m)	Northing (m)	CL(m)	IL(m)	Opening(mm)	GRADE	TYPE
EX-FWMH1	Ø0.450	500425.492	104152.110	2.243	1.616	450x450	D400	EX
FWMH1	Ø0.450	500432.975	104146.601	2.328	1.732	450x450	D400	PPIC
FWMH2	Ø0.450	500428.125	104149.924	2.286	1.659	450x450	D400	PPIC

Surface Water Manhole Schedule								
Reference	Size	Easting (m)	Northing (m)	CL(m)	IL(m)	Opening(mm)	GRADE	TYPE
SWMH1	Ø0.450	500422.612	104145.314	2.150	1.400	450x450	D400	PPIC
SWMH2	Ø0.450	500434.697	104137.034	2.280	1.302	450x450	D400	PPIC



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LEGEND

- PR-CONCRETE HARDSTANDING
- EX-CONCRETE HARDSTANDING
- PR-BUILDING
- EX-FW SEWER
- PR-FW MANHOLE
- PR-FW SEWER
- PR-SW SEWER
- PR-SW MANHOLE
- PR-SW HEADWALL

DRAFT FOR COMMENTS

P1	FIRST ISSUE	23/01/26	AH MM WM
REV	DESCRIPTION	DATE	BY CHK APP

Client:
ISS FACILITY SERVICES

Project:
FORD STORE, SM-PO-ITQ-00100

Drawing Title:
PROPOSED CIVILS LAYOUT

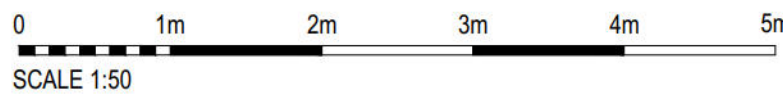
Document No.	Project Ident.	Org	Vol	Level	Type	Dis.	No.	Rev
230298	MML	00	00	DR	C	3000		P1
Suitability Status:								Scale at A1:
S3 - For Review/ Comment								As Indicated

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PROPOSED CIVILS LAYOUT
SCALE 1:50



RIBA STAGE 3 - DESIGN NOTES

- DRAWING ISSUED AT RIBA STAGE 3 (DEVELOPED DESIGN) FOR COORDINATION AND REVIEW ONLY.
- DRAINAGE LAYOUT, PIPE SIZES, GRADIENTS, INVERTS AND COVER LEVELS ARE INDICATIVE AND SUBJECT TO CONFIRMATION AT DETAILED DESIGN.
- LEVELS SHOWN ARE BASED ON EXISTING GROUND AND AVAILABLE RECORD INFORMATION ONLY.
- FINAL LEVELS, CONNECTIONS AND CONSTRUCTION DETAILS TO BE DEVELOPED AT RIBA STAGE 4, FOLLOWING TOPOGRAPHICAL, UTILITIES AND CCTV DRAINAGE SURVEYS.
- THIS DRAWING IS NOT SUITABLE FOR CONSTRUCTION.

Appendix B - Consultation

Flood risk assessment data



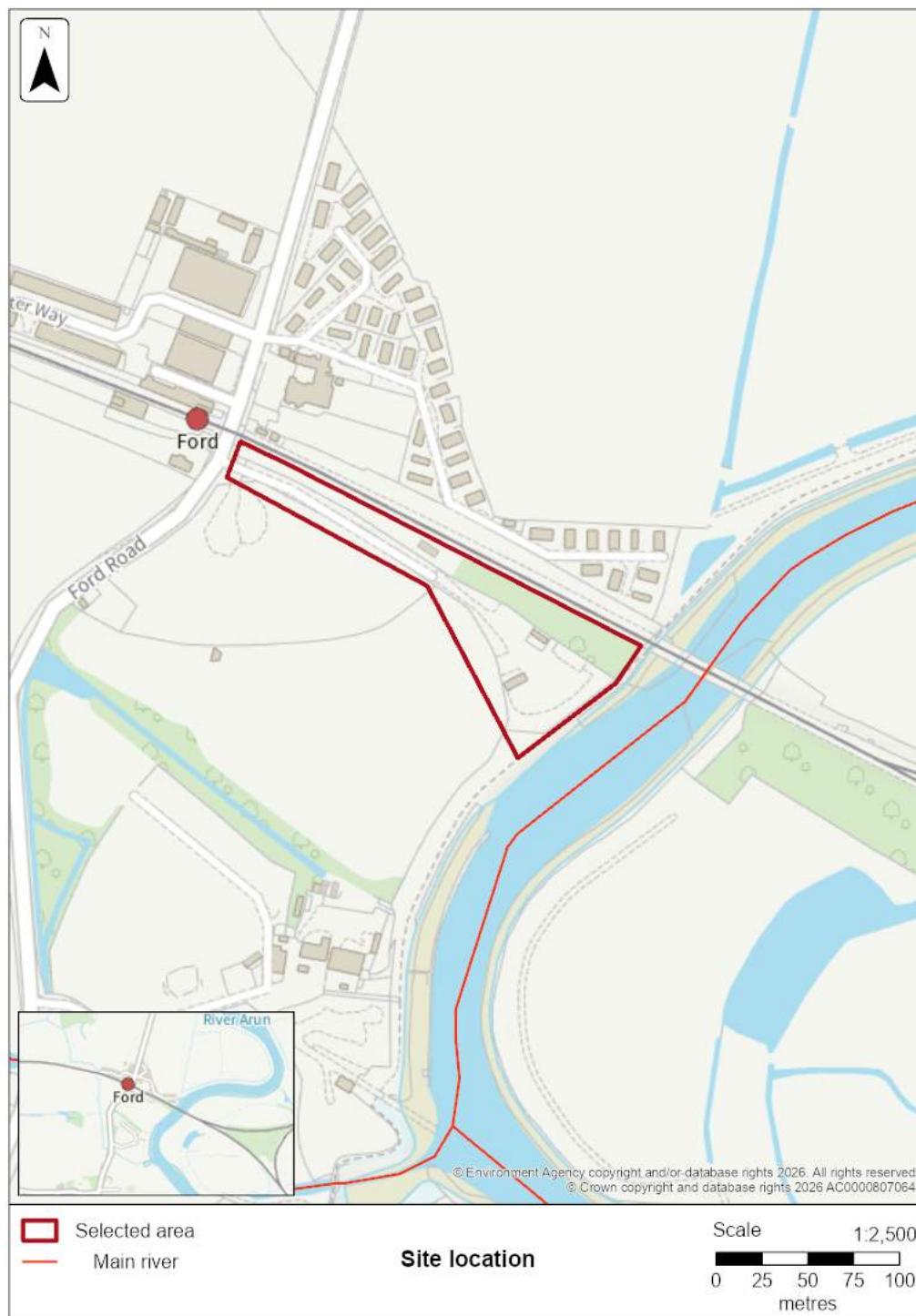
Location of site: Environment Agency, Ford Depot, Station Road, Ford, BN18 0BH

Document created on: 16 February 2026

This information was previously known as a product 4.

Customer reference number: EIR2026/05807

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

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

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

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

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

Your Lead Local Flood Authority is West Sussex County.

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

About the models used

Model name: Lower Tidal Arun Strategy (2010)

Scenario(s): Defended fluvial, Undefined fluvial, Defended tidal, Undefined tidal

Date: 22 September 2010

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

Terminology used

Annual exceedance probability (AEP)

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

Metres above ordnance datum (mAOD)

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

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

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

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

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

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

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

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



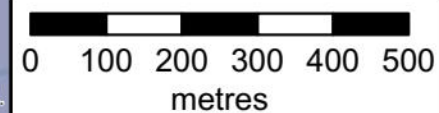
Flood map for planning

Location (easting/northing)
500390/104163

Scale
1:10,000

Created
16 Feb 2026

-  Selected area
-  Main river
-  Flood defence
-  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)
500390/104163

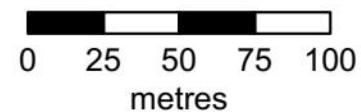
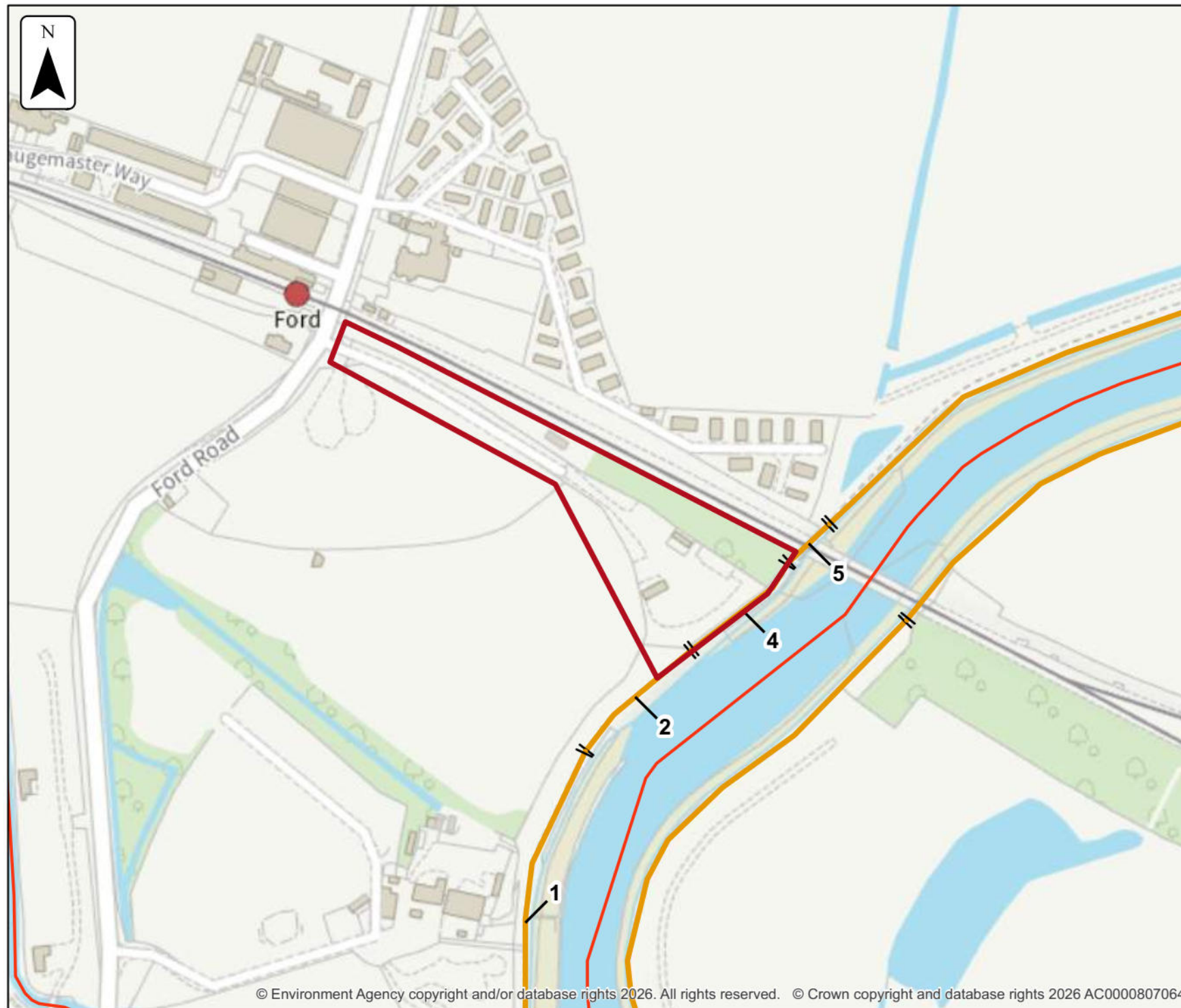
Scale

1:2,500

Created

16 Feb 2026

-  Selected area
-  Main river
-  Flood defence



Flood defences data

Label	Asset ID	Asset Type	Standard of protection (years)	Current condition	Downstream actual crest level (mAOD)	Upstream actual crest level (mAOD)	Effective crest level (mAOD)
1	156345	Embankment	200		4.07	4.01	
2	156346	Embankment	200		4.01	4.26	
3	125809	Embankment	200		4.12	4.0	3.91
4	156347	Embankment	200		4.26	3.97	
5	137619	Embankment	50		3.97	3.17	
6	137620	Embankment	200		4.08	3.82	
7	137417	Embankment	200		3.71	3.88	

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

Modelled data

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

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

Climate change

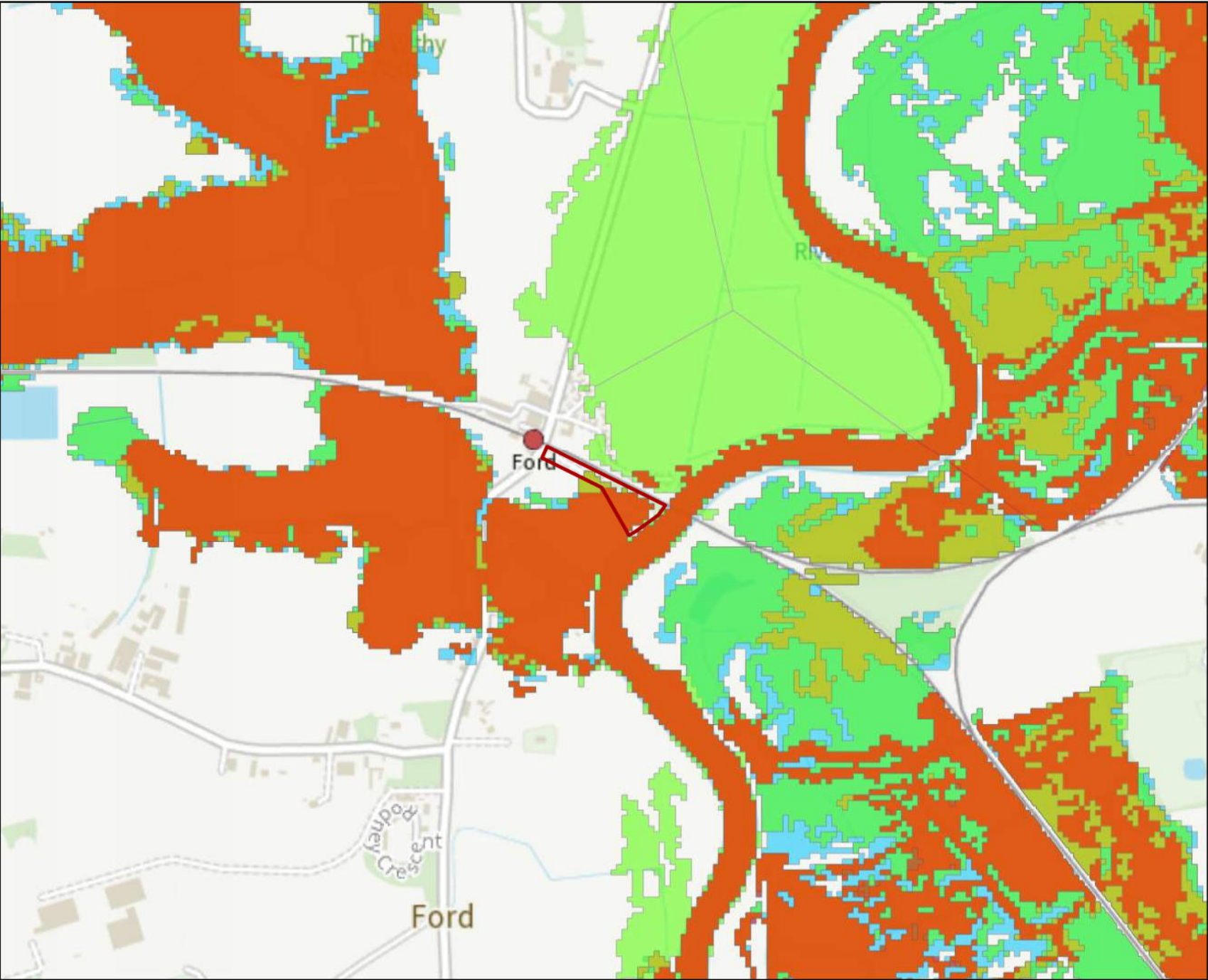
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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

Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- 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





Environment
Agency

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Legend

- Site Boundary
- 5% AEP (Defended Fluvial)
- 1% AEP (Defended Fluvial)
- 1% AEP +CC (Defended Fluvial)
- 0.1% AEP (Defended Fluvial)

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

Scale: 1:10,000

00.2250.45

Kilometers

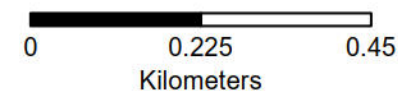


Legend

-  Site Boundary
-  5% AEP (Undefended Fluvial)
-  1% AEP (Undefended Fluvial)
-  1% AEP +CC (Undefended Fluvial)
-  0.1% AEP (Undefended Fluvial)

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

Scale: 1:10,000



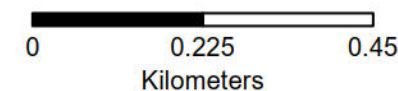


Legend

-  Site Boundary
-  0.5% AEP (Defended Tidal)
-  0.5% AEP (2110) (Defended Tidal)
-  0.1% AEP (Defended Tidal)

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

Scale: 1:10,000



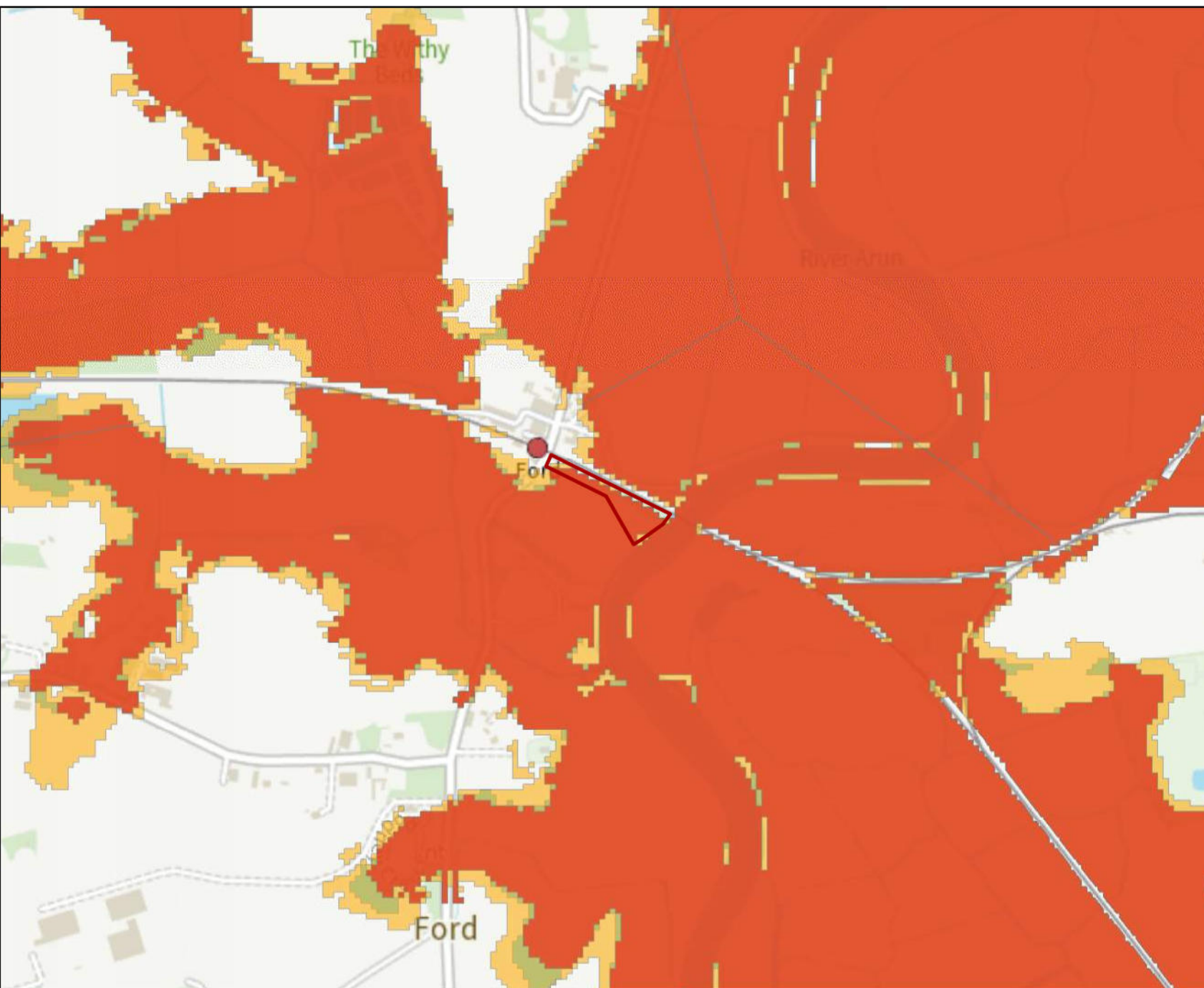
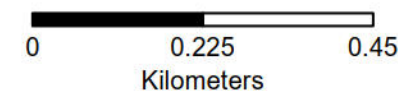


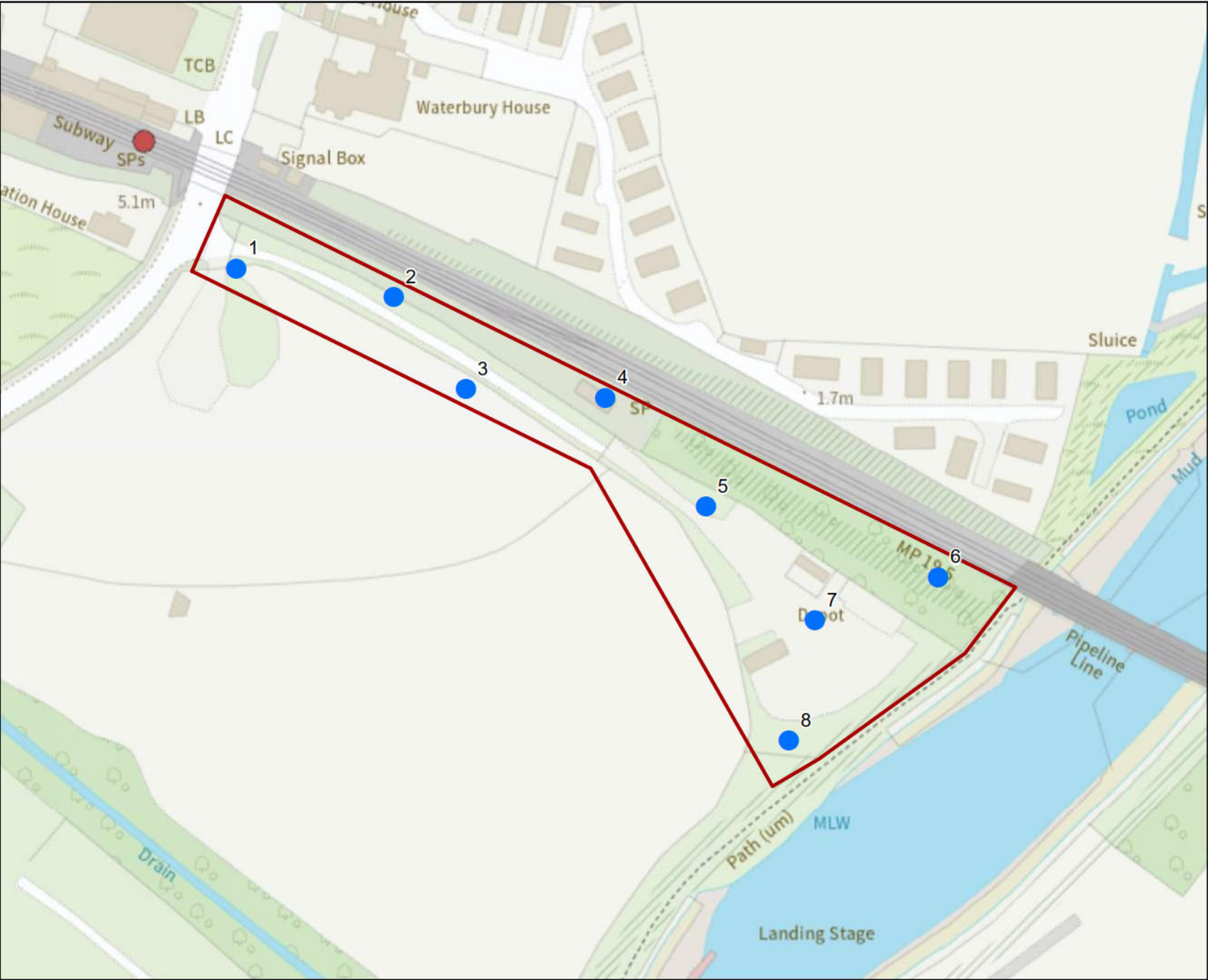
Legend

-  Site Boundary
-  0.5% AEP (Un defended Tidal)
-  0.5% AEP (2110) (Un defended Tidal)
-  0.1% AEP (Un defended Tidal)

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

Scale: 1:10,000







Environment
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Legend

 Site Nodes

 Site Boundary

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

Scale: 1:1,500

0

0.0325

0.065

Kilometers

Product 4 Flood Risk Data Requested by: Aegaea

Site: Environment Agency, Ford Depot, Station Road, Ford, BN18 0BH

Table 1: Water Levels: Fluvial Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
			Undefended Annual Exceedance Probability			
	Eastings	Northings	5%	1%	1% +CC*	0.1%
1	500269	104231	-	-	-	-
2	500313	104223	-	-	-	-
3	500333	104197	-	-	-	-
4	500372	104195	-	-	-	-
5	500400	104165	-	-	3.29	-
6	500465	104145	-	-	-	-
7	500431	104133	-	-	3.30	-
8	500423	104100	2.38	2.38	3.29	2.48

Table 2: Water Levels: Fluvial Defended

Node Ref	NGR		Modelled Flood Levels in Metres AOD			
			Defended Annual Exceedance Probability			
	Eastings	Northings	5%	1%	1% +CC*	0.1%
1	500269	104231	-	-	-	-
2	500313	104223	-	-	-	-
3	500333	104197	-	-	-	-
4	500372	104195	-	-	-	-
5	500400	104165	-	-	-	-
6	500465	104145	-	-	-	-
7	500431	104133	-	-	-	-
8	500423	104100	1.99	2.10	2.22	2.26

Table 3: Water Levels: Tidal Undefended

Node Ref	NGR		Modelled Flood Levels in Metres AOD		
			Undefended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2110)**	0.1%
1	500269	104231	-	-	-
2	500313	104223	-	-	-
3	500333	104197	-	3.92	-
4	500372	104195	-	3.92	-
5	500400	104165	3.11	3.85	3.21
6	500465	104145	-	3.86	-
7	500431	104133	3.11	3.89	3.24
8	500423	104100	3.11	3.89	3.24

Table 4: Water Levels: Tidal Defended

Node Ref	NGR		Modelled Flood Levels in Metres AOD		
			Defended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2110)**	0.1%
1	500269	104231	-	4.22	-
2	500313	104223	-	4.21	-
3	500333	104197	-	4.18	-
4	500372	104195	-	4.19	-
5	500400	104165	-	4.18	-
6	500465	104145	-	-	-
7	500431	104133	-	4.17	-
8	500423	104100	-	4.22	-

Table 5: Water Depths: Fluvial Undefended

Node Ref	NGR		Modelled Flood Depths in Metres			
			Undefended Annual Exceedance Probability			
	Eastings	Northings	5%	1%	1% +CC*	0.1%
1	500269	104231	-	-	-	-
2	500313	104223	-	-	-	-
3	500333	104197	-	-	-	-
4	500372	104195	-	-	-	-
5	500400	104165	-	-	0.19	-
6	500465	104145	-	-	-	-
7	500431	104133	-	-	0.75	-
8	500423	104100	0.03	0.03	0.94	0.13

Table 6: Water Depths: Fluvial Defended

Node Ref	NGR		Modelled Flood Depths in Metres			
			Defended Annual Exceedance Probability			
	Eastings	Northings	5%	1%	1% +CC*	0.1%
1	500269	104231	-	-	-	-
2	500313	104223	-	-	-	-
3	500333	104197	-	-	-	-
4	500372	104195	-	-	-	-
5	500400	104165	-	-	-	-
6	500465	104145	-	-	-	-
7	500431	104133	-	-	-	-
8	500423	104100	0.08	0.18	0.30	0.33

Table 7: Water Depths: Tidal Undefended

Node Ref	NGR		Modelled Flood Depths in Metres		
			Undefended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2110)**	0.1%
1	500269	104231	-	-	-
2	500313	104223	-	-	-
3	500333	104197	-	0.48	-
4	500372	104195	-	0.53	-
5	500400	104165	0.01	0.75	0.11
6	500465	104145	-	0.51	-
7	500431	104133	0.56	1.33	0.68
8	500423	104100	0.76	1.54	0.89

Table 8: Water Depths: Tidal Defended

Node Ref	NGR		Modelled Flood Depths in Metres		
			Defended Annual Exceedance Probability		
	Eastings	Northings	0.5%	0.5% (2110)**	0.1%
1	500269	104231	-	0.04	-
2	500313	104223	-	0.09	-
3	500333	104197	-	0.75	-
4	500372	104195	-	0.80	-
5	500400	104165	-	1.07	-
6	500465	104145	-	-	-
7	500431	104133	-	0.82	-
8	500423	104100	-	1.38	-

All levels taken from: Lower Tidal River Arun Strategy Study, completed by Atkins in 2010.

Produced on: 16/02/2026

*** The flood risk data provided is based on existing EA hydraulic models with an allowance for climate change. Please note the climate change allowances provided are not up to date. These were updated on 17 December 2019.**

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

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

Strategic flood risk assessments

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

This should give you information about:

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

Your Lead Local Flood Authority is West Sussex County.

About this data

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

Flood risk activity permits

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

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

Help and advice

Contact the Solent and South Downs Environment Agency team at  for:

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