



## TECHNICAL NOTE

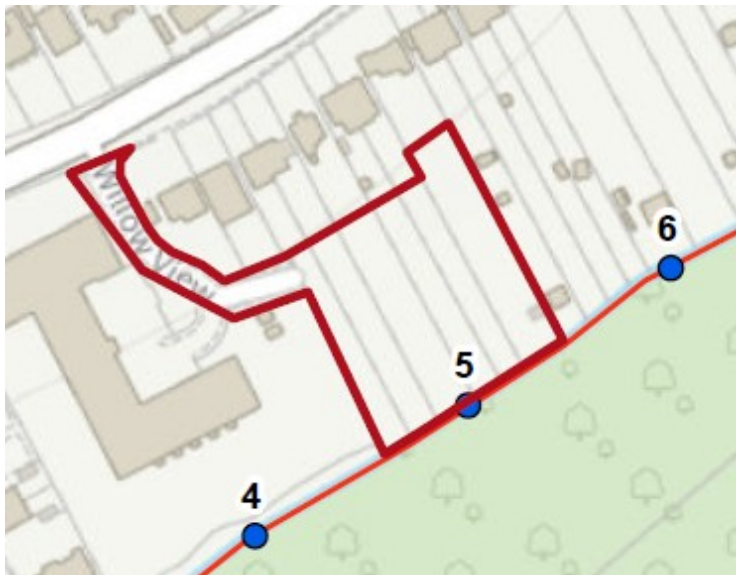
DATE: 26<sup>th</sup> JANUARY 2026

SITE: LAND TO THE REAR OF 209-219 HENLEY ROAD, CAVERSHAM, BERKSHIRE

TITLE: ENVIRONMENTAL AGENCY FLOOD LEVELS REVIEW

### 1. INTRODUCTION

- 1.1 JUDWAA has requested and obtained the updated Product 4 information for the above development site from Environmental Agency in order to review the latest flood levels against the proposed plots levels. Refer to **Appendix A** for the product 4 information.
- 1.2 Base on the flood levels information provided by EA, node 5 is the nearest to the site boundary as such we will be using node 5 flood level information to review against the proposed plots finish floor levels. See diagram below extracted from EA product 4 information.



### No defences exist climate change

| Label | Modelled location ID | Easting | Northing | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) |
|-------|----------------------|---------|----------|---------------|---------------|---------------|
|       |                      |         |          | Level         | Level         | Level         |
| 1     | 1400389              | 472946  | 175011   | 36.69         | 36.77         | 37.01         |
| 2     | 1400469              | 472978  | 175105   | 36.69         | 36.77         | 37.01         |
| 3     | 1400391              | 472979  | 175060   | 36.69         | 36.77         | 37.01         |
| 4     | 1400364              | 473033  | 175147   | 36.69         | 36.77         | 37.0          |
| 5     | 1400395              | 473095  | 175185   | 36.69         | 36.77         | 37.0          |
| 6     | 1400455              | 473154  | 175225   | 36.68         | 36.76         | 37.0          |



- 1.3 The above flood levels table indicates the highest flood level reached within all the nodes is 37.01mAOD and the highest flood level under node 5 is 37mAOD.
- 1.4 The proposed plots FFL's across the site ranges from 39.65 to 38.50 which is therefore set at least 1.5m above flood levels. By raising the proposed plots FFL's to a much higher level than the flood levels, this mitigates any risk of flooding to the properties and ensure flood resilient development proposals.

APPENDIX A  
Environmental Agency Product 4 Information

# Flood risk assessment data



**Location of site:** 473070 / 175219 (shown as easting and northing coordinates)

**Document created on:** 8 October 2025

**This information was previously known as a product 4.**

**Customer reference number:** A1VK5TBN5748

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



## How to use this information

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

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

## Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- past floods
- 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:

- flood defences and attributes

We aren't able to display flood defence locations and attributes as there are no formal flood defences in the area of interest.

## 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 Reading.

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

## About the models used

Model name: Thames (Pangbourne to Sonning) 2019

Scenario(s): No defences exist fluvial, no defences exist climate change fluvial

Date: 1 January 2020

This model contains the most relevant data for your area of interest.

## Terminology used

### Annual exceedance probability (AEP)

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

### Metres above ordnance datum (mAOD)

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

## **Flood map for planning (rivers and the sea)**

Your selected location is in flood zone 3.

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

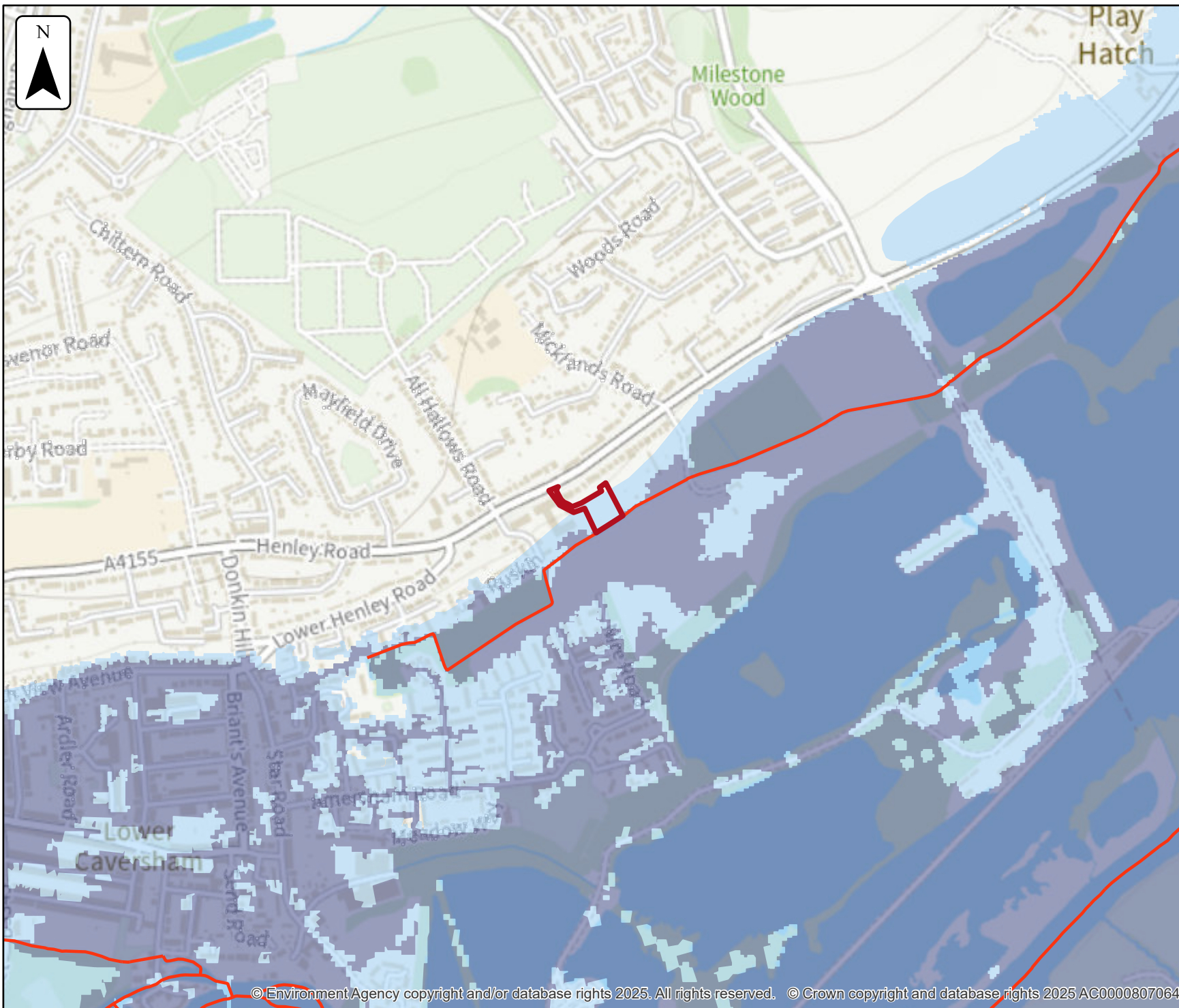
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

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



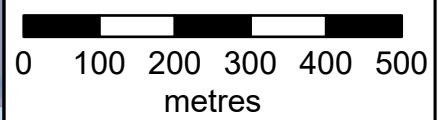
# Flood map for planning

Location (easting/northing)  
**473070/175219**

Scale  
**1:10,000**

Created  
**8 Oct 2025**

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



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## Past floods

### Past flood events included in this document

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

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

### Data limitations

The outlines do not include flooding from:

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

### Changes to flood defences

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

### What the recorded flood outlines dataset is

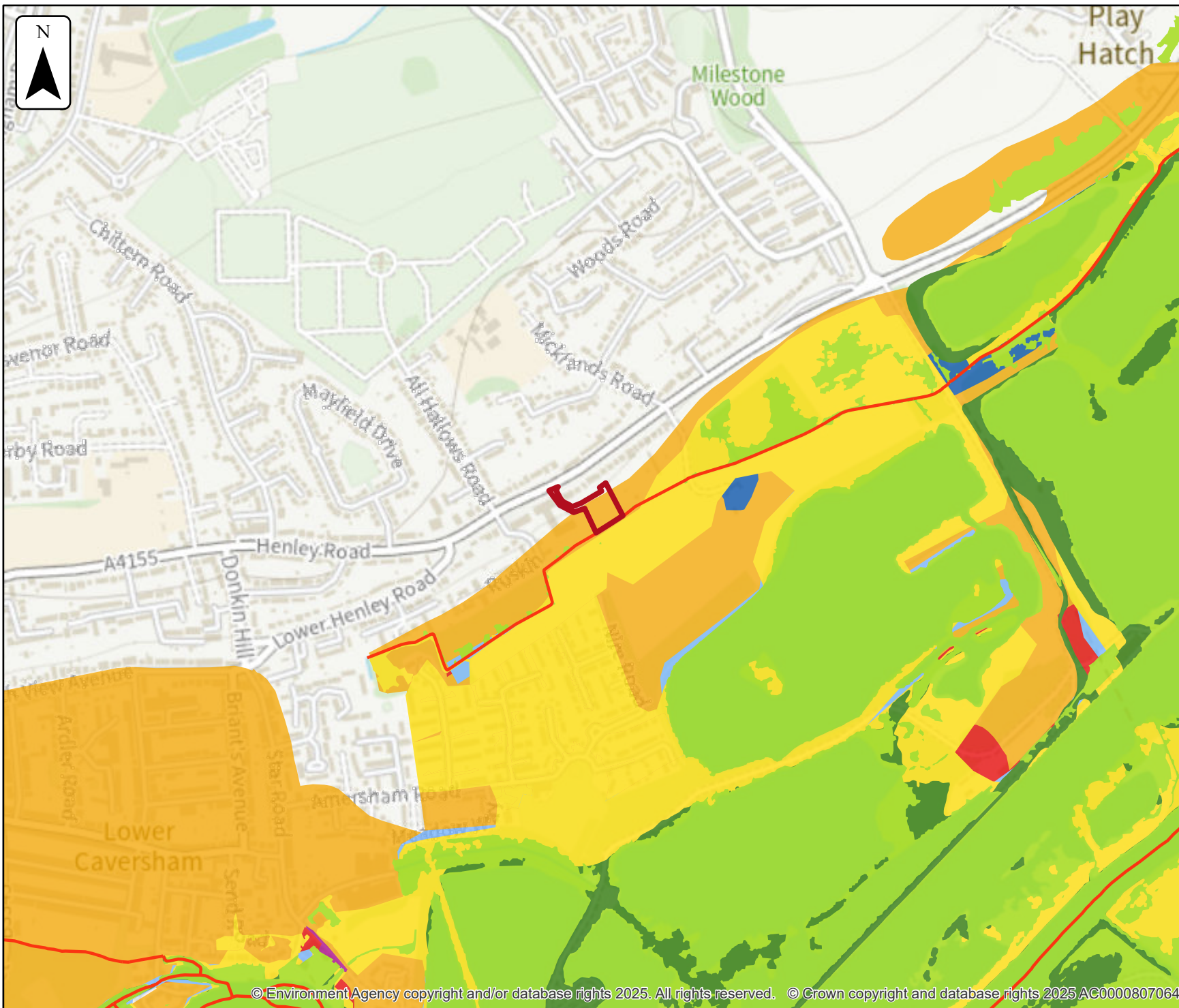
The recorded flood outlines are a geographical information system (GIS) data layer that show our verified records of areas that have flooded in the past from:

- rivers
- the sea
- groundwater
- surface water

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

### Get flood information from other organisations

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



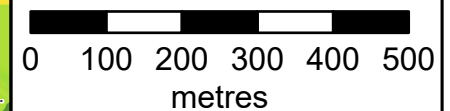
## Past floods

Location (easting/northing)  
**473070/175219**

Scale  
**1:10,000**

Created  
**8 Oct 2025**

-  Selected area
-  Main river
- Date of flood event
  -  November, 2013
  -  July, 2007
  -  December, 2002
  -  2000
  -  1992
  -  1977
  -  1974
  -  1947



## Data on past flood events

| Start date       | End date         | Source of flood | Cause of flood                                 | Affects location |
|------------------|------------------|-----------------|------------------------------------------------|------------------|
| 23 November 2013 | 28 February 2014 | main river      | channel capacity exceeded (no raised defences) | Yes              |
| 19 July 2007     | 29 July 2007     | main river      | channel capacity exceeded (no raised defences) | No               |
| 23 December 2002 | 12 January 2003  | main river      | channel capacity exceeded (no raised defences) | No               |
| 2000             | 2000             | main river      | channel capacity exceeded (no raised defences) | No               |
| 1992             | 1992             | main river      | channel capacity exceeded (no raised defences) | No               |
| 1977             | 1977             | main river      | channel capacity exceeded (no raised defences) | No               |
| 1974             | 1974             | main river      | channel capacity exceeded (no raised defences) | No               |
| 1947             | 1947             | main river      | channel capacity exceeded (no raised defences) | Yes              |

## 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

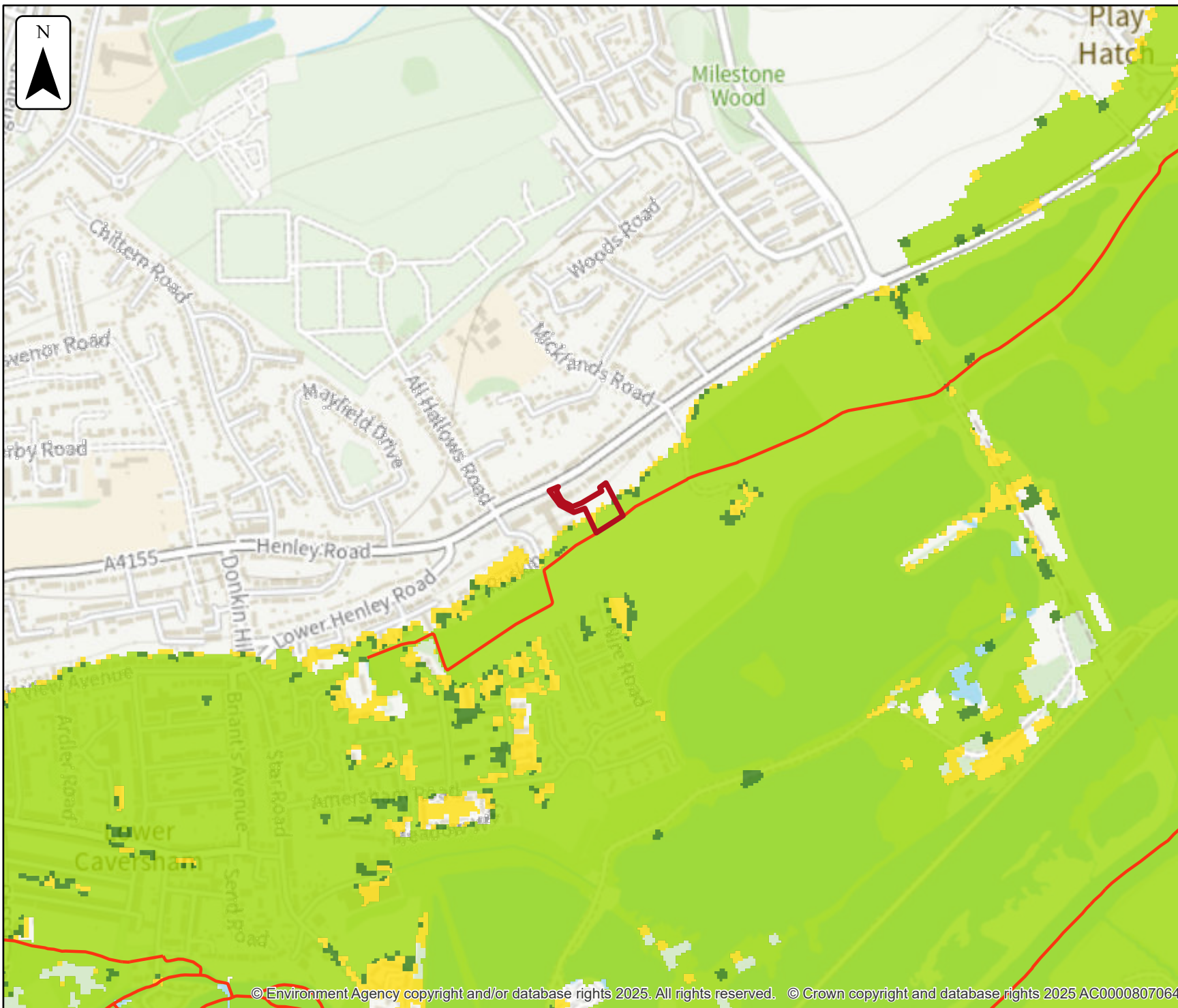
The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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:

- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences
- No defences exist climate change modelled fluvial: risk of flooding from rivers where there are no flood defences, including estimated impact of climate change



## No defences exist climate change modelled fluvial extent

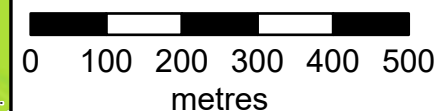
Location (easting/northing)  
**473070/175219**

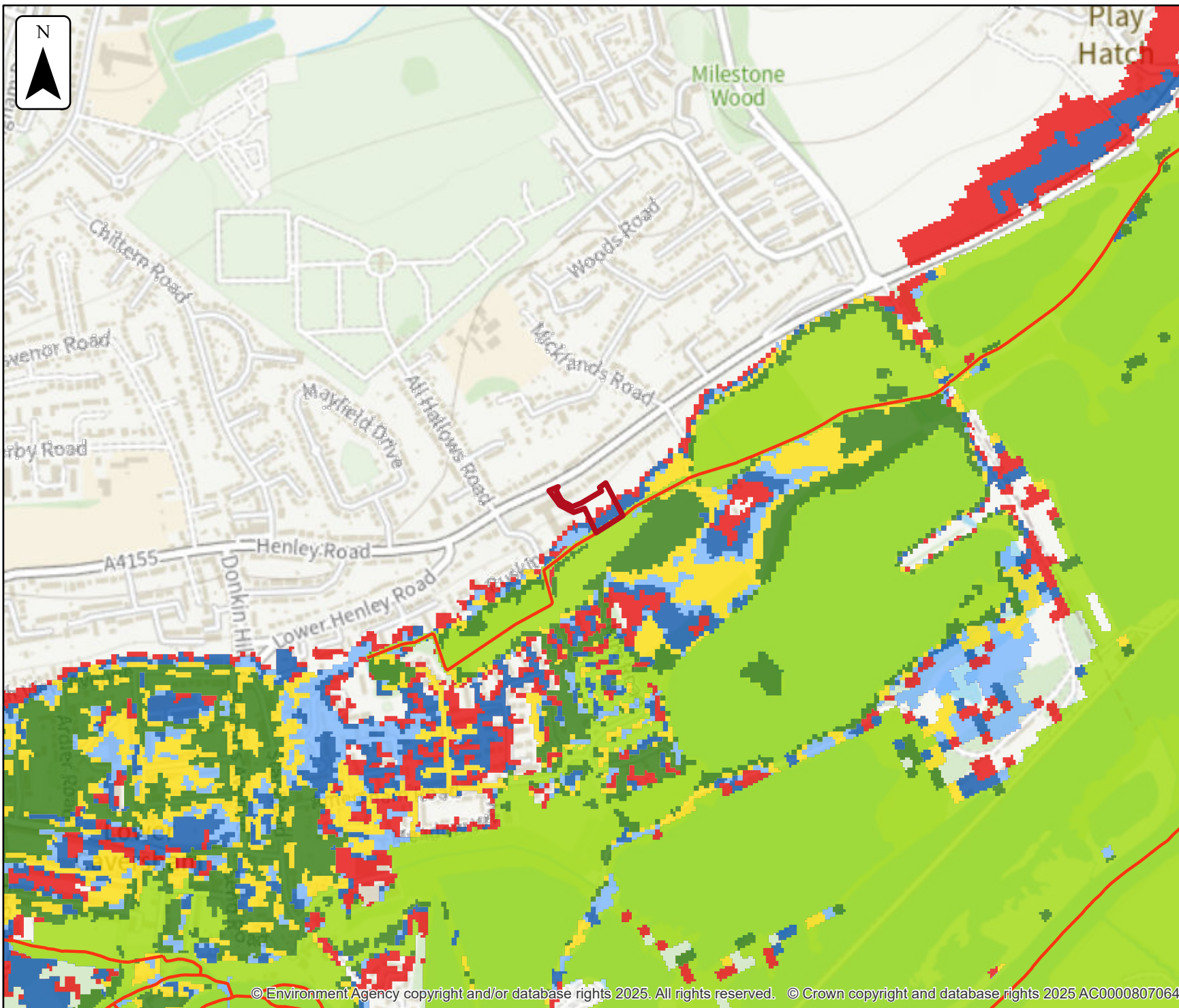
Scale Created  
**1:10,000 8 Oct 2025**

Model name  
**Thames (Pangbourne  
Sonning) 2019**

-  Selected area
-  Main river
- Modelled flood extent
  -  1% AEP (+25%)
  -  1% AEP (+35%)
  -  1% AEP (+70%)

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





## No defences exist modelled fluvial extent

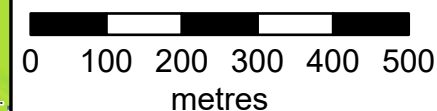
Location (easting/northing)  
**473070/175219**

Scale Created  
**1:10,000 8 Oct 2025**

Model name  
**Thames (Pangbourne  
Sonning) 2019**

- Selected area
- Main river
- Modelled flood extent
- 5% AEP
- 2% AEP
- 1.33% AEP
- 1% AEP
- 0.5% AEP
- 0.1% AEP

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





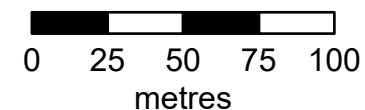
**No defences exist  
climate change  
modelled fluvial  
node locations**

Location (easting/northing)  
**473070/175219**

Scale Created  
**1:2,500 8 Oct 2025**

Model name  
**Thames (Pangbourne  
Sonning) 2019**

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### No defences exist climate change

| Label | Modelled location ID | Easting | Northing | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) |
|-------|----------------------|---------|----------|---------------|---------------|---------------|---------------|---------------|---------------|
|       |                      |         |          | Level         | Level         | Level         | Flow          | Flow          | Flow          |
| 1     | 1400389              | 472946  | 175011   | 36.69         | 36.77         | 37.01         | 1.34          | 2.14          | 5.13          |
| 2     | 1400469              | 472978  | 175105   | 36.69         | 36.77         | 37.01         | 0.68          | 1.11          | 2.65          |
| 3     | 1400391              | 472979  | 175060   | 36.69         | 36.77         | 37.01         | 0.52          | 0.87          | 2.10          |
| 4     | 1400364              | 473033  | 175147   | 36.69         | 36.77         | 37.0          | 0.68          | 1.09          | 2.19          |
| 5     | 1400395              | 473095  | 175185   | 36.69         | 36.77         | 37.0          | 0.59          | 0.94          | 2.06          |
| 6     | 1400455              | 473154  | 175225   | 36.68         | 36.76         | 37.0          | 0.76          | 1.12          | 2.18          |
| 7     | 1400464              | 473200  | 175250   | 36.68         | 36.76         | 37.0          | 0.60          | 0.89          | 1.86          |
| 8     | 1400299              | 473250  | 175274   | 36.68         | 36.76         | 37.0          | 0.67          | 0.89          | 1.28          |
| 9     | 1400398              | 473253  | 175277   | 36.68         | 36.76         | 36.99         | 0.67          | 0.89          | 1.28          |
| 10    | 1400287              | 473267  | 175283   | 36.68         | 36.76         | 36.99         | 0.68          | 0.95          | 1.59          |

Data in this table comes from the Thames (Pangbourne to Sonning) 2019 model.  
 Level values are shown in mAOD, and flow values are shown in cubic metres per second.  
 Any blank cells show where a particular scenario has not been modelled for this location.



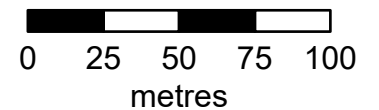
## No defences exist modelled fluvial node locations

Location (easting/northing)  
**473070/175219**

Scale Created  
**1:2,500 8 Oct 2025**

Model name  
**Thames (Pangbourne  
Sonning) 2019**

-  Selected area
-  Modelled location
-  Main river



## Modelled node locations data

### No defences exist

| Label | Modelled location ID | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-------|----------------------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|       |                      |         |          | Level   | Level   | Level  | Level     | Level  | Level     | Level  | Level    | Level    |
| 1     | 1400389              | 472946  | 175011   | 35.79   | 36.02   | 36.12  | 36.16     | 36.22  | 36.30     | 36.39  | 36.58    | 36.83    |
| 2     | 1400469              | 472978  | 175105   | 35.78   | 36.02   | 36.12  | 36.16     | 36.21  | 36.30     | 36.39  | 36.58    | 36.83    |
| 3     | 1400391              | 472979  | 175060   | 35.79   | 36.02   | 36.12  | 36.16     | 36.22  | 36.30     | 36.39  | 36.58    | 36.83    |
| 4     | 1400364              | 473033  | 175147   | 35.77   | 36.02   | 36.11  | 36.16     | 36.21  | 36.30     | 36.39  | 36.58    | 36.82    |
| 5     | 1400395              | 473095  | 175185   | 35.77   | 36.01   | 36.11  | 36.16     | 36.21  | 36.30     | 36.39  | 36.57    | 36.82    |
| 6     | 1400455              | 473154  | 175225   | 35.76   | 36.01   | 36.11  | 36.16     | 36.21  | 36.30     | 36.39  | 36.57    | 36.82    |
| 7     | 1400464              | 473200  | 175250   | 35.76   | 36.01   | 36.11  | 36.16     | 36.21  | 36.30     | 36.39  | 36.57    | 36.82    |
| 8     | 1400299              | 473250  | 175274   | 35.76   | 36.01   | 36.11  | 36.16     | 36.21  | 36.30     | 36.39  | 36.57    | 36.82    |
| 9     | 1400398              | 473253  | 175277   | 35.74   | 36.0    | 36.10  | 36.14     | 36.20  | 36.30     | 36.38  | 36.57    | 36.82    |
| 10    | 1400287              | 473267  | 175283   | 35.74   | 36.0    | 36.10  | 36.14     | 36.20  | 36.30     | 36.38  | 36.57    | 36.82    |

Data in this table comes from the Thames (Pangbourne to Sonning) 2019 model.  
Level values are shown in mAOD, and flow values are shown in cubic metres per second.  
Any blank cells show where a particular scenario has not been modelled for this location.

## No defences exist

| Label | Modelled location ID | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-------|----------------------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|       |                      |         |          | Flow    | Flow    | Flow   | Flow      | Flow   | Flow      | Flow   | Flow     | Flow     |
| 1     | 1400389              | 472946  | 175011   | 0.31    | 0.32    | 0.32   | 0.33      | 0.33   | 0.33      | 0.32   | 0.64     | 2.63     |
| 2     | 1400469              | 472978  | 175105   | 0.31    | 0.32    | 0.34   | 0.34      | 0.34   | 0.35      | 0.39   | 0.42     | 1.39     |
| 3     | 1400391              | 472979  | 175060   | 0.31    | 0.32    | 0.33   | 0.34      | 0.34   | 0.34      | 0.36   | 0.39     | 1.01     |
| 4     | 1400364              | 473033  | 175147   | 0.31    | 0.32    | 0.34   | 0.34      | 0.35   | 0.35      | 0.39   | 0.45     | 1.26     |
| 5     | 1400395              | 473095  | 175185   | 0.31    | 0.33    | 0.34   | 0.35      | 0.35   | 0.35      | 0.40   | 0.45     | 1.11     |
| 6     | 1400455              | 473154  | 175225   | 0.32    | 0.33    | 0.34   | 0.35      | 0.35   | 0.35      | 0.41   | 0.49     | 1.34     |
| 7     | 1400464              | 473200  | 175250   | 0.32    | 0.33    | 0.34   | 0.35      | 0.36   | 0.35      | 0.40   | 0.48     | 1.04     |
| 8     | 1400299              | 473250  | 175274   | 0.32    | 0.33    | 0.35   | 0.35      | 0.36   | 0.35      | 0.40   | 0.55     | 0.91     |
| 9     | 1400398              | 473253  | 175277   | 0.32    | 0.33    | 0.35   | 0.35      | 0.36   | 0.35      | 0.40   | 0.55     | 0.91     |
| 10    | 1400287              | 473267  | 175283   | 0.32    | 0.33    | 0.35   | 0.36      | 0.36   | 0.35      | 0.38   | 0.50     | 1.04     |

Data in this table comes from the Thames (Pangbourne to Sonning) 2019 model.  
Level values are shown in mAOD, and flow values are shown in cubic metres per second.  
Any blank cells show where a particular scenario has not been modelled for this location.



## No defences exist modelled fluvial extent and height

Location (easting/northing)  
**473070/175219**

Scale Created  
**1:1,000 8 Oct 2025**

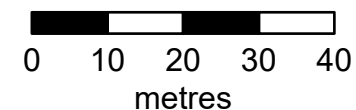
Model name  
**Thames (Pangbourne  
Sonning) 2019**

-  Selected area
-  Main river

Modelled 2D grid  
Water level in mAOD

-  35 - 35.375
-  35.375 - 35.75
-  35.75 - 36.125
-  36.125 - 36.5
-  36.5 - 36.875
-  36.875 - 37.25
-  37.25 - 37.625
-  37.625 - 38.0
-  38.0 - 38.375

This map shows the  
0.1% AEP height data



## Sample point data

No defences exist

| Label | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|       |         |          | Height  | Height  | Height | Height    | Height | Height    | Height | Height   | Height   |
| 1     | 473058  | 175166   | 35.67   | 35.99   | 36.10  | 36.16     | 36.30  | 36.46     | 36.53  | 36.67    | 36.92    |
| 2     | 473079  | 175166   | 35.67   | 35.99   | 36.10  | 36.16     | 36.30  | 36.46     | 36.53  | 36.67    | 36.92    |
| 3     | 473058  | 175187   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 36.67    | 36.91    |
| 4     | 473079  | 175187   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 36.67    | 36.91    |
| 5     | 473100  | 175187   | 35.66   | 35.99   | 36.10  | 36.16     | 36.30  | 36.46     | 36.53  | 36.67    | 36.92    |
| 6     | 473121  | 175187   | NoData  | NoData  | 36.11  | 36.16     | 36.31  | 36.46     | 36.53  | 36.67    | 36.91    |
| 7     | 473016  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 8     | 473037  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 9     | 473058  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 10    | 473079  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | 36.91    |
| 11    | 473100  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 36.67    | 36.91    |
| 12    | 473121  | 175208   | 35.66   | 35.99   | 36.10  | 36.16     | 36.30  | 36.46     | 36.53  | 36.67    | 36.92    |

| Label | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|       |         |          | Height  | Height  | Height | Height    | Height | Height    | Height | Height   | Height   |
| 13    | 472995  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 14    | 473016  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 15    | 473037  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 16    | 473058  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 17    | 473079  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 18    | 473100  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | 36.91    |
| 19    | 473121  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 36.67    | 36.91    |
| 20    | 472974  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 21    | 472995  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 22    | 473058  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 23    | 473079  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 24    | 473100  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |

| Label                       | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-----------------------------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|                             |         |          | Height  | Height  | Height | Height    | Height | Height    | Height | Height   | Height   |
| 25                          | 472995  | 175271   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 26                          | 473079  | 175271   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 27                          | 473100  | 175271   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| Max value in selected area: |         |          | 35.67   | 35.99   | 36.10  | 36.16     | 36.30  | 36.46     | 36.53  | 36.67    | 36.92    |

Data in this table comes from the Thames (Pangbourne to Sonning) 2019 model. Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

## No defences exist

| Label | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|       |         |          | Depth   | Depth   | Depth  | Depth     | Depth  | Depth     | Depth  | Depth    | Depth    |
| 1     | 473058  | 175166   | 0.26    | 0.37    | 0.41   | 0.43      | 0.48   | 0.55      | 0.63   | 0.77     | 1.02     |
| 2     | 473079  | 175166   | 0.09    | 0.12    | 0.14   | 0.14      | 0.16   | 0.27      | 0.34   | 0.48     | 0.73     |
| 3     | 473058  | 175187   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 0.16     | 0.39     |
| 4     | 473079  | 175187   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 0.08     | 0.33     |
| 5     | 473100  | 175187   | 0.56    | 0.78    | 0.86   | 0.89      | 1.00   | 1.16      | 1.23   | 1.37     | 1.62     |
| 6     | 473121  | 175187   | NoData  | NoData  | 0.23   | 0.28      | 0.40   | 0.54      | 0.61   | 0.75     | 0.99     |
| 7     | 473016  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 8     | 473037  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 9     | 473058  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 10    | 473079  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | 0.21     |
| 11    | 473100  | 175208   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 0.29     | 0.49     |
| 12    | 473121  | 175208   | 0.19    | 0.26    | 0.28   | 0.30      | 0.33   | 0.45      | 0.53   | 0.67     | 0.91     |

| Label | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|       |         |          | Depth   | Depth   | Depth  | Depth     | Depth  | Depth     | Depth  | Depth    | Depth    |
| 13    | 472995  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 14    | 473016  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 15    | 473037  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 16    | 473058  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 17    | 473079  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 18    | 473100  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | 0.09     |
| 19    | 473121  | 175229   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | 0.23     | 0.47     |
| 20    | 472974  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 21    | 472995  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 22    | 473058  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 23    | 473079  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 24    | 473100  | 175250   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |

| Label                       | Easting | Northing | 20% AEP | 10% AEP | 5% AEP | 3.33% AEP | 2% AEP | 1.33% AEP | 1% AEP | 0.5% AEP | 0.1% AEP |
|-----------------------------|---------|----------|---------|---------|--------|-----------|--------|-----------|--------|----------|----------|
|                             |         |          | Depth   | Depth   | Depth  | Depth     | Depth  | Depth     | Depth  | Depth    | Depth    |
| 25                          | 472995  | 175271   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 26                          | 473079  | 175271   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| 27                          | 473100  | 175271   | NoData  | NoData  | NoData | NoData    | NoData | NoData    | NoData | NoData   | NoData   |
| Max value in selected area: |         |          | 0.50    | 0.71    | 0.78   | 0.82      | 0.91   | 1.05      | 1.12   | 1.26     | 1.51     |

Data in this table comes from the Thames (Pangbourne to Sonning) 2019 model. Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.



**No defences exist  
climate change  
modelled fluvial  
extent and height**

Location (easting/northing)  
**473070/175219**

Scale Created  
**1:1,000 8 Oct 2025**

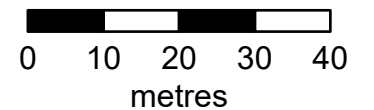
Model name  
**Thames (Pangbourne  
Sonning) 2019**

-  Selected area
-  Main river

Modelled 2D grid  
Water level in mAOD

-  0 - 4.75
-  4.75 - 9.5
-  9.5 - 14.25
-  14.25 - 19.0
-  19.0 - 23.75
-  23.75 - 28.5
-  28.5 - 33.25
-  33.25 - 38.0
-  38.0 - 42.75

This map shows the  
1% AEP +70% height data



## Sample point data

### No defences exist climate change

| Label | Easting | Northing | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) |
|-------|---------|----------|---------------|---------------|---------------|---------------|---------------|---------------|
|       |         |          | Height        | Height        | Height        | Depth         | Depth         | Depth         |
| 1     | 473058  | 175166   | 36.78         | 36.86         | 37.10         | 0.88          | 0.95          | 1.20          |
| 2     | 473079  | 175166   | 36.78         | 36.86         | 37.10         | 0.59          | 0.67          | 0.91          |
| 3     | 473058  | 175187   | 36.78         | 36.86         | 37.09         | 0.26          | 0.34          | 0.57          |
| 4     | 473079  | 175187   | 36.78         | 36.85         | 37.09         | 0.19          | 0.27          | 0.50          |
| 5     | 473100  | 175187   | 36.78         | 36.86         | 37.10         | 1.48          | 1.56          | 1.80          |
| 6     | 473121  | 175187   | 36.78         | 36.85         | 37.09         | 0.86          | 0.93          | 1.17          |
| 7     | 473016  | 175208   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 8     | 473037  | 175208   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 9     | 473058  | 175208   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 10    | 473079  | 175208   | 36.78         | 36.85         | 37.09         | 0.09          | 0.15          | 0.39          |
| 11    | 473100  | 175208   | 36.78         | 36.85         | 37.09         | 0.38          | 0.44          | 0.64          |
| 12    | 473121  | 175208   | 36.78         | 36.86         | 37.10         | 0.78          | 0.85          | 1.09          |

| Label | Easting | Northing | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) |
|-------|---------|----------|---------------|---------------|---------------|---------------|---------------|---------------|
|       |         |          | Height        | Height        | Height        | Depth         | Depth         | Depth         |
| 13    | 472995  | 175229   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 14    | 473016  | 175229   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 15    | 473037  | 175229   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 16    | 473058  | 175229   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 17    | 473079  | 175229   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 18    | 473100  | 175229   | NoData        | 36.85         | 37.09         | NoData        | 0.03          | 0.26          |
| 19    | 473121  | 175229   | 36.78         | 36.85         | 37.09         | 0.34          | 0.42          | 0.65          |
| 20    | 472974  | 175250   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 21    | 472995  | 175250   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 22    | 473058  | 175250   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 23    | 473079  | 175250   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 24    | 473100  | 175250   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |

| Label                       | Easting | Northing | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) | 1% AEP (+25%) | 1% AEP (+35%) | 1% AEP (+70%) |
|-----------------------------|---------|----------|---------------|---------------|---------------|---------------|---------------|---------------|
|                             |         |          | Height        | Height        | Height        | Depth         | Depth         | Depth         |
| 25                          | 472995  | 175271   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 26                          | 473079  | 175271   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| 27                          | 473100  | 175271   | NoData        | NoData        | NoData        | NoData        | NoData        | NoData        |
| Max value in selected area: |         |          | 36.78         | 36.86         | 37.10         | 1.37          | 1.45          | 1.69          |

Data in this table comes from the Thames (Pangbourne to Sonning) 2019 model. Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

## 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 Reading.

## 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 Thames Environment Agency team at [enquiries\\_thm@environment-agency.gov.uk](mailto:enquiries_thm@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

## Product 4 (Detailed Flood Risk) for 473037 175228

### Our Ref: EIR2025/35685

Product 4 is designed for developers where Flood Risk Standing Advice FRA (Flood Risk Assessment) Guidance Note 3 Applies. This is:

- i) "all applications in Flood Zone 3, other than non-domestic extensions less than 250 sq metres; and all domestic extensions", and
- ii) "all applications with a site area greater than 1 ha" in Flood Zone 2.

#### Product 4 includes the following information:

Ordnance Survey 1:25k colour raster base mapping;  
Flood Zone 2 and Flood Zone 3;  
Relevant model node locations and unique identifiers (for cross referencing to the water levels, depths and flows table);  
Model extents showing *defended* scenarios;  
FRA site boundary (where a suitable GIS layer is supplied);  
Flood defence locations (where available/relevant) and unique identifiers; (supplied separately)  
Flood Map flood storage areas (where available/relevant);  
Historic flood events outlines (where available/relevant, not the Historic Flood Map) and unique identifiers;

Statutory (Sealed) Main River (where available within map extents);

A table showing:

- i) Model node X/Y coordinate locations, unique identifiers, and levels and flows for *defended* scenarios.
- ii) Flood defence locations unique identifiers and attributes; (supplied separately)
- iii) Historic flood events outlines unique identifiers and attributes; and
- iv) Local flood history data (where available/relevant).

#### Please note:

If you will be carrying out computer modelling as part of your Flood Risk Assessment, please request our guidance which sets out the requirements and best practice for computer river modelling.

This information is based on that currently available as of the date of this letter. You may feel it is appropriate to contact our office at regular intervals, to check whether any amendments/ improvements have been made. Should you re-contact us after a period of time, please quote the above reference in order to help us deal with your query.

This information is provided subject to the enclosed notice which you should read.

This letter is not a Flood Risk Assessment. The information supplied can be used to form part of your Flood Risk Assessment. Further advice and guidance regarding Flood Risk Assessments can be found on our website at:

<https://www.gov.uk/guidance/flood-risk-assessment-local-planning-authorities>

If you would like advice from us regarding your development proposals you can complete our pre application enquiry form which can be found at:

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

## Defence information

Defence Location: No defences on Main River

Description: This location is not currently protected by any formal defences and we do not currently have any flood alleviation works planned for the area. However we continue to maintain certain watercourses and the schedule of these can be found on our internet pages.

## Model information

**EIR2025/35685**

Model: **Thames (Pangbourne to Sonning) 2019**

Description: The information provided is taken from the Reading and Caversham Flood Alleviation Scheme: Baseline Modelling Report - Final undertaken by Jacobs, dated 07 May 2021. The study was carried out using 1D-2D modelling software (Flood Modeller Pro-TUFLOW). This model study was undertaken as part of the technical studies stage for developing scheme options for the Reading and Caversham Flood Alleviation Scheme: in February 2022 it was announced that this scheme will not go ahead, however the modelling is still viable and can be used internally and externally to inform flood risk. The whole model covers 28 km of the River Thames from Whitchurch Lock to Henley-on-Thames, however the Environment Agency are only using this model up to Sonning: downstream of this location, please refer to the Thames (Sonning to Hurley) 2019 model.

Model design runs:

1 in 2 / 50% AEP; 1 in 5 / 20% AEP; 1 in 10 / 10% AEP; 1 in 20 / 5% AEP; 1 in 30 / 3.3% AEP; 1 in 50 / 2% AEP; 1 in 75 / 1.33% AEP; 1 in 100 / 1% AEP; 1 in 100+25% / 1% AEP with 25% climate change; 1 in 100+35% / 1% AEP with 35% climate change; 1 in 100+70% / 1% AEP with 70% climate change; 1 in 200 / 0.5% AEP; and 1 in 1000 / 0.1% AEP.

Mapped outputs:

1 in 2 / 50% AEP; 1 in 5 / 20% AEP; 1 in 10 / 10% AEP; 1 in 20 / 5% AEP; 1 in 30 / 3.3% AEP; 1 in 50 / 2% AEP; 1 in 75 / 1.33% AEP; 1 in 100 / 1% AEP; 1 in 100+25% / 1% AEP with 25% climate change; 1 in 100+35% / 1% AEP with 35% climate change; 1 in 100+70% / 1% AEP with 70% climate change; 1 in 200 / 0.5% AEP; and 1 in 1000 / 0.1% AEP.

## Hazard Mapping

### Hazard Mapping methodology:

To calculate flood hazard with the debris factor we have used the supplementary note to Flood Risk to People Methodology (see below).

The following calculation is used:

$$HR = d \times (v+0.5) + DF$$

Where HR = flood hazard rating

d = depth of flooding (m)

v = velocity of floodwaters (m/sec)

DF = debris factor calculated (0, 0.5, 1 depending on probability that debris will lead to a hazard)

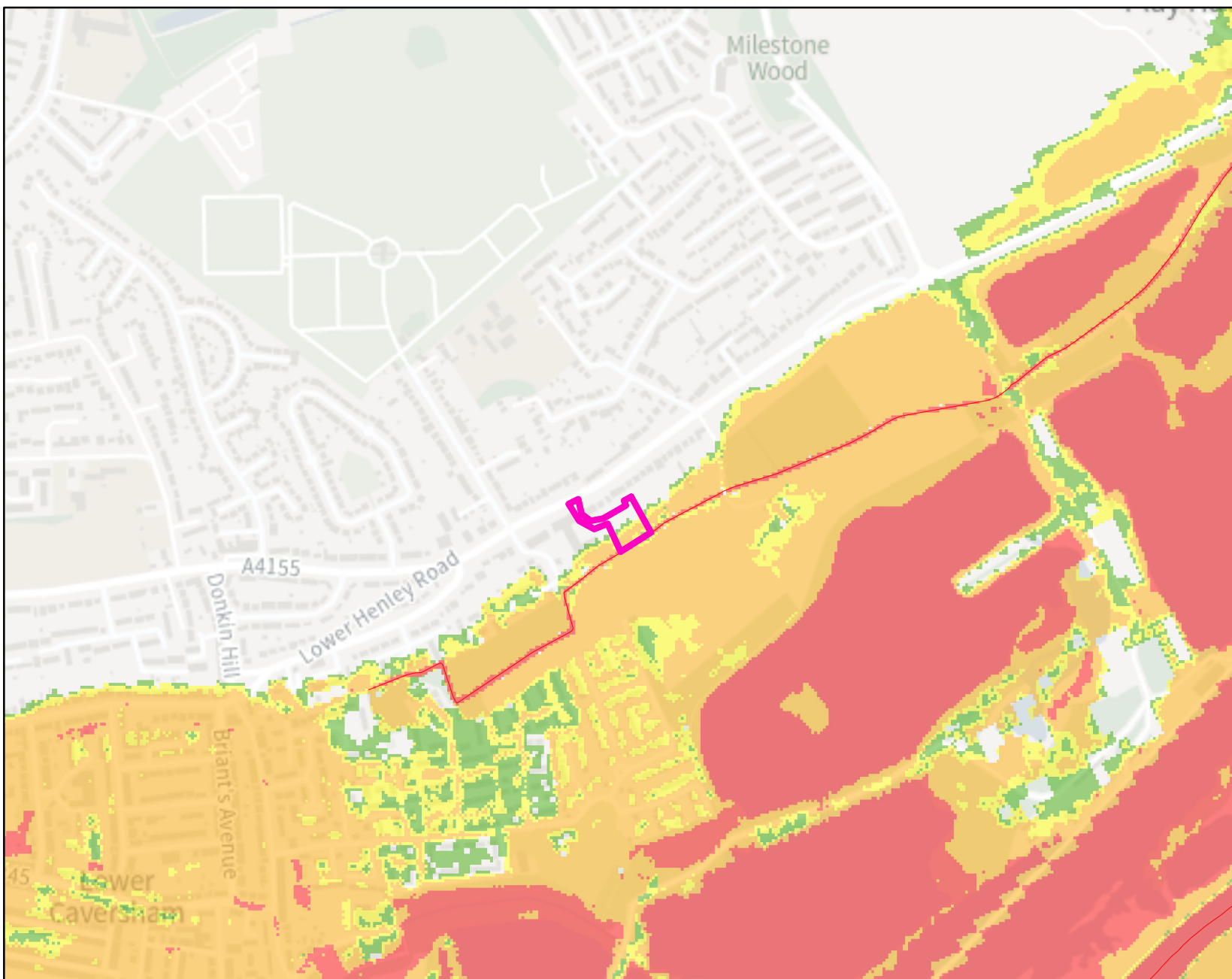
The resultant hazard rating is then classified according to:

| Flood Hazard   | Colour | Hazard to People Classification                                 |
|----------------|--------|-----------------------------------------------------------------|
| Less than 0.75 | Green  | Very low hazard - Caution                                       |
| 0.75 to 1.25   | Yellow | Danger for some - includes children, the elderly and the infirm |
| 1.25 to 2.0    | Orange | Danger for most - includes the general public                   |
| More than 2.0  | Red    | Danger for all - includes the emergency services                |

REF: HR Wallingford and Environment Agency (May 2008) Supplementary note of flood hazard ratings and thresholds for development planning and control purpose – Clarification of the Table 113.1 of FD2320/TR2 and Figure 3.2 of FD2321/TR1

# Hazard Map (for the 1%+70% climate change scenario) centred on 473037,175228

Created on 31/10/2025 REF: EIR2025/35685



## Legend

- Site
- Statutory Main Rivers
- Very low hazard – Caution
- Danger for some – includes children, the elderly and the infirm
- Danger for most – includes the general public
- Danger for all – includes the emergency services

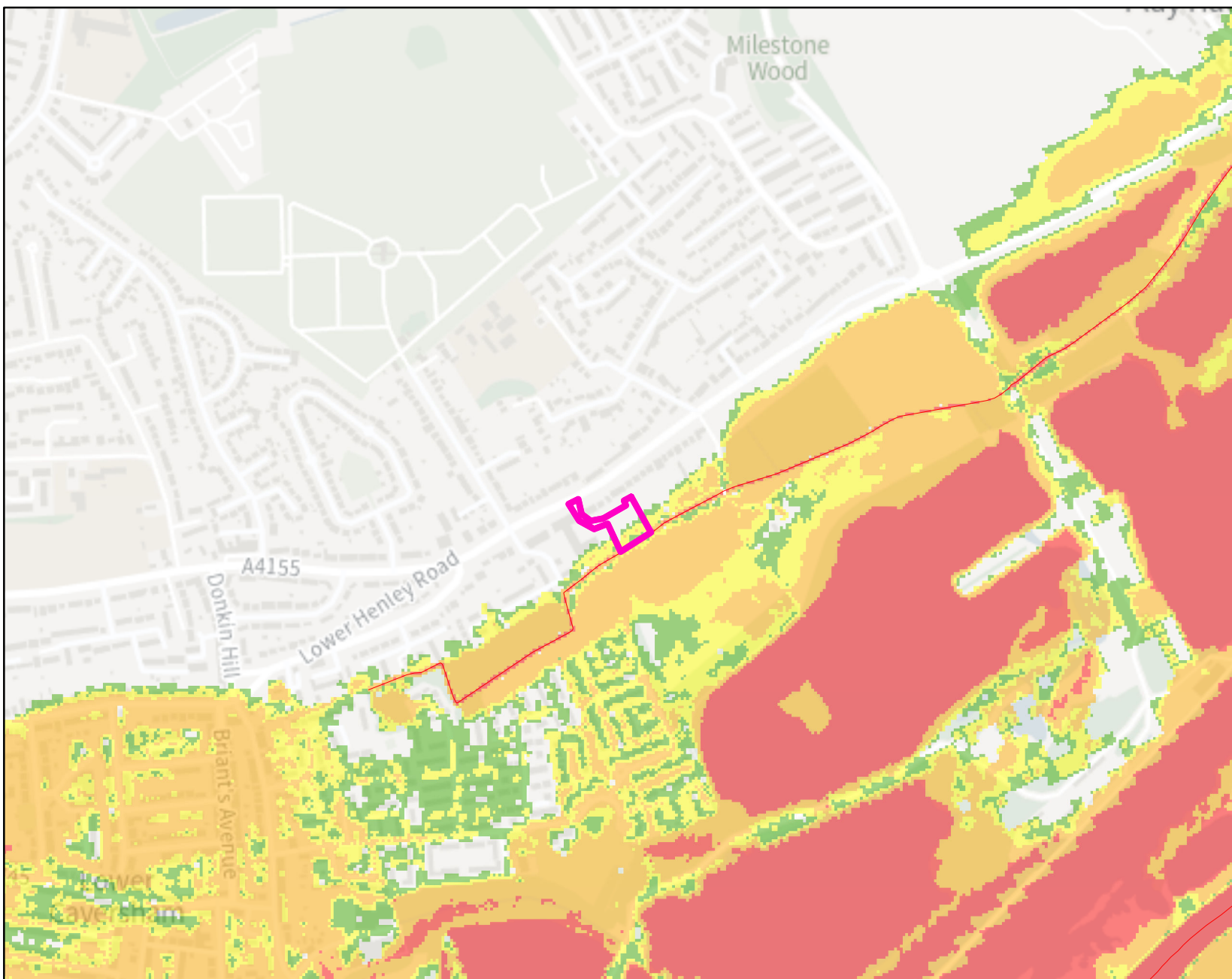
For hazard and debris factor we used HR Wallingford and Environment Agency (May 2008) supplementary note on flood hazard ratings and thresholds for development planning and control purpose. The following calculation is used:

$$HR = d \times (v+0.5) + DF$$

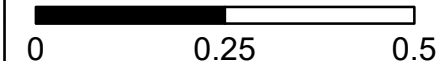
HR = flood hazard rating  
d = depth of flooding (m)  
v = velocity of floodwaters (m/sec)  
DF = debris factor calculated (0, 0.5, 1 depending on probability that debris will lead to a hazard)

# Hazard Map (for the 1%+35% climate change scenario) centred on 473037,175228

Created on 31/10/2025 REF: EIR2025/35685



Kilometres



## Legend

- Site
- Statutory Main Rivers
- Very low hazard – Caution
- Danger for some – includes children, the elderly and the infirm
- Danger for most – includes the general public
- Danger for all – includes the emergency services

For hazard and debris factor we used HR Wallingford and Environment Agency (May 2008) supplementary note on flood hazard ratings and thresholds for development planning and control purpose. The following calculation is used:

$$HR = d \times (v+0.5) + DF$$

HR = flood hazard rating  
d = depth of flooding (m)  
v = velocity of floodwaters (m/sec)  
DF = debris factor calculated (0, 0.5, 1 depending on probability that debris will lead to a hazard)