REFORD

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16th June 2025

Mr Stephen Kilmartin
Ribble Valley Borough Council
Development Control
Council Offices Church Walk
Clitheroe
Lancashire
BB7 2RA

Dear Mr Kilmartin

Planning reference: 3/2025/0147
Location : Peel Street Business Estate, Peel Street, Clitheroe, BB7 1RA
Proposal : Proposed demolition of existing buildings and erection of six 2-bed and one 3- bed apartment building together with a two storey business centre and associated parking and bin store

We refer to the letter from the Environment Agency dated 17th April 2025 in which the Environment Agency objected to the above planning application. The Environment Agency's reasons for objection are as follows, along with our responses.

1. Demonstrate that finished floor levels will be set a minimum of 600mm above whichever is highest:
   - estimated river or sea flood level (plus appropriate climate change allowance)
   - average ground level of the site
   - adjacent road level to the building

You may be able to reduce this to 300mm if there is a high level of certainty about your estimated flood level. If there is a particularly high level of uncertainty it may need to be increased.

Response: Modelled information for the Mearley Brook was re-requested from the Environment Agency following changes to the Flood Map for Planning in March 2025. The information received is no different to that what was used for the submitted flood risk assessment and is attached to this letter.

The flood risk assessment determined the design flood level as the 1% plus 35% event, which within the site has a maximum flood level of 74.64m AOD and therefore the floor levels of the proposed buildings were to be set at a minimum 74.94m AOD as there is a high level of certainty about the estimated flood level.

2. Different climate change allowances have been used to assess future flood risk than those advised in 'Flood risk assessments: climate change allowances', without adequate justification.

   Finished Floor Levels (FFL's) have currently been proposed in relation to the 1% Annual Exceedance Probability fluvial event, plus a 35% climate change allowance, from the Mearley Brook 2018 Environment Agency hydraulic model. The correct peak river flow climate change allowance to use for this development is the 2080s central Ribble management catchment allowance of 36%. Using a lower climate change allowance than advised in the guidance referred to above increases uncertainty to some extent – this increases the need to raise FFL's towards 600mm above design flood level / average ground level / adjacent road level.

Response: From the modelled data provided by the Environment Agency the climate change levels for the site are as follows:

- 1% plus 30% - 74.61m AOD
- 1% plus 35% - 74.64m AOD
- 1% plus 70% - 74.86m AOD

Interpolating, the 1% plus 36% climate change level will be 74.65m AOD and therefore based upon this figure the floor levels of the proposed buildings are to be set at a minimum 74.95m AOD.

3. The FRA states: "Only the office building that is to lie within the south of the site lies within the area of the site where the ground levels are below 74.64m AOD. The residential building planned for the northern part of the site lies above 74.64m AOD and will not be affected by the 1% plus 35% event."

   The Environment Agency's Mearley Brook 2018 hydraulic model shows that the flood outline for the defended 1% Annual Exceedance Probability event (plus 35% climate change) does affect the northern residential "Building 1" – at least at its western / southern reaches. This implies that current ground levels at the land surrounding the

northern building may be lower than 74.64m AOD - given that the incorrect peak river flow climate change allowance has been relied upon, design flood levels may be higher than this level.

Response: A topographical survey of the site was provided within Appendix C of the Flood Risk Assessment and is also attached to this letter, along with the proposed site plan.

From the topographical survey it can be seen that the existing ground levels where the residential building for the northern part of the site is planned lies above 74.64m AOD. However, it is accepted that existing ground levels within the vicinity of the south western corner of the proposed building may be below 74.64m AOD.

We have stated earlier that the floor levels of the proposed buildings are to be set at a minimum 74.95m AOD, which will be 300mm above the design flood level of the 1% plus 36% event.

It is noted that an application for an Environmental Permit will need to be made to the Environment Agency as the proposed building within the northern part of the site will lie within 8m of the Mearley Brook, which is designated Main River.

With reference to the above we request that the LLFA remove their objection to the proposal.

Yours sincerely,

Bob Ford

Bob Ford CEng MICE
DIRECTOR
REFORD Consulting Engineers Limited

Flood risk assessment data

Location of site: 374515 / 441582 (shown as easting and northing coordinates)
Document created on: 23 April 2025
This information was previously known as a product 4.
Customer reference number: 9J2N9PAWJPD1

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

How to use this information

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

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

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- past floods
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Surface water and other sources of flooding

When using the surface water map on the check your long term flood risk service the following considerations apply:

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

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

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

Your Lead Local Flood Authority is Lancashire County.

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

About the models used

Model name: Mearley Brook 2018
Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial
Date: 1 December 2017

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 occuring 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:

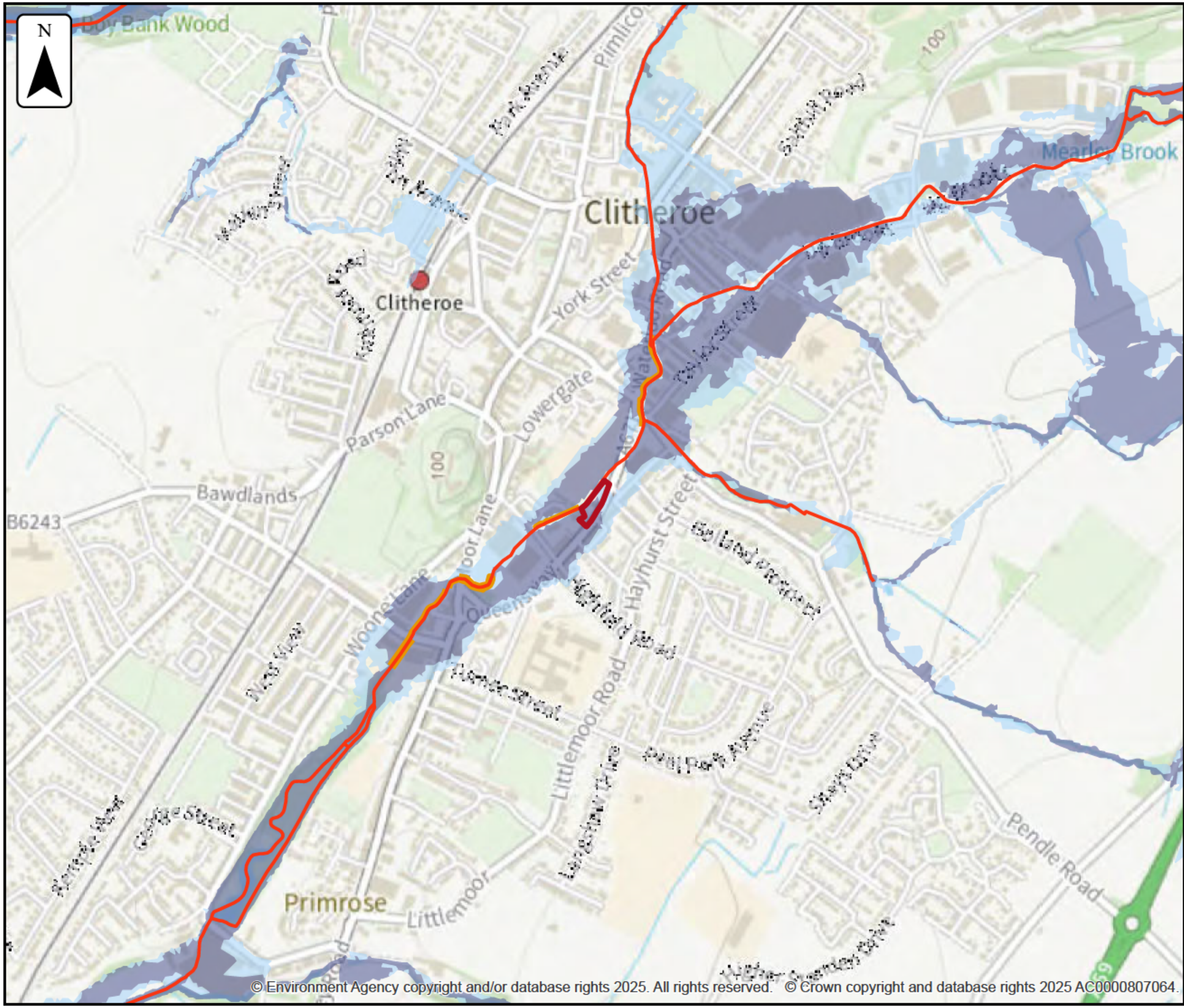
- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

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



Environment Agency

Flood map for planning

Location (easting/northing)
374515/441582

Scale
1:10,000

Created
23 Apr 2025

Selected area
Main river
Flood defence
Water storage area
Flood Zones 2 and 3 Rivers and Sea
Flood Zone 3
Flood Zone 2

0 100 200 300 400 500
metres

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

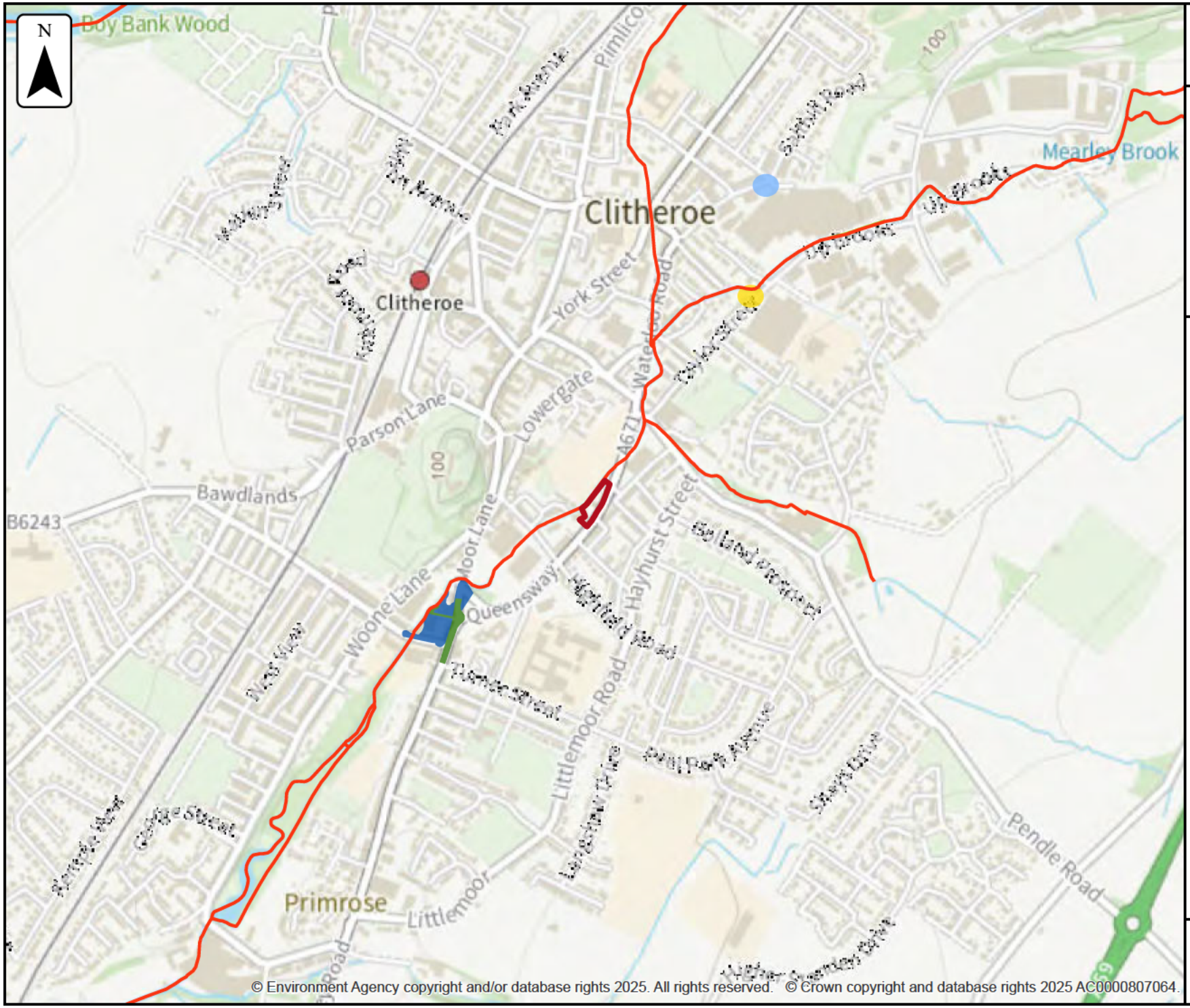
The recorded flood outlines are a geographical information system (GIS) data layer that show our verified records of areas that have flooded in the past from:

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



Environment Agency

Past floods

Location (easting/northing)
374515/441582

Scale
1:10,000

Created
23 Apr 2025

- Selected area
- Main river

Date of flood event

- August, 2016
- December, 2015
- July, 2007
- September, 1999
- February, 1999

0 100 200 300 400 500
metres

Data on past flood events

Start date	End date	Source of flood	Cause of flood	Affects location
22 August 2016	23 August 2016	main river	channel capacity exceeded (no raised defences)	No
26 December 2015	27 December 2015	unknown	unknown	No
3 July 2007	4 July 2007	ordinary watercourse	obstruction/blockage - culvert	No
29 September 1999	30 September 1999	main river	channel capacity exceeded (no raised defences)	No
19 February 1999	20 February 1999	main river	other	No

Flood defences and attributes

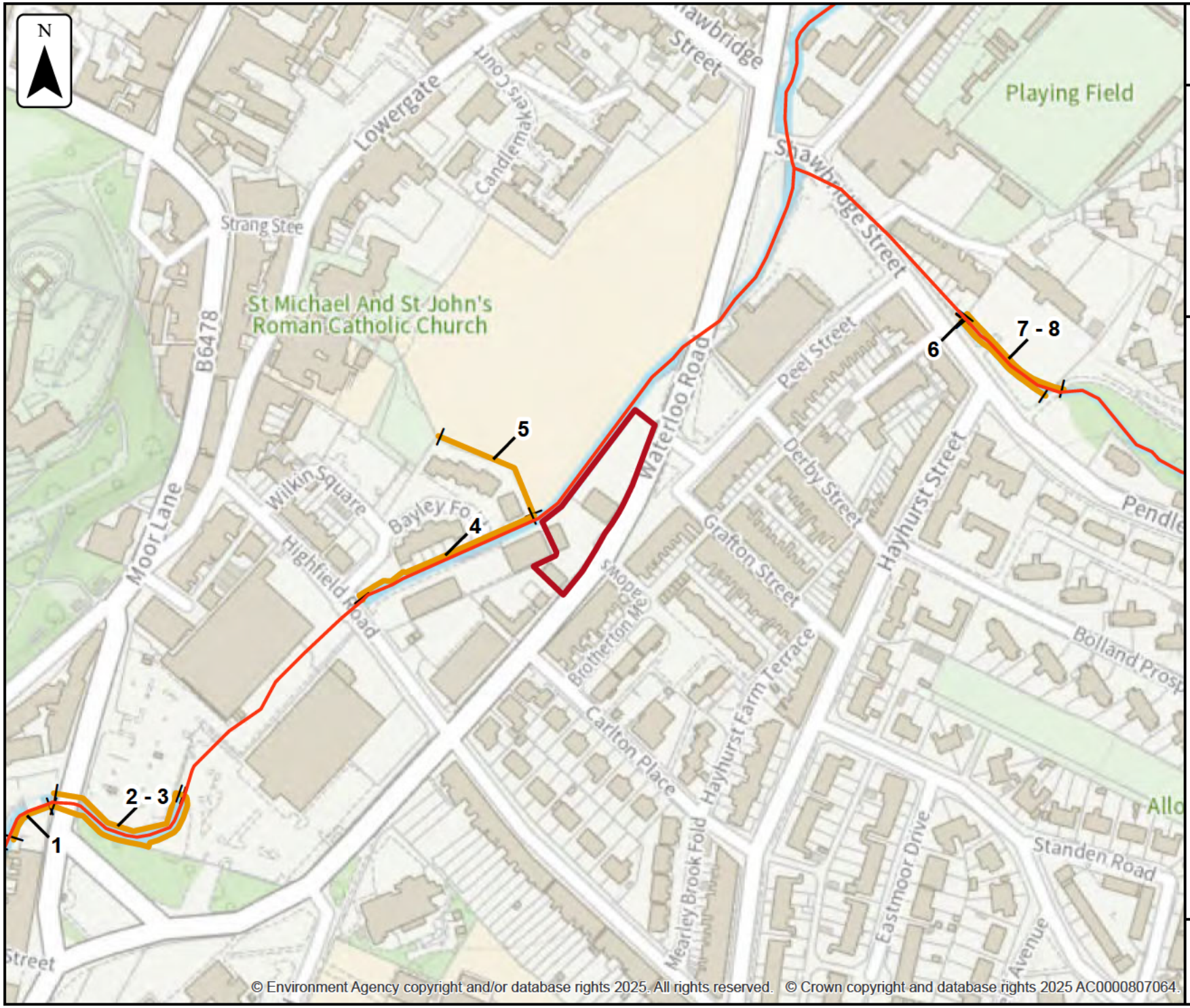
The flood defences map shows the location of the flood defences present.

The flood defences data table shows the type of defences, their condition and the standard of protection. It shows the height above sea level of the top of the flood defence (crest level). The height is In mAOD which is the metres above the mean sea level at Newlyn, Cornwall.

It's important to remember that flood defence data may not be updated on a regular basis. The information here is based on the best available data.

Use this information:

- to help you assess if there is a reduced flood risk for this location because of defences
- with any information in the modelled data section to find out the impact of defences on flood risk



Environment Agency

Flood defences

Location (easting/northing)
374515/441582

Scale
1:2,500

Created
23 Apr 2025

- Selected area
- Main river
- Flood defence

0 25 50 75 100
metres

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	64401	Wall	10	Fair	72.33	73.65	72.33
2	67007	Wall	100	Fair	74.01	76.82	74.01
3	67006	Wall	10	Fair	73.65	72.86	72.86
4	66677	Wall	100	Fair	74.95	75.76	74.95
5	148799	Embankment	50	Fair	73.79	74.47	73.79
6	536674	Flood Gate		Good	77.10	77.10	77.10
7	148786	Wall	10	Fair	78.25	79.30	78.25
8	150181	Engineered High Ground	10	Fair	78.10	79.90	78.10

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

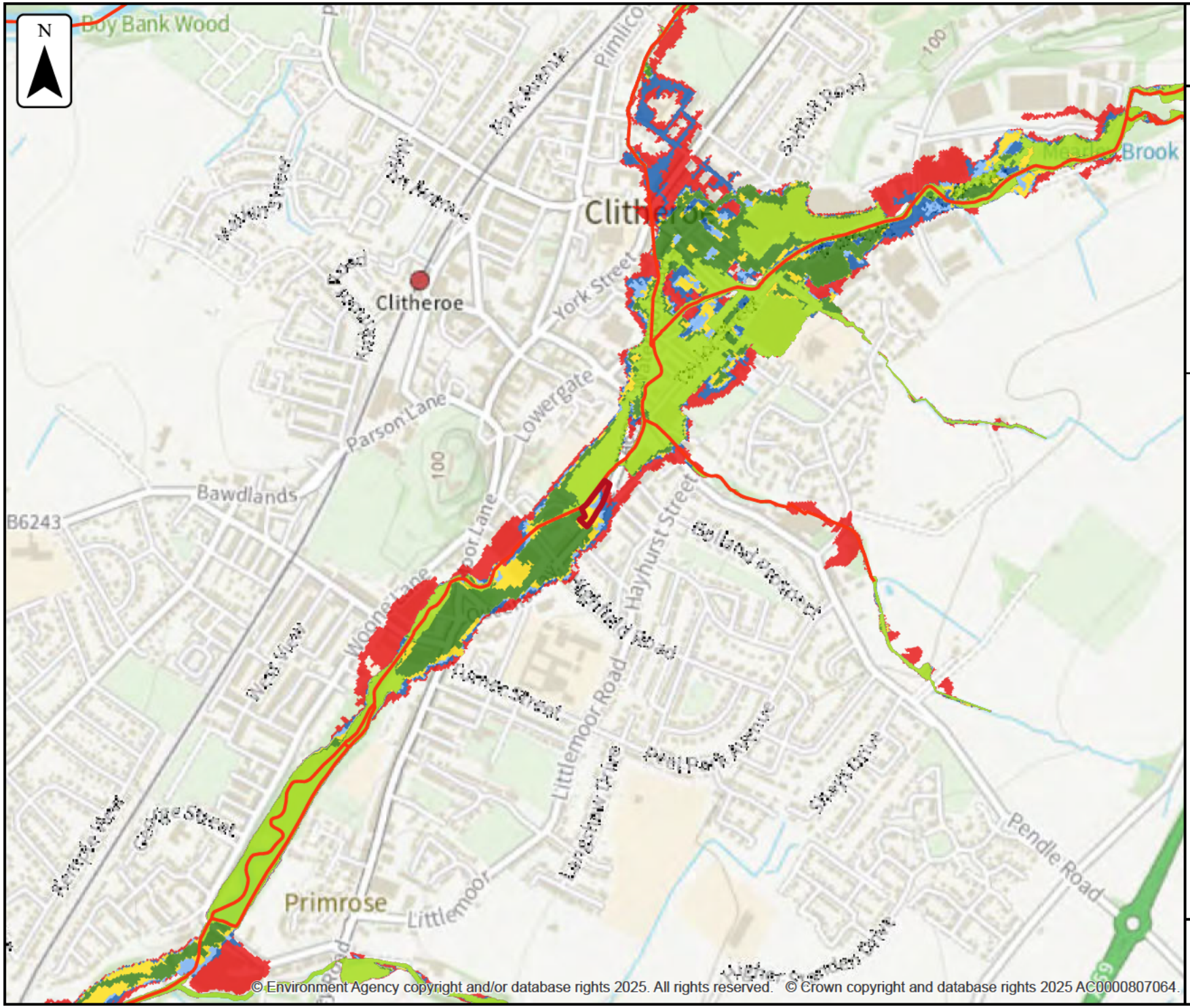
The climate change data included in the models may not include the latest flood risk assessment climate change allowances. Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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 climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change



Environment Agency

Defended modelled fluvial extent

Location (easting/northing)
374515/441582

Scale
1:10,000

Created
23 Apr 2025

Model name
Mearley Brook 2018

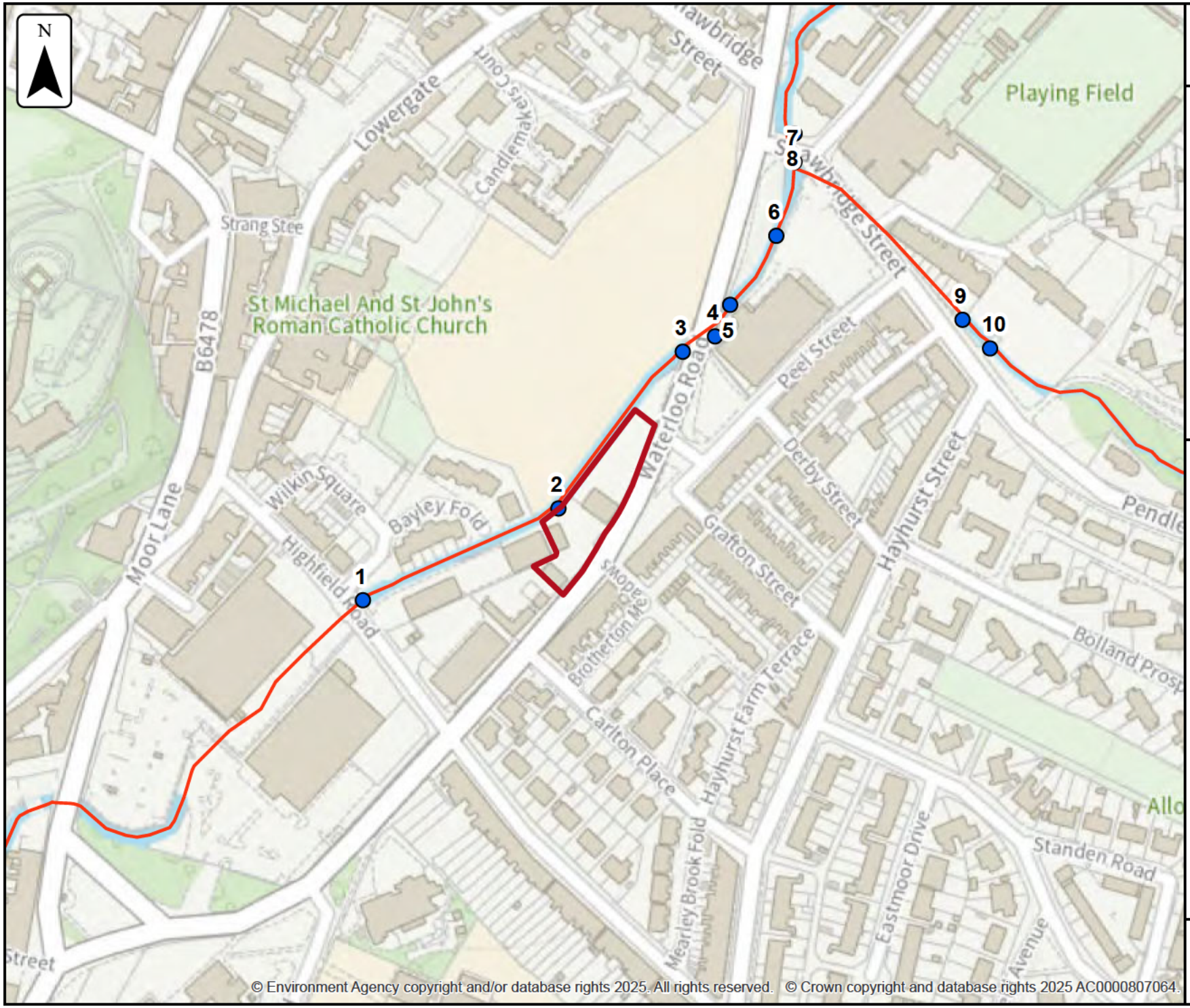
- Selected area
- Main river

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

0 100 200 300 400 500
metres



Environment Agency

Defended modelled fluvial node locations

Location (easting/northing)
374515/441582

Scale
1:2,500

Created
23 Apr 2025

Model name
Mearley Brook 2018

Selected area
Modelled location
Main river

0 25 50 75 100
metres

Modelled node locations data

Defended

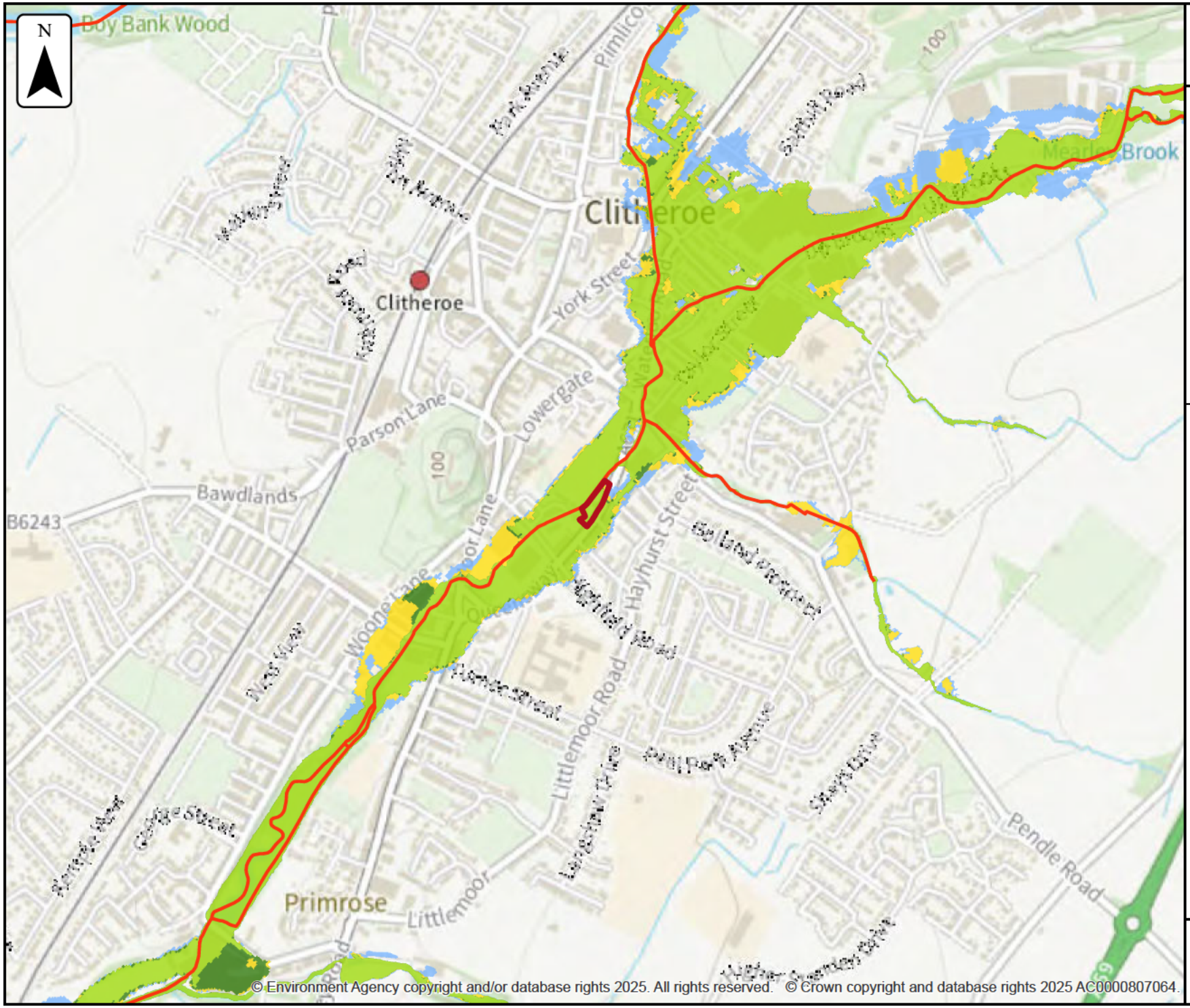
Label	Modelled location ID	Easting	Northing	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level
1	982265	374402	441536	74.24	74.46	74.88
2	982262	374497	441580	74.36	74.55	74.90
3	982451	374558	441657	74.45	74.62	74.99
4	982349	374574	441664	74.47	74.64	75.02
5	982348	374581	441680	74.08	74.23	74.65
6	982284	374604	441713	74.90	75.06	75.40
7	982432	374612	441749	75.27	75.40	75.67
8	982468	374612	441763	75.45	75.58	75.83
9	982264	374694	441672	76.26	76.85	77.74
10	982352	374708	441658	76.72	76.98	77.98

Data in this table comes from the Mearley Brook 2018 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.

Defended

Label	Modelled location ID	Easting	Northing	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow
1	982265	374402	441536	26.61	27.15	27.69
2	982262	374497	441580	26.86	28.97	39.52
3	982451	374558	441657	27.40	30.06	35.68
4	982349	374574	441664	27.40	30.06	35.68
5	982348	374581	441680	25.54	27.68	31.97
6	982284	374604	441713	22.11	23.34	25.27
7	982432	374612	441749	21.15	21.88	22.61
8	982468	374612	441763	17.97	18.14	18.29
9	982264	374694	441672	3.23	3.85	4.69
10	982352	374708	441658	3.25	3.86	6.04

Data in this table comes from the Mearley Brook 2018 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.



Environment Agency

Defended climate change modelled fluvial extent

Location (easting/northing)
374515/441582

Scale
1:10,000

Created
23 Apr 2025

Model name
Mearley Brook 2018

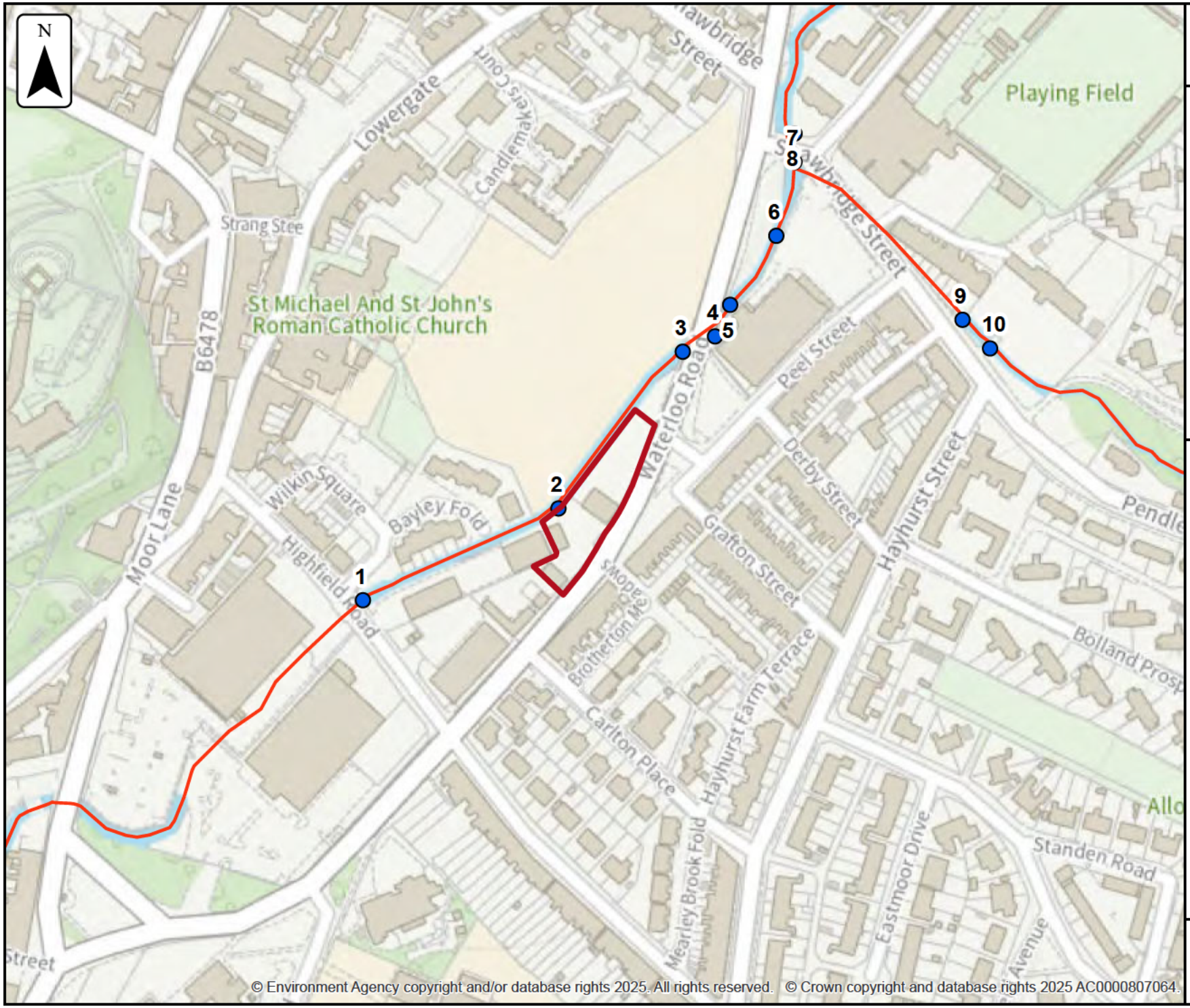
- Selected area
- Main river

Modelled flood extent

- 1% AEP (+30%)
- 1% AEP (+35%)
- 1% AEP (+70%)
- 0.1% AEP (+30%)

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

0 100 200 300 400 500
metres



Environment Agency

Defended climate change modelled fluvial node locations

Location (easting/northing)
374515/441582

Scale
1:2,500

Created
23 Apr 2025

Model name
Mearley Brook 2018

- Selected area
- Modelled location
- Main river

0 25 50 75 100
metres

Modelled node locations data

Defended climate change

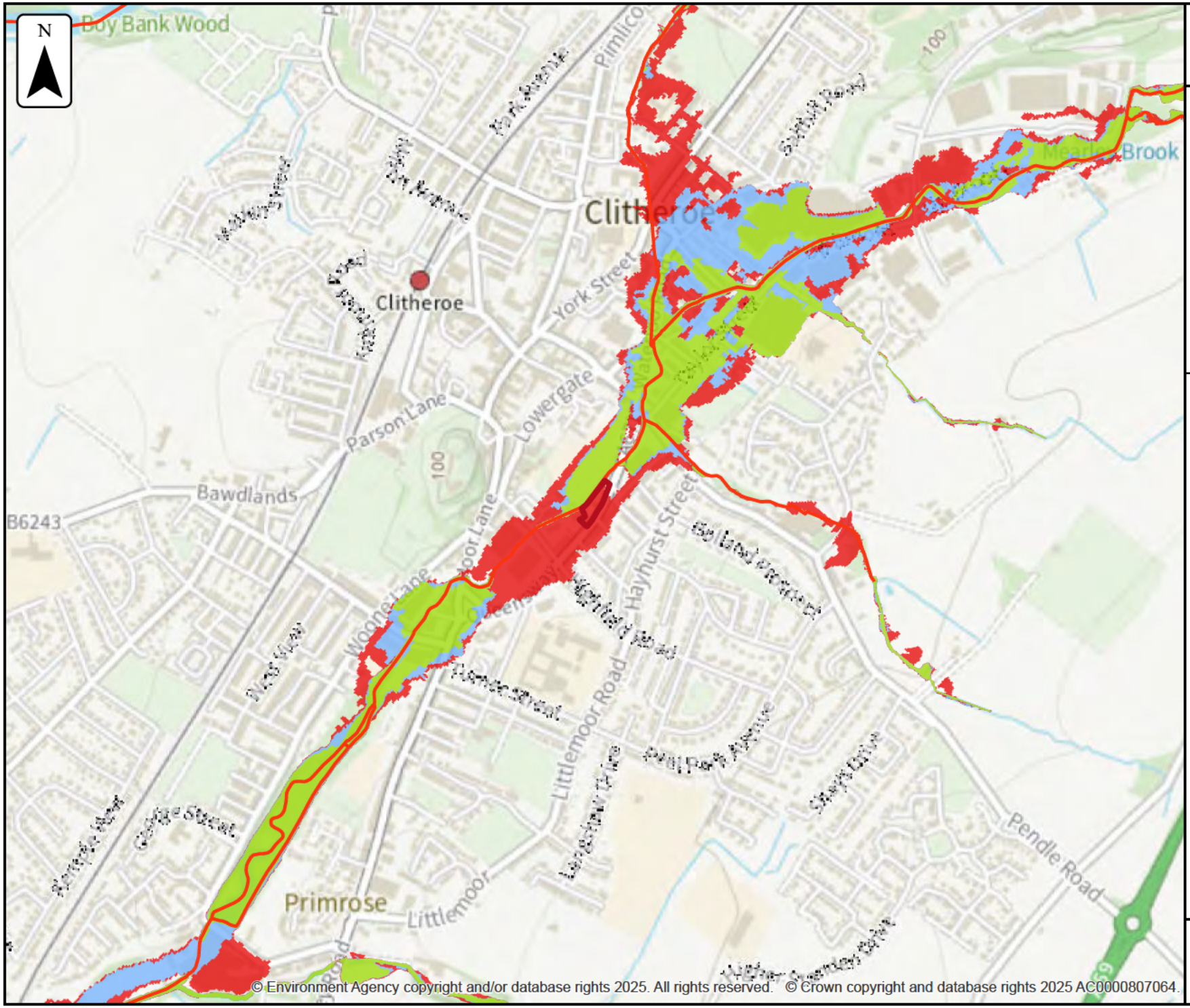
Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level
1	982265	374402	441536	74.55	74.58	74.79	75.10
2	982262	374497	441580	74.61	74.64	74.82	75.09
3	982451	374558	441657	74.69	74.72	74.90	75.18
4	982349	374574	441664	74.71	74.74	74.93	75.24
5	982348	374581	441680	74.30	74.33	74.54	74.93
6	982284	374604	441713	75.13	75.16	75.32	75.59
7	982432	374612	441749	75.45	75.47	75.60	75.84
8	982468	374612	441763	75.63	75.65	75.77	75.97
9	982264	374694	441672	77.19	77.36	77.71	77.81
10	982352	374708	441658	77.32	77.50	77.91	78.16

Data in this table comes from the Mearley Brook 2018 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.

Defended climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Flow	Flow	Flow	Flow
1	982265	374402	441536	27.28	27.35	27.61	27.84
2	982262	374497	441580	31.10	31.86	36.99	45.81
3	982451	374558	441657	31.27	31.71	34.48	38.24
4	982349	374574	441664	31.27	31.71	34.48	38.24
5	982348	374581	441680	28.64	29.02	31.08	33.73
6	982284	374604	441713	23.86	24.08	24.98	26.04
7	982432	374612	441749	22.14	22.24	22.55	22.68
8	982468	374612	441763	18.17	18.18	18.25	18.37
9	982264	374694	441672	4.19	4.35	4.66	4.74
10	982352	374708	441658	4.20	4.35	5.52	7.63

Data in this table comes from the Mearley Brook 2018 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.



Environment Agency

Defences removed modelled fluvial extent

Location (easting/northing)
374515/441582

Scale
1:10,000

Created
23 Apr 2025

Model name
Mearley Brook 2018

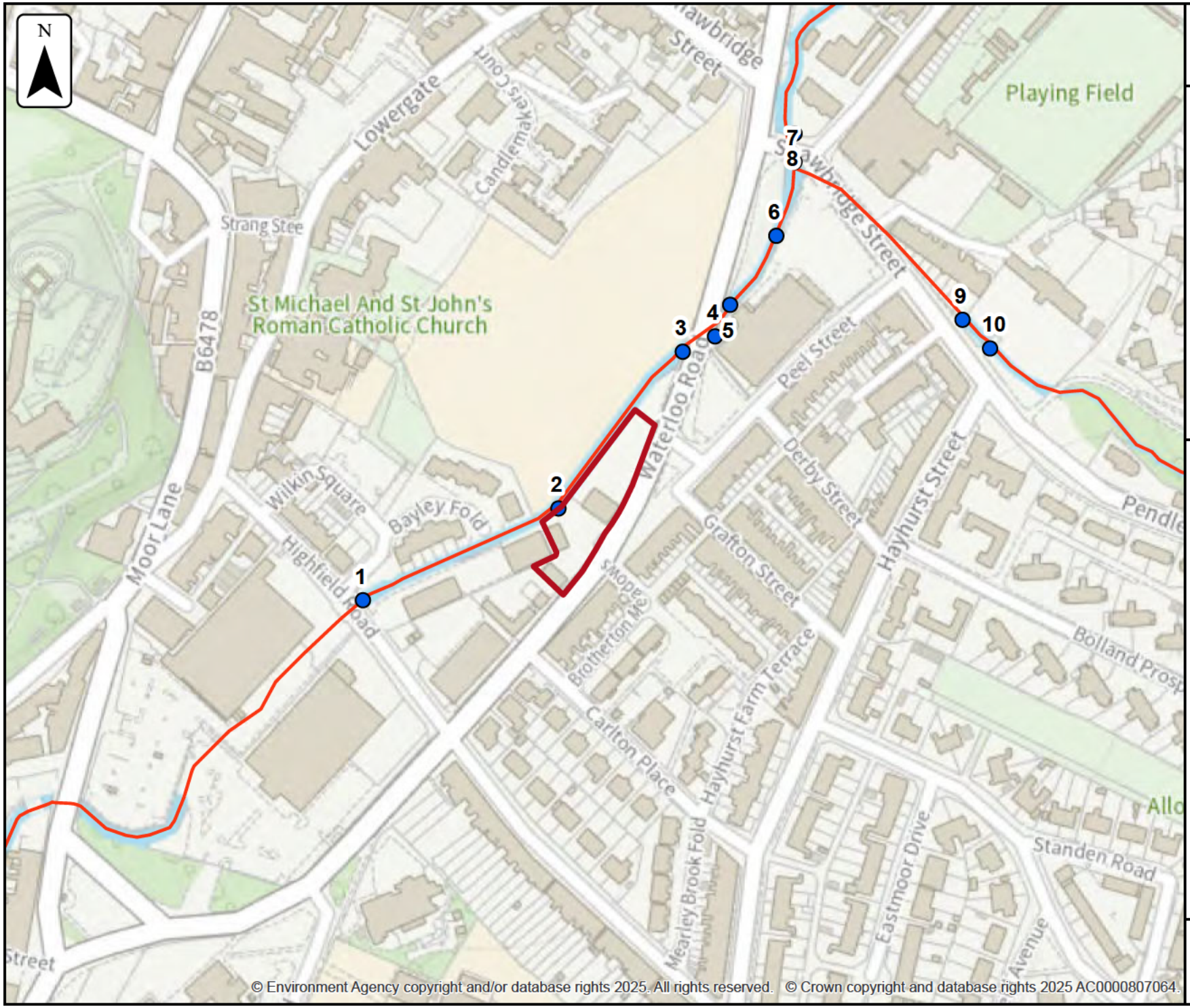
- Selected area
- Main river

Modelled flood extent

- 5% AEP
- 1% AEP
- 0.1% AEP

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

0 100 200 300 400 500
metres



Environment Agency

Defences removed modelled fluvial node locations

Location (easting/northing)
374515/441582

Scale
1:2,500

Created
23 Apr 2025

Model name
Mearley Brook 2018

- Selected area
- Modelled location
- Main river

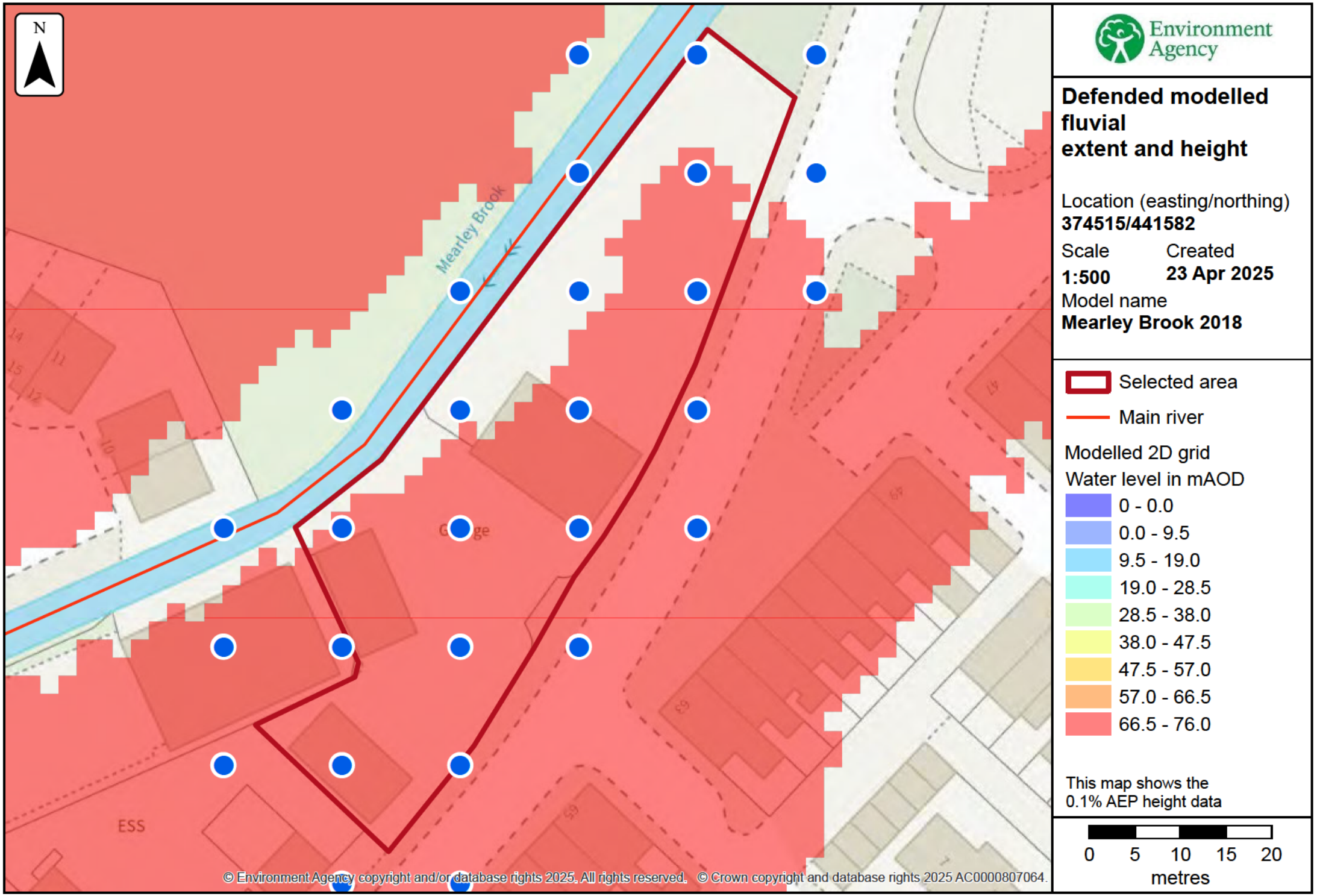
0 25 50 75 100
metres

Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP	1% AEP	0.1% AEP	5% AEP	1% AEP	0.1% AEP
				Level	Level	Level	Flow	Flow	Flow
1	982265	374402	441536	72.64	73.04	74.68	21.81	31.25	42.34
2	982262	374497	441580	73.16	73.61	74.84	21.24	28.0	30.82
3	982451	374558	441657	74.08	74.17	74.89	20.51	26.34	35.03
4	982349	374574	441664	74.09	74.18	74.92	20.51	26.34	35.03
5	982348	374581	441680	73.79	73.98	74.51	20.16	24.87	31.36
6	982284	374604	441713	74.45	74.79	75.34	19.54	22.14	24.78
7	982432	374612	441749	75.0	75.22	75.62	19.52	21.50	22.07
8	982468	374612	441763	75.15	75.40	75.81	17.33	18.42	18.77
9	982264	374694	441672	75.61	76.21	76.53	2.22	3.23	3.46
10	982352	374708	441658	76.58	76.72	76.99	2.22	3.25	5.70

Data in this table comes from the Mearley Brook 2018 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.


N
Mearley Brook
ESS
© Environment Agency copyright and/or database rights 2025. All rights reserved. © Crown copyright and database rights 2025 AC0000807064.
Environment Agency
Defended modelled fluvial extent and height
Location (easting/northing)
374515/441582
Scale
1:500
Created
23 Apr 2025
Model name
Mearley Brook 2018
Selected area
Main river
Modelled 2D grid
Water level in mAOD
0 - 0.0
0.0 - 9.5
9.5 - 19.0
19.0 - 28.5
28.5 - 38.0
38.0 - 47.5
47.5 - 57.0
57.0 - 66.5
66.5 - 76.0
This map shows the 0.1% AEP height data
0 5 10 15 20
metres

Sample point data

Defended

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% 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	Depth	Depth
1	374495	441535	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.22	0.34	0.55	0.93
2	374508	441535	NoData	NoData	NoData	NoData	NoData	NoData	0.05	0.23	0.35	0.56	0.94
3	374482	441548	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.14	0.25	0.45	0.83
4	374495	441548	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.03	0.23	0.61
5	374508	441548	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.08	0.19	0.40	0.77
6	374482	441561	NoData	NoData	NoData	NoData	NoData	NoData	0.14	0.30	0.40	0.59	0.96
7	374495	441561	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.35	0.55	0.92
8	374508	441561	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.07	0.15	0.35	0.73
9	374521	441561	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.02	0.13	0.34	0.71
10	374482	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	374495	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.11	0.30	0.66
12	374508	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.05	0.12	0.32	0.69

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% 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	Depth	Depth
13	374521	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.01	0.19	0.56
14	374534	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.12	0.49
15	374495	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	374508	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
17	374521	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.04	0.20	0.57
18	374534	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.34
19	374508	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	374521	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	374534	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.21
22	374547	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	374521	441613	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	374534	441613	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	0.09

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% 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	Depth	Depth
25	374547	441613	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
26	374521	441626	NoData	NoData	0	0.22	0.32	0.45	0.79	0.95	1.03	1.21	1.57
27	374534	441626	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
28	374547	441626	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
Max value in selected area:			NoData	NoData	NoData	NoData	NoData	NoData	0.08	0.18	0.26	0.47	0.84

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

Defended

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% 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	Height	Height
1	374495	441535	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.19	74.31	74.52	74.90
2	374508	441535	NoData	NoData	NoData	NoData	NoData	NoData	74.01	74.19	74.31	74.52	74.90
3	374482	441548	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.21	74.32	74.52	74.90
4	374495	441548	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.32	74.52	74.89
5	374508	441548	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.21	74.31	74.52	74.90
6	374482	441561	NoData	NoData	NoData	NoData	NoData	NoData	74.07	74.24	74.33	74.52	74.90
7	374495	441561	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.33	74.53	74.90
8	374508	441561	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.24	74.32	74.53	74.90
9	374521	441561	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.21	74.32	74.53	74.90
10	374482	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
11	374495	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.36	74.54	74.90
12	374508	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.26	74.33	74.53	74.90

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% 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	Height	Height
13	374521	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.34	74.53	74.91
14	374534	441574	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.53	74.91
15	374495	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
16	374508	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
17	374521	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.38	74.54	74.90
18	374534	441587	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.91
19	374508	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
20	374521	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
21	374534	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.92
22	374547	441600	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
23	374521	441613	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
24	374534	441613	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	74.93

Label	Easting	Northing	50% AEP	20% AEP	10% AEP	5% AEP	4% 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	Height	Height
25	374547	441613	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
26	374521	441626	NoData	NoData	73.33	73.59	73.69	73.82	74.16	74.32	74.40	74.57	74.94
27	374534	441626	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
28	374547	441626	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
Max value in selected area:			NoData	NoData	NoData	NoData	NoData	NoData	74.07	74.29	74.38	74.57	74.94

Data in this table comes from the Mearley Brook 2018 model. Height values are shown in mAOD, and depth values are shown in metres.
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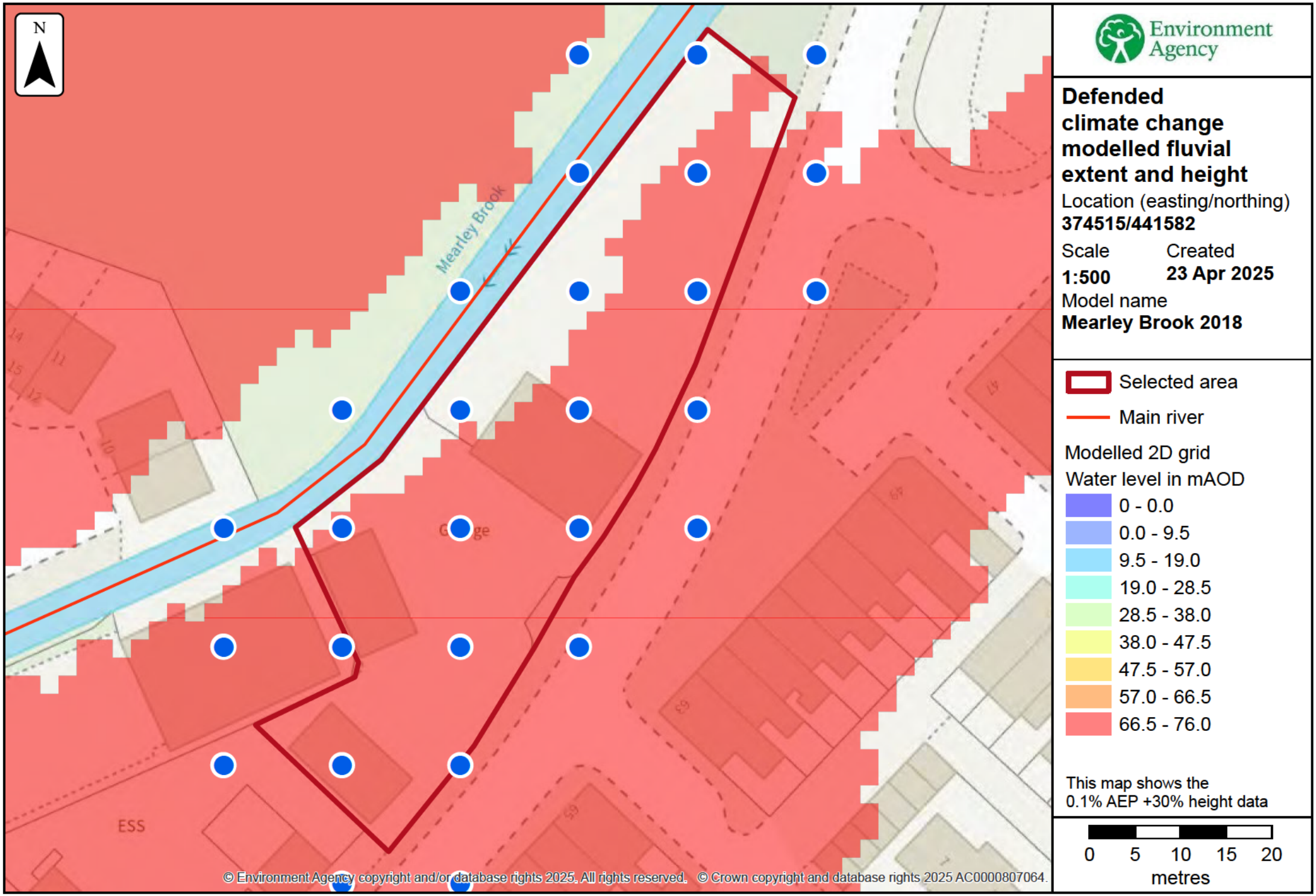
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.


N
Mearley Brook
ESS
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Environment Agency
Defended climate change modelled fluvial extent and height
Location (easting/northing)
374515/441582
Scale
1:500
Created
23 Apr 2025
Model name
Mearley Brook 2018
Selected area
Main river
Modelled 2D grid
Water level in mAOD
0 - 0.0
0.0 - 9.5
9.5 - 19.0
19.0 - 28.5
28.5 - 38.0
38.0 - 47.5
47.5 - 57.0
57.0 - 66.5
66.5 - 76.0
This map shows the 0.1% AEP +30% height data
0 5 10 15 20
metres

Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Depth	Depth	Depth
1	374495	441535	0.62	0.66	0.84	1.13
2	374508	441535	0.63	0.67	0.85	1.13
3	374482	441548	0.52	0.56	0.74	1.02
4	374495	441548	0.31	0.34	0.52	0.80
5	374508	441548	0.47	0.51	0.69	0.97
6	374482	441561	0.66	0.69	0.88	1.16
7	374495	441561	0.62	0.65	0.84	1.11
8	374508	441561	0.43	0.46	0.64	0.92
9	374521	441561	0.42	0.45	0.63	0.91
10	374482	441574	NoData	NoData	NoData	NoData
11	374495	441574	0.37	0.40	0.58	0.85
12	374508	441574	0.39	0.42	0.61	0.88

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Depth	Depth	Depth
13	374521	441574	0.26	0.30	0.48	0.75
14	374534	441574	0.19	0.22	0.41	0.68
15	374495	441587	NoData	NoData	NoData	NoData
16	374508	441587	NoData	NoData	NoData	NoData
17	374521	441587	0.27	0.31	0.49	0.76
18	374534	441587	NoData	0.07	0.26	0.53
19	374508	441600	NoData	NoData	NoData	NoData
20	374521	441600	NoData	NoData	NoData	NoData
21	374534	441600	NoData	NoData	0.12	0.40
22	374547	441600	NoData	NoData	NoData	0.21
23	374521	441613	NoData	NoData	NoData	NoData
24	374534	441613	NoData	NoData	0.03	0.27

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Depth	Depth	Depth
25	374547	441613	NoData	NoData	NoData	0.03
26	374521	441626	1.28	1.31	1.49	1.76
27	374534	441626	NoData	NoData	NoData	NoData
28	374547	441626	NoData	NoData	NoData	NoData
Max value in selected area:			0.54	0.57	0.76	1.04

Data in this table comes from the Mearley Brook 2018 model. Height values are shown in mAOD, and depth values are shown in metres.
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'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

Defended climate change

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
1	374495	441535	74.59	74.62	74.81	75.10
2	374508	441535	74.60	74.63	74.82	75.10
3	374482	441548	74.59	74.63	74.81	75.09
4	374495	441548	74.59	74.63	74.81	75.09
5	374508	441548	74.60	74.63	74.82	75.09
6	374482	441561	74.60	74.63	74.81	75.09
7	374495	441561	74.60	74.63	74.82	75.09
8	374508	441561	74.60	74.64	74.82	75.09
9	374521	441561	74.61	74.64	74.82	75.10
10	374482	441574	NoData	NoData	NoData	NoData
11	374495	441574	74.61	74.64	74.82	75.09
12	374508	441574	74.60	74.64	74.82	75.09

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
13	374521	441574	74.61	74.64	74.83	75.10
14	374534	441574	74.61	74.64	74.83	75.10
15	374495	441587	NoData	NoData	NoData	NoData
16	374508	441587	NoData	NoData	NoData	NoData
17	374521	441587	74.61	74.64	74.82	75.10
18	374534	441587	NoData	74.64	74.83	75.10
19	374508	441600	NoData	NoData	NoData	NoData
20	374521	441600	NoData	NoData	NoData	NoData
21	374534	441600	NoData	NoData	74.83	75.11
22	374547	441600	NoData	NoData	NoData	75.11
23	374521	441613	NoData	NoData	NoData	NoData
24	374534	441613	NoData	NoData	74.85	75.11

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
25	374547	441613	NoData	NoData	NoData	75.11
26	374521	441626	74.64	74.68	74.86	75.13
27	374534	441626	NoData	NoData	NoData	NoData
28	374547	441626	NoData	NoData	NoData	NoData
Max value in selected area:			74.64	74.67	74.85	75.14

Data in this table comes from the Mearley Brook 2018 model. Height values are shown in mAOD, and depth values are shown in metres.
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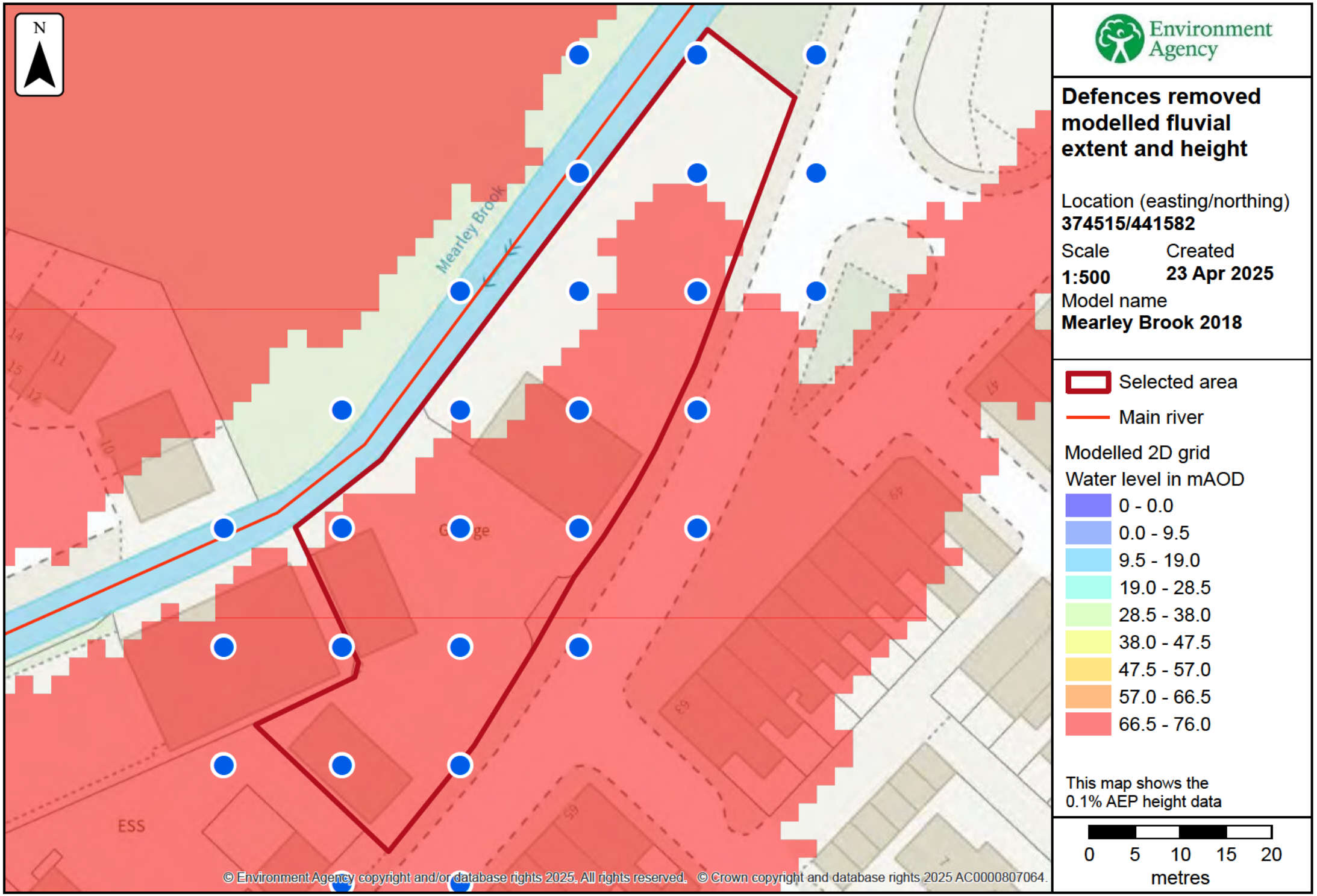
N
Mearley Brook
ESS
© Environment Agency copyright and/or database rights 2025. All rights reserved. © Crown copyright and database rights 2025 AC0000807064.
Environment Agency
Defences removed modelled fluvial extent and height
Location (easting/northing)
374515/441582
Scale
1:500
Created
23 Apr 2025
Model name
Mearley Brook 2018
Selected area
Main river
Modelled 2D grid
Water level in mAOD
0 - 0.0
0.0 - 9.5
9.5 - 19.0
19.0 - 28.5
28.5 - 38.0
38.0 - 47.5
47.5 - 57.0
57.0 - 66.5
66.5 - 76.0
This map shows the 0.1% AEP height data
0 5 10 15 20
metres

Sample point data

Defences removed

Label	Easting	Northing	5% AEP	1% AEP	0.1% AEP	5% AEP	1% AEP	0.1% AEP
			Depth	Depth	Depth	Height	Height	Height
1	374495	441535	NoData	NoData	0.83	NoData	NoData	74.80
2	374508	441535	NoData	NoData	0.83	NoData	NoData	74.81
3	374482	441548	NoData	NoData	0.73	NoData	NoData	74.80
4	374495	441548	NoData	NoData	0.51	NoData	NoData	74.79
5	374508	441548	NoData	NoData	0.68	NoData	NoData	74.81
6	374482	441561	NoData	NoData	0.86	NoData	NoData	74.80
7	374495	441561	NoData	NoData	0.90	NoData	NoData	74.81
8	374508	441561	NoData	NoData	0.65	NoData	NoData	74.82
9	374521	441561	NoData	NoData	0.63	NoData	NoData	74.83
10	374482	441574	NoData	NoData	NoData	NoData	NoData	NoData
11	374495	441574	NoData	NoData	0.60	NoData	NoData	74.83
12	374508	441574	NoData	NoData	0.60	NoData	NoData	74.82

Label	Easting	Northing	5% AEP	1% AEP	0.1% AEP	5% AEP	1% AEP	0.1% AEP
			Depth	Depth	Depth	Height	Height	Height
13	374521	441574	NoData	NoData	0.50	NoData	NoData	74.84
14	374534	441574	NoData	NoData	0.42	NoData	NoData	74.84
15	374495	441587	NoData	NoData	NoData	NoData	NoData	NoData
16	374508	441587	NoData	NoData	NoData	NoData	NoData	NoData
17	374521	441587	NoData	NoData	0.48	NoData	NoData	74.84
18	374534	441587	NoData	NoData	0.28	NoData	NoData	74.84
19	374508	441600	NoData	NoData	NoData	NoData	NoData	NoData
20	374521	441600	NoData	NoData	NoData	NoData	NoData	NoData
21	374534	441600	NoData	NoData	0.16	NoData	NoData	74.84
22	374547	441600	NoData	NoData	NoData	NoData	NoData	NoData
23	374521	441613	NoData	NoData	NoData	NoData	NoData	NoData
24	374534	441613	NoData	NoData	NoData	NoData	NoData	NoData

Label	Easting	Northing	5% AEP	1% AEP	0.1% AEP	5% AEP	1% AEP	0.1% AEP
			Depth	Depth	Depth	Height	Height	Height
25	374547	441613	NoData	NoData	NoData	NoData	NoData	NoData
26	374521	441626	0.18	0.45	1.47	73.56	73.83	74.84
27	374534	441626	NoData	NoData	NoData	NoData	NoData	NoData
28	374547	441626	NoData	NoData	NoData	NoData	NoData	NoData
Max value in selected area:			NoData	NoData	0.80	NoData	NoData	74.84

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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 Lancashire 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 Cumbria and Lancashire Environment Agency team at inforequests.cmblnc@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

Notes

All Dimensions to be checked on site. Walls shown on plans are not to be assumed to be solid & should be checked for thickness, construction, load bearing capacity & stability.

North

0 2 4 6 8 10 12 14 16 18 20
Metres

ABBREVIATIONS

BOL	Bollard
CL	Cover Level
EH	Eves Height
GV	Gas Valve
GU	Gully
LP	Lamp Post
MH	Man Hole
RH	Ridge/Roof Height
TF	Top of Fence
TW	Top of Wall
WV	Water Valve

NOTE
All levels and coordinates relate to OSGB36(15) using GNSS data.

Levels defining edge of carriageway are observed at channel (bottom of kerb).

Rev. 0 Description. Issued

TriCAD Solutions Ltd.
BUILDING & LAND SURVEYORS
2 Berkshire Close | Wilpshire | Blackburn | Lancashire | BB1 9NG
tel 01254 614055 fax 01254 209754 e-mail sales@tricadsolutions.co.uk

Site Address
Peel Street
Clitheroe, BB7 1RA

Project Description
Existing Site Survey

Drawing Title
Site Survey

Scale	Date	Drawn By
1:200@A1	23/11/2016	SN

Drawing Number
TRI-1870-01

Notes:

All work is to be carried out to the latest current British standards Codes of Practice and recognised working practices.

All work and materials should comply with Health and Safety legislation.

All work and materials to be approved by the District Authority Planning & Building Control Officer.

All dimensions are in millimetres unless where explicitly shown otherwise.

The contractor should check and certify all dimensions as work proceeds and notify the architect of any discrepancies.

Do not scale off the drawings, if in doubt ask.

The designer is in no way liable for work undertaken prior to full Planning Consent and/or Building Regulations Approval

Title: Peel St Development
Peel Street,
Clitheroe.

SITE PLAN

BUILDING ELEMENTS LTD
Town Planning and Architecture

Duckpond Farm Cottage,
Moorgate Rd,
Barnoldswick,
Lancs, BB18 5SQ

M: 0797 658 7694

Project No: ALP/23 Dwg 03	**Drawn:** DP
Client: James Alpe	
Date: 31/01/25	**Scale: 1:500@A3** unless otherwise stated