Minor Extension Flood Risk Assessment Proforma

This form is for Minor Extensions in Flood Zone 2 or Flood Zone 3.

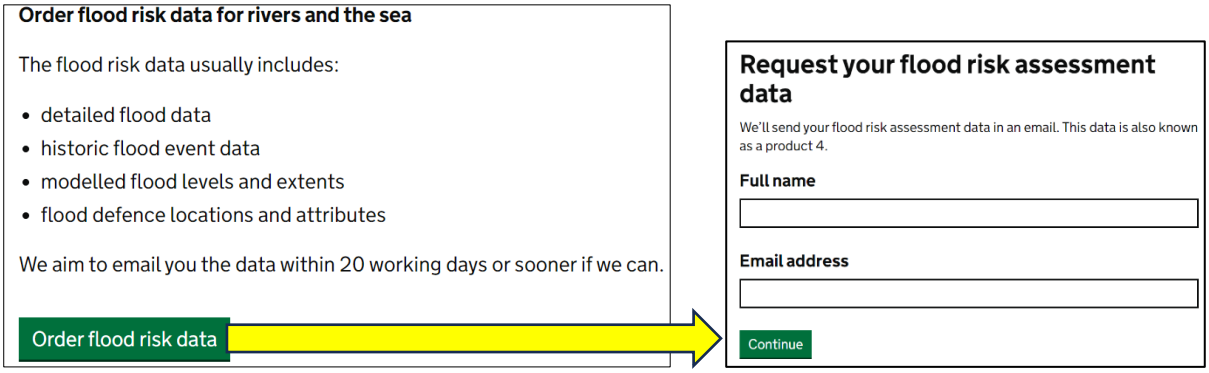
A Minor Extension is a household extension or non-domestic extension less than 250 square metres.

Government Guidance requires Manchester City Council to assess Minor Extensions in line with the Standing Advice for Minor Extensions.

Flood risk consultants or other appropriate professionals can complete this form.

1: ORDER THE ESTIMATED FLOOD LEVEL FOR THE SITE

Go to flood map for planning service[1] and follow the instructions to draw your site boundary and request Product 4 data for your site:



2: USE PRODUCT 4 TO IDENTIFY THE ESTIMATED FLOOD LEVEL FOR THE SITE

Use the Climate Change Allowances service[2] to identify the correct Climate Change allowance for your site. This is the **2080s Central Allowance** – the value will be either **35%** or **41%** depending on the site location.

☒ The Climate Change allowance is 41 %

Use your Product 4 data to determine if your site is affected by the 1% AEP + Climate Change allowance.

Guidance on using your Product 4 data is appended to this form.

☒ The site **is** affected by the 1% AEP + Climate Change allowance and the estimated flood level is 43.85 m aodN: **Proceed to Section 3.** Interpolated between the undefended 1%AEP30CC and the 1%AEP70CC flood levels provided in Product 4

OR

☐ The site **is not** affected by the 1% AEP + Climate Change allowance. **Proceed to Section 5 (Skip Sections 3 & 4).**

MANCHESTER CITY COUNCIL

3: PROPOSED FINISHED FLOOR LEVELS FOR THE EXTENSION

The finished floor levels will be:

☒ No lower than existing floor levels: **Proceed to Section 4.**

OR

☐ 300 millimetres (mm) above the estimated flood level: **Proceed to Section 5 (skip Section 4).**

4: ASSESSMENT OF RESISTANCE AND RESILIENCE MEASURES

If you cannot raise the floor levels 300 mm above the estimated flood level, you will need to include extra flood resistance and resilience measures.

These measures should protect the property to at least 300mm above the estimated flood level.

You will also need to use flood resistant materials up to at least 300mm above the estimated flood level.

Flood water can put pressure on buildings, causing structural issues. If your design aims to keep out a depth of more than 600mm of water, you should get advice from a civil/structural engineer.

☒ Provide details of the **flood resistance and resilience measures** to be included. These must be compliant with the Standing Advice for Minor Extensions[3]. Government-recognised resistance and resilience measures are detailed in the section: Extra Resistance and Resilience measures[4].

The ground levels at the front of the property were assessed via publicly available LiDAR as 43.80mAOD. In the presence of a step at the front door of the property, the existing Finished Floor Level was assessed as 43.90mAOD i.e. 50mm above the estimated undefended 1%AEP41CC flood level (43.85m AOD).

As such, flood resilience and resistance measures are proposed in line with the gov.uk guidance for minor extensions that cannot achieve a minimum freeboard of 600mm to the design flood level. These measures are should be implemented to a minimum of 300mm (ideally 600mm) above the existing FFL:

1. The new FFL should be set to no lower than the existing FFL;
2. Flood roof (or flood resistant) doors and sealed windows should be installed;
3. Raised electrics and gas should be installed in the new extension;
4. Non-return valves should be installed to prevent backflows of sewage in drains;
5. Any construction materials used in floors and walls should be water resistant;
6. A damp proof membrane is essential at ground floor;
7. There should be an effort to making it easy for water to drain away after flooding, such as installing floor sump and a small automatic pump if possible;

The Product 4 information was requested from the Environment Agency and it is attached below in this PDF document.

5: CONFIRM YOU HAVE ENCLOSED THE REQUIRED INFORMATION AND SUBMIT

☒ Completed Minor Extension Flood Risk Assessment Proforma

☒ Product 4 data attached. Please note that if the Product 4 data is not attached, the application will be returned. The Environment Agency require time to process orders; we recommend you order the data as soon as possible to avoid delays to your application.

Footnotes:

[1] https://flood-map-for-planning.service.gov.uk/

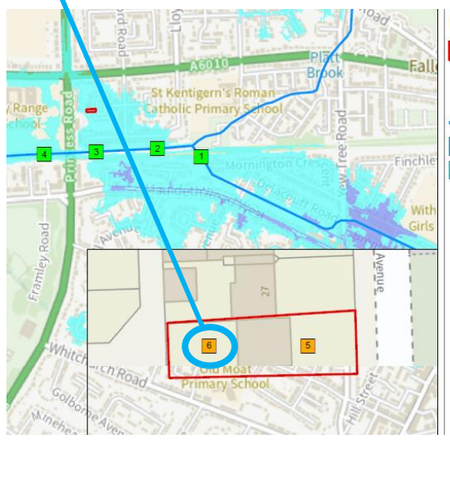
[2] https://environment.data.gov.uk/hydrology/climate-change-allowances/river-flow

[3] https://www.gov.uk/guidance/flood-risk-assessment-standing-advice#advice-for-minor-extensions

[4] https://www.gov.uk/guidance/flood-risk-assessment-standing-advice#standing-advice-for-vulnerable-developments

					Undefended											
Map Reference	Model Node Reference	Easting	Northing	Data	50 % AEP (1 in 2 year)	20 % AEP (1 in 5 year)	10 % AEP (1 in 10 year)	5 % AEP (1 in 20 year)	4 % AEP (1 in 25 year)	2 % AEP (1 in 50 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.5 % AEP (1 in 200 year)
1	ea013_0238_CRIN01_4813	388294	392985	Modelled Water Level (m aodN)	60.72	60.81	60.87	60.94	60.97	61.06	61.10	61.15	61.30	61.33	61.48	61.24
				Modelled Flow (cumecs)	1.64	2.02	2.29	2.65	2.81	3.37	3.61	3.94	5.10	5.30	6.68	4.59
2	ea013_0238_CRIN01_4375	387986	393151	Modelled Water Level (m aodN)	57.45	57.64	57.70	57.74	57.76	57.80	57.83	57.85	57.93	57.94	58.02	57.90
				Modelled Flow (cumecs)	1.67	2.05	2.41	2.77	2.91	3.51	3.77	4.11	5.36	5.57	7.03	4.82
3	ea013_0238_CRIN01_3804d	387573	393331	Modelled Water Level (m aodN)	52.03	52.14	52.23	52.30	52.32	52.42	52.45	52.48	52.60	52.62	52.72	52.56
				Modelled Flow (cumecs)	1.67	2.17	2.64	3.02	3.15	3.69	3.90	4.08	4.90	5.02	5.74	4.58
4	ea013_0238_CRIN01_3176i	387120	393607	Modelled Water Level (m aodN)	47.85	47.96	48.07	48.16	48.18	48.27	48.34	48.38	48.57	48.59	48.65	48.52
				Modelled Flow (cumecs)	1.77	2.29	2.82	3.19	3.30	3.74	3.89	3.95	3.93	3.93	4.03	3.91

					Undefended											
Map Reference	Model Node Reference	Easting	Northing	Data	50 % AEP (1 in 2 year)	20 % AEP (1 in 5 year)	10 % AEP (1 in 10 year)	5 % AEP (1 in 20 year)	4 % AEP (1 in 25 year)	2 % AEP (1 in 50 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.5 % AEP (1 in 200 year)
5	2D Levels	387413	393554	Modelled Water Level (m aodN)						51.49	51.52	51.53	51.68	51.69	51.72	51.64
6		387448	393488	Modelled Water Level (m aodN)	50.82	50.83	51.05	51.26	51.34	51.53	51.55	51.56	51.70	51.71	51.76	51.67



Legend

- Site Location
- Model Measurements
- 2D Levels
- Main River
- Flood Zone 3
- Flood Zone 2

1 % AEP (1 in 100 year) + 35% increase in flow
51.68
51.71

Example Product 4 data – finding the estimated flood level:

Above is an example Product 4 data table.

We will now identify the cell which contains our estimated flood level, needed for our flood risk assessment:

Use the closest **2D Level Map Reference** for your proposed development (as determined from the accompanying map). In this example, our closest Map Reference is **6.**

Our Climate Change Allowance, determined from Step 2 of the form, is **35%.**

We go to the row for **Map Reference 6**, to obtain the data for **"Modelled Water Level (m aodN)".**

We use the 'Undefended' section of the table if we get a choice between 'Defended' and 'Undefended'.

We go across this row to the column for **1% AEP + 35%.**

We have found our estimated flood level**: 51.71**

What if the Product 4 does not include data for the exact Climate Change allowance determined from Step 2?

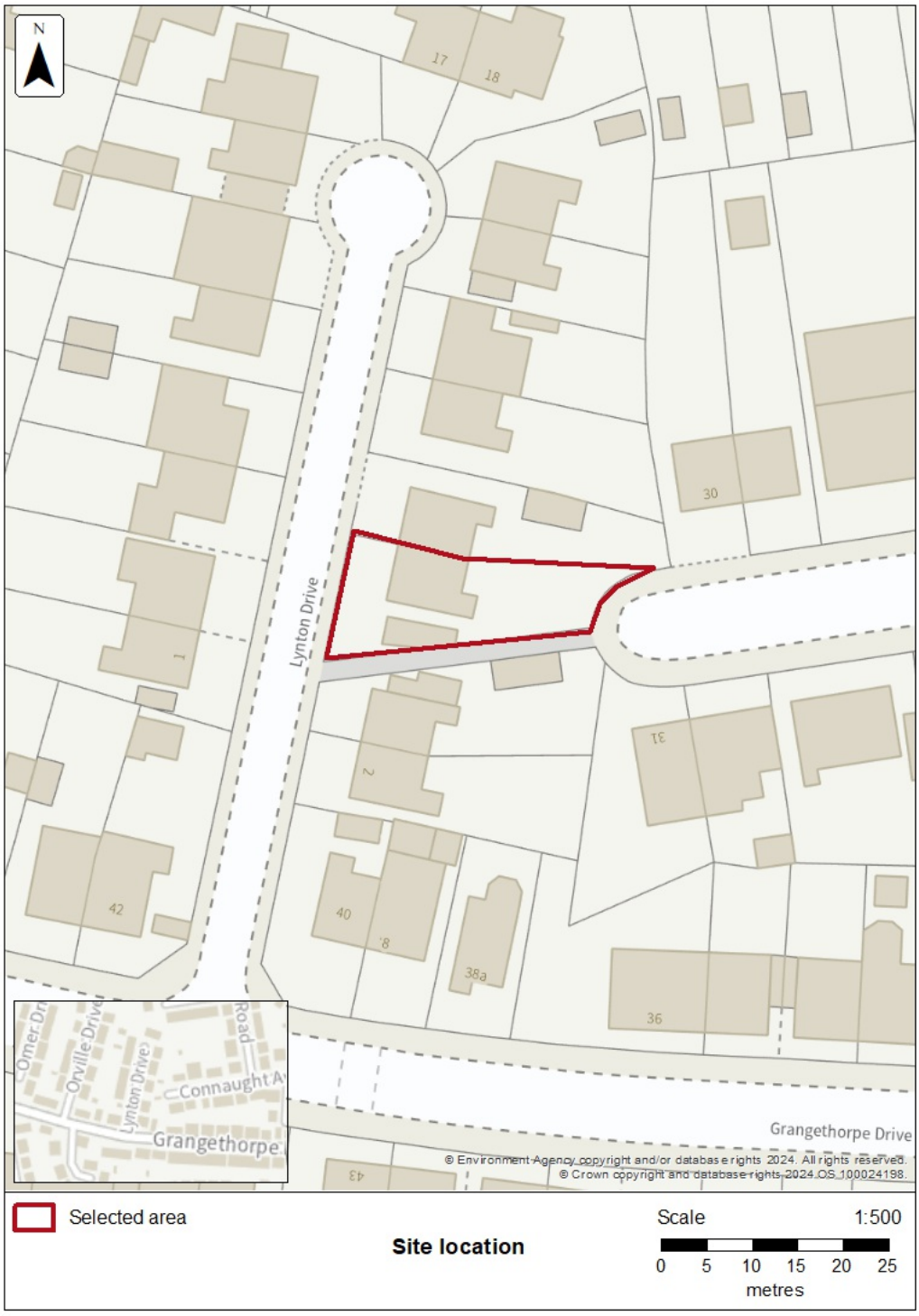
If the Product 4 data does not include the exact Climate Change allowance, use the closest % available.

For example, if your Climate Change allowance is + 41% but the Product 4 options are + 35% or + 70%, you should use + 35% as the closest value.

Flood risk assessment data

Location of site: 386593 / 393335 (shown as easting and northing coordinates)
Document created on: 4 September 2024
This information was previously known as a product 4.
Customer reference number: M6DFVXBDU2CR

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)
- historic flooding
- 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

Surface water and other sources of flooding

Use the long term flood risk service to find out about the risk of flooding from:

- surface water
- ordinary watercourses
- reservoirs

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

Your Lead Local Flood Authority is Manchester.

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

About the models used

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

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 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 2.

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

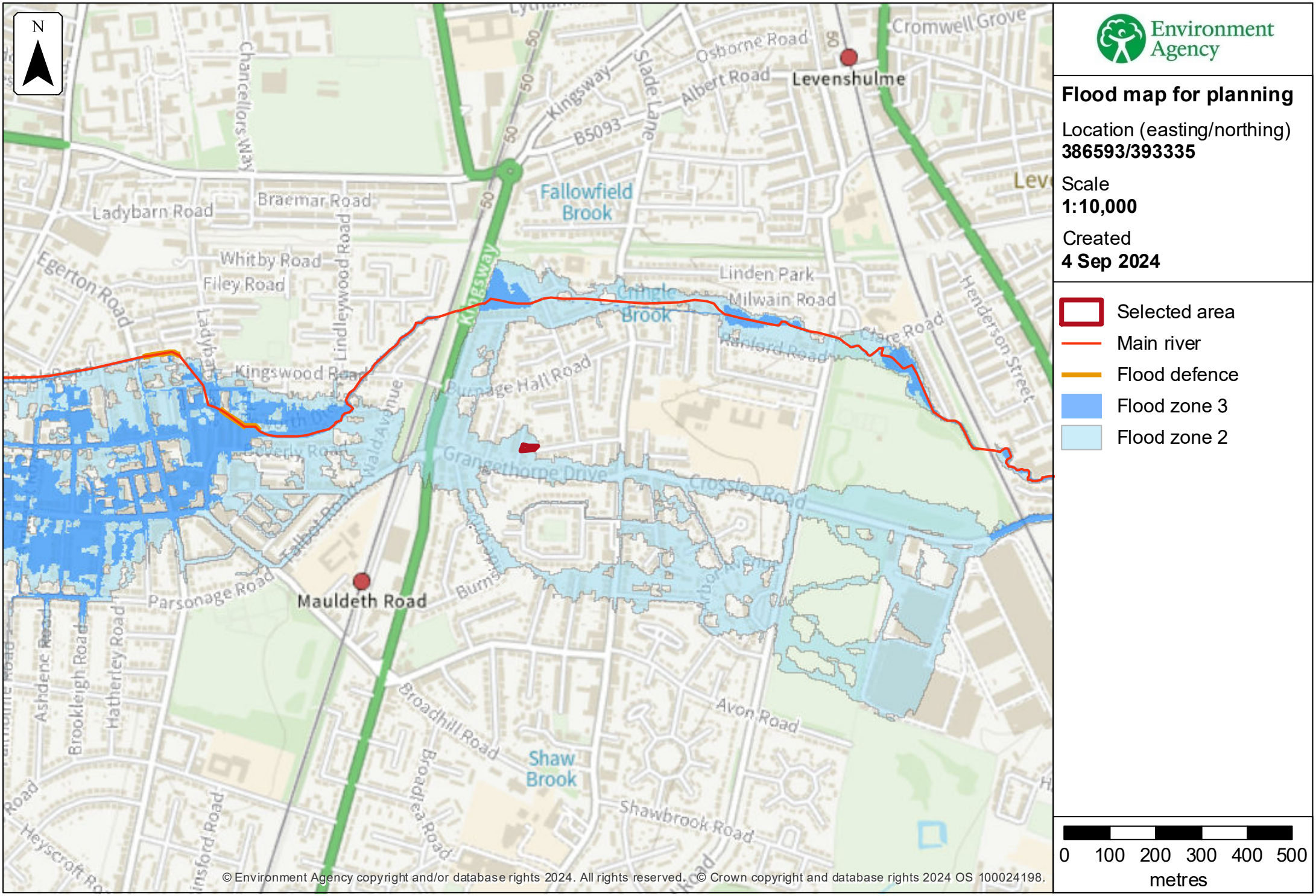
Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- 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

The flood zones are not currently being updated. The last update was in November 2023. Some of the flood zones may have changed, however all source data is included in the models below.


N
Environment Agency
Flood map for planning
Location (easting/northing)
386593/393335
Scale
1:10,000
Created
4 Sep 2024
Selected area
Main river
Flood defence
Flood zone 3
Flood zone 2
0 100 200 300 400 500
metres
Levenshulme
Mauldeth Road
Fallowfield Brook
Cringle Brook
Shaw Brook
Kingsway
B5093
Slade Lane
Osborne Road
Albert Road
Cromwell Grove
Chancellors Way
Braemar Road
Ladybarn Road
Egerton Road
Whitby Road
Filey Road
Lindleywood Road
Kingswood Road
Linden Park
Milwain Road
Clare Road
Henderson Street
Parsonage Hall Road
Grangethorpe Drive
Crossley Road
Parsonage Road
Broadhill Road
Avon Road
Shawbrook Road
Ashdene Road
Brookleigh Road
Hatherley Road
Heyscroft Road
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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

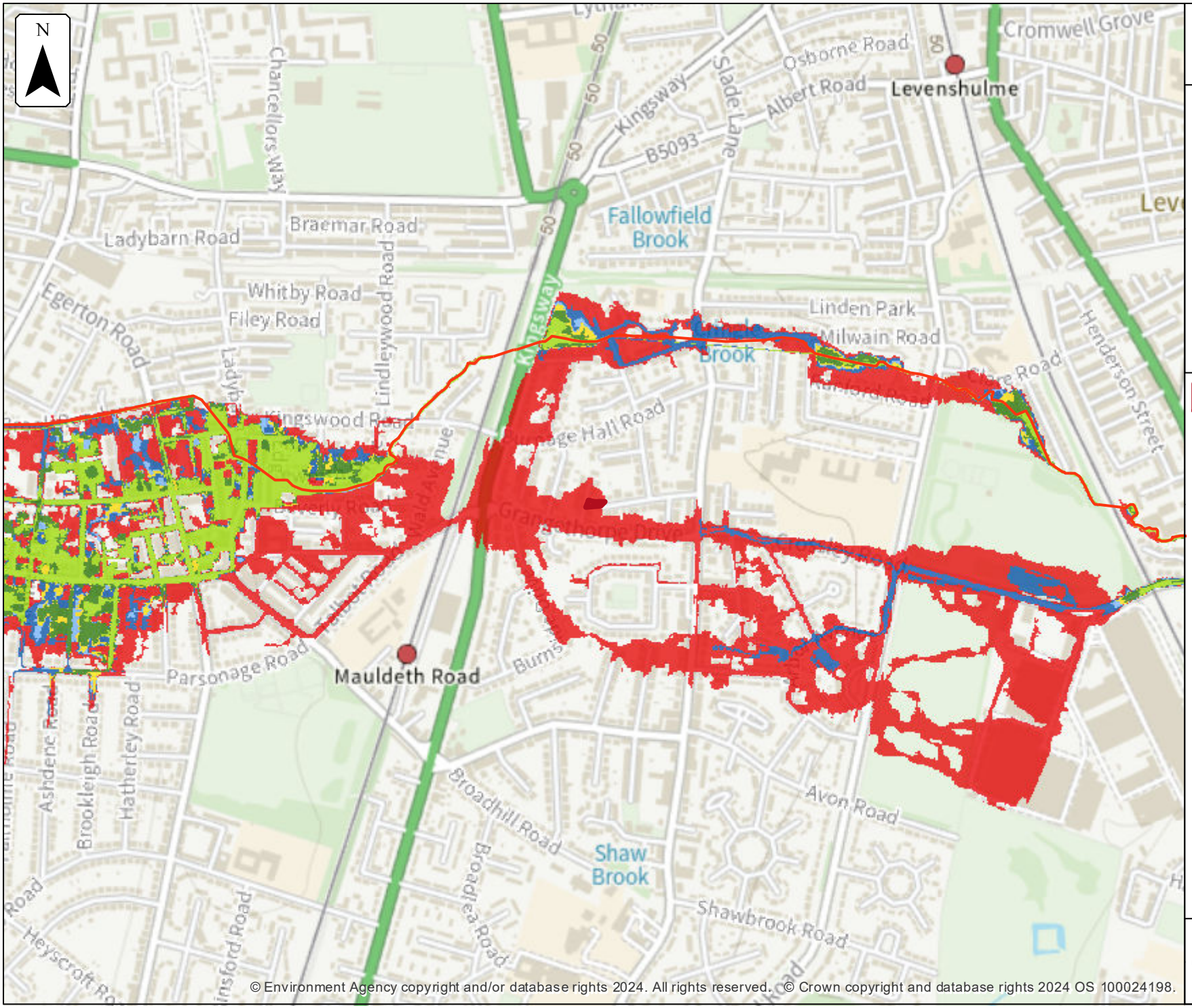
The climate change data included in the models may not include the latest flood risk assessment climate change allowances. Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

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)
386593/393335

Scale
1:10,000

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

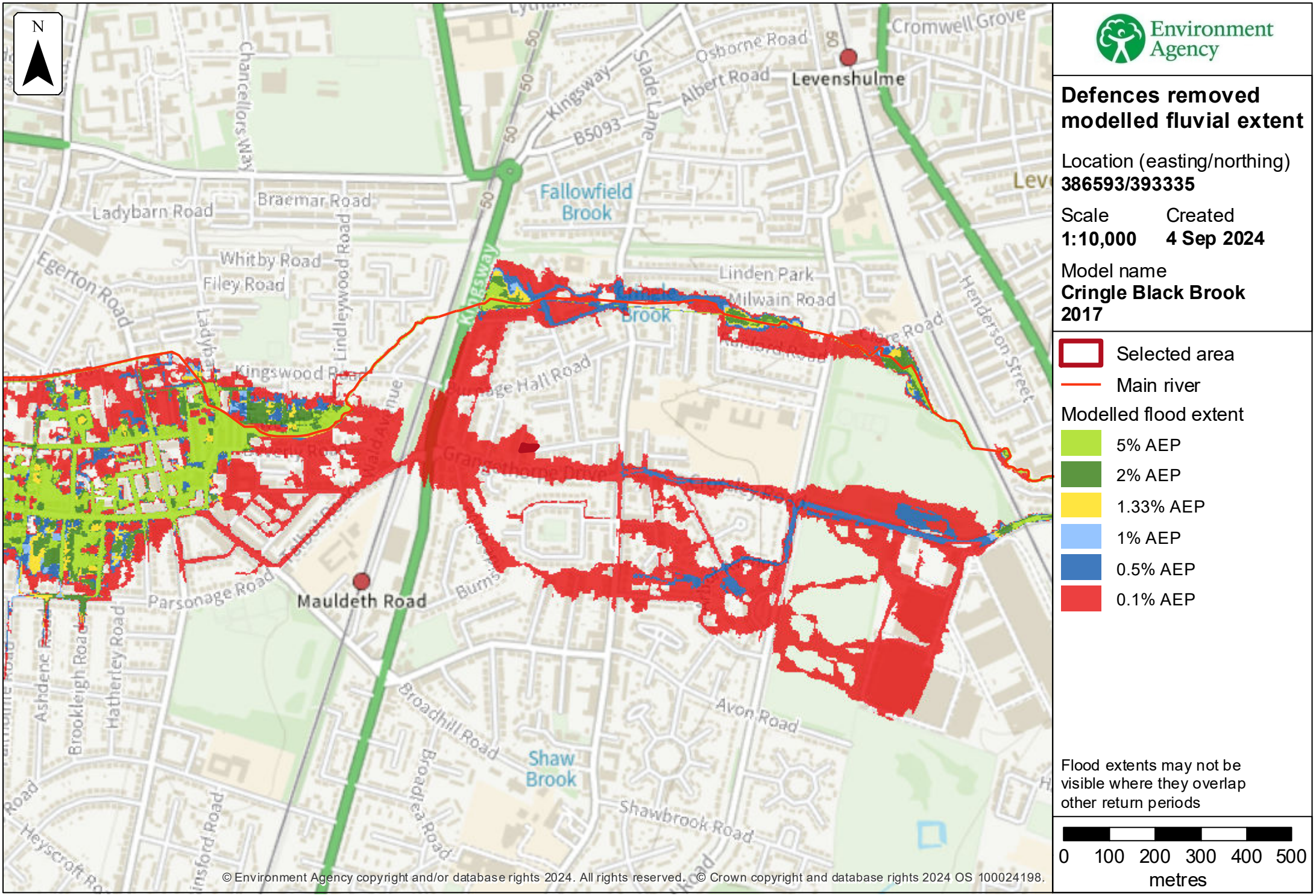
- Selected area
- Main river

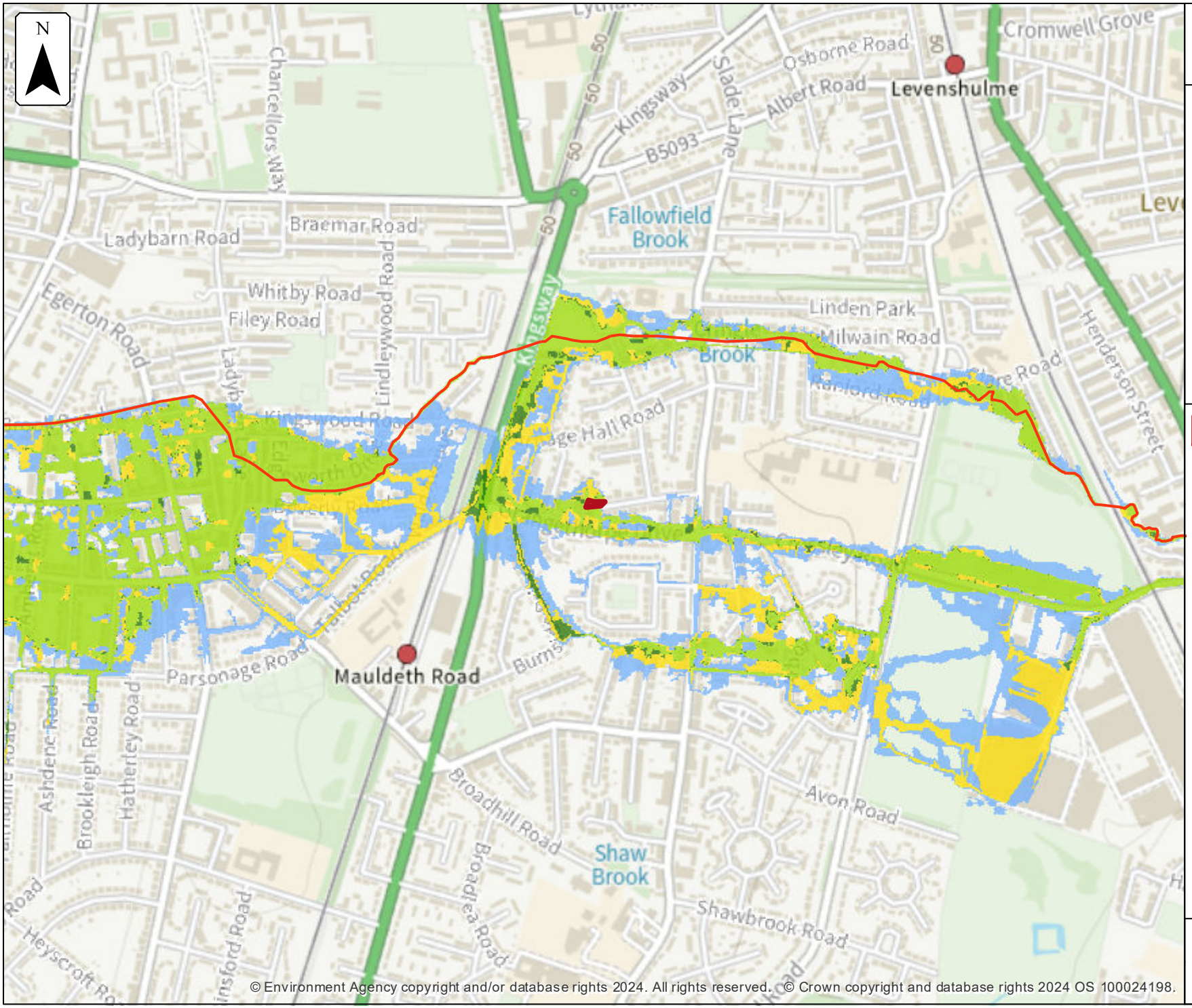
Modelled flood extent

- 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


N
Environment Agency
Defences removed modelled fluvial extent
Location (easting/northing)
386593/393335
Scale
1:10,000
Created
4 Sep 2024
Model name
Cringle Black Brook 2017
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
Levenshulme
Cromwell Grove
Osborne Road
Albert Road
Kingsway
B5093
Slade Lane
Fallowfield Brook
Ladybarn Road
Braemar Road
Whitby Road
Filey Road
Egerton Road
Lindleywood Road
Linden Park
Milwain Road
Henderson Street
Kingswood Road
Parsonage Road
Mauldeth Road
Broadhill Road
Avon Road
Shaw Brook
Shawbrook Road
Broadlea Road
Ashdene Road
Brookleigh Road
Hatherley Road
Heyscroft Road
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Environment Agency

Defended climate change modelled fluvial extent

Location (easting/northing)
386593/393335

Scale
1:10,000

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

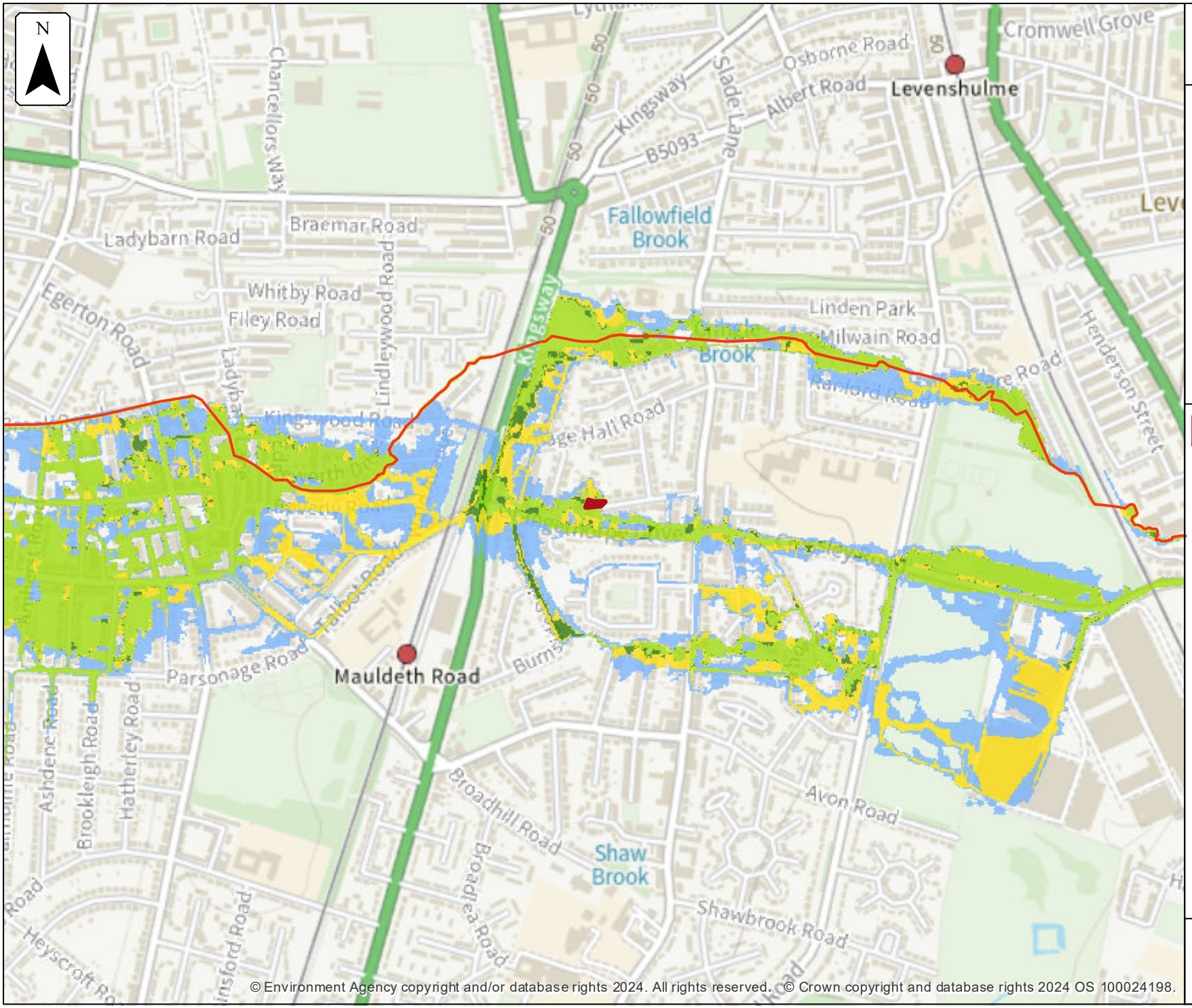
- Selected area
- Main river

Modelled flood extent

- 1.0% AEP (+30%)
- 1.0% AEP (+35%)
- 1.0% 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

Defences removed climate change modelled fluvial extent

Location (easting/northing)
386593/393335

Scale
1:10,000

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

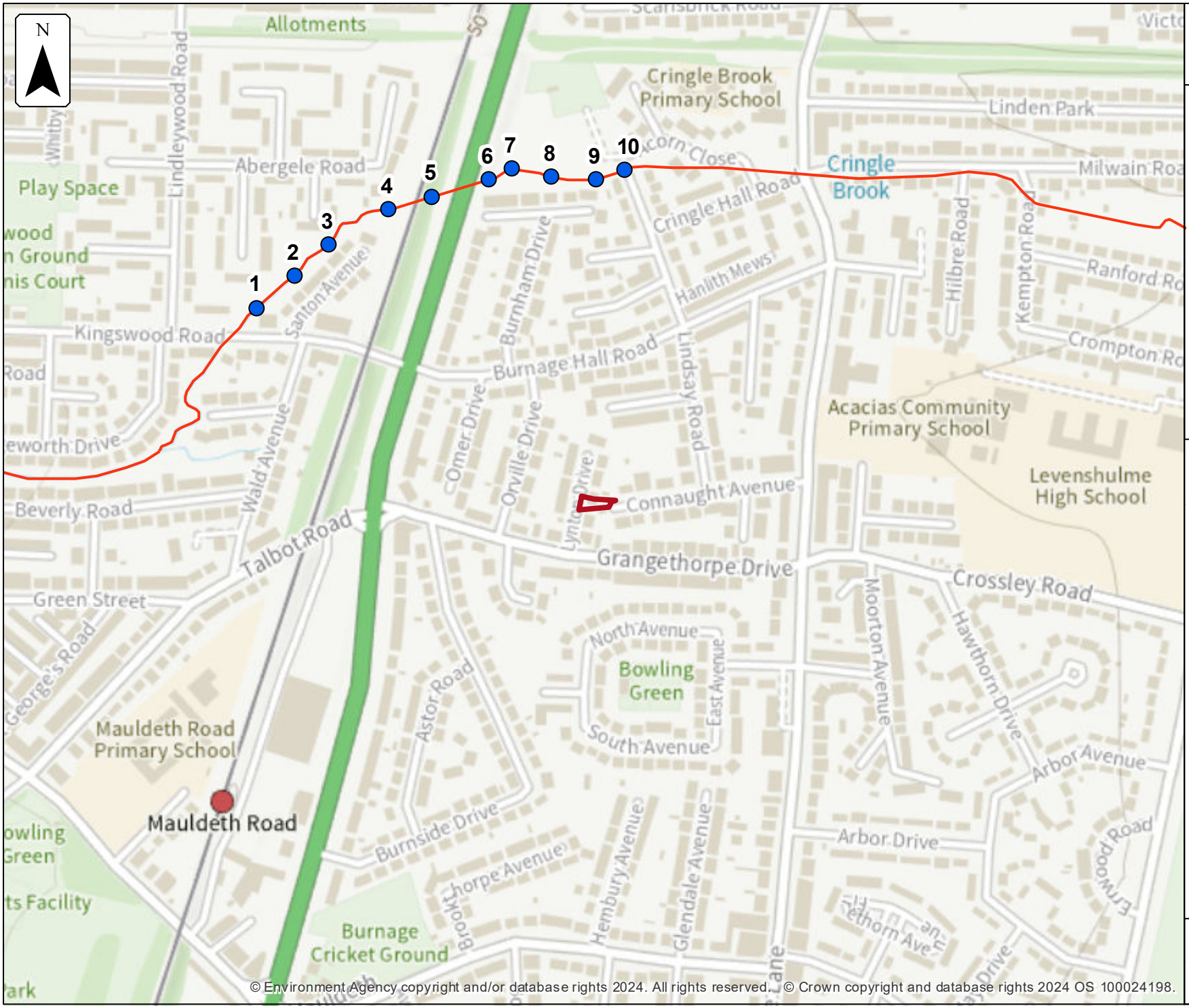
- Selected area
- Main river

Modelled flood extent

- 1.0% AEP (+30%)
- 1.0% AEP (+35%)
- 1.0% 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



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Defended modelled fluvial node locations

Location (easting/northing)
386593/393335

Scale
1:5,000

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

- Selected area
- Modelled location
- Main river

0 50 100 150 200 250
metres

Modelled node locations data

Defended

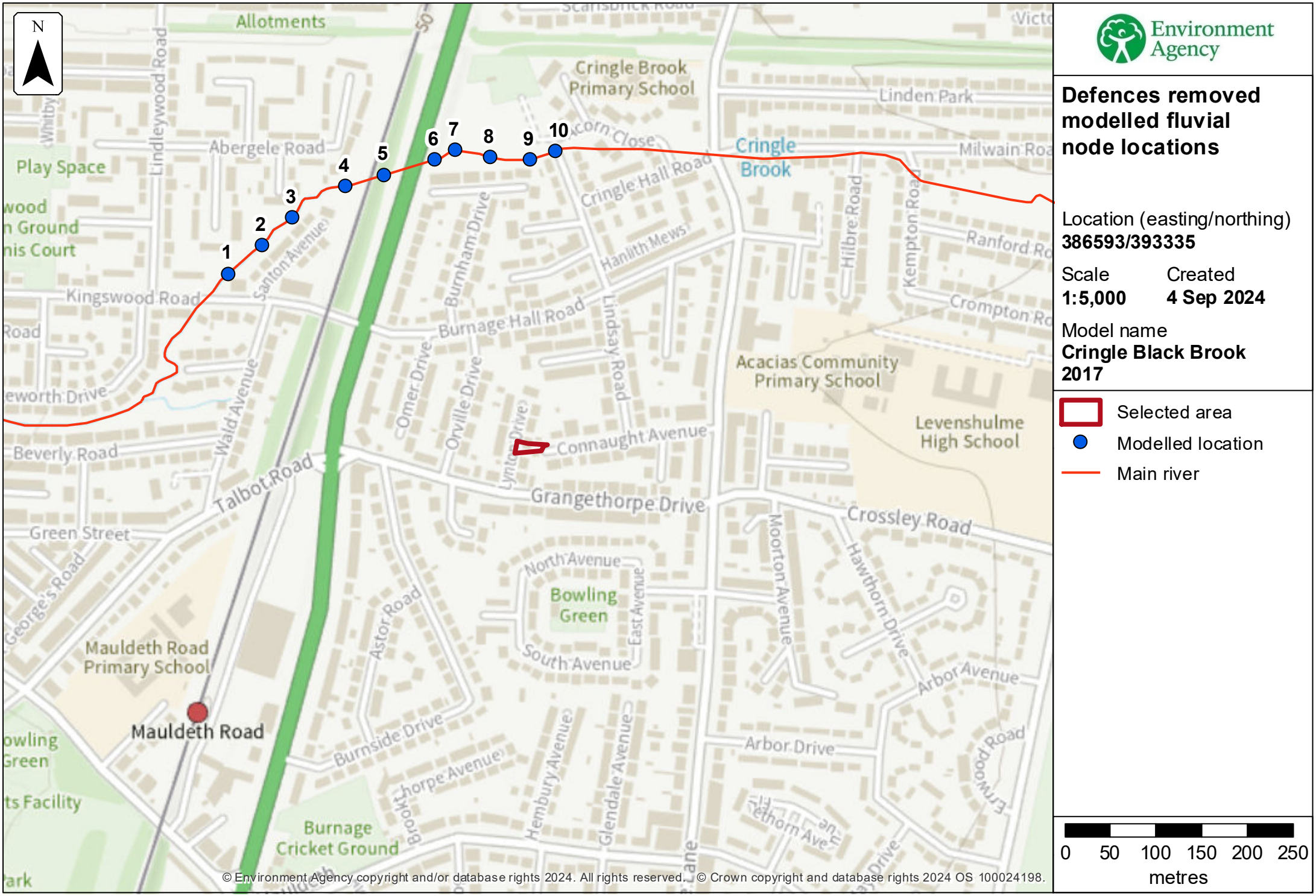
Label	Modelled location ID	Easting	Northing	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level
1	1440154	386265	393525	40.85	40.93	40.97	40.99	41.04	41.30
2	1440054	386302	393557	41.32	41.38	41.40	41.42	41.45	41.53
3	1440146	386335	393587	41.57	41.63	41.66	41.67	41.70	41.77
4	1440111	386394	393622	42.13	42.17	42.20	42.21	42.23	42.28
5	1440031	386436	393634	42.64	42.79	42.86	42.90	43.01	43.24
6	1440039	386491	393650	43.53	43.89	44.06	44.16	44.40	44.99
7	1440129	386514	393662	43.57	43.91	44.08	44.17	44.41	44.99
8	1440078	386552	393653	43.59	43.92	44.08	44.18	44.41	44.99
9	1440159	386596	393651	43.62	43.93	44.09	44.18	44.41	44.99
10	1440117	386624	393660	43.64	43.94	44.09	44.18	44.41	45.0

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.

Defended

Label	Modelled location ID	Easting	Northing	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow
1	1440154	386265	393525	3.55	3.91	4.08	4.16	4.37	4.87
2	1440054	386302	393557	3.54	3.91	4.07	4.16	4.37	4.87
3	1440146	386335	393587	3.54	3.91	4.07	4.16	4.37	4.87
4	1440111	386394	393622	3.54	3.91	4.08	4.16	4.37	4.87
5	1440031	386436	393634	3.54	3.91	4.08	4.16	4.37	4.87
6	1440039	386491	393650	3.54	3.91	4.08	4.16	4.37	4.87
7	1440129	386514	393662	3.23	3.30	3.34	4.0	3.89	5.33
8	1440078	386552	393653	3.68	4.05	4.15	4.17	4.66	6.27
9	1440159	386596	393651	3.40	3.91	4.18	4.33	4.67	6.39
10	1440117	386624	393660	3.40	3.91	4.18	4.34	4.68	5.12

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.



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Environment Agency

Defences removed modelled fluvial node locations

Location (easting/northing)
386593/393335

Scale
1:5,000

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

- Selected area
- Modelled location
- Main river

0 50 100 150 200 250
metres

Modelled node locations data

Defences removed

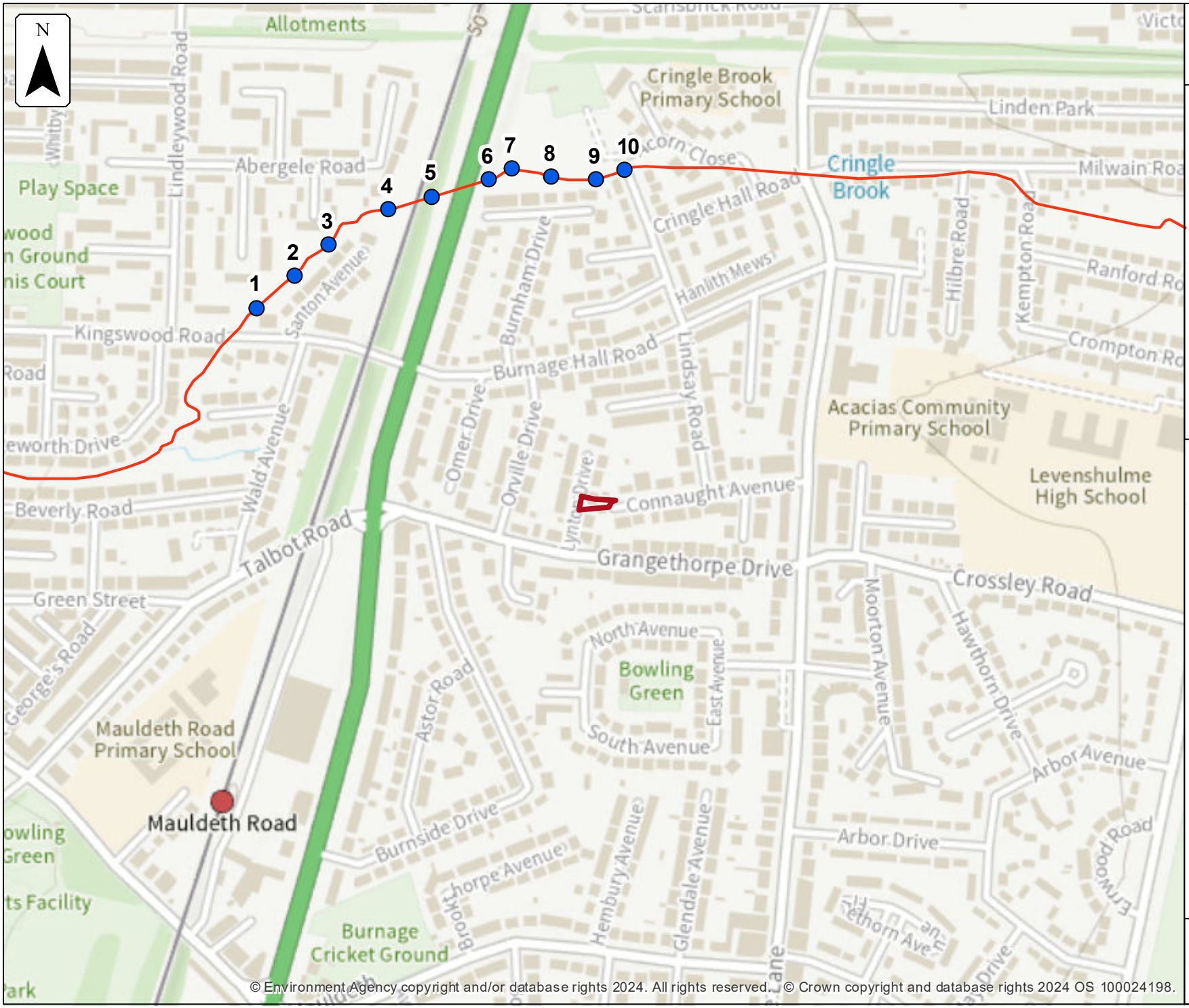
Label	Modelled location ID	Easting	Northing	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level
1	1440154	386265	393525	40.85	40.93	40.97	40.99	41.04	41.30
2	1440054	386302	393557	41.32	41.38	41.40	41.42	41.45	41.53
3	1440146	386335	393587	41.57	41.63	41.66	41.67	41.70	41.77
4	1440111	386394	393622	42.13	42.17	42.20	42.21	42.23	42.28
5	1440031	386436	393634	42.64	42.79	42.86	42.90	43.01	43.24
6	1440039	386491	393650	43.53	43.89	44.06	44.16	44.40	44.99
7	1440129	386514	393662	43.57	43.91	44.08	44.17	44.41	44.99
8	1440078	386552	393653	43.59	43.92	44.08	44.18	44.41	44.99
9	1440159	386596	393651	43.62	43.93	44.09	44.18	44.41	44.99
10	1440117	386624	393660	43.64	43.94	44.09	44.18	44.41	45.0

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP	2% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow
1	1440154	386265	393525	3.55	3.91	4.08	4.16	4.37	4.87
2	1440054	386302	393557	3.54	3.91	4.07	4.16	4.37	4.87
3	1440146	386335	393587	3.54	3.91	4.07	4.16	4.37	4.87
4	1440111	386394	393622	3.54	3.91	4.08	4.16	4.37	4.87
5	1440031	386436	393634	3.54	3.91	4.08	4.16	4.37	4.87
6	1440039	386491	393650	3.54	3.91	4.08	4.16	4.37	4.87
7	1440129	386514	393662	3.23	3.30	3.34	4.0	3.89	5.33
8	1440078	386552	393653	3.68	4.05	4.15	4.17	4.66	6.27
9	1440159	386596	393651	3.40	3.91	4.18	4.33	4.67	6.39
10	1440117	386624	393660	3.40	3.91	4.18	4.34	4.68	5.12

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.



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Environment Agency

Defended climate change modelled fluvial node locations

Location (easting/northing)
386593/393335

Scale
1:5,000

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

- Selected area
- Modelled location
- Main river

0 50 100 150 200 250
metres

Modelled node locations data

Defended climate change

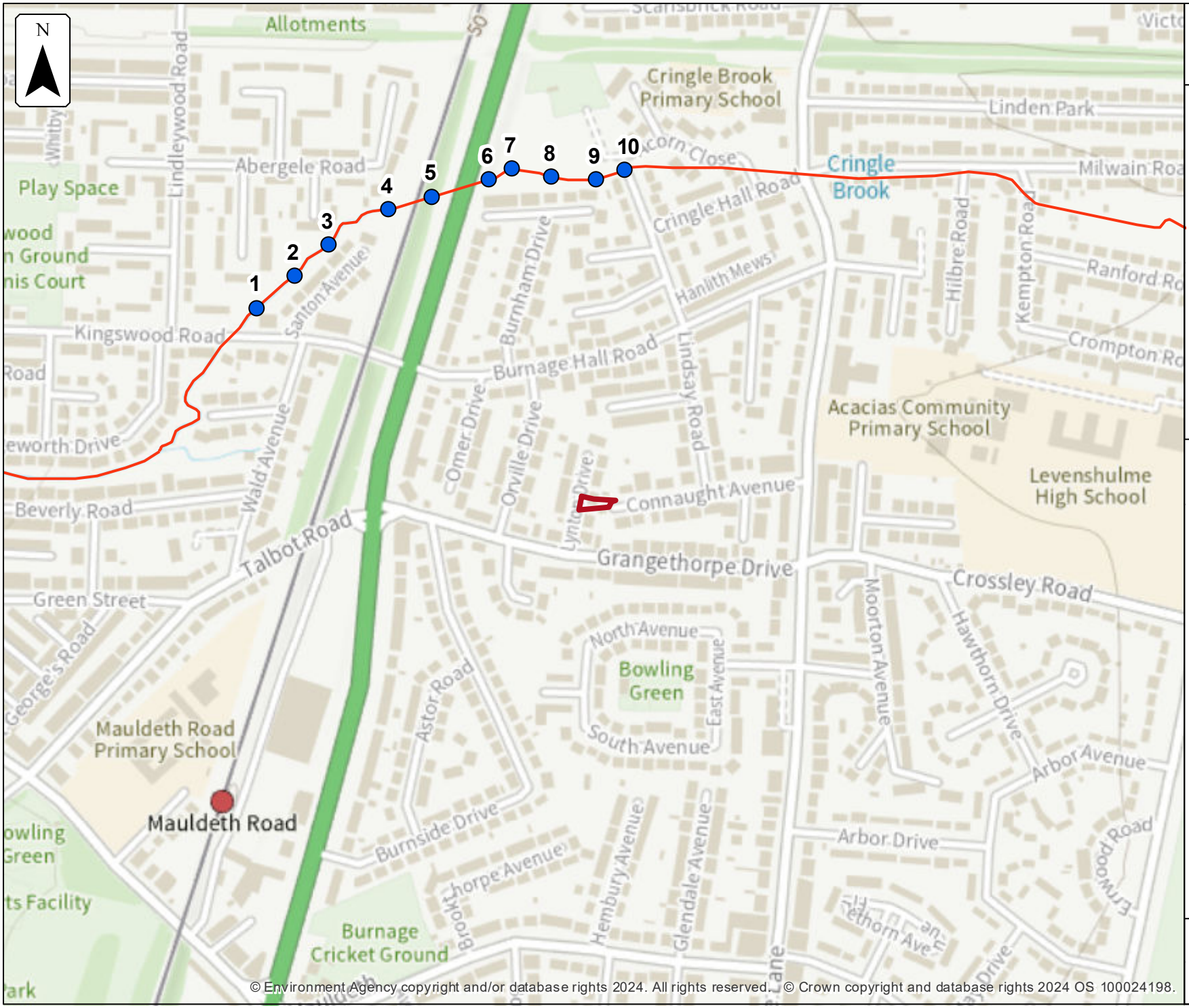
Label	Modelled location ID	Easting	Northing	1.0% AEP (+30%)	1.0% AEP (+35%)	1.0% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level
1	1440154	386265	393525	41.08	41.09	41.17	41.36
2	1440054	386302	393557	41.47	41.48	41.51	41.56
3	1440146	386335	393587	41.72	41.73	41.76	41.79
4	1440111	386394	393622	42.25	42.25	42.27	42.29
5	1440031	386436	393634	43.08	43.10	43.19	43.29
6	1440039	386491	393650	44.58	44.64	44.86	45.10
7	1440129	386514	393662	44.59	44.65	44.87	45.10
8	1440078	386552	393653	44.59	44.65	44.87	45.10
9	1440159	386596	393651	44.59	44.64	44.86	45.10
10	1440117	386624	393660	44.59	44.65	44.87	45.13

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.

Defended climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+30%)	1.0% AEP (+35%)	1.0% AEP (+70%)	0.1% AEP (+30%)
				Flow	Flow	Flow	Flow
1	1440154	386265	393525	4.53	4.58	4.77	4.97
2	1440054	386302	393557	4.53	4.58	4.77	4.96
3	1440146	386335	393587	4.53	4.58	4.77	4.96
4	1440111	386394	393622	4.53	4.58	4.77	4.96
5	1440031	386436	393634	4.53	4.58	4.77	4.96
6	1440039	386491	393650	4.53	4.58	4.77	4.96
7	1440129	386514	393662	3.96	4.07	4.68	6.07
8	1440078	386552	393653	4.74	4.88	5.58	7.12
9	1440159	386596	393651	4.96	5.13	5.85	7.16
10	1440117	386624	393660	4.81	4.85	5.03	5.16

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.



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Environment Agency

Defences removed climate change modelled fluvial node locations

Location (easting/northing)
386593/393335

Scale
1:5,000

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

- Selected area
- Modelled location
- Main river

0 50 100 150 200 250
metres

Modelled node locations data

Defences removed climate change

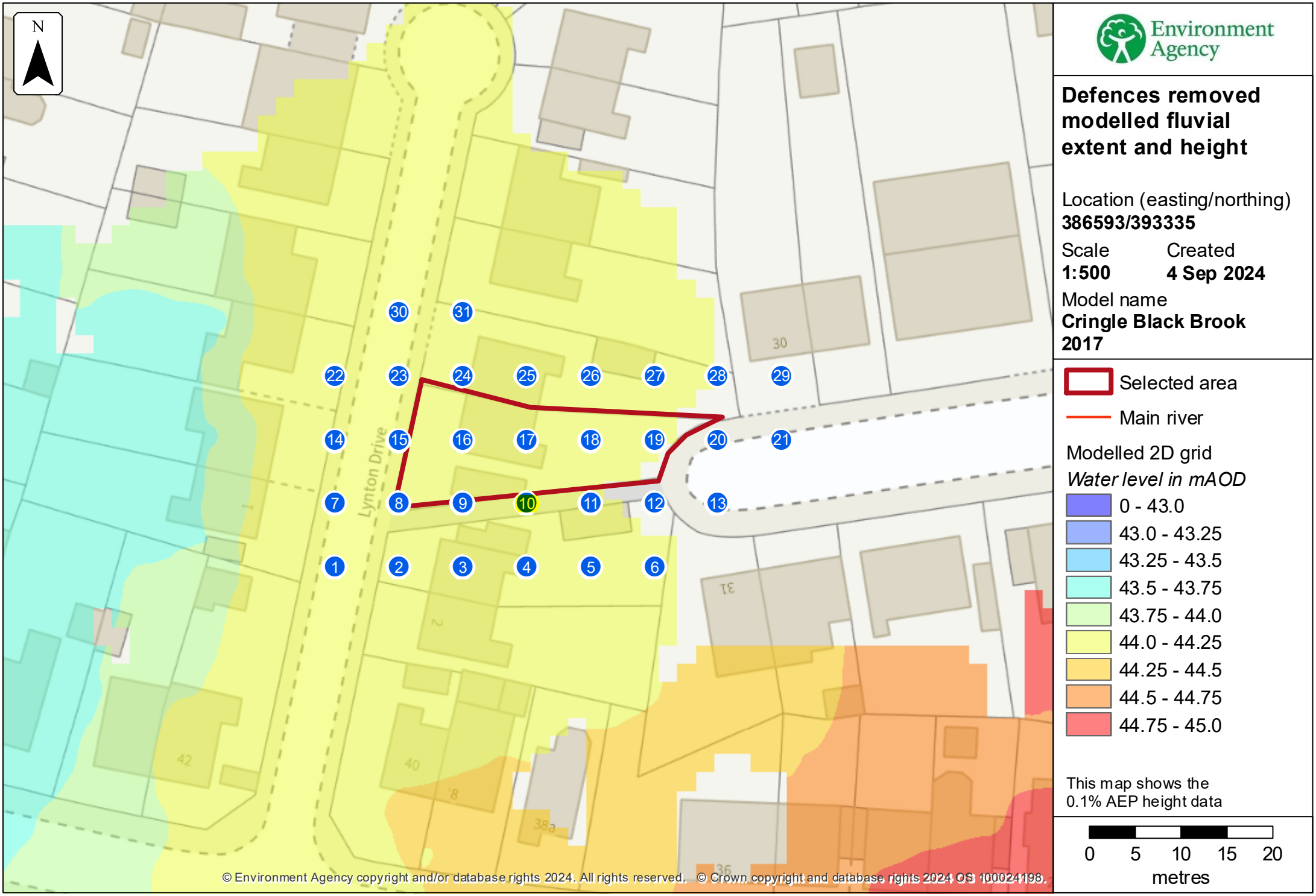
Label	Modelled location ID	Easting	Northing	1.0% AEP (+30%)	1.0% AEP (+35%)	1.0% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level
1	1440154	386265	393525	41.08	41.09	41.17	41.36
2	1440054	386302	393557	41.47	41.48	41.51	41.56
3	1440146	386335	393587	41.72	41.73	41.76	41.79
4	1440111	386394	393622	42.25	42.25	42.27	42.29
5	1440031	386436	393634	43.08	43.10	43.19	43.29
6	1440039	386491	393650	44.58	44.64	44.86	45.10
7	1440129	386514	393662	44.59	44.65	44.87	45.10
8	1440078	386552	393653	44.59	44.65	44.87	45.10
9	1440159	386596	393651	44.59	44.64	44.86	45.10
10	1440117	386624	393660	44.59	44.65	44.87	45.13

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.

Defences removed climate change

Label	Modelled location ID	Easting	Northing	1.0% AEP (+30%)	1.0% AEP (+35%)	1.0% AEP (+70%)	0.1% AEP (+30%)
				Flow	Flow	Flow	Flow
1	1440154	386265	393525	4.53	4.58	4.77	4.97
2	1440054	386302	393557	4.53	4.58	4.77	4.96
3	1440146	386335	393587	4.53	4.58	4.77	4.96
4	1440111	386394	393622	4.53	4.58	4.77	4.96
5	1440031	386436	393634	4.53	4.58	4.77	4.96
6	1440039	386491	393650	4.53	4.58	4.77	4.96
7	1440129	386514	393662	3.96	4.07	4.68	6.07
8	1440078	386552	393653	4.74	4.88	5.58	7.12
9	1440159	386596	393651	4.96	5.13	5.85	7.16
10	1440117	386624	393660	4.81	4.85	5.03	5.16

Data in this table comes from the Cringle Black Brook 2017 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.
If no level or flow data is available for a scenario, no table will be shown.


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Lynton Drive
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Environment Agency
Defences removed modelled fluvial extent and height
Location (easting/northing)
386593/393335
Scale
1:500
Created
4 Sep 2024
Model name
Cringle Black Brook 2017
Selected area
Main river
Modelled 2D grid
Water level in mAOD
0 - 43.0
43.0 - 43.25
43.25 - 43.5
43.5 - 43.75
43.75 - 44.0
44.0 - 44.25
44.25 - 44.5
44.5 - 44.75
44.75 - 45.0
This map shows the 0.1% AEP height data
0 5 10 15 20
metres
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Sample point data

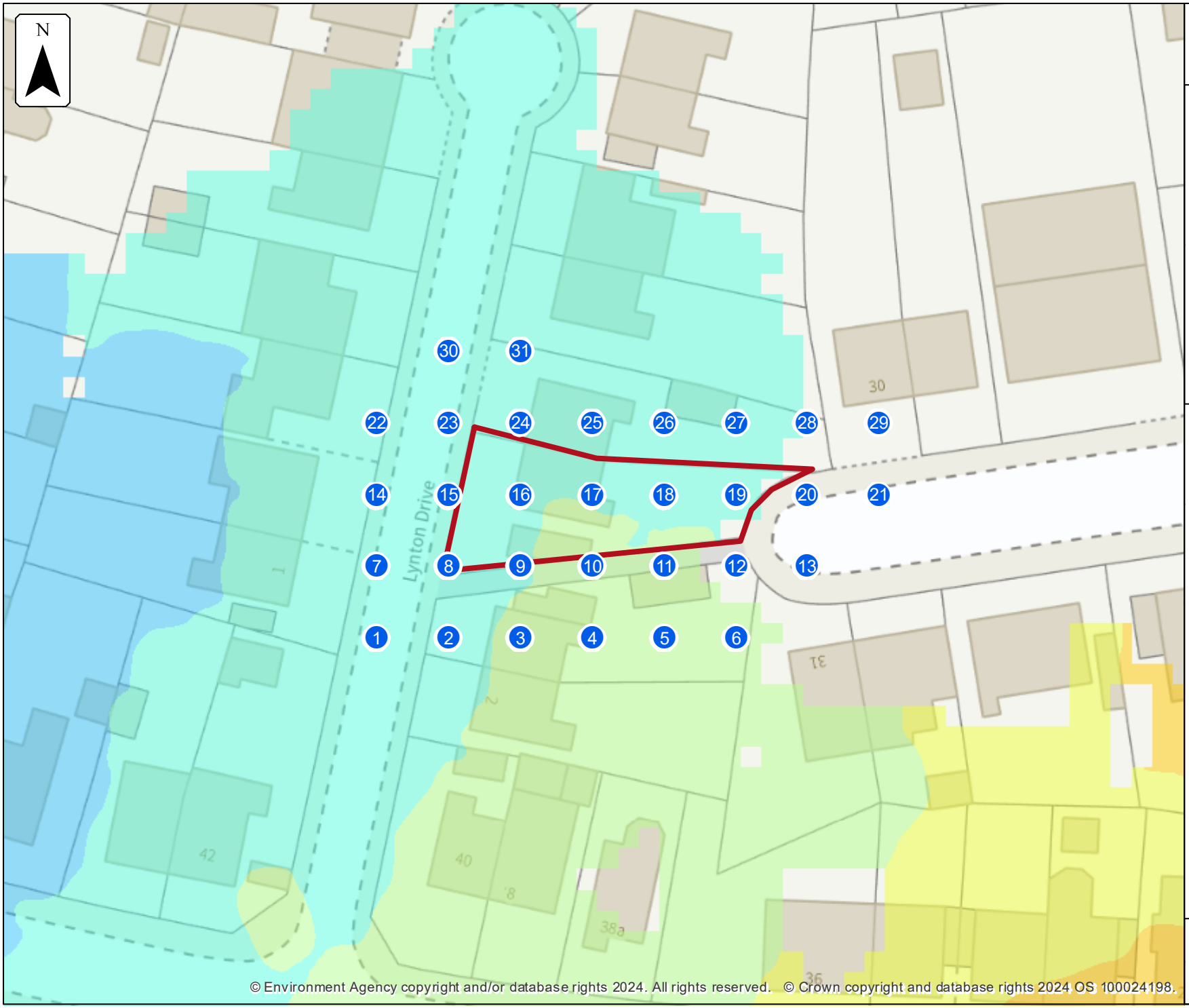
Defences removed

Label	Easting	Northing	0.5% AEP	2% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Height	Height	Height	Height
1	386572	393322	NoData	NoData	NoData	NoData	44.05
2	386579	393322	NoData	NoData	NoData	NoData	44.05
3	386586	393322	NoData	NoData	NoData	NoData	44.16
4	386593	393322	NoData	NoData	NoData	NoData	44.23
5	386600	393322	NoData	NoData	NoData	NoData	44.23
6	386607	393322	NoData	NoData	NoData	NoData	44.23
7	386572	393329	NoData	NoData	NoData	NoData	44.05
8	386579	393329	NoData	NoData	NoData	NoData	44.05
9	386586	393329	NoData	NoData	NoData	NoData	44.07
10	386593	393329	NoData	NoData	NoData	NoData	44.17
11	386600	393329	NoData	NoData	NoData	NoData	44.21
12	386607	393329	NoData	NoData	NoData	NoData	NoData
13	386614	393329	NoData	NoData	NoData	NoData	NoData
14	386572	393336	NoData	NoData	NoData	NoData	44.05
15	386579	393336	NoData	NoData	NoData	NoData	44.05
16	386586	393336	NoData	NoData	NoData	NoData	44.05

Label	Easting	Northing	0.5% AEP	2% AEP	1% AEP	0.5% AEP	0.1% AEP
			Depth	Height	Height	Height	Height
17	386593	393336	NoData	NoData	NoData	NoData	44.07
18	386600	393336	NoData	NoData	NoData	NoData	44.07
19	386607	393336	NoData	NoData	NoData	NoData	44.07
20	386614	393336	NoData	NoData	NoData	NoData	NoData
21	386621	393336	NoData	NoData	NoData	NoData	NoData
22	386572	393343	NoData	NoData	NoData	NoData	44.05
23	386579	393343	NoData	NoData	NoData	NoData	44.05
24	386586	393343	NoData	NoData	NoData	NoData	44.05
25	386593	393343	NoData	NoData	NoData	NoData	44.06
26	386600	393343	NoData	NoData	NoData	NoData	44.07
27	386607	393343	NoData	NoData	NoData	NoData	44.07
28	386614	393343	NoData	NoData	NoData	NoData	NoData
29	386621	393343	NoData	NoData	NoData	NoData	NoData
30	386579	393350	NoData	NoData	NoData	NoData	44.05
31	386586	393350	NoData	NoData	NoData	NoData	44.05
Max value in selected area:			NoData	NoData	NoData	NoData	44.18

Data in this table comes from the Cringle Black Brook 2017 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.

If no height or depth data is available for a scenario, no table will be shown.
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.



Environment Agency

Defended climate change modelled fluvial extent and height

Location (easting/northing)
386593/393335

Scale
1:500

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 43.0
- 43.0 - 43.375
- 43.375 - 43.75
- 43.75 - 44.125
- 44.125 - 44.5
- 44.5 - 44.875
- 44.875 - 45.25
- 45.25 - 45.625
- 45.625 - 46.0

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 (+35%)	1% AEP (+30%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Height	Height	Height
1	386572	393322	0.03	43.86	43.90	44.10
2	386579	393322	NoData	NoData	43.95	44.10
3	386586	393322	0.09	43.95	44.06	44.20
4	386593	393322	0.14	43.97	44.10	44.28
5	386600	393322	0.03	43.97	44.10	44.29
6	386607	393322	0.01	NoData	44.10	44.29
7	386572	393329	0.02	43.81	43.88	44.10
8	386579	393329	NoData	NoData	43.88	44.10
9	386586	393329	NoData	NoData	43.99	44.11
10	386593	393329	NoData	NoData	44.07	44.21
11	386600	393329	NoData	NoData	NoData	44.22
12	386607	393329	NoData	NoData	NoData	NoData
13	386614	393329	NoData	NoData	NoData	NoData
14	386572	393336	0.00	43.82	43.88	44.10
15	386579	393336	0.00	43.83	43.88	44.10
16	386586	393336	NoData	NoData	43.88	44.10

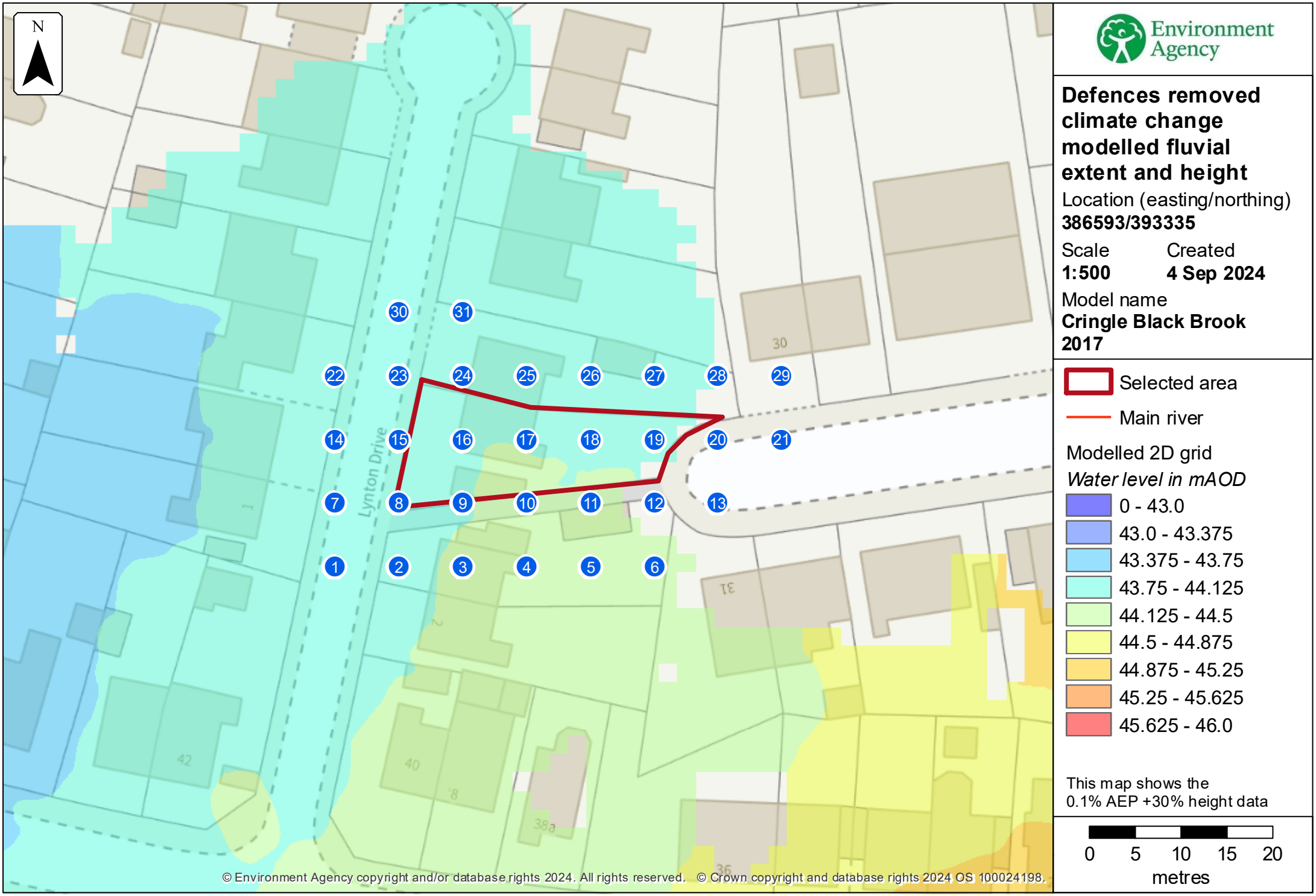


Label	Easting	Northing	1% AEP (+35%)	1% AEP (+30%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Height	Height	Height
17	386593	393336	0.02	43.74	43.88	44.12
18	386600	393336	0.10	43.71	43.88	44.12
19	386607	393336	NoData	NoData	43.88	44.12
20	386614	393336	NoData	NoData	NoData	NoData
21	386621	393336	NoData	NoData	NoData	NoData
22	386572	393343	NoData	NoData	43.88	44.10
23	386579	393343	0.01	NoData	43.88	44.10
24	386586	393343	0.06	43.78	43.88	44.10
25	386593	393343	0.06	43.71	43.88	44.12
26	386600	393343	0.13	43.71	43.88	44.12
27	386607	393343	0.00	NoData	43.88	44.12
28	386614	393343	NoData	NoData	NoData	NoData
29	386621	393343	NoData	NoData	NoData	NoData
30	386579	393350	0.02	43.81	43.88	44.10
31	386586	393350	NoData	NoData	43.88	44.10
Max value in selected area:			0.15	43.84	44.06	44.22



Data in this table comes from the Cringle Black Brook 2017 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.
If no height or depth data is available for a scenario, no table will be shown.
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.



Environment Agency

Defences removed climate change modelled fluvial extent and height

Location (easting/northing)
386593/393335

Scale
1:500

Created
4 Sep 2024

Model name
Cringle Black Brook 2017

Selected area

Main river

Modelled 2D grid
Water level in mAOD

- 0 - 43.0
- 43.0 - 43.375
- 43.375 - 43.75
- 43.75 - 44.125
- 44.125 - 44.5
- 44.5 - 44.875
- 44.875 - 45.25
- 45.25 - 45.625
- 45.625 - 46.0

This map shows the 0.1% AEP +30% height data

0 5 10 15 20
metres

Sample point data

Defences removed climate change

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Depth	Depth	Depth
1	386572	393322	0.02	0.03	0.06	0.26
2	386579	393322	NoData	NoData	0.04	0.19
3	386586	393322	0.07	0.09	0.18	0.32
4	386593	393322	0.12	0.14	0.24	0.43
5	386600	393322	0.00	0.03	0.13	0.32
6	386607	393322	NoData	0.01	0.10	0.29
7	386572	393329	0.02	0.02	0.09	0.30
8	386579	393329	NoData	NoData	0.05	0.26
9	386586	393329	NoData	NoData	0.03	0.14
10	386593	393329	NoData	NoData	0.01	0.14
11	386600	393329	NoData	NoData	NoData	0.04
12	386607	393329	NoData	NoData	NoData	NoData
13	386614	393329	NoData	NoData	NoData	NoData
14	386572	393336	0.00	0.00	0.06	0.28
15	386579	393336	0.00	0.00	0.04	0.26
16	386586	393336	NoData	NoData	0.06	0.27

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Depth	Depth	Depth	Depth
17	386593	393336	0.01	0.02	0.15	0.39
18	386600	393336	0.08	0.10	0.26	0.49
19	386607	393336	NoData	NoData	0.08	0.32
20	386614	393336	NoData	NoData	NoData	NoData
21	386621	393336	NoData	NoData	NoData	NoData
22	386572	393343	NoData	NoData	0.03	0.24
23	386579	393343	NoData	0.01	0.08	0.29
24	386586	393343	0.05	0.05	0.15	0.37
25	386593	393343	0.05	0.06	0.22	0.46
26	386600	393343	0.11	0.13	0.29	0.52
27	386607	393343	NoData	0.00	0.15	0.39
28	386614	393343	NoData	NoData	NoData	NoData
29	386621	393343	NoData	NoData	NoData	NoData
30	386579	393350	0.01	0.02	0.08	0.30
31	386586	393350	NoData	NoData	0.05	0.27
Max value in selected area:			0.14	0.15	0.32	0.55

Data in this table comes from the Cringle Black Brook 2017 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.
If no height or depth data is available for a scenario, no table will be shown.
'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

Defences removed climate change

Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
1	386572	393322	43.86	43.87	43.90	44.10
2	386579	393322	NoData	NoData	43.95	44.10
3	386586	393322	43.95	43.98	44.06	44.20
4	386593	393322	43.97	43.99	44.10	44.28
5	386600	393322	43.97	43.99	44.10	44.29
6	386607	393322	NoData	43.99	44.10	44.29
7	386572	393329	43.81	43.82	43.88	44.10
8	386579	393329	NoData	NoData	43.88	44.10
9	386586	393329	NoData	NoData	43.99	44.11
10	386593	393329	NoData	NoData	44.07	44.21
11	386600	393329	NoData	NoData	NoData	44.22
12	386607	393329	NoData	NoData	NoData	NoData
13	386614	393329	NoData	NoData	NoData	NoData
14	386572	393336	43.82	43.82	43.88	44.10
15	386579	393336	43.83	43.84	43.88	44.10
16	386586	393336	NoData	NoData	43.88	44.10
17	386593	393336	43.74	43.74	43.88	44.12



Label	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
			Height	Height	Height	Height
18	386600	393336	43.71	43.72	43.88	44.12
19	386607	393336	NoData	NoData	43.88	44.12
20	386614	393336	NoData	NoData	NoData	NoData
21	386621	393336	NoData	NoData	NoData	NoData
22	386572	393343	NoData	NoData	43.88	44.10
23	386579	393343	NoData	43.81	43.88	44.10
24	386586	393343	43.78	43.78	43.88	44.10
25	386593	393343	43.71	43.72	43.88	44.12
26	386600	393343	43.71	43.72	43.88	44.12
27	386607	393343	NoData	43.72	43.88	44.12
28	386614	393343	NoData	NoData	NoData	NoData
29	386621	393343	NoData	NoData	NoData	NoData
30	386579	393350	43.81	43.82	43.88	44.10
31	386586	393350	NoData	NoData	43.88	44.10
Max value in selected area:			43.84	43.84	44.06	44.22



Data in this table comes from the Cringle Black Brook 2017 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.
If no height or depth data is available for a scenario, no table will be shown.

'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 Manchester.

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 Greater Manchester Merseyside and Cheshire Environment Agency team at inforequests.gmmc@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